



Turner & Townsend

Report
For
Class D Construction Cost
Estimate

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Ottawa Public Library (OPL/LAC), Exemplar Site (Site 8)
City of Ottawa

21-Nov-16



November 21, 2016
ref no. 20940

City of Ottawa
20 Metcalfe St, Ottawa,
Ontario, K1P 5M2

For the attention of Paul Hussar,

Dear Paul,

Ottawa Public Library, Exemplar Site (Site 8)
City of Ottawa

We enclose our updated Class D Construction Cost Estimate for the above-noted based on the documentation provided to us.

Please refer to our Executive Summary, Section 1, for specific qualifications and assumptions associated with this cost report.

We trust this meets with your approval. Should you have any questions please do not hesitate to contact us.

Yours faithfully

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Senior Cost Manager
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Director
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Rev	Originator	Approved	Date
2	Jon Gilford	Marcos Sibal	Sep. 23rd, 2016
3	Sopanna Surendran	Haneef Ahmed	October 6th, 2016
4	Sopanna Surendran	Haneef Ahmed	October 21st, 2016
5	Sopanna Surendran	Haneef Ahmed	October 24th, 2016
6	Sopanna Surendran	Haneef Ahmed	October 25th, 2016
7	Sopanna Surendran	Haneef Ahmed	October 27th, 2016
8		Haneef Ahmed	November 2, 2016
9		Haneef Ahmed	November 17, 2016
9		Haneef Ahmed	November 21, 2016
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F:\Tor\Jobs\2014 Jobs - 20860 -\20940 CM - Ottawa Public Library - NK\2016 Estimate\200 Class D Exemplar Site - July 2016\Estimate\Revised Sep + Oct, 2016\Updated , 2016\Nov 16 2016\OPL LAC r9 Nov 16.xlsx\Sum (2)			

1 EXECUTIVE SUMMARY

1.1 Introduction

Turner and Townsend is retained to provide Cost Planning & Design Cost Control services, including preparation of this Class D Construction Cost Analysis, based on the information listed in Section 5. **Our estimate is an Opinion of Probable Cost only** and reflects current local market rates based on normal competitive conditions. Our estimate is intended to be comparable to a range of bids received from a number of competitive general contractors and sub-trades.

Turner and Townsend does not guarantee that tenders or actual construction costs will not vary from this estimate. Adverse market conditions, proprietary and/or sole source specifications, single sourcing of materials and equipment or reduced competition among contractors may cause bids to vary from reasonable estimates based on normal competitive conditions.

The purpose of this Cost Plan is to provide the City of Ottawa with a budget framework within which the project can be developed and cost managed, from Feasibility to Tender award stage.

The Cost Plan has been prepared solely in accordance with the documentation outlined within this document.

This Cost Plan is subject to review, confirmation and/or amendments following revisions to the information stated and discussion(s) with the Client and Design Consultants at which time this report will be reviewed and may be re-issued if required.

1.2 Procurement and Schedule

The Construction Cost Estimate includes all direct construction costs and contractor's overhead and profit. It assumes that the project will be procured on a **Stipulated Lump sum basis**, and that bids will be received from a minimum of five pre-qualified general contractors. We also assume that the project will be completed in a reasonable time frame and have not included any premiums related to "fast-tracking" the project, if required. The unit rates in our estimate are based on construction activities occurring during normal working hours and proceeding within a non-accelerated schedule.

1.3 Risk Assessment

Pricing reflects 4Q 2016 rates and present market/local conditions. Escalation allowance to the anticipated construction start date of 3Q 2019 has been included within our cost analysis at 10%.

The estimate includes an Estimating/Design Contingency Allowance to account for increases in cost as a result of design development through to 100% complete tender documentation.

Post-Contract Contingency (i.e. for Change Directives/Change Orders that may arise during construction) has been included in our cost report at 10%.

We have not accounted for a construction market allowance within the report, however based upon our past and ongoing construction cost project experience in Ottawa, Ontario, we do not foresee any risk of receiving non-competitive bids from major sub – trades.

1.4 Level of Documentation and Assumptions

The estimate is based on the conceptual / preliminary drawings as well as functional program provided. It is supplemented by correspondence and discussions with the Owner and Design Consultants.

We outline some of the major assumptions we have made with respect to this cost analysis: -

- Project to be procured via Stipulated Lump Sum contract
- No major phasing requirements
- No 'Accelerated' schedule premiums allowed

1.5 Measurement and Pricing

The estimate has been developed using generally accepted principles on method of measurement as per the Canadian Institute of Quantity Surveyors Elemental Cost Analysis (CIQS).

The rates used for this estimate include labour and material, equipment, and subcontractor's overheads and profit. Pricing developed for this project is based upon our company's experience with similar projects, and/or quotes provided by subcontractors and suppliers as noted within the estimate. It does not take into account extraordinary market conditions, where bidders may be limited and may include in their tenders disproportionate contingencies and profit margins.

1.6 General Conditions and Fee

The fee included within the estimate for the General Contractor is included as a percentage of the hard construction cost. The general requirements are based on our assumptions of the anticipated construction approach and construction schedule for the project (see section 1.2). The general requirements percentage includes the cost associated with bonding and insurance, however excludes development and/or building permit costs.

1.7 Taxes

Our cost estimate includes HST (1.76%).

1.8 General Statement of Liability

This report is not intended for general circulation, publication or reproduction for any other person or purpose without prior express written permission to each specific instance. Furthermore, this report was written for the exclusive use of City of Ottawa and is not to be relied upon by any other party. Turner and Townsend does not hold any reporting responsibility to any other party.

Turner and Townsend strongly recommends the owner and/or design team review the cost estimate report including line item descriptions, unit prices, allowances, assumptions, exclusions, and contingencies to ensure the appropriate design intent has been accurately captured within the report.



OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8)
CLASS D COST ANALYSIS

EXECUTIVE SUMMARY COST BREAKDOWN

<u>Construction Cost Breakdown:</u>	GFA (sf)	\$/sf	Amount
A BELOW GRADE PARKING:			
A.1 Below Grade Parking Cost	71,532	\$184	\$13,151,000
A.2 Escalation Allowance (10%) - 3Q 2019			Included
A.3 Construction Contingency Allowance - Post Contract (10%)			Included
A.4 Furniture, Furnishings and Equipment - NIC			Excluded
A.5 LEED Gold Allowance (5%)			\$658,000
A.6 HST	1.76%		\$243,000
A. Sub-total Below Grade Parking	71,532	\$196	\$14,052,000
B BUILDING:			
B.1 OPL Costs	99,211	\$545	\$54,051,000
B.2 LAC Costs	54,774	\$559	\$30,624,000
B.3 Shared Space Costs - OPL	33,571	\$556	\$18,667,000
B.4 Shared Space Costs - LAC	27,902	\$554	\$15,466,000
Sub-Total	215,458	\$551	\$118,808,000
B.5 Escalation Allowance (10%) - 3Q 2019			Included
B.6 Construction Contingency Allowance - Post Contract (10%)			Included
Total Construction Cost	215,458	\$551	\$118,808,000
B.7 Furniture, Furnishings and Equipment - NIC			Excluded
B.8 LEED Gold Allowance (5%)			\$5,940,000
Total Construction Cost - Including LEED premiums	215,458	\$579	\$124,748,000
B.9 HST	1.76%		\$2,196,000
B. Sub-total Building	215,458	\$589	\$126,944,000
Total Estimated Construction Cost (A+B), incl HST	286,990	\$491	\$140,996,000

Notes/Assumptions:

- 1 The above is an opinion of Probable Cost Only
- 2 Construction contingency included at 10%
- 3 Escalation allowance of 10% included to 3Q 2019
- 4 Understanding that the ground is contaminated and may contain rock. An allowance has been made but this should be re-evaluated on receipt of a geotechnical report
- 5 Allowance for LEED Gold
- 6 Sloping site and cost allowed to reflect cut and fill
- 7 1 levels of parking (level 0 included)
- 8 2 oversized freight elevators and 9 standard elevators allowed for
- 9 UV Films to windows - LAC - allowed for 40% of curtain wall
- 10 Acoustic treatment to ceiling / wall
- 11 We allow for Management of Ground Water and Pumping only for Construction
- 12 Storm Water Cistern assume 50m3 (Water Retention)
- 13 We have carried some allowances for utility relocation (scope unknown)
- 14 Layby Cost covered within the Site Development Cost
- 15 Allowance for Smoke vac to Atrium

The following have been specifically excluded:

- 1 Professional Consultant Design Fees
- 2 Specialist Consultant Design Fees
- 3 Legal Fees and Expenses
- 4 Project Management Fees
- 5 Furniture, Furnishings and Equipment (other than detailed in the estimate)
- 6 Owner's Administration Expenses
- 7 Library equipment - book shelves / sorter / mobile shelving etc
- 8 Permits and Development Charges
- 9 Garbage Equipment/Bins
- 10 Food Equipment/Kitchen Equipment
- 11 Construction Price Escalation Beyond - 3Q 2019
- 12 A/V/head end Equipment
- 13 IT & Communication Equipment
- 14 Premiums for Single Sourced Materials
- 15 Schedule Acceleration Premium
- 16 Emergency Generator
- 17 Land Acquisition Cost
- 18 Major Sitework Other Than Allowance Noted In The Estimate
- 19 Moving Cost
- 20 Artwork
- 21 Automated Blinds
- 22 No allowance for demolition or alterations
- 23 Raised Floor, Stage
- 24 Removal of Contaminated Soils - Budget Provided by Golder
- 25 High Density Shelving
- 26 Allowance for work to CSST

2 ELEMENTAL ESTIMATE

**ELEMENTAL COST SUMMARY
CLASS D COST ANALYSIS**



Project: OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8) - Parking
 Location: Ottawa, Ontario
 Owner/Client: City of Ottawa
 Architect: Ajon Moryama

Cat: SS-DD-R9
 File: Nov 21, 2016
 Date: 20940
 Project Number: 71,532 sf
 Gross Floor Area:

