

December 5, 2023  
 File: 161414233

**Attention: City of London Development Services**  
 300 Dufferin Avenue  
 London, Ontario N6A 4L9

Dear Recipient,

**Reference: 735 Wonderland Road North Sanitary Servicing Brief New 25 Storey High Rise Residential Building**

## INTRODUCTION

This sanitary servicing feasibility brief has been prepared for the proposed infill development of part of the 1.441ha parcel at 735 Wonderland Road North, herein referred to as the 'Site'. The site consists of two (2) new one-story commercial buildings and an existing partial two-story commercial building including an existing restaurant (Swiss Chalet), fronting Beaverbrook Avenue. The two proposed commercial buildings will be constructed fronting Beaverbrook and Wonderland Road in underutilized parking lot space as per the previous Site Plan Approval Application. The existing restaurant will be removed, and a 219-unit 25 story apartment building will be constructed in its place.

The purpose of this brief is to provide justification from a sanitary sewer capacity perspective for the feasibility of developing this site as proposed including peak flows and maximum population from the proposed development.

## EXISTING SANITARY SERVICES

The subject site is within the Greenway Wastewater Treatment Plant (GWWTP) sewershed. The closest available sanitary infrastructure is a 200mm diameter asbestos cement sanitary sewer located on Horizon Drive. The sewer drains south towards Farrah Road, meeting a 450mm diameter trunk sewer on Proudfoot Lane. There is currently allocation for 660 people for the site, including 2.23 hectares of infiltration drainage area, as per **Drawing P-77421-G3** (attached).

The existing dry weather sanitary flow for the subject site has been estimated based on gross floor area, current use, and flow data taken from the Ontario Building Code (OBC). The existing building is currently designated as shown below: (Detailed calculations provided in **Appendix A**).

**Table 1 – Existing Major Occupancies (Existing Building at 735 Wonderland)**

Major Occupancy	Floors	Gross Floor Area (m <sup>2</sup> )	Daily Flow (L/Day)	Equivalent Population <sup>1</sup>
Office	1	1115	8,992	40
Restaurant	1	760	54,560	238
Retail	1	2617	13,085	57
Mercantile	1	1215	11,070	49
<b>Total =</b>		<b>5707</b>	<b>87,707</b>	<b>382</b>

Reference: 735 Wonderland Road North Sanitary Servicing Brief New 25 Storey High Rise Residential Building

1. Population equivalent is based on CofL DS&RM 3.8.1 per capita flow of 230L/cap/day.

Site record servicing drawings (prepared by Development Engineering [1988], attached) shows one (1) 150mm Private Drain Connection (PDC) currently services the site from MH S1 via the existing sanitary manhole OK17, located within the Horizon Drive Right-of-Way.

The flow from the building is directed to two (2) 150mm diameter sanitary PDCs. The first PDC services the 1-storey restaurant, and the other services the Office/Retail Building. Both PDCs are upstream of MH S1. Details regarding PDCs and on-site sanitary infrastructure (including MH location and invert elevations) have been confirmed by a Topographic Land Survey completed by Callon Dietz in 2021 (see **Drawing # 21-24399**, attached).

The existing dry weather sanitary flow for the subject site will be substantially decreased since the existing 1-storey restaurant is to be replaced with an apartment addition. The existing building excluding the existing 1-storey restaurant currently designated as shown below: (Detailed calculations provided in **Appendix A**).

Major Occupancy	Floors	Gross Floor Area (m <sup>2</sup> )	Daily Flow (L/Day)	Equivalent Population <sup>1</sup>
Office	1	1115	8,992	40
Retail	1	2617	13,085	57
Mercantile	1	1215	11,070	49
<b>Total =</b>		<b>4947</b>	<b>33,147</b>	<b>146</b>

2. Population equivalent is based on CofL DS&RM 3.8.1 per capita flow of 230L/cap/day.

The following table summarizes expected flow based on the modified existing contributing population from the subject site and compares it to the allocated flow from available sanitary area plans. The city to confirm whether the above allocated flow should be adjusted.

**Table 2 – Existing Sanitary Flow**

State	Area (ha)	Population	Infill (L/s) <sup>1</sup>	Peaking Factor	Sewage (L/s)	Total (L/s)
Existing	1.36	146	0.14	4.19	1.79	1.93
Allocated	2.23	660	0.23	3.91	7.55	7.79
<b>Remaining Capacity =</b>						<b>5.86</b>

1. Infiltration rate is 8640 L/ha/day as per CofL DS&RM 3.8.1.

Based on the above, there is an additional 5.86L/s capacity available to service the subject site. The city to confirm downstream capacity is sufficient to convey the allotted capacity.

Reference: 735 Wonderland Road North Sanitary Servicing Brief New 25 Storey High Rise Residential Building

### PROPOSED SANITARY & RE-DEVELOPMENT SEWAGE FLOW

The proposed development will require the installation of sanitary sewer infrastructure from the proposed building location to the site outlet at manhole S1 (approximately 219m).

The population of the proposed buildings A and B were calculated using OBC Table 8.2.1.3. The proposed flowrate for these buildings was summarized in a previous sanitary brief submitted on July 18, 2022. The population for the proposed 25-storey apartment building was calculated using City of London Design Standards. All permitted flow calculations were calculated, the highest flow option is summarized in the table below: (Full calculations are provided in **Appendix A**).

**Table 3 – Proposed Apartment Flow Rate**

Major Occupancy	Number of Units	Daily Flow (L/day)	Equivalent Population <sup>1</sup>
Residential	219	80,500	350

1. Equivalent population is based on CofL DS&RM 3.8.1 per capita flow of 230L/cap/day.

Major Occupancy	Floors	Gross Floor Area (m <sup>2</sup> )	Daily Flow (L/Day)	Equivalent Population <sup>1</sup>
Retail	1	145.4	727	4

1. Population equivalent is based on DS&RM flow of 230L/cap/day.

**Table 4 – Proposed Sanitary Sewer Flow**

State	Area (ha)	Population (P)	Infill (L/s) *	Peaking Factor (M)	Sewage (L/s)	Total (L/s)
Existing	1.36	146	0.14	4.19	1.79	1.93
Proposed	0.22	354	0.02	4.05	4.19	4.22
Full Site	1.44	500	0.14	3.97	5.82	5.96
Allocated	2.23	660	0.23	3.91	7.55	7.79
<b>Remaining Capacity =</b>						1.83

1. Infiltration rate is 8640 L/ha/day as per CofL DS&RM 3.8.1.

From the above table, there is sufficient capacity to service the subject site as proposed. Since the site discharges into the top end of the sewer system, all remaining capacity could be utilized without jeopardizing upstream developments.

Reference: 735 Wonderland Road North Sanitary Servicing Brief New 25 Storey High Rise Residential Building

Based on CofL DS&RM 3.16.2, a minimum 150mm diameter PDC at a 1.0% constant grade is required. Preliminary sanitary sewer capacity analysis shows that the existing 150mm diameter PDC at 15% grade will be sufficient based on the proposed population. See table below for calculation summary.

**Table 5 – Sanitary PDC Capacity Confirmation**

Pipe Size (mm)	Slope (%)	Capacity (L/s)	Total Sewage Flow (L/s)	Capacity (%)
150	15.0	59.0	5.82	10.5

Based on the above, the current 150mm diameter PDC from OK17 is sufficient to service the site and does not need to be replaced. Additionally, connection of the new sanitary sewer could be made to the existing S1 manhole if deemed to be in good condition.

## CONCLUSION

This report was prepared to provide an overview of the anticipated peak sanitary flow generated from the subject site following the development of two additional commercial buildings at 735 Wonderland Road North. The results/findings of this report are summarized below:

- The downstream sanitary capacity is sufficient to service the site as proposed. The peak flow has increased by 4.03L/s, and the remaining downstream capacity is approximately 1.83L/s.
- The existing 150mm diameter sanitary PDC is sufficient to service the site as proposed. No new/additional connection to city manhole OK17 is required.

We trust this meets with your requirements, should you have any question, or require further information, please contact the undersigned.

