

WATER SERVICE NOTES

- 1) All water services to be installed with a minimum of 1.6m cover. Watermain bedding and cover material to be installed as per MM-200.01 (concrete and PVC watermain and services) and MM-200.02 (ductile iron watermain and services) with Granular "A" for both bedding and cover. Bedding and cover for small diameter services (i.e. 50mm and under) to be as per MM-200.01 with Granular "D" for both bedding and cover.
- 2) PVC watermain/service material, cathodic protection, tracer wire etc. must be as per FORM 400.
- 3) "Watermain Shutdown"
 - a. Maximum of 4 hour shutdown of existing main at a time convenient to the City and adjoining users.
 - b. Contractor to give 48 hrs prior notification using "City of Hamilton Notice of Shutdown" for all affected areas.
 - c. In the event a scheduled shutdown is cancelled by the City, the contractor shall have no claims against the City.
- 4) Internal water meter installation to be at floor grade as per MM-210.
 - a. "Water Service Abandonment"
 - i. Remove curb stop b. Cut and bring water service at the main. c. Close mainstop.
 - b. Anchor or breast blocks are to be installed at all water service elbows, tees, plugs, etc. For 300mm diameter water services and smaller, anchor blocks are to be as per MM-204.01. For water services greater than 300mm, anchor blocks are to be as per MM-204.02 to MM-204.13 as applicable.
 - c. Inspection and testing of water services and watermains to be to the satisfaction of the City and in accordance with Form 400 of the Construction and Material Specifications Manual (latest edition) and MCE guidelines.
 - d. All Backflow Prevention Devices must be selected, and maintained in accordance with the City of Hamilton's Backflow Prevention By-law #10-103 the manufacturer's specifications and the guidelines set out in the most recent version of the AWWA Canadian Cross Connection Control Manual and the CSA B64.10/07/B64.10.1-07 Standards.

OVERLAND FLOW ROUTE
 THE OVERLAND FLOW ROUTE FOR THE CITY DRAINAGE IS TO THE EAST AND WEST SIDES OF THE BUILDING, AND THEN TOWARD THE REAR (SOUTH) HIGH POINT ON EITHER SIDE OF FRONT YARD RETENTION AREA IS 222.10m

NOTED AREA REPRESENTS LIMIT OF STORM WATER RETENTION AREA.
 TOTAL AREA=1,300sq.m
 MAXIMUM DEPTH=0.21m
 TOTAL VOLUME=273.00m³
 HIGH WATER MARK(CO2 YEAR)=222.10m
 REF. SWM REPORT

PROPOSED 6,875sq.m (or 74,000sq.ft.)
 WAREHOUSE ADDITION
 F.F. = 222.32

NOTE:
 SEE ATTACHED SURVEY PLAN 62R-20476 BY A.J. CLARKE AND ASSOCIATES LTD., O.L.S., FOR NEW SURVEY OF STORM SEWER EASEMENT.

*GRADE FROM EDGE OF ASPHALT TO EXISTING GRADES ON ADJACENT LANDS AT 2% SLOPE. PERMISSION FROM ADJACENT LANDOWNER IS REQUIRED TO PERFORM MINOR GRADING WORKS ON ADJACENT PROPERTY.

*REQUIRED WATER AND SANITARY SERVICING FOR ADDITION FROM EXISTING SERVICE STUBS AT PROPERTY LINE
 *ALL ROOF DRAINAGE TO BE DIRECTED TO REAR ASPHALT YARD

LEGEND

---	PROPERTY LINE
---	STORM SEWER
---	SANITARY SEWER
---	WATERMAIN/WATER SERVICE
222.00	AS-BUILT GRADE ELEVATION
222.75	DESIGN GRADE ELEVATIONS
○	CATCH BASIN/MAHNOLE
○	EXISTING LIGHT POLE
▨	STORM WATER RETENTION AREA
→	STORM RUNOFF DIRECTION
---	SILT FENCE

