

Westchester Homes
416 Ridout Street South
London, Ontario, N6C 4A1

November 2, 2018
SBM-17-2235

Attn: Mr. Peter Drexler

**Re: Servicing Feasibility Study
Proposed Residential Development
348 Sunningdale Rd E, London, Ontario**

1. INTRODUCTION

This Servicing Feasibility Study (Study) has been prepared by Strik, Baldinelli, Moniz Ltd. (SBM) for Westchester Homes to address the servicing feasibility for the proposed residential development located at 348 Sunningdale Rd E, London, Ontario. It is our understanding that the existing single family dwelling (Municipal No. 348) and driveways have been demolished. Two (2) townhouse blocks (for a total of seventeen (17) units) are proposed for the site. The total site area is approximately 0.63 ha and is located on the north side of Sunningdale Rd E.

The site abuts vacant land for future development on its east and west sides, open space on its north side, and the Sunningdale Rd E Right-Of-Way on its south side. Single family dwellings are located across the street. An oil pipeline easement 6.096m wide runs along the north side of Sunningdale Rd E.

This Study is to determine the adequacy of the existing City of London (City) services in support of an Zoning By-Law Amendment (ZBA) application for the proposed redevelopment.

2. WATER SERVICING

There is an existing 1,200mm concrete watermain on the north side of Sunningdale Rd E and a 400mm PVC watermain on the south side of Sunningdale Rd E. The development will be serviced by the 400mm PVC watermain. The fire hydrant flow test provided by the City is attached to this study. A new 150mm diameter water service is proposed for the development.

2.1 *Water Supply for Fire Protection*

The new 150mm diameter water service will provide firefighting flows to a new site hydrant. Firefighting flows were determined using Section 3.2.5.7 of the 2012 Ontario Building Code. A building area of 600 m² (largest building area permitted under Part 9 of the OBC) was assumed, of combustible construction and 11 m in height. Upon review of the fire flow test results (attached to this study) as tested on April 6, 2017, and using linear extrapolation of the pressure readings at the provided flow rates from the hydrant, there is sufficient residual pressure within the system. At the required fire flow + maximum day demand rate of 9,032 L/min, the residual pressure in the system would be approximately 25 psi which exceeds the minimum required 20 psi in fire-flow scenarios. Please refer to the calculations attached to this Study.

Based on the above, the existing 400mm PVC watermain fronting this property has sufficient capacity fire-fighting for this development. Based on 2012 OBC requirements, a fire hydrant should be located 90 m from the fire-fighters entrances to all units. As no fire hydrants are located in the right-of-way nearby, new private or municipal hydrant(s) are proposed.

2.3 Domestic Water Supply

Since the anticipated average day and peak hour domestic demands would be far less than the maximum day + fire-fighting demand, and the municipal water distribution system is adequate for the maximum day + fire protection demand, it can be concluded that adequate water supply for domestic demand is available for the proposed development.

3. SANITARY SERVICING

As indicated in the Record of Pre-Application Consultation date August 22, 2017, there is currently no municipal sanitary sewer fronting the subject property on Sunningdale Rd E. As per the City's Drawings 25,716 and 25,718, the subject site is part of Area A42 External Area – Medium Density Residential (75 units/ha, 2.4 ppu). The proposed seventeen (17) townhouse units on the 0.63 ha site result in a population density of approximately 27 units/ha.

Since the proposed sanitary sewer fronting Sunningdale Rd E is not expected to be constructed for over 10 years, it is proposed to outlet the development to the sanitary sewer in the Lindisfarne Rd R.O.W.

The proposed flows from the subject property are shown on the Sanitary Sewer Design Sheet appended to this Study. The Lindisfarne Road and Skyline Avenue sanitary flows were recalculated using the design criteria of 230 L/capita/day as per the City of London DS&RM 2018, updated to include the flows from the subject site (called EXT.4 in the design sheet) as well as the proposed flows from area on Sunningdale Rd E, immediately west of Lindisfarne Rd, shown on the City's drawing 25,716 (called EXT.3 in the design sheet). These two areas (EXT.3 and EXT.4) are shown on the attached marked up Sheet 8 in red text. The calculations show that the existing sewers have capacity for the proposed development, and that flows actually decrease from the flows shown on the City's drawing 25,718 and 18,994.

The municipal sewer in the Lindisfarne Road R.O.W. is proposed to be extended up to and along Sunningdale Rd E such that it will front the subject site. Refer to the attached Conceptual Sanitary Servicing, Drawing SK-1. As illustrated in the drawing, it is feasible to extend the municipal sewer as shown and install a shallow gravity service to the subject site.

4. STORM SERVICING AND STORMWATER MANAGEMENT

There is no municipal stormwater sewer available for the subject property. Based on the survey provided and the City's Drawing 25,712, it appears that stormwater generally flows overland to the west edge of the property.

As per the City's Drawing 25,712, the subject site outlets directly to the wetland to the north of the subject property. This outlet will be maintained under post-development conditions. Quality and quantity controls will be provided in accordance with the requirements identified in the Stoney Creek Subwatershed Study to ensure post-development runoff matches pre-development levels.

5. SUMMARY

Based on the above, the existing City services seem to have sufficient capacity to accommodate the proposed redevelopment of the 0.63 ha subject site located at 348 Sunningdale Rd E, London.

6. LIMITATIONS

This Study was prepared by Strik, Baldinelli, Moniz Ltd. for Zelinka Priamo, Westchester Homes (owner) and the City of London. Use of this report by any third party, or any reliance upon its findings, is solely the responsibility of that party. Strik, Baldinelli, Moniz Ltd. accepts no responsibility for damages, if any, suffered by a third party as a result of decisions made or actions undertaken as a result of this report. Third party use of this report, without the express written consent of the Consultant, denies any claims, whether in contract, tort, and/or any other cause of action in law, against the Consultant.

All findings and conclusions presented in this design brief are based on site conditions as they appeared during the period of the investigation. This report is not intended to be exhaustive in scope, or to imply a risk-free development. It should be recognized that the passage of time may alter the opinions, conclusions, and recommendations provided herein.

The design was limited to the documents referenced herein and SBM Ltd. accepts no responsibility for the accuracy of the information provided by others. All designs and recommendations presented in this brief are based on the information available at the time of the review.

This document is deemed to be the intellectual property of Strik, Baldinelli, Moniz Ltd. in accordance with Canadian copyright law.

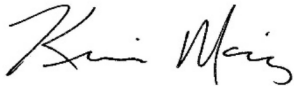
7. CLOSURE

We trust this Study meets your satisfaction. Should you have any questions or require further information, please do not hesitate to contact us.

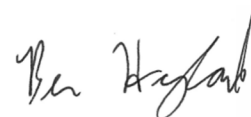
Respectfully submitted,

Strik, Baldinelli, Moniz Ltd.

