



**CITY OF HAMILTON**

**REQUEST FOR TENDERS**

**Contract Number: C13-31-23**

**General Contractor Required for Victoria Park Field  
House Renovations**

**Closes: 3:00 PM, Hamilton time  
Wednesday November 29, 2023**

**\*\*\* ELECTRONIC BID SUBMISSIONS ONLY \*\*\***

**Procurement Section  
Corporate Services Department**

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# COMMUNICATIONS

Revised: March 21, 2023

**Contract Number: C13-31-23**

## **General Contractor Required for Victoria Park Field House Renovations**

All questions related to this Request for Tenders (RFT) or for clarification on completing the Form of Tender shall be submitted through the Bidding System by clicking on the "Submit a Question" button for the specified Request for Tenders document and shall be directed to:

Mat Brown  
Procurement Specialist

All questions related to this Request for Tenders (RFT) or any clarification with respect to this RFT must be made no later than **3 Business Days prior** to the closing date of this RFT in order that City staff may have sufficient time to respond. The City reserves the right to extend the deadline for questions if required regarding this RFT.

Written answers or clarifications to issues of substance shall be shared with all bidders and issued as part of the RFT in the form of an Addendum. **All bidders are advised that any Addenda issued will only be posted on the following website:**

**<https://hamilton.bidsandtenders.ca>**

**It is the sole responsibility of each bidder to check the website for any and all Addenda that have been issued for this Request for Tenders.**



City of Hamilton  
Corporate Services Department  
Procurement Section  
Email: [procurement@hamilton.ca](mailto:procurement@hamilton.ca)

Mat Brown  
Procurement Specialist  
Telephone: (905) 546-2424, extension 5972  
Email: [mat.brown@hamilton.ca](mailto:mat.brown@hamilton.ca)

## **REQUEST FOR TENDERS NOTICE**

**Contract Number: C13-31-23**

### **General Contractor Required for Victoria Park Field House Renovations**

**Closes: 3:00 PM, Hamilton time  
Wednesday November 29, 2023**

**Only electronic bid submissions shall be accepted and received through the Bidding System by the closing date and time stated above.**

**There is no public opening for this Request for Tenders.**

#### **1.0 SCOPE OF WORK**

The City of Hamilton is seeking a qualified general contractor to renovate the existing Victoria Park Field House washrooms to increase their overall accessibility as well as winterize the washrooms for year-round use.

#### **2.0 CONTRACT REQUIREMENTS**

Bidders are advised of the following contract requirements for this Request for Tenders:

##### **2.1 Bid Security**

Bid security: **\$50,000.00**

**The City will only accept a digital bid bond in an electronically verifiable and enforceable (e-Bond) format.**



## **2.2 Performance and/or Labour and Material Payment Security**

Successful Bidder to provide:

Performance security (bond only accepted): **50%** of the Base Bid Price.

Successful Bidder to provide:

Labour and Material Payment security (bond only accepted): **50%** of the Base Bid Price.

## **3.0 SITE MEETINGS**

### **3.1 Optional Site Meeting**

There is an optional site meeting scheduled.

**Location:** 500 King Street West, Hamilton on (see location map attached)

**Date:** Thursday November 9, 2023

**Time:** 10:00am, Hamilton time

**All attendees are required to wear CSA approved hard hats and safety boots. If an attendee does not have the required personal protection equipment they may not be allowed to attend the site meeting.**

## **4.0 TO OBTAIN DOCUMENTS**

### **4.1 Free Preview of Request for Tenders Documents**

A complete set of Request for Tenders documents may be viewed for free on the City of Hamilton's bid opportunities website **hamilton.bidsandtenders.ca**.

### **4.2 Purchase of Request for Tenders Documents**

The Request for Tenders documents are available for online purchase only.

**Online:** **hamilton.bidsandtenders.ca**

**Fee:** \$58.85 non-refundable, tax included + applicable bids&tenders™ fees

### **4.3 Accommodations for Bidders with Disabilities**

In accordance with the Ontario Human Rights Code, Ontarians with Disabilities Act, 2001 (ODA) and Accessibility for Ontarians with Disabilities Act, 2005 (AODA), the City of Hamilton will accommodate for a disability, ensuring full and equitable participation throughout the bid process.

If a bidder requires this Request for Tenders in a different format to accommodate a disability, the bidder must contact the Tender Coordinator as soon as possible and in any event prior to the closing date. The Request for Tenders in the different format will be issued only to the requesting bidder and all Addenda will be issued in such different format only to the requesting bidder.

## **5.0 TRADE AGREEMENTS**

This Request for Tenders is subject to the Canadian Free Trade Agreement (CFTA).

Procurement Manager  
City of Hamilton

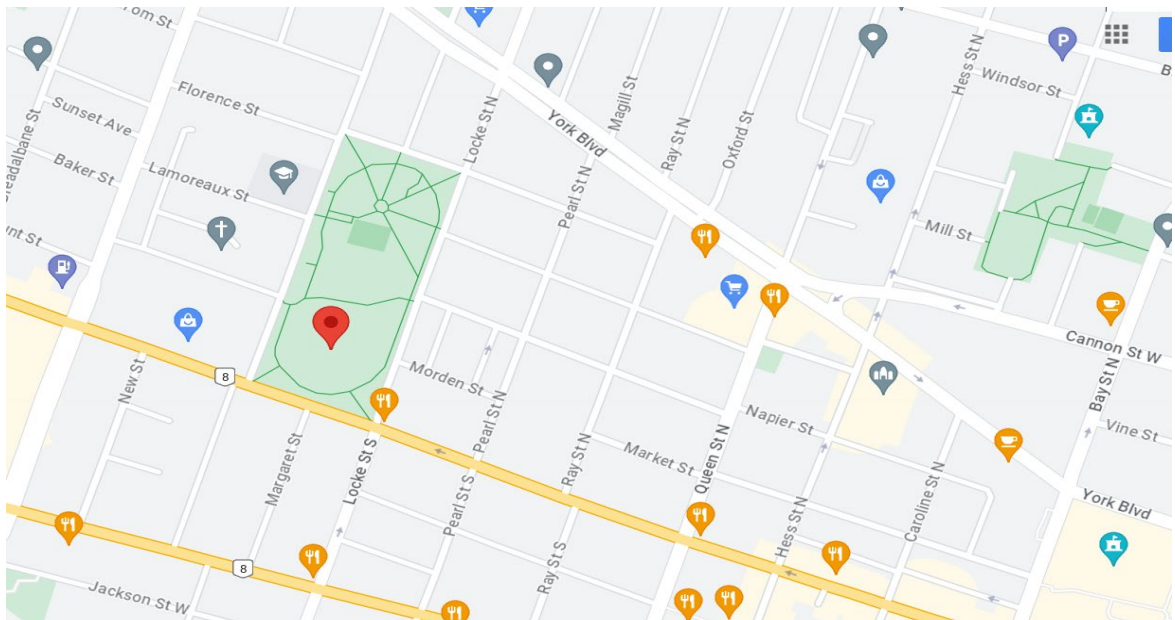
## MAP LOCATION OF 500 KING STREET WEST, HAMILTON ON

### DISCLAIMER:

The following URL address and map have been provided for illustration purposes only and every effort has been made to ensure accuracy. The City of Hamilton cannot accept any responsibility for errors, omissions, or positional inaccuracy for this information.

**Bidders must copy and paste the following URL address into a new web browser:**

[https://www.google.com/maps/place/500+King+St+W,+Hamilton,+ON/@43.2620067,-79.883175,16z/data=!4m6!3m5!1s0x882c9b7b611bf869:0xe57341cf7f648a5e!8m2!3d43.2618856!4d-79.8840655!16s%2Fg%2F11h9\\_pl225?entry=ttu](https://www.google.com/maps/place/500+King+St+W,+Hamilton,+ON/@43.2620067,-79.883175,16z/data=!4m6!3m5!1s0x882c9b7b611bf869:0xe57341cf7f648a5e!8m2!3d43.2618856!4d-79.8840655!16s%2Fg%2F11h9_pl225?entry=ttu)



**CITY OF HAMILTON**  
**REQUEST FOR TENDERS**  
**INSTRUCTIONS TO BIDDERS**  
**Revised: October 7, 2022**

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## **INSTRUCTIONS TO BIDDERS**

**Notice to prospective bidders: The Instructions set out herein define your obligations and limit your rights. Read carefully.**

### **1 Interpretation**

In these Instructions to Bidders,

- 1.1 the provisions shall be read with changes of gender, number or corporate status as the context may require;
- 1.2 a reference to any Act, by-law, rule, procedure or regulation shall be deemed to include a reference to any substitution or amendment thereof;
- 1.3 the headings to each section are inserted for convenience of reference only and do not form part of the Request for Tenders;
- 1.4 any reference to an officer of the City shall be construed to mean the person holding that office from time to time, the designate or deputy of that person, and shall be deemed to include a reference to any person holding a successor office or the designate or deputy of that person.
- 1.5 unless expressly stated to the contrary, the number of days shall be calculated by,
  - 1.5.1 counting all days including Saturdays, Sundays and public holidays, provided, however, that if the final day of any period shall fall on a Saturday, Sunday or public holiday, then the final day shall be deemed to be the next day which is not a Saturday, Sunday or public holiday;
  - 1.5.2 where "month" is referred to, it shall be a calendar month.

### **2 Definitions**

Capitalized words and phrases used in these Instructions to Bidders, Supplementary Instructions to Bidders, and the Form of Tender shall have the following meanings, unless expressly stated otherwise.

"Addendum" means a written change issued to the Request for Tenders.

"Alternative" means anything for which bidders provide a price in a manner that gives the City options in determining the actual Work of the Contract and may include such items as an optional product, system, installation, method, design and requirement. The City shall not be obliged to purchase an Alternative when accepting a Bid, but may, at its discretion elect to purchase all, some or none of the Alternatives offered.

“Alternative Price” means the amount stipulated by the bidder for an Alternative, which can be stated as an addition, a deduction, or no change to the Base Bid Price. The Successful Bidder shall be obliged to adhere to the Alternative Price quoted in its Bid.

“Base Bid Price” means the amount stated in the Form of Tender by the bidder, for the Work without considering any Alternative or Alternative Price and includes all Provisional Items and Provisional Prices (if any).

“Bid” means a submission made by a bidder in response to the Request for Tenders.

“Bid Security” means the security submitted by a bidder with its Bid which provides financial protection to the City should the Successful Bidder not enter into the Contract or commence the Work following the issuance of a purchase order, and/or not provide the specified security required under the Contract.

“Bidding System” means the electronic system used by the City for the advertisement of public bid opportunities at the following website: <https://hamilton.bidsandtenders.ca>, and which is required to be used for all dissemination of information by or on behalf of the City and submissions from bidders for this Request for Tenders.

“Business Day” means a day which is not a Saturday, Sunday, public holiday or day when the administrative offices of the City are closed.

“City” means the City of Hamilton, and where an authority or discretion is conferred upon the City under the Request for Tenders, means the appropriate official of the City as designated or appointed under its governing by-laws, resolutions or policies from time to time.

“Contract” means the agreement by formal contract executed by both the City and the Successful Bidder, or by purchase order issued by the City, to perform the Work, including the supply and delivery of all labour, Goods, Services, equipment and incidentals necessary for the proper and satisfactory execution of the Work, and the fulfillment of all other contractual obligations and undertakings, all in accordance with the Request for Tenders, and any written supplementary agreements which form part of the Contract.

“Electronic Bidding” means a method of issuing this Request for Tenders and/or receiving Bids where the process of using and/or receiving Bids by internet is considered appropriate, and in particular includes the Bidding System operated by bids&tenders<sup>TM</sup> system operated by eSolutions Group, 455 Philip Street, Waterloo, Ontario N2L 3X2.

