

SOUTHWOLD WATER DISTRIBUTION SYSTEM

Municipal Drinking Water Licence # 055-101
Municipal Drinking Water Works Permit # 055-201

Provincial Regulation 170/03
Summary Report
For the period January 1 — December 31, 2014

1. Summary Report Requirements

The 2014 Summary report for the Southwold Water Distribution System is submitted to satisfy the requirement to prepare and distribute a summary report of water quality as stipulated in Schedule 22 of O. Reg. 170/03.

As per O. Reg. 170/03, the summary report must:

- a. List the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water license and any orders applicable to the system that were not met at any time during the period covered by the report;
- b. For each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measures that were taken to correct the failure.

The report must also include the following information for the purpose of enabling the owner of the system to assess the capability of the system to meet existing and planned uses of the system:

- A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
- A comparison of the summary to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water license or if the system is receiving all of its water from another system under an agreement, to the flow rates specified in the written agreement.

The Information provided is for the purpose of enabling the owner of the system to assess the capacity of the system. This report covers the period from January 1, 2014 to December 31, 2014.

2. System Approval

Southwold is supplied water from the St Thomas Area Secondary Water Supply System which is, in turn, supplied water from the Elgin Area Water Treatment Plant located on Dexter Line, east of Port Stanley, Ontario. The Southwold Water Distribution System has various approvals from the Ministry of the Environment for the infrastructure as it is constructed.

The supply of water to the system is governed by Certificate of Approval number 8628-7RHHTA issued May 20, 2009 for the Elgin Middlesex Pumping Station located on South Edgeware Road in the Municipality of Central Elgin. The supply of water within Southwold was governed by Certificate of Approval number 0197-548N9L issued December 21, 2001 for the Shedden Booster Station located on Talbot Line east of Shedden. It is now governed by Drinking Water License # 055-101, issued August 23, 2011 and Drinking Water Works Permit #055-201, issued September 20, 2011.

In addition, the Southwold Water Distribution System supplies water to the Dutton Dunwich Water Distribution System through an interconnect chamber located on Talbot Line at Iona

Road and to the St Thomas distribution System through an interconnect chamber located on Fingal Line at the municipal boundary.

3. Water Quantity

There are three separate water meters at the St Thomas Area Secondary Water Distribution System interconnect that monitor the water flow coming into the Southwold Water Distribution System. Of the two meters located at Talbot Line and Ford Road, the smaller meter monitors the feed to the village of Talbotville and the second, larger meter, monitors the feed to the rest of the Southwold system. A third meter was installed in 2012 at the corner of Wonderland Road and Clinton Line with the construction of a water main along Clinton Line, looping the water system in the northwest corner of Southwold. There are a number of Southwold customers who connect directly to the Secondary System.

The Elgin Middlesex Pumping Station has a volume limit of 54,605 m³/day. The Shedden Booster Station has a capacity limit of 2,952 m³/day.

Table 1 provides an overview of the flows entering the Southwold Water Distribution System. 2014 has a total flow of 466,336 m³. This flow shows a 1.69% increase over 2013.

TABLE 1

MONTH	Talbotville Chamber m ³	Southwold Interconnect Chamber m ³	Clinton Line Interconnect Chamber m ³	Other	Iona Chamber Outflow m ³	St Thomas Chamber Outflow m ³	Total Volume Southwold m ³
JAN	4405	37460	7350	2437	11582	220	39850
FEB	3975	33685	6676	2326	10793	4940	30929
MAR	4425	37470	7442	2734	11774	159	40138
APRIL	4125	35031	6499	2889	11855	276	36413
MAY	4085	34750	6155	3753	11948	251	36544
JUNE	4950	42393	7124	4565	9108	272	49652
JULY	4480	38446	7131	4568	11091	288	43246
AUG	3955	34008	6036	5078	9333	251	39493
SEPT	4700	40370	7049	6037	12408	257	45491
OCT	3845	32919	6019	3105	12037	189	33662
NOV	3505	29975	5356	2392	11792	163	29273
DEC	5530	47385	8411	2897	22337	241	41645
TOTAL FLOW	51980	443892	81248	42781	146058	7507	466336

The attached Schedule A and Schedule B, as provided to the Township of Southwold, provides an overview of the monitored flows entering the Southwold Water Distribution System from the St Thomas Area Secondary Water Distribution System.