Civil • Structural • Mechanical • Electrical



Kevin Moniz, P.Eng.
Principal, Civil Engineering



Ben Hyland, EIT
Engineer in Training

Encl: Fire Flow Calculations (as per OBC)
Fire Hydrant Flow Test
Sanitary Sewer Design Sheet
Conceptual Sanitary Servicing, Drawing SK-1
Site Survey/ Tree Inventory Plan
Concept Plan
City As-Built Drawings 18,990; 18,994; 25,716; 25,718

**CITY OF LONDON
WATER OPERATIONS FLOW TEST**

DATE:	Thursday, April 6, 2017	FLOW TEST No.		17-20
TIME:	9:00 AM	HYDRANT ID		H12526
OPERATOR:	Frank Zoula	CHLORINE RESIDUAL mg/L		1.06
OPERATOR:	Ian McCann	WATER QUALITY AFTER TEST	POOR	GOOD
REQUESTED BY:	Western Fire Protection - Todd Van De Peer			
LOCATION:	Sunningdale at Blackwater - high level	TIME USED FOR FLUSHING		0 min

TEST NUMBER	FLOW HYDRANT					RESIDUAL HYDRANT	
	STATIC PRESSURE P.S.I.	OUTLET SIZE IN.	PITOT READING P.S.I.	INDIVIDUAL FLOW U.S.G.P.M.	TOTAL FLOW U.S.G.P.M.	RESIDUAL PRESSURE P.S.I.	STATIC PRESSURE P.S.I.
1	47	2 1/2	39	1050	1050	43	48
2		2 1/2	18	710	1420	38	
		2 1/2	18	710			



Information contained in this report is representative of flows and pressure losses at the time of the test and depends on reservoir levels, pump operation and customer water demand. Results will vary throughout the day and time of year. Available pressure at other times should be based on a design hydraulic grade line for the pressure zone in which the hydrants are located. By issuing this information report, neither the City nor any of its employees makes any warranty, express or implied, concerning the location, type or extent of services described in this report. Furthermore, neither the City nor any of its employees shall be liable in any manner for any personal injury or property damage or loss of any kind arising from or connected with this information or incomplete information.

Fire-Fighting Flow (OBC A-3.2.5.7.)

	For data entry
	Calculated, not for data entry

DATE: October 5, 2017
JOB NO.: SBM-17-2235

Client: Westchester Homes
Project: Residential Development
Location: 348 Sunningdale Rd E, London ON

$Q = K * V * S_{Tot}$

Building Classification (3.1.2.1):	C
Type of Construction:	Combustible
K (Table 1):	23
Building Area, m ² :	600.00
Building Height, m:	11.00
Building Volume, m ³ :	6600.00

$S_{Tot} = 1.0 + (S_{side1} + S_{side2} + S_{side3} + S_{side4})$

S_{side1} (Figure 1) =	0.50	(North)
S_{side2} (Figure 1) =	0.50	(East)
S_{side3} (Figure 1) =	0.00	(South)
S_{side4} (Figure 1) =	0.00	(West)
S_{Tot} =	2.00	
$S_{Tot} < \text{or} = 2$, therefore S_{Tot} =	2.00	

Q, L = 303600

Required Supply Flow Rate, L/min (Table 2) = 9000

Domestic Flow as per City of London Guidelines

No. of Units	Population per Unit	Total Population	Daily Flow per Capita (L/cap.day)	Average Day (L/min)	Maximum Day (L/min) Peaking Factor = 3.5	Maximum Hour (L/min) Peaking Factor = 7.8
17	3	51	255	9.03125	31.61	70.44

Required Supply Fire Flow + Maximum Day Demand, L/min = 9031.61

Provided Supply Flow Rate @	43.00	psi* =	3975	L/min*
	38.00	psi* =	5375	L/min*

Using linear extrapolation, residual pressure at hydrant = 24.94 psi @ 9032 L/min

*Refer to the Provided Hydrant Flow Test



ARYA LOCATION
 CIVIL / STRUCTURAL DIVISION
 14361 Medway Rd., P.O. Box 29
 Arva, Ont, N0M 1C0
 P: 519.471.6667

NORTH LONDON LOCATION
 MECHANICAL / ELECTRICAL DIVISION
 1510 Woodcock St., Unit #7
 London, Ont, N6H 5S1
 P: 519.641.3040

KITCHENER LOCATION
 MECHANICAL / ELECTRICAL DIVISION
 1415 Huron Rd., Unit 225
 Kitchener, Ont, N2R 0L3
 P: 519.725.8093

Sanitary Sewer Design Sheet

City of London

www.sbmltd.ca sbm@sbmltd.ca

Residential Population Densities

Area Basis

Low Density (Single Family/Semi-Detached) = 30 Units/hectare @ 3 people/unit
 Medium Density (Multi-Family/Townhouse) = 75 Units/hectare @ 2.4 people/unit
 High Density (Apartment Buildings) = 150-300 Units/hectare @ 1.6 people/unit

Design Criteria (Litres/capita/day) 230
 Sewage Infiltration (Litres/hectare/day) 8640
 Harmon Formula (Peaking Factor)
 $M = (1 + 14/(4+P^{0.5}))$
 Uncertain Development Factor of 1.1 applied to sewage peak flow

