

Notice of Public Hearing
**Regarding the Establishment of Skaneateles Water District Number 6 and the Acquisition,
Construction and Installation of Water System Improvements**

NOTICE IS HEREBY GIVEN that a public hearing shall be held by the Town Board of the Town of Skaneateles at 7:00 p.m. on April 17, 2023 regarding the Establishment of Skaneateles Water District Number 6 and the Acquisition, Construction and Installation of Water System Improvements.

A copy of the Map, Plan and Report and related materials is available for review at the Town Clerk's Office of the Town of Skaneateles, 24 Jordan Street, Skaneateles, New York or at www.townofskaneateles.com. An opportunity to be heard in regard to this proposed Water District and the Acquisition, Construction and Installation of Water System Improvements will be given at the hearing to those favoring or opposing the same, as well as any comments. Communication in writing in relation thereto may be filed with the Town Board or at such hearing.

Said Hearing will be held on **Monday, April 17, 2023 at 7:00 pm** in person at the Skaneateles Town Hall, 24 Jordan Street, Skaneateles, NY 13152 and via Zoom at <https://us02web.zoom.us/j/85067465560> Meeting ID: 850 6746 5560 Passcode: 741229 or dial by your location +1 646 876 9923 US (New York). At that time, all persons will be heard or have an opportunity to provide written comment.

Dated: Skaneateles, New York
March 21, 2023



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MAP PLAN AND REPORT

WATER DISTRICT EXTENSION

TOWN OF SKANEATELES

MARCH 2023



C&S ENGINEERS, INC.
499 COL. EILEEN COLLINS BLVD.
SYRACUSE, NY 13212

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1. BACKGROUND AND AUTHORIZATION

Portions of the existing Town of Skaneateles water distribution service area experience service below standards. The Town of Skaneateles also contains areas in which water service provided by private wells is inadequate. In these areas, water is imported on trucks by several land owners. The Skaneateles public water system does not currently have an adequate level of service for expansion into these areas of failing wells. This report is the first step in the identifying of a project that will bring the water system to current standards and allow the extension of the public system to areas with failing wells. On August 4, 2016, the Town Board authorized the preparation of this map plan and report by resolution.

2. PROPOSED NEW WATER DISTRICT AND IMPROVEMENTS

A new elevated storage tank is proposed to the south of Andrews Road near the top of the hill approximately 2000 feet to the east of County Line Road. Figure 1 (Appendix A) shows the location of this site. This site is one of the highest locations in Town and is also adjacent to the areas with both inadequate service and failing wells. This site is not currently adjacent to a public water line. In order to construct a tank on this site, the public water main would need to be extended. A new water line will be connected to the existing 8-inch diameter main on NYS Route 20 at County line Road. The new main will run south along County Line Road, east along Andrews Road to the tank site. The new main will then continue to the east along Andrews Road then to the north and connect to the existing 8-inch diameter main along West Lake Road in the vicinity of the Skaneateles Country Club. Figure 1 (Appendix A) shows this water line layout.

A new tank to the south of Andrews Road will be located outside the existing consolidated water district. This will require the creation of a new water district. The new district will include the area bounded by County Line Road, Andrews Road, Kane Avenue, and NYS Route 20, as well as the area immediately surrounding those roads. The locations of the extended water lines described above will bring public water service to an area that currently experiences inadequate service from private wells. This area consists of single family houses, agricultural lands, and multiple equestrian facilities.

3. EXISTING SYSTEM DESCRIPTION

The Town of Skaneateles purchases water from the Village of Skaneateles. The Village water system contains two storage tanks located on the same site in the vicinity of the northeast corner of the Village. These tanks are filled by pumps through the distribution system and a transmission line. One tank is elevated and the other is a surface stand-pipe. The Town distribution system is connected to the Village distribution system at several locations, each of which is metered. In the past, the Town owned and operated a small surface reservoir located on the same site as the Village tanks. The Town has recently disconnected this surface reservoir from the distribution system.

For some time, portions of the Town distribution system have not met 10-State Standards relative to pressure, flow, and storage volume. Recent improvements inside the Village have improved the working pressure in certain eastern portions of the Town. The working pressure in western portions of the Town is still sub-standard. Fire flows are still a concern in various parts of the Town, primarily west of the Village.

As part of this project, the most recent water distribution model of both the Town and Village systems was used. This model was developed in cooperation of both municipalities using WaterCAD Version V8i, designed and distributed by Bentley Systems, Inc. A fire flow analysis was performed for both public systems. During this work, several minor updates to the models were implemented based on information taken from two reports:

- Village of Skaneateles, NY Water System Asset Management Plan – GHD – March 2013
- Town of Skaneateles West Side Water Storage Facility Evaluation – C&S Engineers, Inc. – April 2000

4. HYDRAULIC MODELING

A complete comparison of available fire flows under both existing conditions and proposed conditions is shown in Appendix D. A selection of nodes is shown in the adjacent table. Town nodes are shown in bold font. Fire flow values highlighted in green meet the minimum requirements, while values highlighted in red do not. The locations are selected to illustrate the effects of the system improvements. The locations are presented with the larger improvements at the top of the chart. As expected, the larger changes in available fire flows tend to occur on the west side of the distribution system, closer to the site of the new tank. System improvements on the west side would provide a benefit to the entire system, with noticeable benefits as far east as Lakeview Circle. The complete table is included as Appendix D.