Sincerely,

**Stantec Consulting Ltd.**



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[stantec.com](http://stantec.com)

Attachment: As-Built Drawings

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**Sanitary Flow Calculations  
735 Wonderland Road North**

**Table A.1.1 - Existing Sanitary Flow Summary**

Description	Floors	Floor Area (m <sup>2</sup> )	Gross Floor Area (m <sup>2</sup> )	Number of Seats	Occupancy Load		Sewage Design Flow		Daily Flow (L/day)	Equivalent Population <sup>2</sup>
					Reference	Rate	Reference	Rate		
Office	1	1115	1115				OBC 8.2.1.3.B - Office Flow	75 L/day/9.3m <sup>2</sup>	8,992	40
Restaurant <sup>1</sup>	1	760	760	124	OBC table 3.1.17.1	3.7m <sup>2</sup> per person	OBC 8.2.1.3.B - Restaurant (not 24 hrs)	125 L/Seat	54,560	238
Store	1	2617	2617				OBC 8.2.1.3.B - Stores	5 L/day/1.0m <sup>2</sup> floor area	13,085	57
Mercantile	1	1215	1215				OBC 8.2.1.3.B - Stores	1230 L/WC	11,070	49
<b>Total</b>									<b>87,707</b>	<b>384</b>

**Notes:**

1. Assumed restaurant has 60% dining area and 40% kitchen area.
2. Equivalent Population based on CofL DS&RM flow of 230L/cap/day

**Table A.1.2.A - Proposed Sanitary Flow Summary (Flow per Square Meter)**

Description	Floors	Floor Area (m <sup>2</sup> )	Gross Floor Area (m <sup>2</sup> )	Number of Residential Units	Occupancy Load		Sewage Design Flow		Daily Flow (L/day)	Equivalent Population <sup>2</sup>
					Reference	Rate	Reference	Rate		
Store	1	145.4	145	0			OBC 8.2.1.3.B - Stores	5 L/day/1.0m <sup>2</sup> floor area	727	4

\* Equivalent Population based on CofL DS&RM flow of 230L/cap/day

RESIDENTIAL COMMERCIAL AND INSTITUTIONAL POPULATION DENSITIES

THE FOLLOWING POPULATION ALLOWANCES WILL APPLY WHEN DESIGNING SANITARY SEWERS:

LOW DENSITY (SINGLE-FAMILY / SEMI-DETACHED)  
 MEDIUM DENSITY (MULTI-FAMILY / TOWNHOUSE / ROWHOUSE)  
 HIGH DENSITY (APARTMENTS)  
 COMMERCIAL / INSTITUTIONAL  
 SECONDARY SCHOOL  
 ELEMENTARY SCHOOL

= 30 UNITS / HECTARE @ 3 PEOPLE / UNIT  
 = 75 UNITS / HECTARE @ 2.4 PEOPLE / UNIT  
 = 150 - 300 UNIT / HECTARE @ 1.6 PEOPLE / UNIT  
 = 100 PEOPLE / HECTARE  
 = 1500 PEOPLE  
 = 600 PEOPLE

**SANITARY SEWER DESIGN SHEET  
 CITY OF LONDON**

**PROJECT NAME: 735 Wonderland Road North**

DESIGN CRITERIA  
 SEWAGE = 230 LITRE / CAPITA / DAY  
 INFILTRATION = 8640 LITRES / HECTARE / DAY  
 PEAKING FACTOR:  $1 + 14 \sqrt{4 + P^{0.5}}$

(TOP) = TOP END OF SEWER TRIBUTARY

LOCATION				AREA			POPULATION						SEWAGE FLOWS Q			SEWER DESIGN						
AREA No.	STREET NAME	FROM MANHOLE	TO MANHOLE	NET OR GROSS	DELTA HECTARES	TOTAL HECTARES	POP. PER HECTARE	PER LOT	NO. OF LOTS	DELTA POP.	TOTAL POP.	PEAKING FACTOR	INFILT L / s	SEWAGE L / s	TOTAL L / s	PIPE SIZE mm	n	SLOPE %	CAP L / s	VELOCITY m / s	LENGTH m	
A101	735 Wonderland	(TOP)	S7	N	1.36	1.36		146	1	146	146	4.19	0.14	1.79	1.93	150	0.013	0.50	10.8	0.61	203.4	
A103	735 Apartment	Ex. SAN2	S7	N	0.22	1.44		354	1	354	500	3.97	0.14	5.82	5.96	150	0.013	11.00	50.5	2.86	24.6	
A104	Horizion Drive	S7	EX. MH1	N	0.00	1.44		0	1	0	500	3.97	0.14	5.82	5.96	150	0.013	15.00	59.0	3.34	20.3	
<b>Maximum Capacity per Drainage Area Plan</b>																						
EX101	735 Wonderland	(TOP)	*Ex. S1	N	2.33	2.33		660	1	660	660	3.91	0.23	7.55	7.79	200	0.013	1.08	34.1	1.08	13.7	
<b>Existing Drainage Area</b>																						
EX102	735 Wonderland	(TOP)	**Ex. S1	N	1.44	1.44		382	1	382	382	4.03	0.14	4.51	4.65	200	0.013	1.08	34.1	1.08	14.7	

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Legend

- EX. WATERMAIN
- PROPOSED WATERMAIN
- EX. STORM SEWER
- PROPOSED STORM SEWER
- EX. SANITARY SEWER
- PROPOSED SANITARY SEWER
- PROPOSED STORM CATCH BASIN MANHOLE
- PROPOSED SANITARY MANHOLE
- EX. STORM MANHOLE
- EX. SANITARY MANHOLE
- PROPOSED CATCH BASIN
- EX. CATCH BASIN
- 3-WAY FIRE HYDRANT C/W STORZ CONNECTION
- SITE BOUNDARY
- EXISTING LIGHT STANDARD
- LIMITS OF RESTORATION
- DENOTES SIDEWALK RAMP PER CITY OF LONDON SPECIFICATION SR-1.2 C/W TACTILE PLATES AS PER CoL SPECIFICATION 2.1.15

STORM SEWER MAINTENANCE HOLE DETAILS		
STM MH#	LID ELEV.	PIPE INVERTS
CB1	259.850	257.387S
CBMH1	259.750	257.335N 257.285E
DCBMH4	258.124	255.495NE 255.515SW
R1	257.648	253.187S 254.087W 253.187N
R2	258.415	254.850E 254.900W
R3 (OGS)	258.204	255.260E 255.310SW
R6 (PROP. STRUCTURE)	259.401	256.309NE 256.359S 257.846N 256.359W
R7	259.428	256.369N
R8	259.483	257.165W 256.926N 257.126W
R9	257.182	256.542E 256.575S
STM1	259.790	258.340E

SANITARY SEWER MAINTENANCE HOLE DETAILS		
SAN MH#	LID ELEV.	PIPE INVERTS
EX MH1	255.716	251.297W
EX MH2	256.532	253.983W 253.963NW 253.933E
EX. SAN1	256.632	256.476E
EX. SAN2	257.027	256.771SE
S2	256.446	255.050W 254.450N
S3	258.942	255.661W 255.631E
S4	259.550	256.042N 256.012E
S5	259.560	257.466W 257.747N 257.177S
S6	259.558	258.160N 258.130S
S7	254.598	254.143W 254.173S 254.143E 254.400N
S8	254.974	254.519NW 254.450S 254.519SE
SAN1	258.496	258.340E
SAN2	260.072	258.280S

ROADS NOTES

RECOMMENDED PAVEMENT STRUCTURE FOR PARKING LOT:

- 40mm HL3 SURFACE ASPHALT COMPACTED TO 97% MARSHALL
- 50mm HL8 BASE ASPHALT COMPACTED TO 97% MARSHALL
- 150mm GRANULAR 'A' BASE COMPACTED TO 100% SPMD
- 350mm GRANULAR 'B' SUBBASE COMPACTED TO 100% SPMD
- ALL FILL MATERIAL FROM NATIVE SUBGRADE TO ROAD SUBBASE SHALL BE SELECT NATIVE MATERIAL OR IMPORTED PIT-RUN MATERIAL COMPACTED TO 95% SPMD
- OPSD-600.010 CONCRETE BARRIER CURB
- RESTORATION PAVEMENT STRUCTURE FOR BEAVERBROOK AVENUE & HORIZON DRIVE
- 50mm HL3 SURFACE ASPHALT COMPACTED TO 97% MARSHALL
- 80mm HL8 BASE ASPHALT COMPACTED TO 97% MARSHALL
- 150mm GRANULAR 'A' BASE COMPACTED TO 100% SPMD
- 450mm GRANULAR 'B' SUBBASE COMPACTED TO 100% SPMD.

