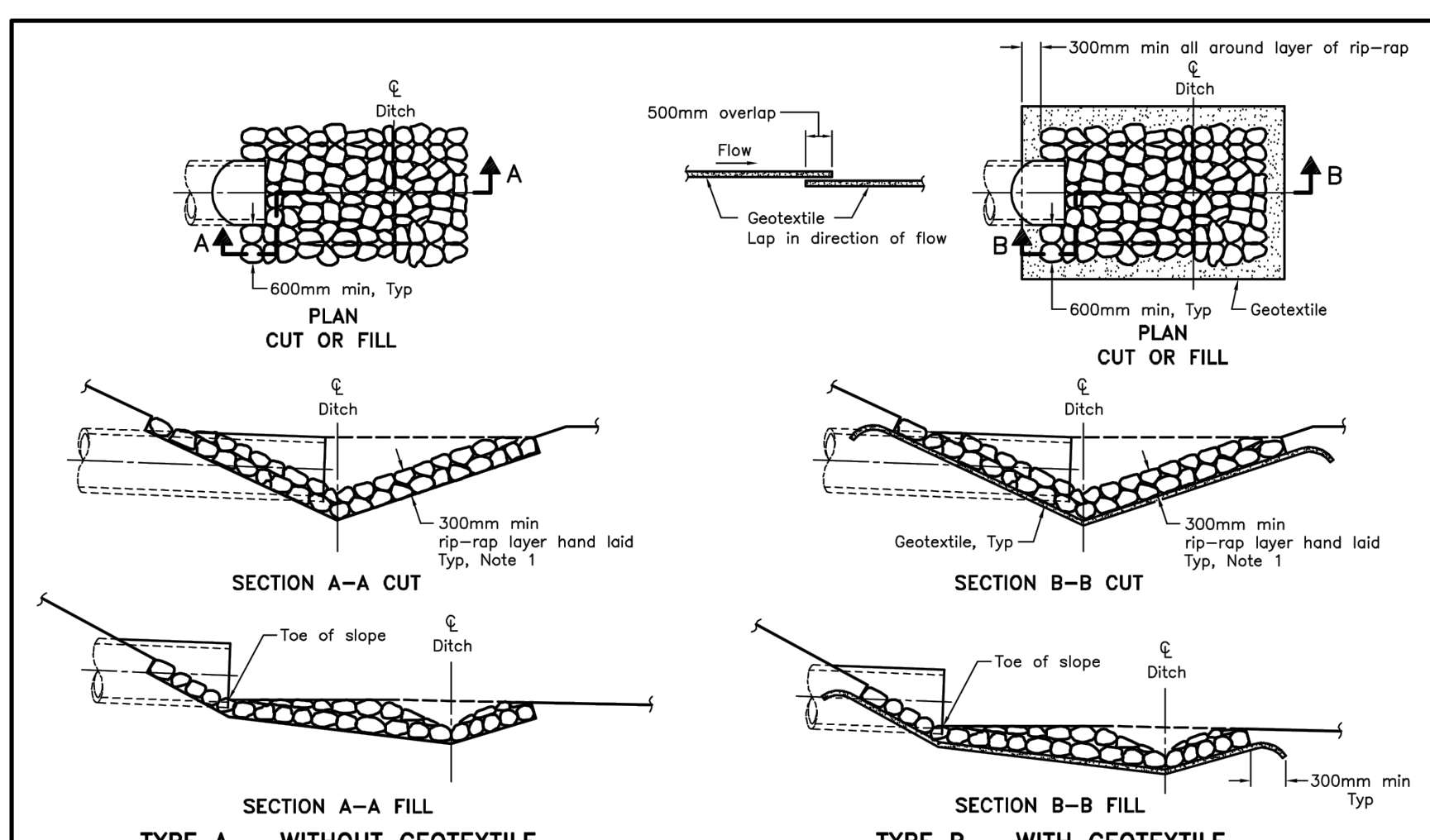


LEGEND:
 OD - Outside diameter of pipe

NOTES:
 A This OPSD to be read in conjunction with OPSD 3940.150.
 B If a steel grate is required, refer to OPSD 804.05.
 C Class of concrete: 30MPa.
 D Cover to reinforcing bars 75mm ± 20mm.
 E All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2006	Rev 1	
CONCRETE HEADWALL			
FOR PIPE LESS THAN 900mm DIAMETER			
OPSD 804.030			