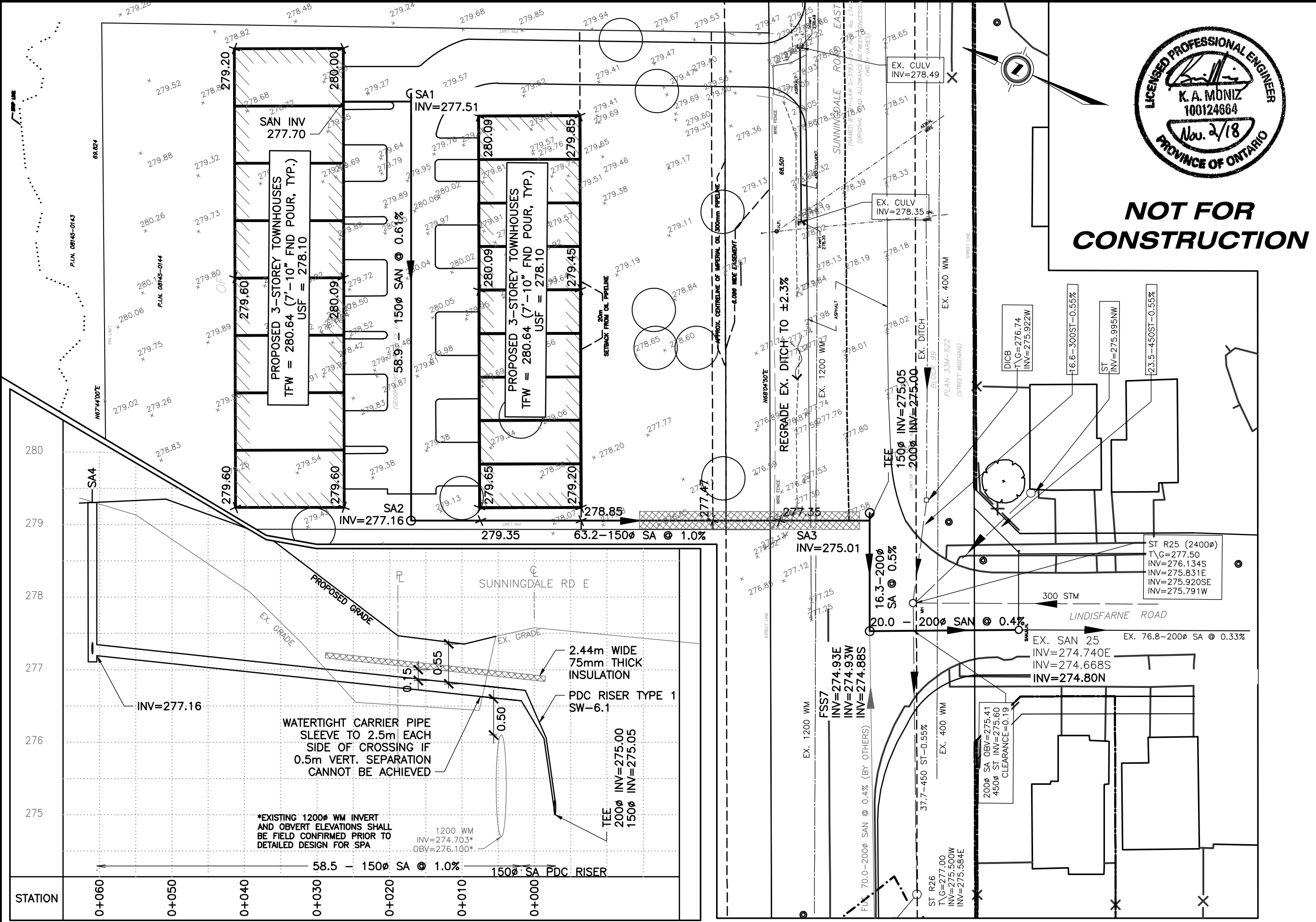
Date: November 2, 2018
Job Number: SBM-17-2235
Client: Westchester Homes
Project: 348 Sunningdale Rd E
Designed By: BH
Reviewed By: KM
Project File No.: SBM-17-2235

Location				Area		Sewage Flows					Sewer design						Profile Design									
Area No.	Street Name	From MH	To MH	Delta Hectare	Total Hectare	People Per Hectare	People Per Lot or Unit	No. of Lots, units or ha	Delta Pop.	Total Pop.	Harmon Peaking Factor	Infiltr L/S	Sewage L/S	Total L/S	n	Pipe Slope %	Calc'd Dia. mm	Dia. mm	Capacity L/S	Velocity m/s	Length m	Fall in Sewer	Headloss	Drop in U.S. MH	U.S. Invert	D.S. Invert
*Upstream Areas		S21	S22		13.01	3	3			834	3.8494	1.30	9.40	10.70	0.013	0.40%	156.04	200	20.76	0.66	46.6	0.186	0.00000	-	275.753	275.567
EXT.3	Sunningdale Rd E	FSS6	FSS7	0.7	0.7	180		0.7	126	126	4.2147	0.07	1.56	1.63	0.013	0.40%	76.96	200	20.76	0.66	70	0.280	0.00000		275.190	274.910
EXT.4	Sunningdale Rd E	SA2	Main	0.63	0.63		2.4	17	41	41	4.3314	0.06	0.52	0.58	0.013	1.00%	44.13	150	15.24	0.86	63.2	0.632				
		SA3	FSS7											0.58	0.013	0.50%	50.25	200	23.21	0.74	16.3	0.082			275.012	274.930
		FSS7	S25										0.58	0.013	0.40%	52.40	200	20.76	0.66	20	0.080	0.02227	0.05	274.880	274.800	
A28	Lindisfarne Road	STUB	S25	2.91	2.91	75	2.4	2.91	524	524	3.9637	0.29	6.08	6.37	0.013	0.33%	133.20	200	18.85	0.60	12.8	0.042	-	-	274.740	274.698
A29	Lindisfarne Road	S25	S26	0.55	4.79		3	6	18	709	3.8914	0.48	8.08	8.56	0.013	0.33%	148.77	200	18.85	0.60	76.2	0.251	0.01268	0.03	274.668	274.416
A30	Lindisfarne Road	S26	S22	0.23	5.02		3	2	6	715	3.8892	0.50	8.14	8.64	0.013	0.33%	149.33	200	18.85	0.60	45.5	0.150	0.01268	0.03	274.386	274.236
A31	Skyline Avenue	S22	S23	0.38	18.41		3	4	12	1561	3.6670	1.84	16.76	18.60	0.013	0.25%	209.68	250	29.75	0.61	74.8	0.187		0.05	274.186	273.999

*As per Storm & Sanitary Design Sheets (Sheet 8) by Stantec Consultant Ltd (accepted by City) the Upstream Lands consist of areas A1-A27, EXT1, EXT2, and Existing areas on the noted design sheet. Areas EXT.3 AND EXT.4 have been sketched onto the Sanitary Drainage Area Plan No. 2 attached to this Report.

*The sanitary design sheet used a sewage design criteria of 295 L/capita/day. This value has been revised to 230 L/capita/day in the 2018 City of London DS&RM

S:\2017 Jobs\SBM-17-2235 Westchester Homes c-o Peter Drexler - 348 Sunningdale Rd E.V2 Design\3 Civil Drawings\SBM CAD\SBM-17-2235 Westchester Homes - Proposed Sanitary Outlet.dwg



NOT FOR CONSTRUCTION

PROFILE
SCALE: 1:500H, 1:50V

<p>STRIK BALDINELLI MONIZ CIVIL • STRUCTURAL • MECHANICAL • ELECTRICAL 14361 Medway Rd., PO Box #29 Arva, Ontario Tel: (519) 471-6667 Fax: (519) 471-0034 Email: sbm@sbmtd.ca</p>		<p>CONCEPTUAL SANITARY SERVICING</p>	
<p>CONSULTANT</p>		<p>PROJECT</p>	
<p>D/M/Y</p>		<p>TITLE</p>	
<p>3/10/18</p>		<p>CONCEPTUAL SANITARY SERVICING</p>	
<p>2/11/18</p>		<p>PROPOSED TOWNHOUSES</p>	
<p>NO. 1 FOR MEETING</p>		<p>348 SUNNINGDALE RD E LONDON, ON.</p>	
<p>NO. 2 FOR ZBA</p>			
<p>DATE 02/10/2018</p>			
<p>CHECKED BY KAM</p>			
<p>DRAWN BY BH</p>			
<p>SCALE 1:500</p>			
<p>PROJECT NO. SBM-17-2235</p>			
<p>DRAWING No.</p>		<p>SK-1</p>	

THESE DRAWINGS ARE PROPERTY OF STRIK BALDINELLI MONIZ CIVIL AND STRUCTURAL ENGINEERING AND ARE NOT TO BE DUPLICATED OR DISTRIBUTED WITHOUT CONSENT. DO NOT SCALE THESE DRAWINGS. CONTRACTOR IS TO VERIFY DIMENSIONS PRIOR TO COMMENCING THE WORK.

