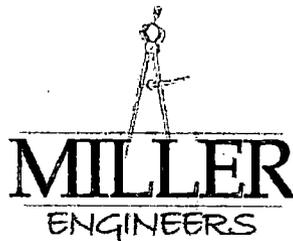


December | 17

Salt Springs Road Potential Water Service Area Feasibility Report

Manlius, New York
Sullivan, New York



www.MillerEngineers.com

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WITHIN THE TOWN OF MANLIUS ASSESSMENT**

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Town of Manlius Water Service Area along the Salt Springs Corridor solely within the Town of Manlius

A. GENERAL

The purpose of this Project is to provide a safe and reliable potable water supply and fire protection for residents of the Town of Manlius (hereinafter referred to as the "Project") that are currently not served with public water. Initial water service hook up and installation, for purposes of this report, have been estimated at 143 land parcels.

The proposed Project would connect to an existing water main system in the Town of Manlius currently operated by OCWA and would share a water storage tank and pump station and with the Town of Sullivan. The proposed system would be operated and supplied water from Onondaga County Water Authority (OCWA). The proposed Project will generally consist of installing approximately 26,600 linear feet of 8-inch diameter water main, valves, fire hydrants, water services and appurtenances (in addition to shared infrastructure with the Town of Sullivan including a water storage tank, pump station and transmission main). The Project includes the following pipeline locations:

- 16,400 LF Salt Springs Rd
- 1,000 LF Strawberry Ln
- 1,300 LF Gulf Rd
- 2,400 LF Horseshoe Ln
- 2,600 LF MacClenthen Rd
- 2,900 LF Brae Leure Rd

A map for this alternative is in Figure 1.

B. PROJECT PLANNING AREA

a. Project Location

The proposed Project is located within the Town of Manlius New York (Onondaga County). The proposed water district would serve a portion of the population of on Salt Springs Road, Strawberry Lane, Horseshoe Lane, McClenthen Road, Brae Leure Road, Townsend Road, Palmer Road North Eagle Village Road and Gulf Road.

b. Environmental Resources Present

Land uses in the areas of the proposed Project are generally agricultural and residential.

Once specific Project areas have been determined, further evaluation of environmental resources and environmental impacts will need to be evaluated on a case-by-case basis. The State Environmental Quality Review (SEQR) and the

National Environmental Policy Act (NEPA) will take place as Project funding progresses. Items initially to be addressed include but are not limited to:

- Public Participation.
- District Formation.
- Stream crossings and wetland delineation as required.
- Notification of NY State Ag & Markets.
- Review of Indiana Bat and other potentially endangered species.
- Cultural Resources: Phase I Archeological review.
- Coordination with local Native American Tribes.
- Noise limitations during construction.
- Transportation requirements during construction activity.
- Air Quality requirements during construction.

c. Growth Areas and Population Trends

The ability to serve a growing population in the region has been addressed as part of the preliminary selection of water main size. The water mains will be sized for current and future residential needs in addition to the minimum fire flow requirements. Average daily demand is approximately 75 gallons per day per person.

The Insurance Services Office (ISO) requires a minimum fire flow of 500 gpm at 20 psi residual pressure for most of the Project area. Fire flow requirements are dependent upon the distance between structures and the type of construction. The majority of structures are wood frame and are typically greater than 100 feet from each other.

Future residential growth does not appear be limited as a result of available fire flows as confirmed by OCWA. Future growth projections indicate no significant growth in the area envisioned over the next twenty years. However, engineering calculations for the Project will use a conservative growth rate of 7% over a twenty-year period when calculated.

C. EXISTING CONDITIONS

a. Location Map

A Location Map is included as Figure 1

b. History

All homes in the proposed water district areas are currently served by individual residential water wells. With the exception of the existing Sky Ridge District which is provided water through a public ground water well for 29 homeowners.

c. Condition of Facilities

Individual water supplies in the Project area are susceptible to hard water. Wells in the area generally comply with NYSDOH standards. There are no reports of hand dug wells existing in the area. The Horseshoe Lane area may require upgrades to pipes and tank maintenance/replacement.

D. NEED FOR PROJECT

a. Health and Safety

1. **Upgrades to Pipes and Water Tank** along Horseshoe Lane in the Town of Manlius (Sky Ridge Water District). Upgrades to aging water distribution pipes and the existing storage tank have been recommended by the system operator within the Sky Ridge Water District in the Town of Manlius.
2. **Fire Protection** – Fire protection will be increased through water supplies to the Project.
3. **Private Well Replacements** – Public water in this area will provide for reliable water quality and quantity

Providing Public water will address these issues for the residents within the proposed service areas.

E. Alternatives Considered

- A. **Description** - The proposed Project will generally consist of installing approximately 26,600 linear feet of 8-inch diameter water main, valves, fire hydrants, water services, transmission main, pump station and water storage tank and appurtenances.
- B. **Design Criteria** - Design for the Project will be completed within the parameters of RUS design policies (7 CFR 1780.57), state regulations and OCWA design standards
- C. **Map** – A location map is included as Figure 1 (Manlius side of the map).
- D. **Environmental Impacts** - Once specific Project areas have been determined, further evaluation of environmental resources and environmental impacts will need to be evaluated on a case-by-case basis. The State Environmental Quality Review (SEQR) and the National Environmental Policy Act (NEPA) will take place as Project funding progresses.
- E. **Land Requirements** - The water main will generally be located within the highway right-of-way. Additional land acquisitions are anticipated for the Project for tank, pump station and pressure reducing valve installations.

F. Construction Problems - Some areas along the route will encounter significant rock excavation. No other significant problems are anticipated based on past pipeline installations in close proximity to the Project.

G. Cost Estimates - Cost estimates are included in figure 2

H. Advantages/Disadvantages

- Proven Operation and Maintenance of Water system using OCWA staff
- Cost sharing of professional operations staff throughout the five county central New York service area. Consolidation of services for water distribution systems
- Cost effective maintenance procedures with OCWA staff and expertise with standardization on ductile iron pipe
- Consistent use of materials of construction throughout the project
- Continued water quality reliance including new regulations on arsenic, lead and disinfect ion by products
- Cost effectiveness of initial capital expenditures using ductile iron pipe
- Extended live expectancy, durability and flexibility of operation using ductile iron pipe

F. PROPOSED PROJECT

A. Project Design

1. **Water Supply** Water will be provided from OCWA, which has excess capacity to serve the needs of the Project. The water system would be designed to provide 75 gallons of water per person per day for domestic and commercial uses, and to provide fire protection meeting Insurance Services Office (ISO) Standards.

Based upon the zoning in the Project area, house spacing will generally exceed 100 feet, therefore the water system will be designed to provide a minimum fire flow of 500 gallons per minute, in addition to the peak hourly demands.

2. **Treatment** No treatment will be involved with the Project, since water will be obtained from an existing public water system.
3. **Storage** A new 250,000-gallon glass lined storage tank is proposed for the work. Tank costs are to be shared with the Town of Sullivan
4. **Pumping Stations** One pumping station is required for the project. Upgrades to OCWA facilities are also necessary complete with

instrumentation and control. Pump station costs are to be shared with the Town of Sullivan. The pump station is anticipated to be a pre-engineered pump station

5. **Distribution Layout** The proposed area of service is shown in Figure 1. All design work will be completed within the standard design requirements for OCWA and NYSDOH.

The proposed project will generally consist of installing approximately 26,600 linear feet of 8, inch diameter water main, valves, fire hydrants, water services and appurtenances throughout portions of the Towns.

Fire hydrants will have a maximum spacing of 500 feet and will generally be located near intersections. Gate valves are generally spaced at approximate intervals of 500 linear feet, and at intersections. Water services typically consist of 3/4-inch diameter Type K copper pipe, and will be provided to the property right-of-way line parallel to the roadway.

The homeowners are responsible for the following:

- Installation of the water service piping between the road right-of-way and their structure.
 - Disconnection of their private water supply from the public water supply.
 - Internal plumbing changes.
 - Payment for water usage, typically on a quarterly basis.
 - Debt Service Payment associated with the capital improvements.
6. **Hydraulic Calculations** engineers for OCWA have initiated preliminary design parameters and indicate a water distribution storage tank, pump station and upgraded instrumentation and control will be needed for the Project
 7. **Cost Estimate** The cost estimates for the Project are attached as Appendix A. General summary of the costs estimate is as follows:

- Construction
- Contingency
- Legal
- Engineering

Project cost contingencies have been carried at a conservatively low percentage of 10% for the Project. The area local to the project exhibits limestone rock outcroppings. Cost estimates have been completed for purposes of this study with rock excavation estimated at 40% of trench excavation along the the entire length of the project for feasibility purposes at this time. Should the project move forward a detailed geotechnical boring program is recommended prior to bid and

construction activity.

8. **Easements** The water main will generally be located within the highway right-of-way. On rare occasions, the water main, fire hydrants or appurtenances may need to be installed on private easements. In those cases, the Town Attorney will prepare a permanent easement map and description for execution by the property owner. In addition, temporary easements may be necessary for installation of the improvements. Easements and/or property acquisitions may be required for the proposed water tank and pump station work.
9. **Project Schedule** The anticipated Project Schedule follows:
 - Demonstrate requests for public water from residents
 - Develop District Formation
 - Submit the Final Applications to Funding Agencies
 - Finalize Map, Plan and Report Data
 - Secure Public Support for Projects
 - Town Board Accepts Map, Plan and Report
 - Town Board Holds Legal Public Hearing
 - Town Board declares itself Lead Agency for SEQR
 - Design Phase of Improvements
 - Approvals & Permits
 - Bidding Phase
 - Construction Phase
 - Final Restoration
 - Completion and Closeout of Entire Project

TOTAL PROJECT COST ESTIMATE

Included as Figure 2. The Town of Sullivan indicates a desire to participate in this Project as an effort to provide water service to the residents of the Town of Sullivan along Salt Springs Rd in the Town of Sullivan. Cost sharing is anticipated at 50% sharing of all costs for the proposed pump station, water storage tank and transmission main within the borders of the Town of Manlius.

G. ANNUAL OPERATING BUDGET

a. Income

A proposed rate schedule is included in Appendix B

b. Operation and Maintenance Costs

OCWA will be contracted with to be responsible for the Operation and Maintenance (O&M) of the proposed water system improvements. The cost for O&M is included in the water rate charged to each user of the system.

The average household uses approximately 60,000 gallons of water per year. The total cost of water per year is calculated as \$325 per year.

c. Debt repayments

The debt service on initial project costs will be based on equivalent dwelling units, EDU, (Billable Units), The Town of Manlius does not qualify for USDA Rural Development Grants and will have to rely on low interest loans to partially fund the project possibly from NYSEFC DWSRF, WIIA or independent bond anticipation notes

d. Estimated Costs for the Average Residential User

The installation of the proposed water system will be paid for with a long-term low interest loan competitively obtained and secured by the Town of Manlius on behalf of the district. Customers within the district will be billed annually to cover the costs to service the long-term debt as well as the costs to operate and maintain the water distribution system.

Funding scenarios have been discussed with NYSEFC and funding is anticipated to be applied for from NYS Water Infrastructure Act (WIIA) funding.

This revenue will be collected through a tax levy on all properties within the district. Should the project progress, more detail will be developed for EDU's. At this time for estimating purposes, each property in the expansion area has been considered to be equivalent to one EDU. For a final map plan and report in the future, EDU values for each parcel may potentially be assigned using the following criteria:

- Vacant, undeveloped parcel greater than .5 acres in size – 0.5 EDU
- Parcel with Single Family Housing – 1 EDU per housing unit
- Parcel with Multi-Family Housing – 1 EDU per housing unit

A total of 143 properties and 126 EDU's have been estimated in the proposed water district. Customers within the district that are connected to the water distribution system will be billed quarterly for the cost of water purchased from OCWA. The debt service costs will be billed to individual properties according to the assigned EDU value for each parcel.

The estimated first year costs (3% interest and 40% rock throughout the potential project) for the average residential user are summarized as follows, estimates below anticipate a grant from WIIA in the amount of 2.6 Million Dollars and participation in the project by the Town of Sullivan for an amount of 2.0 Million Dollars:

- | | |
|--|--------|
| • Purchase of Water Meter | \$ 300 |
| • Installation of Water Service (60 lf x \$15.00/lf) | \$ 900 |
| • Repayment of Bonding (Debt Service 3% 25 yrs.) | \$ 632 |
| • Purchase of Water (60,000 gal./yr.) | \$ 325 |

Total First Year Costs for the Avg. Residential User \$2,157

The estimated annual costs for the average residential user after the first year are summarized as follows, estimates below anticipate a grant from WIIA in the amount of 2.6 Million Dollars and participation in the project by the Town of Sullivan for an amount of 2.0 Million Dollars:

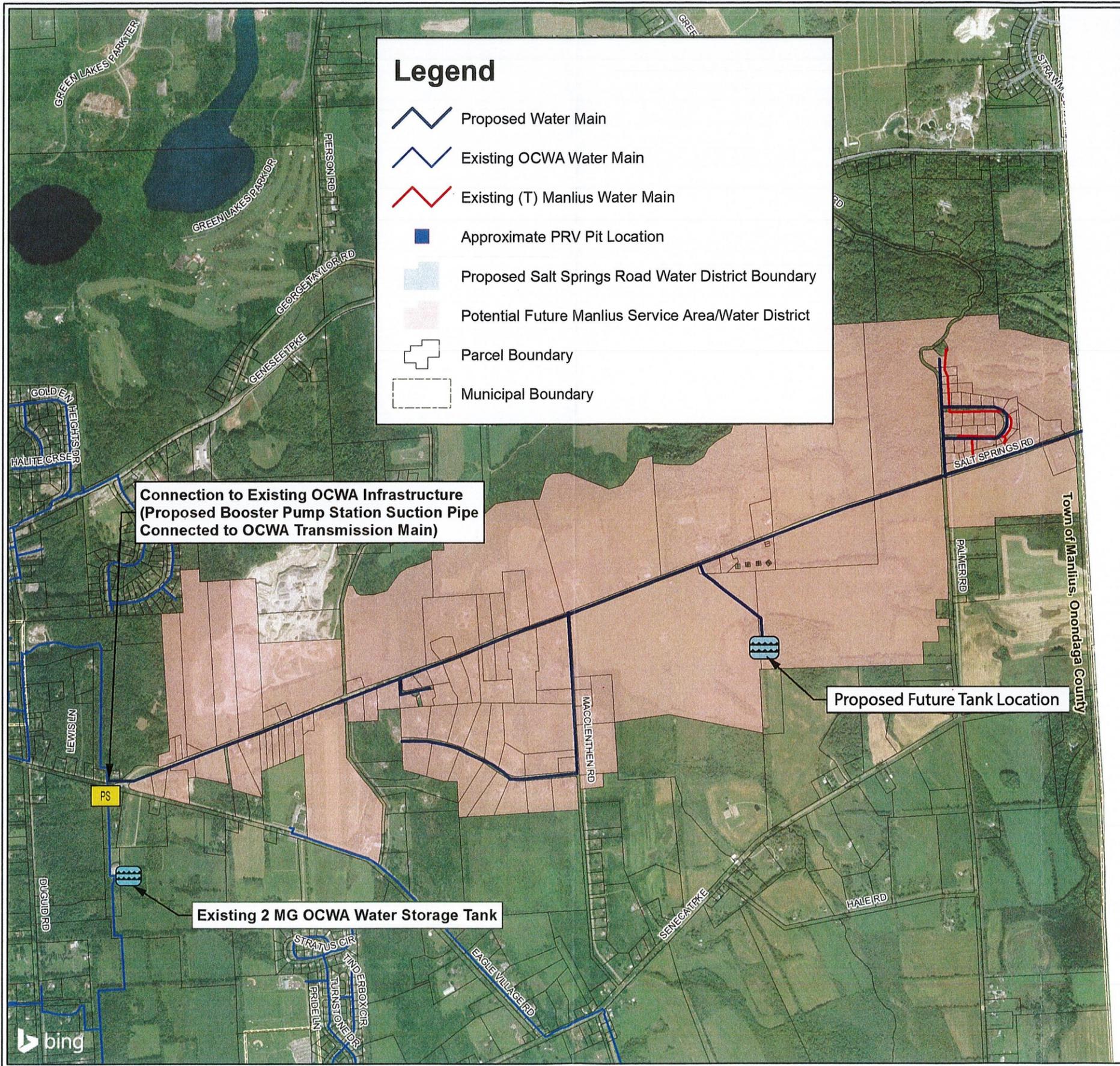
- Repayment of Bonding (Debt Service 3% 25 yrs.) \$632
- Purchase of Water (60,000 gal./yr.) \$325

Total Second Year and beyond Costs for the Average Residential User \$ 957

The property owner is responsible for paying the fee associated with purchase of the water meter. In addition, the property owner is responsible for installation of their own individual water service and connection to the new water service.