Table 2 summarizes the average daily, daily maximum, total monthly flows and flow rates for the Shedden Booster Station for 2014.

TABLE 2

MONTH	TOTAL MONTHLY FLOW M3	MAX DAY FLOW M3	AVERAGE DAY FLOW M3	MAX DAY FLOW RATE L/s	AVERAGE DAY FLOW RATE L/s
JAN	14938	1285.0	481.9	36.5	14.2
FEB	13760	526.0	491.4	17.8	11.3
MAR	16788	1202.1	541.6	35.0	14.9
APRIL	15291	543.7	509.7	23.3	11.9
MAY	14908	564.9	480.9	25.0	12.8
JUNE	14897	693.8	480.5	100.8	25.7
JULY	13487	781.1	435.1	49.8	11.5
AUG	18716	3718.7	693.2	100.0	25.1
SEPT	17872	695.8	595.7	164.5	29.4
OCT	17855	644.2	576.0	35.3	16.1
NOV	16972	635.8	265.7	23.5	12.5
DEC	26006	537.9	838.9	30.1	15.5
TOTAL FLOW	201490				
AVERAGE			532.6		16.7
MAXIMUM		3718.7		164.5	

4. Non-Compliance Report

The Ministry of the Environment Inspection Report, Non-Compliance with Regulatory Requirements and Actions Required is attached. The Township of Southwold had 1 non-compliance in 2014 with actions required. The measures that were taken to correct the non-compliance items include:

The Summary Report for 2014 includes a summary of the quantities of flows and a summary of flow rates. Going forward the Owner and Operating Authority shall ensure that the Summary Report has the required content as specified in O Reg. 170/03, Schedule 22, Section 22-2(1).

NON-COMPLIANCE WITH REGULATORY REQUIREMENTS AND ACTIONS REQUIRED

This section provides a summary of all non-compliance with regulatory requirements identified during the inspection period, as well as actions required to address these issues. Further details pertaining to these items can be found in the body of the inspection report.

1. **Summary Reports for municipal council were not completed on time, did not include the required content, and/or were not distributed in accordance with the regulatory requirements.**

The Summary Report (report) for the Southwold Distribution System does not have the required content as specified in O. Reg. 170/03, Schedule 22. The report has a summary of the quantities of flows but does not have a summary of flow rates. The report must list any requirements of the Act, regulations or approvals that were not met during the report period. The report has a list of non-compliance items from the previous inspection report, but does not discuss measures that were taken to correct the non-compliance items. The report is required to be given to municipal council by March 31st of each year. The Operating Authority provided information that indicated the report was presented to council on January 27, 2014.

Action(s) Required:

The Owner and Operating Authority shall ensure that the Summary Report has the required content as specified in O. Reg. 170/03, Schedule 22, section 22-2 (1). Compliance with this requirement shall be verified during the next annual inspection.

Yearly Report

Ford Tower (WS4) Ford Meter Chamber (WS1)