TREE INVENTORY PLAN
 OF PART OF
LOT 15, CONCESSION 6
 (GEOGRAPHIC TOWNSHIP OF LONDON)
 MUNICIPAL NUMBER 348
 IN THE
CITY OF LONDON
 COUNTY OF MIDDLESEX
 SCALE 1:250
 5 4 3 2 1 0 5 10 15
 SCALE IN METRES

2017
 ARCHIBALD, GRAY & MCKAY LTD.
 ONTARIO LAND SURVEYORS

SURVEYOR'S CERTIFICATE:

I CERTIFY THAT:
 THE FIELD SURVEY REPRESENTED ON THIS PLAN WAS COMPLETED ON THE
 28th DAY OF JUNE, 2017.

July 7th, 2017

Juan D. Zapata
 JUAN D. ZAPATA
 ONTARIO LAND SURVEYOR

NOTE RE: TOPOGRAPHIC DETAIL
 GROUND ELEVATIONS AND SURFACE FEATURES SAVE AND EXCEPT
 THE TREES ARE TAKEN FROM A TOPOGRAPHIC SURVEY BY AGM,
 DATED AUGUST 10, 2016 (AGM FILE LT-06-15-1).

TOPOGRAPHIC LEGEND

- DIA DENOTES DIAMETER IN mm
- HP DENOTES HYDRO POLE
- MH DENOTES MANHOLE
- ← DENOTES POLE ANCHOR
- p DENOTES SIGN
- ☼ DENOTES CONIFEROUS TREE
- DENOTES DECIDUOUS TREE

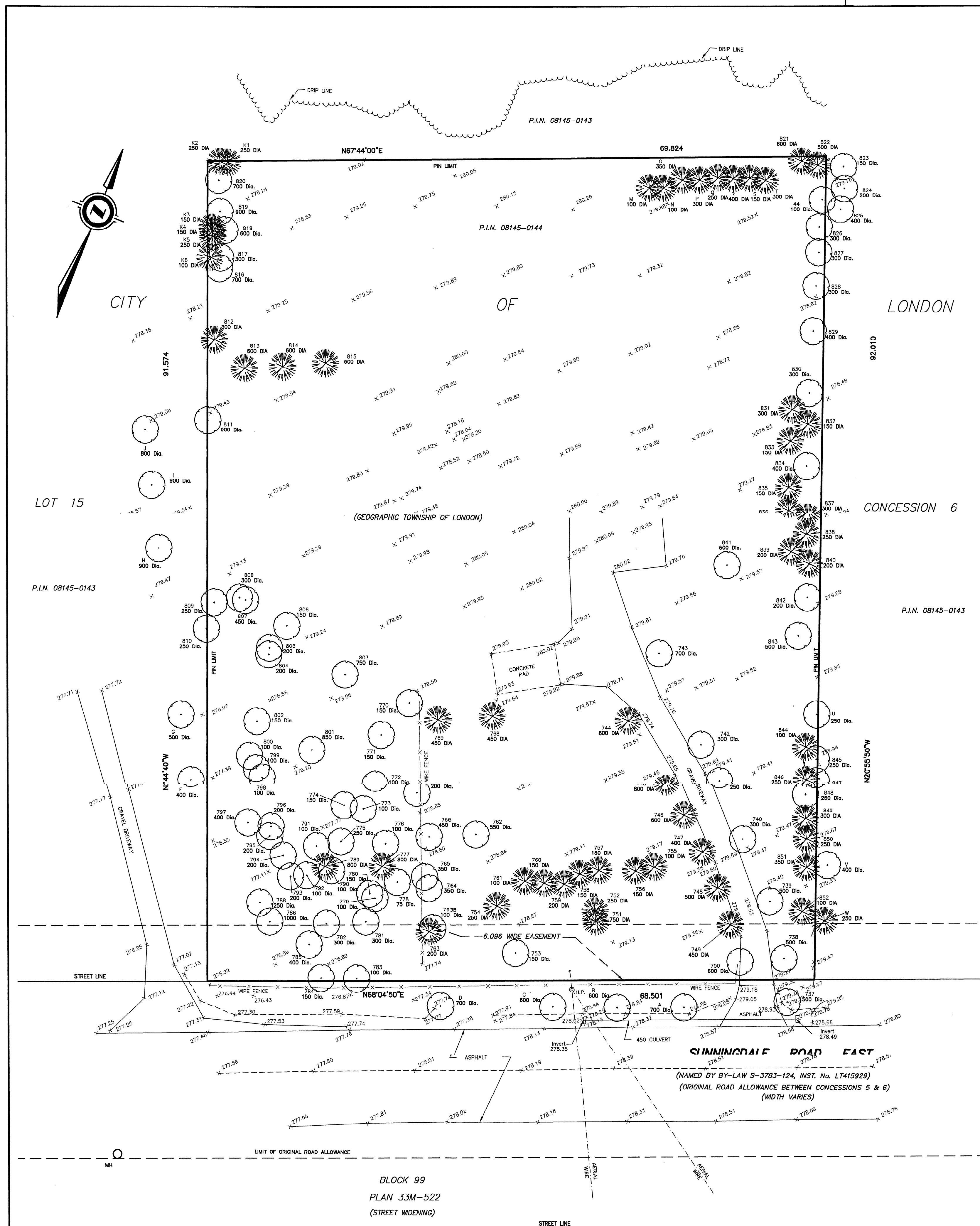
- TYPICAL TREE
- TAG NUMBER
 - TRUNK DIAMETER

