

LEGEND

- FFL FINISHED FLOOR ELEVATION
- USF UNDERSIDE OF FOOTING
- PROPERTY LINE
- CB [Symbol] CATCH-BASIN
- MH [Symbol] STORM MANHOLE
- CB/MH [Symbol] CATCH-BASIN/MANHOLE
- MH [Symbol] SANITARY MANHOLE
- DMAC [Symbol] DMA CHAMBER
- FH [Symbol] FIRE HYDRANT
- FDC [Symbol] FIRE DEPARTMENT CONNECTION
- VB [Symbol] VALVE & VALVE BOX
- [Symbol] WATER METER
- [Symbol] REMOTE WATER METER
- SAN SANITARY SEWER
- ST STORM SEWER
- WS/WM WATER SERVICE/WATERMAIN
- SPL SPRINGLINE OF PIPE
- INV INVERT OF PIPE

KEY PLAN

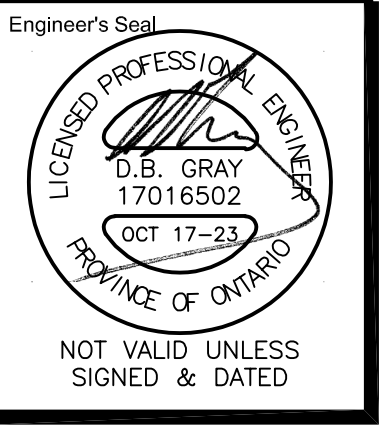


No.	DATE	REVISION
4	OCT 17-23	RE-ISSUED FOR APPROVAL
3	FEB 8-23	ISSUED FOR APPROVAL
2	JAN 25-23	ISSUED FOR COORDINATION
1	JAN 9-23	PRELIMINARY

D. B. GRAY ENGINEERING INC.
 Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermain
 700 Long Point Circle 613-425-8044
 Ottawa, Ontario d.gray@dbgrayengineering.com

Project
PROPOSED 1-STOREY LIGHT INDUSTRIAL WAREHOUSE
 1591 & 1611 MICHAEL STREET
 OTTAWA, ONTARIO

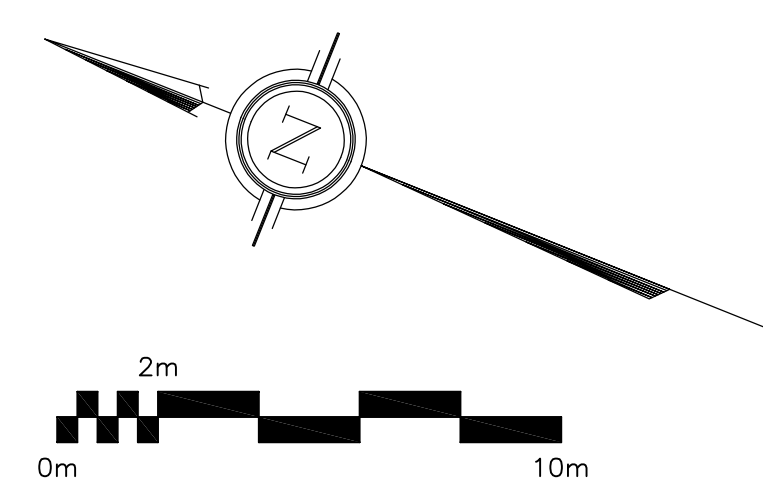
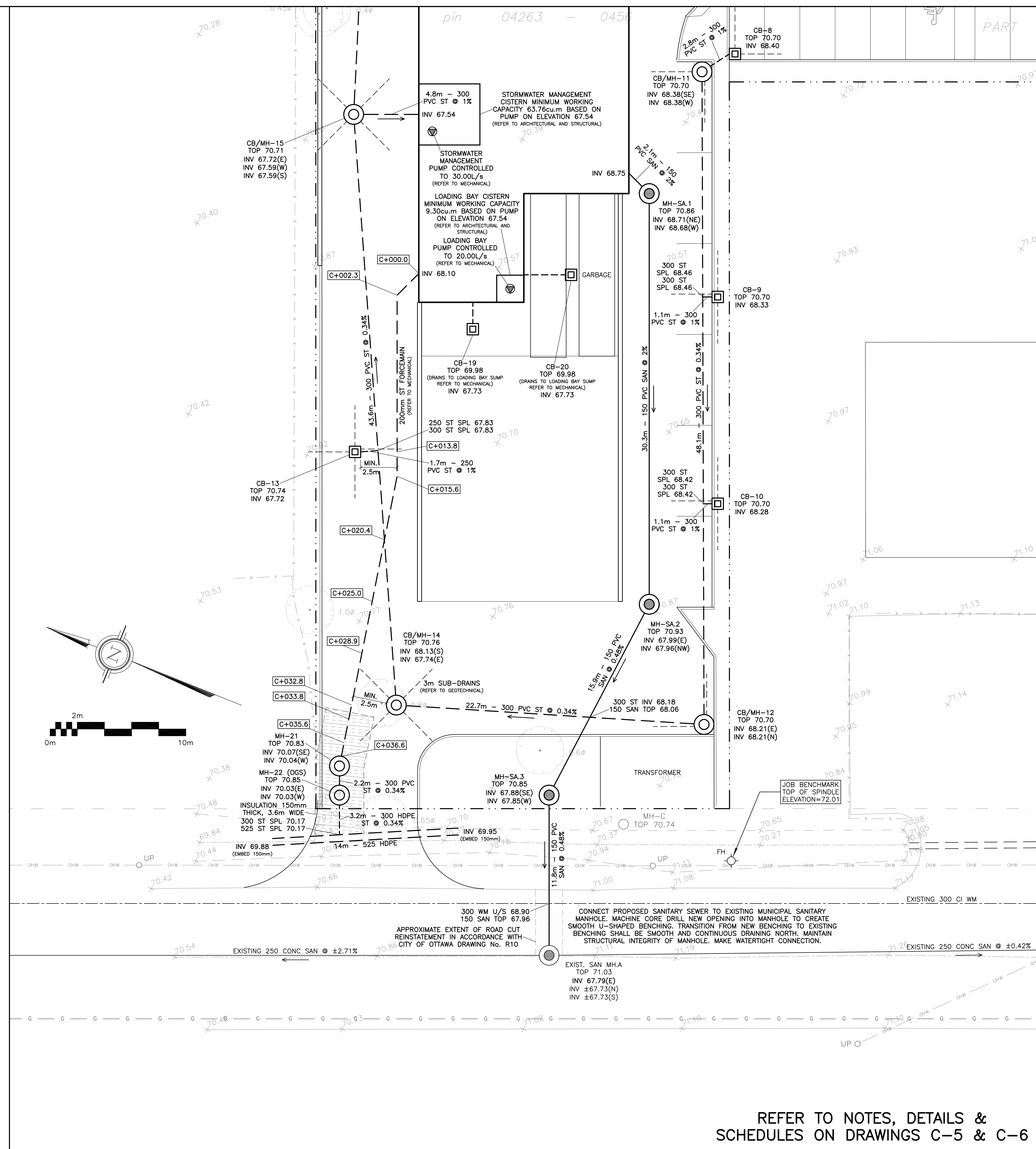
OVERALL SITE SERVICING PLAN



