LEGEND

PROPERTY LINE	
PROPOSED SANITARY SERVICE	
PROPOSED STORM SERVICE	
RD ○ PROPOSED CONTROLLED FLOW ROOF DRAIN	
DD □ PROPOSED DECK DRAIN	
(M) (IM) PROPOSED WATER METER AND REMOTE METER	
PROPOSED BARRIER CURB	
DC PROPOSED DEPRESSED CURB	
150mmØ PROPOSED WATER SERVICE AND DIAMETER	
VB PROPOSED VALVE & VALVE BOX	
PROPOSED CAP	
PROPOSED BUILDING ENTRANCE	
X REMOVALS	
THERMAL INSULATION FOR SHALLOW SEWERS	
PROPOSED FENCE / GUARD	
PROPOSED SITE LIGHTING	
OHW	EXISTING OVERHEAD WIRES
	EXISTING CONCRETE CURB
SANMH	EXISTING SANITARY MANHOLE & SEWER
CBMH	EXISTING CATCHBASIN MANHOLE
STMMH	EXISTING STORM MANHOLE & SEWER
CB	EXISTING CATCHBASIN C/W CATCHBASIN LEAD
HYD V&VB	EXISTING HYDRANT & VALVE
	EXISTING TREES / VEGETATION
EX UP	EXISTING UTILITY POLE
	EXISTING FENCE
300mmØ WM	EXISTING WATERMAIN
HYD	EXISTING HYDRANT C/W VALVE & LEAD
FFE	FINISHED FLOOR ELEVATION
T/FND	TOP OF FOUNDATION WALL ELEVATION
USF	UNDERSIDE OF FOOTING ELEVATION

GENERAL NOTES:

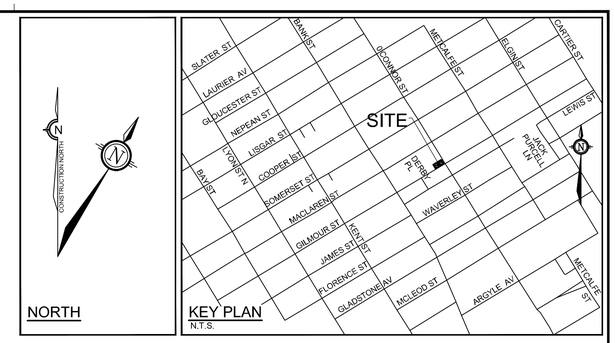
1. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
2. DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.
3. OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
4. BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE, ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR $5,000,000.00. INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED.
5. RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD ALLOWANCES TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF MUNICIPAL AUTHORITIES.
6. REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL, ORGANIC MATERIAL AND DEBRIS UNLESS OTHERWISE INSTRUCTED BY ENGINEER. EXCAVATE AND REMOVE FROM SITE ANY CONTAMINATED MATERIAL. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
7. ALL ELEVATIONS ARE GEODETIC.
8. REFER TO GEOTECHNICAL INVESTIGATION (PG4799-1), DATED AUGUST 1, 2019, PREPARED BY PATERSON GROUP FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE GRANULAR MATERIAL.
9. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACED AREAS AND DIMENSIONS.
10. REFER TO THE 'DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT' (R-2019-105) PREPARED BY NOVATECH.
11. SAW CUT AND KEYGRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE-IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).

SEWER NOTES:

1. SUPPLY AND CONSTRUCT ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
2. SPECIFICATIONS:

ITEM	SPEC. No.
STORM SERVICE	PVC DR 35
SANITARY SERVICE	PVC DR 35
SEWER TRENCH - BEDDING (GRANULAR 'A')	
COVER (GRANULAR 'A' OR GRANULAR 'B' TYPE I WITH MAXIMUM PARTICLE SIZE=25mm)	

