

DR - indicates entity responsible for preparation of listed documents (see Section 00 01 05)

Document Identification

DR

VOLUME 1

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

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00 30 00	Information Available for Review	A

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01 21 00	Cash Allowances	A
01 25 00	Product Substitution Procedures	A
01 25 01	Request for Substitution Form	A
01 26 00	Contract Modification and Requests for Interpretation	A
01 29 73	Schedule of Values	A
01 31 13	Coordination	A
01 31 19	Project Meetings	A
01 31 46	Field Engineering	A
01 32 00	Construction Progress Documentation	A
01 33 00	Submittals Procedures	A
01 35 18	General Requirements for Energy Efficiency	A
01 35 29	Health, Safety, and Emergency Response	A
01 35 63	General LEED v4 Requirements	A
01 35 66	LEED v4 Project Management and Coordination	A
01 35 90	Indoor Air Quality Management	A
01 35 90.1	Indoor Air Quality Management Schedules	A
01 41 00	Regulatory Requirements	A
01 42 13	Abbreviations and Acronyms	A
01 45 00	Quality Control	A
01 50 00	Temporary Work	A
01 56 39	Temporary Tree and Plant Protection and Trimming	A
01 53 13	Construction Activity Pollution Prevention	A
01 57 20	Temporary Indoor Air Quality Control	A
01 60 00	Products and Workmanship	A
01 60 13	LEED v4 Product Requirements	A
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01 74 13	Progressive Cleaning	A
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04 05 19 Masonry Reinforcement and Connectors	A
04 05 23 Masonry Accessories	A
04 21 00 Brick Masonry Units	A
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05 12 13 Architecturally Exposed Structural Steel	S
05 21 19 Structural Steel and Open Web Steel Joist Framing	S
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07 13 26 Sheet Waterproofing	A
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<u>Document Identification</u>	<u>DR</u>
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07 46 50 Preformed Metal Cladding	A
07 52 16 Styrene-Butadiene-Styrene (SBS) Modified Bituminous Membrane Roofing	A
07 61 00 Sheet Metal Roofing	A
07 62 00 Metal Flashing	A
07 81 00 Sprayed Fire-Resistive Materials (SFRM)	A
07 84 00 Firestopping and Smoke Seals	A
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<u>Document Identification</u>	<u>DR</u>
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12 36 61	Solid Surfaces	A
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31 11 00	Clearing and Grubbing	A
31 23 10	Excavating, Trenching, Backfilling	C
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31 25 00	Erosion and Sedimentation Control	C
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32 11 19	Granular Sub-base	C
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32 13 13	Concrete Sitework	A
32 13 15	Concrete Curbs	L
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32 17 23	Traffic Markings	A
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32 31 00	Fences and Gates	A
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32 33 00	Site Furnishings	L
32 91 19	Topsoil Placement and Grading	L
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<u>Document Identification</u>		<u>DR</u>
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33 11 17	Water System	C
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VOLUME 2

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22 09 00	Plumbing Piping	M
22 42 01	Plumbing Specialties	M
22 42 02	Plumbing Fixtures & Trim	M
22 47 00	Plumbing Equipment	M
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23 01 01	General Requirements	M
23 08 00	HVAC System Commissioning	Cx
23 05 29	Supports and Anchors	M
23 05 48	Vibration Controls	M
23 05 93	Testing, Adjusting, Balancing	M
23 07 13	Duct Insulation	M
23 07 13	Piping Insulation	M
23 20 00	Furnace & Condensing Unit	M
23 21 00	Hydronic Piping	M
23 21 10	Hydronic Specialties	M
23 21 17	Hydronic Expansion Tank	M
23 23 00	Refrigerant Piping	M
23 25 00	HVAC Water Treatment	M
23 25 10	Energy Recovery Ventilator	M
23 31 00	Duct Work	M
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23 36 00	Air Terminal Units	M
23 37 00	Air Outlets and Inlets	M
23 40 00	Hydronic Pumps	M
23 45 00	Variable Frequency Drive	M
23 52 13	Boiler	M
23 73 00	Roof Top Air-conditioning Unit	M
23 82 00	Terminal Heat Transfer Units	M

