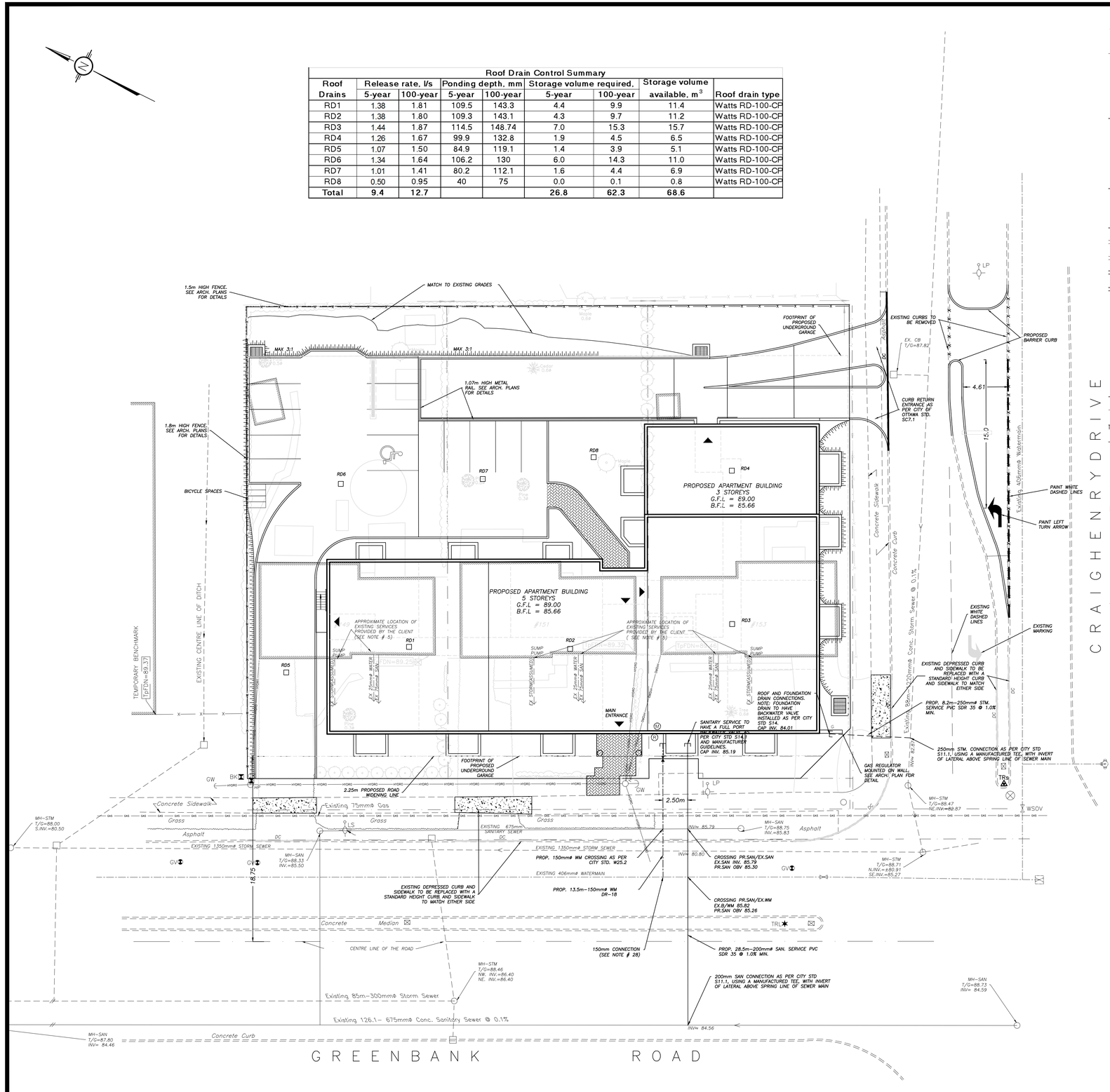
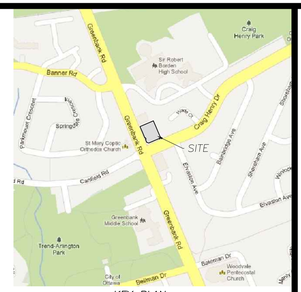
Roof Drain Control Summary