Fire Flow Improvements

LOCATION	NODE	FIRE FLOW (gpm)		
		NEEDED	EXISTING CONDITIONS	PROPOSED CONDITIONS (Andrews Road Elev. Tank)
Hillside Drive Hydrant	Town 3	500	410	1,075
NYS Rt 20 at Hillside Drive	Town 4	500	419	1,158
NYS Rt 20 at Kwik Fill	Town 6	500	475	1,332
West Elizabeth at Orchard Road	J-265	500	1,229	2,898
NYS Rt 20 at County Line Road	J-422	500	419	1,252
NYS Rt 20 west of Franklin St Road	J-120	2,500	1,339	2,681
Fennell St south of Old Seneca Tpk	J-88	1,500	1,386	2,829
West Genesee St at West Lake St	J-147	1,750	1,379	2,951
Fennell Street at Kelly Street	J-49	3,500	1,476	2,821
Jordan Street at East Genesee Street	J-31	3,000	1,606	2,959
County Line Rd (N end of system)	J-423	500	419	1,101
Jordan Street at Academy Street	J-64	2,250	1,460	2,508
Kane Avenue at Heritage Woods	J-248	500	1,277	1,648
Lietch Street at Academy Street	J-257	500	1,580	1,704
Onondaga St near East Lake St	J-59	2,000	1,961	2,032
East Genesee St at Lakeview Circle	J-214	500	1,025	1,037
East Street at East Elizabeth Street	J-359	3,000	3,500	3,500

5. PROPOSED DISTRICT BOUNDARIES

The proposed new water district is generally to the southwest of the Village of Skaneateles. The district extension contains frontage along County Line Road on the west, Andrews Road on the south, and Kane Ave / West Lake Road on the west. A diagram showing the extension is contained in Appendix A. A detailed description of the district extension is included in Appendix E.

6. PROPOSED INFRASTRUCTURE CONNECTIONS

The proposed water main extension will connect to the Town's system in two locations: near the southern end of the existing 8-inch water main on West Lake Street and near the western end of the existing 8-inch water main NYS Route 20 (Genesee Street). A pre-fabricated in-line pump station will be installed near the West Lake Street connection. This pump station will feed a dedicated fill line for the new tank. The need for a small hydro-pneumatic tank to buffer the effects of the pump station on the Village system will be evaluated. The need for differential pressure zones will be evaluated. In the event that differential pressure zones are preferred, the piping manifold will be arranged such that water from the Town zone can flow into the Village during higher flows such as fire flow events.

7. DISTRICT IMPROVEMENT COSTS

The estimated cost for the proposed improvements is \$7,350,000. A detailed breakdown of this cost is provided in Appendix C. These costs include estimated costs for engineering, construction administration and construction inspection. Not included in the above costs are the typical residential "Hook-Up Fee" for connection to the Town's new water main. District residents who initially connect to the system via the services installed to their front property boundaries would not be charged a fee, but later connections will be charged a fee based on the cost to the Town, estimated at \$1,500.00. The costs also do not include the connection from the street line curb box into the individual home, as these are on private property and costs will vary substantially depending on the distance to the home and the site conditions involved with the connection. For the purposes of this report, the private portion of the water service installation cost from the street line into the house is estimated to be an average of \$1,350 per home, not including the water meter, which will be paid for by the Town.

8. PROJECT FINANCING AND PROJECTED USER FEES

All financing options will be considered by the Town, but at this time it is assumed that private financing will likely fund the project. An estimated interest rate of 5.5% for a 40 year financing period is projected for the project. The annuity factor for this term and rate is 0.0248. Given the nature of the project and the benefits to the existing district as well as the Village, the project cost will be borne in part by the existing water customers. Customers within the existing, pre-project water district will be attributed a smaller share of the project cost compared to similar customers in the new district, as described below. In this calculation, the Village does not contribute the cost of the project.

It is proposed that a special assessment system be utilized to charge each parcel inside the proposed district on an equivalent dwelling unit (EDU) basis:

- A single family residence (i.e. one (1) EDU) in the proposed water district will be charged for 1.0 unit.
- An equestrian facility will be charged based on the number of boarding stalls, at a rate calculated based on assumed water usage, as detailed in Appendix B. The rate is approximately equal to 1 EDU per 5 stalls. Dwellings on these parcels will be added to this charge, as applicable.
- Lots in an agricultural district (without dwellings) will be charged for 0.5 EDU.
- Developable vacant parcels, not in an agricultural district, would be charged 0.5 EDU.
- In the existing water district, existing units will be charged a portion of the debt corresponding to the assets that will benefit them. This includes the water tank and associated filling infrastructure. See Appendix B for details.

Using this method of assessment there are an estimated 36.6 EDU's in the new district and 1,084 in the existing district. Tables showing the accounting of the EDU's are included as Appendix B. The estimated first year total annual cost per single-family residence in the new water district, including the estimated debt service charge and water purchase cost would be \$1,020. The estimated additional annual cost per single family residence in the existing water service areas would be \$151 for the life of the bond. See Appendices B and C for details.