As part of this project, water services will be provided from the water main to the right-of-way in front of each building. A curb stop and box will be located at the right-of-way to shut off the water service if necessary.

FIGURE 1



Legend

-  Proposed Water Main
-  Existing OCWA Water Main
-  Existing (T) Manlius Water Main
-  Approximate PRV Pit Location
-  Proposed Salt Springs Road Water District Boundary
-  Potential Future Manlius Service Area/Water District
-  Parcel Boundary
-  Municipal Boundary

**Connection to Existing OCWA Infrastructure
(Proposed Booster Pump Station Suction Pipe
Connected to OCWA Transmission Main)**

Proposed Future Tank Location

Existing 2 MG OCWA Water Storage Tank

Town of Manlius
Salt Springs Road Water District
Proposed Facilities
 Onondaga County January 2018 New York



0 1,000 2,000 Feet

Engineer's Estimate of Probable Cost
 Town of Manlius Water Service Area along Salt Springs Corridor solely within the Town of Manlius
 Dec-17

PRELIMINARY DRAFT

Item	Description	Quantity	Unit	Unit Cost	Total	Shared Costs Town of Sullivan
1	Mobilization/Demobilization (insurance, survey/layout,temp facilities,ins, bond etc) 4%	1	LS	\$159,901	\$159,901	\$79,950
2	Furnish & Install 8 Inch Ductile Iron Water Main	26600	LF	\$45	\$1,197,000	\$369,000
3	8 Inch Gate Valves 500 ft spacing	54	EACH	\$1,500	\$81,000	\$24,600
4	Hydrant Installations 500 ft spacing	54	EACH	\$4,000	\$216,000	\$65,600
5	3/4 Inch Corporation Stop	126	EACH	\$50	\$6,300	
6	3/4 Inch Water Service Open Cut	945	LF	\$15	\$14,175	
7	3/4 Inch Water Service Push Method	7497	LF	\$20	\$149,940	
8	3/4 Inch Curb Stop, Curb Box and Cover	126	EACH	\$200	\$25,200	
9	Pavement Restoration	4000	SY	\$40	\$160,000	
10	Pressure Testing, Flushing and Chlorination	26600	LF	\$1.5	\$39,900	\$12,300
14	Final Clean Up and Site Restoration	26600	LF	\$4	\$106,400	\$32,800
15	Permits	1	LS	\$7,500	\$7,500	\$3,750
16	Polyethylene Encasement	26600	LF	\$1	\$26,600	\$8,200
17	Rock Excavation (40%)	6300	CY	\$135	\$850,500	\$262,184
18	Pump Station (including electric, foundation & site piping)	1	LS	\$505,000	\$505,000	\$252,500
19	Pump Station Generator	1	LS	\$20,000	\$20,000	\$10,000
20	Pump Station Fencing	1	LS	\$10,000	\$10,000	\$5,000
21	MWB Tie In	1	LS	\$40,000	\$40,000	\$20,000
22	Tank (250,000 gallon)	1	LS	\$325,000	\$325,000	\$162,500
23	Tank Fencing	1	LS	\$10,000	\$10,000	\$5,000
24	Tank foundation, access road & site grading	1	LS	\$100,000	\$100,000	\$50,000
25	Tank flushing hydrant	1	LS	\$4,000	\$4,000	\$2,000
26	Tank Valves	2	LS	\$1,500	\$3,000	\$1,500
27	Decommission existing system (Tank, Wells, Hydrants, Buildings, Pies & Services)	1	LS	\$100,000	\$100,000	
28	Instrumentation & Control System	1	LS	\$50,000	\$50,000	\$25,000
29	Site Clearing	1	LS	\$20,000	\$20,000	\$10,000
30	Road Crossings	4	EACH	\$30,000	\$120,000	\$60,000
31	Land Costs (Tank & Pump Station)	1	LS	\$80,000	\$80,000	\$40,000
	Construction Subtotal				\$4,427,416	\$1,501,885
	Construction Contingency (10%)				\$442,742	\$150,188
	Total Probable Construction Cost				\$4,870,157	\$1,652,073
	Legal, Admin, Planning, Engineering Design & Construction Phase Services (25%)				\$1,108,854	\$375,471
	Total Probable Project Cost				\$5,977,011	\$2,027,544
	Total Project Cost				\$6,000,000	
	Cost Sharing Transmission Main, Pump Station & Tank from Town of Sullivan				\$2,000,000	
	Possible WIIA Grant				\$2,800,000	
	Project Cost				\$1,400,000	
	Estimated Annual User Rate 3% 25 year Debt Service				\$632	
	Debt service & Water useage 25 year				\$957	
	State Comptrollers Threshold 2017				\$966	
	Estimated average water use per home 60,000 gallons - \$325 per year				\$325	
	Average Individual Homeowner Connection Cost 50 LF 3/4" Copper & Meter - \$1200				\$1,200	
	Costs developed using full build out of system with 143 parcels and 126 EDU					
	No ROW costs					



THOMAS P. DINAPOLI
COMPTROLLER

STATE OF NEW YORK
OFFICE OF THE STATE COMPTROLLER
110 STATE STREET
ALBANY, NEW YORK 12236

ANDREW A. SANFILIPPO
EXECUTIVE DEPUTY COMPTROLLER
OFFICE OF STATE AND LOCAL GOVERNMENT
ACCOUNTABILITY
Tel: (518) 474-4593 Fax: (518) 402-4892

December 2016

Dear Local Government Official:

Please find attached a listing of the average estimated cost thresholds for your use in determining whether approval of the State Comptroller is necessary for certain special district actions in the year 2017.

Certain "low cost" special districts, i.e., those which are at or below average estimated cost thresholds contained in the enclosure, do NOT require approval of the State Comptroller. However, if debt is being issued, a certified copy of the notice of hearing for the "low cost" district must be sent to our office. This copy must be sent, on or about the date of publication, to the Office of the State Comptroller, Division of Legal Services, 110 State Street, 14th Floor, Albany, New York 12236. It should be sent no later than 14 calendar days after publication. This notice enables us to accurately calculate future average estimated cost thresholds.

In addition, certified copies of resolutions or orders which, among other things, finally establish or extend a district and, in the case of counties, authorize an increase and improvement of facilities, are required to be filed with this Office regardless of whether the Comptroller's approval is required. Resolutions or orders that are subject to permissive referendum should not be filed until the period for filing a petition has passed or, if a petition is filed, a referendum has been held.

We would be happy to provide advisory services and assist you in identifying and resolving issues in connection with special district actions, even if the proceedings are not subject to our approval. You can obtain additional information and guidelines on submitting applications by contacting our Office. The information in this letter, as well as the Comptroller's regulations relating to applications for permission of the Comptroller to establish or extend special districts (Part 85), can also be found on our website:

<http://www.osc.state.ny.us/localgov/datanstat/files/part85regs.pdf>

If you have questions or need more information, please contact Sean McDermott in our Division of Legal Services at (518) 474-3517 or Scott Waldorf in our Division of Local Government and School Accountability at (518) 486-3145.

Sincerely,

Andrew A. SanFilippo
Executive Deputy Comptroller
Office of State and Local Government Accountability

Enc.

EXHIBIT "E"

AVERAGE ESTIMATED COSTS FOR COUNTY AND TOWN SPECIAL IMPROVEMENT DISTRICTS

(EFFECTIVE FOR PROCEEDINGS FOR WHICH A NOTICE OF HEARING IS PUBLISHED FROM JANUARY 1, 2017 THROUGH DECEMBER 31, 2017)

The Comptroller's approval is required if debt is proposed to be issued by a town or county and the "cost of the district or extension" to the "typical property" or, if different, the "typical one or two family home" as stated in the notice of hearing, is above the average estimated cost thresholds listed below.¹

"Costs" include amounts required to be paid for debt service, operation and maintenance and other charges, including user fees, related to the improvement in the first year following formation of the district or extension, or the increase and improvement of facilities in counties (or, if greater, the first year in which both principal and interest and operation and maintenance will be paid). To ensure accurate calculations of estimated costs, towns and counties should not assume the receipt of federal or state aid in the absence of firm commitments from the appropriate agency. In addition, estimated borrowing costs should be based on the proposed maturity of the obligations and interest rate assumptions derived from market surveys or a letter of commitment. Charges imposed by other governmental entities, such as public authorities or other municipalities, should also be included in the computation. Costs, for this purpose, do not include hook-up fees.

A summary of the notice of hearing requirements for the establishment and extension of town special districts appears in Appendix A. Frequently asked questions (FAQs) on the establishment or extension of town special districts concerning required determinations and methods of assessment appear in Appendix B.

TOWN DISTRICTS

The following average estimated costs apply to town special district establishments, extensions or increases in the maximum amount to be expended.²

Sewer	\$ 909
Water	\$ 966

¹ For those proceedings that are subject to a permissive referendum requirement, the Comptroller's Office will accept the filing of an application prior to the expiration of the time for filing a petition requesting a referendum or, if a petition is filed, the vote on the proposition. However, no approval order will be granted until after the completion of all such requirements.

² The Comptroller's approval, if required in the case of an increase in the maximum amount to be expended, may be given only after a public hearing and, in the case of Article 12-A districts, permissive referendum requirements are met.

COUNTY DISTRICTS

The following average estimated cost applies to county special district establishments, extensions or increases in the maximum amount to be expended.

Sewer	\$ 442
Water	\$ 2

The following average estimated cost applies to county special district increases and improvements of facilities. Please note that this figure represents only the increased cost to the typical property as a result of the increase and improvement.

Sewer	\$ 14
Water	\$ 8

OTHER DISTRICTS

For all other types of districts, there was insufficient data to calculate meaningful average estimated costs. Therefore, any type of district not listed above will be subject to applicable requirements for obtaining the Comptroller's approval, irrespective of the cost to the typical property or home, if debt is proposed to be issued to finance the improvement.

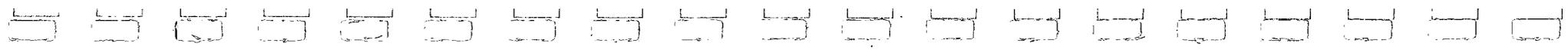
Note that proceedings under Town Law § 202-b to, among other things, repair, improve or replace facilities within an existing town district do not require the Comptroller's consent, except in certain cases within the Adirondack Park (see Town Law § 202-b[5] and Local Finance Law § 104.10[3]).

APPENDIX A

SWIS	TAX ID #	PARCEL LOCATION	P / C	TAV	OWNER NAME	OWNER MAILING ADDRESS	PO Box	CITY STATE ZIP	EDU's
313889	091-02-12.0	Salt Springs Rd	120	\$ 101,100	Mulvaney, Beverly	5357 Palmer Rd		Chittenango, NY 13037-9602	0.5
313889	091-02-14.0	Salt Springs Rd	105	\$ 213,900	Melvin, Merle D.	217 Salina St S Fl 7		Syracuse, NY 13202-1390	0.5
313889	091-02-15.1	8601 Salt Springs Rd	210	\$ 175,800	Nevelidine, Ted L.	8601 Salt Springs Rd		Manlius, NY 13104-8705	1
313889	091-02-16.1	8549 Salt Springs Rd	555	\$ 465,000	Sheridan, David N.	8549 Salt Springs Rd		Manlius, NY 13104-8761	1
313889	091-02-17.1	8473 Salt Springs Rd	112	\$ 176,100	Feane, Thomas J. Jr	8473 Salt Springs Rd		Manlius, NY 13104	0.5
313889	091-02-17.2	8393 Salt Springs Rd	240	\$ 535,600	Bushnell, Andrew	8393 Salt Springs Rd		Manlius, NY 13104	1
313889	091-02-17.3	8401 Salt Springs Rd	240	\$ 480,000	Garofalo, Ronald J.	8935 Bushnell Shore Rd		Bridgeport, NY 13030	1
313889	091-02-17.4	8489 Salt Springs Rd	210	\$ 123,400	Groesbeck, David S.	8489 Salt Springs Rd		Manlius, NY 13104	1
313889	091-02-18.0	8383 Salt Springs Rd	210	\$ 814,800	Denney, Marlene C.	8383 Salt Springs Rd		Manlius, NY 13104-9759	1
313889	091-02-19.1	8371 Salt Springs Rd	210	\$ 376,300	Benson, Stephen J.	8371 Salt Springs Rd		Manlius, NY 13104-9759	1
313889	091-02-19.2	8377 Salt Springs Rd	210	\$ 324,700	Schemm, John	8377 Salt Springs Rd		Manlius, NY 13104-9759	1
313889	091-02-20.1	8367 Salt Springs Rd	240	\$ 784,300	Giamartino, John Jr	8367 Salt Springs Rd		Manlius, NY 13104-9759	1
313889	091-02-20.2	8321 Salt Springs Rd	312	\$ 99,500	Powell, Lee	8250 Drinkwater Ln		Manlius, NY 13104	0.5
313889	091-02-21.0	Townsend Rd	105	\$ 129,400	T H Kinsella Inc		7	Fayetteville, NY 13066-0007	0.5
313889	091-02-22.0	8233 Salt Springs Rd	210	\$ 262,000	Parry, Robert C.	8233 Salt Springs Rd		Manlius, NY 13104	1
313889	091-03-01.1	8827 Salt Springs Rd	210	\$ 300,600	Ceritto, Lisa G.	8827 Salt Springs Rd		Chittenango, NY 13037-9111	1
313889	091-03-01.2	8823 Salt Springs Rd	210	\$ 216,200	Saxman, Jay A.	8823 Salt Springs Rd		Chittenango, NY 13037-9111	1
313889	091-03-01.3	8819 Salt Springs Rd	210	\$ 118,200	Smith, Barry L.	8819 Salt Springs Rd		Chittenango, NY 13037	1
313889	091-03-02.0	8815 Salt Springs Rd	210	\$ 162,200	Dailey, Ronald E.	8815 Salt Springs Rd		Chittenango, NY 13037	1
313889	091-03-03.0	8801 Salt Springs Rd	210	\$ 154,300	Berrigan, Philip D.	8801 Salt Springs Rd		Chittenango, NY 13037-9111	1
313889	091-03-04.0	8787 Salt Springs Rd	210	\$ 145,900	Quinn, Kathleen M.	8787 Salt Springs Rd		Chittenango, NY 13037-9607	1
313889	091-03-05.1	8777 Salt Springs Rd	210	\$ 47,600	Martin, Christopher	8777 Salt Springs Rd		Chittenango, NY 13037	1
313889	091-03-05.2	8773 Salt Springs Rd	210	\$ 149,000	Arnold, Josephine P.	4217 Old Homestead Rd		Syracuse, NY 13215	1
313889	091-03-05.3	8781 Salt Springs Rd	210	\$ 154,300	Watson, Joshua P/Marija L	8781 Salt Springs Rd		Chittenango, NY 13037	1
313889	091-03-06.0	5512 Gulf Rd	210	\$ 192,800	Parker, George H.	5512 Gulf Rd		Chittenango, NY 13037-8737	1
313889	091-03-07.0	8764 Horseshoe Ln	210	\$ 190,100	Kelly, Kevin J.	8764 Horseshoe Ln		Chittenango, NY 13037	1
313889	091-03-08.1	8766 Horseshoe Ln	210	\$ 190,100	Kuchera, David Mathew	8766 Horseshoe Ln		Chittenango, NY 13037-9614	1
313889	091-03-10.0	8768 Horseshoe Ln	210	\$ 195,400	Pellenz, John M. Jr	8768 Horseshoe Ln		Chittenango, NY 13037-9614	1
313889	091-03-11.0	8770 Horseshoe Ln	210	\$ 172,800	Tooker, Deborah	8770 Horseshoe Ln		Chittenango, NY 13037-9614	1
313889	091-03-12.1	Horseshoe Ln	822	\$ 60,700	Town of Manlius	301 Brooklea Dr		Fayetteville, NY 13066-1301	0
313889	091-03-13.2	8774 Horseshoe Ln	210	\$ 193,800	Cassavaw, Michael J.	8774 Horseshoe Ln		Chittenango, NY 13037-9614	1
313889	091-03-14.0	8778 Horseshoe Ln	210	\$ 199,800	Mills, Thomas A.	8778 Horseshoe Ln		Chittenango, NY 13037-9614	1
313889	091-03-15.0	8782 Horseshoe Ln	210	\$ 176,200	Romano, James P.	8782 Horseshoe Ln		Chittenango, NY 13037-9614	1
313889	091-03-16.0	8784 Horseshoe Ln	210	\$ 176,500	Keeney, Fred M.	8784 Horseshoe Ln		Chittenango, NY 13037-9614	1
313889	091-03-17.0	8786 Horseshoe Ln	210	\$ 167,400	Binder, Faith	8786 Horseshoe Ln		Chittenango, NY 13037	1
313889	091-03-18.0	8788 Horseshoe Ln	210	\$ 227,100	Yeomans, Jeffrey H.	207 Patricia Dr		North Syracuse, NY 13212	1
313889	091-03-19.0	8790 Horseshoe Ln	210	\$ 214,700	Schlichting, Ruth E.	8790 Horseshoe Ln		Chittenango, NY 13037-9614	1
313889	091-03-20.0	8792 Horseshoe Ln	210	\$ 172,300	Zlomek, Mathew F.	8792 Horseshoe Ln		Chittenango, NY 13037-9614	1
313889	091-03-21.0	8794 Horseshoe Ln	210	\$ 188,300	Dunckle, Alexander B.	8794 Horseshoe Ln		Chittenango, NY 13037-9614	1
313889	091-03-22.0	5546 Gulf Rd	210	\$ 161,500	Morgenstern, Roni Ruth	5546 Gulf Rd		Chittenango, NY 13037	1
313889	091-03-22.2	Salt Springs Rd	311	\$ 7,700	Pease, Lesley	5546 Gulf Rd		Chittenango, NY 13037	0.5
313889	091-03-23.0	5550 Gulf Rd	210	\$ 144,800	Szemkow, Paul	5550 Gulf Rd		Chittenango, NY 13037-9796	1
313889	091-03-24.2	5554 Gulf Rd	210	\$ 328,600	Belton, John F. Jr	5554 Gulf Rd		Chittenango, NY 13037-9796	1
313889	091-03-40.2	8835 Salt Springs Rd	581	\$ 660,000	Clear Path at Skyridge LLC	4930 Eagle Village Rd S		Manlius, NY 13104	1
313889	091-03-42.2	Gulf Rd	822	\$ 91,700	Town of Manlius	301 Brooklea Dr		Fayetteville, NY 13066-1328	0