“Form of Tender” means the City’s forms entitled Form of Tender and Schedule of Prices and any other documents that are supplied as part of the Request for Tenders and which are to be completed and confirmed by the bidder and submitted back to the City in their entirety through the Bidding System.

“Good” means any product of any description required to be installed, supplied or consumed in order to complete the Work.

“Lump Sum Price” means an all inclusive one price that applies to a single item, or specific Service as set out on the Form of Tender.

“Procurement Manager” means the City’s Procurement Manager or his or her delegate or designate.

“Procurement Policy” includes those City procurement policies found at:  
<https://www.hamilton.ca/build-invest-grow/buying-selling-city/bids-and-tenders/procurement-policy-by-law>

“Procurement Section Office” means 28 James Street North, 4<sup>th</sup> Floor, Hamilton, Ontario L8R 1A1.

“Project Manager” means the person designated by the City to administer and oversee the Work.

“Provisional Item” means work or a portion of work the City may wish to have performed but which may be removed, at no additional cost to the City from the scope of the Work at any time. Where such item is removed, the City will deduct the relevant Provisional Price from the Base Bid Price after the award of the Contract.

“Provisional Price” means the amount stipulated by the bidder for a Provisional Item which is to be included in the Base Bid Price.

“Request for Tenders” means all of the following documents, and in the event of a conflict between them, each shall enjoy priority against the others (subject to any express term or condition to the contrary) in accordance with the following successive order:

- (a) any Addendum;
- (b) any Supplementary General Conditions or Supplementary Conditions;
- (c) the General Conditions;
- (d) the Specifications, with any Supplementary Specifications (if any) taking priority over the standard Specifications;
- (e) any contract drawings;
- (f) the Supplementary Instructions to Bidders
- (g) these Instructions to Bidders;
- (h) the standard form text of the Form of Tender as prescribed by the City;
- (i) the sample Contract;
- (j) any other documents that form a part of the Request for Tenders.

“Service” means a service of any description required in order to complete the Work, whether commercial, industrial, trade or otherwise, and includes all professional, technical and artistic service, and the transporting, acquiring, supplying, storing and otherwise dealing in a Good.

“Specifications” means all written or printed requirements and standards forming part of the Request for Tenders and pertaining to the method and the manner of performing the Work or Service, to the scope of Work and to the quality of a Good to be furnished under the Contract.

“Stipulated Price” means a single, all inclusive, one price that applies to all of the Work.

“Successful Bidder” means the bidder to whom the City has awarded the Contract.

“Tender Coordinator” means the single point of contact for the Request for Tenders and will be the person named on the Communications page of the Request for Tenders.

“Tender Notice” means the public notification of the Request for Tenders.

“Total Contract Price” has the same meaning as Base Bid Price.

“Unit Price” means any component price as set out on the Form of Tender.

“Value Added Taxes” means such sum as shall be levied upon the Base Bid Price by the Federal or Provincial or Territorial Government and is computed as a percentage of the Base Bid Price and includes the Goods and Services Tax, the Quebec Sales Tax, the Harmonized Sales Tax, and any similar tax, the collection and payment of which have been imposed on the bidder by the tax legislation.

“Work” means the whole of the work, the supply and delivery of a Good, the delivery and performance of any Services, the total construction and related services, material, matters and things required to be completed, supplied, mentioned or referred to in performing or executing the work in full in accordance with the requirements set out in the Request for Tenders.

### **3 Guidelines Regarding Bid Irregularities**

As a guide to the bidder, but without qualifying any rights and privileges reserved to the City, the bidders guidelines set out below is indicative of the manner in which discretion reserved by the City is to be exercised with respect to non-compliant Bids. However, the City shall not be liable to any bidder or other person where it elects to exercise a discretion, reserved privilege or right in a manner different from that indicated below. An irregularity that goes beyond the scope of the bidders Guidelines set out below shall be considered by the Procurement Manager.

<b>BIDDERS GUIDELINES</b>		
<b>IRREGULARITY</b>		<b>RESPONSE</b>
1.	Qualified or conditional Bid (A Bid restricted by a statement added to the Form of Tender or a covering letter or alterations to the Form of Tender).	Automatic rejection unless the Request for Tenders specifically permit such qualification or condition.



BIDDERS GUIDELINES		
IRREGULARITY		RESPONSE
2.	A Bid received in a format not specified in the Request for Tenders such as hardcopy submission, fax, email, etc.	Automatic rejection.
3.	A Bid received on documents other than those original documents supplied by the Bidding System.	Automatic rejection.
4.	Bid Security:  Amount of Bid Security provided by bidder is insufficient, does not name correct Municipality as obligee, or no Bid Security is provided or is not otherwise in compliance with the Request for Tenders requirements.	Automatic rejection.
5.	Execution of Bid bond: Corporate seal or electronic signature of bidder, or both, are missing. Corporate seal or electronic signature of bonding company, or both, are missing.	Automatic rejection.  Automatic rejection.
6.	Digital bid bond not provided or not an electronically verifiable and enforceable e-Bond.	Automatic rejection.
7.	Other irregularities.	An irregularity that goes beyond the scope of the Bidders Guidelines may be considered by the Procurement Manager.

## 4 Bid Submission and Form of Tender

### 4.1 Every Bid shall

- 4.1.1 be submitted on the City's prescribed Form of Tender in its entirety;
- 4.1.2 be completed in English;
- 4.1.3 have all of the required blank spaces provided on the Form of Tender completed by the bidder;
- 4.1.4 include all material, Goods, Services, equipment and labour, required to complete the Work; and
- 4.1.5 state all prices in Canadian funds, unless otherwise stipulated.

### 4.2 Electronic Bid submissions only, shall be accepted and received by the Bidding System, on or before the closing date and time stated in the Request for Tenders. A Bid submitted by mail, in person, fax, e-mail or other electronic means, other than through the Bidding System, will not be accepted.

- 4.3 Bidders shall have a Bidding System vendor account and must be registered as a plan taker for this Request for Tenders. Only plan takers will have access to download this Request for Tenders document, receive Addendum email notifications, download Addendum and to submit their Bid electronically through the Bidding System.

If a bidder has obtained the Request for Tenders document from a third party, the onus is on the bidder to create a Bidding System vendor account and register as a plan taker for the bid opportunity.

- 4.4 Time is of the essence with respect to the submission of a Bid. It is the **sole** responsibility of each bidder to ensure that its Bid is received by the Bidding System on or before the closing date and time stated in the Request for Tenders document. The closing time shall be determined by the Bidding System web clock.

Bidders are advised that the timing of their Bid submission is based on when the Bid is RECEIVED by the Bidding System, not when a Bid is submitted by a bidder, as Bid transmission can be delayed in an “internet traffic jam” due to file transfer size, transmission speed, etc.

Bidders shall allow sufficient time to upload their Bid submission, including any attachments. Late Bid submission shall not be accepted by the Bidding System.

- 4.5 The Bidding System will send a confirmation email to the bidder advising that their Bid was submitted successfully. If an email confirmation is not received, contact technical support at bids&tenders™ via email: [support@bidsandtenders.ca](mailto:support@bidsandtenders.ca) or by telephone 1-800-594-4798.
- 4.6 It is the exclusive responsibility of each bidder to submit a complete Bid in accordance with the Request for Tenders.
- 4.7 All documents prepared and work carried out by a bidder in preparing a Bid, and all oral presentations to the City in connection with a Bid, shall be without cost to the City, and neither the City’s publication of a Request for Tenders nor the submission of a Bid shall be construed to oblige the City to award a Contract.
- 4.8 All words and phrases forming part of a Bid should be written out in full, and abbreviations should not be used.
- 4.9 No amendment may be made to a Bid after it has been submitted, except in the circumstances set out in Article 6.4 of these Instructions to Bidders.

## **5 Bid Security**

- 5.1 Each bidder shall submit with its Bid a Bid Security in the form of a digital bid bond in an electronically verifiable and enforceable (e-Bond) format in the amount set out in the Supplementary Instructions to Bidders.

For additional information regarding e-Bonds, bidders should contact their surety company or visit the Surety Association of Canada website.

- 5.2 A scanned PDF copy of bonds, original certified cheque, bank draft, money order or any other format other than a digital bid bond is not acceptable and shall be rejected.
- 5.3 Bidders shall upload their Bid Security to the Bidding System, in the bid submission file labelled "Bid Bond". All instructions and details for assessing authentication shall be included with the digital bond uploaded in the Bidding System.
- 5.4 A Bid Security shall, include such terms, be in a form, be executed appropriately and be provided by an issuer authorized to do business in the Province of Ontario, satisfactory to the City in its reasonable discretion.
- 5.5 When a Bid is accepted by the City, the Successful Bidder will enter into a Contract for the performance of the Work. The Successful Bidder will commence the Work, following the issuance of a purchase order or notice to proceed, and will give the specified security required under the Request for Tenders and the Contract within 10 Business Days of request by the City.
- 5.6 The digital bid bond will not be returned to the bidder.
- 5.7 The term of the Bid Security shall be for a minimum period of 90 days after the closing date of the Request for Tenders. Where the irrevocability period for a Bid is extended in accordance with Article 10.2 of these Instructions to Bidder, the bidder shall also ensure that the term of the Bid Security is extended for the same period of time as the irrevocability period.
- 5.8 A Bid submitted without the required Bid Security will be rejected by the City.
- 5.9 Each bidder that submits a Bid will be deemed to have acknowledged and agreed that the amount of the Bid Security required with respect to a Bid constitutes a genuine pre-estimate on the part of the City of the damages that will be suffered by the City as a result of a failure or refusal on the part of the Successful Bidder to enter into a Contract, to commence the Work following the issue of a purchase order or notice to proceed, and/or to give the specified security required under the Request for Tenders and the Contract.
- 5.10 In the event of a failure or refusal on the part of the Successful Bidder to enter into the Contract, to commence the Work following the issue of a purchase order or notice to proceed, and/or to give the specified security required under the Request for Tenders and the Contract, the City shall declare the Bid Security forfeited and the Successful Bidder may be held responsible at the City's discretion for any increased costs or damages incurred by the City over and above the amount of that Bid Security.
- 5.11 In addition to the Reserved Privileges of the City set out at Article 16 of the Instructions to Bidders, the City may at its discretion, in the event of a failure, refusal or default on the part of the Bidder to enter into the Contract, to commence the Work following the issue of a purchase order or notice to proceed, and/or to give the specified security required under the Request for Tenders and the Contract, annul the award or terminate the Contract, accept the next lowest compliant Bid, advertise for new tenders, or carry out the Work in any manner deemed in the best interests of the City. In such a case, if required by the City, the bidder shall pay the City the difference between the Base Bid

Price and any greater sum that the City may be obligated to pay by reason of the failure, refusal or default of that bidder, including the cost of any advertisement for new tenders.

## **6 Addenda and Clarification of the Request for Tenders**

- 6.1 The City reserves the right at any time prior to the award of the Contract,
- 6.1.1 to withdraw or cancel the Request for Tenders;
  - 6.1.2 to extend the time for the submission of Bids; or
  - 6.1.3 to modify the Request for Tenders,
- by the publication of an Addendum, which shall become part of the Request for Tenders, and the City shall not be liable for any expense, cost, loss or damage incurred or suffered by any bidder (or any other person) as a result of its so doing.
- 6.2 Without limiting the City's right, Article 6.1 may apply to situations where no Bid is compliant or an insufficient number of bids have been received.
- 6.3 Any Addendum shall be posted on the following website and is sufficiently served upon any prospective bidder if so posted.