LANDSCAPE RESTORATION AREAS

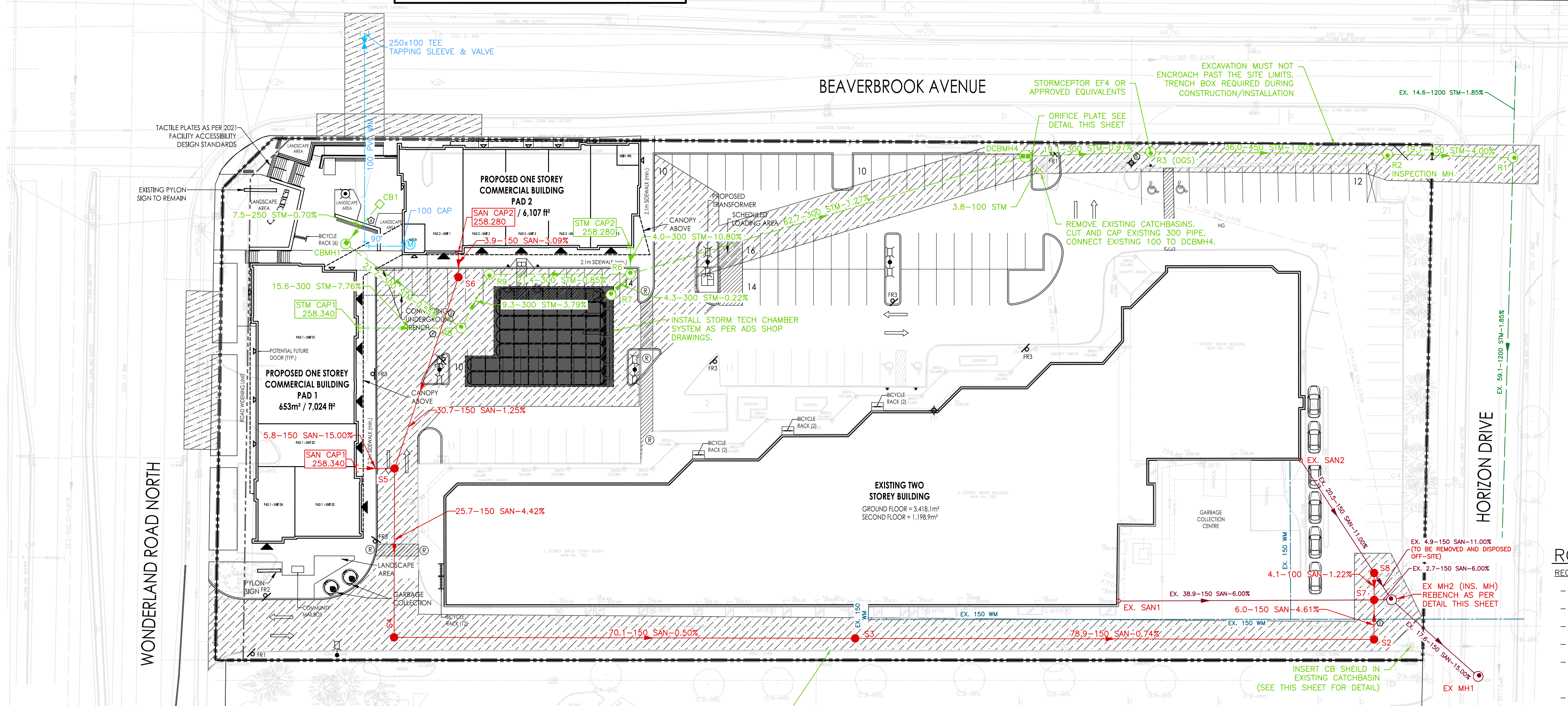
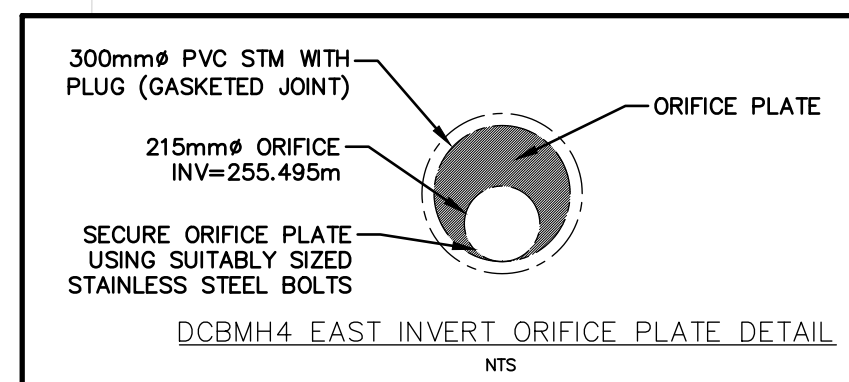
- ALL DISTURBED AREAS TO BE RESTORED WITH MIN. 150mm TOPSOIL AND SOD OR SEED AS SPECIFIED

WATERMAIN NOTES

1. ALL WATERMAIN PIPE OVER 300mm DIA. TO BE POLYVINYL CHLORIDE (PVC) C905, CLASS 165, DR25. ALL WATERMAIN PIPE UP TO AND INCLUDING 300mm DIA. TO BE POLYVINYL CHLORIDE (PVC) C900, CLASS 150 DR18; DUCTILE IRON (D.I.) CL51 AND RESPECTIVELY CL52 C/W POLYETHYLENE WRAP MAY BE USED IF APPROVED BY THE CITY OF LONDON SEWER, DRAINAGE AND WATER DEPT.
2. ALL WATERMAIN TO HAVE 1.7m TO 1.9m COVER.
3. WHERE COVER TO WATER SERVICES IS LESS THAN 1.5m, THE SERVICE SHALL BE ADEQUATELY INSULATED OVER THE AFFECTED LENGTH OF SERVICE AS PER CITY DWG. No. W-CS-68.
4. WHERE ANY WATER SERVICE CONNECTION IS REQUIRED TO BE MADE FOLLOWING THE CONSTRUCTION OF CURB, GUTTER, CONCRETE SIDEWALKS AND/OR WEARING SURFACE COAT OF ASPHALT ON ANY STREET IN A NEW SUBDIVISION, SUCH WATER SERVICE CONNECTION SHALL NOT BE MADE USING "OPEN CUT" METHODS BUT SHALL BE MADE USING DRILLING OR BORING TECHNIQUES AND IN SUCH A MANNER AS TO ELIMINATE THE POSSIBILITY OF SETTLEMENT OF SUCH CURB, GUTTER, CONCRETE SIDEWALK OR WEARING SURFACE COAT OF ASPHALT; IT BEING UNDERSTOOD THAT THIS POLICY SHALL APPLY EXCEPT WHERE, IN THE OPINION OF THE CITY ENGINEER, GROUND CONDITIONS ARE SUCH THAT THE USE OF DRILLING OR BORING METHODS BECOME UNREASONABLE OR UNECONOMICAL.
5. ALL WATERMAIN MATERIAL AND CONSTRUCTION SHALL CONFORM TO THE CURRENT CITY OF LONDON STANDARDS FOR SEWER AND WATER.
6. MECHANICAL JOINT RESTRAINTS SHALL BE PROVIDED AT ALL FITTINGS, BENDS, TEES, VALVES, HYDRANTS, REDUCERS, AND PLUGGED OR CAPPED DEAD ENDS IN ACCORDANCE WITH SECTION 441.07.23 - THRUST RESTRAINTS, OF THE CITY OF LONDON SUPPLEMENTAL STANDARDS FOR SEWER AND WATER (LATEST REVISION). CURRENT EDITION AT THE TIME OF THIS PRINTING IS DATED NOVEMBER 14, 2011). FOR WATERMAIN LARGER THAN 300mm OR INSTALLATION SITUATIONS NOT INCLUDED IN SECTION 441.07.23, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS WITH RESTRAINT AS RECOMMENDED BY THE PIPE MANUFACTURER FOR THE REVIEW AND APPROVAL OF THE CITY OF LONDON.
7. ALL FIRE HYDRANTS SHALL BE 3-WAY HYDRANTS WITH STORZ CONNECTION OPENING CLOCKWISE.
8. ALL WATERMAIN VALVES SHALL BE GATE VALVES MANUFACTURED TO AWWA C500 AND EPOXY COATED TO AWWA C-550. ALL VALVES TO OPEN CLOCKWISE.
9. INSTALLATION, HYDROSTATIC TESTING, SWABBING, FLUSHING AND DISINFECTION SHALL BE DONE IN ACCORDANCE WITH THE CITY OF LONDON GENERAL SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEMS.
10. PVC PIPE TO BE INSTALLED COMPLETE WITH 10AWG TRACER WIRE PER SECTION 441.05.24
11. WATER SERVICES TO BE 25mm PEX AND INSTALLED AS CITY STANDARD W-CS-8

Crossing Table					
Drawings	Pipe Crossing Over	Pipe Crossing Under	Pipe Crossing Under Obvert (Outside of Pipe)	Separation	Crossing Location
1	SAN	258.000 STM	257.687	0.313	SAN - S6 to S5 / STM - STM CAP1 to R8
2	SAN	258.022 STM	257.508	0.514	SAN - S6 to S5 / STM - STM CAP1 to R8
3	WM	254.981 SAN	254.475	0.506	WM / SAN - S2 to S7
4	WM	258.139 STM	257.639	0.500	WM / STM - CB1 to CBMH1
5	WM	256.219 STM	255.666	0.552	WM / STM - DCBMH4 to R3

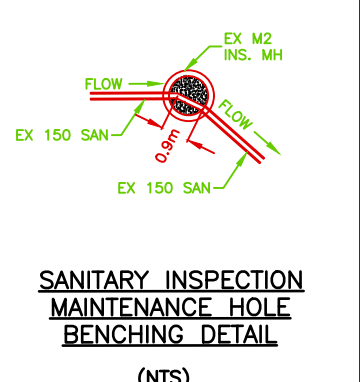
Note: COL min separation between sewers = 230mm  
Separation between watermain and sewers = 150mm (if watermain crosses over)  
Separation between watermain and sewers = 500mm (if watermain crosses under)



UTILITIES NOTES

1. CONTRACTOR COORDINATE WITH LONDON HYDRO AND UNION GAS AS REQUIRED FOR WORK BEING COMPLETED IN THE VICINITY OF EXISTING INFRASTRUCTURE.
1. ALL SANITARY SEWER INSTALLATION SHALL BE IN ACCORDANCE TO CURRENT CITY OF LONDON STANDARDS AND SPECIFICATIONS AND THE PLUMBING CODE.
2. THE FOLLOWING OPSD ENGINEERING STANDARDS SHALL BE USED ON THIS PROJECT:
  - ONTARIO PROVINCIAL STANDARDS:
    - OPSD-401.010 MAINTENANCE HOLE FRAME AND COVER
    - OPSD-405.010 MAINTENANCE HOLE STEPS
    - OPSD-600.110 CONCRETE BARRIER CURB
    - OPSD-701.010 1200 DIA. PRECAST MAINTENANCE HOLE
    - OPSD-701.021 MAINTENANCE HOLE BENEATHING AND PIPE OPENING ALTERNATIVES
    - OPSD-704.010 MAINTENANCE HOLE AND CATCHBASIN, PRECAST CONCRETE ADJUSTMENT UNITS
    - OPSD-705.010 PRECAST CONCRETE CATCH BASIN, 600x600mm
  - CITY OF LONDON STANDARDS:
    - DWG SW-1.0 BEDDING STANDARD FOR GRAVITY AND PRESSURE PIPE
    - DWG SW-2.0 MAINTENANCE HOLE DROP STRUCTURE PRIVATE DRAIN CONNECTION STANDARD HYDRANT AND VALVE
    - DWG W-CS-1 DWG W-CS-12 MECHANICAL JOINT WATERMAIN OFFSET
    - DWG W-CS-31 SCHEMATIC LAYOUT OF 100mm AND LARGER SERVICES
    - DWG W-CS-60 STERILIZING MAINS