3. THE SANITARY SERVICE LATERAL SHALL BE EQUIPPED WITH BACKFLOW PREVENTERS WITHIN THE BUILDING FOOTPRINT AS PER CITY OF OTTAWA STANDARD DETAILS S14.1 OR S14.2. REFER TO MECHANICAL PLANS FOR DETAILS.
4. PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
5. INSULATE ALL SEWER PIPES THAT HAVE LESS THAN 1.5m COVER WITH UP TO 125mm THICK HI-40 RIGID INSULATION.
6. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL APPLICABLE SERVICING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND T/G ELEVATIONS, STRUCTURE LOCATIONS AND ANY ALIGNMENT CHANGES, ETC.
7. THE OWNER SHALL REQUIRE THAT THE SITE SERVICING CONTRACTOR PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410.07.16, 410.07.16.04 AND 407.07.24. DYE TESTING IS TO BE COMPLETED ON ALL SANITARY SERVICES TO CONFIRM PROPER CONNECTION TO THE SANITARY SEWER MAIN. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER WHO SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS.



WATERMAIN NOTES:

1. SUPPLY AND CONSTRUCT ALL WATERMAIN AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
2. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
THERMAL INSULATION BY OPEN STRUCTURES	W23	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWERS	W25	CITY OF OTTAWA
WATERMAIN MATERIAL		PVC DR 18 (100mm AND LARGER)

3. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMAINS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS. EXCAVATION, INSTALLATION OF SERVICE, BACKFILL AND RESTORATION BY THE CONTRACTOR.
4. WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
5. PROVIDE MINIMUM 0.5m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS, UNLESS OTHERWISE INDICATED.
6. WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.

PROPOSED 150mmØ WATER SERVICE TABLE

STATION	SURFACE ELEVATION	T/WM ELEVATION	COMMENTS
0+00	71.20±	68.60± *	150mmØ WM CONNECTION TO EX. 300mmØ WM
0+01.4	71.18	68.76	CROSS ABOVE EX. BELL LINE
0+02.4	71.17	68.87 **	CROSS ABOVE 250mmØ SAN (±0.4m CLEARANCE)
0+03.9	71.15	68.82	CROSS BELOW 525mmØ STM (±0.8m CLEARANCE)
0+05.9	71.12	68.72	CROSS BELOW ABANDONED GAS
0+06.5	71.11	68.71	CROSS BELOW ABANDONED GAS
0+07.1	71.10	68.70	CROSS BELOW ABANDONED GAS
0+11.4	71.38	68.70	PROPERTY LINE / 150mmØ V&VB
0+11.8	71.40	68.70	CAP 0.5m FROM FOUNDATION WALL

* CONNECTION TO EXISTING 300mmØ WATERMAIN. EXACT ELEVATIONS TO BE FIELD DETERMINED.

** PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA DETAIL W22 IN SHALLOW TRENCHES AND/OR CITY OF OTTAWA DETAIL W23 ADJACENT TO OPEN STRUCTURES.

ROOF DRAIN TABLE: AREA R-1 (ROOF DRAINS 1 to 7)

AREA ID *	ROOF DRAIN No. (WATTS MODEL)	ROOF DRAIN OPENING SETTING	1:5 YEAR RELEASE RATE	APPROX. 5 YR PONDING DEPTH	1:100 YEAR RELEASE RATE	APPROX. 100 YR PONDING DEPTH
R-1	RD 1 (RD-100-A-ADJ)	CLOSED	0.32 L/s	10 cm	0.32 L/s	14 cm
R-1	RD 2 (RD-100-A-ADJ)	CLOSED	0.32 L/s	10 cm	0.32 L/s	14 cm
R-1	RD 3 (RD-100-A-ADJ)	CLOSED	0.32 L/s	9 cm	0.32 L/s	13 cm
R-1	RD 4 (RD-100-A-ADJ)	CLOSED	0.32 L/s	11 cm	0.32 L/s	14 cm
R-1	RD 5 (RD-100-A-ADJ)	CLOSED	0.32 L/s	10 cm	0.32 L/s	14 cm
R-1	RD 6 (RD-100-A-ADJ)	CLOSED	0.32 L/s	10 cm	0.32 L/s	14 cm
R-1	RD 7 (RD-100-A-ADJ)	1/4 EXPOSED	0.79 L/s	10 cm	0.87 L/s	13 cm

* REFER TO THE 'DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT' (R-2019-105) PREPARED BY NOVATECH FOR DRAINAGE AREA IDENTIFIERS AND STORMWATER MANAGEMENT DETAILS.

