### FUNCTIONAL SERVICING REPORT IN SUPPORT OF TOWNHOUSE CONDOMINIUM 231-237 REBECCA STREET FOR SANITARY & WATERMAIN SERVICING TOWN OF OAKVILLE

Prepared by:	SKIRA & ASSOCIATES LTD. 3464 Semenyk Court, Suite100 Mississauga, Ontario L5C 4P8							
Telephone:	905-276-5100							
Fax:	905-270-1936							
Our File No.:	215-OK42							
Dated:	April, 2016							
Revised:	August, 2016							
<b>Revised:</b>	September, 2017							

# TABLE OF CONTENTS

PAGE NO.

1.0	INTRODUCTION	1
2.0	STUDY AREA INFORMATION	2
3.0	WATER DISTRIBUTION SYSTEM	3
4.0	SANITARY DRAINAGE SYSTEM	4
5.0	CONCLUSIONS	6

# LIST OF FIGURES

1	-	KEY PLAN
Dwg. No. 215-OK42-1	-	SITE GRADING AND SERVICING
Dwg. No. 215-OK42-SAN	-	EXTERNAL SANITARY DRAINAGE PLAN

# 1.0 INTRODUCTION

Skira & Associates Ltd. Has been retained by 2378224 Ontario Inc. to prepare a functional servicing report (FSR) addendum to the Region of Halton servicing proposal to facilitate the proposed infill residential condominium development. It is proposed to facilitate the construction of six (6) residential unit condominium.

The proposed development is located on the north side of **Rebecca Street** in the Town of Oakville. (See Figure No.1)

It is intended that this FSR will assist in the assessment and review of the site plan application and later to guide the detail of the proposed redevelopment. The proposed design criterion is intended to meet the requirements of the Town of Oakville and Region of Halton, an any other relevant authorities.

### 2.0 STUDY AREA INFORMATION

The subject property consists **Part of Lot 17 conc. 3 SDS** in the Town of Oakville. The site is approximately **0.17 hectare.** 

The site is presently developed with residential property. The subject site is bounded by existing residential townhouse properties to the north and east and **Rebecca Street** and **Margaret Drive** to the west and south.



### 1.0 WATER DISTRIBUTION SYSTEM

The proposed infill development will be serviced with water supply off the existing **150mm diameter** watermain located on **Margaret Street**. The existing **150m** watermain is looped back to **600mm** on Rebecca Street.

A 100mm diameter domestic connection will be provided for residential units. Each dwelling will be provided with 25mm copper water services.

Existing fire hydrants on Margaret Street and Rebecca Street will provide adequate fire protection.

Existing water services for 231 and 237 Rebecca Street from the 600mm watermain trunk will be provided and be cupped at main as per Region of Halton standards.

Water demand calculations:

6 units townhouse (0.17 Ha)

Average day service based on table A.22 for townhouse developments = 37.124m<sup>3</sup>/Ha/day

Site maximum hourly	$= 4.0$ (peaking factor) x $0.263 = 1.05 \text{m}^3/\text{hr}$
Site maximum nourry	= 4.0 (peaking factor) x 0.205 $= 1.05$ m/m

## 2.0 SANITARY DRAINAGE SYSTEM

The proposed development will be serviced by the existing **250mm** sanitary sewer on **Margaret Street** further connected to a 90mm sanitary trunk on Rebecca Street. A proposed **200mm** diameter sanitary sewer connection to be constructed to property line. The existing sanitary sewers are deep enough to service the proposed basements by gravity flow. Each dwelling will be provided with individual sanitary lateral.

We have verified sanitary sewer capacity on Margaret Street to the existing trunk server and confirmed adequate capacity of the pipe. (See Dwg. 215-OK42-SAN – Sanitary & Design Sheet)

### 4.1 Sanitary Flow Calculations

Units breakdown:

Single Residential Units - 6

Persons per unit:

- Residential 2.7 persons/unit
- Population:
  - 6 x 2.7 = 16.2 p or, 135p/Ha x 0.17 = 23p > 16.2

Average flow	=	0.073 l/s
Average daily flow	=	275 l/cap/day x 23 persons = 6,325 l/day
Average waste water flow	=	275 l/cap/day

Peak Factor =  $1 + \underbrace{14}_{4 + P^{0.5}}$ 

Where P = population in thousands

$$= 1 + \frac{14}{4 + 0.023^{0.5}}$$
$$= 1 + 3.37 = 4.37$$

Infiltration allowance (A = 0.17 ha)

Infiltration	=	0.286 l/s/ha
	=	0.286 x 0.17 ha = <b>0.048 l/s</b>
Design flow	=	average flow x peaking factor + infiltration allowance
	=	$0.073 \ge 4.37 + 0.048 = 0.367$

= 0.367 l/s

#### 3.0 CONCLUSIONS

Based on our investigation of available information, preliminary technical analysis and design calculations we found that the proposed development can be fully serviced to the existing external services on **Margaret Street**.