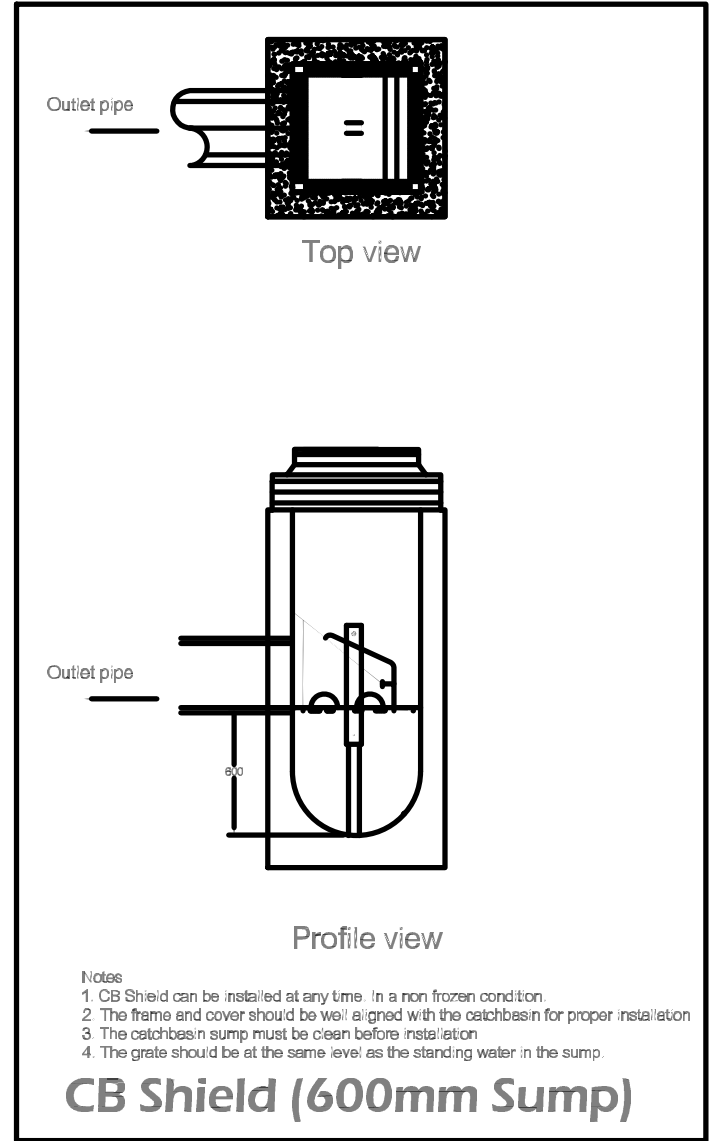
3. ALL SEWERS WITH DEPTHS UP TO 4.5m TO BE PVC ULTRA RIB OR APPROVED EQUIVALENT, TYPE 1 BEDDING. SEWERS WITH DEPTHS EXCEEDING 4.5m TO BE PVC ULTRA RIB OR APPROVED EQUIVALENT, TYPE 2 BEDDING, UNLESS OTHERWISE SPECIFIED.
4. ALL MANHOLES TO BE PRECAST CONCRETE WITH FRAME & COVER UNLESS OTHERWISE NOTED. MAXIMUM DISTANCE BETWEEN FINISHED GRADE AND FIRST LADDER RUNG TO BE 600mm.
5. REMOVE ALL TRENCH WATER WHEN PIPE LAYING IS IN PROGRESS.
6. PULL THE "PIG" THROUGH THE P.V.C. SEWERS IN THE PRESENCE OF THE ENGINEER.
7. ALL SERVICES SHALL BE INSTALLED TO OUTSIDE BUILDING WALL.
8. THE MINIMUM DEPTH OF A STORM SEWER SHALL BE 1.5m FROM THE FINISHED GROUND ELEVATION TO THE OBVERT OF THE PIPE. WHERE MINIMUM DEPTHS CANNOT BE ACHIEVED AND THEREFORE FROST PROTECTION IS WARRANTED, INSULATION IS REQUIRED AS PER CITY OF LONDON W-CS-68.
9. ALL SANITARY PDC'S SHALL BE CONNECTED TO THE MAINLINE SEWER WITH A "Y" CONNECTION AND A LONG SWEEP BEND.
10. ALL CATCHBASIN LEADS TO BE 250MM DIAMETER AT A MINIMUM GRADE OF 1% UNLESS OTHERWISE NOTED.
11. ALL CATCHBASIN LEADS SHALL BE CONNECTED TO THE MAINLINE SEWER WITH A "Y" CONNECTION.
12. NO GRAVITY CONNECTION OF FOUNDATION DRAINS TO THE STORM SEWER SYSTEM ARE PERMITTED UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. FOUNDATION DRAIN FLOWS SHALL BE DISCHARGED VIA SUMP PUMP TO THE GROUND SURFACE OR TO THE STORM SEWER IN ACCORDANCE WITH CITY OF LONDON DRAINAGE BY-LAW.
13. ROOF WATER DOWNSPOUTS SHALL BE INSTALLED



SUCH THAT WATER FLOW EXITS THE DOWNSPOUT A MINIMUM DISTANCE OF 0.7m FROM THE EXTERIOR WALLS OF A BUILDING.

NOTES TO CONTRACTOR

1. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO NOTIFY STANTEC CONSULTING AND THE CITY OF LONDON 48 HOURS BEFORE COMMENCING CONSTRUCTION WITHIN THE EXISTING ROAD ALLOWANCE.
3. WITHIN THE LIMITS OF THE EXISTING ROAD ALLOWANCE, THE CONTRACTOR SHALL REMOVE ALL CONCRETE, ASPHALT, UNUSED AND UNSUITABLE MATERIAL AS REQUIRED AND DISPOSE OFFSITE.
4. ON EXCAVATIONS IN WHICH EXISTING CURBS ARE AFFECTED, GRANULAR 'B' SHALL EXTEND 300mm BEHIND BACK OF CURBS AS PART OF RESTORATION.
5. ALL MANHOLES ARE TO BE SET AT BASE ASPHALT ELEVATION.
6. ALL DRAINAGE FROM ABUTTING LANDS MUST NOT BE ADVERSELY AFFECTED DURING OR AFTER CONSTRUCTION.
7. THE CONTRACTOR SHALL CONTROL ALL SEDIMENT FROM LEAVING THE SITE TO THE SATISFACTION OF THE ENGINEER.
8. THE ACCURACY OF THE SURFACE AND SUBSURFACE DETAILS SHOWN ON THE DRAWINGS ARE NOT GUARANTEED. THE CONTRACTOR SHALL INVESTIGATE AND VERIFY FOR HIMSELF WHETHER THE INFORMATION IS CORRECT AND COMPLETE.



- 1. CB Shield can be installed at any time in a non frozen condition
- 2. The frame and cover should be set a grade with the catchbasin for proper restoration
- 3. The catchbasin pump must be open before restoration
- 4. The grate should be at the same level as the standing water in the sump

Revision		
No.	DESCRIPTION	DATE
1.	FOR 1ST SUBMISSION	JAC DWH 22.07.21
2.	FOR 2ND SUBMISSION	CHK DWH 22.12.22
3.	FOR 3RD SUBMISSION	CHK DWH 23.03.21
4.	FOR 4TH SUBMISSION	CHK DWH 23.06.14
5.	FOR 5TH SUBMISSION	CHK DWH 23.07.31

Permit/Seal			
No.	DESCRIPTION	DATE	BY
1.	FOR 1ST SUBMISSION	JAC DWH 22.07.21	JAC DWH 22.07.21
2.	FOR 2ND SUBMISSION	CHK DWH 22.12.22	CHK DWH 22.12.22
3.	FOR 3RD SUBMISSION	CHK DWH 23.03.21	CHK DWH 23.03.21
4.	FOR 4TH SUBMISSION	CHK DWH 23.06.14	CHK DWH 23.06.14
5.	FOR 5TH SUBMISSION	CHK DWH 23.07.31	CHK DWH 23.07.31

Client/Project  
**YORK DEVELOPMENTS**

735 WONDERLAND ROAD

London, ON Canada

Title  
**SERVICING PLAN**

Project No.  
161414233

Scale  
1:400

Drawing No.  
Sheet 1

Revision  
Revision 5

**Liability Note**

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay.