<https://hamilton.bidsandtenders.ca>

- 6.3.1 In addition to the above method of posting, the City may also notify prospective bidders of any Addendum by any other method it deems appropriate, including email, telephone, fax, courier, hand-delivery or by personal delivery. The need for additional notification and the method(s) to be used shall be in the absolute discretion of the City and notification shall be to the co-ordinates provided by the bidder to the City at the time it obtained the Request for Tenders from the City.
  - 6.3.2 It is the sole responsibility of each bidder to check the website and ensure that it has received any and all Addenda issued by the City. Bidders shall confirm in the Form of Tender that they have received, examined and provided for all Addenda issued under the Request for Tenders. Bidders may in writing, seek confirmation of the number of Addenda issued under the Request for Tenders from the Tender Coordinator.
- 6.4 Where a bidder submits their Bid prior to the Request for Tenders closing date and time and an Addendum has been issued by the City, the Bidding System automatically **WITHDRAWS** the bidder's Bid submission and changes the Bid submission to an **INCOMPLETE STATUS (NOT accepted by the City)**. The withdrawn Bid can be viewed by the bidder in the "**MY BIDS**" section of the Bidding System. The bidder is solely responsible to:
- 6.4.1 make any required adjustments to their Bid;

6.4.2 acknowledge all Addenda that have been issued for this Request for Tenders; and

6.4.3 ensure the re-submitted Bid is **RECEIVED** by the Bidding System before the closing date and time stated in the Request for Tenders.

6.5 All communication between a bidder and the City (including requests for information or clarification) **shall** be set down in writing and directed to the Tender Coordinator named in the Communications page.

6.6 Any request directed to the City with respect to Article 6.5 prior to the closing date of the Request for Tenders must allow sufficient time for a written response or clarification to be issued by the City prior to the closing date, should the City consider it necessary to issue such response or clarification.

6.7 A written response or clarification of substance shall be shared with each bidder and issued in the form of an Addendum.

6.8 The City shall not be bound by any oral:

6.8.1 instruction;

6.8.2 amendment or clarification of the Request for Tenders;

6.8.3 information; or

6.8.4 advice or suggestion,

provided by any member of the City's staff or consultant to the City concerning the Request for Tenders or the manner in which the Work is to be carried out and the bidder bears any and all risk in relying on such representation.

6.9 Bidders shall acknowledge receipt of any Addenda when submitting their Bid through the Bidding System. Bidders shall check a box for all Addenda and any applicable attachments that have been issued before a bidder can re-submit their Bid submission online.

## **7 Bidder Responsibilities**

7.1 The Contract shall only be between the City and the Successful Bidder. Neither the City nor its consultant shall be construed to have any contractual relationship with the Successful Bidder's employees, subcontractors or material suppliers, or their respective employees or suppliers.

7.2 Each bidder shall be responsible for:

7.2.1 ensuring that it has conducted a thorough inspection of the site, has investigated and examined the Request for Tenders and any other document made available to the bidder by the City and has delivered to the City any

request for information in respect of all questions arising out of the foregoing inspections, investigations and examinations in respect to the site;

- 7.2.2 reviewing all drawings, reports, tests and other documents with respect to site, subsurface or otherwise concealed physical conditions which have been provided or made available to the bidder by the City in relation to the Request for Tenders and shall be responsible for any site, subsurface or otherwise concealed physical condition set out in or inferable from any such report; and
- 7.2.3 ensuring that they have conducted a sufficient and appropriate scope of inquiry into the manner, method(s) and magnitude of the work that is proposed in the Request for Tenders such that they have established a clear and full understanding of the work being undertaken and are able to fully appreciate the consequences of that work in preparing their Bid.

- 7.3 The cost of any Work which results from encountering any condition that is described in or properly inferable from the information referred to in Article 7.2 above shall be included in the bidder's Base Bid Price.

## **8 Opening of Bids**

There is no public opening for this Request for Tenders. All Bids shall be electronically opened and posted on the Bidding System, <https://hamilton.bidsandtenders.ca>, following the closing date and time of the Request for Tenders. The name of the bidder and the Base Bid Price shall be posted for each Bid received.

## **9 Review of Bids & Bid Verification**

- 9.1 Following the electronic opening, each apparently eligible Bid will be examined by the Procurement Manager to confirm that they are compliant and otherwise complete.
- 9.2 Unless expressly stated otherwise, the City shall apply a standard of substantial compliance against each Bid.
- 9.3 The City is not obliged to seek verification of any aspect of a Bid, however, the City may, if it determines that it is appropriate to do so under the circumstances, verify any aspect of any Bid received, at any time, in order to resolve an ambiguity in either the language used or any other vague or uncertain aspect of the Bid.
- 9.4 Such verification shall not alter the Bid, constitute negotiation or re-negotiation of the price or any other aspect of the Bid, and all correspondence with a bidder for the purposes of such verification shall be conducted through the Procurement Manager.
- 9.5 The review or verification of a Bid with a bidder shall not oblige the City to enter into a Contract with a particular bidder, nor shall it constitute an acceptance of a Bid.
- 9.6 All verification under this section shall form part of the Bid, be in writing, and be in a form satisfactory to the City.

## **10 Acceptance & Irrevocability of Bid**

- 10.1 A Bid shall be irrevocable and open for acceptance by the City of Hamilton for a period of 90 days following the closing date and time of the Request for Tenders.
- 10.2 Where the City is unable to award a Contract prior to the expiry of the irrevocability period, the City may, on or prior to that expiry date, make a request to each of the compliant bidders to confirm, in writing, their willingness to hold their Bid prices, extend the term of their Bid Security and extend the irrevocability period for the specific period of time requested by the City.

## **11 Award of Contract**

- 11.1 The City shall notify the Successful Bidder as soon as practicable after the award of the Contract. Despite any requirement for the formal execution of a Contract, the Contract shall be deemed to arise upon the award of the Contract to the Successful Bidder.
- 11.2 Where a Request for Tenders is awarded to a bidder in respect of the Work and in accordance with the provisions of the Request for Tenders and Bid, the bidder shall be required to either:
  - 11.2.1 execute a Contract on the form set out in the Request for Tenders and approved by the City's Legal Services Division; or
  - 11.2.2 where the form of Contract in Article 11.2.1 is not required they shall be assigned a contract number and the Request for Tenders and the Bid shall become the Contract in respect of the Work.
- 11.3 The award letter will identify documents required by the City prior to being able to issue a purchase order, the timeline for providing those documents to the City and the name of the Project Manager who will coordinate the start date for the Work.
- 11.4 The Base Bid Price for each compliant Bid received as well as the Contract award information may be obtained from the following website:

<https://hamilton.bidsandtenders.ca>

## **12 Conflict of Interest, Lobbying and Collusion**

- 12.1 The City may reject any Bid submitted where a bidder is in contravention of the City's Procurement Policy with respect to conflict of interest.
- 12.2 Other than as expressly permitted or required in the Request for Tenders a bidder and their representative shall not, with respect to the Request for Tenders or the Work, make any public comment, respond to questions in a public forum, or carry out any

activities to publicly promote or advertise their qualifications, their Bid, or their interest in this competitive procurement process.

- 12.3 For greater certainty, a bidder shall not communicate with the City regarding this procurement except through the Tender Coordinator identified on the Communications page of the Request for Tenders who shall be the City's single point of contact for the bidder during this process.
- 12.4 The bidder acknowledges that this Bid is made without any connection, comparison of figures or arrangements with, or knowledge of, any other person making a Bid for the same work and is in all respects fair and without collusion or fraud.

### **13 Confidentiality**

- 13.1 A bidder should be aware that all information submitted is being collected under authority of the Municipal Act, 2001, and may be used in the City's review of Bids and in the Contract that is entered into with the Successful Bidder. In this regard, the bidder should be aware that:
  - 13.1.1 the bidder's name and Base Bid Price at a minimum will be made public. In addition, certain contractual information must be disclosed to Council and accordingly may become part of the public record; and
  - 13.1.2 all correspondence, documentation and information provided by a bidder to the City as part of a Bid may be reproduced for the purposes of reviewing the bidder's Bid and/or for the purposes of an audit of the procurement process.
- 13.2 All such information is also subject to collection in accordance with the Municipal Freedom of Information and Protection of Privacy Act ("MFIPPA") and Personal Health Information Protection Act ("PHIPA") and City policies and procedures related to the collection and administration of such records. For greater particularity and direction regarding how such issues of confidentiality will be handled and may affect a bidder's rights, the bidder should reference the City's policies related to Freedom of Information on the City's website under the Office of the City Clerk at [hamilton.ca](http://hamilton.ca). In preparing the Bid, the bidder should note the following:
  - 13.2.1 a bidder may mark as confidential any scientific, technical, commercial, proprietary or similar confidential information contained in its Bid, the disclosure of which could cause it injury, excluding the Base Bid Price and its name. A bidder shall not identify the whole of a Bid as confidential. A watermark or rubber stamp imprint is suitable to identify confidential parts of a Bid.
- 13.3 All correspondence, documentation and information provided by the City, its employees, agents or representatives to any bidder in connection with, or arising out of the Request for Tenders remains the property of the City and must not be used for any purpose other than for replying to the Request for Tenders. Confidentiality of records and information of the City relating to the Work described in the Request for



Tenders must be maintained at all times. If any proprietary or confidential information belonging to, or in the care of, the City is disclosed to any bidder by the City's employees, agents, representatives and independent contractors, or any other person at the request of the City in connection with the Request for Tenders, the bidder shall:

- 13.3.1 safeguard all such information;
- 13.3.2 maintain in strict confidence and not reproduce or disclose any such information to any person except as required by law or as expressly permitted in advance by the City in writing;
- 13.3.3 return forthwith all such information as may be in documentary form or recorded electronically by the closing date and time; and
- 13.3.4 not use any such information for any purpose other than the purpose for which it was provided by the City or by any other person at the request of the City.

#### **14 Withdrawal of Bids by Bidder**

- 14.1 Withdrawal of a Bid after it has been submitted and received by the Bidding System, is permitted only prior to the closing date and time of the Request for Tenders.
- 14.2 Requests made after the closing date and time of the Request for Tenders to withdraw a Bid received by the Bidding System will be disregarded.
- 14.3 A Bid withdrawn prior to the closing date and time of the Request for Tenders may be revised and re-submitted at any time prior to that closing date and time. Bidders are solely responsible to ensure:
  - 14.3.1 any required revisions are made to their Bid;
  - 14.3.2 acknowledge all Addenda that have been issued for this Request for Tenders; and
  - 14.3.3 ensure the re-submitted Bid is received by the Bidding System prior to the closing date and time of the Request for Tenders.

#### **15 Price**

- 15.1 No variation in Bid price(s) shall be permitted after the closing date and time of the Request for Tenders except where the City corrects an obvious computational or other mathematical error evident on the face of the Bid. Only extensions, subtotals and totals shall be corrected. No modification to individual prices, either Unit Price or Lump Sum Price, shall be made by the City.
- 15.2 Where the bidder is instructed to price the Work on a Stipulated Price basis only, no corrections to the Base Bid Price shall be made by the City.

15.3 The Base Bid Price must be quoted on an all-in basis and include the provision and delivery of all necessary labour, Goods, materials, warranty and maintenance requirements, Services, tools, equipment, supplies, utilities, levies and duties and other incidentals, and for performing all the Work and providing all Services contemplated under the Contract.

15.4 The Base Bid Price and all other prices quoted on the Form of Tender shall be exclusive of Value Added Taxes. All other taxes shall be included in the prices submitted for this Request for Tenders.

Where there is a variation due solely to an increase or decrease in the rate of applicable Value Added Tax from a Canadian taxing authority, beyond the control of the Successful Bidder, occurring after the time and date of submission of its Bid, the variation shall alter the price of the Bid only to the extent of the Value Added Tax increase or decrease. The Successful Bidder must prove to the satisfaction of the City that the Successful Bidder will not benefit in any way by reason of any increase to the Base Bid Price.

