



**LEGEND**

FFE	PROPOSED FINISHED FLOOR ELEVATION	●	EXISTING STORM MANHOLE AND SEWER
USF	PROPOSED UNDER SIDE OF FOOTING ELEVATION	○	EXISTING SANITARY MANHOLE AND SEWER
▭	PROPOSED BUILDING ENTRANCE	○	EXISTING WATERMAIN
▭	PROPOSED LIMIT OF BUILDING OVERHANG	○	EXISTING WATER MANHOLE
▭	PROPOSED STORM MANHOLE	○	EXISTING VALVE AND VALVE BOX
▭	PROPOSED CATCH-BASIN	○	EXISTING FIRE HYDRANT
▭	PROPOSED STORM MANHOLE	○	EXISTING CATCH-BASIN
▭	PROPOSED SANITARY MANHOLE	○	EXISTING TOP OF GRATE
▭	PROPOSED SANITARY SEWER AND DIRECTION OF FLOW	○	EXISTING UTILITY POLE CIV GUY WIRES
▭	PROPOSED WATERMAIN	○	EXISTING LIGHT STANDARD
▭	PROPOSED VALVE AND VALVE BOX	○	EXISTING TRAFFIC STREET LIGHT
▭	PROPOSED BARRIER CURB	○	EXISTING UNDERGROUND GASMAIN
▭	PROPOSED DEPRESSED CURB	○	EXISTING UNDERGROUND HYDRO
▭	PROPOSED SIAMSE CONNECTION	○	EXISTING UNDERGROUND BELL CABLE
▭	CLAY DIKE AS PER CITY OF OTTAWA DETAIL S8	○	EXISTING BELL PEDESTAL
		○	EXISTING TREES / SHRUBS

- GENERAL NOTES:**
- COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
  - 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.
  - OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
  - 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.
  - 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 THE CITY OF OTTAWA AND ENGINEER.
  - 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.
  - ALL ELEVATIONS ARE GEODETIC.
  - REFER TO ARCHITECTS AND LANDSCAPE ARCHITECTS DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
  - REFER TO DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT (R-2015-019, DATED JAN 26, 2015) PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
  - SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
  - PROVIDE LINE-PARKING PAINTING.
  - CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GRADING PLAN INDICATING THE AS-BUILT ELEVATION OF EVERY DESIGN GRADE SHOWN ON THIS PLAN.
  - REFER TO GEOTECHNICAL REPORT (NO. TT 13023, DATED MAY 15, 2014) PREPARED BY AMEC ENVIRONMENTAL & INFRASTRUCTURE 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.
  - ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS AND ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS. ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS WILL APPLY WHERE NO CITY STANDARDS ARE AVAILABLE.
  - ALL PRIVATE APPROACHES MUST BE CONSTRUCTED AS PER CITY SPECIFICATION SC13.

- SEWER NOTES:**
- SPECIFICATIONS:
 

ITEM	SPEC. No.	REFERENCE
SEWER SERVICE CONNECTION - RIGID PIPE	S 11	CITY OF OTTAWA
SEWER SERVICE ABANDONMENT	S 11.4	CITY OF OTTAWA
SEWER TRENCH - BEDDING (GRANULAR A)	OPSD	CITY OF OTTAWA
COVER (GRANULAR A OR GRANULAR B TYPE I, WITH MAXIMUM PARTICLE SIZE=25mm)	OPSD	CITY OF OTTAWA
STORM SEWER	PVC DR 35	
SANITARY SEWER	PVC DR 35	
  - INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 1.5m COVER WITH 50mmx1200mm H=40 INSULATION. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
  - SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
  - PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 90% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
  - FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KOR-N-SEAL, PSX POSITIVE SEAL AND DURASEAL). THE CONCRETE CRADLE FOR THE PIPE CAN BE ELIMINATED.
  - THE OWNER SHALL REQUIRE THAT THE SITE SERVICES 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.
  - FULL PORT BACKWATER VALVES ARE REQUIRED ON THE SANITARY SERVICES. INSTALLED AS PER THE MANUFACTURERS RECOMMENDATIONS AND A BACKWATER VALVE IS REQUIRED ON THE STORM SERVICES / FOUNDATION DRAINS FOR EACH BUILDING; INSTALLED AS PER STD. DWG S14.
  - CONTRACTOR TO TELEVISION (CCTV) ALL PROPOSED SEWERS/LATERALS.
  - REINSTATE ALL EXISTING PAVEMENT, CURB AND BOULEVARDS AS PER CITY OF OTTAWA R10.
  - ALL EXISTING SANITARY AND STORM SERVICES ARE TO BE CAPPED AT THE PROPERTY LINE TO THE SATISFACTION OF THE CITY OF OTTAWA'S SEWER OPERATION.