Roof Drains	Release rate, l/s		Ponding depth, mm		Storage volume required,		Storage volume available, m^3	Roof drain type
	5-year	100-year	5-year	100-year	5-year	100-year		
RD1	1.38	1.81	109.5	143.3	4.4	9.9	11.4	Watts RD-100-CP
RD2	1.38	1.80	109.3	143.1	4.3	9.7	11.2	Watts RD-100-CP
RD3	1.44	1.87	114.5	148.74	7.0	15.3	15.7	Watts RD-100-CP
RD4	1.26	1.67	99.9	132.8	1.9	4.5	6.5	Watts RD-100-CP
RD5	1.07	1.50	84.9	119.1	1.4	3.9	5.1	Watts RD-100-CP
RD6	1.34	1.64	106.2	130	6.0	14.3	11.0	Watts RD-100-CP
RD7	1.01	1.41	80.2	112.1	1.6	4.4	6.9	Watts RD-100-CP
RD8	0.50	0.95	40	75	0.0	0.1	0.8	Watts RD-100-CP
Total	9.4	12.7			26.8	62.3	68.6	



LEGEND:

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- EXISTING WATERMAIN
- EXISTING FIRE HYDRANT
- EXISTING V&VB
- EXISTING CURBSTOP
- EXISTING VALVE CHAMBER
- PROPOSED WATERMAIN
- PROPOSED 150mm ø V&VB
- PROPOSED METER
- PROPOSED REMOTE METER
- EXISTING SANITARY SEWER AND MANHOLE
- PROPOSED SANITARY SEWER
- PROPOSED ROOF DRAIN
- EXISTING STORM SEWER AND MANHOLE
- PROPOSED STORM SEWER
- EXISTING CONCRETE CURB
- EXISTING DEPRESSED CURB
- PROPOSED CONCRETE CURB
- PROPOSED DEPRESSED CURB
- EXISTING BUILDING OR STRUCTURE
- PROPOSED BUILDING OR STRUCTURE
- EXISTING GRADE (×220.59)
- PROPOSED GRADE (×88.00)
- PROPOSED GRADE (TOP OF CURB) (×88.68TC)
- PROPOSED GRADE (TOP OF WALL) (×89.61TW)
- RIDGE LINE (RL)
- EXISTING CENTERLINE OF DITCH
- PROPOSED 3:1 TERRACING (TOP OF SLOPE)
- PROPOSED FENCE
- OVERLAND MAJOR FLOW ROUTE
- PROPOSED 100–YEAR LEVEL PONDING
- PROPOSED WATERSHED BOUNDRY
- WATERSHED NAME (WS–XX UNCONTROLED)
- RUNOFF COEFFICIENT (A)
- AREA IN HECTARES (R)
- FOOTPRINT OF PROPOSED UNDERGROUND GARAGE
- PROPOSED SILT FENCE AS PER OPSD 219.110
- PROPOSED STRAW BALE FLOW CHECK DAM



KEY PLAN (N.T.S)