15.5 As various parts of the Work may or may not be exempt from Value Added Taxes, the bidder is required to refer to the Supplementary Instructions to Bidders for details, if any, respecting payment exemptions, rebates and Value Added Taxes.

## **16 Reserved Privileges of the City**

The City shall have the following reserved privileges, which may be exercised or waived in its absolute discretion.

16.1 The City may reject a Bid on the following basis:

16.1.1 the City may reject any Bid, the lowest Bid or all Bids, may cancel the Request for Tenders or may cancel the Request for Tenders and require the submission of new Bids;

16.1.2 any extraordinary or unjustified disparity between the lowest Bid and the other Bids received by the City;

16.1.3 the need to avoid the use of unproven technology and methodologies;

16.1.4 the prior record of the bidder as a contractor to the City;

16.1.5 a Bid submitted by a person which in the opinion of the City or its professional advisors, does not possess the experience, or financial, technical, personnel or other resources that may reasonably be expected to be necessary in order to carry out the obligations that the bidder proposes to assume under the terms of its Bid.

16.2 Where the Contract is awarded to the lowest compliant bidder, the City may negotiate amendments to the Contract or to the Work to be done or Services or materials to be supplied under the Contract.

- 16.3 Where none of the Bids are compliant and in the opinion of the City it is impractical to reissue a new Request for Tenders, the City will reject all of the Bids and may permit Bids to be submitted without issuing a new Request for Tenders.
- 16.4 Where the Base Bid Price for the lowest compliant Bid received substantially exceeds the estimated procurement cost of the Work, the City may negotiate with the lowest compliant bidder for a reduction to the Base Bid Price.
- 16.5 The City maintains the right to verify any information provided or contained in any Bid.
- 16.6 The City reserves the ability to exercise the rights, privileges and authority contained in the Procurement Policy and procedures thereunder with respect to the Request for Tenders.

## **17 Notice to Proceed and Start Date**

- 17.1 The City may issue a written notice to proceed to the Successful Bidder prior to the execution of any required Contract.
- 17.2 Work shall commence on the start date specified in the notice to proceed, unless otherwise agreed by the Successful Bidder and the City.

## **18 Applicable Law and Limit on Liability**

- 18.1 The City shall not be liable, in any way, to the bidder for any delays, or costs associated with delays, in the Request for Tenders process.
- 18.2 The bidder agrees that,
  - 18.2.1 any action or proceeding relating to the Request for Tenders process shall be brought in an Ontario court of competent jurisdiction and any such action or proceeding shall be issued at the Hamilton, Ontario office of that Court and for that purpose each party irrevocably and unconditionally attorns and submits to the jurisdiction of that Ontario court at Hamilton, Ontario;
  - 18.2.2 it irrevocably waives any right to and will not oppose any Ontario action or proceeding relating to the Request for Tenders process on any jurisdictional basis, including forum non conveniens; and
  - 18.2.3 it will not oppose, in any other jurisdiction, the enforcement against it of any judgment or order duly obtained from an Ontario court in Hamilton, Ontario as set out above.
- 18.3 If a bidder is required by applicable law to hold or obtain a licence, permit, consent or authorization to carry on an activity contemplated in its Bid, neither acceptance of the Bid nor execution of the Contract shall be considered to be approval by the City of carrying on such activity without the requisite licence, permit, consent or authorization.

- 18.4 The bidder agrees that if the City commits a material breach of the Request for Tenders (that is, a material breach of Contract A), the City's liability to the bidder and the aggregate amount of damages recoverable against the City for any matter relating to or arising from that material breach, whether based upon an action or claim in contract, warranty, equity, negligence, intended conduct or otherwise, including any action or claim arising from the acts or omissions, negligent or otherwise, of the City, shall be no greater than the Bid preparation costs that the bidder seeking damages from the City can demonstrate.

## **19 Accommodations for Bidders with Disabilities**

- 19.1 In accordance with the Ontario Human Rights Code, Ontarians with Disabilities Act, 2001 (ODA) and Accessibility for Ontarians with Disabilities Act, 2005 (AODA), the City of Hamilton will accommodate for a disability, ensuring full and equitable participation throughout the bid process.
- 19.2 If a bidder requires this Request for Tenders in a different format to accommodate a disability, the bidder must contact the Tender Coordinator as soon as possible and in any event prior to the closing date. The Request for Tenders in the different format will be issued only to the requesting bidder and all Addenda will be issued in such different format only to the requesting bidder.

## **SUPPLEMENTARY INSTRUCTIONS TO BIDDERS**

Revised: January 25, 2023

### **1. OPTIONAL SITE MEETING**

*There is an optional site meeting scheduled.*

**Location:** 500 King Street West, Hamilton on (see location map attached)

**Date:** Thursday November 9, 2023

**Time:** 10:00am, Hamilton time

**If PPE is required:**

**All attendees are required to wear CSA approved hard hats and safety boots. If an attendee does not have the required personal protection equipment, they may not be allowed to attend the site meeting.**

### **2. TAXES**

There are no supplementary instructions regarding Value Added Taxes.

### **3. BID SECURITY**

Bidders shall submit a Bid Security in accordance with Article 5 Bid Security of the Instructions to Bidders in the amount of not less than **\$40,000.00**.

### **4. JOINT VENTURES**

For greater certainty, a Bid must be submitted by a single entity as the Bidder. The City will not accept a Bid from a collection of entities jointly submitting as the Bidder. The single entity submitting the Bid must not be a special purpose company incorporated solely for the purpose of entering into a Contract with the City regarding the Work. The Bidder shall be expected to perform the Work either through itself, or through itself and any subcontractors.

### **5. RECORD AND REPUTATION**

See the City of Hamilton Procurement Policy for specific requirements and obligations at: <https://www.hamilton.ca/build-invest-grow/buying-selling-city/bids-and-tenders/procurement-policy-by-law>

### **6. AWARD OF CONTRACT**

Subject to the Reserved Privileges of the City set out in Article 16 of the Instructions to Bidders, the Contract shall be awarded to the compliant Bid with the lowest Base Bid Price.

**7. SPECIFIED PRODUCTS OR SERVICES**

Specified product or service by name, trade or company is regarded as the standard of quality required by the Specifications. **No alternates or substitutes will be considered prior to the award of the Contract.** After the award of the Contract, should the Successful Bidder want the City to approve an alternate or substitute for a specified product or service, the Successful Bidder shall make such request in writing to the City, which the City may consider, in its sole discretion. No alternate nor substitution for a specified product or service required by the Specifications shall be made by the Successful Bidder without the prior written approval of the City.

**8. PROPOSED TIMELINES**

Event	Date
Tender closing date	November 29, 2023
Anticipated award date	Week of December 11, 2023
Commencement of Work	<b>4 weeks from award date</b>

**9. POLICIES, REGULATIONS AND GUIDELINES**

The Successful Bidder shall be aware of and adhere to all of the applicable City Policies and Legislation set out on the City of Hamilton website at: <https://www.hamilton.ca/build-invest-grow/buying-selling-city/bids-and-tenders/procurement-policy-by-law>

**10. DECLARATION OF BIDDER COMPLIANCE WITH CITY BY-LAWS**

Should the Bidder's declaration in its Form of Tender that it is in compliance with all City of Hamilton by-laws be untrue or incorrect, the City shall be entitled at its sole discretion to reject their Bid.

# **CCDC 2 - 2020**

## **STIPULATED PRICE CONTRACT**

A copy of the CCDC 2 – 2020 Stipulated Price Contract is not being reproduced for this RFT and the English version can be purchased at:

<https://www.ccdc.org/documents/>

## **Supplementary Conditions to Contract CCDC 2-2020**

### **Dated: June 20, 2023**

#### **SC 1. GENERAL**

These Supplementary Conditions presuppose the use of the Standard Construction Document CCDC 2-2020 Stipulated Price Contract, English version. These “Supplementary Conditions” void, supersede or amend the “Agreement”, “Definitions” and “General Conditions” as hereinafter provided, as the case may be.

Where a Definition, a General Condition or paragraph of the Agreement or a General Conditions of the Stipulated Price Contract is deleted by these Supplementary Conditions, the numbering of the remaining Agreement, Definitions, General Conditions or paragraphs shall remain unchanged, and the numbering of the deleted item will be retained, unused, unless noted otherwise.

#### **SC 2. AGREEMENT**

1. Delete the words “*Ready-for-Takeover*” from paragraph 1.3 Article A-1 THE WORK and replace with “*Substantial Performance Date*”.
2. Add new paragraph 1.4 to Article A-1 THE WORK, as follows:
  - “1.4 Provide all the labour, material, equipment, machinery, *Products* and work including, without limitation, all *Commissioning* services required by the *Contract Documents* in order to fully complete and construct the *Work* and in accordance with, and satisfaction of all *Applicable Laws* including, without limitation, those relating to occupational health and safety and any and all obligations, responsibilities and duties required by or set in any site plan agreement or approval, attributable to the *Place of the Work* and/or the proposed development therein, and furnish efficient business and construction administration and superintendence consistent with the interests of the *Owner*.”
3. Add documents to the existing list of *Contract Documents* in paragraph 3.1 of Article A-3 CONTRACT DOCUMENTS as follows:
  - Addenda, as issued
  - the Special Provisions
  - *Project* specific Supplementary Conditions to Contract CCDC 2-2020
  - Supplementary Conditions to Contract CCDC 2-2020
  - the *Form of Tender* as approved and accepted by the *Owner*
  - detailed *Contract Price* Breakdown or Lump Sum Breakdown of Base Bid Price
  - the *Specifications*
  - *Drawings*



4. Delete subparagraph 5.2.1 from Article A-5 PAYMENT in its entirety and replace with the following:

“5.2.1 Should either party fail to make payments as they become due under the terms of the *Contract* or in an award by arbitration or court, interest at the rate prescribed by the Construction Act (Ontario) on such unpaid amounts shall also become due and payable until payment. Such interest shall be compounded on a monthly basis.”
5. Add new paragraph 5.3 to Article A-5 PAYMENT as follows:

“5.3 In the event of loss or damage occurring where payment becomes due under the property and boiler insurance policies, payments shall be made to the *Contractor* in accordance with the provisions of GC 11.1 - INSURANCE.”
6. Add to the end of paragraph 6.5, the following:

“The only *Notices in Writing* which will be delivered by electronic communication are applications for progress payment, applications for final payment, and notices of non-payment. All other *Notices in Writing* will be delivered by hand, by courier, by prepaid first class mail or by facsimile.”
7. Delete Article A-7 LANGUAGE OF THE CONTRACT in its entirety.
8. Add new Article A-9 CONFLICT OF INTEREST as follows:

**“ARTICLE A-9 CONFLICT OF INTEREST**

- 9.1 The *Contractor*, all of the *Subcontractors*, and any of their respective advisors, partners, directors, officers, employees, and agents shall not engage in any activity or provide any services where such activity or the provision of such services creates a conflict of interest (actually or potentially, in the sole opinion of the *Owner*) with the provision of the *Work* pursuant to the *Contract*. The *Contractor* acknowledges and agrees that a conflict of interest includes the use of *Confidential Information* where the *Owner* has not specifically authorized such use.
- 9.2 The *Contractor* shall disclose to the *Owner*, in writing, without delay any actual or potential situation that may be reasonably interpreted as either a conflict of interest or a potential conflict of interest, including the retention of any *Subcontractor* or *Supplier* that is directly or indirectly affiliated with or related to the *Contractor*.
- 9.3 The *Contractor* covenants and agrees that it will not hire or retain the services of any employee or previous employee of the City of Hamilton where to do so constitutes a breach by such employee or previous employee of the *Owner*’s conflict of interest policy, as it may be amended from time to time.
- 9.4 A breach of this Article or a contravention of the *Owner*’s Procurement Policy, by the *Contractor*, any of the *Subcontractors*, or any of their respective advisors, partners, directors, officers, employees, agents, and volunteers shall entitle the