Element	Ratio to GFA	Elemental Quantity	Elemental Unit Rate	Elemental Amount	Cost/sf	Amount	
A SHELL							
A1 SUBSTRUCTURE					\$22.75		
A11 Foundation	1.00	71,532 sf	\$0.00	\$0	\$0.00		
A12 Basement Excavation	0.65	46,498 cy	\$34.99	\$1,627,000	\$22.75	\$1,627,000	12%
A2 STRUCTURE					\$35.17		
A21 Lowest Floor Construction	1.00	71,532 sf	\$11.51	\$823,000	\$11.51		
A22 Upper Floor Construction	0.00	0 sf	\$0.00	\$0	\$0.00		
A23 Roof Construction	0.14	9,705 sf	\$174.45	\$1,693,000	\$23.67	\$2,516,000	19%
A3 EXTERIOR ENCLOSURE					\$22.86		
A31 Walls Below Grade	0.26	18,292 sf	\$37.39	\$684,000	\$9.56		
A32 Walls Above Grade	0.00	0 sf	\$0.00	\$0	\$0.00		
A33 Windows & Entrances	0.00	2 sf	\$25,000.00	\$50,000	\$0.70		
A34 Roof Covering	0.14	9,705 sf	\$67.08	\$651,000	\$9.10		
A35 Projections	1.00	71,532 sf	\$3.49	\$250,000	\$3.49	\$1,635,000	12%
B INTERIORS							
B1 PARTITIONS & DOORS					\$3.47		
B11 Partitions	0.07	5,007 sf	\$39.94	\$200,000	\$2.80		
B12 Doors	0.00	24 No	\$2,004.69	\$48,000	\$0.67	\$248,000	2%
B2 FINISHES					\$8.01		
B21 Floor Finishes	1.00	71,532 sf	\$4.50	\$322,000	\$4.50		
B22 Ceiling Finishes	1.00	71,532 sf	\$2.50	\$179,000	\$2.50		
B23 Wall Finishes	1.00	71,532 sf	\$1.01	\$72,000	\$1.01	\$573,000	4%
B3 FITTINGS & EQUIPMENT					\$2.50		
B31 Fittings & Fixtures	1.00	71,532 sf	\$2.50	\$179,000	\$2.50		
B32 Equipment	1.00	71,532 sf	\$0.00	\$0	\$0.00		
B33 Conveying Systems	0.00	0 Stp	\$0.00	\$0	\$0.00	\$179,000	1%
C SERVICES							
C1 MECHANICAL					\$11.00		
C11 Plumbing & Drainage	1.00	71,532 sf	\$3.49	\$250,000	\$3.49		
C12 Fire Protection	1.00	71,532 sf	\$3.01	\$215,000	\$3.01		
C13 H.V.A.C.	1.00	71,532 sf	\$3.49	\$250,000	\$3.49		
C14 Controls	1.00	71,532 sf	\$1.01	\$72,000	\$1.01	\$787,000	6%
C2 ELECTRICAL					\$11.51		
C21 Service & Distribution	1.00	71,532 sf	\$4.50	\$322,000	\$4.50		
C22 Lighting, Devices & Heating	1.00	71,532 sf	\$5.00	\$358,000	\$5.00		
C23 Systems & Ancillaries	1.00	71,532 sf	\$2.00	\$143,000	\$2.00	\$823,000	6%
NET BUILDING COST (Excluding Site)					\$117.26	\$8,388,000	64%
D SITE & ANCILLARY WORK							
D1 SITE WORK					\$0.00		
D11 Site Development	0.00	0 sf	\$0.00	\$0	\$0.00		
D12 Mechanical Site Services	0.00	0 sf	\$0.00	\$0	\$0.00		
D13 Electrical Site Services	0.00	0 sf	\$0.00	\$0	\$0.00	\$0	0%
D2 ANCILLARY WORK					\$0.00		
D21 Demolition	0.00	0 sf	\$0.00	\$0	\$0.00		
D22 Alterations	0.00	0 sf	\$0.00	\$0	\$0.00	\$0	0%
NET BUILDING COST (Including Site)					\$117.26	\$8,388,000	
Z GENERAL REQUIREMENTS & ALLOWANCES							
Z1 GEN. REQ. & FEE 12.0%					\$14.08		
Z11 General Requirements 9.0%				\$755,000	\$10.55		
Z12 Fee 3.0%				\$252,000	\$3.52	\$1,007,000	8%
TOTAL CONSTRUCTION ESTIMATE (Excluding Allowances)						\$9,395,000	71%
Z2 ALLOWANCES 40.0%					\$52.51		
Z21 Estimating Allowance 20.0%				\$1,878,000	\$26.25		
Z22 Escalation Allowance 10.0% 3Q 2019				\$939,000	\$13.13		
Z23 Construction Allowance 10.0%				\$939,000	\$13.13	\$3,756,000	29%
TOTAL CONSTRUCTION ESTIMATE (Including Allowances)						\$13,151,000	100%
GFA 71,532 sf					Cost/unit		
GFA 6,645 m2					\$184 sf		
					\$1,979 m2		

Project: OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8) - Parking
 Location: Ottawa, Ontario
 Owner/Client: City of Ottawa
 Architect: Ajon Moryama

File: SS-DD-R9
 Date: Nov 21, 2016
 Project Number: 20940
 Gross Floor Area: 71532 sf

Description	Quantity	Rate	Amount
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GROSS FLOOR AREA

	71,532 sf		
TOTAL GROSS FLOOR AREA	71,532 sf		

A1 SUBSTRUCTURE

A11 Foundations

TOTAL A11 Foundations	71,532 sf	0.00	0
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A12 Basement Excavation

Below grade parking	71,532 sf	22.75	1,627,460
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TOTAL A12 Basement Excavation	46,498 cy	34.99	1,627,000
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TOTAL A1 SUBSTRUCTURE			1,627,000
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A2 STRUCTURE

A21 Lowest Floor Construction

Below grade parking	+	71,532 sf	11.50	822,610
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TOTAL A21 Lowest Floor Construction		71,532 sf	11.51	823,000
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A22 Upper Floor Construction

Below grade parking - not required		71,532 sf		
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TOTAL A22 Upper Floor Construction		0 sf	0.00	0
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A23 Roof Construction

Below grade parking		71,532 sf	23.67	1,693,090
Suspended slab	+	9,705 sf	50.00	

TOTAL A23 Roof Construction		9,705 sf	174.45	1,693,000
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TOTAL A2 STRUCTURE				2,516,000
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A3 EXTERIOR ENCLOSURE

A31 Walls Below Grade

Below grade parking		71,532 sf	9.56	683,710
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Project: OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8) - Parking
 Location: Ottawa, Ontario
 Owner/Client: City of Ottawa
 Architect: Ajon Moryama

File: SS-DD-R9
 Date: Nov 21, 2016
 Project Number: 20940
 Gross Floor Area: 71532 sf

Description	Quantity	Rate	Amount
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TOTAL A31 Walls Below Grade	18,292 sf	37.39	684,000
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A32 Walls Above Grade

Below grade parking - not required 71,532 sf

TOTAL A32 Walls Above Grade	0 sf	0.00	0
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A33 Windows & Entrances