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25 90 00	Control Specifications	M
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26 05 05	Basic Electrical Materials and Methods	E
26 05 06	Seismic Control and Restraint	E
26 05 07	Fire Stopping and Smoke Seal System	E
26 05 09	Electrical Work Testing	E
26 05 10	Mounting Heights	E
26 05 21	Conductors (0-1000 Volts)	E
26 05 28	Grounding and Bonding	E
26 05 31	Splitters, Junction and Pull Boxes	E
26 05 32	Outlet Boxes, Conduit Boxes and Fittings	E
26 05 34	Conduit Systems	E
26 05 37	Wireways and Auxiliary Gutters	E
26 05 40	Wiring Devices	E
26 08 00	Electrical System Commissioning	Cx
26 09 23	Occupancy Sensors	E
26 24 01	Service Entrance Equipment	E
26 24 16	Distribution Panelboards	E
26 24 18	Branch Circuit Panelboards	E
26 28 18	Ground Fault Protection Equipment	E
26 32 13	Diesel Generator	E
26 36 23	Automatic Transfer Switch	E
26 50 10	Building Interior Lighting	E
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26 52 00	Emergency Lighting	
26 53 00	Exit Lighting	

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27 05 00	Grounding & Bonding for Communication Systems	E
27 05 28	Pathways for Communication Systems	E
27 05 53	Identifications for Communications Systems	E
27 08 00	Commissioning of Communications Systems	E
27 11 00	Communications Equipment Room Fittings	E

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27 11 19 Terminal Blocks, Patch Panels & Connectors	E
27 15 00 Horizontal Cabling	E
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28 13 00 Access Control	E
28 13 10 Fire Alarm Systems	E
28 20 00 Portable Fire Extinguishers	E

END OF SECTION

PART 1 – GENERAL

1.1 GENERAL INSTRUCTIONS

- .1 Read and be governed by conditions of the *Contract Documents*, including sections of Division 1.

1.2 SECTION INCLUDES

PART 1 – GENERAL

- 1.1 GENERAL INSTRUCTIONS
- 1.2 SECTION INCLUDES
- 1.3 SCHEDULE OF VALUES
- 1.4 FORM OF SUBMITTAL
- 1.5 REVIEW AND RE-SUBMITTAL
- 1.6 SAMPLE - SCHEDULE OF VALUES FORM

1.3 SCHEDULE OF VALUES

- .1 Submit a Schedule of Values to the *Consultant* at least 10 days prior to submitting first Application for Payment. Refer to attached sample Schedule of Values for required breakdowns in each Division.
 - .1 For item 01 77 00, *Project Manuals, Warranties and As Built Drawings*, the *Contractor* is required to carry a value 2% of the *Contract Price* in accordance with section 01 77 00.
 - .2 Division 1 – General Conditions shall be broken down as provided in the example below. Lump Sum Values will not be accepted and will not be used for contract modifications or Delays.
- .2 Upon request by *consultant*, support values given with data that will substantiate their correctness.
- .3 Submit quantities of designated materials.
- .4 Refer to the General Conditions of the contract for details of payment procedure.
- .5 Schedule of Values will be used only as basis for *Contractor's* Application for payment.

1.4 FORM OF SUBMITTAL

- .1 Submit Schedule of Values on 8½" x 11" white paper, in accordance with sample schedule included in this Section at the end of each month.
- .2 With the submission of the initial Schedule of Values, *Contractor* shall submit an initial Cash Flow Projection for the project. With each Application for Payment, *Contractor* shall submit an updated Cash Flow projection.

1.5 REVIEW AND RE-SUBMITTAL

- .1 After review by *consultant*, revise and resubmit Schedule (and Working Schedule of Material Values), as required.

- .2 Resubmit revised schedule in same manner.

1.6 SAMPLE - SCHEDULE OF VALUES FORM

- .1 See following four (4) pages. This document is a **sample**. It is intended to convey expectations of the Schedule of Values that the Contractor will prepare for the project.
- .2 The schedule of values should include:
 - .1 Project Details
 - .2 Sequential numbers for each line item, preferable organized by Specification Division.
 - .3 Detailed work item descriptions and their corresponding scheduled values.
 - .4 Clear breakdown of costs for labour, materials and equipment.
 - .5 Provision for tracking percentage completion and remaining balances.
 - .6 A Section for Cash Allowances, Change Orders and Change Directives.
 - .7 Holdback Details

Client:		Client Name		Project Name		Document 01 29 73	
Project Name:		Project Name		Project Name		SCHEDULE OF VALUES	
Project Number:		Project Number		Project Number		TBD	
Consultant:		Thomas Brown Architects Inc.		Application for Payment #:		Issue Date:	
Contractor:		Contractor		For Period Ending:		TBD	