**Design Data**

Zone:	ASA1, ASA2, ASA3, ASAS, AS46	
Proposed Use:	Commercial, Office & Residential	
Site Area (m <sup>2</sup> ):	14,461.8 m <sup>2</sup> / 1,446 ha (incl. road widening - 322.6m <sup>2</sup> )	
Gross Floor Area (Commercial & Office) (m <sup>2</sup> ):	5,222.0 m <sup>2</sup> (Commercial - 4,023.1m <sup>2</sup> ; Office - 1,198.9m <sup>2</sup> )	
Total Units:	219 residential units + 5,222.0 m <sup>2</sup> Commercial & Office (53 units) = 272 Total Units	
<b>Regulation</b>	<b>Requirement</b>	<b>As Shown on Plan</b>
Lot Frontage Minimum (m)	30.0 m	71.8 m - Wonderland Rd
Lot Depth Minimum (m)	50.0 m	183.6 m
Front & Exterior Side Yard Depth (m) minimum	0.0 m	Front - Pad 1 0.2m Exterior - Pad 2 0.2 m
Interior Side & Rear Yard Depth (m) minimum	3.0 m from any other zone boundary and 0.0 m with the same ASA zone.	South limit - 8.1m (interior) East limit - Podium - 8.4 m (rear) East limit - Tower - 12.6 m (rear)
Landscaped Open Space (%) Minimum	15 %	23.5 %
Lot Coverage Maximum (%)	30 %	40.2 % *
Height Maximum (m)	12.0 m	86 m *
Density	f.b.d.	189 up *
Gross Floor Area (m <sup>2</sup> ) Maximum (Commercial & Office)	6,000	5,222.0 m <sup>2</sup>
Parking	N/A in Transit Village land use area	Surface = 98 Underground/Podium = 188 Total = 286
Accessible Parking	2+ 2% of total parking = 8 Spaces	Type A = 4 Type B = 4 Total = 8 Spaces (4 surface)
Bicycle Parking	Residential: 0.9 long-term bicycle parking spaces per residential unit and 0.1 short-term bicycle space per unit = 197 long-term & 22 short-term Commercial: 3 spaces plus 0.3 spaces for each 100m <sup>2</sup> GFA = 16 Office: 3 spaces plus 0.2 spaces for each 100m <sup>2</sup> GFA = 6	Residential: 200 long-term 22 short-term Commercial: 18 Office: 6

\* ACHIEVED THROUGH ZBA  
SHOW TO BE TRUCKED OFF SITE  
GARAGE STORED INTERNALLY AND BROUGHT OUT TO STAGING AREA ON PICK-UP DAY

Revision	By	Appd.	YY.MM.DD
1. FOR ZBA APPROVAL	RT	DH	23.02.24
Issued	By	Appd.	YY.MM.DD
File Name: 161414233_rsp	RT	DH	RT
	Dwn.	Chkd.	Dign.
			YY.MM.DD