CITY OF HAMILTON GRADING & DRAINAGE NOTES

1. ALONG ADJACENT PROPERTIES GRADE TO MEET EXISTING OR PROPOSED ELEVATIONS WITH SLOPED SLOPES (MIN. 3% TO 1%) AND/OR RETAINING WALLS AS SPECIFIED.
2. ALL FILL PLACED ON LOTS SHALL BE COMPACTED TO A MINIMUM 95% UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER. ALL MATERIAL SHALL BE PLACED IN LAYERS NOT EXCEEDING 300MM LIFTS.
3. IF GRADING IS REQUIRED ON LANDS ADJACENT TO THE DEVELOPMENT WHICH ARE NOT OWNED BY THE DEVELOPER, THEN THE DEVELOPER MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNER TO ALLOW THE DEVELOPER TO GRADE ON THE ADJACENT LANDS. OTHERWISE RETAINING WALLS MUST BE USED.

ADDITIONAL GRADING NOTES

1. Any changes in grades and catch basins require the approval of the City's Manager of Development Engineering.

UNDERTAKING
 FILE # SPA-16-055

I, (WE), _____ THE OWNERS OF THE LAND, HEREBY UNDERTAKE AND AGREE WITHOUT RESERVATION, AND NOT TO WAIVE THEREFROM:

- A) TO COMPLY WITH THE CONTENTS OF THIS PLAN AND DRAWING AND NOT TO WAIVE THEREFROM.
- B) TO PERFORM THE FACILITIES, WORKS OR MATTERS MENTIONED IN SECTION 4(1)(7)(b) OF THE PLANNING ACT SHOWN ON THIS PLAN AND DRAWING(S) IN ACCORDANCE WITH THE CONDITIONS OF APPROVAL AS SET OUT IN THE LETTER OF APPROVAL DATED: _____.
- C) TO MAINTAIN TO THE SATISFACTION OF THE CITY AND AT MY (OUR) SOLE RISK AND EXPENSE, ALL OF THE FACILITIES, WORKS OR MATTERS MENTIONED IN SECTION 4(1)(7)(b) OF THE PLANNING ACT SHOWN IN THIS PLAN AND DRAWING(S), INCLUDING REMOVAL OF SNOW FROM ACCESS RAMPS AND DRIVEWAYS, PARKING AND LOADING AREAS AND MAINTENANCE, AND:
- D) IN THE EVENT THAT THE OWNER DOES NOT COMPLY WITH THE PLAN DATED: _____ THE OWNER AGREES THAT THE CITY MAY ENTER THE LAND AND DO THE REQUIRED WORKS, AND FURTHER THE OWNER AUTHORIZES THE CITY TO USE THE SECURITY FLED TO OBTAIN COMPLIANCE WITH THE PLAN.

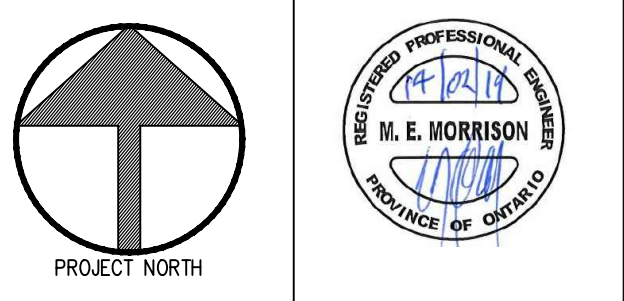
DATE THIS _____ DAY OF _____

WITNESS (SIGNATURE) _____ OWNER (SIGNATURE) _____
 WITNESS (PRINT) _____ OWNER (PRINT) _____
 ADDRESS OF WITNESS _____

BENCHMARK
 REGIONAL BENCHMARK INDEX No.758009
 ELEVATION: 231.750m (GEODETIC)
 SITE BENCHMARK IS TOP OF FLOOR OF EXISTING BUILDING, ELEVATION=222.32m

REVISION	DESCRIPTION	DATE	BY
2	ISSUED FOR AS BUILT (REVISED)	FEB 22 2018	
1	ISSUED FOR AS BUILT (REVISED)	FEB 6 2018	
0	ISSUED FOR AS BUILT	AUG. 31.2017	

DO NOT SCALE DRAWINGS; THESE DRAWINGS SHOW INTENT OF THE DESIGN ONLY OR EXISTING CONDITIONS AND MAY NOT REFLECT EXACT LOCATIONS.