Appendix A

Figure 1



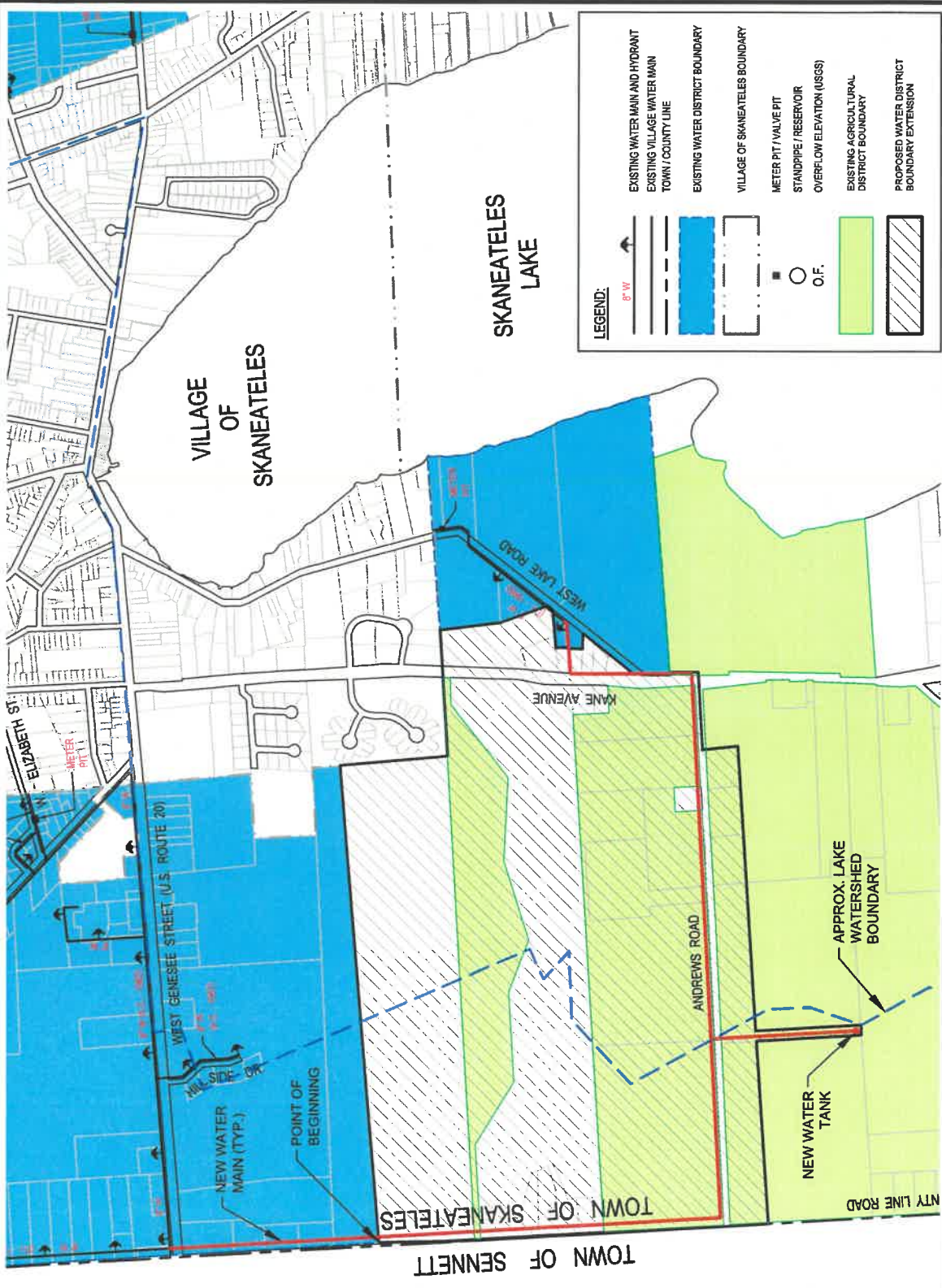
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**TOWN OF SKANEATELES
 DRAFT
 WATER DISTRICT EXTENSION**

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO.	1021101	
DATE	MAY 2017	
DRAWN BY		
CHECKED BY		
<small>THIS PLAN IS A PRELIMINARY DESIGN AND IS NOT TO BE USED FOR CONSTRUCTION OF THE PROJECT WITHOUT THE APPROVAL OF THE TOWN ENGINEER AND THE STATE ENGINEER UNDER SECTION 2 OF THE NEW YORK EDUCATION LAW.</small>		

PETITION PLAN

FIGURE-1



LEGEND:

- 8" W (with arrow symbol)
- EXISTING WATER MAIN AND HYDRANT
- EXISTING VILLAGE WATER MAIN TOWN / COUNTY LINE
- EXISTING WATER DISTRICT BOUNDARY
- VILLAGE OF SKANEATELES BOUNDARY
- METER PIT / VALVE PIT
- STANDPIPE / RESERVOIR
- OVERFLOW ELEVATION (USGS)
- EXISTING AGRICULTURAL DISTRICT BOUNDARY
- PROPOSED WATER DISTRICT BOUNDARY EXTENSION
- O.F.

Copyright

Appendix B

*Property Information for District Extension
&
EDU Factoring for Existing District*