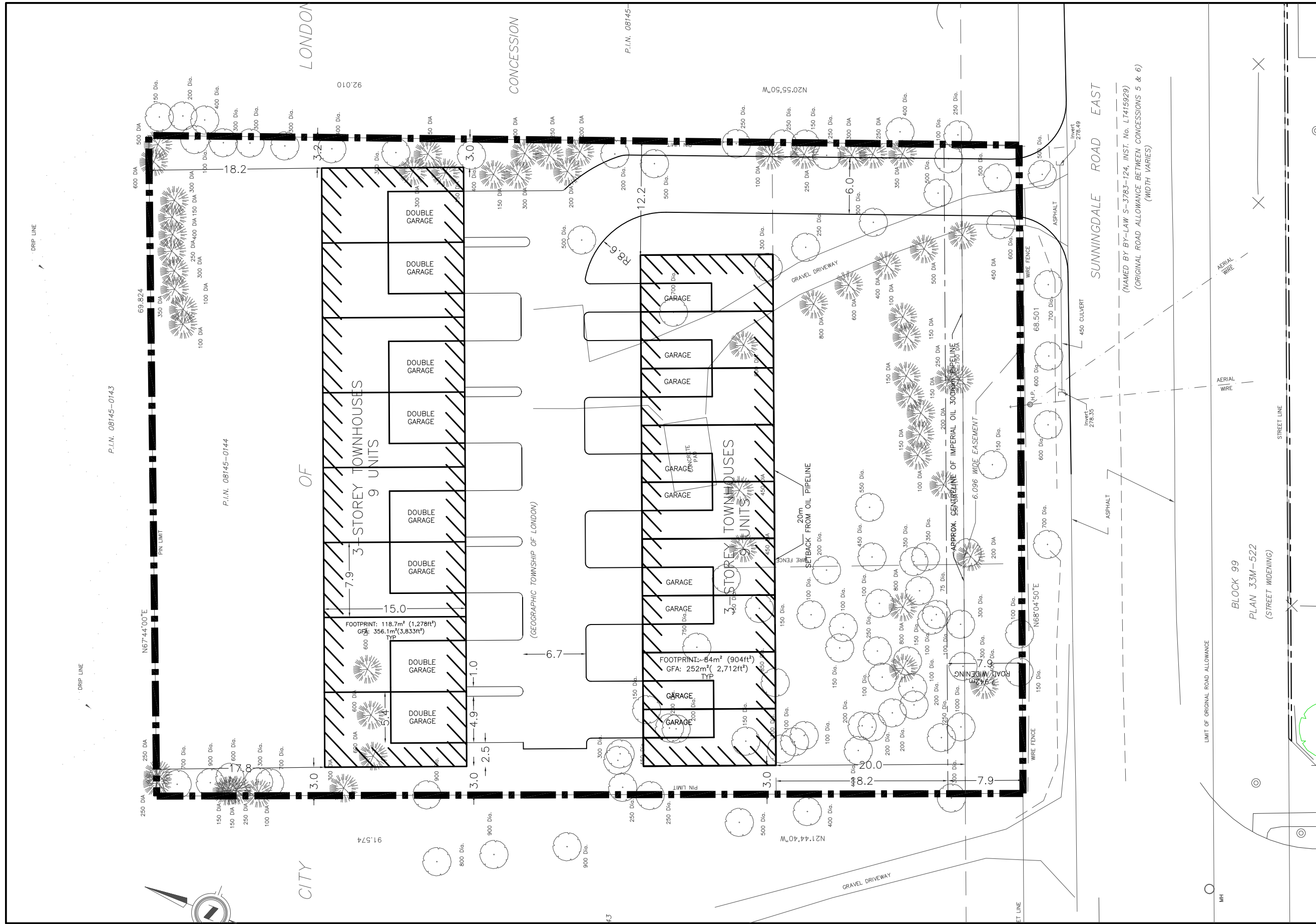
ELEVATION NOTE

ELEVATIONS ARE GEODETIC CGVD 28 (HTV2.0), DERIVED FROM G.P.S.
 OBSERVATIONS AND THE CAN-NET BASE STATION NETWORK

METRIC: DISTANCES AND ELEVATIONS SHOWN ON THIS PLAN ARE
 IN METRES AND CAN BE CONVERTED TO FEET BY
 DIVIDING BY 0.3048.

AGM ARCHIBALD, GRAY & MCKAY LTD. 3514 WHITE OAK ROAD, LONDON, ON, M6E 2Z9		PHONE: 519-885-5300 FAX: 519-885-5303
PLAN • SURVEY • ENGINEER		EMAIL: info@agm.on.ca WEB: www.agm.on.ca
DRAWN BY: CRC	DIGITAL FILE: LT1711TP1C13.dwg	PLAN No:
CHECKED BY: RTW	FILE No: LT-06-15-2	4-A-4687
First Date: Jul 07, 2017	F:\Projects\L\London\topo\LT-06-15-1\LT-06-15-2\CAD\LT1711TP1C13.dwg	





KEY PLAN



SITE PLAN 2C
OF
CON 6 S PT LOT 15

(GEOGRAPHIC TOWNSHIP OF LONDON)
CITY OF LONDON
COUNTY OF MIDDLESEX

SITE STATISTICS
PROPOSED ZONE: R6-4()

	REQUIRED R6-4	PROPOSED R6-4()
LOT AREA	0.2 ha	0.635 ha
LOT FRONTAGE	22.0 m	68.5 m
LOT DEPTH	N/A	91.5 m
FRONT YARD SETBACK	8.0 m	18.2 m
REAR YARD SETBACK	6.0 m	~17.0 m
SIDEYARD SETBACK (E)*	6.0 m	3.0 m
SIDEYARD SETBACK (W)*	6.0 m	3.0 m
LANDSCAPED AREA	30%	>30%
LOT COVERAGE	45%	27%
HEIGHT	10.5 m	<10.5m
UNITS		7
DENSITY	30 UPH	27 UPH
PARKING	27	>34