313889	091-04-01.0	5530 Gulf Rd	210	\$	192,200	Lockrow, David A.	201 Genesee St W	242	Fayetteville, NY 13066	1
313889	091-04-02.0	8793 Horseshoe Ln	210	\$	202,800	Button, Naomi Susan	8793 Horseshoe Ln		Chittenango, NY 13037-9614	1
313889	091-04-03.0	8791 Horseshoe Ln	210	\$	209,900	Stanbro, Mark D.	8791 Horseshoe Ln		Chittenango, NY 13037-9614	1
313889	091-04-04.0	8789 Horseshoe Ln	210	\$	207,200	Delany, Thomas	8789 Horseshoe Ln		Chittenango, NY 13037-9614	1
313889	091-04-05.0	8785 Horseshoe Ln	210	\$	199,900	Marchitelli, Janis M.	8785 Horseshoe Ln		Chittenango, NY 13037-9614	1
313889	091-04-06.0	8777 Horseshoe Ln	210	\$	192,700	Moussa, Ayman	8777 Horseshoe Ln		Chittenango, NY 13037	1
313889	091-04-07.0	8771 Horseshoe Ln	210	\$	202,300	Patterson, Annette S.	8771 Horseshoe Ln		Chittenango, NY 13037-9614	1
313889	091-04-08.0	8769 Horseshoe Ln	210	\$	196,600	Goodman, Vanja E.	8769 Horseshoe Ln		Chittenango, NY 13037	1
313889	091-04-09.0	8765 Horseshoe Ln	210	\$	223,400	Wiehenstroer, Eric S.	8765 Horseshoe Ln		Chittenango, NY 13037-9614	1
313889	097-01-01.1	Salt Springs Rd	720	\$	118,000	T H Kinsella Inc		7	Fayetteville, NY 13066-0007	0.5
313889	097-01-01.2	Townsend Rd	720	\$	65,000	T H Kinsella Inc		7	Fayetteville, NY 13066-0007	0.5
313889	097-01-02.2	8171 Salt Springs Rd	210	\$	207,700	Clark, Lisa M.	8171 Salt Springs Rd		Manlius, NY 13104	1
313889	097-01-03.1	Salt Springs Rd	720	\$	100,000	T H Kinsella Inc		7	Fayetteville, NY 13066	0.5
313889	097-01-03.2	Salt Springs Rd	720	\$	79,000	T H Kinsella Inc		7	Fayetteville, NY 13066	0.5
313889	097-01-03.3	Salt Springs Rd	720	\$	76,000	T H Kinsella Inc		7	Fayetteville, NY 13066	0.5
313889	097-01-04.1	Salt Springs Rd	314	\$	44,200	T H Kinsella Inc		7	Fayetteville, NY 13066-0007	0.5
313889	097-01-04.2	Salt Springs Rd	311	\$	17,100	Kinsella, T H.		7	Fayetteville, NY 13066	0.5
313889	097-01-05.0	8117 Salt Springs Rd	210	\$	197,100	Grimaldi, Susan	8117 Salt Springs Rd		Manlius, NY 13104-9752	1
313889	097-01-06.1	8105 Salt Springs Rd	210	\$	158,700	Lapine, Reva G.	8105 Salt Springs Rd		Manlius, NY 13104-9752	1
313889	097-01-08.1	Salt Springs Rd	330	\$	145,800	T H Kinsella Inc		7	Fayetteville, NY 13066	0.5
313889	097-01-09.0	8001 Salt Springs Rd	210	\$	356,500	Pullano, Matthew F.	8001 Salt Springs Rd		Fayetteville, NY 13066	1
313889	097-01-10.1	7999 Salt Springs Rd	210	\$	206,400	Madajewski, Tammy R.	7999 Salt Springs Rd		Fayetteville, NY 13066	1
313889	098-01-01.1	8060 Salt Springs Rd	210	\$	113,700	Robinson, Shawn M.	8060 Salt Springs Rd		Manlius, NY 13104	1
313889	098-01-03.1	Salt Springs Rd	210	\$	49,300	Robinson, Shawn M.	8060 Salt Springs Rd		Manlius, NY 13104	1
313889	098-01-04.1	5132 N Eagle Village Rd	210	\$	121,400	Jacob C Hullar III Rev Trust	5186 Highbridge St		Fayetteville, NY 13066-2403	1
313889	098-01-05.0	8114 Salt Springs Rd	210	\$	125,400	Voinier, David A.	8114 Salt Springs Rd		Manlius, NY 13104-9752	1
313889	098-01-06.1	8142 Salt Springs Rd	472	\$	271,000	Rockacres LLC	8142 Salt Springs Rd		Manlius, NY 13104	1
313889	098-01-06.2	Salt Springs Rd	120	\$	31,000	SCV Ventures LLC	8128 Salt Springs Rd		Manlius, NY 13104	0.5
313889	098-01-06.5	8142 Salt Springs Rd	210	\$	394,300	Harris, Laurence M.	8142 Salt Springs Rd		Manlius, NY 13104	1
313889	098-01-08.0	8160 Salt Springs Rd	210	\$	156,100	Weigand, Meghan A.	8160 Salt Springs Rd		Manlius, NY 13104	1
313889	098-01-09.0	8166 Salt Springs Rd	210	\$	168,000	Wuerslin, Markus H.	8166 Salt Springs Rd		Manlius, NY 13104	1
313889	098-01-10.0	8170 Salt Springs Rd	210	\$	92,200	Abraham, Ancy A.	8170 Salt Springs Rd		Manlius, NY 13104-9752	1
313889	098-01-11.0	8174 Salt Springs Rd	210	\$	102,400	Wistrup, Daniel C.	8174 Salt Springs Rd		Manlius, NY 13104-9752	1
313889	098-01-12.0	8180 Salt Springs Rd	210	\$	151,300	Hall, Russell V.	8180 Salt Springs Rd		Manlius, NY 13104-9752	1
313889	098-01-13.0	8190 Salt Springs Rd	210	\$	110,000	Limestone Ridge LLC	5860 McKinley Rd		Brewerton, NY 13029	1
313889	098-01-14.0	8204 Salt Springs Rd	210	\$	175,100	Kuntz, Donald C.	8204 Salt Springs Rd		Manlius, NY 13104-9735	1
313889	098-01-15.0	5062 Eagle Village Rd N	120	\$	178,300	Shapero, Paul B.	5062 Eagle Village Rd N		Manlius, NY 13104-8706	0.5
313889	098-01-16.0	8232 Salt Springs Rd	210	\$	104,800	Friend Living Trust, Ruth	8232 Salt Springs Rd		Manlius, NY 13104-9735	1
313889	099-02-01.0	8258 Salt Springs Rd	210	\$	361,600	Koester, Michael C.	8258 Salt Springs Rd		Manlius, NY 13104-9735	1
313889	099-02-02.0	8290 Salt Springs Rd	210	\$	251,900	Marciano, Joanna S.	131 Seneca St W Unit 309		Manlius, NY 13104	1
313889	099-02-03.0	8300 Salt Springs Rd	210	\$	331,700	Hoefer, Stephen H.	8300 Salt Springs Rd		Manlius, NY 13104-9759	1
313889	099-02-04.0	7506 Strawberry Ln	210	\$	398,500	Kelley, Richard T.	7506 Strawberry Ln		Manlius, NY 13104-9758	1
313889	099-02-05.1	8332 Salt Springs Rd	210	\$	474,900	Corso, Joseph	8332 Salt Springs Rd		Manlius, NY 13104	1
313889	099-02-05.2	8322 Salt Springs Rd	311	\$	68,300	Corso, Joseph	8322 Salt Springs Rd		Manlius, NY 13104	0.5
313889	099-02-06.1	8394 Salt Springs Rd	240	\$	662,000	Bartlett Revocable Trust, The Diana N.	8394 Salt Springs Rd		Manlius, NY 13104-9759	1
313889	099-02-06.2	8374 Salt Springs Rd	210	\$	451,000	Lisi, Michele L.	8374 Salt Springs Rd		Manlius, NY 13104	1

313889	099-02-06.3	5285 Mac Clenthen Rd	210	\$	239,000	Haywood, Christopher	5285 Mac Clenthen Rd	Manlius, NY 13104	1
313889	099-02-06.4	8384 Salt Springs Rd	240	\$	267,200	Bashore, Miriam K.	8384 Salt Springs Rd	Manlius, NY 13104	1
313889	099-02-06.5	8370 Salt Springs Rd	210	\$	394,000	Messineo, Joseph R.		Fayetteville, NY 13066	1
313889	099-02-06.6	8368 Salt Springs Rd	210	\$	253,100	Burghardt, Gregory H.		Manlius, NY 13104	1
313889	099-02-07.0	Mac Clenthen Rd	322	\$	130,400	Palmer, Ted M.	8368 Salt Springs Rd	Manlius, NY 13104	1
313889	099-02-08.0	5155 Mac Clenthen Rd	314	\$	36,800	Sherman, Shirley E.	8420 Brae Leure Rd	Manlius, NY 13104	0.5
313889	099-02-09.0	5155 Mac Clenthen Rd	210	\$	146,600	Sherman, Shirley E.	5155 Mac Clenthen Rd	Manlius, NY 13104-9344	0.5
313889	099-02-18.1	Winterwood Ln	311	\$	700	Williams, Mary Eleano	5155 Mac Clenthen Rd	Manlius, NY 13104-9344	1
313889	099-02-18.2	7500 Strawberry Ln	210	\$	215,200	Taber, Timothy P.	8435 Brae Leure Rd	Manlius, NY 13104	0.5
313889	099-02-18.3	7498 Strawberry Ln	210	\$	223,100	Paolini, James	7500 Strawberry Ln	Manlius, NY 13104-9758	1
313889	099-02-18.4	Winterwood Ln	314	\$	25,900	Kelley, Richard T.	7498 Strawberry Ln	Manlius, NY 13104	1
313889	099-02-18.6	7498 Strawberry Ln	311	\$	2,200	Paolini, James	7506 Strawberry Ln	Manlius, NY 13104	0.5
313889	099-02-18.7	5250 Townsend Rd	210	\$	295,800	Nickson, Marchelle L.	7498 Strawberry Ln	Manlius, NY 13104	0.5
313889	099-02-18.8	8236 Salt Springs Rd	210	\$	561,100	Anelli, Thomas	5250 Townsend Rd	Manlius, NY 13104	1
313889	099-02-19.0	8401 Brae Leure Rd	210	\$	525,000	Khan, Muslim	8236 Salt Springs Rd	Manlius, NY 13104	1
313889	099-02-20.0	8407 Brae Leure Rd	210	\$	422,800	La Combe, Michael A.	8401 Brae Leure Rd	Manlius, NY 13104	1
313889	099-02-21.0	8411 Brae Leure Rd	210	\$	315,300	Javaid, Waleed	8407 Brae Leure Rd	Manlius, NY 13104	1
313889	099-02-22.0	8417 Brae Leure Rd	210	\$	450,000	Sanzone, William X.	8411 Brae Leure Rd	Manlius, NY 13104	1
313889	099-02-23.0	8423 Brae Leure Rd	311	\$	45,100	Grimaldi, Fred B.	8417 Brae Leure Rd	Manlius, NY 13104-9766	1
313889	099-02-24.0	8429 Brae Leure Rd	210	\$	283,600	Michalak, Richard J.	206 Falling Brook Path	Fayetteville, NY 13066	0.5
313889	099-02-25.0	8435 Brae Leure Rd	210	\$	432,200	Hammerich, Nils L.	8429 Brae Leure Rd	Manlius, NY 13104-9766	1
313889	099-02-26.0	8441 Brae Leure Rd	210	\$	340,200	Koganti, Baburao	8435 Brae Leure Rd	Manlius, NY 13104	1
313889	099-02-27.0	8450 Brae Leure Rd	210	\$	492,400	Phipps, Diane	8441 Brae Leure Rd	Manlius, NY 13104-9766	1
313889	099-02-28.0	8442 Brae Leure Rd	210	\$	345,000	Darin, Anthony P.	8450 Brae Leure Rd	Manlius, NY 13104-9756	1
313889	099-02-29.0	8436 Brae Leure Rd	210	\$	430,700	Burke Reynolds, Sheila	8442 Brae Leure Rd	Manlius, NY 13104	1
313889	099-02-30.0	8428 Brae Leure Rd	311	\$	45,100	Fiorini, Andrew	8436 Brae Leure Rd	Manlius, NY 13104	1
313889	099-02-31.1	8420 Brae Leure Rd	210	\$	489,000	Palmer, Ted M.	8491 Woodbox Rd	Manlius, NY 13104	0.5
313889	099-02-31.2	8416 Brae Leure Rd	210	\$	464,600	Bartolotti, John A.	8420 Brae Leure Rd	Manlius, NY 13104	1
313889	100-01-07.2	5160 Mac Clenthen Rd	240	\$	750,000	Harris, Peter S.	8416 Brae Leure Rd	Manlius, NY 13104	1
313889	100-01-07.3	5146 Mac Clenthen Rd	210	\$	148,900	Rogers, Derek W.		1001 Tully, NY 13159	1
313889	100-01-08.1	5200 Mac Clenthen Rd	210	\$	286,000	Cornman, James P.	5146 Mac Clenthen Rd	Manlius, NY 13104	1
313889	100-01-09.1	5300 Mac Clenthen Rd	210	\$	336,800	Frank, Stuart	5200 Mac Clenthen Rd	Manlius, NY 13104	1
313889	100-01-10.0	5304 Mac Clenthen Rd	210	\$	262,700	Ben, Stuart L.	5300 Mac Clenthen Rd	Manlius, NY 13104	1
313889	100-01-11.0	8490 Salt Springs Rd	120	\$	594,700	Everland Holding Co LLC	5304 Mac Clenthen Rd	Manlius, NY 13104-9344	1
313889	100-01-13.0	Salt Springs Rd	105	\$	109,300	Melvin, Merle D.	8417 Cazenovia Rd	Manlius, NY 13104	0.5
313889	100-01-14.1	Palmer Rd	120	\$	233,900	Mulvaney, David P.	217 Salina St S Fl 7	Syracuse, NY 13202-1390	0.5
313889	100-02-03.2	Salt Springs Rd	311	\$	6,100	Gutheim, August W.	5357 Palmer Rd	Chittenango, NY 13037-9602	0.5
313889	100-02-03.3	8826 Salt Springs Rd	210	\$	282,700	Nitzberg, Leonard	1224 Salt Springs Rd	Chittenango, NY 13037-9795	0.5
313889	100-02-03.6	8818 Salt Springs Rd	240	\$	497,400	Fahrenkrug, Corinn	8826 Salt Springs Rd	Chittenango, NY 13037	1
313889	100-1-01-12.1	8612 Salt Springs Rd	314	\$	16,500	Goodfellow Irrevocable Trust, Thomas R.	8818 Salt Springs Rd	Chittenango, NY 13037	1
313889	100-1-01-12.7	8612 Salt Springs Rd	220	\$	215,100	Ferguson, Judith E.	5240 Townsend Rd	Manlius, NY 13104	0.5
313889	100-1-01-27.0	8642 Salt Springs Rd	210	\$	100,700	Resnick, Marilyn J.	8612 Salt Springs Rd	Manlius, NY 13104-9760	1
313889	100-1-01-28.0	8638 Salt Springs Rd	210	\$	85,700	Keating, Ian J.	8642 Salt Springs Rd	Manlius, NY 13104-9760	1
313889	100-1-01-29.0	8650 Salt Springs Rd	210	\$	99,300	Neubauer, Linda	8638 Salt Springs Rd	Manlius, NY 13104-9760	1
313889	100-1-01-30.0	8646 Salt Springs Rd	210	\$	136,700	Sellinger, Brion A.	8650 Salt Springs Rd	Manlius, NY 13104-9760	1
313889	100-1-01-31.0	8634 Salt Springs Rd	210	\$	132,400	Francis, Elaine	8646 Salt Springs Rd	Manlius, NY 13104-9760	1
							8634 Salt Springs Rd	Manlius, NY 13104	1



313889	100.1-01-32.0	8632 Salt Springs Rd	210	\$	103,000	Bailey, Ronald E.	8632 Salt Springs Rd	Manlius, NY 13104	1
313889	100.1-01-33.0	8628 Salt Springs Rd	210	\$	123,100	Raymond, Steven S.	8628 Salt Springs Rd	Manlius, NY 13104-9760	1
313889	100.1-01-34.0	8624 Salt Springs Rd	210	\$	101,100	Moy, Meagan	8624 Salt Springs Rd	Manlius, NY 13104-9760	1
313889	100.1-01-35.0	8620 Salt Springs Rd	210	\$	103,400	Roewer Living Trust, Jon E.	8620 Salt Springs Rd	Manlius, NY 13104-9760	1
313889	100.1-01-36.0	8616 Salt Springs Rd	210	\$	93,600	Carroll, Derek	8616 Salt Springs Rd	Manlius, NY 13104	1
313889	100.1-01-37.0	Salt Springs Rd	314	\$	600	Donegan's Bluff HOA, Inc.	209 Second St	Liverpool, NY 13088	0.5

APPENDIX B

Effective January 1, 2016



RATE SCHEDULE NO. 8A
Commercial / Light Industrial Service – Quarterly

AVAILABILITY: Service under this rate schedule shall be available to any Commercial or Light Industrial customer within the Skyridge Water System and within Madison and Oneida Counties (excluding the Village of Chittenango).