The findings and recommendation are prepared in accordance with accepted professional engineering practices and principles. Based on the above, the proposed redevelopment can be adequately serviced in accordance with the Region of Halton standards.

The findings of this report are global and are related to the servicing functionality of this application. These findings by no means are final and are not to replace detail review of this application which shall take place upon submission of the detailed engineering submission.

We respectfully submit this report with the intention of obtaining approval in principle of the recommendations herein, which will be implemented in detail design during engineering submission for the proposed residential redevelopment.

Yours truly,	PROFESSIONA
SKIRA & ASSOCIATES LTD	- La Charles
Am	
Michael Jozwik, P. Eng. MJ:ak	PROLINCE OF ONTARIO

#### **NOTE:** <u>Limitation of Report</u>

This report was prepared by Skira & Associates Ltd. for review and approvals by government agencies only.

In light of the information available at the time of preparation of this report, any use a **Third Party** of this report are solely the responsibility of such **Third Party** and **Skira & Associates Ltd.** Accepts no responsibility for any damages, if any, suffered by the **Third Party**.



SUBDIVISION :	231-237 Rebecca Street																	SHEET N	0.	1 of 1							
	Proposed townhouses									REGION OF HALION											PROJECT No. :			215-OK42			
MAJOR DRAINAGE										SANITARY SEWER DESIGN CHART												DESIGNED BY :			M.J.		
AREA :						-																DATE :			APR.2016		
											q (m3/capita/day)= 0.275 n= 0.013																
CONSULTANT .										I(L/S/Ha) = 0.286						1				SEV				IDE			
LOCATION	MH	мн			Incremer	rement TOTAL			ATION TH Ha	a) a)	RY (per	Average	Average	хÖ	MAY	INFIL-	MAX	SIZE SLOPE		0		Va			- RKS		
				Res	Comm	Ind			ncrement		TOTAL	L/s	L/s	PEA	L/s	N N	EXPECT	0.22	01011	~	Full Flow	Actual Flow	TYPE	CLASS	EMA		
	MH#	MH#	m					Res	Comm	Ind		increment	TOTAL	ш		L/s	. L/s	mm	%	L/s	m/s	m/s			- B		
MARGARET DR	7273	7272	48				0.90			0.00	0.0	0.000	0.000	3.60	0.00	0.26	0.26	200	1.00	34.2	1.06	0.49					
	7272	7271	58	0.55			1.45	74.25			74.3	0.236	0.236	3.42	0.81	0.41	1.22	250	0.50	43.9	0.87	0.56					
	7271	7270	44	0			1.45	0		-	74.3	0.236	0.236	3.42	0.81	0.41	1.22	250	0.50	43.9	0.87	0.56					
	7270	7269	72	1.15			2.60	155.25			229.5	0.760	0.760	3.30	2.51	0.74	3.25	250	0.50	43.9	0.87	0.56					
	7269	7133	102	1.72			4.32	232.2			461.7	1.528	1.528	3.19	4.88	1.24	6.12	250	0.50	43.9	0.87	0.56					
	7133	7132	66	0			4.32	0			461.7	1.528	1.528	3.19	4.88	1.24	6.12	250	0.50	43.9	0.87	0.56					
	7132	7135	110	0.87			5.19	47.85			509.6	1.687	1.687	3.18	5.36	1.48	6.84	250	0.50	43.9	0.87	0.56					
	7135	5626	88	0.66			5.85	36.3			545.9	1.807	1.807	3.16	5.72	1.67	7.39	250	0.50	43.9	0.87	0.56					
	5626	6807	50	0			5.85	0			545.9	1.807	1.807	3.16	5.72	1.67	7.39	250	0.50	43.9	0.87	0.56					
	6807	6808	106	0.69			6.54	37.95			583.8	1.932	1.932	3.15	6.09	1.87	7.96	250	0.50	43.9	0.87	0.56					
	6808	6806	80	0.44			6.98	24.2			608.0	2.013	2.013	3.14	6.33	2.00	8.32	250	1.00	62.2	1.23	0.56					
SITE	6806	6840	25	0.25			7.23	33.75			641.8	2.124	2.124	3.13	6.66	2.07	8.72	250	2.60	100.2	1.98	0.56					
	u																										