Engineer's Seal
 Drawn D.B.G.
 H. Scale 1:300
 V. Scale
 Date JAN 5-23
 Job No. 22034

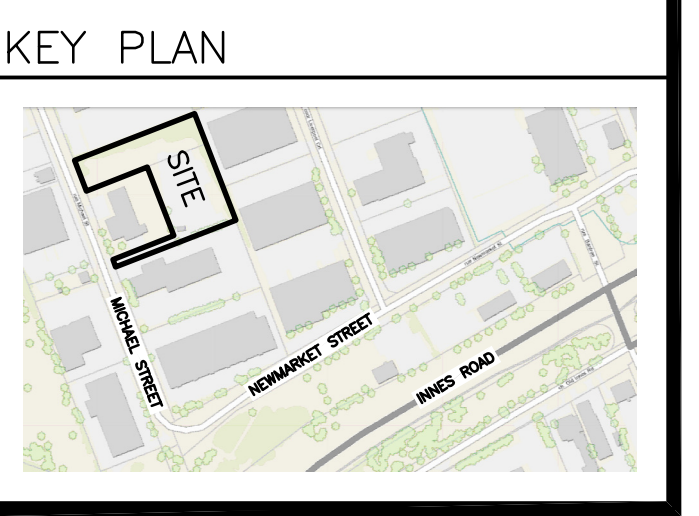
Drawing No.
C-1
 of 8

REFER TO NOTES, DETAILS & SCHEDULES ON DRAWINGS C-5 & C-6



LEGEND

FFL	FINISHED FLOOR ELEVATION
USF	UNDERSIDE OF FOOTING
---	PROPERTY LINE
CB	CATCH-BASIN
MH	STORM MANHOLE
CB/MH	CATCH-BASIN/MANHOLE
MH	SANITARY MANHOLE
DMAC	DMA CHAMBER
FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
VB	VALVE & VALVE BOX
(M)	WATER METER
(R)	REMOTE WATER METER
SAN	SANITARY SEWER
ST	STORM SEWER
WS/WM	WATER SERVICE/WATERMAIN
SPL	SPRINGLINE OF PIPE
INV	INVERT OF PIPE

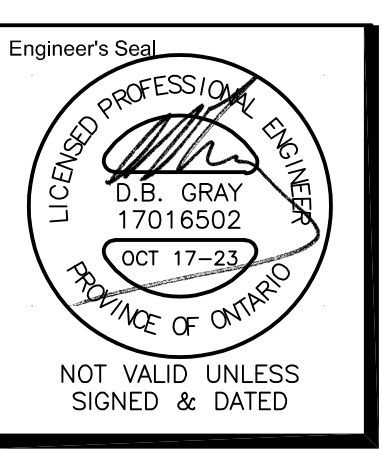


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 1591 & 1611 MICHAEL STREET
 OTTAWA, ONTARIO