APPLICABILITY: Any regular Commercial or Light Industrial metered purpose.

BASE SYSTEM FEE: The base system fee for services hereunder shall be:

<u>Size of Meter:</u>	<u>Base System Fee:</u>
5/8"	\$ 29.00
3/4"	\$ 43.50
1"	\$ 72.50
1-1/2"	\$ 145.00
2"	\$ 232.00
3"	\$ 464.00
4"	\$ 725.00
6"	\$ 1,595.00
8"	\$ 2,465.00
10"	\$ 3,625.00

WATER USE RATE: All use @ \$3.115 per 1,000 gallons

BILLING: Totals the Base System fee plus the applicable usage rate for all water used during the billing cycle.

PAYMENT: Bills are rendered net and are payable within fifteen (15) days after presentation, in accordance with Article VIII of the Customer Rules.

TERMS AND CONDITIONS: Service hereunder is subject to the Customer Rules of the Authority.

Effective January 1, 2016



RATE SCHEDULE NO. 2A
General Residential Service – Quarterly

AVAILABILITY: Service under this rate schedule shall be available to any customer within the Skyridge Water System and within Madison and Oneida Counties (excluding the Village of Chittenango).

APPLICABILITY: Any regular metered purpose.

BASE SYSTEM FEE: The base system fee for services hereunder shall be:

<u>Size of Meter:</u>	<u>Base System Fee:</u>
5/8"	\$ 29.00
3/4"	\$ 43.50
1"	\$ 72.50
1-1/2"	\$ 145.00
2"	\$ 232.00
3"	\$ 464.00
4"	\$ 725.00
6"	\$ 1,595.00
8"	\$ 2,465.00
10"	\$ 3,625.00

WATER USE RATE:

First	10,000 gallons@	\$2.885 per 1,000 gallons
Next	13,000 gallons@	\$3.685 per 1,000 gallons
Over	23,000 gallons@	\$4.495 per 1,000 gallons

BILLING: Based on the total of the Base System fee plus the applicable usage rate for all water used during the billing cycle.

PAYMENT: Bills are rendered net and are payable within fifteen (15) days after presentation, in accordance with Article VIII of the Customer Rules.

TERMS AND CONDITIONS: Service hereunder is subject to the Customer Rules of the Authority.

Rate Schedule 2

Rate Schedule 2

Effective January 1, 2017

RATE SCHEDULE NO. 2

GENERAL RESIDENTIAL SERVICE – QUARTERLY

AVAILABILITY: Service under this rate schedule is available to any customer within the Authority's service area in Onondaga and Oswego Counties.

APPLICABILITY: Any regular metered purpose.

BASE SYSTEM FEE: The base system fee for services hereunder shall be:

Size of Meter: Base System Fee:

5/8"	\$30.00
3/4"	\$45.00
1"	\$75.00
1-1/2"	\$150.00
2"	\$240.00
3"	\$480.00
4"	\$750.00
6"	\$1,650.00
8"	\$2,550.00
10"	\$3,750.00

WATER USE RATE:

First 10,000 gallons @ \$2.635 per 1,000 gallons
Next 13,000 gallons @ \$3.435 per 1,000 gallons
Over 23,000 gallons @ \$4.245 per 1,000 gallons

BILLING: Based on the total of the Base System fee plus the applicable usage rate for all water used during the billing cycle.

PAYMENT: Bills are rendered net and are payable within fifteen (15) days after presentation, in accordance with Article VIII of the Customer Rules of the Authority.

TERMS AND CONDITIONS: Service hereunder is subject to the Customer Rules of the Authority.

Rate Schedule 8

Rate Schedule 8

Effective January 1, 2017

RATE SCHEDULE NO. 8

Commercial / Light Industrial Service – Quarterly

AVAILABILITY: Service under this rate schedule is available to any Commercial or Light Industrial customer within the Authority's service area in Onondaga and Oswego Counties.

APPLICABILITY: Any regular Commercial or Light Industrial metered purpose.

BASE SYSTEM FEE: The base system fee for services hereunder shall be:

Size of Meter: Base System Fee:

5/8" \$ 30.00

3/4" \$ 45.00

1" \$ 75.00

1-1/2" \$ 150.00

2" \$ 240.00

3" \$ 480.00

4" \$ 750.00

6" \$ 1,650.00

8" \$ 2,550.00

10" \$ 3,750.00

WATER USE RATE:

All use @ \$2.865 per 1,000 gallons

BILLING: Based on the total of the Base System fee plus the applicable usage rate for all water used during the billing cycle.

PAYMENT: Bills are rendered net and are payable within fifteen (15) days after presentation, in accordance with Article VIII of the Customer Rules of the Authority.

TERMS AND CONDITIONS: Service hereunder is subject to the Customer Rules of the Authority.

Effective January 1, 2016



**RATE SCHEDULE NO. 2 – GALLONS
GENERAL RESIDENTIAL SERVICE – QUARTERLY**

AVAILABILITY: Service under this rate schedule is available to any customer within the Authority's service area in Onondaga and Oswego Counties.

APPLICABILITY: Any regular metered purpose.

BASE SYSTEM FEE: The base system fee for services hereunder shall be:

<u>Size of Meter:</u>	<u>Base System Fee:</u>
5/8"	\$ 29.00
3/4"	\$ 43.50
1"	\$ 72.50
1-1/2"	\$ 145.00
2"	\$ 232.00
3"	\$ 464.00
4"	\$ 725.00
6"	\$ 1,595.00
8"	\$ 2,465.00
10"	\$ 3,625.00

WATER USE RATE:

First	10,000 gallons @	\$2.635 per 1,000 gallons
Next	13,000 gallons @	\$3.435 per 1,000 gallons
Over	23,000 gallons @	\$4.245 per 1,000 gallons

BILLING: Based on the total of the Base System fee plus the applicable usage rate for all water used during the billing cycle.

PAYMENT: Bills are rendered net and are payable within fifteen (15) days after presentation, in accordance with Article VIII of the Customer Rules of the Authority.

TERMS AND CONDITIONS: Service hereunder is subject to the Customer Rules of the Authority.



200 Northern Concourse
PO Box 4949
Syracuse, NY 13221-4949

Central New York's Water Authority
www.ocwa.org

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IMPORTANT INFORMATION ABOUT YOUR WATER SUPPLY

March 2017

The Onondaga County Water Authority is pleased to provide its customers and consumers with the Authority's **Annual Water Supply Statement and Consumer Confidence Report** for the year ending December 31, 2016. Throughout this report, readers will find useful information specifically related to OCWA, as well as information related to water in general. In addition to mailing a notice to all customers of record announcing the availability of the report, the Authority continues its practice of providing copies of the report to local libraries. OCWA also advertises the availability of the report in local print media.

OCWA's ongoing capital improvement program continued throughout 2016 with several major projects being completed. During the year the old steel Eagleview water storage tank in Manlius was replaced with a larger, lower maintenance concrete tank. The outdated Sherwood pump station in Camillus was replaced with a more energy efficient facility. The East Hill pump station, serving Onondaga Hill, had its pumps replaced. Additionally, two major projects designed to protect OCWA's Otisco Lake transmission main from erosion were completed adjacent to Nine Mile Creek in Marcellus.

OCWA's engineering staff successfully completed and submitted an application to the NYS Health Department for funding that will allow OCWA to improve the Marcellus water treatment plant fluoride delivery system. Other capital improvement projects included the ongoing replacement of 19,255 feet of aging water mains, 120 isolation valves, and the replacement of 101 hydrants throughout the system. OCWA also started work on the replacement of the water main on Milton Avenue and Bridge Street, in the Village of Solvay and the Town of Geddes, as part of the large coordinated community streetscape project.

In September of 2016 it was announced that the operations of the Onondaga County Metropolitan Water Board's water facilities would be transferred to OCWA effective January 1, 2017. The consolidation of the two entities resulted in OCWA being responsible for water operations formerly split between the two agencies. OCWA now handles the treatment and delivery of both Otisco Lake and Lake Ontario water sources. Along with treatment responsibilities, OCWA now manages all water transmission and storage for all retail and wholesale water delivery throughout the Authority's five-county Central New York system. The OCWA and MWB staffs worked diligently during the final four months of the year addressing both regulatory and legal issues involved with the consolidation. As a result of their efforts, the merger was completed and the joint system was in place on January 1st. Throughout 2017 OCWA will be working to streamline operations of the two entities into one entity with an eye on producing monetary savings that will help fund future improvement projects and go toward keeping future rate increases more reasonable for all customers.

Looking ahead, for 2017, OCWA will continue its annual capital improvement program, which now will include major upgrades to the Lake Ontario pumping and distribution facilities. Other planned projects include the yearly rehabilitation of several distribution storage facilities, ongoing water main replacement projects plus continuing valve and hydrant replacements. One major initiative, starting in 2017, will be the planning for major improvements to the Lake Ontario water treatment facility which was originally placed in service in the 1960's.

To learn more about the OCWA water system and water supply, you are urged to read the information included in this report. Readers that have questions regarding the report or require additional information can contact OCWA's Water Quality Manager, Bob Rusyn by calling 315-455-7061, extension 3605.

Michael E. Hooker
Executive Director

Geoffrey G. Miller, P.E.
Deputy Executive Director

Curtis R. Marvin
Chief Fiscal Officer

Water Quality - How do you know your water is safe?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. Under the Safe Drinking Water Act (SDWA), the United States Environmental Protection Agency (EPA) sets national limits on contaminant levels to ensure the safety of your drinking water. These limits are known as Maximum Contaminant Levels (MCLs). For some contaminants the monitoring techniques may be unreliable, too expensive or too difficult to perform. In these cases, the EPA establishes treatment technique requirements instead of an MCL: if it can not be determined that a contaminant is not there, systems operate as if it is and provide the treatment necessary to produce safe drinking water. The EPA regulations also specify testing and reporting requirements for each contaminant. Something every regulation has in common is a requirement to notify the public if there is a regulation violation. If a regulation is violated the supplier is required to inform the consumers being served by the system. The EPA also requires water suppliers to monitor for unregulated contaminants to provide occurrence data for future regulations.

Currently the EPA has established regulations for 142 individual contaminants. This includes six microbiological contaminants, 4 radionuclides, 26 inorganic chemicals, and 106 organic chemicals. The SDWA requires the EPA to review and revise each regulation on a regular basis. For example, the MCL for trihalomethanes was lowered from 100 to 80 ug/L (parts per billion) as part of a review completed in 1997. The 1996 reauthorization of the SDWA also requires the EPA to consider at least 5 new contaminants for regulation every 5 years.

In New York, the State Health Department is responsible for enforcing EPA's regulations. The State has the option to implement alternative regulations when the alternative is equivalent to or more stringent than the EPA's regulation. In Onondaga County, due to the strength of the local unit, the State Health Department has delegated its primary enforcement and surveillance activities to the Onondaga County Health Department. The County Health Department reviews and approves all treatment plant and distribution system modifications as well as new construction. They also review all our operating and monitoring data for compliance on a monthly basis. The Authority takes a similar, cooperative approach with the Health Departments in Oswego, Oneida, Madison and Cayuga Counties.

The Authority's New York State certified water quality laboratory collects over 4,000-distribution system and 2,000-treatment plant samples each year and performs over 12,000 analyses. We also have about 600 specialized analyses performed by independent laboratories. As part of their surveillance program, the Onondaga County Health Department independently runs additional monthly surveillance monitoring on samples from our distribution system. In 2016, for water delivered to Authority customers, there were two Treatment Technique violations to report. Both violations were for water purchased from the City of Syracuse. On February 4th and again on February 25th 2016 high winds caused Skaneateles Lake water entering the City's intake to exceed 5 NTU. The turbidity of Skaneateles Lake reached 11.38 NTU during the February 4th event. This event is attributed to sustained Southerly winds. The Treatment Technique violations on February 25th when the turbidity reached 24.09 NTU is attributed to sustained West-Northwest winds combined with a 1.2-inch rainfall event. Other than those exceptions, OCWA, MWB and the City of Syracuse water supply met all New York State Health Department and EPA drinking water standards. In 2016 there were no Maximum Contamination Level violations for any chemical or bacteriological contaminants.

OCWA's and MWB's raw water monitoring programs are specifically designed to address concerns about Otisco Lake and Lake Ontario as main sources of supply. In both instances raw water intakes extend from a mile to a mile and a half out into their respective lakes. This was done by design to minimize the effects of near shore currents and run-off. Lab results consistently confirm that levels of organic compounds and heavy metals do not exceed the MCL. General raw water quality remains high for both Otisco Lake and Lake Ontario. Both sources are monitored more frequently, and for a wider range of compounds than required.

A water quality summary is provided for each of the three supplies in the tables included in the appendix found at the end of this report. More detailed information can be obtained by calling OCWA's Water Quality Manager, Bob Rusyn, at 315-455-7061 ext. 3157.

Additional information on contaminants and potential health effects can be obtained by calling EPA's "Safe Drinking Water Hotline" at 1-800-426-4791.

**WATER SOURCES
FOR
TOWNS & VILLAGES SERVED**

<u>COUNTY:</u>	<u>TOWNS / CITIES:</u>	<u>WATER SOURCE:</u>	<u>VILLAGES:</u>	<u>WATER SOURCE:</u>	
ONONDAGA:	CAMILLUS	OTISCO	BALDWINSVILLE	ONTARIO***	
	CICERO	OTISCO / ONTARIO	CAMILLUS	OTISCO	
	CLAY	OTISCO / ONTARIO	E. SYRACUSE	OTISCO/ONTARIO	
	DEWITT	OTISCO / ONTARIO / SKANEATELES	FAYETTEVILLE	ONTARIO	
	ELBRIDGE	OTISCO	LIVERPOOL	OTISCO/ONTARIO	
	GEDDES	OTISCO / ONTARIO / SKANEATELES	MANLIUS	ONTARIO	
	LAFAYETTE	ONTARIO	MARCELLUS	OTISCO	
	LYSANDER	OTISCO / ONTARIO	MINOA	OTISCO/ONTARIO	
	MANLIUS	ONTARIO / SKYRIDGE WELLS	N. SYRACUSE	OTISCO/ONTARIO	
	MARCELLUS	OTISCO	SOLVAY	OTISCO	
	ONONDAGA	OTISCO / SKANEATELES			
	OTISCO	OTISCO			
	POMPEY	ONTARIO			
	SALINA	OTISCO / ONTARIO			
	SKANEATELES	OTISCO			
	SPAFFORD	OTISCO			
	SYRACUSE	OTISCO / ONTARIO***			
	VAN BUREN	OTISCO / ONTARIO			
	MADISON:	LENOX	ONTARIO	CANASTOTA	ONTARIO
		LINCOLN	ONTARIO		
SULLIVAN		ONTARIO	CHITTENANGO	ONTARIO	
ONEIDA (City)		ONTARIO ***			
ONEIDA:	VERONA	ONTARIO	SYLVAN BEACH	ONTARIO	
	VIENNA	ONTARIO			
	ANNSVILLE	ONTARIO			
OSWEGO:	FULTON	ONTARIO ***	CENTRAL SQUARE	ONTARIO	
	GRANBY	ONTARIO	PHOENIX	ONTARIO***	
	CONSTANTIA	ONTARIO			
	HANINBAL	ONTARIO			
	HASTINGS	ONTARIO			
	OSWEGO (Town)	ONTARIO			
	OSWEGO (City)	ONTARIO***			
	SCHROEPEL	ONTARIO			
	WEST MONROE	ONTARIO			
	VOLNEY	ONTARIO			
	MINETTO	ONTARIO			
SCRIBA	ONTARIO ***				
CAYUGA:	STERLING	ONTARIO			

*** Emergency Connection Only

these particles settle and are cleaned out later. The contact time in these basins also allows the powdered activated carbon (used only when needed) to adsorb organic taste and odor causing chemicals. After about 1 hour of contact time the water enters the filters. Particles are removed as the water passes through one of six multimedia filters. These filters consist of granular activated carbon, silica-sand, and hi-density sand. The filters are washed periodically and the water used to do this is collected in lagoons and allowed to settle. It is then recycled back to the start of the treatment plant to be treated again. After filtration, the water is again disinfected with Sodium Hypochlorite and fluoride is added. The water is stored in large tanks located at the treatment plant to provide adequate contact time for the chlorine to work. Once the water leaves the tanks orthophosphate is added to provide a coating for the pipes in the distribution system and in your home. This is done in order to prevent the leaching of lead and copper from your pipes and into your water.