*Owner to terminate the Contract, in addition to any other rights and remedies that the Owner has in the Contract, in law, or in equity.”*

9. Add new Article A-10 CONFIDENTIALITY as follows:

#### **"ARTICLE A-10 CONFIDENTIALITY**

- 10.1 The *Contractor* agrees to ensure that it shall, both during or following the term of the *Contract*, maintain the confidentiality and security of all *Confidential Information* and *Personal Information*, and that it shall not directly or indirectly disclose, destroy, exploit, or use any *Confidential Information* or *Personal Information*, except where required by law, without first obtaining the written consent of the *Owner*. The *Contractor* may disclose any portion of the *Contract Documents* or any other information provided to the *Contractor* by the *Owner* to any *Subcontractor* or *Supplier* if the *Contractor* discloses only such information as is necessary to fulfill the purposes of the *Contract* and the *Contractor* has included a commensurate confidentiality provision in its contract with the *Subcontractor* or *Supplier*. The *Contractor* acknowledges that it will comply with all requirements of the *Personal Information Protection and Electronic Documents Act*. The *Contractor* acknowledges that the *Owner* is bound by the provisions of the *Municipal Freedom of Information and Protection of Privacy Act* (“*MFIPPA*”). The *Contractor* further acknowledges that the *Owner* may be required to disclose any or all of the *Confidential Information* and *Personal Information* in the event that it is compelled to do so by law, through a request under *MFIPPA*, or by the rules of any applicable regulatory authority.”

#### **SC 3. DEFINITIONS**

1. Add to the end of Definition *Consultant*, the following:

“The term *Consultant* means the *Consultant* or the *Consultant's* authorized representative.”
2. Add to the end of Definition *Contractor*, the following:

“The term *Contractor* means the *Contractor* or the *Contractor's* authorized representative as designated to the *Owner* in writing.”
3. Add to the end of Definition *Owner*, the following:

“The term *Owner* means the *Owner* or the *Owner's* authorized representative as designated to the *Contractor* in writing, but does not include the *Consultant*.”
4. Add after “The *Work* means the total construction” in Definition *Work*, the following:

“, *Products*, installation, *Commissioning*, checkout, start-up testing”
5. Delete Definition *Working Day* in its entirety and replace with the following:

“**Working Day** means a day when the *Owner’s* administrative offices are open, and does not include weekends or statutory holidays.”

6. Add new Definitions as follows:

**“Applicable Laws**

*Applicable Laws* and applicable laws means all public laws, statutes, regulations, transactions, codes, acts, orders, by-laws, rules, judgements, decrees, treaties, *Governmental Consents*, notices, protocols, binding policies and guidelines, and requirements of all *Governmental Authorities*, which now or hereafter, may be applicable to and enforceable against the *Work* or any part thereof, including those relating to employment, zoning, building, life/safety, environment and health, and includes, where appropriate, any interpretation of a rule, statute, regulation, order, decree, treaty or other requirement having the force of law by any person having jurisdiction over it, or charged with its administration or interpretation.

**As-Built Drawings**

*As-Built Drawings* means the *Drawings* and *Specifications* revised by the *Contractor* during the *Work*, showing any and all changes or variations to the *Work* from the requirements of the *Drawings* and *Specifications*.

**Authorities Having Jurisdiction**

The phrase *Authorities Having Jurisdiction* or the term *Authorities* means those authorities having jurisdiction under *Applicable Laws* over the *Work* or parts thereof.

**Commission**

*Commission* means and *Commissioning* refers to the procedure which includes checking, balancing, testing, adjusting and measuring *Work* performed by the *Contractor* to demonstrate and verify to the *Owner* and *Consultant*, the satisfactory installation, operation and performance of all components of the *Work* and that the *Project* is ready for use.

**Confidential Information**

*Confidential Information* means all the information or material of the *Owner* that is of a proprietary or confidential nature, whether it is identified as proprietary or confidential or not, including but not limited to information and material of every kind and description such as *Drawings* which is communicated to or comes into the possession or control of the *Contractor* at any time, but *Confidential Information* shall not include information that:

- (1) is or becomes generally available to the public without fault or breach on the part of the *Contractor*, including without limitation breach of any duty of confidentiality owed by the *Contractor* to the *Owner* or to any third party, but only after that information becomes generally available to the public;
- (2) the *Contractor* can demonstrate to have been rightfully obtained by the *Contractor* from a third party who had the right to transfer or disclose it to the *Contractor* free of any obligation of confidence;

- (3) the *Contractor* can demonstrate to have been rightfully known to or in the possession of the *Contractor* at the time of disclosure, free of any obligation of confidence; or
- (4) is independently developed by the *Contractor* without use of any *Confidential Information*.

### **Construction Act**

The Construction Act, R.S.O. 1990, Chapter C.30 is the legislation covering construction in Ontario and is also referred to throughout the *Contract* as the Payment Legislation.

### **Construction Costs**

*Construction Costs* means the direct costs of all the elements of the *Work* or a change in the *Work* as the case may be. A cost that can be applied wholly to a particular item of the *Work*, or a change in the *Work*, should be considered part of the *Construction Costs*, excluding all *Value Added Taxes*, *Overhead Costs*, and profit.

### **Contemplated Change Order**

*Contemplated Change Order* means a standard document issued to the *Contractor* by the *Consultant* on behalf of the *Owner*, requesting that the *Contractor* provide pricing for a change to the scope of the *Work*. Authorization of the *Contemplated Change Order* is formalized by a *Change Order* prior to the *Work* proceeding.

### **Fair Wage Policy**

*Fair Wage Policy* means the City of Hamilton's Fair Wage Policy and Fair Wage Schedule available on the City of Hamilton's website at: <https://www.hamilton.ca/build-invest-grow/buying-selling-city/bids-and-tenders/fair-wage-policy-fair-wage-schedule>

### **Final Completion of the Work**

*Final Completion of the Work* shall have been reached when the *Work* has previously been deemed substantially performed as defined in these *Contract Documents*, and all deficiencies and incomplete *Work* have been completed and certified by the *Consultant*, prior to the release of final holdback monies on the *Project*.

### **Force Majeure**

*Force Majeure* means a delay in the performance of the services occurring other than as a result of the deliberate act or negligence of either party respectively, and which:

- (1) could not have been reasonably foreseen, and
- (2) was caused by an event beyond the reasonable control of each party respectively, and
- (3) for the sake of greater certainty, shall include any one or more of the following:
  - (i) acts of God, His Majesty the King or His enemies;
  - (ii) civil war, insurrections or riots;
  - (iii) fires, floods, explosions, earthquakes, or serious accidents;
  - (iv) unusually severe weather, epidemics, or quarantine restrictions;
  - (v) governmental priorities or allocation regulations or orders affecting materials, labour, equipment and facilities;
  - (vi) fuel shortages or freight embargoes;

- (vii) strikes or labour troubles causing cessation, slowdown, interruption of work or other similar events relating to a person other than the *Contractor* (or any *Subcontractor*) or to the *Owner*.

Financial difficulties experienced by the *Contractor* will not be considered an occurrence of a *Force Majeure* under the *Contract*.

### **Form of Tender**

*Form of Tender* means the City's forms entitled Form of Tender and Schedule of Prices and any other documents that were supplied as part of the request for tenders/request for proposals for the *Contract*, and were completed and submitted by the *Contractor* back to the *Owner*.

### **Governmental Authority**

*Governmental Authority* means any federal, provincial, or municipal government and any agency, authority, body, board or commission established by any of them. It includes the police and fire departments.

### **Governmental Consent**

*Governmental Consent* means any license, right, permit, franchise, privilege, registration, direction, decree, consent, order, permission, approval, or authority to be issued or provided by, or written contract between the *Owner* and a *Governmental Authority*.

### **Overhead Costs**

*Overhead Costs* means those costs that cannot be attributed to a single task of *Work* and are exclusive of *Construction Costs*, *Value Added Taxes*, and profit. *Overhead Costs* include both general and administrative costs of the *Contractor* or *Subcontractor* together with any and all *Project* specific or office costs of the *Contractor* or *Subcontractor*. Without limiting the generality of the foregoing, *Overhead Costs* include costs associated with general conditions, administration, head office, field office, management, supervision, coordination, scheduling, purchasing, security, health and safety, general labour, accommodation, subsistence, travel, storage, inventory, loading and unloading, computers and electronics, software, printing, general tools and equipment, standby costs and charges, vehicles, engineering, drafting, shop drawings, submittals, surveying, temporary facilities, traffic control, fire safety, sanitation, site clean-up, utilities and services, controls, insurance, bonding, heating, winterization, permits, inspection, regulatory fees, mobilization, demobilization, and other costs of a similar reasonable nature.

### **Personal Information**

*Personal Information* has the same definition as in subsection 2(1) of *MFIPPA* and includes an individual's name, address, telephone number, and date of birth, whether recorded in printed form, on film, by electronic means, or otherwise and disclosed to the *Contractor*.

### **Request for Information (RFI)**

*Request for Information* ("RFI") means a standard document typically issued by the *Contractor* to the *Consultant*, requesting a clarification of the scope of *Work* provided in the *Contract Documents*. The response to the RFI typically results in a formal

*Supplemental Instruction* where there is no modification of the original scope of the *Work*, or a *Contemplated Change Order* from which the *Contractor* may provide pricing for the revision to the original scope of the *Work*.

**Substantial Performance Date**

*Substantial Performance Date* means the date by which the *Contractor* shall attain *Substantial Performance of the Work* as specified in Article A-1 – THE WORK.

**Statutory Declaration**

*Statutory Declaration* means the form of the statutory declaration to be delivered by the *Contractor* upon applications for progress payment, release of holdback and final payment, being CCDC 9A – 2001 Statutory Declaration (latest edition available).”

**SC 4. GC 1.1 CONTRACT DOCUMENTS**

1. Delete subparagraph 1.1.4 in its entirety.
2. Delete subparagraph 1.1.5.1 in its entirety and replace with the following:

“1 the order of priority of documents, from highest to lowest, shall be

  - *Change Orders* and/or *Change Directives*
  - the executed Agreement between the *Owner* and the *Contractor*
  - detailed *Contract Price* breakdown or Lump Sum Schedule Breakdown
  - the *Form of Tender* as approved and accepted by the *Owner*
  - Addenda, as issued
  - Special Provisions
  - *Project* specific Supplementary Conditions
  - Supplementary Conditions to Contract CCDC 2-2020
  - Definitions
  - the General Conditions of the Stipulated Price Contract
  - the *Specifications*
  - *Drawings*”
3. Delete “and shall remain the *Consultant’s* property” from the first sentence of paragraph 1.1.10 and replace with the following:

“are not the *Contractor’s* property”

**SC 5. GC 1.2 LAW OF THE CONTRACT**

1. Add new paragraphs 1.2.2 and 1.2.3 as follows:

“1.2.2 The *Contractor* agrees that:

  - .1 any action or proceeding relating to the *Contract* shall be brought in a court of competent jurisdiction in the City of Hamilton and for that purpose each party irrevocably and unconditionally attorns and submits to the jurisdiction of that court;

- .2 it irrevocably waives any right to and will not oppose any action or proceeding relating to the *Contract* on any jurisdictional basis, including forum non conveniens; and
- .3 it will not oppose in any other jurisdiction, the enforcement against it, of any judgment or order duly obtained from a Hamilton court as set out above.

