

TEE CONNECTION TO EX. 200mmØ WATERMAIN. EXCAVATION AND REINSTATEMENT BY CONTRACTOR. CONTRACTOR TO DETERMINE EXACT LOCATION AND DEPTH OF WATERMAIN IN FIELD.

PROTECT AND SUPPORT EXISTING GATE

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WATERMAIN TO BE INSULATED PER W22

REPLACE 200mmØ SAN. APPROX. 10.0m. USE 200mmØ PVC CW REPAIR COUPLERS SUITABLE FOR CONNECTION TO CONCRETE SEWER. REFER TO MS22.15 FOR APPROVED COUPLINGS S18.1.14

UTILITY CROSSING AS PER CITY STD. DET. W25

CLAY SEAL
CONNECT TO EXISTING STORM SEWER

TEE. CONNECT INTO EXISTING STORM SERVICE. REFER TO MS22.15 FOR APPROVED FITTINGS

TEE. CONNECT TO EXISTING CB LEAD. REFER TO MS22.15 FOR APPROVED FITTINGS

RETROFIT CB599 WITH ICD. INSTALL 3m LENGTH OF SUBDRAIN ON EACH SIDE. REPLACE CB599 IF DAMAGED DURING CONSTRUCTION

CONNECT TO EXISTING SANITARY SEWER

MHSTM 02
T/G=63.36
SW.INV=61.87
N.INV=61.83

CLAY SEAL

13.3m - 150mmØ PVC DR35 SAN @1.77%

WM CROSSING BELOW STM PER W25 (NO VERTICAL BENDS REQUIRED)

14.9m - 250mmØ PVC DR35 STM @1.17%

WM CROSSING BELOW SAN PER W25 (NO VERTICAL BENDS REQUIRED)

MHSTM 01
T/G=63.79
NE.INV=62.03
SE.INV=62.09

INV=62.10

BACKWATER VALVE BY MECHANICAL (REFER TO MECHANICAL FOR UNDER SLAB PLUMBING)

RD1

RD2

CONNECT TO EXISTING JUNCTION BOX (REFER TO ELECTRICAL)

CONNECT TO EXISTING (REFER TO MECHANICAL)

SKYLIGHT

STAIRWELL "B"
Ground = 63.850
Level 2 = 64.400 (Landing)
Level 3 = 65.475
Level 4 = 72.400
Level 5 = 76.900

STAIRWELL "A"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "C"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "D"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "E"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "F"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "G"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "H"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "I"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "J"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "K"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "L"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "M"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "N"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "O"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "P"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "Q"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "R"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "S"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "T"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "U"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "V"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "W"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "X"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "Y"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

STAIRWELL "Z"
Ground = 63.245
Level 2 = 63.855 (Landing)
Level 3 = 67.850
Level 4 = 71.970
Level 5 = 75.995

PROPOSED
ENGINEERING
DESIGN CENTRE
3 STORIES
FFE=63.85m
USF=63.70m
GFA=1598m²

LEGEND

- NEW WATERMAIN
- NEW SANITARY SEWER
- NEW STORM SEWER
- NEW MANHOLE
- NEW VALVE AND VALVE BOX
- NEW CAP
- NEW CATCH BASIN
- FIRE DEPARTMENT CONNECTION
- NEW 150mmØ SUBDRAIN IN ACCORDANCE WITH CITY STANDARD DETAIL R1
- NEW THERMAL INSULATION FOR SHALLOW SEWERS
- NEW GAS MAIN
- NEW STREET LIGHTING
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING LIGHT STANDARD
- EXISTING CATCH BASIN
- EXISTING MAINTENANCE HOLE
- EXISTING SIGN
- EXISTING PARKING METER
- EXISTING BOARD FENCE
- ENTRANCE

ROOF DRAIN TABLE: AREA A1										
AREA ID	NUMBER OF ROOF DRAINS	ROOF DRAIN MODEL ID	ROOF DRAIN OPENING SETTING	CONTROLLED FLOW PER DRAIN (L/s)		PONDING DEPTH (m)		STORAGE VOLUME (m³)		MAX STORAGE AVAILABLE (m³)
				5-YR	100-YR	5-YR	100-YR	5-YR	100-YR	
A1	1 (RD1)	ZURN Z105 15"	1 NOTCH	2.44	3.27	0.099	0.133	3.41	8.08	11.22
A1	1 (RD1)	ZURN Z105 15"	1 NOTCH	2.44	3.27	0.099	0.133	3.41	8.08	11.22
TOTAL				4.87	6.54			6.81	16.16	22.44