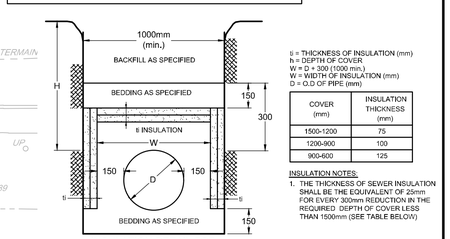
**ALL CONTROLLED FLOW ROOF DRAINS FOR THE PROPOSED BUILDING TO BE WATTS 'ADJUSTABLE ACCUTROL' ROOF DRAINS.

INTERNAL SWM STORAGE SYSTEM

DESIGN EVENT	STORAGE SYSTEM CONTROLLED FLOW	STORAGE VOLUMES REQUIRED	STORAGE VOLUMES PROVIDED
1:5 YR	6.0 L/s	5.3 m³	> 21.0 m³
1:100 YR	6.0 L/s	15.7 m³	
1:100+20%	6.0 L/s	20.6 m³	

NOTES:

1. ALL DRAINAGE FROM AREA R-2 (PROPOSED AMENITY AREA DECK DRAINS AND ALL PATIO DRAINS) TO BE DIRECTED TO THE INTERNAL STORMWATER STORAGE SYSTEM. REFER TO THE ARCHITECTURAL AND MECHANICAL PLANS FOR DETAILS.
2. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR EXACT SIZE AND DETAILS OF INTERNAL STORMWATER STORAGE SYSTEM.
3. REFER TO ARCHITECTURAL AND MECHANICAL PLANS FOR LOCATION AND CONNECTIONS AND DETAILS OF THE INTERNAL STORMWATER STORAGE SYSTEM.



ti = THICKNESS OF INSULATION (mm)
h = DEPTH OF COVER
W = D + 300 (1000 min.)
W = WIDTH OF INSULATION (mm)
D = O.D. OF PIPE (mm)

COVER (mm)	INSULATION THICKNESS (mm)
1500-1200	75
1200-900	100
900-600	125

INSULATION NOTES:

1. THE THICKNESS OF SEWER INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER LESS THAN 1500mm (SEE TABLE BELOW)

INSULATION DETAIL FOR SHALLOW SEWERS
NOT TO SCALE

SITE BENCHMARK
FIRE HYDRANT
Top of Spindle
Elevation=71.89

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

OWNER INFORMATION
POLO IV PROPERTIES INC.
2120 WOODCREST ROAD,
OTTAWA, ONTARIO, K1H 6H8
c/o AK GLOBAL MANAGEMENT INC.
TONY KAZARIAN
PHONE: (613) 592-5960
tony.k@akmanagement.com

No.	REVISION	DATE	BY
1	ISSUED FOR SITE PLAN APPROVAL	AUG 9/19	FST

SCALE 1:150 (1:150 0 2 4 6)

DESIGN SM
CHECKED FST
DRAWN BF / SM
CHECKED FST
APPROVED FST

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER F.S. THAUVETTE 100041399 Aug 9, 2019 PROVINCE OF ONTARIO

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Facsimile (613) 254-5867
Website www.novatech-eng.com

LOCATION
CITY OF OTTAWA
280 O'CONNOR STREET

DRAWING NAME
GENERAL PLAN OF SERVICES

PROJECT No. 118074-00
REV # 1
DRAWING No. 118074-GP

M:\2018\118074\CAD\Design\118074-GP.dwg, GP, Aug 12, 2019 - 11:54am, smatthews
PLAN81.DWG - 841mm x 594mm