NOTES: GENERAL

1. ALL MATERIALS AND CONSTRUCTION METHODS TO BE IN ACCORDANCE WITH LATEST VERSIONS OF THE ONTARIO PROVINCIAL SPECIFICATION STANDARDS (OPSS) AND THE CITY OF OTTAWA STANDARD SPECIFICATIONS AND DRAWINGS, AND THE GRADING &DRAINAGE PLAN C.001 PREPARED BY LRL.
2. REFER TO ARCHITECTS PLANS FOR BUILDING DIMENSIONS, LAYOUT AND REMOVALS. REFER TO LANDSCAPE PLAN FOR LANDSCAPED DETAILS AND OTHER RELEVANT INFORMATION. ALL INFORMATION SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. TOPOGRAPHIC SURVEY COMPLETED AND PROVIDED BY FARLEY, SMITH AND DENIS SURVEYING LTD, DATED JUNE 29, 2010. CONTRACTOR TO VERIFY IN THE FIELD PRIOR TO CONSTRUCTION OF ANY WORK AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
4. THE LOCATION OF UNDERGROUND SERVICES ARE BASED ON THE SURVEY PROVIDED BY FARLEY, TOGETHER WITH THE INFORMATION FROM THE CITY OF OTTAWA DRAWINGS R–1181–6–11, N–A–03 AND ARC MAP SEWER DATA. HOWEVER, CONTRACTOR MUST ENSURE THAT THIS INFORMATION IS VERIFIED PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
5. EXISTING SANITARY, WATER AND STORM SERVICES FOR THE EXISTING HOUSES SHOULD BE ABANDONED AND CAPPED AT THE PROPERTY LINE.
6. CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.
7. JOB BENCH MARK – THE TEMPORARY BENCHMARK TO BE USED IS THE TOP OF FOUNDATION OF THE NEIGHBOURING PROPERTY TO THE NORTH–WEST OF THE SITE. REFER TO PLAN.
8. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
9. STRIP AND REMOVE ALL TOPSOIL FROM IMPROVED AREAS.
10. THE CONTRACTOR SHALL INSTALL EROSION AND SEDIMENT CONTROL MEASURES AS PER THE EROSION AND SEDIMENT CONTROL PLAN (DWG C.004). REGARDLESS OF SITE SPECIFIC ITEMS DETAILED ON THE PLANS, THE CONTRACTOR SHALL INSTALL EROSION AND SEDIMENT CONTROL MEASURES TO SUIT THE PROPOSED WORK METHODS. FOLLOWING CONSTRUCTION, DISTURBED AREAS AS WELL AS PROPOSED GRASSED AND VEGETATED SURFACES, SHALL BE REINSTATED AS SOON AS PRACTICAL.
11. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
12. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500mm WIDTH MINIMUM.
13. RESTORE PAVEMENT STRUCTURE AND SURFACES ON EXISTING ROADS TO A CONDITION AT LEAST EQUAL TO ORIGINAL AND TO THE SATISFACTION OF THE MUNICIPAL AUTHORITIES.
14. ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSS STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSS 206, 310 & 314. MATERIALS TO OPSS 1001, 1003 & 1010.
15. ABUTTING PROPERTY GRADE TO BE MATCHED.
16. OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
17. MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
18. REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS.
19. THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE CONTRACTOR FROM THE REQUIREMENTS TO OBTAIN THE VARIOUS PERMITS/APPROVALS REQUIRED TO COMPLETE A CONSTRUCTION PROJECT, SUCH AS BUT NOT LIMITED TO; ROAD CUT PERMITS, SEWER PERMITS, WATER PERMIT, ETC.
20. AT PROPOSED UTILITY CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK.
21. SERVICE TRENCHES ON MUNICIPAL RIGHT OF WAY TO BE REINSTATED AS PER CITY OF OTTAWA DETAIL R10.
22. PRIOR TO CONSTRUCTION, A GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO IS TO INSPECT ALL SUB–SURFACES FOR FOOTINGS, SERVICES AND PAVEMENT STRUCTURES.

NOTES: WATERMAIN

23. ALL WATER MAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW FINISHED GRADE OR THERMAL INSULATION SHALL BE PROVIDED AS PER W22, FOR WATERMAIN AT OPEN STRUCTURES THERMAL INSULATION AS PER W23 AND WATERMAIN OVER SEWER AS PER W25.2.
24. WATER MAIN BEDDING TO BE AS PER CITY OF OTTAWA DETAIL W17.
25. CONCRETE THRUST BLOCKS AND RESTRAINING AS PER CITY OF OTTAWA DETAILS W25.3 & W25.4.
26. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS AS PER CITY OF OTTAWA DETAIL W40 & W42.
27. IF WATER MAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.
28. ALL CONNECTIONS OF NEW WATERMAIN TO EXISTING WATERMAIN SERVICES SHALL BE PERFORMED BY CITY OF OTTAWA FORCES. THE CONTRACTOR SHALL PROVIDE EXCAVATION, BACKFILL AND REINSTATEMENT. THE CONTRACTOR SHALL CONSTRUCT WATER SERVICES, CONNECTIONS, & APPURTENANCES AS PER CITY OF OTTAWA SPECIFICATIONS & SHALL COORDINATE & PAY ALL RELATED COST INCLUDING THE COST OF CONNECTION, INSPECTION, & DISINFECTION BY CITY PERSONNEL.
29. WATER SERVICE CONNECTIONS SHALL BE INSTALLED A MINIMUM 2.4m FROM CATCH BASINS AND MANHOLES. THERMAL INSULATION SHALL BE INSTALLED WHERE THE 2.4m SEPARATION CANNOT BE ACHIEVED AS PER CITY OF OTTAWA SPECIFICATIONS W22 & W23.
30. EXISTING SERVICE CONNECTIONS TO BE CAPPED AT PROPERTY LINE TO THE SATISFACTION OF THE CITY'S SEWER OPERATIONS.
31. ALL WATERMAIN PIPES AND FITTINGS LOCATED IN AREAS CONTAMINATED OR POTENTIALLY CONTAMINATED WITH HYDROCARBONS SHALL HAVE NITRITE GASKETS.