1.2.3 The *Contractor* shall comply with all municipal by-laws as they pertain to the City of Hamilton in respect of the operation of the *Contractor's* business and the *Work*. Further, the *Contractor* shall, at all times that the *Contract* is in effect and upon request of the *Owner*, provide proof of compliance satisfactory to the *Owner*, at the *Contractor's* own cost. If the *Contractor* fails to do any of the foregoing, the *Contractor* shall be considered to be in default of the *Contract* in accordance with GC7.1.2 and the *Owner* shall be entitled at its sole discretion to terminate the *Contract* and to pursue any other legal recourse the *Owner* deems appropriate.”

## **SC 6. GC 1.3 RIGHTS AND REMEDIES**

1. Add to the beginning of paragraph 1.3.2, the following:

“Except with respect to the notice requirements set out in paragraphs 6.4.1, 6.5.4, and 6.6.1,”

2. Add new paragraph 1.3.3 as follows:

“1.3.3 All rights and remedies of the parties for any breach by the other party of its obligations under the *Contract* shall be cumulative and not exclusive or mutually exclusive alternatives, may be exercised singularly, jointly or in combination and shall not be deemed to be in exclusion of any other rights or remedies available to the non-breaching party under the *Contract* or otherwise at law or in equity or by statute.”

## **SC 7. GC 1.4 ASSIGNMENT**

1. Delete paragraph 1.4.1 in its entirety and replace with the following:

“1.4.1 The *Contractor* shall not assign the *Contract*, or any portion thereof, without the prior written consent of the *Owner*, which consent may not be unreasonably withheld. The *Owner* shall be entitled to assign the *Contract* to any person or other entity (the “Assignee”). Upon the assumption by the Assignee of the *Owner's* obligations under the *Contract*, the *Owner* shall be released from its obligations arising under the *Contract*.”

2. Add new paragraph 1.4.2 as follows:

“1.4.2 Neither the use of one or more *Subcontractors* to carry out part of the *Work*, nor the assignment of the whole or of any part of the *Contract* or the *Work* to be done under it shall relieve the *Contractor* of its obligations and liability to the *Owner*.”

## **SC 8. GC 1.5 MUNICIPAL CONFLICT OF INTEREST**

1. Add new general condition GC 1.5 MUNICIPAL CONFLICT OF INTEREST as follows:

### **“GC 1.5 MUNICIPAL CONFLICT OF INTEREST**

- 1.5.1 The *Owner* may terminate the *Contract* where the *Contractor* is in contravention with the *Owner*’s Procurement Policy with respect to conflict of interest.”

## **SC 9. GC 1.6 ENTIRE CONTRACT, AMENDMENTS TO BE IN WRITING**

1. Add new general condition GC 1.6 ENTIRE CONTRACT, AMENDMENTS TO BE IN WRITING as follows:

### **“GC 1.6 ENTIRE CONTRACT, AMENDMENTS TO BE IN WRITING**

- 1.6.1 The *Contract Documents* (including all properly authorized *Change Directives* and *Change Orders*) constitute the entire *Contract* between the parties. Each of the parties,
  - .1 acknowledges that it is not relying upon any representation, warranty, promise, instruction, advice or information received from the other party or from any employee or agent of the other party, except as set out in the *Contract Documents*;
  - .2 shall not rely at any time in the future on any representations, warranty, instruction, advice or information purportedly received from the other party or any employee or agent of the other party, except as set out in a properly authorized *Change Order*, *Change Directive* or in an amendment as provided under this section.
- 1.6.2 The *Contract* shall not be deemed to be or construed as having been amended as a result of any oral communication between the parties or as a result of any practice of the parties, but all amendments to the *Contract* shall be in writing and shall be signed by both parties, provided that any such amendment may be executed in counterpart form.”

## **SC 10. GC 1.7 NON-DISCLOSURE AND NO COMMENT**

1. Add new general condition GC 1.7 NON DISCLOSURE AND NO COMMENT as follows:

### **“GC 1.7 NON-DISCLOSURE AND NO COMMENT**

- 1.7.1 The *Contractor* shall not disclose details relating to the *Contract*, *Work* or *Project* to any outside person not engaged in activities relating to the *Contract*, *Work* or *Project*, and shall restrain its employees from giving unauthorized information with respect thereto.



- 1.7.2 The *Contractor* shall refer all inquiries from whatever source relating to the works to be undertaken within the scope of the *Contract* to the *Consultant*.”

#### **SC 11. GC 1.8 OWNER’S ACCESS TO SITE**

1. Add new general condition GC 1.8 OWNER’S ACCESS TO SITE as follows:

##### **“GC 1.8 OWNER’S ACCESS TO SITE**

- 1.8.1 The *Owner* shall have the right to enter and occupy the *Place of the Work* in whole or in part, for the purpose of placing fittings and equipment or for other uses before the issuance of the certificate of the *Substantial Performance of the Work*, where in the opinion of the *Consultant*, such entry and occupancy will not interfere unreasonably with the *Contractor*’s delivery of the *Work*.
- 1.8.2 Notwithstanding paragraph 1.8.1, the parties agree that during the term of the *Contract*, the *Owner* may inspect any and all aspects of the *Project*, at all reasonable times, for the purpose of ensuring that the *Contractor* is carrying out the *Work* and other obligations in accordance with the *Contract*.”

#### **SC 12. GC 1.9 PATENTS AND OTHER INTELLECTUAL PROPERTY**

1. Add new general condition GC 1.9 PATENTS AND OTHER INTELLECTUAL PROPERTY as follows:

##### **“GC 1.9 PATENTS AND OTHER INTELLECTUAL PROPERTY**

- 1.9.1 Where the *Work* or *Project* to be carried out requires the installation or use of any patented or other protected intellectual property,
- .1 belonging to the *Contractor*, the *Contract Price* shall be deemed to include the grant of a perpetual license from the *Contractor* to the *Owner* to make use of that intellectual property;
  - .2 belonging to any other person, the *Contractor* shall obtain and assign to the *Owner* a perpetual license from the owner thereof entitling the *Owner* to make use of that intellectual property, and the cost thereof shall be deemed to be included in the *Contract Price*.”

#### **SC 13. GC 2.1 AUTHORITY OF THE CONSULTANT**

1. Delete from the end of paragraph 2.1.2, the following:

“, the *Consultant* and the *Contractor*”

#### **SC 14. GC 2.2 ROLE OF THE CONSULTANT**

1. Add to the beginning of subparagraph 2.2.4 the following:

“After receipt of the *Contractor*’s invoices for payment,”

2. Delete from the beginning of paragraph 2.2.6, the following:

“Except with respect to GC5.1 – FINANCING INFORMATION REQUIRED OF THE OWNER,”

3. Add to the end of paragraph 2.2.9, the following:

“and not more than forty-eight (48) hours after receipt of the written query unless otherwise agreed to by the parties.”

4. Add after “with reasonable promptness” in paragraph 2.2.12, the following:

“but not more than five (5) *Working Days* after receipt of a written Request for Information from the *Contractor*”

5. Add after “, the *Consultant* does not guarantee” in the second sentence of paragraph 2.2.16, the following:

“to the *Contractor*”

6. Add to the end of paragraph 2.2.17, the following:

“The *Consultant* shall ensure that all such warranties and documents submitted for approval and for the *Owner’s* records are in accordance with the *Contract Documents* prior to the documents being forwarded.”

7. Delete from paragraph 2.2.18, the following:

“against whom the *Contractor* makes no reasonable objection and”

8. Add new paragraph 2.2.19 as follows:

“2.2.19 The *Consultant* will provide the *Contractor* in writing with bench marks and points of reference to be used by the *Contractor* in setting out the *Work*. The *Owner* will be responsible only for the correctness of the information so supplied. From these bench marks and points of reference the *Contractor* will do its own setting out. The setting out by the *Contractor* shall include but shall not be limited to the preparation of grade sheets, the installation of centre lines stakes, grades stakes, offsets and site rails.”

## **SC 15. GC 2.3 REVIEW AND INSPECTION OF THE WORK**

1. Add to end of paragraph 2.3.2, the following:

“Reasonable notice shall not be less than twenty-four (24) hours prior to the testing and inspection.”

2. Add after “inspection reports relating to the *Work*” in paragraph 2.3.3, the following:  
“, and in any event no later than two (2) *Working Days* from the date of the inspection”

#### **SC 16. GC 2.4 DEFECTIVE WORK**

1. Add after “failing to conform to the *Contract Documents*” in paragraph 2.4.1, the following:  
“at the *Contractor*’s expense”
2. Add new paragraphs 2.4.1.1, 2.4.1.2 as follows:  
  
“2.4.1.1 The *Contractor* shall rectify, in a manner acceptable to the *Owner* and the *Consultant*, all defective work and deficiencies throughout the *Work*, whether or not they are specifically identified by the *Consultant*.  
  
2.4.1.2 The *Contractor* shall prioritize and schedule the correction of any defective *Work* which, in the sole discretion of the *Owner*, adversely affects the day to day operation of the *Owner*.”

#### **SC 17. GC 3.1 CONTROL OF THE WORK**

1. Add after “construction means, methods, techniques,” in paragraph 3.1.2, the following:  
“schedule,”
2. Add new paragraph 3.1.3, as follows:  
  
“3.1.3 Prior to commencing individual procurement, fabrication and construction activities, the *Contractor* shall verify, at the *Place of the Work*, all relevant measurements and levels necessary for proper and complete fabrication, assembly and installation of the *Work* and shall further carefully compare such field measurements and conditions with the requirements of the *Contract Documents*. Where dimensions are not included or exact locations are not apparent, the *Contractor* shall immediately notify the *Consultant* in writing and obtain written instructions from the *Consultant* before proceeding with any part of the affected work.”

#### **SC 18. GC 3.2 CONSTRUCTION BY OWNER OR OTHER CONTRACTORS**

1. Delete subparagraphs 3.2.2.1, 3.2.2.3 and 3.2.2.4 in their entirety.
2. Add to the end of subparagraph 3.2.2.2, the following:  
  
“; the *Contractor* acknowledges that, if the *Owner* does not enter into any other contracts for the Project, the *Contractor* is the “constructor” and the “employer” within the meaning of the *Occupational Health and Safety Act (Ontario)* and the *Contractor* undertakes to carry out the duties, obligations and responsibilities of the constructor and the employer

with respect to the *Project*. In the event that the *Owner* enters into more than one contract for the *Project*, or when work is performed by the *Owner's* own forces, the *Owner* agrees to fulfill all of the duties, obligations and responsibilities required under the *Occupational Health and Safety Act (Ontario)*. Without restricting the generality of any other term or condition in the *Contract*, the *Contractor* shall indemnify and hold harmless the *Owner* from any liability for claims, damages or penalties, including reasonable legal fees to defend any offences, arising from the *Contractor's* failure to comply with the duties, responsibility and obligations of the constructor and the employer under the *Occupational Health and Safety Act (Ontario)*.”

3. Delete from the subparagraph 3.2.3.2, the following:

“that are identified in the *Contract Documents*”

4. Add new subparagraph 3.2.3.5 as follows:

“3.2.3.5 Subject to General Condition 6.1.1 Owners Right to Make Changes and GC 9.4 - CONSTRUCTION SAFETY, where paragraph 3.2.4 of GC 3.2 - CONSTRUCTION BY OWNER OR OTHER CONTRACTORS applies, for the *Owner's* own forces and for other contractors performing work within the construction site limits identified in the *Contract Documents*, assume overall responsibility for compliance with all aspects of the applicable health and safety legislation in the *Place of the Work*, including all of the responsibilities of the constructor as that term is defined in the *Occupational Health and Safety Act*.”