Report Name: Ford Tower (WS4) & Ford Meter Chamber (WS1) - Yearly
Date: 3/5/2015
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2014		Ford Tower (WS4) & Ford Meter Chamber (WS1) Yearly Report						
Day	Ford Tower (WS4)	Ford Meter Chamber (WS1)						
	Average Discharge Pressure	Average Chamber Flow	Maximum Inst Chamber Flow	Station Flow Volume	Average Chamber Pressure	Average Chamber Free Chlorine Res	Maximum Chamber Free Chlorine Res	Minimum Chamber Free Chlorine Res
January	532.41 kPa	2.92 l/s	448.98 l/s	7560.25 m3	461.91 kPa	1.21 mg/l	1.51 mg/l	0.01 mg/l
February	532.20	2.68	6.59	6492.50	479.45	1.16	1.30	0.91
March	532.41	3.93	447.71	7308.25	476.74	1.14	1.33	0.01
April	532.51	2.42	6.20	6275.00	477.98	1.16	1.33	0.27
May	532.28	2.48	435.66	6270.00	475.73	1.05	1.19	0.01
June	532.27	4.73	449.61	7049.25	467.50	1.08	1.51	0.00
July	532.38	5.73	448.34	6641.25	469.17	0.99	2.00	0.01
August	532.43	4.77	450.88	6264.50	472.07	0.98	1.56	0.01
September	532.22	3.28	443.27	6414.00	469.01	0.92	1.06	0.01
October	531.50	5.76	446.44	5828.25	466.41	0.98	1.18	0.01
November	531.83	2.26	435.02	5591.25	462.70	1.03	1.27	0.00
December	531.76	137.61	455.32	7376.50	457.18	0.82	1.84	0.01
Yearly Total	n/a	n/a	n/a	79071.00	n/a	n/a	n/a	n/a
Monthly Average	532.18	14.88	372.83	6589.25	469.66	1.04	1.43	0.11
Daily Values	kPa	l/s	l/s	m3	kPa	mg/l	mg/l	mg/l
Max	699.15	455.32	455.32	365.25	1008.77	2.00	2.00	0.91
Min	0.00	0.00	6.20	63.25	0.00	0.00	1.06	0.00
Avg	n/a	n/a	n/a	216.63	n/a	n/a	n/a	n/a
Monthly Values	kPa	l/s	l/s	m3	kPa	mg/l	mg/l	mg/l
Max	532.51	137.61	455.32	7560.25	479.45	1.21	2.00	0.91
Min	531.50	2.26	6.20	5591.25	457.18	0.82	1.06	0.00

Yearly Report Southwold Meter Chamber (WS2)

Municipality of Central Elgin
Report Name: Southwold Meter Chamber (WS2) - Yearly
Date: 3/5/2015
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		2014		Southwold Meter Chamber (WS2) Yearly Report					
Day	Average Station Flow	Maximum Inst Station Flow	Station Flow Volume	Average Chamber Outlet Pressure	Average Chamber Free Chlorine Res	Maximum Chamber Free Chlorine Res	Minimum Chamber Free Chlorine Res		
	l/s	l/s	m3	kPa	mg/l	mg/l	mg/l		
January	14.37	47.20	35860.25	461.91	1.33	1.54	0.33		
February	13.33	32.93	32238.00	479.45	1.20	1.59	0.85		
March	12.99	57.07	34759.38	476.74	1.23	1.59	0.47		
April	12.82	37.32	33260.38	477.98	1.29	1.59	0.39		
May	12.96	51.22	34792.13	475.73	1.21	1.52	0.41		
June	14.76	74.27	38295.63	467.50	1.12	1.49	0.40		
July	13.07	63.29	34906.00	469.17	1.06	1.32	0.00		
August	13.10	71.34	34923.88	472.07	1.07	1.42	0.86		
September	13.73	97.68	35504.00	469.01	1.03	1.33	0.81		
October	12.13	64.39	32266.38	466.41	1.06	1.33	0.81		
November	11.94	46.83	30951.88	462.70	1.25	1.73	0.00		
December	15.40	34.76	41328.75	457.18	1.29	1.52	0.43		
Yearly Total	n/a	n/a	419086.63	n/a	n/a	n/a	n/a		
Monthly Average	13.38	56.52	34923.89	469.66	1.18	1.50	0.48		
Daily Values									
Max	97.68	97.68	1902.25	1008.77	1.73	1.73	0.86		
Min	0.00	32.93	371.75	0.00	0.00	1.32	0.00		
Avg	n/a	n/a	1154.21	n/a	n/a	n/a	n/a		
Monthly Values									
Max	15.40	97.68	41328.75	479.45	1.33	1.73	0.86		
Min	11.94	32.93	30951.88	457.18	1.03	1.32	0.00		