NOTES:
 1 The thickness of the rip-rap layer shall be at least 1.5 times the rip-rap mean diameter.
 A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2013	Rev 2	
GENERAL RIP-RAP LAYOUT			
FOR SEWER AND CULVERT OUTLETS			
OPSD 810.010			

DRAWING NOTES

- 1.0 GENERAL**
- CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
 - DO NOT SCALE DRAWINGS.
 - CONTRACTOR TO REPORT ALL DISCOVERIES OF ERRORS, OMISSIONS OR DISCREPANCIES TO THE ARCHITECT OR DESIGN ENGINEER AS APPLICABLE.
 - USE ONLY THE LATEST REVISED DRAWINGS OR THOSE THAT ARE MARKED 'ISSUED FOR CONSTRUCTION'.
 - ALL CONSTRUCTION SHALL COMPLY WITH CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS AND SPECIFICATIONS.
 - FOR LEGAL SURVEY INFORMATION REFER TO REGISTERED PLAN.
 - REFER TO SITE PLAN (DRAWING NO A1-123) BY TURNER FLEISHER FOR SITE PLAN LAYOUT.
 - REFER TO LANDSCAPE ARCHITECTURAL DRAWINGS (DRAWING NCL1-1.0) BY IBI GROUP FOR SURFACE FEATURES DETAILS.
 - CONTRACTOR TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES AS IDENTIFIED IN THE EROSION AND SEDIMENT CONTROL PLAN TO THE SATISFACTION OF THE CITY OF OTTAWA, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.). DURING ALL PHASES OF THE SITE PREPARATION AND CONSTRUCTION THE MEASURES ARE TO BE MAINTAINED TO THE SATISFACTION OF THE ENGINEER AND CITY OF OTTAWA IN ACCORDANCE WITH THE BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL. SHOULD ANY ADDITIONAL MEASURES BE REQUIRED TO ADDRESS FIELD CONDITIONS THEY SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER OR THE CITY OF OTTAWA. SUCH ADDITIONAL MEASURES MAY INCLUDE BUT NOT BE LIMITED TO INSTALLATION OF FILTER CLOTHS ACROSS MANHOLE AND CATCHBASIN LIDS TO PREVENT SEDIMENT FROM ENTERING THE STRUCTURE AND INSTALLATION AND MAINTENANCE OF A LIGHT DUTY BOLLARD FENCE BARRIER AS REQUIRED.
 - ALL IRON WORK ELEVATIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MINOR ADJUSTMENTS AS DETERMINED BY THE ENGINEER.
 - ALL CONCRETE CURBS AND SIDEWALKS TO CONFORM TO O.P.S. AND CONSTRUCTED TO CITY STANDARDS. ALL ON-SITE CURBS TO BE BARRIER TYPE, WITH DEPRESSIONS AS NOTED.
 - ALL CONCRETE SHALL BE 'NORMAL PORTLAND CEMENT' IN ACCORDANCE WITH O.P.S. 1350 AND SHALL ACHIEVE A MINIMUM STRENGTH OF 30MPa AT 28 DAYS.
 - ALL CONSTRUCTION TRAFFIC TO ACCESS SITE FROM HUNTMAR DRIVE.
 - FOR DETAILS OF TEST PITS SEE GEOTECHNICAL REPORT NO. PG2707-1 BY PATERSON GROUP DATED FEBRUARY 11, 2013.
 - CONTRACTOR TO PROTECT EXISTING INFRASTRUCTURE AND PROPERTY SUCH AS TREES, PARKING METERS, SIDEWALKS, CURBS, ASPHALT, AND STREET SIGNS FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR TO PAY THE COST TO REINSTATE OR REPLACE ANY DAMAGED INFRASTRUCTURE OR PROPERTY TO THE SATISFACTION OF THE CITY.
 - THE POSITION OF POLE LINES, CONDUITS, WATERMAIN, SEWERS, AND OTHER UNDERGROUND AND ABOVEGROUND UTILITIES AND STRUCTURES ARE 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 THE CONTRACTOR SHALL INFORM ITSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, SHALL PROTECT ALL UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.
 - CONTRACTOR TO SUPPLY SUITABLE FILL MATERIAL WHERE REQUIRED TO ROUGH GRADE THE SITE. ALL IMPORTED FILL MATERIAL TO BE CERTIFIED AS ACCEPTABLE BY THE GEOTECHNICAL ENGINEER.
 - CONTRACTOR TO HAUL EXCESS MATERIAL OFFSITE AS NECESSARY TO GRADE SITE TO MEET THE PROPOSED GRADES. ALL EXCESS MATERIAL TO BE HAULED OFFSITE AND DISPOSED OF AT AN APPROVED DUMP SITE. SHOULD THE CONTRACTOR DISCOVER ANY HAZARDOUS MATERIAL, CONTRACTOR IS TO NOTIFY ENGINEER. ENGINEER TO DETERMINE APPROPRIATE DISPOSAL METHOD/LOCATION.
 - FILL MATERIAL WITHIN THE PARKING LOT AND BUILDING PAD AREAS, AND SUPPORTING BUILDING FOUNDATIONS SHALL BE COMPACTED TO 98% STANDARD METHOD PROCTOR DENSITY AND TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
 - ALL COMPACTION METHODS TO BE PERFORMED TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER TO INCLUDE BUT NOT BE LIMITED TO THE THICKNESS OF LIFTS, AND COMPACTION EQUIPMENT USED.
 - ALL DISTURBED BOULEVARDS TO BE REINSTATED WITH 500 ON 100mm TOPSOIL.
 - UTILITY DUCTS TO BE INSTALLED PRIOR TO ROAD BASE CONSTRUCTION.
 - CLAY DIKES TO BE INSTALLED WHERE INDICATED ON THE DRAWINGS OR AS APPROVED AND DIRECTED BY THE GEOTECHNICAL ENGINEER ALL IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