## **SC 19. GC 3.4 CONSTRUCTION SCHEDULE**

1. Delete paragraph 3.4.1 in its entirety and replace with the following:

“3.4.1 The *Contractor* shall:

- .1 prior to the first application for payment, prepare and submit to the *Owner* and the *Consultant* for their review and acceptance, a construction schedule that indicates the timing of the activities of the *Work* and provides sufficient detail of the critical events and their inter-relationship to demonstrate the *Work* will be performed in conformity with the *Contract Time* and in accordance with the *Contract Documents*. The *Contractor* shall employ construction scheduling software, where required by the *Specifications*, that permits the progress of the *Work* to be monitored in relation to the critical path established in the schedule. The *Contractor* shall provide the schedule and any successor or revised schedules in both electronic format and paper copy. Once accepted by the *Owner* and the *Consultant*, the construction schedule submitted by the *Contractor* shall become the baseline construction schedule, and any errors or omissions within that construction schedule not captured by the *Owner* and or *Consultant* as part of schedule acceptance does not alleviate the *Contractor* of their responsibility to meet the *Contract Time* and the *Contractor* shall be required to make the necessary corrections to the schedule immediately to comply with the *Contract Time*;

- .2 provide the expertise and resources, such resources including manpower and equipment, as are necessary to maintain progress under the accepted baseline construction schedule or any successor or revised schedule accepted by the *Owner* pursuant to GC 3.4 - CONSTRUCTION SCHEDULE;
  - .3 monitor the progress of the *Work* on a weekly basis relative to the baseline construction schedule, or any successor or revised schedule accepted by the *Owner* pursuant to GC 3.4 - CONSTRUCTION SCHEDULE, update the schedule on a monthly basis and advise the *Consultant* and the *Owner* in writing of any variation from the baseline or slippage in the schedule; and
  - .4 if, after applying the expertise and resources required under subparagraph 3.4.1.2, the *Contractor* forms the opinion that the variation or slippage in schedule reported pursuant to subparagraph 3.4.1.3 cannot be recovered by the *Contractor*, it shall, in the same notice, indicate to the *Consultant* and the *Owner* if the *Contractor* intends to apply for an extension of *Contract Time* as provided in PART 6 of the General Conditions - CHANGES IN THE WORK.”
2. Add new paragraphs 3.4.2, 3.4.3, 3.4.4, 3.4.5, 3.4.6, 3.4.7, 3.4.8, 3.4.9 and 3.4.10 as follows:
- “3.4.2 If, at any time, it should appear to the *Owner* or the *Consultant* that the actual progress of the *Work* is behind schedule or is likely to become behind schedule, or if the *Contractor* has given notice of such to the *Owner* or the *Consultant* pursuant to subparagraph 3.4.1.3, the *Contractor* shall take appropriate steps to cause the actual progress of the *Work* to conform to the schedule or minimize the resulting delay and shall produce and present to the *Owner* and the *Consultant* a recovery plan demonstrating how the *Contractor* will achieve the recovery of the schedule. If the *Contractor* intends to apply for a change in the *Contract Price* in relation to a schedule recovery plan, then the *Contractor* shall proceed in accordance with GC 6.5 – DELAYS.
- 3.4.3 Where a *Force Majeure* occurs, the *Consultant* shall determine the number of days (if any) to be allowed by reason thereof for the *Substantial Performance of the Work*.
- 3.4.4 An extension of time may be granted under this section by the *Consultant* where in the *Consultant’s* reasonable opinion it is appropriate in all of the circumstances to do so;
- .1 by reason of the occurrence of a *Force Majeure*;
  - .2 by reason of a *Change Directive* or *Change Order*;
  - .3 where the *Owner*, for any reason, directs that *Work* be discontinued; provided that,
    - (1) an extension under subparagraph 3.4.4.1 shall not entitle the *Contractor* to any additional payment; and
    - (2) any other extension shall entitle the *Contractor* to additional overhead costs only to the extent that the *Consultant* is satisfied that such costs will increase by reason of the extension.
- 3.4.5 Any extension of time so granted shall not exceed the amount that is reasonably required. Requests for extension will be evaluated collectively, rather than on an

individual *Change Directive* or *Change Order* basis, provided that the collective evaluation shall not be less frequently than at least once per quarter. There is no presumption that the time required to carry out a *Change Directive* or *Change Order* will necessarily extend the date of the *Substantial Performance of the Work* by the same length of time. Instead, the *Consultant* shall make an independent determination of whether an extension is required.

- 3.4.6 An extension of time under this section shall be for such time as the *Consultant* may prescribe as being fair and reasonable and the *Consultant* shall fix the terms on which the said extension may be granted.
- 3.4.7 An application for an extension of time as herein provided shall be made in writing by the *Contractor* to the *Consultant* through the *Change Order* process.
- 3.4.8 Any additional time granted for the completion of the *Contract* will be conditional upon the *Contractor* providing the *Owner* with evidence that all insurance, bonds or other securities, furnished to the *Owner* by the *Contractor*, have been increased and, if necessary, extended beyond the limit of the time extension.
- 3.4.9 Any extension of time that may be granted to the *Contractor* shall be so granted and accepted without prejudice to any rights of the *Owner* whatsoever under the *Contract* and all of such rights shall continue in full force and effect after the time limited in the *Contract* for the completion of the *Work*, and whenever in the *Contract* power and authority is given to the *Owner* or the *Consultant* or any person to take any action consequent upon the act, default, breach, neglect, delay, non-observance or non-performance by the *Contractor* in respect of the *Work* or *Contract*, or any portion thereof, such powers or authorities may be exercised from time to time and not only in the event of the happening of such contingencies before the time limited in the *Contract* for the completion of the *Work* but also in the event of the same happening after the time so limited in the case of the *Contractor* being permitted to proceed with the execution of the *Work* under an extension of time granted by the *Consultant*. In the event of the *Consultant* granting an extension of time, time shall continue to be deemed of the essence with respect to that extension.
- 3.4.10 Due to the time constraints regarding the *Project*, the *Contractor* shall maintain rigorous control of all elements of the *Work* for which the deadlines are indicated in the *Contract Documents*.”

## SC 20. GC 3.5 SUPERVISION

1. Delete paragraph 3.5.1 in its entirety and replace with the following:

- “3.5.1 The *Contractor* shall furnish a competent and adequate staff, who shall be in attendance at the *Place of the Work* at all times, as necessary, for the proper administration, co-ordination, supervision and superintendence of the *Work*; organize the procurement of all materials and equipment so that they will be available at the time they are needed for the *Work*, and keep an adequate force

of skilled workmen on the job to complete the *Work* in accordance with all requirements of the *Contract Documents*. The appointed representatives shall not be changed except for valid reasons, at no additional cost to the *Owner*, and upon the *Contractor* obtaining the *Owner's* written consent, which consent will not be unreasonably withheld. Further, the *Contractor* shall not employ or continue to employ on the *Work* anyone to whom the *Owner* may reasonably object.”

2. Add new paragraphs 3.5.3, 3.5.4, 3.5.5, 3.5.6, 3.5.7, 3.5.8 and 3.5.9 as follows:

- “3.5.3 The *Contractor* shall at all times have at the *Place of Work*, a full-time and competent construction superintendent who shall be capable of reading and thoroughly understanding plans and specifications and of adequately communicating with the *Consultant* and its representatives and who also must be thoroughly experienced in the type of *Work* being performed, and who shall be the recipient of all instructions from the *Consultant* or its authorized representatives. No work of any kind shall be carried out by the *Contractor* or its *Subcontractors* during prolonged absence of the construction superintendent.
- 3.5.4 The construction superintendent shall have full authority to execute the orders or directions of the *Consultant* without delay, and to promptly provide such materials, equipment, tools, labour and incidentals as may be required. The *Contractor* shall provide a superintendent regardless of the amount of *Work* subcontracted.
- 3.5.5 The *Contractor* shall provide the *Consultant* with the telephone and the address of its appointed representative(s), who could be contacted on matters relating to the *Contract*, (e.g. urgent messages or emergencies), and who shall be available within reasonable notice, twenty-four (24) hours a day, seven (7) days a week, on matters relating to the *Contract*.
- 3.5.6 The *Owner* may, at any time during the course of the *Work*, request the replacement of the appointed representative(s), where the grounds for the request involve incompetent or disorderly conduct or conduct which jeopardizes the safety and security of the site or the *Owner's* operations. Immediately upon receipt of the request, the *Contractor* shall make arrangements to appoint an acceptable replacement at no additional cost to the *Owner*.
- 3.5.7 The *Contractor* shall cause each *Subcontractor* at all times while the *Work* is being carried out, to have a fully competent supervisor at the *Place of the Work*, who is thoroughly familiar with all aspects of the *Project* for which that *Subcontractor* is responsible.
- 3.5.8 The superintendent shall not be employed in any other capacity at the *Place of Work*. Where it is necessary to employ a superintendent in some other capacity, the *Consultant* shall approve the extent to which a labour time charge may be claimed by the *Contractor* or a *Subcontractor* in respect of that superintendent.

- 3.5.9 The *Contractor* acknowledges that the replacement of the construction superintendent or project team members will have significant impacts on the *Project* schedule and quality of the *Work*; therefore, all measures will be taken by the *Contractor* in order to maintain the original team assigned to the *Project*. Replacement of any team members will result in a possible delay to the *Project* and will be the responsibility of the *Contractor* to make-up any such delays.”

## **SC 21. GC 3.6 SUBCONTRACTORS AND SUPPLIERS**

1. Add to the end of paragraph 3.6.2, the following:

“Failure on the part of the *Contractor* to indicate in writing such *Subcontractors* and *Suppliers* to the *Owner*, shall be deemed to be a failure or refusal to enter into the *Contract*.”

2. Add to the end of paragraph 3.6.4, the following:

“at the discretion of the *Consultant*.”

3. Add new paragraph 3.6.7 as follows:

“3.6.7 The *Contractor* shall not change any of the *Subcontractors* or *Suppliers* proposed by the *Contractor* in writing and accepted by the *Owner* at the signing of the *Contract* without the *Owner*’s written consent or execute any subcontracts for the performance of the *Work* without the *Owner*’s prior written consent.”

## **SC 22. GC 3.7 LABOUR AND PRODUCTS**

1. Add new paragraphs 3.7.4, 3.7.5, 3.7.6, 3.7.7, 3.7.8, 3.7.9, 3.7.10, 3.7.11, 3.7.12, 3.7.13, 3.7.14 and 3.7.15 as follows:

“3.7.4 The cost for overtime required beyond the normal *Working Day* to complete individual construction operations of a continuous nature, such as pouring or finishing of concrete or similar work, or work that the *Contractor* elects to perform at overtime rates without the *Owner* or the *Consultant* requesting it shall not be chargeable to the *Owner* and shall be at the sole cost and expense of the *Contractor*.

3.7.5 The *Contractor* shall comply with all requirements set out in the *Fair Wage Policy*. The *Owner* has adopted the *Fair Wage Policy*, respecting contractors and subcontractors that must be adhered to on this *Project*.

3.7.6 The *Contractor* shall comply in all respects with the *Fair Wage Policy* and is fully responsible for ensuring that all of its *Subcontractors* also comply in all respects with the *Fair Wage Policy*.

3.7.7 All workers employed by the *Contractor* and its *Subcontractors* in connection with the *Work* or *Project* shall be paid or provided with wages, benefits and hours of work in accordance with the *Fair Wage Policy* which were in effect on



the date of the closing of the request for tenders/request for proposals for the *Contract*.