*DENOITES SITE-SPECIFIC PROVISION

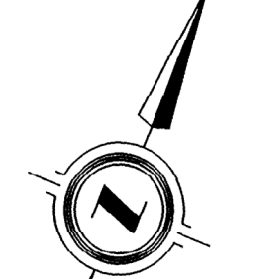
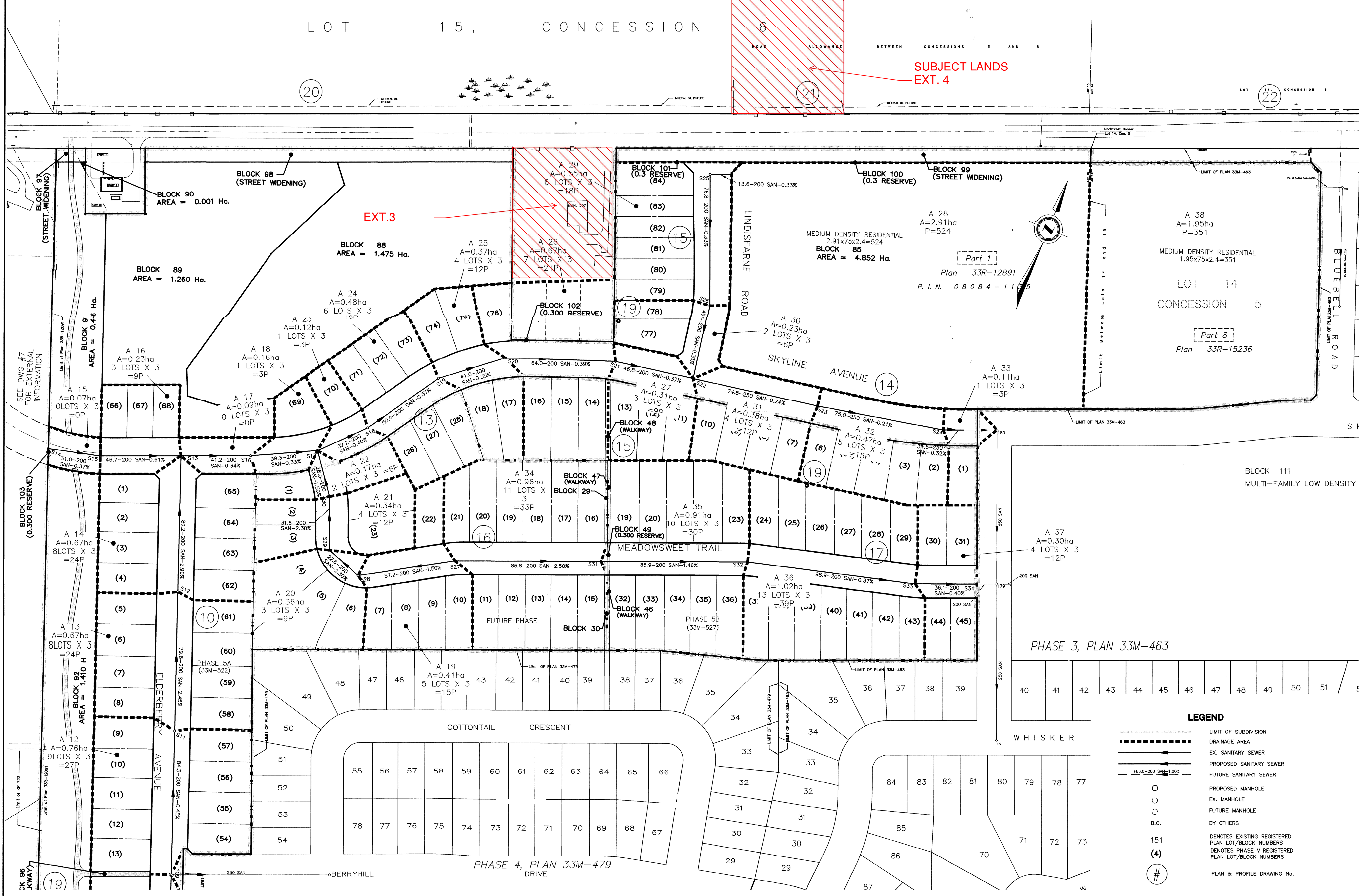
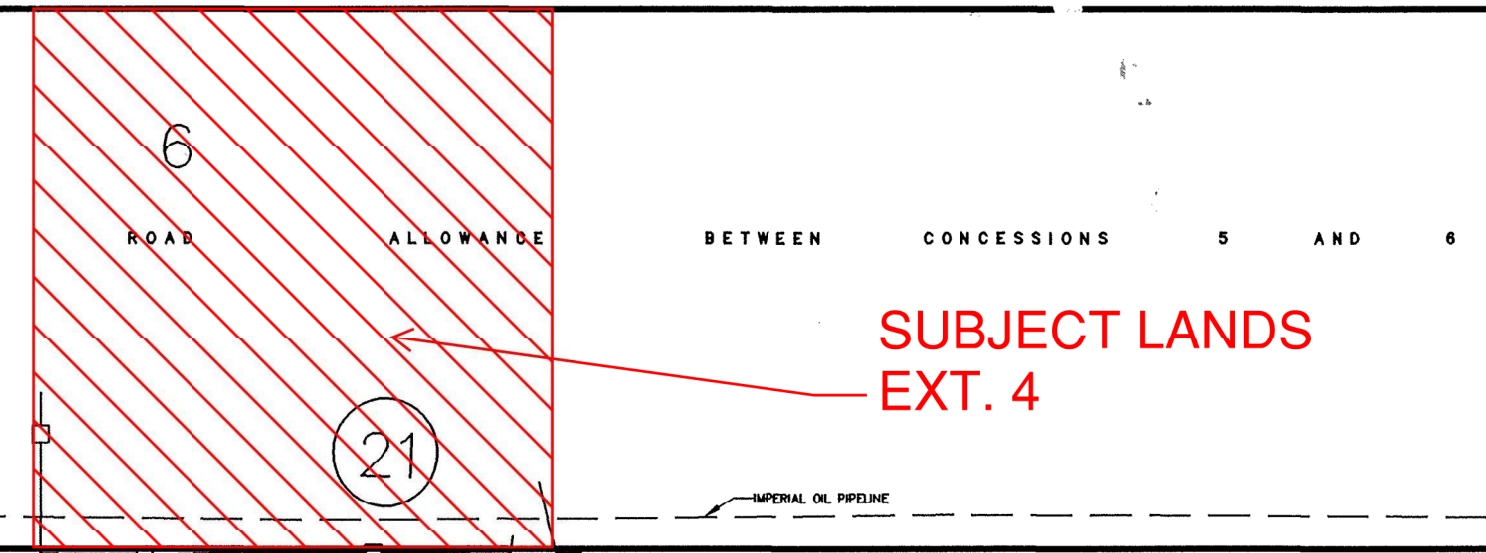
NO.	REVISION	DATE	INITIAL

WESTCHESTER HOMES
348 SUNNINGDALE ROAD EAST

ZELINKA PRIMO LTD
A Professional Planning Practice
318 Wellington Road, London, Ontario N6C 4P4
Tel: (519) 474-7137 Fax: (519) 474-2284 e-mail: zp@zplp.com

DRAWN BY MBC	PROJECT NO. WCH/LON/17-01
DATE OCTOBER 2018	SCALE 1:400

LOT 15, CONCESSION



PHASE 3, PLAN 33M-463

PHASE 4, PLAN 33M-479

LEGEND

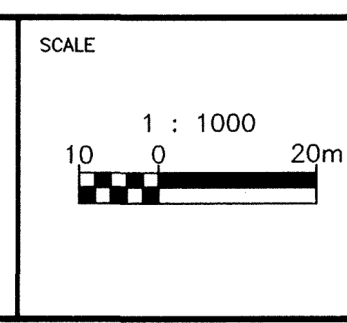
	LIMIT OF SUBDIVISION
	DRAINAGE AREA
	EX. SANITARY SEWER
	PROPOSED SANITARY SEWER
	FUTURE SANITARY SEWER
	PROPOSED MANHOLE
	EX. MANHOLE
	FUTURE MANHOLE
	BY OTHERS
	DENOTES EXISTING REGISTERED PLAN LOT/BLOCK NUMBERS
	DENOTES PHASE V REGISTERED PLAN LOT/BLOCK NUMBERS
	PLAN & PROFILE DRAWING No.