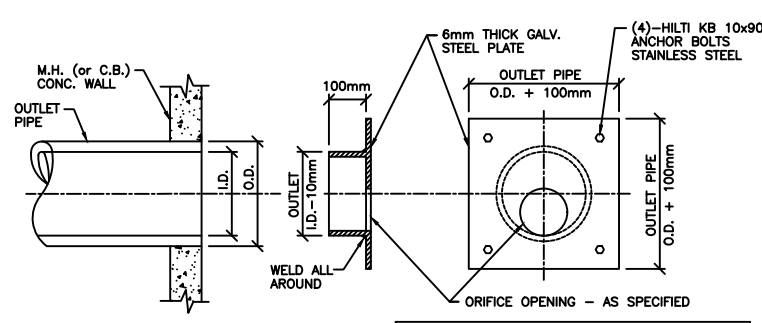


M C ENGINEERING P.O. Box 1002, Simcoe, Ont. N3Y 5B3
 Tel: 519-428-6790 Fax: 519-428-8960
 E-mail: mail@mcengineering.net
 A DIVISION OF 392583 ALTA. LTD.

PROJECT NAME
SITE PLAN
 1430 CORMORANT ROAD
 SPA - 16 - 055

SHEET TITLE: SITE GRADING (AS BUILT)

SCALE: 1:400	PROJECT NO. 6472
DRAWN BY: RM	DWG. NO. SP2
CHECKED BY: M.E.M.	REV. NO. 2
DATE: MARCH 2016	
FILE NAME: 6472	



C.B. ORIFICE PLATE SIZING

CB#	ORIFICE PLATE NUMBER	DIAMETER OF ORIFICE PLATE OPENING
STM MH1A	145mm	145mm
STM SA	60mm	60mm
ST3A	114mm	114mm
ST3A	50mm	50mm
ST4A	89mm	89mm
ST5A	50mm	50mm

*ORIFICE PLATES WHICH ARE TO BE INSTALLED IN ST3A, ST4A, ST5A & ST5A ARE TO MATCH EXISTING PLATE DIMENSIONS FROM EXISTING CATCH BASIN STRUCTURES TO BE REPLACED. ORIFICE SIZING IS IN ACCORDANCE WITH PREVIOUSLY APPROVED SWM REPORT AND SITE PLAN.

FLOW CONTROL DEVICE ORIFICE PLATE
N.T.S.

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CATCH BASIN AND MANHOLE SPECIFICATIONS

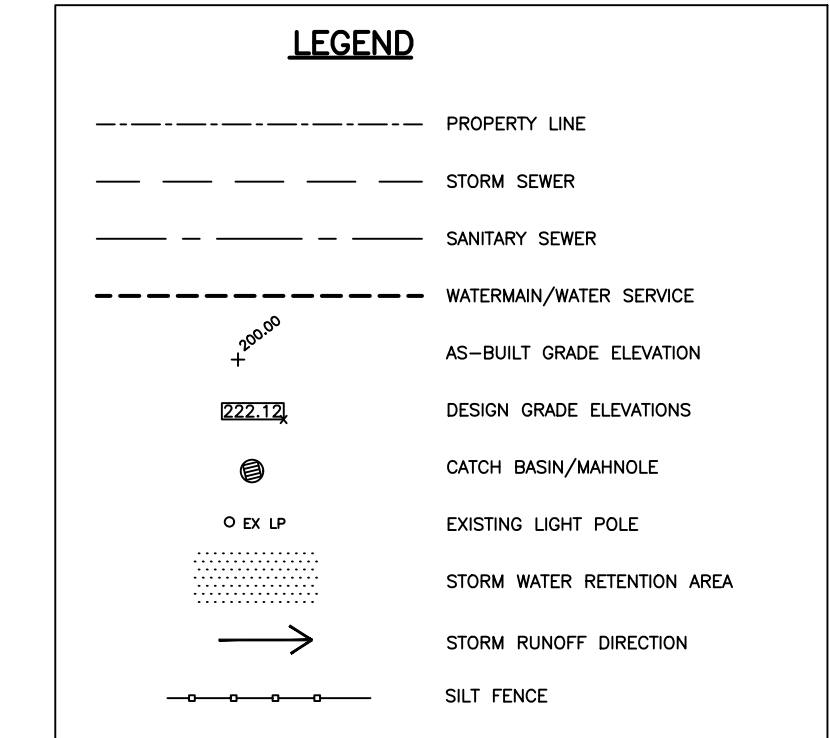
1. UNLESS OTHERWISE INDICATED ON PLAN, ALL MANHOLE STRUCTURES ARE TO BE 1200mm DIA, OPSD 701.010
2. ALL CATCH BASINS TO BE OPSD 705.010