Property Information - District Additions

Map	Section	Parcel	Owner 1	Owner 2	Street Name	Street #	Property Class	Acres	Land Assessed Value	Total Assessed Value	EDU's	NOTES
48	01	23.1	Scott C Winkelman	Mary Ellen Winkelman	Kane Ave	3415	241- Rural res&ag	49.91	\$116,000	\$354,900	1.0	Agr. District
48	01	24.1	Skaneateles Country Club Inc.		Kane Ave		552 - Golf course	102.11	\$178,900	\$874,432	1.0	golf facility
48	01	25	Jordan R Pavlus	Melissa A Pavlus	Kane Ave	3325	210 - 1 Family Res	1.5	\$58,800	\$265,000	1.0	
48	01	26	Juann Cunningham		Kane Ave	3319	210 - 1 Family Res	1.05	\$51,000	\$311,200	1.0	
48	01	27	Amanda Cregg		Andrews Rd		322 - Rural vac>10	13.55	\$46,300	\$46,300	0.5	Agr. District
48	01	28	Amanda Cregg		Andrews Rd		322 - Rural vac>10	14.17	\$47,300	\$47,300	0.5	Agr. District
48	01	29	Joseph Hubbard	Eleanor Hubbard	Andrews Rd	895	210 - 1 Family Res	1.49	\$58,600	\$325,000	1.0	
48	01	30.1	Martin S Cregg	Amanda C Cregg	Andrews Rd	783	240- Rural res	44.8	\$141,700	\$1,106,400	5.8	equestr. facility
48	01	30.3	Amanda Cregg		Andrews Rd	813	240- Rural res	12.92	\$93,900	\$432,900	1.0	Agr. District
48	01	31.1	Jarriet Bros Developers, LLC		Andrews Rd	881	240- Rural res	11.78	\$92,200	\$630,000	5.8	equestr. facility
48	01	32	Edward W Bryant	Patricia A Bryant	County Line Rd		105- Vac farmland	51.03	\$63,700	\$63,700	0.5	Agr. District
48	01	33	Scott Palmer	Cindy Palmer	County Line Rd	3330	210 - 1 Family Res	1.9	\$62,000	\$415,000	1.0	
48	01	34	David L McCarthy	Norma J McCarthy	County Line Rd	3340	210 - 1 Family Res	2.11	\$62,900	\$478,900	1.0	
48	01	35	Gordon J Elwell	Eileen L Elwell	County Line Rd	3350	210 - 1 Family Res	2.85	\$65,900	\$341,300	1.0	
48	01	36	Eckart W Meisterfeld	Mary B Meisterfeld	County Line Rd	3358	210 - 1 Family Res	2.05	\$62,700	\$272,600	1.0	
48	01	37	Michael J Wamp	Julia C Wamp	County Line Rd	3382	210 - 1 Family Res	2	\$62,500	\$547,900	1.0	
48	01	39	John H O'Neill		County Line Rd		322- Rural vac>10	144.45	\$128,100	\$128,100	0.5	partially in dist.
48	02	01	Patricia A Bryant	Edward W Bryant	County Line Rd	3218	120 - Field Crops	58.8	\$118,600	\$250,400	0.5	Agr. District
48	02	02	Amanda C Cregg		Andrews Rd	786	120 - Field Crops	52.45	\$109,300	\$316,900	0.5	Agr. District
48	02	03.2	Allan Lewis Wellington	Lisa M Wellington	Andrews Rd	894	210 - 1 Family Res	3.61	\$68,900	\$323,000	1.0	Agr. District
48	02	03.3	Patrick M O'Connor	Catherine J O'Connor	Andrews Rd	876	210 - 1 Family Res	3.65	\$69,100	\$362,000	1.0	Agr. District
48	02	03.4	Wellington Living Trust	Lewis Wellington	Andrews Rd	900	210 - 1 Family Res	2.91	\$66,100	\$338,000	1.0	Agr. District
49	01	03.1	Skaneateles Country Club, Inc.		Lake Rd W		552 - Golf course	10.75	\$92,600	\$240,784	1.0	golf facility
49	01	06	Richard A Mombertger	Roberta J Mombertger	Kane Ave	3326	210 - 1 Family Res	0.91	\$48,200	\$240,600	1.0	
49	01	07	Nancy Spaulding		Kane Ave	3318	210 - 1 Family Res	0.8	\$46,000	\$245,000	1.0	
49	01	08	Krause Revocable Trust Maria G	Susan M Krause	Kane Ave	3310	210 - 1 Family Res	0.91	\$48,200	\$242,800	1.0	
49	01	08	Maria G Krause Revocable Trust	Susan M Krause	Kane Ave	3310	210 - 1 Family Res	0.91	\$48,200	\$242,800	1.0	
49	01	09	Jeffrey M Willcox		Kane Ave	3332	210 - 1 Family Res	0.66	\$41,400	\$255,000	1.0	
49	01	10.1	Jane F Loftus		Kane Ave	3358	210 - 1 Family Res	2.21	\$63,300	\$366,500	1.0	
49	02	01.1	Sandy Beach NY LLC		Lake Rd W	3150	250 - Estate	82.15	\$5,700,000	\$7,340,000	1.0	Agr. District

NEW EDU's 36.6

TOWN OF SKANEATELES
CONSOLIDATED WATER DISTRICT EXTENSION
PRELIMINARY EQUIVALENT DWELLING UNIT CALCULATIONS

<u>EXISTING DWELLING UNITS</u>	
Number of Existing Consolidated District customers	1,084

<u>NEW DWELLING UNITS</u>	
As Calculated Elsewhere in This Report	
New EDU's	36.6