The Metropolitan Water Board pumps water from Lake Ontario through an 8-foot diameter intake it shares with the City of Oswego. Upon entering the Raw Water Pumping Station, lake water is treated with carbon dioxide to suppress pH thereby increasing the effectiveness of chemical coagulation. Potassium permanganate is applied seasonally to raw water for taste and odor control and to discourage the growth of zebra mussels. The water is pumped approximately 2 miles to MWB's treatment plant. Water entering the plant is treated with sodium hypochlorite (disinfectant) and polyaluminum chloride (coagulant) and is flash mixed. The water then enters three contact basins where slow mixing allows small particles to accumulate and form larger, more readily filtered particles. After about 2 hours of contact time, the water flows into dual media filters consisting of granular activated carbon and filter sand whereby particulate contaminants are removed. After filtration three treatments are applied: fluoride to reduce tooth decay, sodium hypochlorite to disinfect and sodium hydroxide for corrosion control.

The City of Syracuse does not filter the water that enters their intakes located in Skaneateles Lake. The city has been granted a waiver to provide its customers with unfiltered water subject to strict conditions set by the New York State Department of Health. These conditions include water quality monitoring, backup disinfection, and watershed protection. The City of Syracuse Water Plant is located in the Village of Skaneateles. There they provide disinfection by the addition of chlorine, and fluoridation. Water then flows by gravity into the City's storage reservoirs. Orthophosphate is added to the water (for lead and copper control) as it leaves these reservoirs and it is disinfected again by the addition of sodium hypochlorite. In 2013 an Ultraviolet Light Treatment Facility was put into operation at Westcott Reservoir. A UV Light Treatment Facility at Woodland Reservoir was completed in April 2014. Ultraviolet disinfection allows the City to strengthen protection against microbial contaminants, especially targeting cryptosporidium.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants.

Frequently Asked Questions

Does my water contain Fluoride?

Yes, OCWA water is fluoridated to a concentration of about 0.7 mg/l. OCWA is required to fluoridate by the New York State Department of Health.

What is the pH of my water?

OCWA's pH is 7.1 to 8.5, slightly basic. Alkalinity varies by source ranging from 85 mg/l to 150 mg/l (CaCO₃)

Is my water Hard or Soft?

The hardness of OCWA's water ranges from 100 to 190 ppm. That is equal to about 6 to 11 grains per gallon. It is considered moderately hard. Hardness is a measurement of calcium carbonate in the water and is not a health concern.

Will having a water softener installed improve the water quality in my home?

No, softening does not improve the sanitary quality of water. Softeners mostly remove calcium carbonate. They will stop 'spotting' or 'scaling' which may occur on certain surfaces, and under certain conditions, when water puddles or droplets are allowed to evaporate. Water softeners may increase water usage because it takes more soft water to rinse away soap. It is ultimately a matter of personal preference.

What can I do about dirty or rusty water?

Water that is dirty or rusty can be caused by changes in flow inside the pipes. Usually, this is due to a sudden increase in flow, but sometimes, also by a change of direction. Leaks, hydrant usage or, changes in valve positioning can rile things up and cause these problems. If the problem doesn't clear up in a short period of time call us and we will try to help. OCWA will investigate and correct the cause of the problem and flush it's piping if necessary. You may then be instructed to flush the piping in your own home. The water should clear up after running it a bit.

What about Taste or Odor Problems?

Algae most commonly cause tastes and odors, which are; earthy, musty, grassy, or fishy. At the Otisco Lake and Lake Ontario plants water is filtered through granular activated carbon. At times, powdered activated carbon can also be added to adsorb the offensive tastes and odors and then the carbon and the algae both are filtered out. Algae blooms are common in the warm and sunny months and the carbon dosage is always being monitored and adjusted. Occasionally, some tastes and odors do get through. Customer complaints about taste and odor are taken very serious. Tastes and odors originating with algae have no adverse health effects.

What about chlorine taste and odor?

Chlorine dissipates as it travels through a pipeline. In order to ensure that customers living far from the treatment plant get water that is adequately disinfected, the dosage of chlorine received by customers living close to the plant is higher. OCWA tries to accommodate everyone, but in the case of a person very sensitive to chlorine living very close to the plant, this may not be possible. Chlorine can be removed simply by letting a pitcher of water stand overnight in the refrigerator or by running water through an activated carbon filter. Activated carbon filters, if used, need to be replaced regularly as old filters may promote bacterial growth.

Pharmaceuticals and Personal Care Products in Drinking Water

In 2008 the Associated Press released a three-piece story on pharmaceuticals and personal care products in drinking water sources. While the Onondaga County Water Authority was not one of the systems covered by the story, the article did stir interest of the Boards and Management of both OCWA and the Metropolitan Water Board (MWB). Accordingly, starting in 2008 the Authority implemented an annual testing program to learn more about potential pharmaceutical and personal care product contaminants that might be found in the Otisco Lake and Lake Ontario water supplies.

While none of us want to find any contaminants in our drinking water, as zero is the desirable level, it is important to begin the process of gathering occurrence data to allow for researchers to target the most commonly found contaminants. As such the Authority intends to continue to collect data related to pharmaceuticals and personal care products in water and will also continue its process of sharing the data with both the researchers and OCWA's consumers.

The 2008 round of samples involved testing for 34 potential contaminants, and with the exception of two items, the results were found to be non-detectable. From 2009 on, based on the recommendation of researchers studying the occurrence of pharmaceuticals and personal care products, the testing list has been expanded. Presently 98 potential contaminants are tested for. From 2009 and 2015 positive results were obtained for between 8 and 17 of the contaminants. In 2016 there were 5 potential contaminants found.

To learn more about the test results and related information for 2016 you are encouraged to visit the OCWA web site (www.ocwa.org). Anyone that has questions about results, or any of the other water quality reports posted on the Authority web site are encouraged to contact OCWA's Water Quality Manager, Bob Rusyn, Bob can be reached at 315-455-7061, extension 3157.

General Information related to Pharmaceuticals and Other Emerging Contaminants

Pharmaceuticals and personal care products, known in the water industry as PPCPs, are a group of compounds consisting of human and veterinary drugs (prescription or over-the-counter) and consumer products, such as fragrances, lotions, sunscreens and housecleaning products.

These compounds have been detected in trace amounts in surface water, drinking water and wastewater effluent sampling because water professionals have the technology today to detect more substances, at lower levels, than ever before.

Many PPCP compounds are being found at extremely low levels, typically single digit parts per trillion (ppt). Drinking-water standards are typically set in the parts per-billion range, which is 1,000 times higher. The fact that the substance is detectable in drinking water does not mean the substance is harmful to humans. To date, research throughout the world has not demonstrated an impact on human health from trace amounts of PPCPs found in drinking water.

The water community is committed to protecting the public health. Water professional are examining the occurrence of PPCPs in drinking-water supplies and the effectiveness of current treatment techniques on removal, and are paying close attention to health-effects research in this area, including research being conducted by the Water Research Foundation.

In addition, the U.S. Environmental Protection Agency (EPA) maintains an active program called the Contaminant Candidate List to identify contaminants in public drinking water that warrant detailed study. While the 2009 list does not currently include any PPCPs, EPA is considering testing for PPCP compounds in the very near future.

Safer medication disposal: To help safeguard water quality, discard your unwanted or expired medications in the trash, rather than dumping them down the sink or toilet. Keep prescriptions in their original container, remove or black out personal information on labels, then hide them in an empty, sealable container before placing in your garbage bag. For detailed tips on responsible medication disposal and protecting our water supply visit www.PainInTheDrain.com and then see the Rx Disposal section.

Table of Detected Contaminants

Lead & Copper in the distribution System

Contaminant	Violation Yes / No	Date(s) of Sampling	Average Level found (Range)	90th Percentile Value	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Copper	No	Jun-Sept 2016	0.086 (.0016 -.68)	0.23	mg/l	0	AL = 1.3*	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.
Lead	No	Jun-Sept 2016	1.47 (nd - 20)	5.1	ug/l	0	AL = 15*	Corrosion of household plumbing systems; Erosion of natural deposits;

*AL (Action Level) – Only 10% of samples can exceed this level.

About Lead and Copper:

In order to deter the leaching of lead and/ or copper from our customers' pipes, OCWA has been mandated to implement corrosion control. Lead & Copper Sampling is required every 3 years. OCWA will sample again in 2019.

The method of corrosion control used on waters originating from Otisco and Skaneateles lakes is the addition of orthophosphate. The adjustment of pH is the method used for Ontario water. OCWA's latest sampling period was in June - Sept of 2016 when OCWA sampled and tested customers' taps to make sure the corrosion controls were effective.

90th Percentile Values for LEAD & COPPER: The values reported for lead and copper represent the 90th percentile. The 90th percentile value is the concentration that 90% of the taps sampled were at or below. Since the Action Level for Lead is 15 ug/l, 90% of the taps tested had to be at or below this value. As you can see from the above chart 90% of the taps tested were at or below 5.1 ug/l in June - Sept. of 2016. The Action Level for Copper is 1.3 mg/l. The observed 90th percentile for Copper was 0.23 mg/l. Of the 107 samples that OCWA tested in June - Sept. of 2016, Only two sample exceeded the action level for lead. No sample exceeded the action level for copper.

The testing showed that our methods of corrosion control are working.

Non-Compliance Operational Sample; In order to determine compliance with the Lead and Copper Rule a water purveyor must collect all of its required samples between the dates of June 1 and September 30. Samples taken outside of this sampling period are not used to determine compliance with the 90th Percentile Value. In 2016 OCWA had one such sample. It was taken on December 22, 2016 by customer request. The sample results was 0.089 mg/L for Copper, well below the 1.3 mg/L action level. Lead was not detected.

**Table of Detected Contaminants
Bacteria Found in the Distribution System**

Contaminant	Sample Source	Violation Yes / No	Date(s) of Sampling in 2016	Month with Highest % positive samples	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Total Coliform Bacteria*	OCWA Distribution System	No	approx. 81 per week	August 1.02% (4 out of 392)	N/A	0	> 5 % Positive samples in any month	Naturally present in the environment

* Whenever a positive sample for Total Coliform is found, the sample is further tested for the presence of E.coli., plus 3 additional check samples are taken. One Sample was found to be E.Coli positive in 2016. OCWA regularly samples about 81 sites per week located throughout our distribution system. We test these sites for both bacteria and disinfectant residual to make sure that our water is of a safe and sanitary quality.

Contaminant	Sample Source	Violation Yes / No	Date(s) of Sampling in 2016	Level Detected	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
E. coli	OCWA Distribution System	No**	May 3	1 Positive Sample	N/A	0	Any Positive sample**	Human and Animal Fecal Waste

** A violation occurs when a total coliform positive sample is positive for E. coli and a repeat sample is positive for either total coliform or E. coli.
A sample was found to be positive for E. coli on May 3. Three check samples were taken with 24 hours. All the check samples were found to be negative for Coliform and E. coli.

Disinfectant & Disinfection By-products Found in the Distribution System

Contaminant	Sample Source	Violation Yes / No	Date(s) of Sampling in 2016	Level found (Range)	Units Measured	MCLG	Regulatory Limit MCL, TT, AL or MRDL	Likely Source of Contamination
Chlorine Residual	OCWA Distribution System	No	approx. 81 per week	0.68 (nd - 1.36)	mg/l	N/A (MRDLG)	4 (MRDL)	Added to water to kill harmful bacteria and to prevent the regrowth of bacteria.
Chlorite	Otisco	No	Monthly; Apr to Nov, '2016	0.125 (nd - 0.236)	mg/l	N/A	1	By-product of drinking water disinfection at plants using Chlorine Dioxide
Total Trihalo Methanes***	OCWA Distribution System	No	Quarterly; Feb, May, Aug Nov, '2016	52.53** (20.4 - 66)	ug/l	N/A	80	By-product of drinking water chlorination. TTHM's form when source water contains large amounts of organic matter.
Haloacetic acids****	OCWA Distribution System	No	Quarterly; Feb, May, Aug Nov, '2016	36.75** (5.7 - 57)	ug/l	N/A	60	By-product of drinking water chlorination.

Disinfection by-products; During disinfection, certain by-products form as a result of chlorine reacting with naturally occurring organic matter. The disinfection process is carefully monitored so that disinfection is effective, while levels of disinfection by-products are kept low. Trihalomethanes (THM's) and Haloacetic acids (HAA's) are classes of chemicals that OCWA is required to monitor for in its distribution system.

** The reported "Level Found" for Trihalomethanes and Haloacetic acids is the highest recorded quarterly running annual average among all of OCWA's Disinfection By- product sampling locations.

*** See 'Terms & Abbreviations' for the listing of Trihalomethanes contaminants

**** See 'Terms & Abbreviations' for the list of Haloacetic acids contaminants

**Table of Detected Contaminants
Inorganic Contaminants Found at Entry Point**

Contaminant	Water Source	Violation Yes / No	Date(s) of Sampling	Average Level found (Range)	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Chromium	Ontario	No	Feb, May, Jul, Aug, Nov-16	0.92 (nd - 1)	ug/l	100	100	Erosion of natural deposits.
Chromium 6 (2)	Ontario	No	Feb, May, Aug, Oct Nov-16	0.09 (0.07 - 0.14)	ug/l	N/A	N/A	Erosion of natural deposits; Industrial sources.
	Skaneateles	No	Oct 2016	0.028	ug/l	N/A	N/A	
Copper	Otisco	No	Feb, Mar Sept. 2016	0.009 (nd -0.014)	mg/l	N/A	AL = 1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.
	Ontario	No	Feb 2016	0.0087	mg/l	N/A	AL = 1.3	
	Skaneateles	No	Feb 2016	0.011	mg/l	N/A	AL = 1.3	
Fluoride (3)	Otisco	No	Daily	0.78 (.38 - .91)	mg/l	N/A	2.2	Erosion of natural deposits; Water additive that promotes strong teeth; discharge from fertilizer.
	Ontario	No	Daily	0.72 (.42 - .81)	mg/l	N/A	2.2	
	Skaneateles	No	Daily	0.74 (.27 - 1.02)	mg/l	N/A	2.2	
Magnesium	Otisco	No	Mar-16 Sep-16	11 (10.9 - 11)	mg/l	N/A	N/A	Naturally occurring.
	Ontario	No	Jul-13	8.97	mg/l	N/A	N/A	
Lead	Otisco	No	Feb, Mar, Sept. 2016	1.2 (nd - 1.6)	ug/l	0	AL = 15	Corrosion of household plumbing systems; Erosion of natural deposits;

(2) Chromium 6: Although it is not regulated, OCWA and MWB took samples from the entrance point of the distribution representing water treated from Otisco, Ontario and Skaneateles Lakes and had them tested for Chromium 6 at low detection levels. The results are shown in the table above. Also in 2015, OCWA took samples representative of all 3 of the source waters and had them tested for Chromium 6. This was done as part of the Unregulated Contaminant Rule. These results can be seen on page 20. For more information on Chromium 6 see page 22.

(3) Information on Fluoride Addition: OCWA is one of many drinking water systems that provide drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Center for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal dose of 0.7 mg/l. To ensure that the fluoride supplement in your water provides optimal dental protection, the NYS Health Department requires that we monitor fluoride levels on a daily basis. During 2016 monitoring showed fluoride levels in your water were within 0.1mg/l of the optimal dose; 91.3% of the time for Otisco Lake water, 99.8% of the time for Lake Ontario water, and 87.0% for Skaneateles water.