Division 7 Thermal & Moisture Protection									
07 13 26	Sheet Waterproofing	\$	-	0.0%	\$	-	\$	-	\$
07 21 00	Cavity Wall Thermal Insulation	\$	-	0.0%	\$	-	\$	-	\$
07 21 00	Below Grade Thermal Insulation - Slab & Foundation Wall	\$	-	0.0%	\$	-	\$	-	\$
07 26 13	Above Grade Vapour Barrier	\$	-	0.0%	\$	-	\$	-	\$
07 26 16	Below Grade Vapour Barrier	\$	-	0.0%	\$	-	\$	-	\$
07 46 16	Aluminum Panel Cladding - Panel Material	\$	-	0.0%	\$	-	\$	-	\$
07 46 16	Aluminum Panel Cladding - Panel Labour	\$	-	0.0%	\$	-	\$	-	\$
07 46 16	Aluminum Panel Cladding - Insulation Material	\$	-	0.0%	\$	-	\$	-	\$
07 46 16	Aluminum Panel Cladding - Insulation Labour	\$	-	0.0%	\$	-	\$	-	\$
07 46 16	Aluminum Plate Cladding - Panel Material	\$	-	0.0%	\$	-	\$	-	\$
07 46 16	Aluminum Plate Cladding - Panel Labour	\$	-	0.0%	\$	-	\$	-	\$
07 46 16	Aluminum Plate Cladding - Insulation Material	\$	-	0.0%	\$	-	\$	-	\$
07 46 16	Aluminum Plate Cladding - Insulation Labour	\$	-	0.0%	\$	-	\$	-	\$
07 46 19	Metal Cladding System - Soffit Material	\$	-	0.0%	\$	-	\$	-	\$
07 46 19	Metal Cladding System - Soffit Labour	\$	-	0.0%	\$	-	\$	-	\$
07 52 16	SBS Modified Bituminous Membrane Roofing	\$	-	0.0%	\$	-	\$	-	\$
07 52 16	SBS Modified Bituminous Membrane Roofing - Insulation	\$	-	0.0%	\$	-	\$	-	\$
07 52 16	Roofing Pavers	\$	-	0.0%	\$	-	\$	-	\$
07 62 00	Metal Flashing	\$	-	0.0%	\$	-	\$	-	\$
07 62 00	Roof Anchor Line	\$	-	0.0%	\$	-	\$	-	\$
07 81 00	Sprayed Fire-Resistive Materials (SFRM)	\$	-	0.0%	\$	-	\$	-	\$
07 84 00	Firestopping and Smoke Seals	\$	-	0.0%	\$	-	\$	-	\$
07 92 00	Joint Sealants	\$	-	0.0%	\$	-	\$	-	\$
Division 7 Thermal & Moisture Protection subtotal:		\$	-	0.0%	\$	-	\$	-	\$
Division 8 Openings									
08 11 13	Steel Doors and Frames - Supply	\$	-	0.0%	\$	-	\$	-	\$
08 11 13	Steel Doors and Frames - Install	\$	-	0.0%	\$	-	\$	-	\$
08 33 00	Rolling Grilles	\$	-	0.0%	\$	-	\$	-	\$
08 35 13	Rolling Fire Doors	\$	-	0.0%	\$	-	\$	-	\$
08 35 13	Four Fold Metal Doors	\$	-	0.0%	\$	-	\$	-	\$
08 36 13	Sectional Overhead Metal Doors	\$	-	0.0%	\$	-	\$	-	\$
08 41 00	Aluminum Framed Glazing Systems c/w Glass	\$	-	0.0%	\$	-	\$	-	\$
08 71 00	Door Hardware - Material	\$	-	0.0%	\$	-	\$	-	\$
08 71 00	Door Hardware - Install	\$	-	0.0%	\$	-	\$	-	\$
08 91 19	Architectural Louvers	\$	-	0.0%	\$	-	\$	-	\$
Division 8 Openings subtotal:		\$	-	0.0%	\$	-	\$	-	\$
Division 9 Finishes									
09 29 00	Drywall & Framing	\$	-	0.0%	\$	-	\$	-	\$
09 31 00	Tiling - Floor	\$	-	0.0%	\$	-	\$	-	\$
09 31 00	Tiling - Wall	\$	-	0.0%	\$	-	\$	-	\$
09 21 16	Acoustical Tile Ceiling Systems	\$	-	0.0%	\$	-	\$	-	\$
09 65 13	Rubber Base	\$	-	0.0%	\$	-	\$	-	\$