NOTES: SEWER

32. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.
33. ALL WORK SHALL BE PERFORMED, AS APPLICABLE IN ACCORDANCE WITH OPSS 407, AND 410.
34. EXISTING SERVICE CONNECTIONS TO BE CAPPED AT PROPERTY LINE TO THE SATISFACTION OF THE CITY'S SEWER OPERATIONS.
35. ALL SEWERS PIPES AND FITTINGS LOCATED IN AREAS CONTAMINATED OR POTENTIALLY CONTAMINATED WITH HYDROCARBONS SHALL HAVE NITRITE GASKETS.
36. LOCATION OF ALL SANITARY & STORM SERVICES FOR THE EXISTING DWELLINGS ARE TO BE CAPPED AT PROPERTY LINE.

150mm WATERMAIN SERVICE SCHEDULE

CHAINAGES	DESCRIPTION	TOP OF GROUND	TOP OF WATERMAIN
0+00	CAP AT BLDG	88.88	86.48
0+1.55	150mm V&VB	88.83	86.43
0+8.6	EX.SAN CROSSING	88.70	87.11
0+10		88.54	86.14
0+10.9	EX.STM CROSSING	88.54	86.14
0+13.5	CONNECTION	88.63	86.23

USE AND INTERPRETATION OF DRAWINGS.

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ARE PART OF THE CONTRACT DOCUMENTS AND DESCRIBE USE AND INTENT OF THE DRAWING. THE CONTRACT DOCUMENTS INCLUDE NOT ONLY THE DRAWINGS, BUT ALSO THE OWNER-CONTRACTOR AGREEMENT, CONDITIONS OF THE CONTRACT, THE SPECIFICATIONS, ADDENDA, AND MODIFICATIONS ISSUED AFTER EXECUTION OF THE CONTRACT. THESE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ANY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. WORK NOT COMPLETELY DELINEATED HEREON SHALL BE CONSTRUCTED OF THE SAME MATERIALS AND DETAILED SIMILARLY AS WORK SHOWN MORE COMPLETELY ELSEWHERE IN THE CONTRACT DOCUMENTS.

BY USE OF THE DRAWINGS FOR CONSTRUCTION OF THE PROJECT, THE OWNER REPRESENTS THAT HE HAS REVIEWED AND APPROVED THE DRAWINGS. THE CONTRACTOR REPRESENTS THAT HE HAS VISITED THE SITE, FAMILIARIZED HIMSELF WITH THE LOCAL CONDITIONS, VERIFIED FIELD DIMENSIONS AND CORRELATED HIS OBSERVATIONS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

AS INSTRUMENTS OF SERVICE, ALL DRAWINGS, SPECIFICATIONS, CADD DISKS OR OTHER ELECTRONIC MEDIA AND COPIED THERE OF FURNISHED BY THE ENGINEER ARE HIS PROPERTY. THEY ARE TO BE USED ONLY FOR THIS PROJECT AND ARE NOT TO BE USED ON ANY OTHER PROJECT. CHANGES TO THE DRAWINGS MAY ONLY BE MADE BY THE ENGINEER.

UNLESS THE REVISION TITLE IS "ISSUED FOR CONSTRUCTION", THIS DRAWINGS SHALL BE CONSIDERED PRELIMINARY AND SHALL NOT BE USED AS A CONSTRUCTION DOCUMENT.