Below grade parking 71,532 sf 0.70 50,000
 Overhead doors - 2 no - Parking + 2 no 25000.00

TOTAL A33 Windows & Entrances	2 no	25000.00	50,000
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A34 Roof Covering

Below grade parking 71,532 7.10 651,090
 Roof covering + 9,705 sf 15.00

TOTAL A34 Roof Covering	9,705 sf	67.08	651,000
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A35 Projections

Below grade parking 71,532 sf 3.49 250,000
 Ramp formation 1 sum 150000.00
 Loading dock 1 sum 100000.00

TOTAL A35 Projections	71,532 sf	3.49	250,000
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TOTAL A3 EXTERIOR ENCLOSURE

1,635,000

TOTAL A SHELL

5,778,000

B1 PARTITIONS & DOORS

B11 Partitions

Below grade parking 71,532 sf 2.80 200,290
 Allowance for partition + 5,007 sf 40.00

TOTAL B11 Partitions	5,007 sf	39.94	200,000
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B12 Doors

Below grade parking 71,532 sf 0.67 48,000
 Allowance for hollow metal doors + 24 no 2000.00

TOTAL B12 Doors	24 no	2004.69	48,000
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Project: OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8) - Parking
 Location: Ottawa, Ontario
 Owner/Client: City of Ottawa
 Architect: Ajon Moryama

File: SS-DD-R9
 Date: Nov 21, 2016
 Project Number: 20940
 Gross Floor Area: 71532 sf

Description	Quantity	Rate	Amount
TOTAL B1 PARTITIONS & DOORS			248,000

B2 FINISHES

B21 Floor Finishes

Below grade parking	71,532 sf	4.50	321,890
Allowance for traffic topping - Below Grade Parking	+	71,532 sf	4.50

TOTAL B21 Floor Finishes	71,532 sf	4.50	322,000
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B22 Ceiling Finishes

Below grade parking	+	71,532 sf	2.50	178,830
Paint to exposed structure		71,532 sf	2.50	

TOTAL B22 Ceiling Finishes	71,532 sf	2.50	179,000
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B23 Wall Finishes

Below grade parking	+	71,532 sf	1.00	71,530
Paint to wall		71,532 sf	1.00	

TOTAL B23 Wall Finishes	71,532 sf	1.01	72,000
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TOTAL B2 FINISHES

573,000

B3 FITTINGS & EQUIPMENT

B31 Fittings & Fixtures

Below grade parking	71,532 sf	2.50	178,830
Allowance	+	71,532 sf	2.50

TOTAL B31 Fittings & Fixtures	71,532 sf	2.50	179,000
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B32 Equipment

TOTAL B32 Equipment	71,532 sf	0.00	0
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B33 Conveying Systems

Below grade parking	71,532 sf
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TOTAL B33 Conveying Systems	0 Stp	0.00	0
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TOTAL B3 FITTINGS & EQUIPMENT

179,000

TOTAL B INTERIORS

1,000,000

Project: OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8) - Parking
 Location: Ottawa, Ontario
 Owner/Client: City of Ottawa
 Architect: Ajon Moryama

File: SS-DD-R9
 Date: Nov 21, 2016
 Project Number: 20940
 Gross Floor Area: 71532 sf

Description	Quantity	Rate	Amount
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C1 MECHANICAL

C11 Plumbing & Drainage

Allowance Below grade parking	71,532 sf	3.50	250,360
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TOTAL C11 Plumbing & Drainage	71,532 sf	3.49	250,000
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C12 Fire Protection

Allowance Below grade parking	71,532 sf	3.00	214,600
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TOTAL C12 Fire Protection	71,532 sf	3.01	215,000
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C13 HVAC

Allowance Below grade parking	71,532 sf	3.50	250,360
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TOTAL C13 HVAC	71,532 sf	3.49	250,000
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C14 Controls

Allowance Below grade parking	71,532 sf	1.00	71,530
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TOTAL C14 Controls	71,532 sf	1.01	72,000
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TOTAL C1 MECHANICAL

787,000

C2 ELECTRICAL

C21 Service & Distribution

Allowance Below grade parking	71,532 sf	4.50	321,890
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TOTAL C21 Service & Distribution	71,532 sf	4.50	322,000
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C22 Lighting, Devices & Heating

Allowance Below grade parking	71,532 sf	5.00	357,660
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TOTAL C22 Lighting, Devices & Heating	71,532 sf	5.00	358,000
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C23 Systems & Ancillaries

Allowance Below grade parking	71,532 sf	2.00	143,060
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Project: OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8) - Parking
 Location: Ottawa, Ontario
 Owner/Client: City of Ottawa
 Architect: Ajon Moryama

File: SS-DD-R9
 Date: Nov 21, 2016
 Project Number: 20940
 Gross Floor Area: 71532 sf

Description	Quantity	Rate	Amount
TOTAL C23 Systems & Ancillaries	71,532 sf	2.00	143,000

TOTAL C2 ELECTRICAL 823,000

TOTAL C SERVICES 1,610,000

NET BUILDING COST (EXCLUDING SITE) 8,388,000

D1 SITE WORK

D11 Site Development

Below grade parking 71,532 sf

TOTAL D11 Site Development	0 sf	0.00	0
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D12 Mechanical Site Services

Below grade parking 71,532 sf

TOTAL D12 Mechanical Site Services	0 sf	0.00	0
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D13 Electrical Site Services

Below grade parking 71,532 sf

TOTAL D13 Electrical Site Services	0 sf	0.00	0
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TOTAL D1 SITE WORK 0

D2 ANCILLARY WORK

D21 Demolition

TOTAL D21 Demolition	sf	0.00	0
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D22 Alterations

N/A

TOTAL D22 Alterations	0 sf	0.00	0
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TOTAL D2 ANCILLARY WORK 0