09 65 20	Rubber Tile Flooring	\$	-	0.0%	\$	-	\$	-	\$
09 68 13	Carpet Tile	\$	-	0.0%	\$	-	\$	-	\$
09 91 00	Painting	\$	-	0.0%	\$	-	\$	-	\$
Division 9 Finishes subtotal:		\$	-	0.0%	\$	-	\$	-	\$
Division 10 Specialties									
10 11 00	Visual Display Surfaces	\$	-	0.0%	\$	-	\$	-	\$
10 14 00	Interior Signage	\$	-	0.0%	\$	-	\$	-	\$
10 21 13	Washroom Partitions	\$	-	0.0%	\$	-	\$	-	\$
10 26 13	Corner Guards	\$	-	0.0%	\$	-	\$	-	\$
10 28 10	Washroom Accessories & Janitor Accessories	\$	-	0.0%	\$	-	\$	-	\$
10 50 30	Turnout Gear Lockers - Wall Mount	\$	-	0.0%	\$	-	\$	-	\$
10 51 13	Prefinished Metal Lockers	\$	-	0.0%	\$	-	\$	-	\$
10 51 13	Exterior Signage	\$	-	0.0%	\$	-	\$	-	\$
10 51 13	Traffic Signage	\$	-	0.0%	\$	-	\$	-	\$
10 51 13	Metal Shelving	\$	-	0.0%	\$	-	\$	-	\$
10 75 13	Flagpoles	\$	-	0.0%	\$	-	\$	-	\$
Division 10 Specialties subtotal:		\$	-	0.0%	\$	-	\$	-	\$
Division 11 Equipment									
11 52 13	Projection Screens	\$	-	0.0%	\$	-	\$	-	\$
Division 11 Equipment subtotal:		\$	-	0.0%	\$	-	\$	-	\$
Division 12 Furnishings Equipment									
12 24 16	Roller Window Shades	\$	-	0.0%	\$	-	\$	-	\$
12 48 16	Entrance Floor Grilles	\$	-	0.0%	\$	-	\$	-	\$
12 58 29 14	Murphy Bed Mattresses	\$	-	0.0%	\$	-	\$	-	\$
Division 12 Furnishings subtotal:		\$	-	0.0%	\$	-	\$	-	\$
Division 14 Conveying Equipment									
14 21 00	Electric Traction Elevators	\$	-	0.0%	\$	-	\$	-	\$
Division 14 Conveying Equipment subtotal:		\$	-	0.0%	\$	-	\$	-	\$
Division 1 General Conditions subtotal:		\$	-	0.0%	\$	-	\$	-	\$
Division 2 Site Improvements subtotal:		\$	-	0.0%	\$	-	\$	-	\$
Division 3 - 14 Architectural / Structural		\$	-	0.0%	\$	-	\$	-	\$
MECHANICAL SYSTEMS									
Division 21 Fire-Suppression System									
21 00 00	Sprinkler System	\$	-	0.0%	\$	-	\$	-	\$
	Fire Extinguishers	\$	-	0.0%	\$	-	\$	-	\$
	Manuals/Documentation/As-builts	\$	-	0.0%	\$	-	\$	-	\$
Division 21 Fire-Suppression System subtotal:		\$	-	0.0%	\$	-	\$	-	\$
Division 22 Plumbing									
22 00 00	Plumbing Piping Materials - Below Ground	\$	-	0.0%	\$	-	\$	-	\$
	Plumbing Piping Materials - Above Ground	\$	-	0.0%	\$	-	\$	-	\$
	Plumbing Piping Labour - A & B	\$	-	0.0%	\$	-	\$	-	\$
	Plumbing Fixtures & Accessories Material	\$	-	0.0%	\$	-	\$	-	\$
	Plumbing Fixtures & Accessories Labour	\$	-	0.0%	\$	-	\$	-	\$
	Plumbing - HWT, EXP, Boilers Material	\$	-	0.0%	\$	-	\$	-	\$
	Plumbing - HWT, EXP, Boilers Labour	\$	-	0.0%	\$	-	\$	-	\$
	Seismic Restraints	\$	-	0.0%	\$	-	\$	-	\$
Division 22 Plumbing subtotal:		\$	-	0.0%	\$	-	\$	-	\$
Division 23 Heating, Ventilating, and Air Conditioning (HVAC)									
23 00 00	Vehicle Exhaust Extraction Systems	\$	-	0.0%	\$	-	\$	-	\$