Appendix C

Preliminary Construction Cost Estimate

New Andrews Road Elevated Tank

Description	Quantity	Unit Cost	Unit	Extension
Site Work				
Earthwork	1	\$11,000	LS	\$11,000
Granular Subbase	150	\$45	CY	\$7,000
Paving	100	\$200	TON	\$20,000
Restoration	10,000	\$2.00	SF	\$20,000
12 inch Water Main w/hydrants	2	\$250	LF	\$1,000
8 inch Water Main w/hydrants	13,700	\$200	LF	\$2,740,000
Bollards	10	\$200	EA	\$2,000
New 150,000 Gallon Storage Tank				
Elevated Tank	1	\$650,000	LS	\$650,000
Foundation	1	\$250,000	LS	\$250,000
Fill Line (open cut)	6,250	\$140	LF	\$875,000
New Pumping Systems				
Booster Pumps	2	\$15,000	EA	\$30,000
Valves	6	\$5,000	EA	\$30,000
Piping	50	\$120	LF	\$6,000
Flow Meters	1	\$4,000	EA	\$4,000
PRVs	2	\$280	EA	\$1,000
Pressure / Level Sensors	2	\$3,000	EA	\$6,000
Disinfection System	1	\$30,000	LS	\$30,000
Vault	1	\$25,000	LS	\$25,000
Electrical & Communication				
Utility Power Service	1	\$14,000	LS	\$14,000
Grounding	1	\$4,000	LS	\$4,000
Switch Gear	1	\$35,000	LS	\$35,000
Conductors and Conduits	1	\$2,000	LS	\$2,000
PLC Panel and Programming	1	\$20,000	LS	\$20,000
Subtotal				\$4,783,000
General Conditions (Bonds, Insurance and Office Staff)		15%		\$717,000
Engineering – Basis of Design (Complete)				\$18,000
Engineering – Final Design (Drawings and Specifications)		4.00%		\$191,000
Construction Administration (Shop Drawing Review, Construction Progress Meet		3.50%		\$167,000
Construction Inspection (Assumes 2 days/week, 4 months)			LS	\$30,000
Property Acquisition/ Water District Formation/ Easements				\$9,000
Contingency		30%		\$1,435,000

TOTAL w/ Contingency

\$7,350,000

TOWN OF SKANEATELES
ANDREWS RD WATER DISTRICT
PRELIMINARY FINANCING CALCULATIONS

ANNUAL DEBT COST		
Preliminary Estimate of Project Cost		\$7,350,000
Total Project Grant Funding		\$4,423,500
Project Cost to be Financed		\$2,926,500
	Interest Rate	5.50%
	Financing Term	40
Annual Debt Service (Full Cost)		\$182,380
Annuity Factor		0.0248
Debt Cost to NEW DISTRICT	10%	\$18,341
Debt Cost to EXISTING DISTRICT	90%	\$164,039
Total Number of NEW Project Units		36.6
Total Number of EXISTING Project Units		1084.0
Annual Debt Cost Per NEW Project Unit		\$501
Annual Debt Cost Per EXISTING Consolidated District Unit		\$151

ANNUAL SERVICE COST		
Based Upon a Typical Annual Usage of 73,000 Gallons (18,250 Gallons Per Quarter)		
Minimum Usage Fee - First 5,000 Gallons		\$40.25
Fee Per 1,000 gallons - Over First 5,000	\$4.49	\$59.49
Infrastructure Fee per 1,000 - All Gallons Used	\$1.64	\$29.93
Typical Quarterly Water Bill		\$129.67
Typical Annual Water Bill		\$518.69