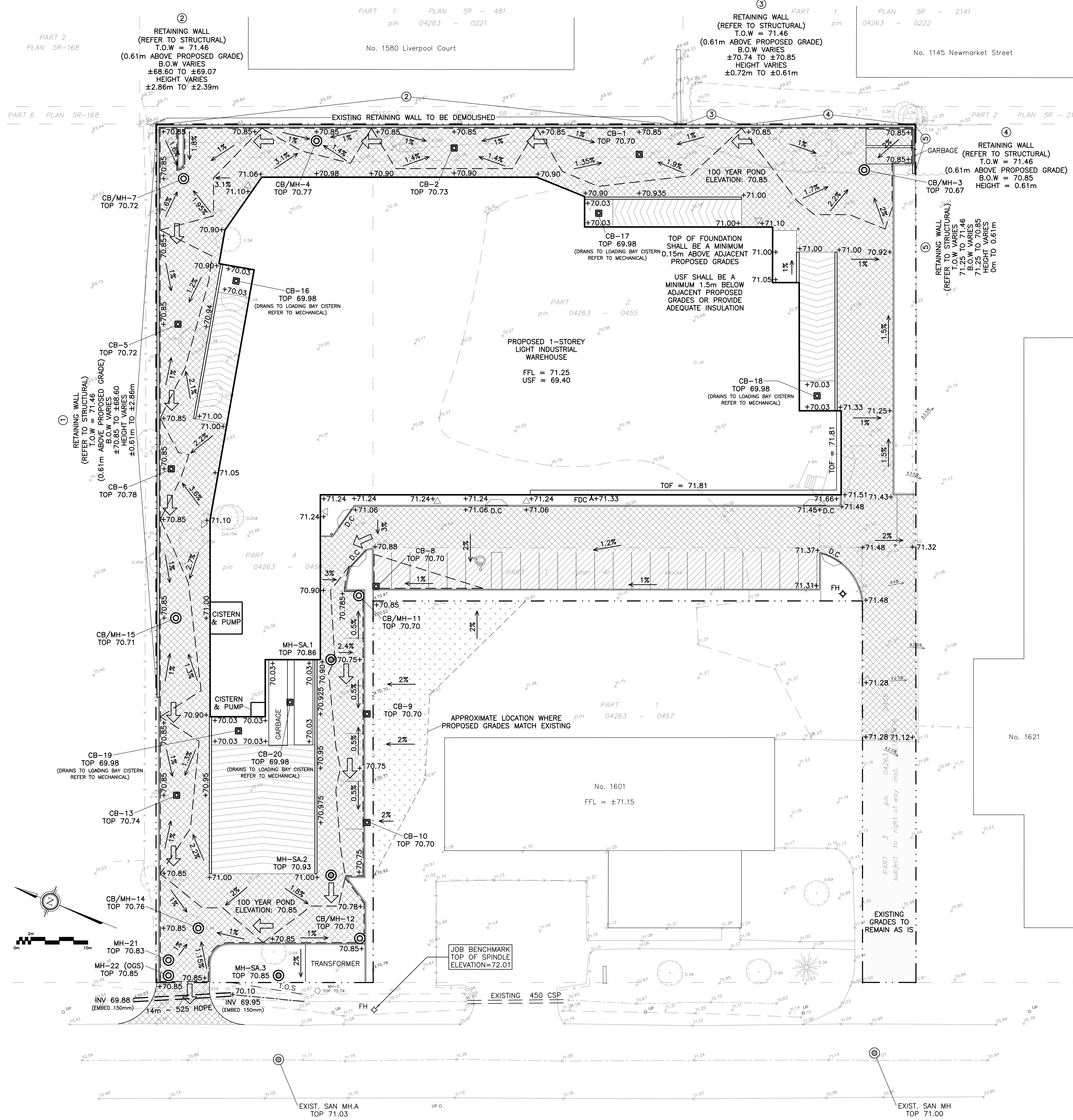
Drawing Title
NW CORNER SITE SERVICING PLAN



Drawn	D.B.G.
H. Scale	1:150
V. Scale	
Date	JAN 5-23
Job No.	22034

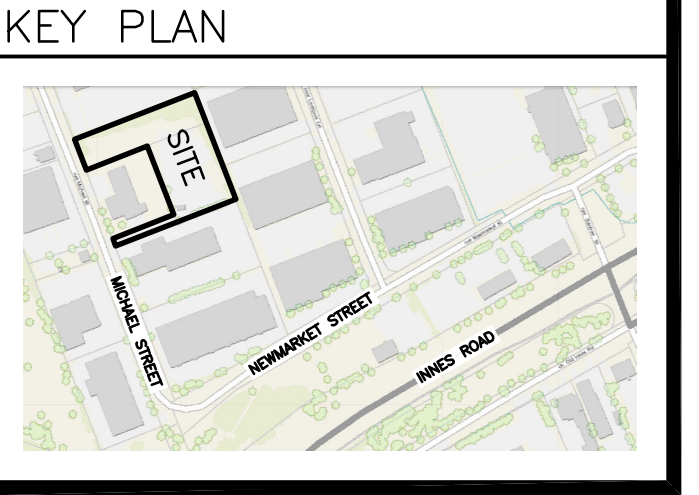
Drawing No.
C-2
 of 8

REFER TO NOTES, DETAILS & SCHEDULES ON DRAWINGS C-5 & C-6



LEGEND

FFL	FINISHED FLOOR ELEVATION
TOF	TOP OF FOUNDATION
USF	UNDERSIDE OF FOOTING
---	PROPERTY LINE
CB	CATCH-BASIN
MH	STORM MANHOLE
CB/MH	CATCH-BASIN/MANHOLE
MH	SANITARY MANHOLE
FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
+99.99	PROPOSED GRADE ELEVATION
2%	PROPOSED SLOPE OF GRADE
→	EMERGENCY OVERLAND FLOW
T.O.S	TOP OF SLOPE
---	CENTERLINE OF SWALE
---	150mm BARRIER CURB
D.C	DEPRESSED CURB
---	LIGHT-DUTY PAVEMENT
---	HEAVY-DUTY PAVEMENT



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PROPOSED 1-STOREY LIGHT INDUSTRIAL WAREHOUSE
 1591 & 1611 MICHAEL STREET
 OTTAWA, ONTARIO