THIS DRAWING ILLUSTRATES THE WORK TO BE DONE. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK, OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS DRAWINGS EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL DETERMINE ALL CONDITIONS AT THE SITE AND SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS ACKNOWLEDGEMENT OF THE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

UNAUTHORIZED CHANGES:

IN THE EVENT THE CLIENT, THE CLIENT'S CONTRACTORS OR SUBCONTRACTORS, OR ANYONE FOR WHOM THE CLIENT IS LEGALLY LIABLE MAKES OR PERMITS TO BE MADE ANY CHANGES TO ANY REPORTS, PLANS, SPECIFICATIONS OR OTHER CONSTRUCTION DOCUMENTS PREPARED BY LEVAC ROBICHAUD LECLERC ASSOCIATES LTD (LRL) WITHOUT OBTAINING LRL'S PRIOR WRITTEN CONSENT, THE CLIENT SHALL ASSUME FULL RESPONSIBILITY FOR THE RESULTS OF SUCH CHANGES. THEREFORE THE CLIENT AGREES TO WAIVE ANY CLAIM AGAINST LRL AND TO RELEASE LRL FROM ANY LIABILITY ARISING DIRECTLY OR INDIRECTLY FROM SUCH CHANGES.

IN ADDITION, THE CLIENT AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS LRL FROM ANY DAMAGES, LIABILITIES OR COST, INCLUDING REASONABLE ATTORNEY'S FEES AND COST OF DEFENSE, ARISING FROM SUCH CHANGES.

IN ADDITION, THE CLIENT AGREES TO INCLUDE IN ANY CONTRACTS FOR CONSTRUCTION APPROPRIATE LANGUAGE THAT PROHIBITS THE CONTRACTOR OR ANY SUBCONTRACTORS OF ANY TIER FROM MAKING ANY CHANGES OR MODIFICATIONS TO LRL'S CONSTRUCTION DOCUMENTS WITHOUT THE PRIOR WRITTEN APPROVAL OF LRL AND THAT FURTHER REQUIRES THE CONTRACTOR TO INDEMNIFY BOTH LRL AND THE CLIENT FROM ANY LIABILITY OR COST ARISING FROM SUCH CHANGES MADE WITHOUT SUCH PROPER AUTHORIZATION.

GENERAL NOTES:

EXISTING SERVICES AND UTILITIES SHOWN ON THESE DRAWINGS ARE TAKEN FROM THE BEST AVAILABLE RECORDS, BUT ARE NOT COMPLETE. CONTRACTOR IS ADVISED TO CHECK IN FIELD FOR LOCATION AND ELEVATION OF PIPES AND CHECK WITH THE UTILITY COMPANIES BEFORE DIGGING.

CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS AS DEEMED NECESSARY.

THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE ENGINEER'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE WORK COMMENCES. DO NOT SCALE DRAWINGS.

5m 2 0 5m
SCALE: 1:200

No.	REVISIONS	BY	DATE
06	ISSUED TO CLIENT FOR SPA SUBMISSION	G.S.	OCT. 28, 2013
05	DWG EDIT BASED ON ARCHITECTURAL CHANGES	G.S.	SEPT 20, 2013
04	REVISED AS PER SITE PLAN REV 2A & RE-ISSUED TO CLIENT FOR SPA SUBMISSION	I.J.	MAR. 01, 2013
03	ISSUED TO CLIENT FOR SPA SUBMISSION	I.J.	JAN. 30, 2013
02	ISSUED FOR REVIEW	I.J.	DEC. 14, 2012
01	ISSUED FOR SITE CONTROL PLAN APPLICATION	J.G.	OCT. 7, 2010

NOT AUTHENTIC UNLESS SIGNED AND DATED

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DESIGNED BY:	DRAWN BY:	APPROVED BY:
I.J.	I.J.	I.J.

PROJECT
APARTMENT BUILDING
151 GREENBANK ROAD
OTTAWA, ON

DRAWING TITLE
SITE SERVICING PLAN

PROJECT NO.
10498

DATE
OCTOBER 2010

C.002