TOTAL D SITE & ANCILLARY WORK 0

NET BUILDING COST (INCLUDING SITE) 8,388,000

Z1 GENERAL REQUIREMENTS & FEE

Z11 General Requirements

Project: OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8) - Parking
 Location: Ottawa, Ontario
 Owner/Client: City of Ottawa
 Architect: Ajon Moryama

File: SS-DD-R9
 Date: Nov 21, 2016
 Project Number: 20940
 Gross Floor Area: 71532 sf

Description	Quantity	Rate	Amount
General Requirements	Is		755,000
TOTAL Z11 General Requirements			755,000
Z12 Fee			
Fee	Is		252,000
TOTAL Z12 Fee			252,000
TOTAL Z1 GENERAL REQUIREMENTS & FEE			1,007,000
TOTAL CONSTRUCTION ESTIMATE EXCLUDING ALLOWANCES			9,395,000
Z2 CONTINGENCIES			
Z21 Estimating Contingency			
Estimating Contingency	Is		1,878,000
TOTAL Z21 Estimating Contingency			1,878,000
Z22 Escalation Contingency			
Escalation Contingency	Is		939,000
TOTAL Z22 Escalation Contingency			939,000
Z23 Construction Contingency			
Construction Contingency	Is		939,000
Total Z23 Construction Contingency			939,000
TOTAL Z2 CONTINGENCIES			3,756,000
TOTAL Z GENERAL REQUIREMENTS & CONTINGENCIES			4,763,000
TOTAL BUILDING COST INCLUDING ALLOWANCES			13,151,000

**ELEMENTAL COST SUMMARY
CLASS D COST ANALYSIS**



Project: OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8) - Above Grade
 Location: Ottawa, Ontario
 Owner/Client: City of Ottawa
 Architect: Ajon Moryama

Cat: SS-DD-R9
 File: Nov 21, 2016
 Date: 20940
 Project Number: 215,458 sf
 Gross Floor Area:

Element	Ratio to GFA	Elemental Quantity	Elemental Unit Rate	Elemental Amount	Cost/sf	Amount	
A SHELL							
A1 SUBSTRUCTURE					\$8.02		
A11 Foundation	0.11	24,156 sf	\$48.81	\$1,179,000	\$5.47		
A12 Basement Excavation	0.22	46,498 cy	\$11.83	\$550,000	\$2.55	\$1,729,000	1%
A2 STRUCTURE					\$62.82		
A21 Lowest Floor Construction	0.11	24,156 sf	\$11.51	\$278,000	\$1.29		
A22 Upper Floor Construction	0.89	191,302 sf	\$53.14	\$10,165,000	\$47.18		
A23 Roof Construction	0.29	61,827 sf	\$49.99	\$3,091,000	\$14.35	\$13,534,000	11%
A3 EXTERIOR ENCLOSURE					\$53.26		
A31 Walls Below Grade	0.08	18,292 sf	\$12.63	\$231,000	\$1.07		
A32 Walls Above Grade	0.20	42,300 sf	\$60.00	\$2,538,000	\$11.78		
A33 Windows & Entrances	0.12	26,392 sf	\$156.30	\$4,125,000	\$19.15		
A34 Roof Covering	0.29	61,827 sf	\$62.03	\$3,835,000	\$17.80		
A35 Projections	1.00	215,458 sf	\$3.47	\$747,000	\$3.47	\$11,476,000	10%
B INTERIORS							
B1 PARTITIONS & DOORS					\$27.86		
B11 Partitions	0.81	174,521 sf	\$29.80	\$5,201,000	\$24.14		
B12 Doors	0.00	400 No	\$2,000.10	\$801,000	\$3.72	\$6,002,000	5%
B2 FINISHES					\$45.57		
B21 Floor Finishes	1.00	215,458 sf	\$18.86	\$4,064,000	\$18.86		
B22 Ceiling Finishes	1.00	215,458 sf	\$14.99	\$3,230,000	\$14.99		
B23 Wall Finishes	2.62	563,455 sf	\$4.48	\$2,524,000	\$11.71	\$9,818,000	8%
B3 FITTINGS & EQUIPMENT					\$38.30		
B31 Fittings & Fixtures	1.00	215,458 sf	\$26.60	\$5,732,000	\$26.60		
B32 Equipment	1.00	215,458 sf	\$1.16	\$250,000	\$1.16		
B33 Conveying Systems	0.00	48 Stp	\$47,291.67	\$2,270,000	\$10.54	\$8,252,000	7%
C SERVICES							
C1 MECHANICAL					\$59.63		
C11 Plumbing & Drainage	1.00	215,458 sf	\$8.15	\$1,755,000	\$8.15		
C12 Fire Protection	1.00	215,458 sf	\$5.02	\$1,081,000	\$5.02		
C13 H.V.A.C.	1.00	215,458 sf	\$39.96	\$8,610,000	\$39.96		
C14 Controls	1.00	215,458 sf	\$6.51	\$1,402,000	\$6.51	\$12,848,000	11%
C2 ELECTRICAL					\$44.26		
C21 Service & Distribution	1.00	215,458 sf	\$18.00	\$3,878,000	\$18.00		
C22 Lighting, Devices & Heating	1.00	215,458 sf	\$17.76	\$3,827,000	\$17.76		
C23 Systems & Ancillaries	1.00	215,458 sf	\$8.50	\$1,831,000	\$8.50	\$9,536,000	8%
NET BUILDING COST (Excluding Site)					\$339.72	\$73,195,000	62%
D SITE & ANCILLARY WORK							
D1 SITE WORK					\$11.96		
D11 Site Development	0.05	11,809 sf	\$150.48	\$1,777,000	\$8.25		
D12 Mechanical Site Services	0.05	11,809 sf	\$38.11	\$450,000	\$2.09		
D13 Electrical Site Services	0.05	11,809 sf	\$29.64	\$350,000	\$1.62	\$2,577,000	2%
D2 ANCILLARY WORK					\$0.00		
D21 Demolition	0.00	0 sf	\$0.00	\$0	\$0.00		
D22 Alterations	0.00	0 sf	\$0.00	\$0	\$0.00	\$0	0%
NET BUILDING COST (Including Site)					\$351.68	\$75,772,000	
Z GENERAL REQUIREMENTS & ALLOWANCES							
Z1 GEN. REQ. & FEE 12.0%					\$42.20		
Z11 General Requirements 9.0%				\$6,819,000	\$31.65		
Z12 Fee 3.0%				\$2,273,000	\$10.55	\$9,092,000	8%
TOTAL CONSTRUCTION ESTIMATE (Excluding Allowances)						\$84,864,000	71%
Z2 ALLOWANCES 40.0%					\$157.54		
Z21 Estimating Allowance 20.0%				\$16,973,000	\$78.78		
Z22 Escalation Allowance 10.0% 3Q 2019				\$8,485,000	\$39.38		
Z23 Construction Allowance 10.0%				\$8,486,000	\$39.39	\$33,944,000	29%
TOTAL CONSTRUCTION ESTIMATE (Including Allowances)						\$118,808,000	100%
GFA	215,458 sf				Cost/unit		
GFA	20,017 m2				\$551 sf		
					\$5,935 m2		

OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8) - Above Grade
 Location: Ottawa, Ontario
 Owner/Client: City of Ottawa
 Architect: Ajon Moryama

File: SS-DD-R9
 Date: Nov 21, 2016
 Project Number: 20940
 Gross Floor Area: 21,548m²

Description	Quantity	Rate	Amount
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GROSS FLOOR AREA

	71,532 sf		
TOTAL GROSS FLOOR AREA	71,532 sf		

A1 SUBSTRUCTURE

A11 Foundations

OPL	99,211 sf	5.47	542,980
LAC	54,774 sf	5.47	299,780
Shared - OPL	33,571 sf	5.47	183,730
Shared - LAC	27,902 sf	5.47	152,710

TOTAL A11 Foundations	24,156 sf	48.81	1,179,000
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A12 Basement Excavation

OPL	99,211 sf	2.55	253,060
LAC	54,774 sf	2.55	139,720
Shared - OPL	33,571 sf	2.55	85,630
Shared - LAC	27,902 sf	2.55	71,170

TOTAL A12 Basement Excavation	46,498 cy	11.83	550,000
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TOTAL A1 SUBSTRUCTURE			1,729,000
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A2 STRUCTURE

A21 Lowest Floor Construction

Shared - OPL	33,571 sf	4.52	151,710
Shared - LAC	27,902 sf	4.52	126,100
Lowest floor - shared	+	24,156 sf	

TOTAL A21 Lowest Floor Construction	24,156 sf	11.51	278,000
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A22 Upper Floor Construction

Below grade parking - not required	71,532 sf		
OPL	99,211 sf	47.18	4,680,670
LAC	54,774 sf	47.18	2,584,180
Shared - OPL	33,571 sf	47.18	1,583,840
Shared - LAC	27,902 sf	47.18	1,316,390
	+	191,302 sf	

TOTAL A22 Upper Floor Construction	191,302 sf	53.14	10,165,000
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A23 Roof Construction

OPL	99,211 sf	14.35	1,423,460
LAC	54,774 sf	14.35	785,890
Shared - OPL	33,571 sf	14.35	481,670
Shared - LAC	27,902 sf	14.35	400,330

TOTAL A23 Roof Construction	61,827 sf	49.99	3,091,000
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TOTAL A2 STRUCTURE			13,534,000
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A3 EXTERIOR ENCLOSURE

OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8) - Above Grade
Location: Ottawa, Ontario
Owner/Client: City of Ottawa
Architect: Ajon Moryama

File: SS-DD-R9
Date: Nov 21, 2016
Project Number: 20940
Gross Floor Area: 21,548m2

Description	Quantity	Rate	Amount
A31 Walls Below Grade			
OPL	99,211 sf	1.07	106,320
LAC	54,774 sf	1.07	58,700
Shared - OPL	33,571 sf	1.07	35,980
Shared - LAC	27,902 sf	1.07	29,900

OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8) - Above Grade
 Location: Ottawa, Ontario
 Owner/Client: City of Ottawa
 Architect: Ajon Moryama

File: SS-DD-R9
 Date: Nov 21, 2016
 Project Number: 20940
 Gross Floor Area: 21,548m²

Description	Quantity	Rate	Amount
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TOTAL A31 Walls Below Grade	18,292 sf	12.63	231,000
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A32 Walls Above Grade

OPL	99,211 sf	11.78	1,168,650
LAC	54,774 sf	11.78	645,210
Shared - OPL	33,571 sf	11.78	395,450
Shared - LAC	27,902 sf	11.78	328,670

TOTAL A32 Walls Above Grade	42,300 sf	60.00	2,538,000
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A33 Windows & Entrances

OPL	99,211 sf	19.15	1,899,600
LAC	54,774 sf	19.15	1,048,760
Shared - OPL	33,571 sf	19.15	642,790
Shared - LAC	27,902 sf	19.15	534,240

TOTAL A33 Windows & Entrances	26,392 sf	156.30	4,125,000
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A34 Roof Covering

OPL	99,211 sf	11.70	1,160,530
LAC	54,774 sf	11.70	640,720
Shared - OPL	33,571 sf	33.08	1,110,590
Shared - LAC	27,902 sf	33.08	923,040

TOTAL A34 Roof Covering	61,827 sf	62.03	3,835,000
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A35 Projections