- 2.0 SANITARY**
- ALL SANITARY SEWER MAINS TO BE CSA CERTIFIED, BELL AND SPIGOT TYPE. ONLY FACTORY FITTINGS TO BE USED. SEWER TO BE INSTALLED AS PER OPSD 1005.01. SANITARY SEWER MATERIALS TO BE: 250mmØ AND SMALLER - PVC DR 35, 300mmØ AND LARGER - CONC. CL. 140 D.
 - ALL SANITARY MAINTENANCE HOLES TO BE 1.2m DIAMETER AS PER CITY OF OTTAWA STANDARDS COMPLETE WITH BENCHING, RUNGS, FRAME AND COVER, DROP PIPES AND LANDINGS WHERE NEEDED.
 - SANITARY MANHOLE COVERS TO BE CITY OF OTTAWA STD. 325 (MOD. OPSD. 401.020). SANITARY MANHOLE COVER TO BE CLOSED COVER TYPE, AS PER CITY STANDARD S24.
 - SANITARY SEWER LEAKAGE TEST AND CCTV INSPECTION SHALL BE COMPLETED AS PER CITY SPECIFICATIONS PRIOR TO INSTALLATION OF BASE COURSE ASPHALT.
 - ANY SANITARY SEWER WITH LESS THAN 2.0m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR AS APPROVED BY THE ENGINEER.
 - CONNECTION TO THE EXISTING SANITARY SEWER TO BE INCLUDED IN THE COST FOR SANITARY SEWER INSTALLATION. THIS INCLUDES REINSTATEMENT OF ROAD CUTS TO CITY STANDARDS.

- 3.0 STORM**
- ALL STORM SEWERS TO BE CSA CERTIFIED, BELL AND SPIGOT TYPE. ALL STORM SEWERS TO BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS. ONLY FACTORY FITTINGS TO BE USED. STORM SEWER MATERIALS TO BE: 375mmØ AND SMALLER - PVC DR 35, 450mmØ AND LARGER - CONC. CL. 150 D.
 - ALL STORM MAINTENANCE HOLES TO BE SIZED IN ACCORDANCE WITH THE PLANS AND AS PER CITY OF OTTAWA STANDARDS COMPLETE WITH BENCHING, RUNGS, AND FRAME AND COVER.
 - STORM MM COVERS TO BE OPEN TYPE, AS PER CITY STANDARD S24. FRAMES TO BE PER CITY OF OTTAWA STD. S25. CONTRACTOR TO INSTALL FILTER FABRIC UNDER STORM MM COVER UNTIL SOODING IS COMPLETE.
 - STORM MAINTENANCE HOLES TO BE OPSD, SIZE AS SPECIFIED, TAPER TOP.
 - ALL CATCH BASINS TO BE AS PER OPSD 705.010. FRAME & FISH TYPE GRATE AS PER CITY OF OTTAWA STD. S19.1. REFER TO CIB TABLE ON DRAWING C-1008 FOR INVERTS AND PIPE SIZES.
 - 150mm DIAMETER SOCK-WRAPPED PERFORATED PVC SUBDRAINS TO BE INSTALLED AT THE LIMIT OF THE HEAVY DUTY ROAD STRUCTURE WHERE IT MEETS THE LIGHT DUTY ROAD STRUCTURE AND AT ALL CIB IN HEAVY DUTY ROADS AS IDENTIFIED ON PLAN. SUBDRAINS TO DISCHARGE TO CIBS AS SHOWN.
 - ANY STORM SEWER WITH LESS THAN 2.0m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR AS APPROVED BY THE ENGINEER.
 - CONNECTION TO THE EXISTING STORM SEWER TO BE INCLUDED IN THE COST FOR STORM SEWER INSTALLATION. THIS INCLUDES REINSTATEMENT OF ROAD CUT TO CITY STANDARDS.
 - CONTRACTOR TO PROVIDE IPEX-TEMPER MHE ICDS SHOP DRAWINGS, OR EQUIVALENT, FOR ENGINEERS REVIEW PRIOR TO ORDERING ICDS.