AS CONSTRUCTED NOTES	AS CONSTRUCTED SERVICES	COMPLETION	DESIGN	No.	REVISIONS	DATE	BY	CONSULTANT OR DIVISION
1. SEE DRAWING FOR FURTHER DETAILS.	SAN SEWERS, PDC's & M.H.'s	JULY 05	DESIGN	DJL	1	AS PER CITY COMMENTS (S&D)	FEB 01/05	DJL
2. SEWER DESIGN TRANSITION WITH OR AS NOTED.	STM SEWERS, PDC's & M.H.'s	JULY 05	DRAWN	DJL	2	AS PER CITY COMMENTS (S&D)	MAR 08/05	DJL
3. REFERENCE B.M. INTO No. 11-87 ELEVATION: 256.636m.	W.M. & W.S	JULY 05	CHECKED	AH	3	AS-CONSTRUCTED	MARCH 06	PS
	GRANULAR BASE	NOV 05	APPROVED	JBP				
	CURB & GUTTERS & SIDEWALKS	DEC 05	DATE	SEPT '04				
	PAVING - I BASE	DEC 05						
	II SURFACE							

Stantec Consulting Ltd.
 171 Queens Avenue, 8th Floor
 London ON Canada N6A 5J7
 Phone: (519) 645-2007
 Fax: (519) 645-6575
 E-mail: london@stantec.com

ENGINEER'S SEAL
 LICENSED PROFESSIONAL ENGINEER
 J. B. PAUL

CORPORATION OF THE CITY OF LONDON



TITLE: UPLAND HILLS SUBDIVISION - PHASE 5A & 5B
 SIFTON PROPERTIES LIMITED
SANITARY DRAINAGE AREAS
PLAN No. 2

PROJECT No.	33M-522 & 33M-527
SHEET No.	4
PLAN FILE No.	18,990

18,990

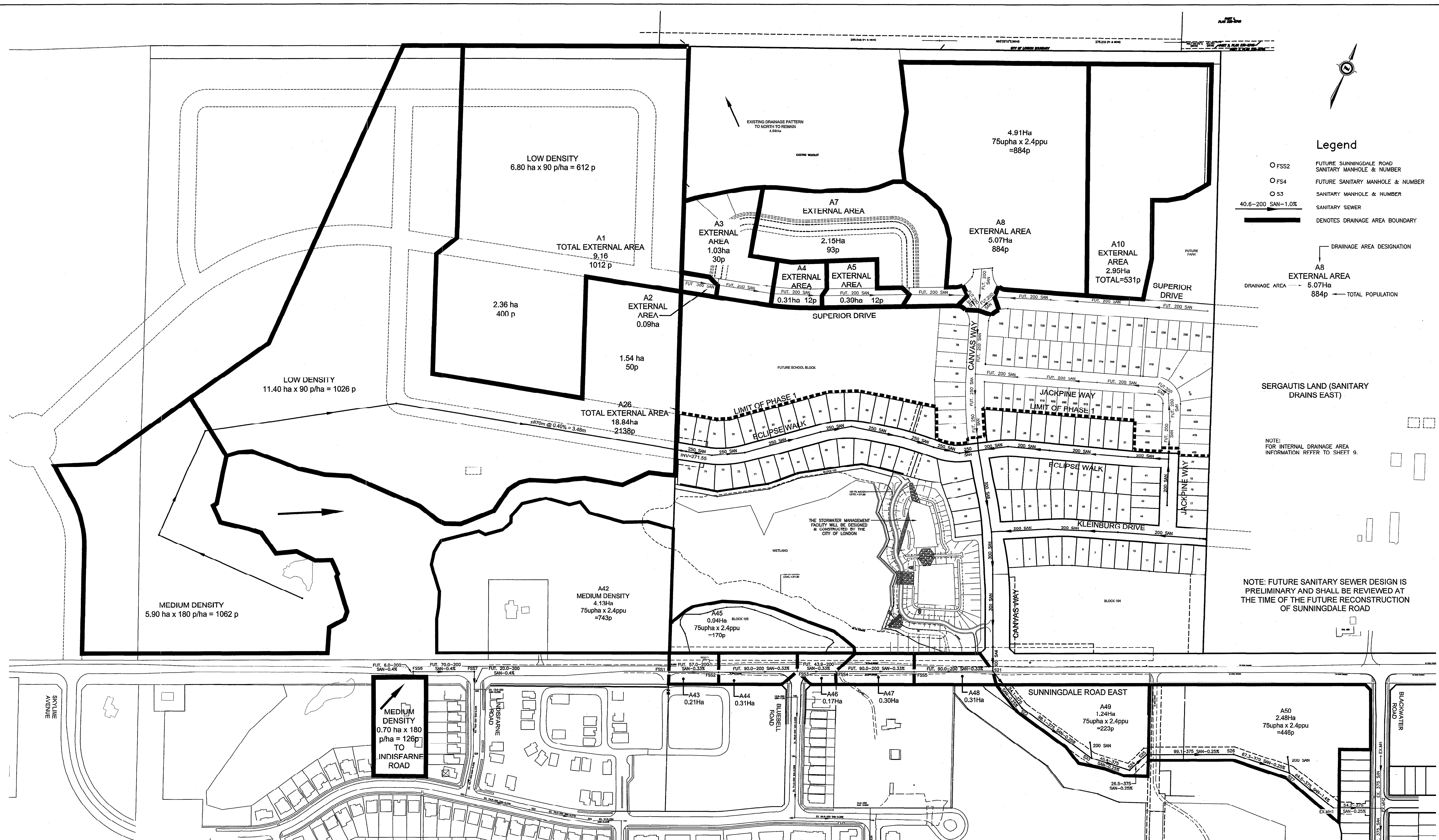
SANITARY SEWER DESIGN SHEET

CITY OF LONDON
DESIGNER: AS, S, J, C, M, H.