OPL	+	99,211 sf	3.47	344,090
LAC	+	54,774 sf	3.47	189,970
Shared - OPL	+	33,571 sf	3.47	116,430
Shared - LAC	+	27,902 sf	3.47	96,770

TOTAL A35 Projections	215,458 sf	3.47	747,000
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TOTAL A3 EXTERIOR ENCLOSURE

11,476,000

TOTAL A SHELL

26,739,000

B1 PARTITIONS & DOORS

B11 Partitions

OPL	99,211 sf	25.48	2,527,970
LAC	54,774 sf	25.48	1,395,680
Shared - OPL	33,571 sf	20.78	697,620
Shared - LAC	27,902 sf	20.78	579,820

TOTAL B11 Partitions	174,521 sf	29.80	5,201,000
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B12 Doors

OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8) - Above Grade
 Location: Ottawa, Ontario
 Owner/Client: City of Ottawa
 Architect: Ajon Moryama

File: SS-DD-R9
 Date: Nov 21, 2016
 Project Number: 20940
 Gross Floor Area: 21,548m²

Description	Quantity	Rate	Amount
OPL	99,211 sf	4.12	409,180
LAC	54,774 sf	4.12	225,910
Shared - OPL	33,571 sf	2.70	90,580
Shared - LAC	27,902 sf	2.70	75,290

TOTAL B12 Doors	400 No	2000.10	801,000
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TOTAL B1 PARTITIONS & DOORS

6,002,000

B2 FINISHES

B21 Floor Finishes

OPL	99,211 sf	21.00	2,083,440
LAC	54,774 sf	21.00	1,150,260
Shared - OPL	33,571 sf	13.50	453,210
Shared - LAC	27,902 sf	13.50	376,680

TOTAL B21 Floor Finishes	215,458 sf	18.86	4,064,000
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B22 Ceiling Finishes

OPL	99,211 sf	14.99	1,487,410
LAC	54,774 sf	14.99	821,190
Shared - OPL	33,571 sf	14.99	503,310
Shared - LAC	27,902 sf	14.99	418,320

TOTAL B22 Ceiling Finishes	215,458 sf	14.99	3,230,000
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B23 Wall Finishes

OPL	99,211 sf	11.71	1,162,170
LAC	54,774 sf	11.71	641,630
Shared - OPL	33,571 sf	11.71	393,250
Shared - LAC	27,902 sf	11.71	326,850

TOTAL B23 Wall Finishes	563,455 sf	4.48	2,524,000
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TOTAL B2 FINISHES

9,818,000

B3 FITTINGS & EQUIPMENT

B31 Fittings & Fixtures

OPL	99,211 sf	24.93	2,473,030
LAC	54,774 sf	27.55	1,509,230
Shared - OPL	33,571 sf	24.93	836,820
Shared - LAC	27,902 sf	27.55	913,110

TOTAL B31 Fittings & Fixtures	215,458 sf	26.60	5,732,000
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B32 Equipment

Retractable seating	250 no	1000.00	250,000
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Allowance for stage - excluded



OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8) - Above Grade
 Location: Ottawa, Ontario
 Owner/Client: City of Ottawa
 Architect: Ajon Moryama

File: SS-DD-R9
 Date: Nov 21, 2016
 Project Number: 20940
 Gross Floor Area: 21,548m²

Description	Quantity	Rate	Amount
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TOTAL B32 Equipment	215,458 sf	1.16	250,000
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B33 Conveying Systems

OPL	99,211 sf	10.54	1,045,260
LAC	54,774 sf	10.54	577,080
Shared - OPL	33,571 sf	10.54	353,690
Shared - LAC	27,902 sf	10.54	293,970

TOTAL B33 Conveying Systems	48 Stp	47291.67	2,270,000
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TOTAL B3 FITTINGS & EQUIPMENT

8,252,000

TOTAL B INTERIORS

24,072,000

C1 MECHANICAL

C11 Plumbing & Drainage

Allowance	+	215,458 sf		
OPL		99,211 sf	10.00	992,110
LAC		54,774 sf	10.00	547,740
Shared - OPL		33,571 sf	3.50	117,500
Shared - LAC		27,902 sf	3.50	97,660

TOTAL C11 Plumbing & Drainage	215,458 sf	8.15	1,755,000
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C12 Fire Protection

Allowance				
OPL	+	99,211 sf	4.00	396,840
LAC	+	54,774 sf	8.00	438,190
Shared - OPL	+	33,571 sf	4.00	134,280
Shared - LAC	+	27,902 sf	4.00	111,610

TOTAL C12 Fire Protection	215,458 sf	5.02	1,081,000
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C13 HVAC

Allowance				
OPL	+	99,211 sf	40.00	3,968,440
LAC	+	54,774 sf	40.00	2,190,960
Shared - OPL	+	21,612 sf	35.00	756,430
Atrium area - smoke vac allowance	+	11,959 sf	60.00	717,530
Shared - LAC	+	27,902 sf	35.00	976,570

TOTAL C13 HVAC	215,458 sf	39.96	8,610,000
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C14 Controls

Allowance				
OPL	+	99,211 sf	6.00	595,270
LAC	+	54,774 sf	8.00	438,190
Shared - OPL	+	33,571 sf	6.00	201,430
Shared - LAC	+	27,902 sf	6.00	167,410

OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8) - Above Grade
 Location: Ottawa, Ontario
 Owner/Client: City of Ottawa
 Architect: Ajon Moryama

File: SS-DD-R9
 Date: Nov 21, 2016
 Project Number: 20940
 Gross Floor Area: 21,548m²

Description	Quantity	Rate	Amount
TOTAL C14 Controls	215,458 sf	6.51	1,402,000

TOTAL C1 MECHANICAL **12,848,000**

C2 ELECTRICAL

C21 Service & Distribution

Allowance				
OPL	+	99,211 sf	18.00	1,785,800
LAC	+	54,774 sf	18.00	985,930
Shared - OPL	+	33,571 sf	18.00	604,280
Shared - LAC	+	27,902 sf	18.00	502,240