GRADING PLAN

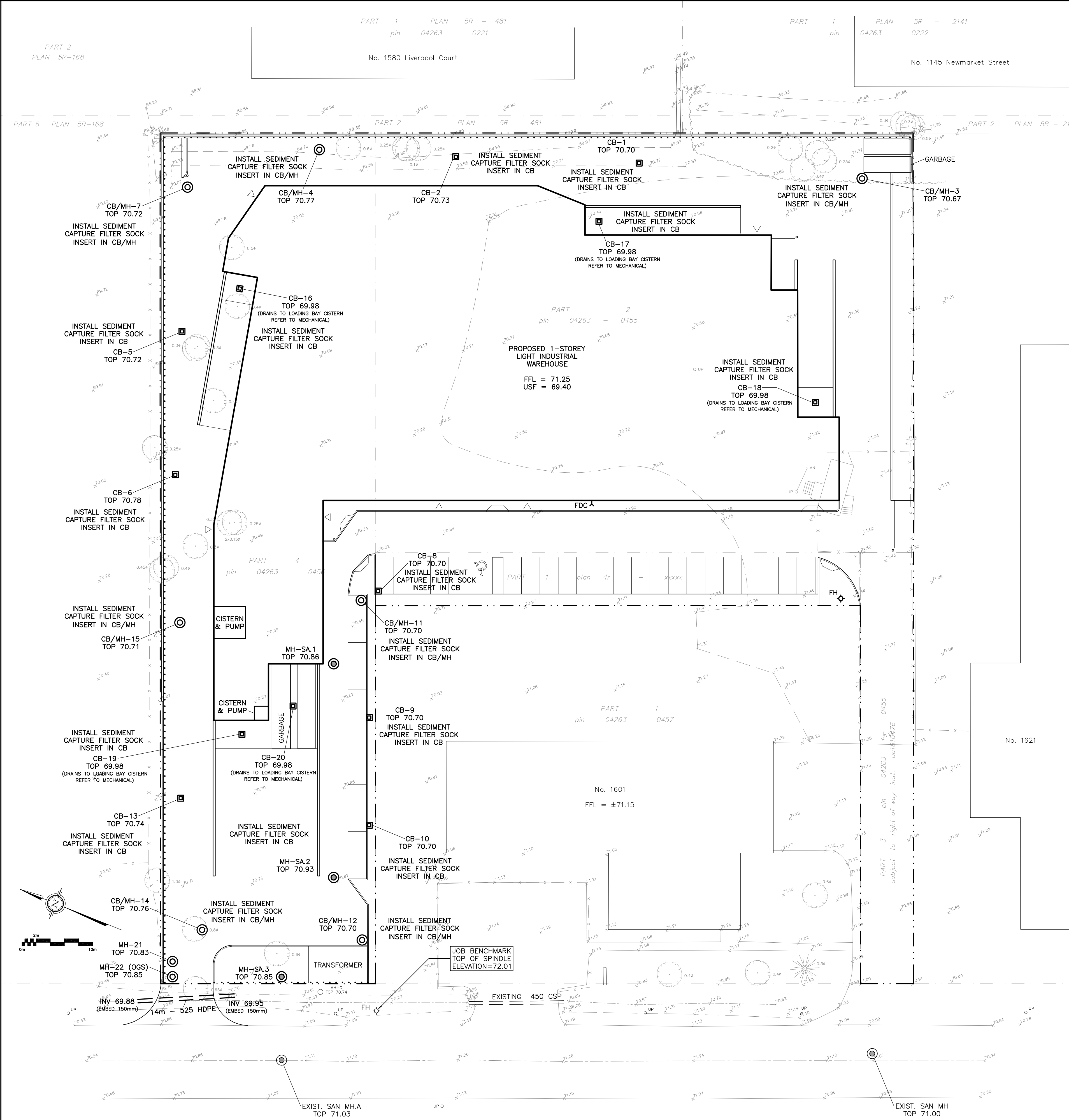
Engineer's Seal

 NOT VALID UNLESS SIGNED & DATED

Drawn D.B.G.
 H. Scale 1:300
 V. Scale
 Date JAN 5-23
 Job No. 22034

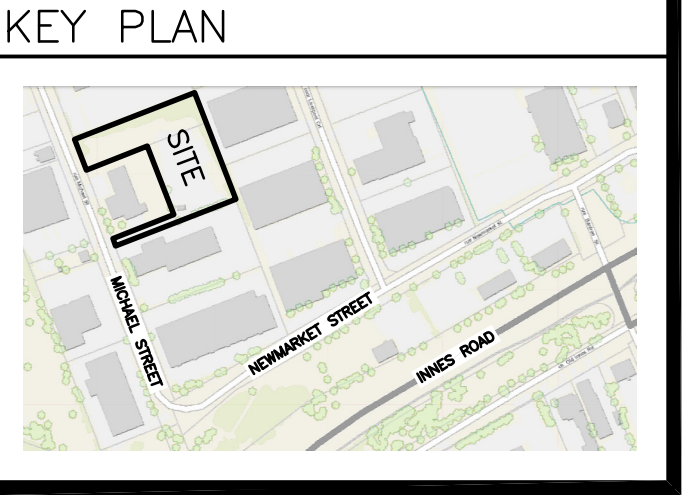
Drawing No.
C-3
 of 8

REFER TO NOTES, DETAILS & SCHEDULES ON DRAWINGS C-5 & C-6



LEGEND

FFL	FINISHED FLOOR ELEVATION
USF	UNDERSIDE OF FOOTING
---	PROPERTY LINE
CB	CATCH-BASIN
MH	STORM MANHOLE
CB/MH	CATCH-BASIN/MANHOLE
MH	SANITARY MANHOLE
FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
---	150mm BARRIER CURB
.....	SILT FENCE BARRIER