Total Estimated First Year Charge For NEW 4 Person Household = **\$1,020**

Total Estimated First Year Charge For EXIST. 4 Person Household = **\$670**

Appendix D

Hydraulic Modeling Output

EXISTING CONDITIONS										PROPOSED CONDITIONS 2 - ANDREWS ROAD ELEVATED TANK										COMMENTS
Location	Model Label	Satellite Fireflow (L/min)	Fireflow (Available) (L/min)	Fireflow (Required) (L/min)	Pressure (Available) (kPa)	Pressure (Required) (kPa)	Minimum w/ Mitigation (L/min)	COUPLER Fireflow Req. (GPI)	Label	Satellite Fireflow (L/min)	Fireflow (Available) (L/min)	Fireflow (Required) (L/min)	Pressure (Available) (kPa)	Pressure (Required) (kPa)	Minimum w/ Mitigation (L/min)	COUPLER Fireflow Req. (GPI)	Free Flow Impedance (gpm)	COMMENTS		
Water Treatment at Oxbow/Fossil	1144	THLF	500	5117	455	33	1178	0	1144	THLF	500	5117	455	33	1178	0	74			
	1145	THLF	500	3109	278	31	1189	0	1145	THLF	500	3109	278	31	1189	0	416			
	1146	THLF	500	1166	75	22	1060	0	1146	THLF	500	1166	75	22	1060	0	1493			
	1147	THLF	500	3397	34	20	1099	0	1147	THLF	500	3397	34	20	1099	0	181			
	1148	THLF	500	1259	25	21	1176	0	1148	THLF	500	1259	25	21	1176	0	1297	Notes identified in 2014 O&G Report & Grid Table 2		
	1149	THLF	500	1397	71	21	1060	0	1149	THLF	500	1397	71	21	1060	0	1004			
	1150	THLF	500	5501	26	21	1060	0	1150	THLF	500	5501	26	21	1060	0	0			
	1151	THLF	500	3353	28	22	1060	0	1151	THLF	500	3353	28	22	1060	0	0			
	1152	THLF	500	1101	71	21	1060	0	1152	THLF	500	1101	71	21	1060	0	0			
	1153	THLF	500	1381	23	28	1060	0	1153	THLF	500	1381	23	28	1060	0	48			
	1154	THLF	500	1397	87	21	1060	0	1154	THLF	500	1397	87	21	1060	0	1182			
	1155	THLF	500	3309	25	21	1060	0	1155	THLF	500	3309	25	21	1060	0	0			
	1156	THLF	500	3350	26	28	1060	0	1156	THLF	500	3350	26	28	1060	0	0			
	1157	THLF	500	1077	71	21	1176	0	1157	THLF	500	1077	71	21	1176	0	439			
	1158	THLF	500	1169	87	21	1060	0	1158	THLF	500	1169	87	21	1060	0	1182			
	1159	THLF	500	1380	71	21	1060	0	1159	THLF	500	1380	71	21	1060	0	3182			
	1160	THLF	500	1446	25	21	1060	0	1160	THLF	500	1446	25	21	1060	0	9			
	1161	THLF	500	1276	15	21	1060	0	1161	THLF	500	1276	15	21	1060	0	1488			
	1162	THLF	500	625	21	21	1060	0	1162	THLF	500	625	21	21	1060	0	11			
	1163	THLF	500	1331	71	21	1060	0	1163	THLF	500	1331	71	21	1060	0	1182			
1164	THLF	500	1311	71	21	1060	0	1164	THLF	500	1311	71	21	1060	0	1027				
1165	THLF	500	1380	28	21	1176	0	1165	THLF	500	1380	28	21	1176	0	1637				
1166	THLF	500	1380	28	21	1176	0	1166	THLF	500	1380	28	21	1176	0	1638				
1167	THLF	500	1443	81	21	1176	0	1167	THLF	500	1443	81	21	1176	0	1009				
1168	THLF	500	1470	65	21	1176	0	1168	THLF	500	1470	65	21	1176	0	1009				
1169	THLF	500	1484	65	21	1176	0	1169	THLF	500	1484	65	21	1176	0	1009				
1170	THLF	500	1487	64	21	1176	0	1170	THLF	500	1487	64	21	1176	0	1009				
1171	THLF	500	1493	64	21	1176	0	1171	THLF	500	1493	64	21	1176	0	1009				
1172	THLF	500	1493	64	21	1176	0	1172	THLF	500	1493	64	21	1176	0	1009				
1173	THLF	500	1493	64	21	1176	0	1173	THLF	500	1493	64	21	1176	0	1009				
1174	THLF	500	1493	64	21	1176	0	1174	THLF	500	1493	64	21	1176	0	1009				
1175	THLF	500	1493	64	21	1176	0	1175	THLF	500	1493	64	21	1176	0	1009				
1176	THLF	500	1493	64	21	1176	0	1176	THLF	500	1493	64	21	1176	0	1009				
1177	THLF	500	1493	64	21	1176	0	1177	THLF	500	1493	64	21	1176	0	1009				
1178	THLF	500	1493	64	21	1176	0	1178	THLF	500	1493	64	21	1176	0	1009				
1179	THLF	500	1493	64	21	1176	0	1179	THLF	500	1493	64	21	1176	0	1009				
1180	THLF	500	1493	64	21	1176	0	1180	THLF	500	1493	64	21	1176	0	1009				
1181	THLF	500	1493	64	21	1176	0	1181	THLF	500	1493	64	21	1176	0	1009				
1182	THLF	500	1493	64	21	1176	0	1182	THLF	500	1493	64	21	1176	0	1009				
1183	THLF	500	1493	64	21	1176	0	1183	THLF	500	1493	64	21	1176	0	1009				
1184	THLF	500	1493	64	21	1176	0	1184	THLF	500	1493	64	21	1176	0	1009				
1185	THLF	500	1493	64	21	1176	0	1185	THLF	500	1493	64	21	1176	0	1009				
1186	THLF	500	1493	64	21	1176	0	1186	THLF	500	1493	64	21	1176	0	1009				
1187	THLF	500	1493	64	21	1176	0	1187	THLF	500	1493	64	21	1176	0	1009				
1188	THLF	500	1493	64	21	1176	0	1188	THLF	500	1493	64	21	1176	0	1009				
1189	THLF	500	1493	64	21	1176	0	1189	THLF	500	1493	64	21	1176	0	1009				
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1191	THLF	500	1493	64	21	1176	0	1191	THLF	500	1493	64	21	1176	0	1009				
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1193	THLF	500	1493	64	21	1176	0	1193	THLF	500	1493	64	21	1176	0	1009				
1194	THLF	500	1493	64	21	1176	0	1194	THLF	500	1493	64	21	1176	0	1009				
1195	THLF	500	1493	64	21	1176	0	1195	THLF	500	1493	64	21	1176	0	1009				
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1198	THLF	500	1493	64	21	1176	0	1198	THLF	500	1493	64	21	1176	0	1009				
1199	THLF	500	1493	64	21	1176	0	1199	THLF	500	1493	64	21	1176	0	1009				
1200	THLF	500	1493	64	21	1176	0	1200	THLF	500	1493	64	21	1176	0	1009				
1201	THLF	500	1493	64	21	1176	0	1201	THLF	500	1493	64	21	1176	0	1009				
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1203	THLF	500	1493	64	21	1176	0	1203	THLF	500	1493	64	21	1176	0	1009				
1204	THLF	500	1493	64	21	1176	0	1204	THLF	500	1493	64	21	1176	0	1009				
1205	THLF	500	1493	64	21	1176	0	1205	THLF	500	1493	64	21	1176	0	1009				
1206	THLF	500	1493	64	21	1176	0	1206	THLF	500	1493	64	21	1176	0	1009				
1207	THLF	500	1493	64	21	1176	0	1207	THLF	500	1493	64	21	1176	0	1009				
1208	THLF	500	1493	64	21	1176	0	1208	THLF	500	1493	64	21	1176	0	1009				
1209	THLF	500	1493	64	21	1176	0	1209	THLF	500	1493	64	21	1176	0	1009				
1210	THLF	500	1493	64	21	1176	0	1210	THLF	500	1493	64	21	1176	0	1009				
1211	THLF	500	1493	64	21	1176	0	1211	THLF	500	1493	64	21	1176	0	1009				
1212	THLF	500	1493	64	21	1176	0	1212	THLF	500	1493	64	21	1176	0	1009				
1213	THLF	500	1493	64	21	1176	0	1213	THLF	500	1493	64	21	1176	0	1009				
1214	THLF	500	1493	64	21	1176	0	1214	THLF	500	1493	64	21	1176	0	1009				
1215	THLF	500	1493	64	21	1176	0	1215	THLF	500	1493	64	21	1176	0	1009				
1216	THLF	500	1493	64	21	1176	0	1216	THLF	500	1493	64	21	1176	0	1009				
1217	THLF	500	1493	64	21	1176	0	1217	THLF	500	1493	64	21	1176	0	1009</				