ICD TABLE: A2+P1										
AREA ID	LOCATION OF ICD	ICD TYPE	ORIFICE DIAMETER	CONTROLLED FLOW (L/s)		PONDING ELEVATION (m)		STORAGE VOLUME (m³)		MAX STORAGE AVAILABLE (m³)
				5-YR	100-YR	5-YR	100-YR	5-YR	100-YR	
A2+P1	CB 599	ORIFICE PLATE	98 mm	20.88	22.13	63.24	63.33	1.40	13.52	18.58
TOTAL				20.88	22.13			1.40	13.52	18.58

NOTES: GENERAL

- COORDINATES ARE IN MTM ZONE 9 (76°30' WEST LONGITUDE) NAD-83 (ORIGINAL)
- SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING.
- CONTRACTOR TO VERIFY ALL EXISTING UTILITY ELEVATIONS AT CONNECTION AND CROSSING LOCATIONS PRIOR TO CONSTRUCTION AND ADVISE THE ENGINEER OF ANY DISCREPANCIES.
- UNLESS DIRECTED OTHERWISE ANY DAMAGED ASPHALT OR CURB (REGARDLESS OF WHETHER WITHIN OR EXTERNAL TO THE SITE) SHALL BE REINSTATED IN ACCORDANCE WITH CITY STD. DET. R10 AND S1.
- UNLESS DIRECTED OTHERWISE THE CONTRACTOR SHALL REINSTATE ALL SIGNS, LIGHTING AND OTHER STREET FURNITURE DISTURBED BY THE WORK.
- THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT TRAFFIC MANAGEMENT PLANS FOR WORK IN RIGHT OF WAY IN ACCORDANCE WITH OTM BOOK 7.
- CLAY SEALS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD DETAIL S8 AND SHALL BE INSTALLED AT 50m INTERVALS IN ALL PIPE TRENCHES. CLAY SEAL TO EXTEND FULL TRENCH WIDTH AND FROM BOTTOM OF TRENCH EXCAVATION TO UNDERSIDE OF ROAD STRUCTURE, WITH A MINIMUM THICKNESS OF 1m ALONG PIPE.
- THE CONTRACTOR SHALL SCHEDULE AND STAGE ALL WORK SUCH THAT STORM AND SANITARY SERVICE TO THE EXISTING BUILDING IS MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY SERVICING NEEDED TO MEET THIS REQUIREMENT, AND SHALL ALSO COORDINATE WITH OTHER TRADES AS NECESSARY.
- REFER TO CCTV SEWER INSPECTION REPORT PREPARED BY CLEAN WATER WORKS INC. DATED SEPTEMBER 26, 2019.
- TOPOGRAPHICAL SURVEY PREPARED BY FAIRHALL MOFFATT & WOODLAND LIMITED DATED JULY 23, 2019.

SEWERS

- ALL STORM SEWERS, SANITARY SEWERS AND CATCH BASINS LEADS SHALL BE PVC DR 35 UNLESS OTHERWISE SPECIFIED.
- REFER TO DETAIL 1 ON DRAWING C003 FOR SEWER INSTALLATION.
- MAINTENANCE HOLES AND CATCH BASIN MAINTENANCE HOLES ON STORM SEWERS LESS THAN 900mm DIAMETER SHALL BE CONSTRUCTED WITH A 300mm SUMP. BENCHING SHALL BE INSTALLED IN MAINTENANCE HOLES ON STORM SEWERS 900mm AND ABOVE.
- STORM SEWER MAINTENANCE HOLE COVERS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD DETAIL S24.1 ON FRAMES TO DETAIL S25.
- CONTRACTOR SHALL MAINTAIN EXISTING SEWER FLOWS DURING CONSTRUCTION IN ACCORDANCE WITH CITY OF OTTAWA SPECIFICATIONS.
- ALL MAINTENANCE HOLES, CATCHBASINS AND CLEANOUTS SHALL BE ADJUSTED TO POST-CONSTRUCTION GRADE.
- LEAKAGE TEST (SANITARY SEWER ONLY) AND CCTV INSPECTION SHALL BE COMPLETED AS PER CITY OF OTTAWA SPECIFICATIONS PRIOR TO THE INSTALLATION OF BASE COURSE ASPHALT.