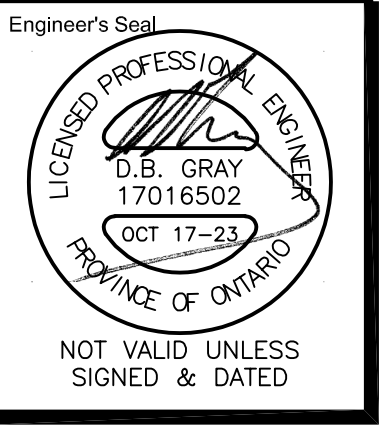


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Project
PROPOSED 1-STOREY LIGHT INDUSTRIAL WAREHOUSE
 1591 & 1611 MICHAEL STREET
 OTTAWA, ONTARIO

Drawing Title
EROSION & SEDIMENT CONTROL PLAN



Engineer's Seal
 Drawn D.B.G.
 H. Scale 1:300
 V. Scale
 Date JAN 5-23
 Job No. 22034
 Drawing No.
C-4
 of 8

REFER TO NOTES, DETAILS & SCHEDULES ON DRAWINGS C-5 & C-6

CATCH-BASIN & MANHOLE SCHEDULE

REF	TOP	SIZE	TYPE	INVERT AT INLET	INVERT AT OUTLET	NOTES
STORM SEWER						
CB-1	70.70	600mm x 600mm	PRECAST CONCRETE CATCH-BASIN	-	68.30	IN ACCORDANCE WITH OPSD 705.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S19
CB-2	70.73	600mm x 600mm	PRECAST CONCRETE CATCH-BASIN	-	68.17	IN ACCORDANCE WITH OPSD 705.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S19
CB/MH-3	70.67	1,200mm	PRECAST CONCRETE CATCH-BASIN/MANHOLE	-	68.42	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S28.1
CB/MH-4	70.77	1,200mm	PRECAST CONCRETE CATCH-BASIN/MANHOLE	68.08(S)	68.08(N)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S28.1
CB-5	70.72	600mm x 600mm	PRECAST CONCRETE CATCH-BASIN	-	67.91	IN ACCORDANCE WITH OPSD 705.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S19
CB-6	70.78	600mm x 600mm	PRECAST CONCRETE CATCH-BASIN	-	67.83	IN ACCORDANCE WITH OPSD 705.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S19
CB/MH-7	70.72	1,200mm	PRECAST CONCRETE CATCH-BASIN/MANHOLE	67.99(S)	67.99(W)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S28.1
CB-8	70.70	600mm x 600mm	PRECAST CONCRETE CATCH-BASIN	-	68.40	IN ACCORDANCE WITH OPSD 705.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S19
CB-9	70.70	600mm x 600mm	PRECAST CONCRETE CATCH-BASIN	-	68.33	IN ACCORDANCE WITH OPSD 705.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S22 & S23
CB-10	70.70	600mm x 600mm	PRECAST CONCRETE CATCH-BASIN	-	68.28	IN ACCORDANCE WITH OPSD 705.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S22 & S23
CB/MH-11	70.70	1,200mm	PRECAST CONCRETE CATCH-BASIN/MANHOLE	68.38(SE)	68.38(W)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S28.1
CB/MH-12	70.70	1,200mm	PRECAST CONCRETE CATCH-BASIN/MANHOLE	68.21(E)	68.21(N)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S28.1
CB-13	70.74	600mm x 600mm	PRECAST CONCRETE CATCH-BASIN	-	67.72	IN ACCORDANCE WITH OPSD 705.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S19
CB/MH-14	70.76	1,200mm	PRECAST CONCRETE CATCH-BASIN/MANHOLE	68.13(S)	67.74(E)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S28.1
CB/MH-15	70.71	1,200mm	PRECAST CONCRETE CATCH-BASIN/MANHOLE	67.72(E) 67.59(W)	67.59(S)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S28.1
CB-16	69.98	600mm x 600mm	PRECAST CONCRETE CATCH-BASIN	-	67.73	IN ACCORDANCE WITH OPSD 705.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S19
CB-17	69.98	600mm x 600mm	PRECAST CONCRETE CATCH-BASIN	-	67.73	IN ACCORDANCE WITH OPSD 705.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S19
CB-18	69.98	600mm x 600mm	PRECAST CONCRETE CATCH-BASIN	-	67.73	IN ACCORDANCE WITH OPSD 705.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S19
CB-19	69.98	600mm x 600mm	PRECAST CONCRETE CATCH-BASIN	-	67.73	IN ACCORDANCE WITH OPSD 705.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S19
CB-20	69.98	600mm x 600mm	PRECAST CONCRETE CATCH-BASIN	-	67.73	IN ACCORDANCE WITH OPSD 705.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S19
MH-21	70.83	1,200mm	PRECAST CONCRETE MANHOLE	70.07(SE)	70.04(W)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S24.1
MH-22	70.85	CDS PMS2015-4	PRECAST CONCRETE MANHOLE	70.03(E)	70.03(W)	-

SANITARY SEWER

MH-SA.1	70.86	1,200mm	PRECAST CONCRETE MANHOLE	68.71(NE)	68.68(W)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S24
MH-SA.2	70.93	1,200mm	PRECAST CONCRETE MANHOLE	67.99(E)	67.96(NW)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S24
MH-SA.3	70.85	1,200mm	PRECAST CONCRETE MANHOLE	67.88(SE)	67.85(W)	IN ACCORDANCE WITH OPSD 701.010 & CITY OF OTTAWA STANDARDS - FRAME & COVER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S25 & S24