THIS IS A SAMPLE ONLY
TO SHOW FORMAT AND
ORGANIZATION. THE INFORMATION IS
NOT PROJECT SPECIFIC

Mechanical Equipment Supply (FC, RTU, Split S, ERV)	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Mechanical Equipment Install (FC, RTU, Split S, ERV)	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Mechanical Equipment Supply (IRH)	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Mechanical Equipment Install (IRH)	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Gas Piping Material	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Gas Piping Labour	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Duct Work - Sheet Metal Material	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Duct Work - Sheet Metal Labour	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Refrigeration Piping	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Insulation Material	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Insulation Labour	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Packaged Exhaust Fans	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Grilles, Diffusers, and Registers	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Seismic Restraints	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Division 23 Heating, Ventilating, and Air Conditioning subtotal:	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Division 25 Integrated Automation											
25 00 00											
Building Automation Controls Materials	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Building Automation Control Install	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Building Automation Training	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Division 25 Integrated Automation subtotal:	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Division 22, 23, 35 General Requirements											
Mobilization	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Manuals/Documentation/As-builts	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Testing, Adjusting, and Balancing	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Division 22, 23, 35 General Requirements subtotal:	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Divisions 21, 22, 23, 25 Mechanical subtotal:	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
ELECTRICAL SYSTEMS											
Division 26/27/28 Electrical											
Mobilization and ESA Notifications	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
ESA Inspections	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Duct Bank - Material	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Duct Bank - Labour	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Metering - Material	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Metering - Install	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Generator - Material	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Generator - Labour	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Exterior Light Fixtures - Material	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Exterior Light Fixtures - Labour	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Interior Light Fixtures - Material	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Interior Light Fixtures - Labour	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Device Rough-in - Material	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Device Rough-in - Labour	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Branch Conduit - Material	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Branch Conduit - Labour	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Branch Wiring - Material	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Branch Wiring - Labour	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Distribution Equipment - Material	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Distribution Equipment - Labour	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Fire Alarm - Material	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Fire Alarm - Labour	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Testing, Adjusting, and Commissioning	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Manuals/Documentation/As-builts	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Division 26/27/28 Electrical subtotal:	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Divisions 26, 27, 28 Electrical subtotal:	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Base Contract subtotal:	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Cash Allowances:											
1 Item One	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
2 Item Two	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
3 Item Three etc.	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Cash Allowance subtotal:	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Contract subtotal:	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Issued Change Orders:											
1 Item One	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
2 Item Two	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
3 Item Three etc.	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Change Order subtotal:	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Contract amount:	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Issued Change Directives:											
1 Item One	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
2 Item Two	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
3 Item Three etc.	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Change Directive subtotal:	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-
Contract amount:	\$	-	0.0%	\$	-	\$	-	\$	-	\$	-

THIS IS A SAMPLE ONLY
TO SHOW FORMAT AND
ORGANIZATION. THE INFORMATION IS
NOT PROJECT SPECIFIC

PART 1 – GENERAL

1.1 GENERAL INSTRUCTIONS

- .1 Read and be governed by conditions of the *Contract Documents*, including sections of Division 1.

1.2 SECTION INCLUDES

- .1 1.1 General Instructions
- .2 1.2 Section Includes
- .3 1.3 Summary
- .4 1.4 Submittals
- .5 1.5 Delivery, Storage, and Handling
- .6 1.6 Field Conditions
- .7 2.1 Materials
- .8 2.2 Material Source
- .9 2.3 Mortar Types
- .10 2.4 Mortar Colour
- .11 2.5 Grout Types
- .12 3.1 Masonry Procedures
- .13 3.2 Measurement and Mixing
- .14 3.3 Grout
- .15 3.4 Field Quality Control
- .16 3.5 Protection

1.3 SUMMARY

- .1 Mortar and grout for masonry work.

1.4 SUBMITTALS

- .1 Submit required submittals in accordance with Section 01 33 00 – Submittal Procedures and Section 04 05 00 – Masonry Procedures.
- .2 Test and evaluation reports: Submit test results confirming compliance of aggregates with CAN/CSA A179-04.