- 4.0 WATER**
- ALL WATERMANS TO BE PVC DR 18, WITH MINIMUM COVER OF 2.4m AND INSTALLED PER CITY OF OTTAWA STANDARDS. ALL DOMESTIC WATER SERVICES ARE TO BE 200mmØ.
 - THRUST BLOCKS TO BE INSTALLED AT ALL BENDS, TEES, AND CAPS ALL AS PER OPSD 1103.01 AND 1103.02.
 - CONTRACTOR TO CONDUCT PRESSURE AND LEAKAGE TESTING OF ALL WATERMANS AND DISPECT AND CHLORINATE ALL WATERMANS TO THE SATISFACTION OF M.O.E. AND THE CITY OF OTTAWA.
 - TRACER WIRE TO BE INSTALLED ALONG THE FULL LENGTH OF WATERMAIN AND ATTACHED TO EACH MAN STOP AS PER CITY OF OTTAWA STANDARDS.
 - ALL COMPONENTS OF THE WATER DISTRIBUTION SYSTEM SHALL BE CATHODICALLY PROTECTED AS PER CITY OF OTTAWA STANDARDS.
 - ALL VALVES & VALVE BOXES AND CHAMBERS, HYDRANTS, AND HYDRANT VALVES AND ASSEMBLIES SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARDS.
 - ANY WATERMAIN WITH LESS THAN 2.4m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR AS APPROVED BY THE ENGINEER.
 - CONTRACTOR IS RESPONSIBLE FOR ACQUIRING THE WATER PERMIT FROM THE CITY OF OTTAWA AND PAYMENT OF ANY FEES ASSOCIATED WITH SECURING THE WATER PERMIT. OWNER IS RESPONSIBLE FOR REIMBURSING THE CONTRACTOR FOR THE ACTUAL COST OF ACQUIRING THE WATER PERMIT.
 - CONNECTION TO EXISTING WATERMAIN TO BE INCLUDED IN THE COST FOR THE WATERMAIN INSTALLATION. THIS COST INCLUDES REINSTATEMENT OF ROAD CUTS TO CITY STANDARDS.