WATER SERVICE PROFILE TABLE

200mm & 150mm PVC PRESSURE CLASS 235 DR18

STATION	DESCRIPTION	GRADE ELEVATION	TOP OF PIPE	DEPTH OF COVER	NOTES
A+000.0	200mm x 300mm TEE CONNECTION IN 300mm MUNICIPAL WATERMAIN	±71.00	±68.90	±2.10	CONNECTION BY CITY. EXCAVATION, BACKFILL & REINSTATEMENT BY CONTRACTOR. START OF INSULATION 50mm THICK, 1.2m WIDE
A+001.5	5' VERTICAL BEND DOWN	±70.95	68.90	±2.05	-
A+005.5	5' VERTICAL BEND UP	±70.95	68.55	±2.40	END OF INSULATION 50mm THICK, 1.2m WIDE
A+007.0	DMA CHAMBER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. W3	±70.95	68.55	±2.40	ON PROPERTY LINE
A+040.9	-	71.20	68.80	2.40	-
A+064.1	45° HORIZONTAL BEND	71.42	69.02	2.40	-
A+067.1	150mm x 200mm TEE	71.45	69.02	2.43	-
A+070.1	45° HORIZONTAL BEND	71.48	69.02	2.46	-
A+073.1	150mm x 200mm REDUCER	71.42	69.02	2.40	-
A+076.1	150mm VALVE BOX	71.36	68.96	2.40	-
A+102.4	-	71.05	68.65	2.40	-
A+138.2	-	70.88	68.48	2.40	-
A+145.8	-	71.00	68.60	2.40	ENTRY TO BUILDING
B+000.0	150mm x 200mm TEE	71.45	69.02	2.43	-
B+003.2	150mm VALVE BOX	71.48	69.02	2.46	-
B+006.4	FIRE HYDRANT	71.48	69.02	2.46	-

STORM FORCEMAIN PROFILE TABLE

200mm PVC PRESSURE CLASS 160 DR26

STATION	DESCRIPTION	GRADE ELEVATION	TOP OF PIPE	DEPTH OF COVER	NOTES
C+000.0	-	70.90	68.25	2.65	EXIT FROM BUILDING
C+002.3	45° HORIZONTAL BEND	70.88	68.26	2.62	-
C+008.0	-	70.85	68.29	2.56	-
C+013.8	-	70.88	68.32	2.56	-
C+015.6	11.25° HORIZONTAL BEND	70.89	68.33	2.56	-
C+020.4	-	70.88	68.35	2.53	200 ST INV 68.15 300 ST TOP 68.00
C+025.0	-	70.93	68.37	2.56	-
C+028.9	-	70.80	68.39	2.41	-
C+032.8	-	70.81	68.41	2.40	-
C+033.3	-	70.82	68.42	2.40	START OF INSULATION 150mm THICK, 3.6m WIDE
C+033.8	45° VERTICAL BEND UP	70.82	68.42	2.40	-
C+035.6	45° VERTICAL BEND DOWN	70.82	70.25	0.61	-
C+036.6	-	70.83	70.26	0.61	ENTRY TO MH-21 END OF INSULATION 150mm THICK, 3.6m WIDE