- WATERMAIN NOTES:**
- SPECIFICATIONS:
 

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
VALVE BOX ASSEMBLY	W24	CITY OF OTTAWA
CONNECTION DETAIL FROM EXISTING TO NEW WM	W25.1	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWER	W25.2	CITY OF OTTAWA
WATERMAIN CROSSING OVER SEWER	PVC DR 18	CITY OF OTTAWA
WATERMAIN (200mm)	W23	CITY OF OTTAWA
THERMAL INSULATED AT OPEN STRUCTURE	W38	CITY OF OTTAWA
WATER SERVICE INSTALLATION AT SEWER CROSSING.		
  - SUPPLY AND CONSTRUCT ALL WATERMANS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARD AND SPECIFICATIONS. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMANS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS.
  - WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED. OTHERWISE THERMAL INSULATION IS REQUIRED AS PER STD. DWG W22.
  - PROVIDE MINIMUM 0.50m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS WHEN WATERMAIN IS BELOW AND MINIMUM 0.25m CLEARANCE WHEN WATERMAIN IS ABOVE.
  - WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.

**WATERMAIN TABLE**

Station	FIG. ELEVATION	TOP OF WATERMAIN	DESCRIPTION
0+000.00	103.80	100.70	TEE
0+021.75	103.40	100.80	DMA
0+043.08	103.38	101.96	FIRE HYDRANT TEE
0+050.22	103.31	101.96	45°
0+054.08	103.36	102.06	45°
0+064.14	103.60	102.26	CAP

**PROPOSED BUILDING - ROOF DRAIN TABLE**

AREA ID	ZURN SPECIFICATION	NOTCHES	POST DEVELOPMENT ZURN ROOF DRAIN CONTROL PARAMETERS					
			1.5 - YEAR EVENT			1.00 - YEAR EVENT		
			HEAD(m)	Q(l/s)	VOL(lm³)	HEAD(m)	Q(l/s)	VOL(lm³)
R-01	ZCF121-1W-X3-Z-105-10-77	1	0.11	1.25	7.56	0.15	1.63	16.41
R-02	ZCF121-1W-X3-Z-105-10-77	1	0.11	1.28	9.39	0.15	1.66	30.26
TOTAL				2.53	16.95		3.29	36.67

ROOF AREAS R-01 TO R-02 WILL HAVE CONTROLLED ROOF DRAINS WHICH WILL DIRECT RUNOFF TO THE OUTLET VIA THE BUILDING'S INTERNAL PIPES.  
REFER TO DRAWING 114004-STM FOR STORM DRAINAGE AREAS.

\* EXACT DEPTH OF EXISTING WATERMAIN TO BE DETERMINED AT TIME OF EXCAVATION. CONTRACTOR TO CONFIRM TOP OF WATERMAIN. PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA DETAIL W23 WHERE COVER IS LESS THAN 2.4m

**NOTE:**  
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, 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.

**PRELIMINARY**

**SCALE**

1:250

0 2 4 6 8 10

DESIGN	DDB
CHECKED	DDB
DRAWN	RBG
CHECKED	DDB
APPROVED	DDB

**FOR REVIEW ONLY**

1.	ISSUED FOR SITE PLAN APPLICATION	JAN 2015	DDB
No.	REVISION	DATE	BY

**CITY OF OTTAWA**  
15 HUNTMAR DRIVE  
THE KEG KANATA

**NOVATECH**  
Engineers, Planners & Landscape Architects  
Suite 200, 240 Michael Cowland Drive  
Ottawa, Ontario, Canada K2M 1P6  
Telephone: (613) 254-9643  
Facsimile: (613) 254-5867  
Website: www.novatech-eng.com

**DRAWING NAME**  
GENERAL PLAN OF SERVICES

**PROJECT No.**  
114004-00

**REV**  
REV # 01

**DRAWING No.**  
114004-GP