5.0 PARKING LOT AND WORK IN PUBLIC RIGHTS OF WAY

- CONTRACTOR TO REINSTATE ROAD CUTS PER CITY OF OTTAWA STANDARD R-10.
- CONTRACTOR SHALL PREPARE A TRAFFIC MANAGEMENT PLAN FOR REVIEW AND APPROVAL BY THE CITY OF OTTAWA. CONTRACTOR TO MAINTAIN TRAFFIC FLOW DURING THE ENTIRE CONSTRUCTION PERIOD. MAINTENANCE OF ROAD CUTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PROVISION OF FLAGMEN, DETOURS AS NECESSARY, AND SIGNS TO THE FULL SATISFACTION OF THE ENGINEER AND ROAD AUTHORITY SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- CONTRACTOR TO PREPARE SUBGRADE, INCLUDING PROOFROLLING, TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER PRIOR TO THE COMMENCEMENT OF PLACEMENT OF GRANULAR B MATERIAL.
- FILL TO BE PLACED AND COMPACTED PER THE GEOTECHNICAL REPORT REQUIREMENTS.
- CONTRACTOR TO SUPPLY, PLACE AND COMPACT GRANULAR B MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER. CONTRACTOR TO PROVIDE ENGINEER WITH SAMPLES OF GRANULAR B MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL ENGINEER THAT THE MATERIAL MEETS THE GRADATION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.
- CONTRACTOR TO SUPPLY, PLACE AND COMPACT GRANULAR A MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER. CONTRACTOR TO PROVIDE ENGINEER WITH SAMPLES OF GRANULAR A MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL ENGINEER THAT THE MATERIAL MEETS THE GRADATION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.
- ASPHALT MATERIAL TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL ENGINEER OF GRANULAR B PLACEMENT.
- CONTRACTOR TO SUPPLY, PLACE AND COMPACT ASPHALT MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER. CONTRACTOR TO PROVIDE ENGINEER WITH SAMPLES OF ASPHALT MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL ENGINEER THAT THE MATERIAL MEETS THE REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.
- CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING LINE AND GRADE IN ACCORDANCE WITH THE PLANS, AND FOR PROVIDING THE ENGINEER WITH VERIFICATION PRIOR TO PLACEMENT.
- DITCHES DISTURBED DURING CULVERT INSTALLATION AND GRADING OPERATIONS ARE TO BE REINSTATED TO ORIGINAL STANDARD W22, OR AS APPROVED BY THE ENGINEER.
- CULVERTS TO CONSIST OF 2.8mm THICKNESS MATERIAL AND BE INSTALLED PER CITY OF OTTAWA STANDARDS.
- PAVEMENT STRUCTURE (MATERIAL TYPES AND THICKNESSES) FOR HEAVY DUTY AND LIGHT DUTY AREAS TO BE AS SPECIFIED IN THE GEOTECHNICAL REPORT AND SHOWN ON THE PLANS.

PAVEMENT STRUCTURE	
LIGHT DUTY	
50mm 12.5 SUPERPAVE	
150mm GRANULAR 'A'	
400mm GRANULAR 'B'	
HEAVY DUTY	
40mm 12.5 SUPERPAVE	
50mm 19.0 SUPERPAVE	
150mm GRANULAR 'A'	
450mm GRANULAR 'B'	

01	14:12:12	ISSUED FOR SITE PLAN APPROVAL	J.I.M.
Rev	Date	Issued/Revision	By

PROJECT ARCHITECT

TURNER FLEISCHER

TURNER FLEISCHER ARCHITECTS INC.
 67 Lesmill Road Toronto ON Canada M5B 1Z8
 Telephone (416) 425-2322 Facsimile (416) 425-6777
 turnerfleischer.com

SITE/CIVIL

Architects, Engineers, Planners
 5th Floor, 230 Richmond Street West
 Toronto, ON
 M5V 1Y6, Canada
 Tel: (416) 596-1930
 Fax: (416) 596-8644

333 Preston Street
 Tower 1, Suite 400
 Ottawa, Ontario
 Canada K1S 5N4
 Tel: (613) 225-1311
 FAX: (613) 225-8868

ELECTRICAL

HAMMERSCHLAG + JOFFE I N.C.
 69 Lesmill Road Toronto,
 Ontario Canada M5B 2T8
 T: (416) 444-5263
 F: (416) 444-1463
 E: dwj@hamjof.com

PLANNER

FOTENN PLANNING & URBAN DESIGN

223 McLeod Street | Ottawa, ON | K2P 0Z8
 T: 613.730.5708 ext.234 | F: 613.730.1136

DEVELOPER

RIOCAN

RioCan Real Estate Investment Trust
 2300 Yonge Street
 Suite 500
 Toronto, Ontario
 M4P 1E4
 (416) 646 8330

PROJECT

**TANGER OUTLETS CENTRE
 PHASE 2
 HOTEL SITE**

KANATA ONTARIO

DWG. TITLE

DETAILS AND SECTIONS

PROJECT NO. 32862 DATE DECEMBER 2014

DRAWN BY M.M. SCALE N.T.S.

CHECKED BY J.I.M. FILE NAME: -

PLOT SCALE: 1:1

DRAWING NUMBER: **C-DETAILS**

J:\32862-RioTanger\3.8 Drawings\3.8\Reports\Notes\32862-C-DETAILS.dwg Layout Name: DETAILS Plot Style: AIA_3746A00-D-PLLOT.DWG Plot Scale: 1:1 Plotted At: 12/12/2014 4:09 PM Last Saved By: mmh Last Saved At: Dec. 11, 14