**Permit-Seal**

Client/Project  
YORK DEVELOPMENTS

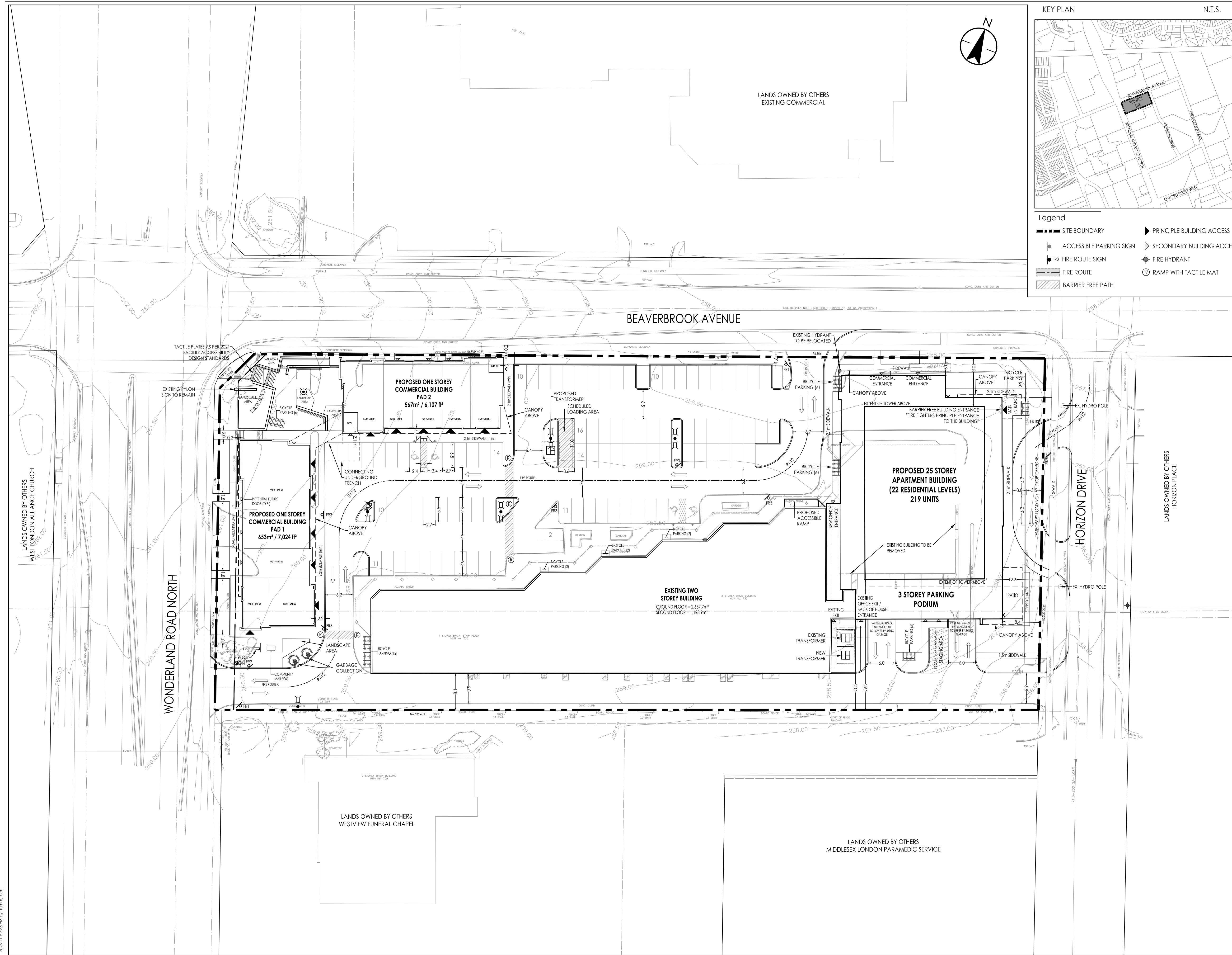
735 WONDERLAND ROAD NORTH

London, ON Canada

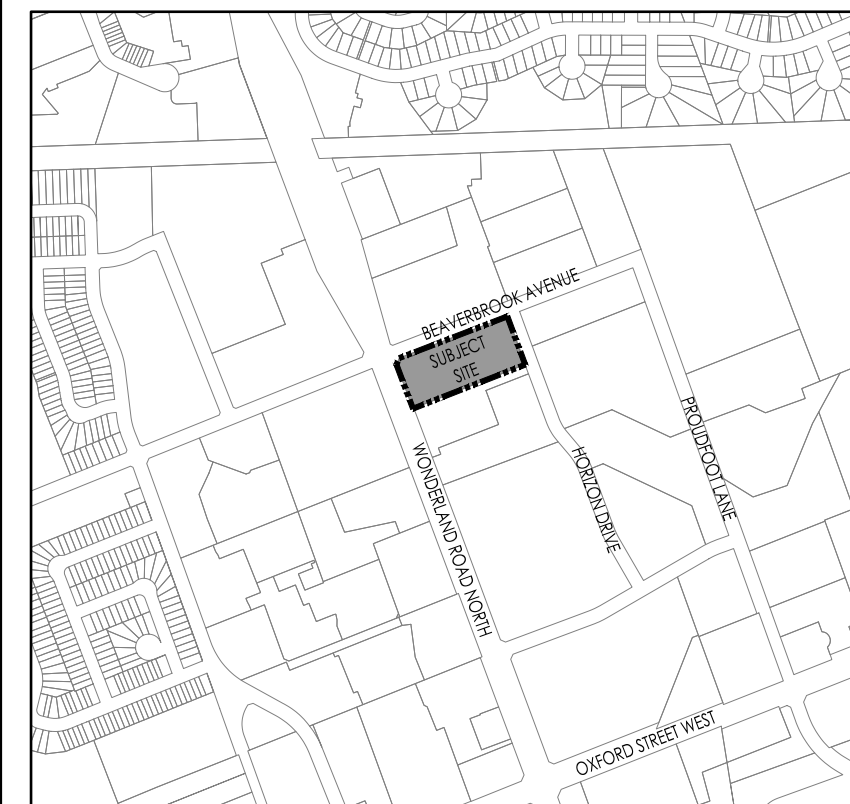
Title  
SITE PLAN

Project No. 161414233 Scale: HORZ - 1 : 400  
Drawing No. Sheet Sheet Revision

1 1 of 2 0



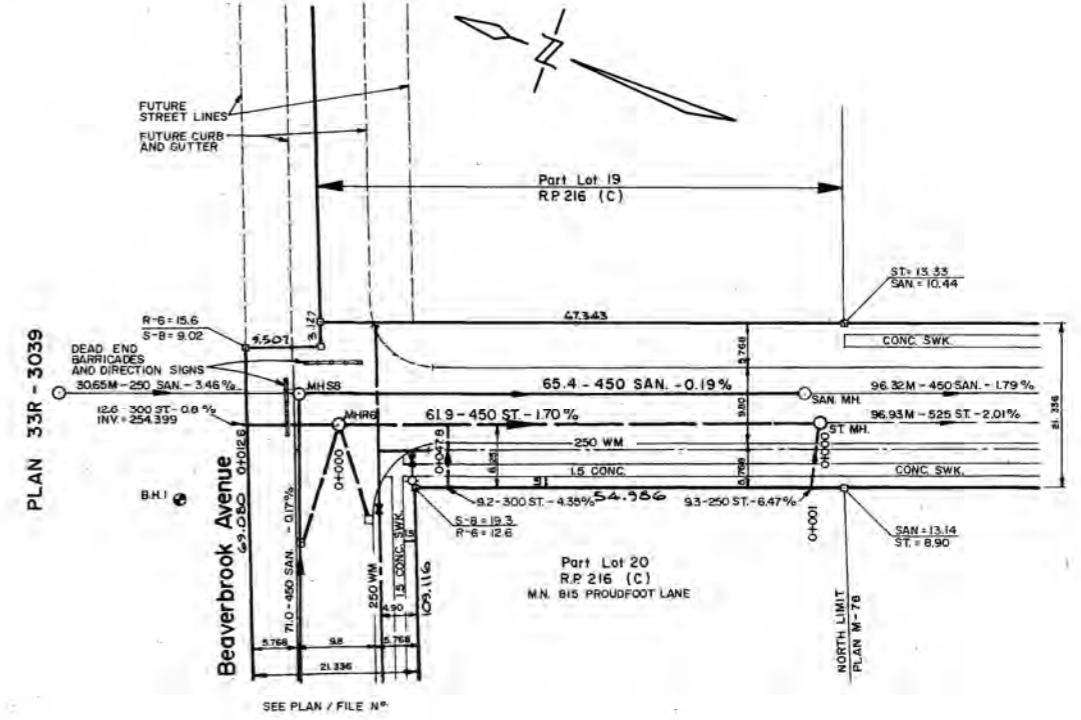
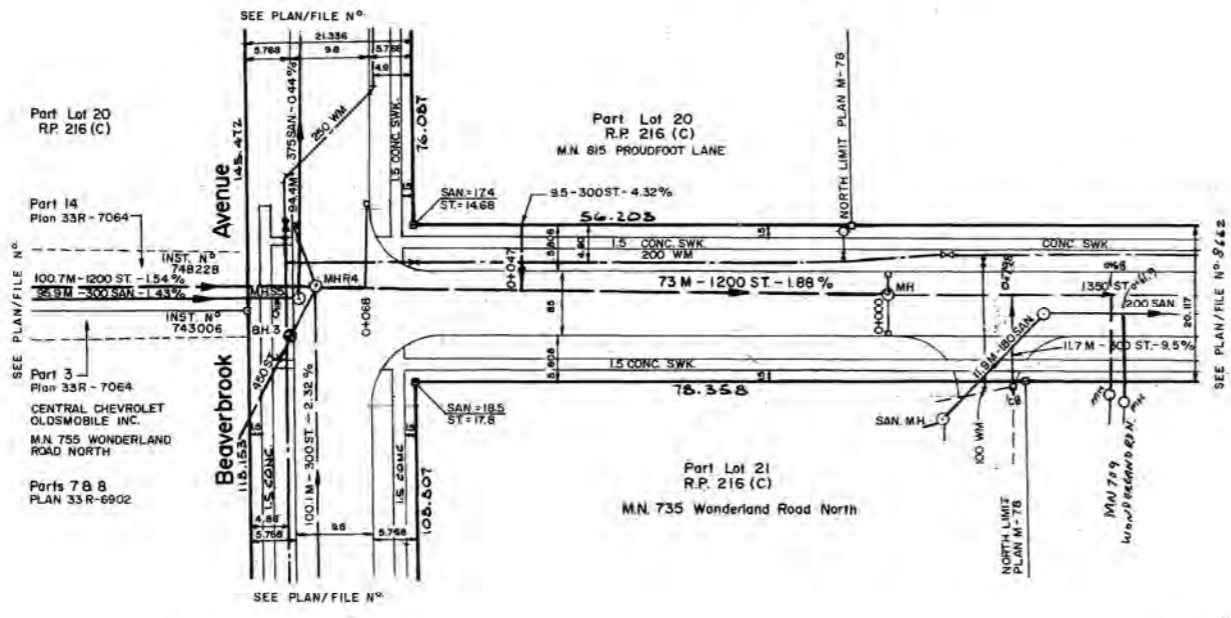
KEY PLAN N.T.S.



- Legend**
- SITE BOUNDARY
  - ACCESSIBLE PARKING SIGN
  - FR3 FIRE ROUTE SIGN
  - FIRE ROUTE
  - /// BARRIER FREE PATH
  - ▶ PRINCIPLE BUILDING ACCESS
  - ◀ SECONDARY BUILDING ACCESS
  - FIRE HYDRANT
  - Ⓡ RAMP WITH TACTILE MAT

W:\161414233\design\drawing\submitting\modul\_161414233\_rsp.dwg  
2023/11/28 10:00 AM  
ANSI

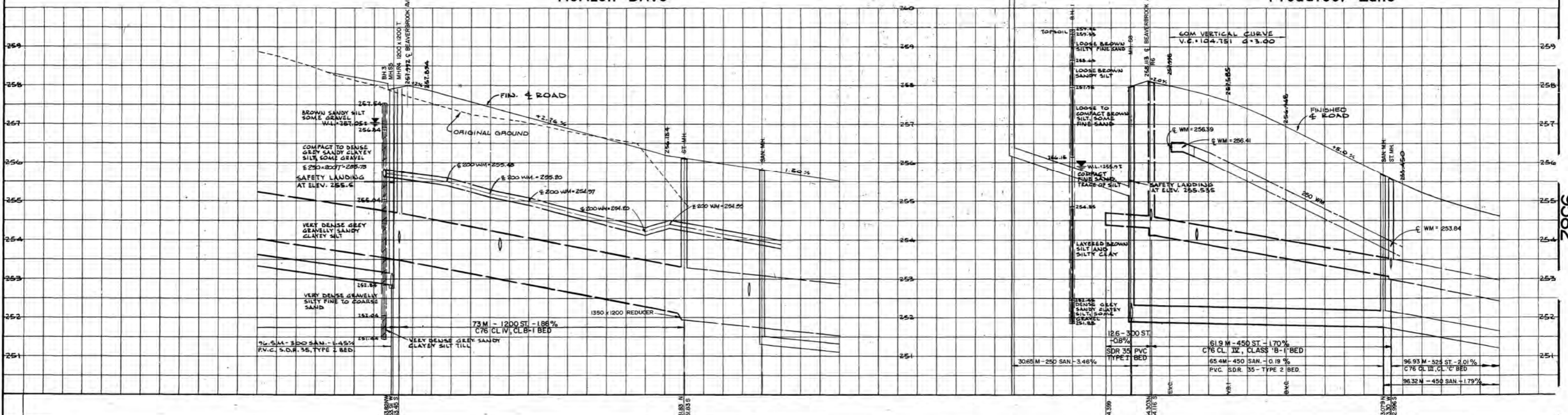




Caution:  
Private Drain Connection (PDC) information has been added to this plan. The location of PDC's along the main are believed to be accurate to within 3 feet (1 meter) but the direction of the PDC from the main to the property line has not been verified. Caution must be exercised when using this information to locate PDC's. The City of London does not accept any responsibility for the information on this plan, and is not responsible for any expenses or damages incurred directly or indirectly resulting from the use of such information.