Location	EXISTING CONDITIONS										PROPOSED CONDITIONS 2 - ANDRAWS ROAD ELEVATED TANK									
	Model Label	Setback Fire Flow Constraint	Min Flow (Available)	Pressure (Obstacles & Elevation)	Pressure (Obstacles & Zone)	Minimum Inlet	COMPTIF Fireflow Req. (GPI)	Model Label	Setback Fire Flow Constraint	Min Flow (Available)	Pressure (Obstacles & Elevation)	Pressure (Obstacles & Zone)	Minimum Inlet	COMPTIF Fireflow Req. (GPI)	Fire Flow Improvement (gpm)	COMMENTS				
Town 12	TRLE	500	776	267	20	10m 24	0	TRLE	500	480	267	20	10m 24	20	TOWN NODE					
Town 11	TRLE	500	776	267	20	10m 24	0	TRLE	500	480	267	20	10m 24	20	TOWN NODE					
Town 10	TRLE	500	900	227	20	10m 24	0	TRLE	500	740	227	20	10m 24	20	TOWN NODE					
Town 9	TRLE	500	900	333	20	10m 24	0	TRLE	500	950	333	20	10m 24	20	TOWN NODE					
Town 8	TRLE	500	900	653	20	10m 24	0	TRLE	500	1070	653	20	10m 24	20	TOWN NODE					
Town 7	TRLE	500	543	715	20	10m 24	0	TRLE	500	1070	715	20	10m 24	1004	TOWN NODE					
Town 6	FALSE	500	478	808	20	10m 24	1	TRLE	500	1340	808	20	10m 24	877	TOWN NODE					
Town 5	FALSE	500	419	264	20	10m 24	1	TRLE	500	1150	264	20	10m 24	720	TOWN NODE					
Town 4	FALSE	500	393	216	20	10m 24	1	TRLE	500	970	216	20	10m 24	568	TOWN NODE					
Town 3	FALSE	500	410	262	20	10m 24	1	TRLE	500	1100	262	20	10m 24	594	TOWN NODE					
Town 5	FALSE	500	428	264	20	10m 24	1	TRLE	500	1100	264	20	10m 24	605	TOWN NODE					
1422	FALSE	500	419	264	20	10m 24	1	TRLE	500	1150	264	20	10m 24	700	TOWN NODE					
1423	FALSE	500	419	264	20	10m 24	1	TRLE	500	1150	264	20	10m 24	692	TOWN NODE					
1424	TRLE	500	667	663	20	10m 24	0	TRLE	500	770	663	20	10m 24	910	TOWN NODE					
1425	TRLE	500	593	264	20	10m 24	0	TRLE	500	770	264	20	10m 24	294	TOWN NODE					
1426	TRLE	500	593	264	20	10m 24	0	TRLE	500	770	264	20	10m 24	158	TOWN NODE					
1427	TRLE	500	593	264	20	10m 24	0	TRLE	500	770	264	20	10m 24	170	TOWN NODE					
1428	TRLE	500	593	503	20	10m 24	0	TRLE	500	710	503	20	10m 24	170	TOWN NODE					
1429	TRLE	500	593	65.6	20	10m 24	0	TRLE	500	710	65.6	20	10m 24	170	TOWN NODE					
1430	TRLE	500	593	565.6	20	10m 24	0	TRLE	500	1400	565.6	20	10m 24	170	TOWN NODE					
1431	TRLE	500	478	763	20	10m 24	0	TRLE	500	1400	763	20	10m 24	100	TOWN NODE					
1432	FALSE	500	478	461	20	10m 24	1	TRLE	500	1340	461	20	10m 24	807	TOWN NODE					
TOTAL BAD FIRE FLOW NODES 48																				
VILLAG. BAD FIRE FLOW NODES 36																				
TOWN BAD FIRE FLOW NODES 12																				
TOTAL BAD FIRE FLOW NODES 78																				
AVG FIRE FLOW IMPROVEMENT 579																				
VILLAG. BAD FIRE FLOW IMPROVEMENT - VILLAG 676																				
TOWN BAD FIRE FLOW IMPROVEMENT - TOWN 181																				

Appendix E

Description of District Extension

Town of Skaneateles
Consolidated Water District Extension
June 2017

The Town of Skaneateles Consolidated Water District Extension of October 2016 shall be bounded and described as follows:

All that tract or parcel of land situated in the Town of Skaneateles, County of Onondaga, and State of New York being part of Farm Lots 35 and 37 in said Town and being more particularly described as follows:

Beginning at a point at the southwesterly corner of the existing Skaneateles Consolidated Water District, said point being at the centerline of County Line Road;

Thence westerly along the southern boundary of the portion of the existing Skaneateles Consolidated Water District formerly known as Water District #3, a distance of about 4,771.18 feet to a point at the southeasterly corner of the existing Skaneateles Consolidated Water District formerly known as Water District #3, said point also being on the Village of Skaneateles westerly corporation boundary;