KEY PLAN



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OTTAWA, ONTARIO

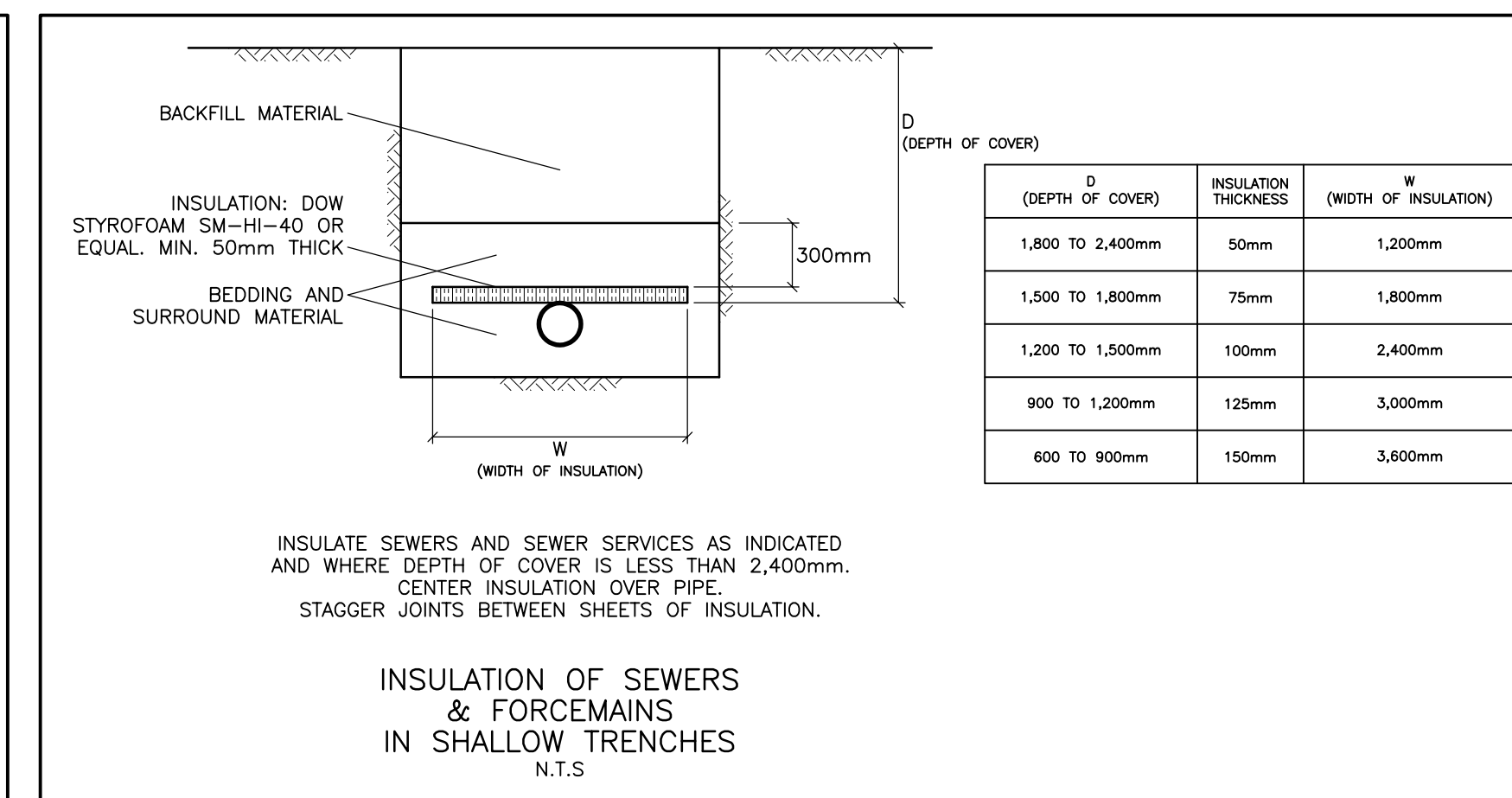
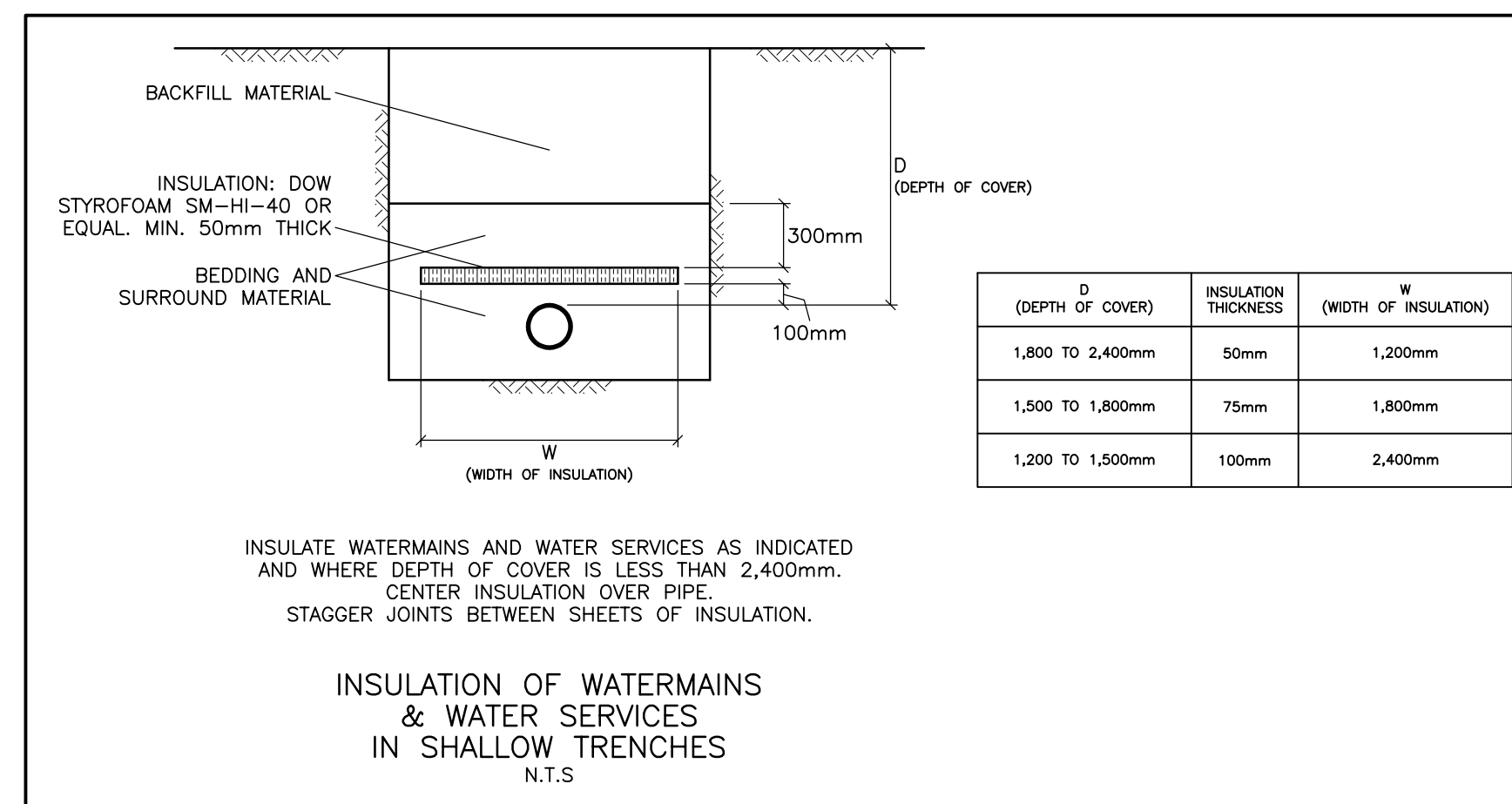
DETAILS & SCHEDULES