Horizon Drive

Proudfoot Lane



SAN. INVERT	ROAD STATION	REVISIONS	DATE	BY
257.84	0+000	1	MAR/91	EDW
256.44	0+001			
255.44	0+002			
254.44	0+003			
253.44	0+004			
252.44	0+005			
251.44	0+006			
250.44	0+007			
249.44	0+008			
248.44	0+009			
247.44	0+010			
246.44	0+011			
245.44	0+012			
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243.44	0+014			
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166.44	0+091			
165.44	0+092			
164.44	0+093			
163.44	0+094			
162.44	0+095			
161.44	0+096			
160.44	0+097			
159.44	0+098			
158.44	0+099			
157.44	0+100			

<p>AS CONSTRUCTED NOTES</p> <p>1 SEE DRAWING NO. FOR FURTHER DETAIL</p> <p>2 SEWER DESIGN: TRANSITION WIDTH OR AS NOTED</p> <p>3 REFERENCE B.M. NO. ELEVATION</p>	<p>AS CONSTRUCTED SERVICES</p> <p>SAN SEWER &amp; APPURT. ON PROUDFOOT NOV 86</p> <p>ST. SEWER &amp; APPURT. ON HORIZON AUG 87</p> <p>PROUDFOOT DEC 89</p> <p>WATERMAIN &amp; APPURT. ON HORIZON AUG 87</p> <p>GRANULAR A&amp;B ROADBASE ON HORIZON AUG 87</p> <p>CURB &amp; GUTTER &amp; SWK. ON PROUDFOOT OCT. 90</p> <p>SHEET ASPHALT ON PROUDFOOT OCT. 90</p>	<p>COMPLETION</p> <p>NOV 86</p> <p>AUG 87</p> <p>DEC 89</p> <p>AUG 87</p> <p>AUG 87</p> <p>OCT. 90</p> <p>OCT. 90</p>	<p>No</p> <p>1</p>	<p>REVISIONS</p> <p>AS CONSTRUCTED</p>	<p>DATE</p> <p>MAR/91</p>	<p>BY</p> <p>EDW</p>	<p>CONSULTING CIVIL ENGINEERS</p> <p>LANDSCAPE ARCHITECTS</p> <p>361 DUFFERIN AVENUE</p> <p>LONDON, ONTARIO NE6 1Z5</p> <p>(919) 672-8310</p>	<p>development engineering</p> <p>(London) Limited</p>	<p>ENGINEER'S STAMP</p> <p>RAY CLARK</p> <p>24/9/90</p>	<p>CORPORATION OF THE CITY OF LONDON</p> <p>DIVISION HEAD</p> <p>CITY ENGINEER</p>	<p>SCALE</p> <p>1:500</p> <p>Horizontal</p> <p>Vertical 1:50</p>	<p>TITLE</p> <p>Meadowcroft Place</p> <p>Horizon Drive</p> <p>Beaverbrook Avenue to 110 M South of Beaverbrook Avenue</p> <p>Proudfoot Lane</p> <p>Beaverbrook Avenue to 90 M South of Beaverbrook Avenue</p>	<p>PROJECT NO.</p> <p>88150</p> <p>SHEET NO.</p> <p>3 of 4</p> <p>PLAN FILE NO.</p> <p>9582</p>
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POINT NO.	UTM EASTING	UTM NORTHING	TYPE	DIRECTION	REMARKS
1001	479000.00	479000.00	CON	NORTH	CONCRETE MONUMENT
1002	479000.00	479000.00	CON	NORTH	CONCRETE MONUMENT
1003	479000.00	479000.00	CON	NORTH	CONCRETE MONUMENT
1004	479000.00	479000.00	CON	NORTH	CONCRETE MONUMENT
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1099	479000.00	479000.00	CON	NORTH	CONCRETE MONUMENT
1100	479000.00	479000.00	CON	NORTH	CONCRETE MONUMENT

**INTEGRATION DATA**

BEARINGS ARE UTM GRID DERIVED FROM SPECIFIED CONTROL POINTS  
 SCP 028841081 AND SCP 028841080, UTM-17 NAD83 ORIGINAL.  
 COORDINATES TO UTM ACCURACY PER SEC. 14 (2) OF O. REG. 216/10

POINT ID	NORTHING	EASTING
SCP 028841081	4796856.433	479002.328
SCP 028841080	479043.828	479146.727

PLAN COORDINATES, UTM ZONE 17, NAD83 ORIGINAL

POINT	NORTHING	EASTING
1	4796856.843	479047.834
2	4790778.838	479090.085

COORDINATES SHOWN IN THIS PLAN ARE UNLESS OTHERWISE NOTED TO BE DERIVED FROM THE UTM GRID.

**VERTICAL CONTROL DATA**

MONUMENT NUMBER V94-4, CITY OF LONDON MONUMENT  
 TYPE: MARK IN CONCRETE  
 LOCATION: ON WONDERLAND ROAD, 14.0m NORTH OF THE CENTRELINE OF BEAVERBROOK AVENUE, 19.0m EAST OF THE CENTRELINE OF WONDERLAND ROAD NORTH, SET IN THE SOUTHWEST CORNER OF THE CONCRETE BASE OF A TRAFFIC SIGNAL.  
 DATUM: CGVD85, 1978 Southern Ontario Adjustment  
 GEOIDIC ELEVATION: 262.097m

**SITE BENCHMARKS**

**SITE BENCHMARK #1**  
 TYPE: CONCRETE PIN  
 LOCATION: CONCRETE SIDEWALK ON NORTH SIDE OF BEAVERBROOK AVENUE, 8.6m NORTH OF CENTRELINE OF BEAVERBROOK AVENUE, 14.1m EAST OF CENTRELINE OF WONDERLAND ROAD NORTH.  
 GEOIDIC ELEVATION: 262.339m

**SITE BENCHMARK #2**  
 TYPE: CONCRETE PIN  
 LOCATION: CONCRETE SIDEWALK ON EAST SIDE OF HORIZON DRIVE, 7.4m EAST OF CENTRELINE OF HORIZON DRIVE, 4.1m SOUTH OF CENTRELINE OF ENTRANCE TO SUBJECT PROPERTY.  
 GEOIDIC ELEVATION: 255.990m

**NOTES**

ALL BURIED SERVICES (WITH THE EXCEPTION OF SEWER INVERTS) WERE DERIVED FROM FIELD LOCATES. THE EXISTENCE OR PRECISE LOCATION WAS NOT DETERMINED BY THIS SURVEY. ALL SERVICES SHOULD BE VERIFIED BY FIELD LOCATES PRIOR TO CONSTRUCTION.

SEWER AND WATERMAIN DATA DERIVED FROM CITY OF LONDON SMWS DATA.

SPOT ELEVATIONS ARE FROZEN ON LAYER: "SPOT\_ELEVATIONS"

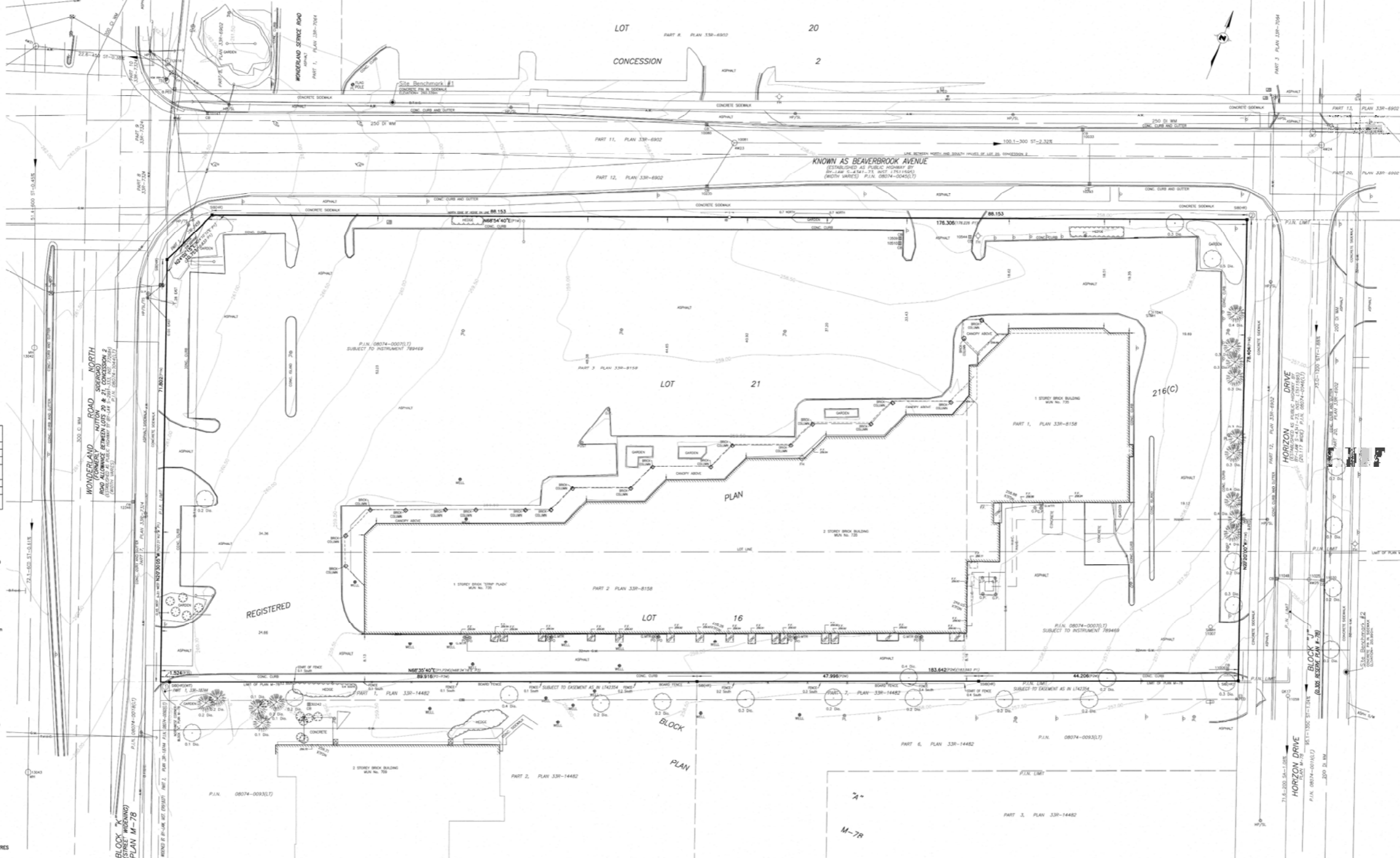
TIES TO BUILDINGS ARE AT RIGHT ANGLES TO THE BOUNDARY LINES, UNLESS OTHERWISE INDICATED.