NEW 900mm STORM SEWER INSTALLATION

1. ALL MATERIALS AS PER CITY OF HAMILTON REQUIREMENTS.
2. EXISTING 750mm STORM PIPE NOT TO BE DECOMMISSIONED UNTIL NEW 900mm STORM SEWER IS INSTALLED.
3. SPECIFICATION - REINFORCED CONCRETE PIPE, ASTM DESIGNATION C-76, CLASS N, OR CSA A257.2, 100-D

EXISTING PRIVATE STORM SEWER

1. EXISTING SITE DRAINAGE AND GRADING ON EAST SIDE OF EXISTING BUILDING ARE TO BE RESTORED TO ORIGINAL CONDITION AFTER INSTALLATION OF NEW 900mm MUNICIPAL STORM SEWER.
2. EXISTING CATCH BASINS TO BE REPLACED WITH IDENTICAL STRUCTURES, AND IDENTICAL ORIFICE PLATES.
3. EXISTING GRADING AND POUNDING AROUND EXISTING CATCH BASINS TO REMAIN AS EXISTING AS PER ORIGINAL SITE PLAN DRAWING BY CORDON ENGINEERING (DRAWING 632-2)
4. EXISTING (REPLACED) CATCH BASINS #ST3A THROUGH #ST5A ARE PRIVATE AND THE MAINTENANCE OF THESE ARE THE RESPONSIBILITY OF THE LAND OWNER.
5. EXISTING PRIVATE STORM SEWERS INCLUDE THE FOLLOWING:
MH 1B to MH 2C to CB# 5A to CB# 6A to CB# 7A to CB# 8A
CB# 2A to MH 1A to CB# 3A to CB# 4A to CB# 5A



STORM MANHOLE AND CATCH BASINS

DESIGN NO#	STRUCTURE TYPE	DESIGN TOP OF LID/GRADE ELEVATION	DESIGN INVERTS	DESIGN INVERT DIRECTION	DIA MM	DESIGN NOTES	AS-BUILT TOP OF LID/GRADE ELEVATION	AS-BUILT INVERTS
CB#CR2A	CATCH BASIN	220.70	219.18	W	300		220.69	219.15
CBMH#3A	CATCH BASIN MANHOLE	220.70	219.21	W	300		220.69	219.09
CBMH#4A	CATCH BASIN MANHOLE	220.70	219.60	E	300		220.76	219.61
CB#5A	CATCH BASIN	221.05	219.90	SE	300		221.01	219.91
CB#6A	CATCH BASIN	222.00	220.55	E	300		222.51	221.56
STM MH6B	STORM MANHOLE	221.06	218.83	N	300		221.05	218.60
CBMH#7A	CATCH BASIN MANHOLE	221.80	220.28	E	300		221.78	220.33
CBMH#8A	CATCH BASIN MANHOLE	221.80	219.96	E	300		221.85	219.95
CBMH#9A	CATCH BASIN MANHOLE	221.80	219.67	E	300	*FLOW RESTRICTOR PLATE IS REQUIRED TO BE BOLTED OVER EAST OUTLET. DIA. OF ORIFICE IS 60mm	221.86	219.71
(STM MH#2C)	SWTC#1	221.83	219.71	W	300		221.85	219.61
STM MH#1B	STORM MANHOLE	221.92	219.11	NW	900	*OPSD 701.012-1800mm DIA	221.93	219.13
CB#ST3A	CATCH BASIN	221.89	219.44	N	250	EXISTING CB #ST3 FLOW RESTRICTOR PLATE IS REQUIRED	221.85	219.62