PROJECT NAME: UPLAND HILLS SUBDIVISION - PHASE 5A & 5B
PROJECT FILE NO: 18-18994-5

DESIGNER: AS, S, J, C, M, H.
DATE: FEB 08/05
DRAWN: AH
CHECKED: JRP
APPROVED: JRP
DATE: Sept '04

AREA NO.	LOCATION		FROM MANHOLE	TO MANHOLE	NET OR GROSS RECTANGULAR FEET	AREA	POPULATION		TOTAL P.P.P.	SEWAGE FLOWS		PIPE SIZE (mm)	SLOPE (ft/ft)	VELOCITY (ft/s)	LENGTH (ft)	FALL IN FALL IN MANHOLE (in)	HEADLOSS (ft)	INVERT ELEVATION (ft)	
	STREET	ALIAS					NO. OF LOTS	DELTA P.P.P.		DELTA RECTANGULAR FEET	DELTA P.P.P.								DELTA P.P.P.
A1	Elmwood Drive		S1	S2	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A2	Elmwood Drive		S2	S3	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A3	Elmwood Drive		S3	S4	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A4	Elmwood Drive		S4	S5	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A5	Elmwood Drive		S5	S6	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A6	Elmwood Drive		S6	S7	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A7	Elmwood Drive		S7	S8	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A8	Elmwood Drive		S8	S9	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A9	Elmwood Drive		S9	S10	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A10	Elmwood Drive		S10	S11	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A11	Elmwood Drive		S11	S12	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A12	Elmwood Drive		S12	S13	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A13	Elmwood Drive		S13	S14	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A14	Elmwood Drive		S14	S15	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A15	Elmwood Drive		S15	S16	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A16	Elmwood Drive		S16	S17	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A17	Elmwood Drive		S17	S18	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A18	Elmwood Drive		S18	S19	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A19	Elmwood Drive		S19	S20	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A20	Elmwood Drive		S20	S21	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A21	Elmwood Drive		S21	S22	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A22	Elmwood Drive		S22	S23	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A23	Elmwood Drive		S23	S24	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A24	Elmwood Drive		S24	S25	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A25	Elmwood Drive		S25	S26	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A26	Elmwood Drive		S26	S27	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A27	Elmwood Drive		S27	S28	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A28	Elmwood Drive		S28	S29	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A29	Elmwood Drive		S29	S30	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A30	Elmwood Drive		S30	S31	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A31	Elmwood Drive		S31	S32	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A32	Elmwood Drive		S32	S33	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A33	Elmwood Drive		S33	S34	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A34	Elmwood Drive		S34	S35	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A35	Elmwood Drive		S35	S36	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A36	Elmwood Drive		S36	S37	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A37	Elmwood Drive		S37	S38	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A38	Elmwood Drive		S38	S39	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A39	Elmwood Drive		S39	S40	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A40	Elmwood Drive		S40	S41	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A41	Elmwood Drive		S41	S42	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A42	Elmwood Drive		S42	S43	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A43	Elmwood Drive		S43	S44	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A44	Elmwood Drive		S44	S45	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A45	Elmwood Drive		S45	S46	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A46	Elmwood Drive		S46	S47	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A47	Elmwood Drive		S47	S48	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A48	Elmwood Drive		S48	S49	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A49	Elmwood Drive		S49	S50	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A50	Elmwood Drive		S50	S51	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A51	Elmwood Drive		S51	S52	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A52	Elmwood Drive		S52	S53	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A53	Elmwood Drive		S53	S54	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A54	Elmwood Drive		S54	S55	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A55	Elmwood Drive		S55	S56	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A56	Elmwood Drive		S56	S57	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A57	Elmwood Drive		S57	S58	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A58	Elmwood Drive		S58	S59	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A59	Elmwood Drive		S59	S60	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A60	Elmwood Drive		S60	S61	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A61	Elmwood Drive		S61	S62	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A62	Elmwood Drive		S62	S63	3	27	4	36	0.4	0.32	0.04	200	0.013	0.83	21.51	0.82	603	0.545	278,230
A63	Elmwood Drive		S63	S64	3	27	4</												



Legend

- FSS2 FUTURE SUNNINGDALE ROAD SANITARY MANHOLE & NUMBER
- FS4 FUTURE SANITARY MANHOLE & NUMBER
- S3 SANITARY MANHOLE & NUMBER
- 40.6-200 SAN-1.0% SANITARY SEWER
- DENOTES DRAINAGE AREA BOUNDARY
- └ DRAINAGE AREA DESIGNATION
- A8 EXTERNAL AREA 5.07Ha 884p — TOTAL POPULATION

SERGAUTIS LAND (SANITARY DRAINS EAST)

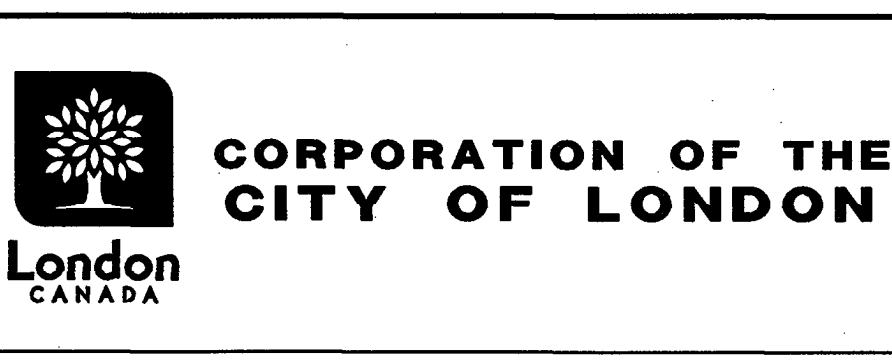
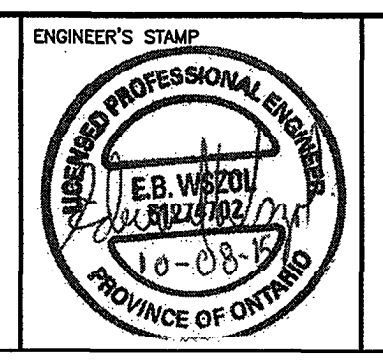
NOTE: FOR INTERNAL DRAINAGE AREA INFORMATION REFER TO SHEET 9.

NOTE: FUTURE SANITARY SEWER DESIGN IS PRELIMINARY AND SHALL BE REVIEWED AT THE TIME OF THE FUTURE RECONSTRUCTION OF SUNNINGDALE ROAD

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT
	DESIGN CW				1 AS SUBMITTED FOR APPROVAL	1		APR 29/10	DELL
	DRAWN BY CW				2 PHASE 1 LIMITS	2		JUN 22/10	DELL
	CHECKED AT				3 AS SUBMITTED FOR APPROVAL	3		MAR 19/11	DELL
	APPROVED				4 2nd SUBMISSION	4		MAY 20/11	DELL
	DATE APR 29/10				5 3rd SUBMISSION	5		AUG 23/11	DELL
	F.B.K. 814, 862, 923				6 4th SUBMISSION	6		OCT 14/11	DELL
	980, 985, 988, 989				7 AS DESIGNED	7		SEPT 2015	DELL

CONSULTANT OR DIVISION

Consulting Civil Engineers
41 Adelaide St. N., Unit 71
London, Ontario N6B 3P4
Phone (519) 672-8310
Fax (519) 672-4182
e-mail: deveng@deveng.net



SCALE

SCALE - 1 : 2000

20 0 40m

TITLE

Powell Farm Subdivision Phase 1
2047790 Ontario Inc. - 33M-643

External Sanitary Sewer
Area Plan

PROJECT No.
D2059

SHEET No.
8

PLAN FILE No.
25.716