FOR BEARING COMPARISONS, A ROTATION OF 0°00'30" CLOCKWISE WAS APPLIED TO THE BEARINGS FROM P1 & P2.

ALL DIMENSIONS SHOWN ARE MEASURED, UNLESS OTHERWISE NOTED.

DISTANCES ARE GIVEN AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE CORRECTED SCALE FACTOR OF 0.999964619.

**METRIC** DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048



**TOPOGRAPHICAL PLAN OF SURVEY**  
 OF PART OF  
**LOTS 16 AND 21**  
**REGISTERED PLAN 216(C)**  
 IN THE  
 CITY OF LONDON  
 COUNTY OF MIDDLESEX  
 SCALE 1:250 (Metric)  
 MICHAEL J. MASCOITRA  
 ONTARIO LAND SURVEYOR

- LEGEND**
- CON DENOTES SURVEY MONUMENT SET
  - M DENOTES SURVEY MONUMENT FOUND
  - SCP DENOTES SPECIFIED CONTROL POINT
  - SIB DENOTES STANDARD IRON BAR
  - SSB DENOTES SHORT STANDARD IRON BAR
  - WT DENOTES WITNESS
  - 1017 DENOTES MALLON GIZMO, O.L.S.'s
  - HR DENOTES HOLLSTAD & REDMOND, O.L.S.'s
  - M DENOTES MEASURED
  - S DENOTES SET
  - P1 DENOTES PLAN 330-8158
  - P2 DENOTES PLAN 330-14482
  - P3 DENOTES PLAN 330-18144
  - AVC DENOTES AIR CONDITIONER
  - AW DENOTES AERIAL WIRES
  - BTWC DENOTES BURIED TELEPHONE CABLES
  - CB DENOTES CABLE
  - DCB DENOTES DEEP CABLE
  - F.F. DENOTES FINISHED FLOOR
  - FM DENOTES FIRE MOUNT
  - GM DENOTES GAS MAN
  - GP DENOTES GUARD POST
  - GV DENOTES GAS VALVE
  - HP DENOTES HYDRO POLE
  - HWC DENOTES UNDERGROUND HYDRO CABLES
  - JB DENOTES JUNCTION BOX
  - MH DENOTES MAN HOLE
  - PL DENOTES PRIVATE LAMP POST
  - SD DENOTES SAND
  - ST DENOTES STORM
  - SL DENOTES STREET LIGHT
  - SDEN DENOTES SIDEWALK
  - TL DENOTES TRAFFIC LIGHT
  - TWC DENOTES UNDERGROUND TELEVISION CABLES
  - UV DENOTES UNDERGROUND UTILITY VALVE
  - WV DENOTES WATER VALVE
  - CT DENOTES CONIFEROUS TREE
  - DT DENOTES DECIDUOUS TREE
  - SR DENOTES SHRUB
  - EM DENOTES ELECTRICAL METER
  - GA DENOTES GATE
  - GM DENOTES GAS METER
  - SB DENOTES SANITARY
  - ST DENOTES STREET
  - SM DENOTES MISCELLANEOUS TRAFFIC SIGN
  - PA DENOTES POLE ANCHOR
  - CS DENOTES COMMERCIAL SIGN

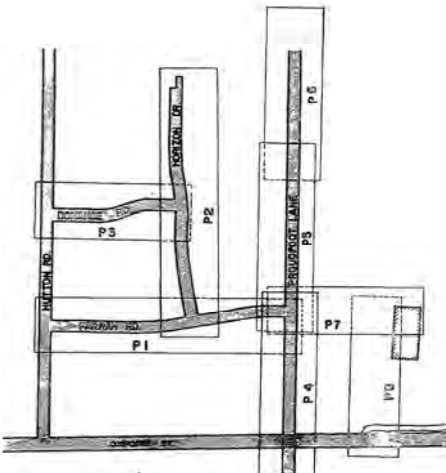
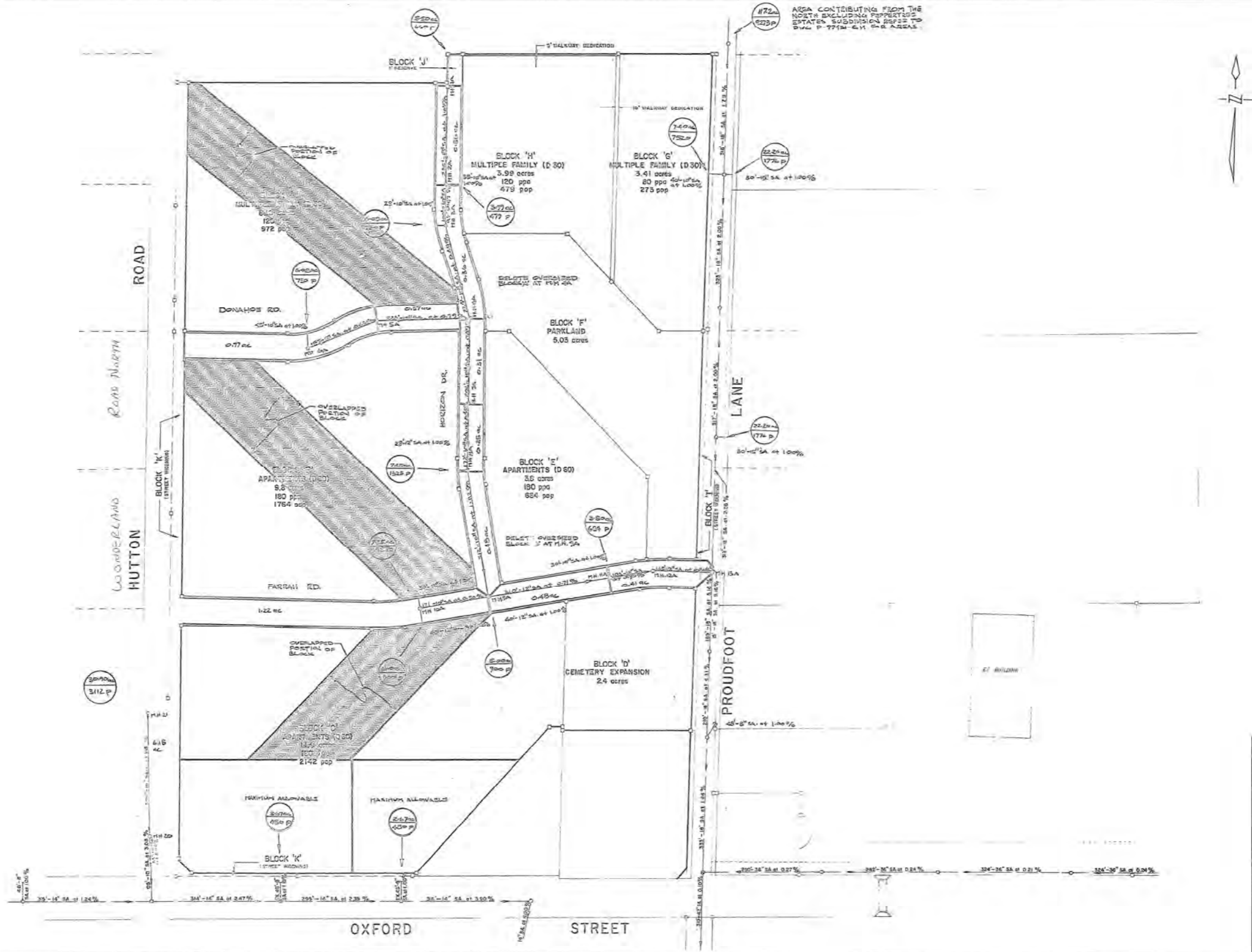


**SURVEYOR'S CERTIFICATE**

I CERTIFY THAT:  
 (1) THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE THEREUNDER;  
 (2) THE SURVEY WAS COMPLETED ON THE 10th DAY OF NOVEMBER, 2021.

DATE: November 11, 2021  
 MICHAEL J. MASCOITRA  
 ONTARIO LAND SURVEYOR

**Callon Dietz** INCORPORATED  
 ONTARIO LAND SURVEYORS  
 1000 SHEPPARD AVENUE EAST, SUITE 100, SCARBOROUGH, ONTARIO M1S 1T7  
 TEL: (416) 291-1111 FAX: (416) 291-1112  
 info@callondietz.com callondietz.com



4.	AS CONSTRUCTED DRAWING	1947, 1950	A.L.C.
3.	CITY'S COMMENTS, SECOND SUBMISSION	AUG. 1970	A.L.C.
2.	CITY'S COMMENTS, FIRST SUBMISSION	JULY 1970	J.R.G.
1.	GENERAL REVISIONS	APRIL, 1970	S.C.G.

**CITY OF LONDON**

ESAM CONSTRUCTION LTD LONDON ONTARIO

**SANITARY DRAINAGE PLAN**

REGISTERED PLAN N° M78

DESIGN BY: S.T.C.  
DRAWN BY: J.R.G.  
CHECKED BY: J.R.G.  
NOV 1977

PROCTOR & REDFERN LIMITED  
CONSULTING ENGINEERS  
LONDON, ONTARIO

PROJECT NO:  
DRAWING NO P-7742-G 3

CITY ENGINEER'S DEPARTMENT

8671