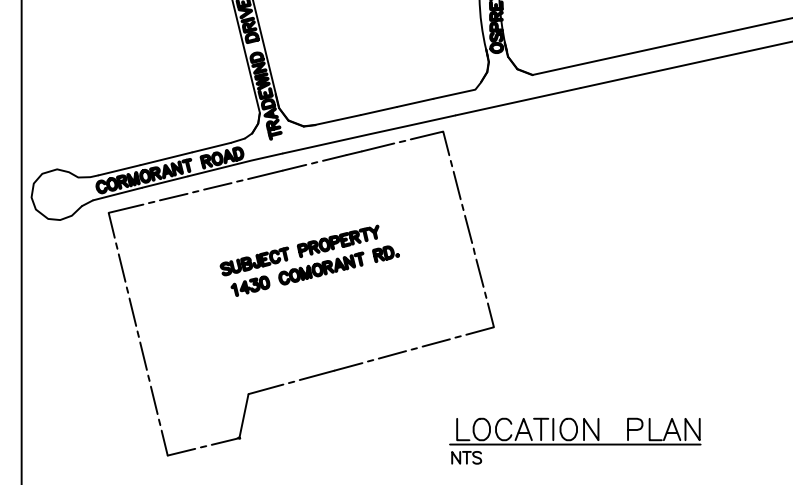
STORM MANHOLE AND CATCH BASINS

DESIGN NO#	STRUCTURE TYPE	DESIGN TOP OF LID/GRADE ELEVATION	DESIGN INVERTS	DESIGN INVERT DIRECTION	DIA MM	DESIGN NOTES	AS-BUILT TOP OF LID/GRADE ELEVATION	AS-BUILT INVERTS
STM MH#6	STORM MANHOLE	222.76	219.27	NW	675	*EXISTING MAN HOLE	222.77	219.13
		219.20	SE	E	900		219.16	
		219.27	N	E	675		219.21	
MH 2B	STORM MANHOLE	221.10	218.96	W	900	*OPSD 701.012-2400mm DIA	222.10	218.98
		218.96	S	E	900		218.98	
		219.30	SW	E	250		219.00	
CB#ST2A	CATCH BASIN	221.80	219.34	NE	250	*CONNECTION TO STM MH2B IS 250mm PVC Ø 25 *FLOW RESTRICTOR PLATE IS REQUIRED	221.83	219.69
CB#ST4A	CATCH BASIN	220.76	219.34	E	250	*CONNECTION TO STM MH2B IS 250mm PVC Ø 25 *FLOW RESTRICTOR PLATE IS REQUIRED	220.83	219.78
STM MH4A	STORM MANHOLE	221.00	218.76	N	250	*OPSD 701.012-1800mm DIA	221.01	218.79
		218.76	SW	E	900		219.70	
STM MH5B	STORM MANHOLE	220.96	218.68	NE	900	*OPSD 701.012-1800mm DIA	220.96	218.70
		218.68	W	E	900		218.70	
		218.90	N	E	250		218.81	
CB#ST5A	CATCH BASIN	220.79	218.98	S	250	*CONNECTION TO STM MH5B IS 250mm PVC Ø 25 *FLOW RESTRICTOR PLATE IS REQUIRED	220.78	219.38
STM MH1A	STORM MANHOLE	221.00	218.97	W	300	*FLOW RESTRICTOR PLATE IS INSTALLED	221.08	219.08
		219.00	S	E	300		218.98	
		219.00	E	E	300		219.00	

NOTE: SEE ATTACHED SURVEY PLAN 62R-20476 BY A.J. CLARKE AND ASSOCIATES LTD., O.L.S., FOR NEW SURVEY OF STORM SEWER EASEMENT.