WATERMAINS

- REFER TO DETAIL 2 ON DRAWING C003 FOR WATERMAIN INSTALLATION.
- ALL WATERMAIN MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE 2017 EDITION OF THE CITY OF OTTAWA STANDARD SPECIFICATIONS AND STANDARD DRAWINGS. PVC PIPE TO BE CLASS 150 DR18 TO LATEST EDITION OF A.W.W.A. SPECIFICATION C900 AND CSA B137.3 LATEST AMENDMENT WITH GASKETED BELL AND SPIGOT COUPLINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A WATER PERMIT AS REQUIRED FROM THE CITY OF OTTAWA, AND COMPLYING WITH ALL CITY OF OTTAWA REQUIREMENTS. THE CITY MAY REQUIRE THAT CERTAIN ACTIVITIES (E.G. VALVE OPERATION, CONNECTION OF NEW WATER SERVICE TO EXISTING WATERMAIN, DISINFECTION) BE CARRIED OUT ONLY BY CITY FORCES.
- ALL VALVES 300mm DIAMETER AND SMALLER SHALL INCLUDE A VALVE BOX AS PER W24.
- THE NEW WATERMAIN IS TO BE INSTALLED WITH A MINIMUM OF 2.4m COVER (INCLUDING HYDRANT LEAD). WHERE 2.4m COVER IS NOT POSSIBLE, PROVIDE INSULATION IN ACCORDANCE WITH CITY OF OTTAWA STANDARD DETAILS W22 & W23.
- THRUST RESTRAINT SHALL BE PROVIDED BY BOTH RESTRAINING/RETAINING RINGS AND THRUST BLOCKS AT ALL DEAD END MAPS, PLUGS, VALVES, BENDS AND REDUCERS AS PER CITY OF OTTAWA STANDARD DETAILS W25.3, W25.4, W25.5 AND W25.6. ALL TEMPORARY THRUST RESTRAINTS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- TRACER WIRE SHALL BE PROVIDED FOR ALL NEW PVC WATERMAINS IN ACCORDANCE WITH THE SPECIFICATIONS AND CITY OF OTTAWA STANDARD DETAIL W36.
- CATHODIC PROTECTION SHALL BE PROVIDED FOR ALL NEW WATERMAINS IN ACCORDANCE WITH THE SPECIFICATIONS AND CITY OF OTTAWA STANDARD DETAILS W39, W40, W41, W42 AND W47. CATHODIC PROTECTION OF EXISTING WATERMAINS SHALL ALSO BE PROVIDED AT CONNECTIONS BETWEEN EXISTING AND NEW WATERMAINS.
- ADJUST ALL VALVE CHAMBERS, VALVE BOXES AND HYDRANTS TO FINISHED GRADE.
- WATERMAIN SHUTDOWNS SHALL BE SCHEDULED A MINIMUM OF 72 HOURS IN ADVANCE

UTILITY NOTE

- THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWING, AND, WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM. THE CONTRACTOR WILL BE RESPONSIBLE FOR SUPPORTING AND PROTECTING ANY EXISTING UTILITIES, AS REQUIRED, IN ACCORDANCE WITH THE UTILITY OWNERS' REQUIREMENTS. CONTRACTOR IS REQUIRED TO OBTAIN LOCATES, IN ADVANCE OF EXCAVATION WORK, AND FORWARD COPIES OF THE LOCATES TO THE CONSULTANT AND THE OWNER PRIOR TO EXCAVATION.
- ALL CROSSING OF EX. UTILITIES TO BE IN ACCORDANCE WITH CITY STD. DET. S10

PIPE CROSSING TABLE			
①	200mmØ WM 250mm CLEARANCE OVER 305mm STM	WM INV=61.92, STM OBV=61.67	
②	200mmØ WM 640mm CLEARANCE BELOW 250mm STM	T/WM =61.27, STM INV=61.91	
③	200mmØ WM 500mm CLEARANCE BELOW 150mm SAN	T/WM =61.27, SAN INV=61.77	