1.5 DELIVERY, STORAGE, AND HANDLING

- .1 Protect cementitious materials against moisture.
- .2 Prevent contamination by foreign materials and freezing.

1.6 FIELD CONDITIONS

- .1 Heat materials as follows to produce mortar temperature between 4°C and 50°C:
 - .1 When air temperature is between 4°C and 0°C, heat either sand or water to produce specified mortar temperature.

- .2 When air temperature is below 0°C, heat both sand and water to produce specified mortar temperature.
- .3 Do not heat water or sand above 50°C.
- .4 Produce mortar batches subsequent to the first within plus 6°C of the first.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Mortar and grout: Comply with CAN/CSA A179-04.
- .2 Portland cement: in accordance with CSA A3001-08, Type 10. For exposed mortar, maintain uniformity of cement manufacturer and batch for colour uniformity.
- .3 Hydrated lime: in accordance with ASTM C207-06(2011), Type S.
- .4 Sand: in accordance with CAN/CSA A179-04.

2.2 MATERIAL SOURCE

- .1 Mortar and grout shall be factory prepared premix including sand and colour. *Site* mixing of bags and sand will not be accepted. Use mortar and grout as supplied by silo batched systems.
- .2 Maintain uniformity of mortar material manufacturers, mortar materials and source of aggregate throughout the *Work*.

2.3 MORTAR TYPES

- .1 Mortar for foundation walls, manholes, sewers, pavements, walks, patios and other exterior masonry at or below grade: Type S.
- .2 Mortar for exterior masonry above grade:
 - .1 Loadbearing: Type S.
 - .2 Non-loadbearing: Type N.
 - .3 Mortar for exterior exposed masonry brick veneer: Type N, Portland Cement/Lime/Sand mix.
 - .4 Mortar for exterior exposed masonry concrete stone veneer: Type N, Portland Cement/Lime/Sand mix complete with RainBloc for Mortar water repellent additive (site incorporated).
- .3 Mortar for interior masonry:
 - .1 Loadbearing: Type S.
 - .2 Non-loadbearing: Type N.

2.4 MORTAR COLOUR

- .1 Mortar colour; for use as indicated on the Shop drawings:
 - .1 Except where pigmented mortar is specified or indicated: Control mortar materials and workmanship to produce uniform grey colour (non-pigmented).

2.5 GROUT TYPES

- .1 Grout for masonry: Grout in accordance with CAN/CSA A179-04.

- .1 Compressive strength:
 - .1 20 MPa minimum unless otherwise indicated.
 - .2 Beneath bearing plates: 35 MPa.
- .2 Slump: 200 mm (8") unless otherwise indicated.
- .2 Grout for hollow metal frames: Fine grout in accordance with CAN/CSA A179-04.
 - .1 Compressive strength: 15 MPa minimum.

PART 3 - EXECUTION

3.1 MASONRY PROCEDURES

- .1 Masonry procedures shall be in accordance with Section 04 05 00 – Masonry Procedures as supplemented in this Section.
- .2 Comply with CAN/CSA A179-04, except where indicated otherwise.

3.2 MEASUREMENT AND MIXING

- .1 Mix mortars and grout as specified in CAN/CSA A179-04. Use only dry aggregate. Test for bulking to determine accurate proportioning.
- .2 Adjust water in mortar mix to suit absorption rates of masonry units.
- .3 Concrete grout: mix as required to achieve specified compressive strength.

3.3 GROUT

- .1 Place and grout reinforcing and bearing in accordance with Section 04 05 00 – Masonry Procedures, CAN/CSA A371-04, and as indicated on the Shop drawings.

3.4 FIELD QUALITY CONTROL

- .1 *Provide* mortar for strength testing in accordance with CAN/CSA A179-04 and Section 01 45 00 – Masonry Procedures.

3.5 PROTECTION

- .1 *Provide* protection where required at mixing areas to prevent damage attributed to materials of this Section.

END OF SECTION

PART 1 – GENERAL

1.1 GENERAL INSTRUCTIONS

- .1 Read and be governed by conditions of the *Contract Documents*, including sections of Division 1.

1.2 SECTION INCLUDES

- .1 1.1 General Instructions
- .2 1.2 Section Includes
- .3 1.3 Summary
- .4 1.4 Submittals
- .5 2.1 Materials
- .6 3.1 Laying

1.3 SUMMARY

- .1 Clay brick.