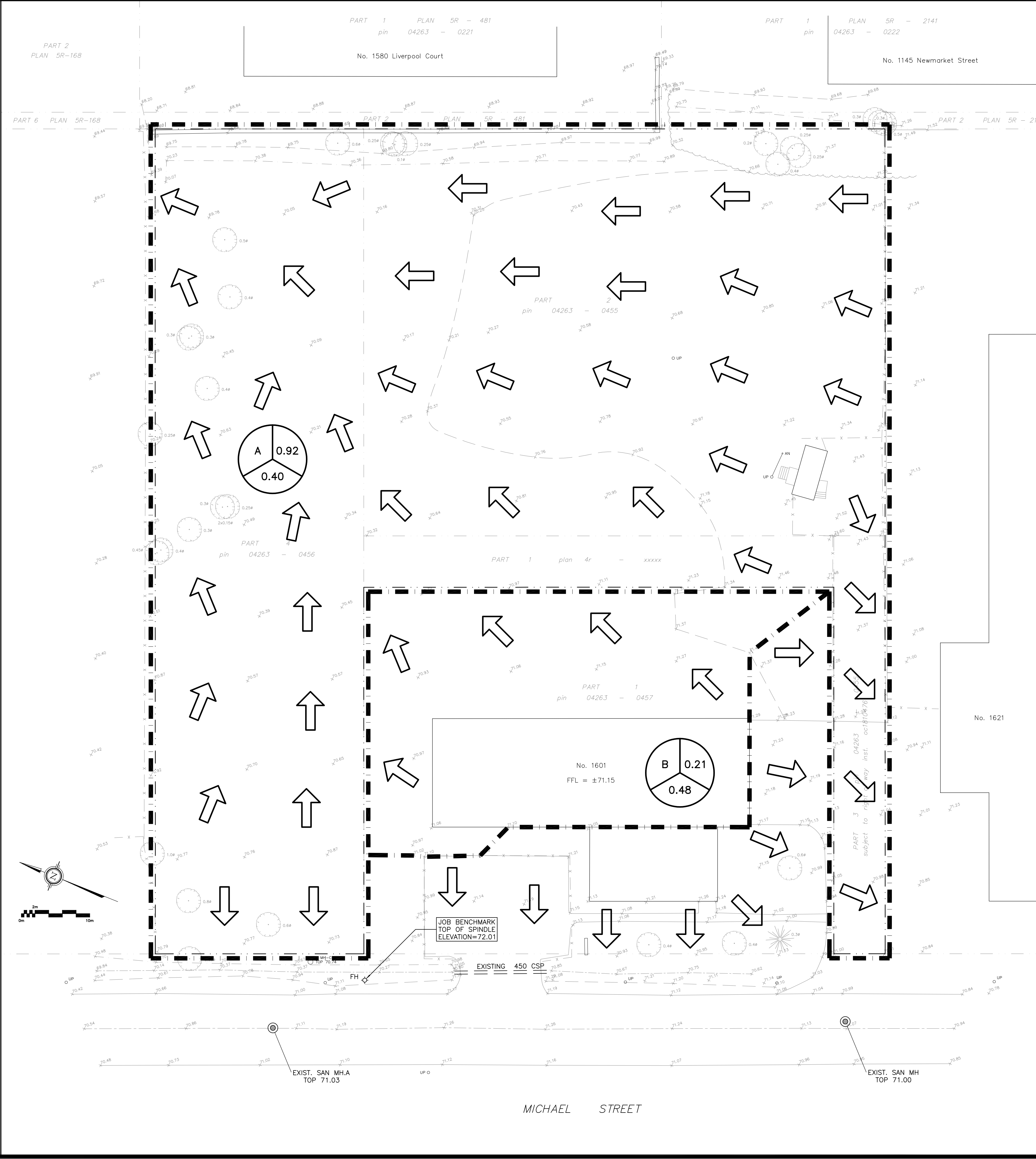
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Engineer's Seal
D.B. GRAY
17016502
OCT 17-23
PROVINCE OF ONTARIO

Drawn	D.B.G.
H. Scale	
V. Scale	
Date	JAN 5-23
Job No.	22034

Drawing No.
C-6
of 8





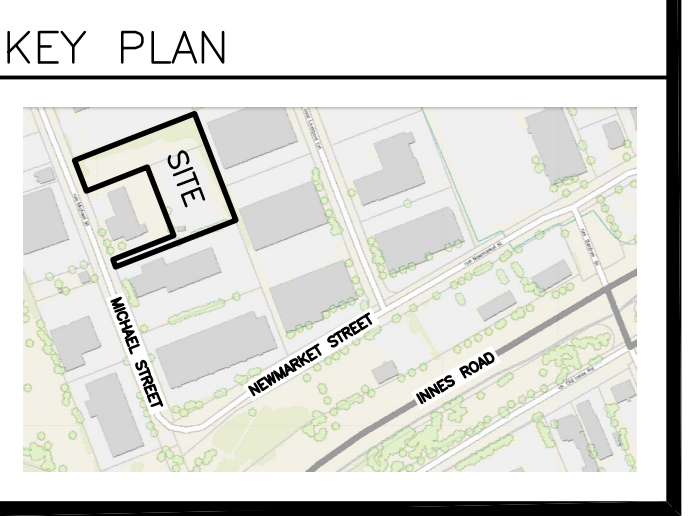
LEGEND

DRAINAGE AREA

AREA (ha)

5-YEAR RUNOFF COEFFICIENT

Diagram showing a circle divided into three segments: top-left 'x', top-right '0.XX', and bottom '0.XX'.

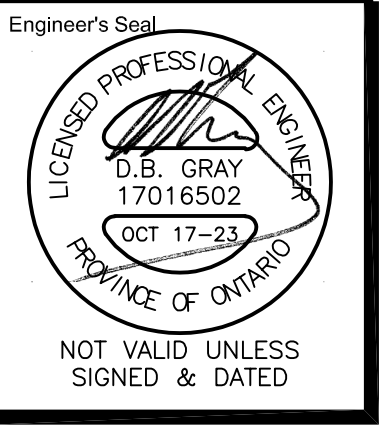


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Drawing Title
PRE-DEVELOPMENT DRAINAGE PLAN



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 Drawn D.B.G.
 H. Scale 1:300
 V. Scale
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 Drawing No.
C-7
 of 8