Thence southerly along the eastern boundary of lands of John H. O'Neill as described by Tax Map Parcel (TMP) 048.-01-39, said line also being a portion of the Village of Skaneateles westerly corporation boundary, a distance of about 1,078.35 feet;

Thence easterly along the northern boundary of lands of Scott C. and Mary Ellen Winkleman as described by TMP 048.-01-23.1, said line also being a portion of the Village of Skaneateles southerly corporation boundary, a distance of about 784.55 feet to a point on the westerly boundary of Kane Avenue;

Thence easterly along the same bearing across the right-of-way of Kane Avenue, said line also being the southerly boundary of the Village of Skaneateles, a distance of about 111.7 feet;

Thence easterly along the same bearing along the northern boundary of lands of Skaneateles Country Club, Inc. as described by TMP 048.-01-24.1, said line also being the southerly boundary of the Village of Skaneateles, a distance of about 377.46 feet to the northeasterly corner of said lands of Skaneateles Country Club, Inc., said point also being the northwesterly corner of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5;

Thence southerly along the eastern boundary of said lands of Skaneateles Country Club Inc., said line also being the westerly boundary of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5, a distance of about

616.44 feet to a point at the northwesterly corner of lands of H. Douglas and Georgia K. Pinckney as described by TMP 049.-01-02;

Thence southerly along the eastern boundary of said lands of Skaneateles Country Club Inc., said line also being the westerly boundary of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5, said line also the westerly boundary of lands of H. Douglas and Georgia K. Pinckney, a distance of about 553.47 feet to a point on the northwesterly boundary of West lake Road, said point also being the southern corner of lands of H. Douglas and Georgia K. Pinckney;

Thence southwesterly along the northwesterly boundary of West Lake Road, said line also being a boundary of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5, a distance of about 69.13 feet to a point at a southeastern corner of the lands of Skaneateles Country Club Inc.;

Thence westerly along the northerly boundary of lands of Jane E. Walsh as described on TMP 049.-01-04.1, said line also being a boundary of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5, a distance of about 385.8 feet to a corner point of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5;

Thence southerly along the boundary of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5, a distance of about 125 feet to a point on the southern boundary of the lands of Jane E. Walsh, said point also being a corner point of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5;

Thence westerly along the boundary of lands of Benjamin F. and Carolyn A. Turner as described on TMP 049.-01-05, said line also being a boundary of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5, a distance of about 15 feet to the point at the northwesterly corner thereof, said point also being a corner point of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5;

Thence southerly along the boundary of lands of Benjamin F. and Carolyn A. Turner said line also being a boundary of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5, a distance of about 135.2 feet to the point at the southwesterly corner thereof, said point also being a corner point of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5;

Thence easterly along the southerly boundary of lands of Benjamin F. and Carolyn A. Turner, said line also being a boundary of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5, a distance of about 156.8 feet to its intersection with the northwesterly boundary of West Lake Road, said point also being a corner point of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5;

Thence southwesterly along the northwesterly boundary of West Lake Road, said line also being a boundary of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5, a distance of about 650 feet to its intersection with the easterly boundary of New York State Route No. 41A, said point also being a corner point of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5;

Thence southerly along the eastern boundary of New York State Route No. 41A in two segments of about 100 feet and about 250 feet, said lines also being boundaries of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5, to a point at the southwesterly corner of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5;

Thence easterly along the northern boundary of lands of Sandy Beach NY LLC as described on TMP 049.-02-01.1, said line along the southerly boundary of the portion of the Skaneateles Consolidated Water District formerly known as Water District #5, a distance of about 25 feet;

Thence southerly through the lands of Sandy Beach NY LLC, a distance of about 280.13 feet, to a point that would intersect with the extension of the centerline of Andrews Road;

Thence westerly along the aforementioned extension of the centerline of Andrews Road a distance of about 771.23 feet to the point of its intersection with the extension of the eastern boundary of the lands of Wellington Living Trust and Lewis Wellington as described on TMP 048.-02-03.4;

Thence southerly along the aforementioned extension of the eastern boundary of the lands of Wellington Living Trust and Lewis Wellington a distance of about 356.77 feet to the southeasterly corner of said lands;

Thence westerly along the southerly boundaries of the lands of Wellington Living Trust and Lewis Wellington, the lands of Patrick M O'Connor and Catherine J O'Connor as described by TMP 048.-02-03.2, and the lands of Allan Lewis Wellington and Lisa M. Wellington as described on TMP 048.-02-03.3, and into the lands of Amanda C. Cregg as described on TMP 048.-02-02, a distance of 2,834.45 feet to a point;

Thence southerly through the lands of Amanda C. Cregg a distance of about 1,053.58 feet to a point on the southerly boundary of said lands;

Thence westerly along the southerly boundary of lands of Amanda C. Cregg a distance of about 100 feet to the southwesterly corner of said lands;

Thence northerly along the westerly boundary of lands of Amanda C. Cregg a distance of about 1,053.58 feet to a point;

Thence westerly along the extension of the southern boundary of the lands of Allan Lewis Wellington and Lisa M. Wellington a distance of about 1,818.40 feet to a point at the centerline of County Line Rd, said point also being on the boundary of the Town of Skaneateles;

Thence northerly along the westerly boundary of the Town of Skaneateles a distance of about 3,882.30 feet to the Point of Beginning, all as shown on a map entitled "Petition Plan –Town of Skaneateles Consolidated Water District Extension – Figure 1" as made by C&S Engineers, Inc. and dated June 2017, and having the File No. 103.101.