PROPOSED 6,875sq.m (or 74,000sq.ft.) WAREHOUSE ADDITION
F.F. = 222.32

EXISTING BUILDING
F.F. = 222.32
540m² OFFICE
1,353m² WAREHOUSE
1,893m² TOTAL EX. GFA



UNDERTAKING
I, (WE), THE OWNERS OF THE LAND, HEREBY UNDERTAKE AND AGREE WITHOUT RESERVATION, TO PERFORM THE FACILITIES, WORKS OR MATTERS MENTIONED IN SECTION 4(1)(3) OF THE PLANNING ACT SHOWN ON THIS PLAN AND DRAWINGS, IN ACCORDANCE WITH THE CONDITIONS OF APPROVAL AS SET OUT IN THE LETTER OF APPROVAL DATED: _____

C) TO MAINTAIN TO THE SATISFACTION OF THE CITY AND AT MY (OUR) SOLE RISK AND EXPENSE, ALL OF THE FACILITIES, WORKS OR MATTERS MENTIONED IN SECTION 4(1)(3) OF THE PLANNING ACT SHOWN ON THIS PLAN AND DRAWINGS, INCLUDING REPAIRING OF SNOW FROM ACCESS RAMPS AND DRIVEWAYS, PARKING AND LOADING AREAS AND WALKWAYS, AND;

D) IN THE EVENT THAT THE OWNER DOES NOT COMPLY WITH THE PLAN DATED: _____ THE OWNER AGREES THAT THE CITY MAY ENTER THE LAND AND DO THE REQUIRED WORKS, AND FURTHER THE OWNER AUTHORIZES THE CITY TO USE THE SECURITY FLED TO OBTAIN COMPLIANCE WITH THE PLAN.

DATED THIS _____ DAY OF _____

WITNESS (SIGNATURE) _____ OWNER (SIGNATURE) _____

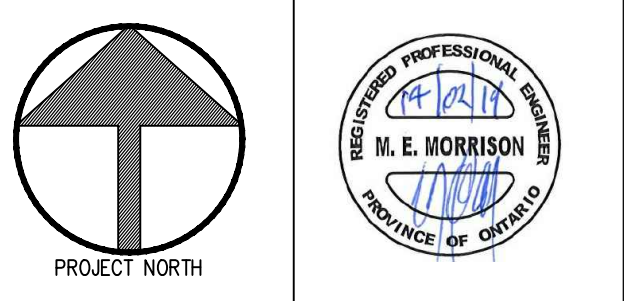
WITNESS (PRINT) _____ OWNER (PRINT) _____

ADDRESS OF WITNESS _____

BENCHMARK
REGIONAL BENCHMARK INDEX No.758009
ELEVATION: 231.750m (GEODETIC)
SITE BENCHMARK IS TOP OF FLOOR OF EXISTING BUILDING, ELEVATION=222.32m

NO. REVISION	DESCRIPTION	DATE	BY
2	ISSUED FOR AS BUILT (revised)	FEB 22 2018	
1	ISSUED FOR AS BUILT (revised)	FEB 6 2018	
0	ISSUED FOR AS BUILT	DEC 21 2017	

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M C ENGINEERING P.O. Box 1002, Simcoe, Ont. N3Y 5B3
Tel: 519-428-6790 Fax: 519-428-8960
E-mail: mail@mcengineering.net
A DIVISION OF 392583 ALTA. LTD.

PROJECT NAME
SITE PLAN
1430 CORMORANT ROAD
SPA - 16 - 055

SHEET TITLE
SITE SERVICING (AS BUILT)

SCALE 1:400	PROJECT NO. 6472
DRAWN BY RM	DWG. NO. SP3
CHECKED BY M.E.M.	REV. NO. 2
DATE DEC 2017	
FILE NAME 6472	