NEW 200mmØ WATERMAIN					
STATION	DESCRIPTION	NORTHING	EASTING	FINISHED GRADE	TOP OF WM
0+000	200x200x200 TEE	5027363.455	367538.487	63.09	60.69*
0+000.5	VALVE AND VALVE BOX	5027362.955	367538.490	63.09	60.69*
0+013.8	STM CROSSING	5027349.695	367539.346	63.36	62.12
0+031.2	200x200x150 TEE	5027332.286	367540.575	63.32	60.92
0+031.2	VALVE AND VALVE BOX	5027332.228	367539.743	63.32	60.92
0+031.2	HYDRANT	5027331.525	367529.789	63.50	61.10
0+045.9	STM CROSSING	5027317.674	367541.606	63.71	61.27
0+049.1	SAN CROSSING	5027314.487	367541.831	63.79	61.27
0+050.8	22.5" BEND AND 11.25" BEND	5027312.799	367542.342	63.82	61.27
0+051.2	CAP (1m FROM BUILDING)	5027312.473	367542.570	63.82	61.27

* DEPTH OF EXISTING WATERMAIN TO BE DETERMINED BY CONTRACTOR. USE 2x45" BENDS TO BRING NEW WATERMAIN TO 2.4m OF COVER.

NEW STORM AND SANITARY STRUCTURE						
STRUCTURE	STRUCTURE TYPE	COVER TYPE	TOP OF GRATE	INVERT	NORTHING	EASTING
MH SAN01	701.010	S24	63.82	61.91 (SE) 61.97 (NE)	5027309.191	367537.157
MH SAN02	701.010	S24	63.38	61.68 (SW) 61.64 (N)	5027319.173	367545.967
MHSTM01	701.010	S24.1	63.79	62.09 (SE) 62.03 (NE)	5027309.545	367535.045
MHSTM02	701.010	S24.1	63.36	61.87 (SW) 61.83 (N)	5027321.101	367544.372

NOTE 1: MHSTM01 AND MHS01 COVER FRAMES TO BE ANCHORED PER S.P. No. F-4070

SCALE 1:250 HORIZONTAL

CONTRACTOR MUST CHECK & VERIFY ALL DIMENSIONS ON THE JOB.

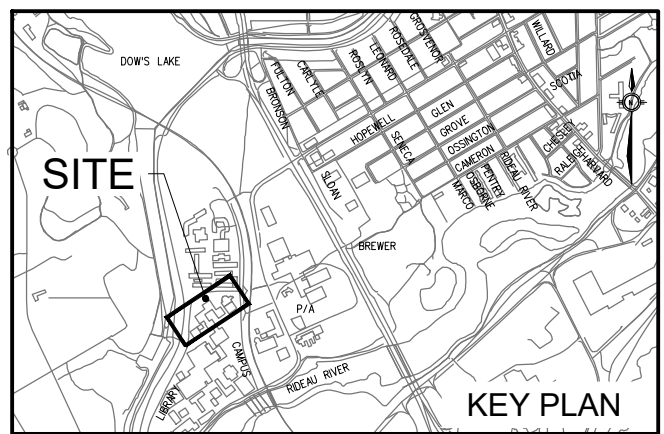
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THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNTIL SIGNED BY THE ARCHITECT

**MORRISON
HERSHFIELD**

200-2932 BASELINE ROAD, OTTAWA, ON K2H 1B1

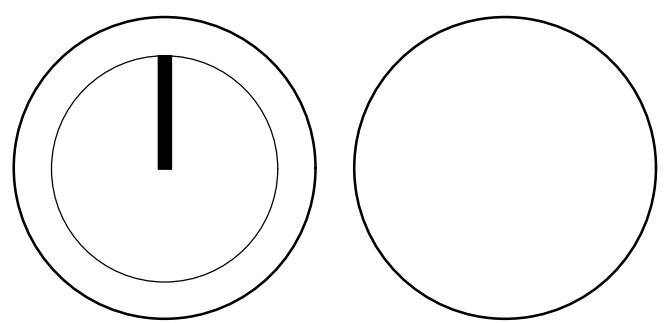


ISSUED		
No.	Date	Description
01	02/10/2019	ISSUED FOR SITE PLAN CONTROL
02	14/11/2019	DESIGN DEVELOPMENT
03	18/11/2019	ISSUED FOR FOUNDATION PERMIT
04	16/01/2020	REISSUED FOR SITE PLAN CONTROL



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ENGINEERING DESIGN
CENTRE**

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SITE SERVICING PLAN

Scale:
Project No: 190350600
Date: JANUARY, 2020

C001

#18030