TOTAL C21 Service & Distribution	215,458 sf	18.00	3,878,000
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C22 Lighting, Devices & Heating

Allowance				
OPL	+	99,211 sf	17.00	1,686,590
LAC	+	54,774 sf	20.00	1,095,480
Shared - OPL	+	33,571 sf	17.00	570,710
Shared - LAC	+	27,902 sf	17.00	474,330

TOTAL C22 Lighting, Devices & Heating	215,458 sf	17.76	3,827,000
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C23 Systems & Ancillaries

Allowance				
OPL	+	99,211 sf	8.50	843,290
LAC	+	54,774 sf	8.50	465,580
Shared - OPL	+	33,571 sf	8.50	285,350
Shared - LAC	+	27,902 sf	8.50	237,170

TOTAL C23 Systems & Ancillaries	215,458 sf	8.50	1,831,000
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TOTAL C2 ELECTRICAL **9,536,000**

TOTAL C SERVICES **22,384,000**

NET BUILDING COST (EXCLUDING SITE) **73,195,000**

D1 SITE WORK

D11 Site Development

OPL		99,211 sf	8.25	818,310
LAC		54,774 sf	8.25	451,790
Shared - OPL		33,571 sf	8.25	276,900
Shared - LAC		27,902 sf	8.25	230,140

TOTAL D11 Site Development	11,809 sf	150.48	1,777,000
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D12 Mechanical Site Services

OPL		99,211 sf	2.09	207,210
LAC		54,774 sf	2.09	114,400
Shared - OPL		33,571 sf	2.09	70,120
Shared - LAC		27,902 sf	2.09	58,280



OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8) - Above Grade
 Location: Ottawa, Ontario
 Owner/Client: City of Ottawa
 Architect: Ajon Moryama

File: SS-DD-R9
 Date: Nov 21, 2016
 Project Number: 20940
 Gross Floor Area: 21,548m²

Description	Quantity	Rate	Amount
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TOTAL D12 Mechanical Site Services	11,809 sf	38.11	450,000
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D13 Electrical Site Services

OPL	99,211 sf	1.62	161,160
LAC	54,774 sf	1.62	88,980
Shared - OPL	33,571 sf	1.62	54,530
Shared - LAC	27,902 sf	1.62	45,330

TOTAL D13 Electrical Site Services	11,809 sf	29.64	350,000
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TOTAL D1 SITE WORK

2,577,000

D2 ANCILLARY WORK

D21 Demolition

TOTAL D21 Demolition	sf	0.00	0
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D22 Alterations

N/A

TOTAL D22 Alterations	0 sf	0.00	0
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TOTAL D2 ANCILLARY WORK

0

TOTAL D SITE & ANCILLARY WORK

2,577,000

NET BUILDING COST (INCLUDING SITE)

75,772,000

Z1 GENERAL REQUIREMENTS & FEE

Z11 General Requirements

General Requirements	Is	6,819,000
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TOTAL Z11 General Requirements

6,819,000

Z12 Fee

Fee	Is	2,273,000
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TOTAL Z12 Fee

2,273,000

TOTAL Z1 GENERAL REQUIREMENTS & FEE

9,092,000

TOTAL CONSTRUCTION ESTIMATE EXCLUDING ALLOWANCES

84,864,000

Z2 CONTINGENCIES

OTTAWA PUBLIC LIBRARY (OPL/LAC) - Exemplar Site (Site 8) - Above Grade
 Location: Ottawa, Ontario
 Owner/Client: City of Ottawa
 Architect: Ajon Moryama

File: SS-DD-R9
 Date: Nov 21, 2016
 Project Number: 20940
 Gross Floor Area: 21,548m²

Description	Quantity	Rate	Amount
Z21 Estimating Contingency			
Estimating Contingency	Is		16,973,000
TOTAL Z21 Estimating Contingency			16,973,000
Z22 Escalation Contingency			
Escalation Contingency	Is		8,485,000
TOTAL Z22 Escalation Contingency			8,485,000
Z23 Construction Contingency			
Construction Contingency	Is		8,486,000
Total Z23 Construction Contingency			8,486,000
TOTAL Z2 CONTINGENCIES			33,944,000
TOTAL Z GENERAL REQUIREMENTS & CONTINGENCIES			43,036,000
TOTAL BUILDING COST INCLUDING ALLOWANCES			118,808,000

3 AREA SUMMARY

Class D

Revision:

5

Ottawa Library and LAC For Exemplar Site (Site 8)

City of Ottawa

Turner & Townsend

Area Schedule

FLOOR	PARKING	Shared - OPL	Shared - LAC	OPL	LAC												GROSS INTERNAL FLOOR AREA
Level 0																	0
Level 1	71,532	33,571	27,902	99,211	54,774												286,990
Level 2																	0
Level 3																	0
Level 4																	0
TOTAL	71,532	33,571	27,902	99,211	54,774												286,990
Last Report																	
Movement																	

Area Schedule

making the difference

4 DOCUMENT LIST

Dwg no.	Document	Prepared By	Dated	Date Received
	<u>ARCHITECTURAL</u>			
	Updated sketches	Ajon Moryiama	21/6/2016	25-Oct-2016
	Updated GFA	OPL	2-Nov-2016	2-Nov-2016
	<u>STRUCTURAL</u>			
	N/A			
	<u>LANDSCAPE</u>			
	N/A			
	<u>CIVILS</u>			
	N/A			
	<u>MECHANICAL</u>			
	N/A			
	<u>ELECTRICAL</u>			
	N/A			
	<u>SPECIFICATIONS</u>			
	N/A			