Table of Detected Contaminants

Organic Contaminants Found at Entry Point

Contaminant	Water Source	Violation Yes / No	Date(s) of Sampling	Average Level found (Range)	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Di(2-ethylhexyl) phthalate (DEHP)	Skaneateles	No	May 2016	0.79	ug/l	0	6	Used plastic products such as polyvinyl chloride, plastic toys, vinyl upholstery, adhesives and coatings. Compound likely to be released to the environment during production and waste disposal of these products. Also used in inks, pesticides, cosmetics, and vacuum pump oil.
Dissolved Organic Carbon	Otisco	No	Monthly 2016	2.5 (1.89 - 3.58)	mg/l	N/A	N/A	Naturally occurring.
	Ontario	No	Monthly 2016	1.6 (nd - 2.4)	mg/l	N/A	N/A	
Total Organic Carbon	Otisco	No	Monthly 2016	2.3 (1.97 - 2.99)	mg/l	N/A	N/A	Naturally occurring.
	Ontario	No	Monthly 2016	1.7 (1.1 - 2.3)	mg/l	N/A	N/A	
Total Trihalo Methanes	Ontario	No	Monthly 2014	12.6 (8.5 - 18)	ug/l	N/A	80	By-product of drinking water chlorination. TTHM's form when source water contains large amounts of organic matter.
Haloacetic acids	Ontario	No	Jul & Aug 2013	6.35 (6.3 - 6.4)	ug/l	N/A	80	By-product of drinking water chlorination.

Radionuclides Found at Entry Point

Contaminant	Water Source	Violation Yes / No	Composite of quarterly samples	Level found	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Total Uranium	Ontario	No	Feb, May, Aug, Nov. 2016	0.29	ug/l	N/A	30	Erosion of natural deposits.

Table of Detected Contaminants

OCWA's Unregulated Contaminant Monitoring Rule 3 (UCMR3) Sampling

Unregulated Contaminants Detected During Testing

Contaminant	Water Source	Date of Sampling	Level found	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Molybdenum	Ontario entry point	Jan, Apr, Jul 2015	1.1 (1.1-1.2)	ug/l	N/A	N/A	Naturally-occurring element found in ores and present in plants, animals and bacteria; commonly used form molybdenum trioxide used as a chemical reagent
	Ontario Max. Res.	Jan, Apr, Jul 2015	1.2 (1.1-1.2)	ug/l	N/A	N/A	
Strontium	Otisco entry point	Jan, Apr, Jul 2015	123 (120-130)	ug/l	N/A	N/A	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions
	Ontario entry point	Jan, Apr, Jul 2015	167 (160-170)	ug/l	N/A	N/A	
	Skaneateles entry point	Jan, Apr, Jul 2015	82 (79-85)	ug/l	N/A	N/A	
	Otisco Max. Res.	Jan, Apr, Jul 2015	127 (120-130)	ug/l	N/A	N/A	
	Ontario Max. Res.	Jan, Apr, Jul 2015	183 (180-190)	ug/l	N/A	N/A	
	Skaneateles Max. Res.	Jan, Apr, Jul 2015	85 (81-88)	ug/l	N/A	N/A	
Vanadium	Otisco Max. Res.	Jan, Apr, Jul 2015	0.2 (nd-0.3)	ug/l	N/A	N/A	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst
	Ontario Max. Res.	Jan, Apr, Jul 2015	0.2 (nd-0.3)	ug/l	N/A	N/A	

Unregulated Contaminants Not Detected During Testing

In 2015, the Onondaga County Water Authority was required to collect and analyze drinking water samples for unregulated contaminants. The following contaminants were tested for but not detected: 1,2,3-trichloropropane, 1,3-butadiene, chloromethane (methyl chloride), Chromium, 1,1-dichloroethane, bromomethane (methyl bromide), chloromethane (methyl chloride), 1,1-dichloroethane, chlorodifluoromethane (HCFC-22), bromochloromethane (halon 1011), 1,4-dioxane, cobalt, perfluorooctanesulfonate acid (PFOS), perfluorooctanoic acid (PFOA), perfluorononanoic acid (PFNA), perfluorohexanesulfonic acid (PFHxS), perfluorheptanoic acid (PFHpA), perfluorobutanesulfonic acid (PFBS), 4-androstene-3,17-dione, 17-β-estradiol, 17-α-ethynylestradiol (ethinyl estradiol), 16-α-hydroxyestradiol (estriol), equilin, estrone, testosterone.

OCWA 2015 Water Supply Statement:

PWS ID # NY 3304336

The Onondaga County Water Authority is a public benefit corporation created in 1951 (and began operating in 1955) in accordance with the Public Authorities Law of the State of New York. The Authority was created to finance, construct, operate and maintain a water supply and distribution system for the benefit of the residents in and around Onondaga County. OCWA is one of the 125 largest publicly owned water suppliers in the United States.

The Distribution System Map (found on Page 4) shows the typical service area for each of the three water sources. Wholesale and retail areas within the county are both included. In retail areas the Authority supplies the water, maintains the distribution system and bills the customer directly. In wholesale areas, a municipality or water district buys some or all of its water from the Authority. Wholesale systems maintain their own distribution and customer billing systems. Some key facts about our operation can be found in the OCWA Statistics Table found below:

OCWA Statistics:

For 2015:

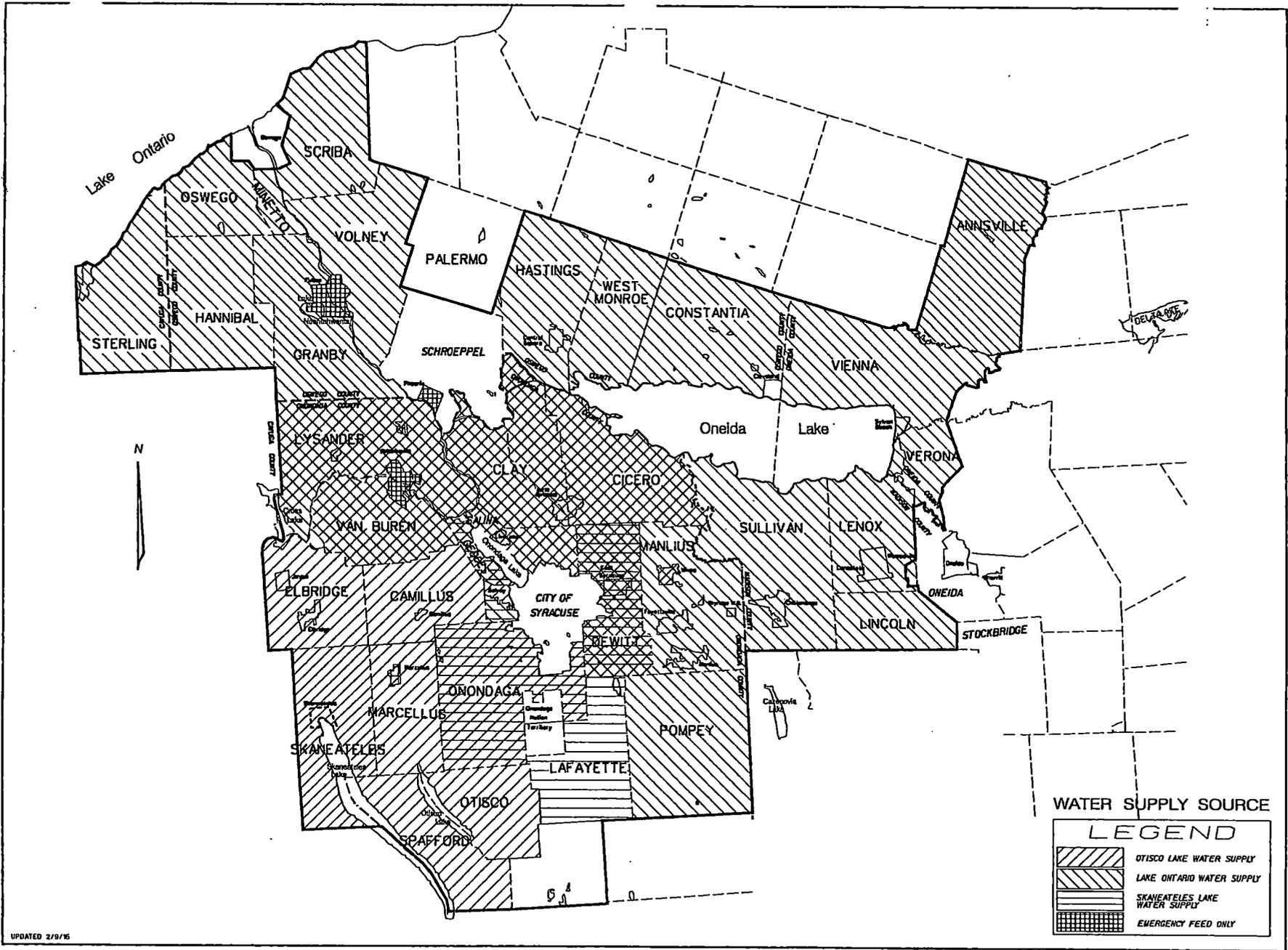
Daily Average System Delivery	38.91 Million Gallons per Day
Maximum Day System Delivery (09/05/15)	47.82 Million Gallons per Day
Average Daily Unmetered Water Use	7.13 Million Gallons per Day
Total Annual Delivered by OCWA	14.20 Billion Gallons
Total Water Treated by OCWA	6.75 Billion Gallons
Total Annual Purchased Water from MWB	7.05 Billion Gallons
Total Annual Purchased Water from Syracuse	0.40 Billion Gallons

As of December 31, 2015:

Avg. Cost / Residential & Commercial Consumers	\$ 5.04 per 1,000 Gallons
Population Served	340,000 Retail & Wholesale
Accounts	101,409
Miles of Water Main	2,021
Number of Hydrants	12,961
Storage Facilities	54
Pumping Facilities	41

For a more detailed explanation of water sources and the treatment processes employed by the Onondaga County Water Authority and its two wholesale water providers (the Metropolitan Water Board and the City of Syracuse Water Department) please see pages 6 and 7.

For questions about this report, or questions in general related to your water or water supply, a list of phone numbers and contacts can be found on Page 25 of this report.



UPDATED 2/9/16

Water Sources and Treatment

Customers of the Onondaga County Water Authority receive water that originates from Otisco Lake, Lake Ontario, or Skaneateles Lake. Customers located in certain areas may get a mixture of these waters or their source water may vary with changes in seasonal demand. In 2015 OCWA supplied approximately 38.9 million gallons per day to its 340,000 residential customers located in suburban Onondaga County, and parts of Madison, Oneida, Oswego, and Cayuga counties. OCWA also supplies water daily to thirty-four large industrial customers and two municipal wholesale water customers. OCWA can also supply water on an intermittent or emergency basis to seven additional municipal water systems.

OCWA treats and delivers water from Otisco Lake; the easternmost and smallest finger lake. In 2015, approximately 18.5 million gallons per day or 47.5 % of OCWA's water came from Otisco Lake. The customers receiving water originating from Otisco Lake are mostly located in the southern and western half of Onondaga County.

OCWA buys water wholesale from the Metropolitan Water Board at a number of different supply connections. MWB treats water originating from Lake Ontario near the City of Oswego. In 2015, approximately 19.3 million gallons per day or 49.6% of OCWA's water came from Lake Ontario. The customers receiving water originating from Lake Ontario are mostly located in the northern and eastern half of Onondaga County. OCWA customers in Madison, Oneida, Oswego, and Cayuga counties receive all their water from Lake Ontario.

The City of Syracuse Water Department has the responsibility of treating and delivering water originating from Skaneateles Lake. In 2015, approximately 1.1 million gallons per day or 2.9 % of OCWA's water came from Skaneateles Lake water purchased from the City of Syracuse Water Department through various supply connections. OCWA uses this water to supplement areas close to the city boundary when needed. OCWA customers living in Nedrow, Southwood, and the Jamesville area, receive water from Skaneateles Lake exclusively.

The first step in water treatment is to protect the source. OCWA and the City of Syracuse have been conducting ongoing watershed inspection, monitoring, and educational programs for a number of years. These programs are in conjunction with the State and Onondaga County Departments of Health. OCWA, MWB, and the City of Syracuse all monitor lake conditions on regular intervals prior to treatment.

The New York State Department of Health has completed a Source Water Assessment Program in order to better recognize potential sources of contaminants in every water source used throughout the State. This assessment can be found in this report under the heading **SWAP Summary for OCWA** on Page 8.

OCWA has 2 intake pipes located in Otisco Lake. The water entering these pipes is immediately disinfected with either Sodium hypochlorite or Chlorine dioxide to discourage the growth of zebra mussels. The water then travels, by gravity, approximately 5 miles to OCWA's Water Treatment Plant located in Marcellus, NY. Water first enters the Rapid Mix tank where a coagulant (polyaluminum chloride) and a taste and odor control chemical (powdered activated carbon) is added. After 30 seconds of mixing, the water enters the Contact Basins where the calm conditions allow the coagulant to make the small particles adhere together forming larger particles. Some of

SWAP Summary for OCWA

The NYS DOH has evaluated OCWA's susceptibility to contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraphs below. It is important to stress that these assessments were created using available information and only estimate the potential for source water contamination. Elevated susceptibility ratings do not mean that source water contamination has or will occur for OCWA. OCWA provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

Otisco Lake Source (water produced by OCWA):

This assessment found a moderate susceptibility to contamination for OCWA's Otisco Lake source of drinking water. The amount of row crops in the assessment area results in a medium susceptibility to pesticides. No permitted discharges are found in the assessment area. There is also noteworthy contamination susceptibility associated with other discrete contaminant sources, and these facility types include: mines. While lakes are not generally considered to have a high natural sensitivity to phosphorus in SWAP, this lake already shows algae problems. Therefore, additional phosphorus contribution would likely result in further water quality degradation.

Lake Ontario Source (water purchased from Metropolitan Water Board):

The Great Lakes' watershed is exceptionally large and too big for a detailed evaluation in the SWAP. General drinking water concerns for public water supplies which use these sources include: storm generated turbidity, wastewater, toxic sediments, shipping related spills, and problems associated with exotic species (e.g. zebra mussels- intake clogging and taste and odor problems). The summary below is based on the analysis of the contaminant inventory compiled for the drainage area deemed most likely to impact drinking water quality at this PWS intake.

This assessment found a moderate susceptibility to contamination for this source of drinking water. The amount of agricultural lands in the assessment area results in elevated potential for pesticides contamination. Non-sanitary wastes may increase contamination potential. There is also noteworthy contamination susceptibility associated with other discrete contaminant sources, and these facility types include: mines.

Skaneateles Lake Source (water purchased from the City of Syracuse):

This assessment found a moderate susceptibility to contamination for this source of drinking water. The amount of pasture in the assessment area results in a high potential for protozoa contamination. No permitted discharges are found in the assessment area. There are no likely contamination threats associated with other discrete contaminant sources, even though some facilities were found in low densities.

Cryptosporidium and Giardia:

New York State law requires water suppliers to notify their customers about the risks of Cryptosporidium and Giardia. These pathogens are of concern because they are found in surface water and ground water under the influence of surface water throughout the United States. Filtration and disinfection are the best methods for use against them, but 100% removal or inactivation cannot be guaranteed. Cryptosporidiosis and Giardiasis are intestinal illnesses caused by these microscopic parasites. Symptoms of infection include nausea, diarrhea, and cramps. Most healthy people can overcome the disease within a few weeks.

In 2015, the presence of Cryptosporidium and Giardia was tested for in Otisco, Ontario, and Skaneateles lakes as part of the routine plans of OCWA, MWB, and the City of Syracuse Water Department. Both the raw lake waters and the treated waters were tested. Additionally, OCWA also tested its recycled wash water, which is water that is reclaimed after filter backwashing and returned to the treatment plant influent stream for retreatment.

OCWA took a total of 36 Cryptosporidium and Giardia samples in 2015 representing water originating from Otisco Lake. Monthly samples were taken from the Raw (untreated) water and the Finished (treated) water. The Recycled water was also sampled monthly. None of the monthly samples of Raw water, Finished water, or Recycle water originating from Otisco Lake had any Cryptosporidium or Giardia detected.

MWB took a total of 9 Cryptosporidium and Giardia samples in 2015 representing water originating from Lake Ontario. Raw water samples were taken monthly April through December. No Cryptosporidium or Giardia was detected in any of MWB's Raw water samples.

The City of Syracuse Water Dept. took a total of 24 Cryptosporidium and Giardia samples in 2015 representing water originating from Skaneateles Lake. Two Raw water samples (one from each intake) were sampled monthly. No Cryptosporidium or Giardia were detected in any of the City of Syracuse's Raw water samples.

During 2015, No Cryptosporidium or Giardia was found in any water samples originating from Otisco Lake, Lake Ontario, or Skaneateles Lake.

Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

Individuals who think they may have Cryptosporidiosis or Giardiasis should contact their health care provider immediately. For additional information on Cryptosporidiosis or Giardiasis you may contact the Onondaga County Health Department, in writing at 421 Montgomery St., 12th Floor, Syracuse, NY 13202 or by calling 435-6600.

Bottled water may be a viable alternative, however the same degree of caution applied to your tap water should be used in selecting a bottled water supplier. To that end, a list of certified bottled waters for sale in New York (along with their sources) can be obtained from the New York State Department of Health by calling 1-800-458-1158.

The EPA's Surface Water Treatment Rule (SWTR) established water treatment standards specifically designed to ensure the removal or deactivation of Giardia and other microbial contaminants. The EPA is currently working on enhancing these standards to further ensure protection against exposure to Cryptosporidium from drinking water. The OCWA and MWB treatment plants are in full compliance with all current operational, monitoring, and reporting requirements. OCWA's internal performance standards are actually tougher than the law currently requires.

For example, the SWTR requires a treatment plant's finished water turbidity (a measure of clarity used to check filtration particulate removal) to be less than 0.30 NTUs 95% of the time. For 2015 the OCWA filtration plant finished water turbidity was less than 0.08 NTUs 95% of the time based on continuous four-hour sampling intervals. MWB's filtration plant finished water turbidity, for 2015, averaged less than 0.042 NTUs 95% of the time, again based on four-hour sampling intervals. Cryptosporidium regulations contain improved filtration performance requirements to ensure removal of any protozoans that may be present. Part of the enhanced filtration requirements involved lowering the turbidity criteria from the 0.50 to the 0.30 NTU range. Both the OCWA and MWB treatment plants are doing better than the regulated levels.

Lead in Drinking Water

"If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Onondaga County Water Authority is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>."

Additional Facts on Lead

Lead is a naturally-occurring metal that, for most of the 20th century, was used regularly as a component of paint, piping (including water service lines), solder, brass, and until the 1980s, as a gasoline additive. We no longer use lead in many of these products, but older products – such as paints and plumbing fixtures in older houses – that contain lead remain. EPA and the U.S. Centers for Disease Control (CDC) report that lead paint (and the contaminated dust and soil it generates) is the leading source of lead exposure in older housing.

While lead is rarely present in water coming from a treatment plant, it can enter tap water through corrosion of some plumbing materials. A number of aggressive and successful steps have been taken in recent years to reduce the occurrence of lead in drinking water.

In 1986, Congress amended the national Safe Drinking Water Act to prohibit the use of pipe, solder or flux containing high lead levels. The Lead Contamination Control Act of 1988 led schools and day-care centers to repair or remove water coolers with lead-lined tanks. EPA provided guidance to inform and facilitate their action.

Since the implementation of the Lead and Copper Rule (1991), many community drinking water systems are required to actively manage the corrosivity of water distributed to customers. In addition, community water systems conduct routine monitoring at selected houses where lead service lines and lead solder. If more than 10 percent of the homes tested have elevated lead levels (defined as more than 15 parts per billion), water providers must notify their consumers via several means. They must also take steps to reduce the problem, including improving corrosion control and possibly replacing lead service lines that contribute to lead contamination.

You can't see, smell or taste lead in your water. ***Testing at the tap is the only way to measure the lead levels in your home or workplace.*** If you choose to have your tap water tested, be sure to use a properly certified laboratory. Testing usually costs between \$20 and \$100.

Table of Detected Contaminants

Turbidity at Entry Point

Contaminant	Water Source	Violation Yes / No	Sampling frequency (highest reading)	Average Level found (Range)	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Lowest % of Monthly tests meeting limit	Likely Source of Contamination
Turbidity	Otisco	No	Every 4 hrs (May-15)	0.06 (.03 -.10)	NTU	N/A	TT = 0.3 NTU for systems that filter	100%	Soil run off
	Ontario	No	Every 4 hrs (Oct-15)	0.03 (.02 -.07)	NTU	N/A	TT = 0.3 NTU for systems that filter	100%	
	Skaneateles	Yes*	Every 4 hrs (Dec-15)	0.43 (.09- 42.72)	NTU	N/A	MCL = 5.0 NTU for systems that don't filter	N/A	

About Turbidity:

Customers of the Onondaga County Water Authority (OCWA) get their water from one of three sources. Water may originate from Otisco Lake, which is treated by OCWA itself, Lake Ontario which is treated by the Metropolitan Water Board (MWB) and sold to OCWA, or Skaneateles Lake which is treated by the Syracuse Water Department and also sold to OCWA. Customers may also get a mixture of these waters.

Water purveyors are required to measure **turbidity** as water leaves their plants. Turbidity is a measure of the cloudiness of water. Turbidity is monitored because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants. Treatment plants that filter also measure it because it is a good indicator of filter efficiency. Otisco Lake and Lake Ontario waters are filtered. Skaneateles Lake water is not.

***Treatment Technique Violation for Turbidity;** On December 29, 2015, because of high southerly winds, the turbidity levels entering the City of Syracuse's intake exceeded the maximum allowable standard of 5 Nephelometric Turbidity Units (NTU). Turbidity levels reached 42.72 NTU's on this date. Notification of this event was made to the public and to the Onondaga County Health Department .

***MCL Violation for Turbidity;** On October 28 & 29, 2015, because of high winds, the turbidity levels entering the City of Syracuse's intake exceeded the maximum allowable standard of 5 Nephelometric Turbidity Units (NTU). Turbidity levels reached 17.40 NTU's on Oct 28th. A reading of 8.38 NTU was recorded on October 29th. Since this event occurred over two days it is an MCL Violation. Notification of this event was made to the public and to the Onondaga County Health Department .

Health Effects of Turbidity: Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. Please pay special attention to the additional statements in this document regarding Cryptosporidium.

**Table of Detected Contaminants
Inorganic Contaminants Found at Entry Point**

Contaminant	Water Source	Violation Yes / No	Date(s) of Sampling	Average Level found (Range)	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Aluminum	Otisco	No	Mar-15 Sep-15	0.07 (.03 - .12)	mg/l	N/A	N/A	Erosion of natural deposits; Residual Aluminum may be from a chemical used in the treatment process.
Barium	Otisco	No	Mar-15 Sep-15	0.037 (.034 - .040)	mg/l	2	2	
	Ontario	No	Jul-15	0.024	mg/l	2	2	
	Skaneateles	No	May-15	0.025	mg/l	2	2	Erosion of natural deposits.
Calcium	Otisco	No	Mar-15 Sep-15	44.5 (40 - 49)	mg/l	N/A	N/A	Naturally occurring.
	Ontario	No	Jul-13	33.5	mg/l	N/A	N/A	
Chloride	Otisco	No	Mar-15 Sep-15	48 (44 - 52)	mg/l	N/A	250	Naturally occurring; Road salts.
	Ontario	No	Jul-15	26	mg/l	N/A	250	
	Skaneateles	No	May-15	20	mg/l	N/A	250	
Chlorite	Otisco	No	Daily	0.25 (nd - 0.43)	mg/l	N/A	1	By-product of drinking water disinfection at plants using Chlorine Dioxide
Chlorine Dioxide Residual (1)	Otisco	No	Daily	70 (nd - 390)	ug/l	N/A	800 (MRDL)	By-product of drinking water disinfection at plants using Chlorine Dioxide
Chlorine Residual (Free)	Otisco	No	Every 4 hrs.	1.12 (.72 - 1.67)	mg/l	N/A	4 (MRDL)	Added to water to kill harmful bacteria and to prevent the re-growth of bacteria.
	Ontario	No	Every 4 hrs.	0.89 (.64 - 1.25)	mg/l	N/A	4 (MRDL)	
	Skaneateles	No	Every 4 hrs.	1.35 (.61 - 2.38)	mg/l	N/A	4 (MRDL)	

(1) Chlorine Dioxide and Chlorite were tested for daily for 217 days in 2015. For 217 days in 2015 OCWA was adding Chlorine Dioxide as a preoxidant in order to control Zebra Mussels at the intake, provide adequate disinfection, and control the formation of undesirable disinfection by-products such as Trihalomethanes and Haloacetic acids. OCWA intends to add Chlorine Dioxide again during warm water conditions in 2016.

Table of Detected Contaminants

Inorganic Contaminants Found at Entry Point

Contaminant	Water Source	Violation Yes / No	Date(s) of Sampling	Average Level found (Range)	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Nickel	Otisco	No	Mar-15 Sep-15	0.98 (0.75 - 1.2)	ug/l	N/A	N/A	Erosion of natural deposits.
	Ontario	No	Jul-15	1.4	ug/l	N/A	N/A	
	Skaneateles	No	May-15	1.1	ug/l	N/A	N/A	
Nitrate	Otisco	No	Mar-15 Sep-15	0.51 (0.40 - 0.61)	mg/l	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits.
	Ontario	No	Jul-15	0.39	mg/l	10	10	
	Skaneateles	No	May-15	0.50	mg/l	10	10	
Sodium (4)	Otisco	No	Mar-15 Sep-15	28.5 (26 - 31)	mg/l	N/A	See Health Effects*	Naturally occurring; Road salts; water softeners; animal wastes.
	Ontario	No	Jul-15	17	mg/l	N/A	See Health Effects*	
	Skaneateles	No	May-15	10	mg/l	N/A	See Health Effects*	
Sulfate	Otisco	No	Mar-15 Sep-15	13 (13 - 13)	mg/l	N/A	250	Naturally occurring.
	Ontario	No	Jul-15	24	mg/l	N/A	250	
	Skaneateles	No	May-15	14	mg/l	N/A	250	

(4) Health Effects of Sodium;

There is no MCL for Sodium. However, water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted diets.

Table of Detected Contaminants

OCWA's Unregulated Contaminant Monitoring Rule 3 (UCMR3) Sampling

OCWA customers may receive water originating from one of three different sources; Otisco Lake, Lake Ontario, or Skaneateles Lake. Entry points of these source waters into the OCWA system were sampled as well as the Maximum Residence points for these sites.

Unregulated Contaminants Detected During Testing

Contaminant	Water Source	Date of Sampling	Average Level found (range)	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Chlorate	Otisco entry point	Jan, Apr, Jul 2015	102 (43 -210)	ug/l	N/A	N/A	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide
	Ontario entry point	Jan, Apr, Jul 2015	183 (33-94)	ug/l	N/A	N/A	
	Skaneateles entry point	Jan, Apr, Jul 2015	78 (60-99)	ug/l	N/A	N/A	
	Otisco Max. Res.	Jan, Apr, Jul 2015	133 (39-300)	ug/l	N/A	N/A	
	Ontario Max. Res.	Jan, Apr, Jul 2015	57 (53-58)	ug/l	N/A	N/A	
	Skaneateles Max. Res.	Jan, Apr, Jul 2015	72 (53-95)	ug/l	N/A	N/A	
Chromium-6	Otisco entry point	Jan, Apr, Jul 2015	0.03 (nd-0.03)	ug/l	N/A	N/A	Naturally-occurring element; used in making steel and other alloys; chromium-3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood preservation
	Ontario entry point	Jan, Apr, Jul 2015	0.09 (0.08-0.11)	ug/l	N/A	N/A	
	Skaneateles entry point	Jan, Apr, Jul 2015	0.04 (0.03-0.05)	ug/l	N/A	N/A	
	Otisco Max. Res.	Jan, Apr, Jul 2015	0.06 (nd-0.07)	ug/l	N/A	N/A	
	Ontario Max. Res.	Jan, Apr, Jul 2015	0.10 (0.09-0.12)	ug/l	N/A	N/A	
	Skaneateles Max. Res.	Jan, Apr, Jul 2015	0.04 (0.04-0.05)	ug/l	N/A	N/A	

OCWA's Unregulated Contaminant Monitoring Rule 3 (UCMR3) Sampling

Unregulated Contaminants Detected During Testing

Chromium 6 Health Information

Chromium is a common element in rocks, soil, water, plants, and animals. It gets into surface or groundwater after dissolving from rocks and soil. Chromium is used to manufacture steel, to electroplate metal, and in the textile, tanning, and leather industries. Contamination of drinking water may occur if chromium gets into surface or groundwater after improper waste disposal in landfills or by industrial or manufacturing facilities using chromium.

Chromium is found in the environment in two principal forms: chromium (III) and chromium (VI). Chromium (III) compounds are the most common chromium compounds in the environment. Chromium (VI) compounds are less common in the environment and are typically associated with an industrial source. Depending on the conditions, each form of chromium can be converted into the other form in the environment.

Chromium (VI) is the more toxic form of chromium. There is strong evidence from human studies in many countries that occupational exposures to chromium (VI) in air can cause lung cancer. There is weaker evidence from studies in China that long-term exposure to chromium (VI) in drinking water can cause stomach cancer. Chromium (VI) causes cancer in laboratory animals exposed almost daily to high levels in air (lung cancer) or drinking water (mouth and intestinal cancers) over their lifetimes. Adverse gastrointestinal-tract effects (oral ulcers, stomach or abdominal pain, diarrhea) other than cancer also are associated with long-term human exposures to oral doses of chromium (VI). In laboratory animals, repeated exposures to high oral doses of chromium (VI) has caused blood, liver, and kidney damage in adult animals, and can adversely affect the developing fetus and the male and female reproductive organs. Chemicals that cause cancer or other adverse health effects in people or laboratory animals exposed to high levels also may increase the risk of such effects in people exposed to lower levels over long periods. *Prepared by New York State Department of Health – Bureau of Toxic Substance Assessment, March 14, 2011.*

Terms & Abbreviations

Action Level (AL) – the concentration of a contaminant, which if exceeded, triggers treatment or other requirements that a water system must follow.

Chlorine Residual – the amount of chlorine in water available for disinfection.

Disinfection By-product (DBP) – Chemical compounds that result from the addition of chlorine to water containing organic substances.

HAA (Haloacetic acids) – the combined concentration of the following five contaminants; Dibromo-, Dichloro-, Monobromo-, Monochloro-, and Trichloro -, acetic acids.

Inorganic Contaminant – chemical substances of mineral origin, such as iron or manganese.

Maximum Contaminant Level (MCL) – the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as possible.

Maximum Contaminant Level Goal (MCLG) – the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL) – the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) – the level of a disinfectant in drinking water below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

mg/l – (milligrams per liter) corresponds to one part of liquid in one million parts of liquid (parts per million or ppm).

Microbiological Contaminant – Very small organisms, such as bacteria.

N/A – not applicable.

nd – not detected at testing limits.

ng/l – (nanograms per liter) corresponds to one part of liquid in one trillion parts of liquid (parts per trillion or ppt).

NTU – Nephelometric Turbidity Unit - a measurement of particles in water.

Organics – substances containing the element carbon. These can be naturally occurring or man-made, and can include pesticides, solvents, and by-products of disinfection.

pCi/L – Pico curies per liter; units of concentration of radioactive substances.

Radionuclides – Contaminants giving off ionizing radiation.

TTHM – (Total Trihalomethanes) – the combined concentration of the following four contaminants; Bromodichloromethane, Bromoform, Chloroform, and Dibromochloromethane.

TON (Threshold Odor Number) – The greatest number dilutions of a sample with “odor-free” water yielding a definitely perceptible odor.

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

ug/l – (micrograms per liter) corresponds to one part of liquid in one billion parts of liquid (parts per billion or ppb).



**Consumer Confidence Report For
Customers of Skyridge Water District
Public Water System ID# NY 3304337**

The Onondaga County Water Authority (by contract) is responsible for maintaining the water system for customers residing in the Skyridge Water District. The Skyridge Water district is located in Manlius, NY and contains 29 houses (a population of about 100) on Gulf Road and Horseshoe Lane. The district is fed by 2 wells. Well #1 is located on the southern line of Horseshoe Lane about 800 ft. east of Gulf Rd. Well #1 feeds the area an average of 3022 gallons per day. Well #2 is located on Gulf Rd. about 1000 ft. north of Horseshoe Lane's northern line. Well #2 feeds an average flow of 1,649 gallons per day. The system also has a 50,000 gallon storage tank. The New York State Department of Health has completed the Source Water Assessment for the Skyridge Water District system. It can be found below.

The only treatment this water receives is disinfection by the addition of chlorine. The chlorine level in the system is checked daily by a resident and daily inspections are made to the chlorination facilities by OCWA personnel. Testing for bacteria is performed weekly and additional monitoring for chemical contaminants is done on a schedule which meets or exceeds requirements set by the New York State Sanitary Code. Below is a list of contaminants found in your water in 2015. In cases where a contaminant is tested for less than once per year, the most recent results (prior to 2015) are included. Please refer to the main part of OCWA's Consumer Confidence Report for more information and for a listing of abbreviations used. Entry point samples are taken at the effluent of the chlorination buildings. Distribution system samples are taken at taps within the district.

**Skyridge Community Water District
Public Water System NY 3304337
Source Water Assessment**

The NYS DOH has completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source were evaluated. The state source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface to the wells. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is, or will become contaminated. See "Table of Detected Contaminants" section for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future. Water suppliers and county and state health departments will use this information to direct future source water protection activities. These may include water quality monitoring, resource management, planning, and education programs.