1.4 SUBMITTALS

- .1 Submit required submittals in accordance with Section 01 33 00 – Submittal Procedures and Section 04 05 00 – Masonry Procedures.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Manufacture: Manufacture total required brick in one continuous batch, for maximum colour and texture uniformity.
- .2 Clay brick:
 - .1 Exterior kiln fired clay brick veneer: in accordance with CAN/CSA A82.1-M87.
 - .1 Grade SW.
 - .2 Type: FBX.
 - .2 Size: Utility: 92 mm x 92 mm x 635 mm (3-5/8" x 3-5-8" x 11-5/8").
 - .3 Acceptable *Product*:
 - .1 'Endicott Medium Ironspot Velour #77' complete with natural mortar, as distributed by Thames Valley.
 - .2 'Toasted Fine Art Velour' complete with natural mortar, as distributed by Brampton Brick.
 - .3 or *Equivalent*.

PART 3 - EXECUTION

3.1 LAYING

- .1 Lay masonry in accordance with good practice, CAN/CSA A371-04 and as accepted in mock-up sample wall and as specified in Section 04 05 00 – Masonry Procedures.

- .2 Review locations of coursing alignment and layout with the *Consultant*, and seek approval, prior to commencement of the work of this Section.

END OF SECTION

PART 1 – GENERAL

1.1 GENERAL INSTRUCTIONS

- .1 Read and be governed by conditions of the *Contract Documents*, including sections of Division 1.

1.2 SECTION INCLUDES

- .1 1.1 General Instructions
- .2 1.2 Section Includes
- .3 1.3 Summary
- .4 1.4 Submittals
- .5 2.1 Materials
- .6 2.2 Source Quality Control
- .7 3.1 Preparation
- .8 3.2 Masonry Procedures

1.3 SUMMARY

- .1 Concrete masonry units:
 - .1 Normal weight units.
 - .2 Lightweight units.

1.4 SUBMITTALS

- .1 Submit required submittals in accordance with Section 01 33 00 – Submittal Procedures and Section 04 05 00 – Masonry Procedures.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Concrete masonry units:
 - .1 Comply with CAN/CSA A165 SERIES-04.
 - .2 Include shapes, such as end, bond, sash groove, ledge and lintel units, required to complete the *Work*, with uniform appearance.
 - .1 *Provide* open end blocks where vertical reinforcing occurs in walls.
 - .2 *Provide* knock-out blocks where horizontal reinforcing bars occur in walls.
 - .3 Solid concrete masonry units may be used where grouted block is indicated on the Shop Drawings, whenever reinforcing is not indicated, in lieu of grouted solid installation method.
 - .4 Size: metric.
- .3 Normal weight units:
 - .1 Hollow units: H/15/A/M, H/20/A/M, and H/30/A/M.
 - .2 Semi-solid units: SS/15/A/M, SS/20/A/M, and SS/30/A/M.

- .3 Full solid units: SF/15/A/M, SF/20/A/M, and SF/30/A/M.
- .4 Colour: grey.
- .5 Profiles: as indicated on the Shop Drawings.
- .4 Lightweight units:
 - .1 Hollow units: H/15/D/M.
 - .2 Semi-solid units: SS/15/D/M.
 - .3 Full solid units: SF/15/D/M.
 - .4 Colour: grey.
 - .5 Profiles: as indicated on the Shop Drawings.
 - .6 Acceptable *Products*:
 - .1 Brampton Brick Lightweight
 - .2 Richvale Block
 - .3 Or *Equivalent*.

2.2 SOURCE QUALITY CONTROL

- .1 Perform tests on masonry units to determine compressive strength as required by the *Authorities Having Jurisdiction* in accordance with CAN/CSA A165 SERIES-04.

PART 3 - EXECUTION

3.1 PREPARATION

- .1 Before commencing masonry work, verify that conditions at the *Place of the Work* will allow construction of masonry within required limitations for wall heights, wall thicknesses, openings, bond, anchorage, lateral support, and compressive strengths of masonry units and mortars.

3.2 MASONRY PROCEDURES

- .1 Lay masonry in accordance with Section 04 05 00 – Masonry Procedures and CAN/CSA A371-04, as accepted by the Consultant in mock-up sample wall.

END OF SECTION