As mentioned before, your water is derived from 2 drilled wells. The source water assessment has rated these wells as having a medium-high to high susceptibility to microbials and nitrates. These ratings are due primarily to the close proximity of a permitted discharge facility (industrial/commercial facilities that discharge wastewater into the environment and are regulated by the state and/or federal government) and a septic system as well as low intensity residential activity in the assessment area. In addition, the wells draw from fractured bedrock, and a lower permeability layer exists above the aquifer. While the source water assessment rates your wells as being susceptible to microbials, please note that your water is disinfected to ensure that the finished water delivered into your home meets New York State's drinking water standards for microbial contamination.

A copy of the assessment, including a map of the assessment area, can be obtained by contacting us, as noted on page 3.

(1)

**Table of Detected Contaminants
(Lead & Copper in the distribution system)**

Contaminant	Violation Yes / No	Date(s) of Sampling 2014	Average of 2 highest (Range)	Units Measured	MCLG	Regulatory Limits MCL, TT, AL	Likely Source of Contamination
Copper	No	July 2014	0.135 (.065 - 0.16)	mg/l	1.3	AL = 1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.
Lead	No	July 2014	6.6 (2.1 - 8.9)	ug/l	0	AL = 15	Corrosion of household plumbing systems; Erosion of natural deposits.

About Lead & Copper: OCWA must test a minimum of 5 houses in this district every 3 years for lead & copper. In 2014 OCWA sampled 5 homes. The highest and second highest concentrations of Lead/Copper of these 5 homes were then averaged together. This result is listed in the above tables. OCWA will test for Lead and Copper again in 2017.

**Table of Detected Contaminants
(Disinfection Residual & Disinfection by-products in the distribution system)**

Contaminant	Violation Yes / No	Date(s) of Sampling	Average Level found (Range)	Units Measured	MCLG	Regulatory Limits MCL, TT, AL	Likely Source of Contamination
Chlorine (Free, Residual)	No	weekly in 2015	0.90 (0.20 - 1.79)	mg/l	N/A	4 (MRDL)	Added to water to kill harmful bacteria and to prevent the regrowth of bacteria.
Trihalo methanes (THM's)	No	Aug 2014	21	ug/l	N/A	80	By-product of drinking water chlorination. THM's form when source water contains large amounts of organic matter.
Haloacetic Acids (HAA's)	No	Aug 2014	14	ug/l	N/A	60	By-product of drinking water chlorination.

About Chlorine: Chlorine is added to your water in order to kill bacteria. In 2015 OCWA took weekly bacteriological samples along with the weekly Chlorine sample. All 52 samples were negative for coliform bacteria, no violations occurred.

Disinfection by-products: During disinfection, certain by-products form as a result of chlorine reacting with naturally occurring organic matter. The disinfection process is carefully monitored so that disinfection is effective, while levels of disinfection by-products are kept low. Trihalomethanes (THM's) and Haloacetic acids (HAA's) are classes of chemicals that OCWA is required to monitor for in its distribution system.

Other useful information:

Your water's pH is about 7.3

Your water's hardness is about 23 grains per gallon (about 390 ppm CaCO₃)

To find information about **Conservation, Frequently asked questions, Terms and Abbreviations,**

And to learn more about OCWA and Water Quality issues please refer to the main part of OCWA's 2015 Consumer Confidence Report available at: www.ocwaccr.org

Phone Numbers:

Your contact at OCWA: Sean Hayes (455-7061 ext. 3130)

Questions about water quality: Bob Rusyn (673-4304 ext.11)

Onondaga Co. Health Dept / Questions about Source Water Assessment Program: (435-6600)

EPA's Safe Drinking Water Hotline: (1-800-426-4781)

About Radon:

Radon is a naturally-occurring radioactive gas found in soil and outdoor air that may also be found in drinking water and indoor air. Some people exposed to elevated radon levels over many years in drinking water may have an increased risk of getting cancer. The main risk is lung cancer from radon entering indoor air from soil under homes. For additional information call your state radon program (1-800-458-1158) or call EPA's Radon Hotline (1-800-SOS-RADON).

In anticipation of the EPA adopting regulations for radon in ground water systems OCWA tested for it in April of 2011. Both of the wells in the Skyridge Water District were tested using the effluents of the Chlorination Buildings as sampling points.

The amount of Radon detected in Well #1 was 155 pCi/l. The amount of Radon detected in Well #2 was 476 pCi/l.

(3)

APPENDIX C



Search New York HomeTownLocator

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US > New York > Onondaga County NY > Subdivisions > Town Of Manlius

Town Of Manlius NY Demographic Data and Boundary Map

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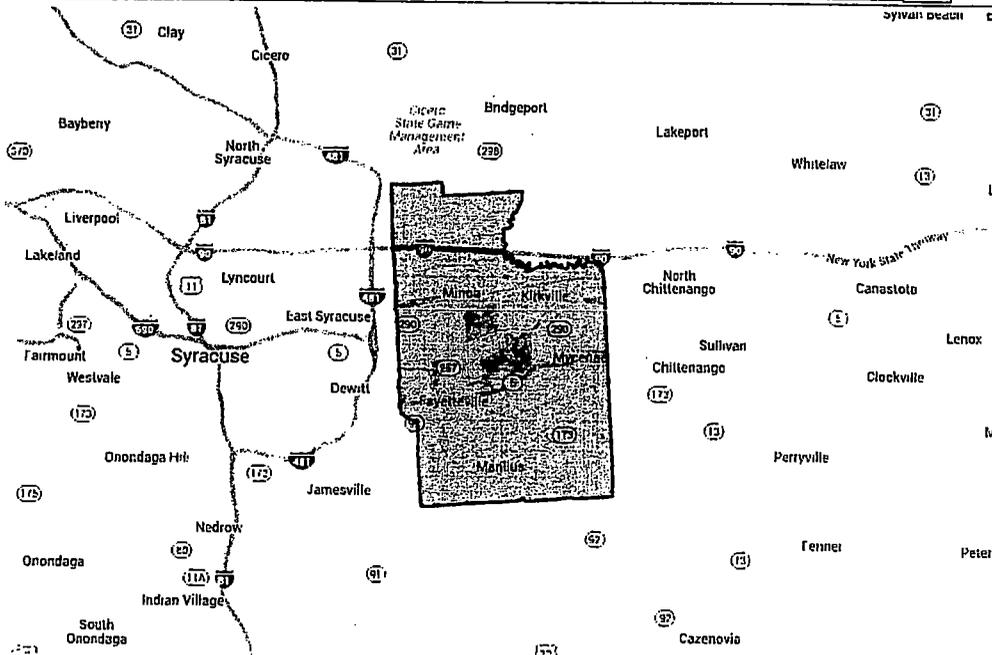
Town Of Manlius, NY

The Town Of Manlius is a County Subdivision of Onondaga County. The subdivision has a T1 Census Class Code which indicates that the Town Of Manlius is an active county subdivision that is not coextensive with an incorporated place.

Also See: [Onondaga County Data](#) | [Cities in Onondaga County](#) | [County Subdivisions in Onondaga County](#)

Town Of Manlius Boundary Map

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Town Of Manlius Data & Demographics (As of July 1, 2015)

POPULATION		HOUSING	
Total Population	32,394	Total Housing Units	14,268 (100%)
Population in Households	32,177	Owner Occupied HU	10,442 (73.2%)
Population in Families	26,398	Renter Occupied HU	3,086 (21.6%)
Population in Group Qtrs	217	Vacant Housing Units	740 (5.2%)
Population Density ¹	658	Median Home Value	\$214,708
Diversity Index ²	19	Average Home Value	\$250,840

HOUSEHOLDS		INCOME	
Total Households	13,528	Median Household Income	\$78,716
Average Household Size	2.38	Average Household Income	\$105,961
Family Households	8,980	Per Capita Income	\$44,329
Average Family Size	3		

GROWTH RATES	(Compound Annual Growth Rates)	
	2010-2014	2014-2019
Population	0.01%	0.09%
Households	0.22%	0.17%
Families	0.15%	0.12%
Median Household Income		2.22%
Per Capita Income		2.71%

1) Population Density = Total Population per square mile.

2) The Diversity Index is a scale of 0 to 100 that represents the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. If an area's entire population belongs to one race AND one ethnic group, then the area has zero diversity. An area's diversity index increases to 100 when the population is evenly divided into two or more race/ethnic groups.

Based on Census 2010 counts, the Diversity Index for the United States was 60.6 and it is expected to increase to 64.8 by July 1, 2018.

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APPENDIX D

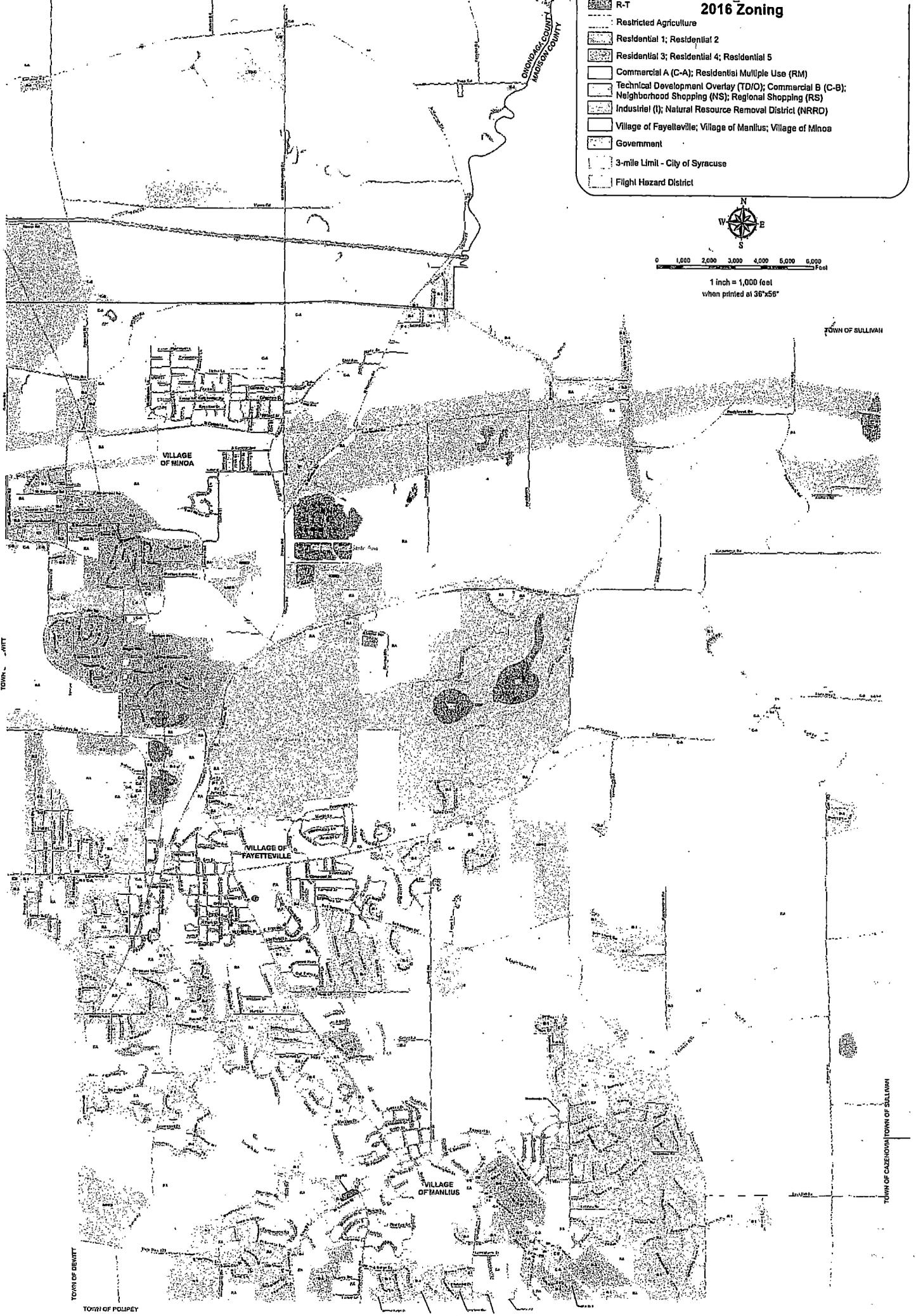
2016 Zoning

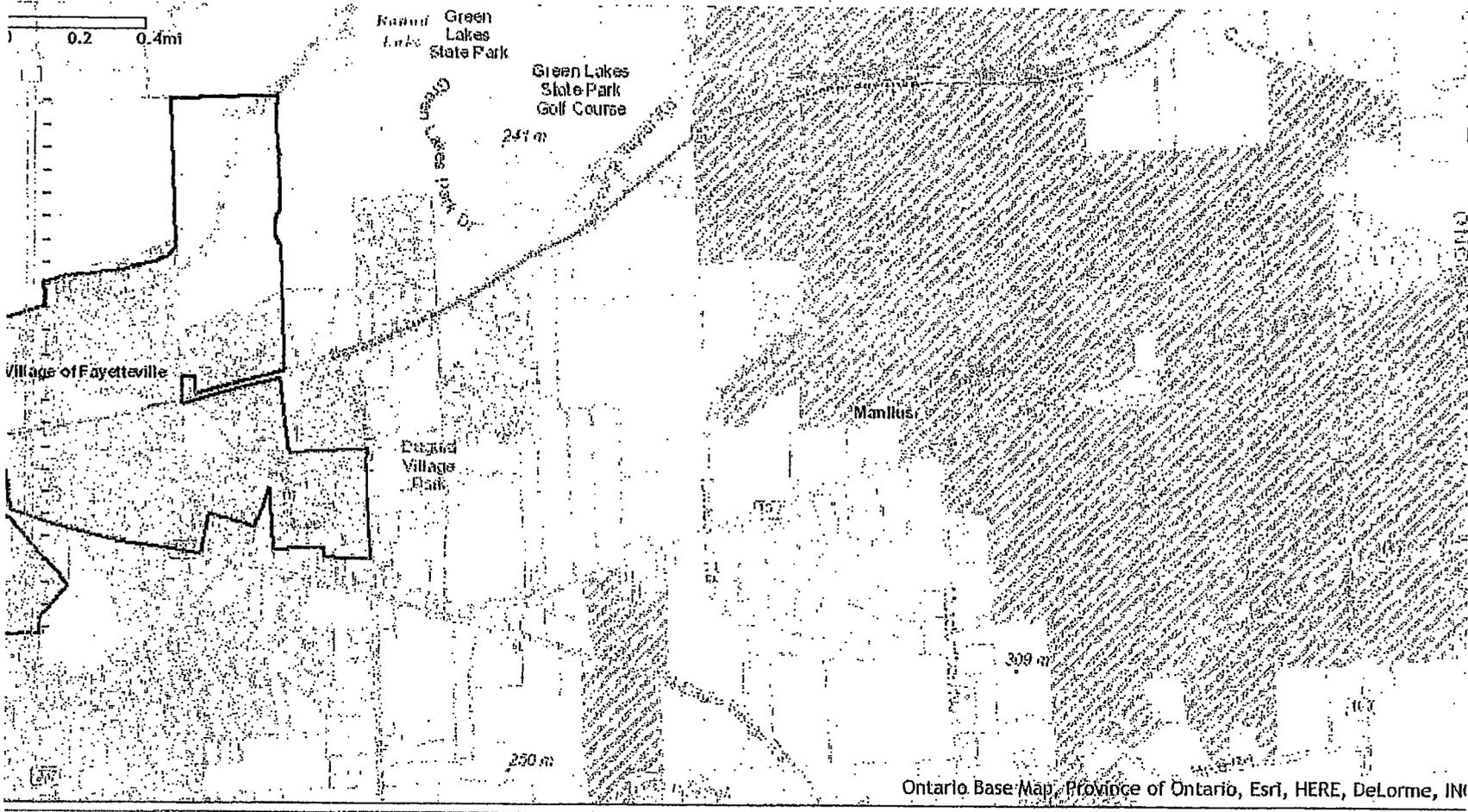
-  R-T
-  Restricted Agriculture
-  Residential 1; Residential 2
-  Residential 3; Residential 4; Residential 5
-  Commercial A (C-A); Residential Multiple Use (RM)
-  Technical Development Overlay (TDO); Commercial B (C-B);
Neighborhood Shopping (NS); Regional Shopping (RS)
-  Industrial (I); Natural Resource Removal District (NRRD)
-  Village of Fayetteville; Village of Manlius; Village of Minos
-  Government
-  3-mile Limit - City of Syracuse
-  Flight Hazard District



0 1,000 2,000 3,000 4,000 5,000 6,000 Feet

1 inch = 1,000 feet
when printed at 36"x56"





Initial Extent Zoom In Zoom Out Bird's Eye Street View Pictometry Identify Selected Tool: None