- 3.7.8 The *Contractor* is responsible for the safe on-site storage of *Products* and their protection (including *Products* supplied by the *Owner* and other contractors to be installed under the *Contract*) in such ways as to avoid dangerous conditions or contamination of the *Products* or other person or property and in locations at the *Place of the Work* to the satisfaction of the *Owner* and the *Consultant*. The *Owner* shall provide all relevant information on the *Products* to be supplied by the *Owner* within the *Contract Documents*.
- 3.7.9 The *Contractor* shall neither permit nor allow underaged persons contrary to *Applicable Laws*, the introduction or use of alcoholic beverages or illegal narcotics on or about the *Place of the Work*.
- 3.7.10 At the request of the *Owner* or *Consultant*, the *Contractor* shall remove from the *Place of the Work*, any person (whether employed on the *Work* or not) who, in the opinion of the *Owner* or *Consultant*, is incompetent, intoxicated or otherwise impaired, or who is conducting himself (or herself) improperly, and the *Contractor* shall not permit any such person to remain on the *Place of the Work*, nor to return to the *Place of the Work* without the written approval of the *Owner* or *Consultant* as the case may be.
- 3.7.11 Where required by the *Consultant*, the *Contractor* shall furnish a complete written statement of the origin, composition and manufacture of all materials to be supplied by them, and shall furnish samples thereof for testing purposes, if so instructed by the *Consultant*.
- 3.7.12 The *Consultant's* approval of changed materials shall not be considered as waiver of objection to the *Work* or materials at any subsequent time due to their failure to conform to the *Specifications*.
- 3.7.13 The *Contractor* shall furnish for the *Consultant's* approval, such material tests, mock-ups, mix designs and tests of items and/or materials manufactured or fabricated off the *Place of the Work* as the *Consultant* may reasonably request.
- 3.7.14 Specified product by name, trade or company is regarded as the standard of quality required by the *Specifications*. No substitution shall be made by the *Contractor* without the prior written approval of the *Owner*.
- 3.7.15 By-law 07-170 (City of Hamilton Licensing Code) as amended from time to time, regulates the trade licensing process in Hamilton. The By-law regulates all businesses of plumbing, heating, ventilation and air-conditioning, drain laying and building repair. The City of Hamilton's Standards & Licensing Section is responsible for the licensing of contractors and masters. Licenses are issued to contractors and masters working in the above noted trades."

## **SC 23 GC 3.8 SHOP DRAWINGS**

1. Delete the word “and” in subparagraph 3.8.3.2 and add the word “and” to the end of subparagraph 3.8.3.2.
2. Add new subparagraph 3.8.3.3 as follows:

“3.8.3.3 the *Contractor* shall ensure completeness and accuracy of all *Shop Drawings* in accordance with the *Contract Documents*. ”
3. Add new paragraphs 3.8.8, 3.8.9, 3.8.10, 3.8.11 and 3.8.12 as follows:

“3.8.8 Upon request of the *Contractor* or the *Consultant*, they shall jointly prepare a schedule of the dates for provision, review and return of *Shop Drawings*.

3.8.9 The *Contractor* shall provide *Shop Drawings* in the form specified, or if not specified, as directed by the *Consultant*.

3.8.10 *Shop Drawings* provided by the *Contractor* to the *Consultant* shall indicate by stamp, date and signature of the person responsible for the review that the *Contractor* has reviewed each one of them.

3.8.11 *Shop Drawings* which require approval of any legally constituted authority having jurisdiction shall be provided to such authority by the *Contractor* for approval.

3.8.12 The *Contractor* shall provide revised *Shop Drawings* to correct those which the *Consultant* rejects as inconsistent with the *Contract Documents*, unless otherwise directed by the *Consultant*. The *Contractor* shall notify the *Consultant* in writing of any revisions to the *Shop Drawings* other than those requested by the *Consultant*.”

## **SC 24. GC 3.9 DOCUMENT REVIEW**

1. Add new general condition GC 3.9 DOCUMENT REVIEW as follows:

### **“GC 3.9 DOCUMENT REVIEW**

- 1.9.1. The *Contractor* shall review the *Contract Documents* and shall report promptly to the *Consultant* any error, inconsistency or omission the *Contractor* may discover. Such review by the *Contractor* shall comply with the standard of care described in paragraph 3.14.1 of the *Contract*. Except for its obligation to make such review and report the result, the *Contractor* does not assume any responsibility to the *Owner* or to the *Consultant* for the accuracy of the *Contract Documents*. The *Contractor* shall not be liable for damage or costs resulting from such errors, inconsistencies, or omissions in the *Contract Documents*, which the *Contractor* could not reasonably have discovered. If the *Contractor* does discover any error, inconsistency or omission in the *Contract Documents*, the *Contractor* shall not proceed with the work affected until the *Contractor* has received corrected or missing information from the *Consultant*.

- 1.9.2 The *Contractor* shall follow the procedures as set forth in the *Contract Documents*. All requests are to be formal, written, and tracked, beginning with a *Request for Information* from the *Contractor*. If the *Request for Information* results in a change to the *Work* as specified in the *Contract Documents*, the *Consultant* will then issue a written request for *Change Order*, as set forth in GC 6 - CHANGES IN THE WORK.
- 1.9.3 If, at any time, the *Contractor* finds errors, inconsistencies, or omissions in the *Contract Documents* or has any doubt as to the meaning or intent of any part thereof, the *Contractor* shall immediately notify the *Consultant*, through a *Request for Information*. The *Contractor* shall not proceed with the work until the *Consultant* has responded to the *Request for Information*, and in dealing with such error, inconsistency or omission the *Contractor* shall co-operate with the *Owner* and the *Consultant* in good faith to resolve such errors, inconsistency or omission so as to avoid any increase in the *Contract Price* or delay in the progress of the *Work*. Neither the *Owner* nor the *Consultant* will be responsible for the consequences of any action of the *Contractor* based on oral instructions.”

#### **SC 25. GC 3.10 DOCUMENTS AT THE SITE**

1. Add new general condition GC 3.10 DOCUMENTS AT THE SITE as follows:

##### **“GC 3.10 DOCUMENTS AT THE SITE**

- 3.10.1 The *Contractor* shall keep one copy of current *Contract Documents*, submittals, reports, and records of meetings at the *Place of the Work*, in good order and available to the *Owner* and the *Consultant*.”

#### **SC 26. GC 3.11 USE OF THE WORK**

1. Add new general condition GC 3.11 USE OF THE WORK as follows:

##### **“GC 3.11 USE OF THE WORK**

- 3.11.1 The *Contractor* shall confine *Construction Equipment*, *Temporary Work*, storage of *Products*, waste products and debris, and operations of employees and *Subcontractors* to limits indicated by laws, ordinances, permits, or the *Contract Documents* and shall not unreasonably encumber the *Place of the Work*.
- 3.11.2 The *Contractor* shall not load or permit to be loaded any part of the *Work* with a weight or force that will endanger the safety of the *Work*.
- 3.11.3 The *Contractor* shall abide by and enforce directives and policies regarding signs, advertisements, safety procedures, fires and smoking at the *Place of the Work* as directed by the *Owner*.”

#### **SC 27. GC 3.12 CUTTING AND REMEDIAL WORK**

1. Add new general condition GC 3.12 CUTTING AND REMEDIAL WORK as follows:

**“GC 3.12 CUTTING AND REMEDIAL WORK**

- 3.12.1 The *Contractor* shall perform the cutting and remedial work required to make the affected parts of the *Work* come together properly.
- 3.12.2 The *Contractor* shall co-ordinate the *Work* to ensure that the cutting and remedial work is kept to a minimum.
- 3.12.3 Should the *Owner*, the *Consultant*, other contractors or anyone employed by them be responsible for ill-timed work necessitating cutting or remedial work to be performed, the cost of such cutting or remedial work shall be valued as provided in GC 6.1 – OWNER’S RIGHT TO MAKE CHANGES, GC 6.2 - CHANGE ORDER and GC 6.3 - CHANGE DIRECTIVE.
- 3.12.4 Cutting and remedial work shall be performed by specialists familiar with the Products affected and shall be performed in a manner to neither damage nor endanger the *Work*.”

**SC 28. GC 3.13 CLEANUP**

1. Add new general condition GC 3.13 CLEANUP as follows:

**“GC 3.13 CLEANUP**

- 3.13.1 The *Contractor* shall maintain the *Work* in a safe and tidy condition and free from the accumulation of waste products and debris, other than that caused by the *Owner*, other contractors or their employees.
- 3.13.2 Before applying for *Substantial Performance of the Work* as provided in GC 5.4 – SUBSTANTIAL PERFORMANCE OF THE WORK, the *Contractor* shall remove waste products and debris, other than that resulting from the work of the *Owner*, other contractors or their employees, and shall leave the *Place of the Work* clean and suitable for use or occupancy by the *Owner*. The *Contractor* shall remove products, tools, *Construction Equipment*, and *Temporary Work* not required for the performance of the remaining work.
- 3.13.3 Prior to application for the final payment, the *Contractor* shall remove any remaining products, tools, *Construction Equipment*, *Temporary Work*, and waste products and debris, other than those resulting from the work of the *Owner*, other contractors or their employees.
- 3.13.4 The *Owner* shall have the right to set-off the cost of cleaning to the *Contractor* if it is not done within twenty-four (24) hours of written notice to clean and the *Owner* shall have the right to set-off the cost of damage to the *Place of the Work* caused by the *Contractor’s*, the *Subcontractor’s* or the *Supplier’s* transportation in and out of the *Place of the Work* if not repaired within five (5) *Working Days* of written notice to repair or before final payment, whichever is earlier.
- 3.13.5 All material delivered to the *Place of the Work* shall be neatly stored or contained upon delivery only in areas as approved by the *Owner* or the

*Consultant* and shall be secured and remain in the *Contractor's* control until installed.

- 3.13.6 The *Contractor* shall legally dispose forthwith of any debris and surplus material accumulated at the *Place of the Work*, and where requested, the *Contractor* shall provide to the *Consultant* a true copy of the original certificate approval from a waste management system and a true copy of the original certificate of approval from the place of disposal for all debris and surplus material disposed of by the *Contractor* under the *Contract*.”

## **SC 29. GC 3.14 PERFORMANCE BY CONTRACTOR**

1. Add new general condition GC 3.14 PERFORMANCE BY CONTRACTOR as follows:

### **“GC 3.14 PERFORMANCE BY CONTRACTOR**

- 3.14.1 In performing its services and obligations under the *Contract*, the *Contractor* shall exercise a standard of care, skill and diligence that would normally be provided by an experienced and prudent contractor supplying similar services for similar projects. The *Contractor* acknowledges and agrees that throughout the *Contract*, the *Contractor's* obligations, duties and responsibilities shall be interpreted in accordance with this standard. The *Contractor* shall exercise the same standard of due care and diligence in respect of any *Products*, personnel, or procedures which it may recommend to the *Owner*.
- 3.14.2 The *Contractor* further represents, covenants and warrants to the *Owner* that:
- .1 the personnel it assigns to the *Project* are appropriately experienced;
  - .2 it has a sufficient staff of qualified and competent personnel to replace any vacancy, subject to the *Owner's* approval, resulting from death, incapacity, removal or resignation; and
  - .3 there are no pending, threatened or anticipated claims that would have a material effect on the financial ability of the *Contractor* to perform its work under the *Contract*.”

## **SC 30. GC 3.15 SECURITY**

1. Add new general condition GC 3.15 SECURITY as follows:

### **“GC 3.15 SECURITY**

- 3.15.1 The *Contractor* is responsible to provide and maintain the *Place of the Work* in a secure manner, free from public access, trespassing, or vandalism. This provision is to be maintained on a twenty-four (24) hours per day, seven (7) days per week basis and may require such items as fencing, hoarding, lighting, security guards or systems, and security cameras.”

## **SC 31. GC 4.1 CASH ALLOWANCES**

1. Add after “*Contractor's*,” in paragraph 4.1.2, the following:

“and *Subcontractor’s*”

2. Add new paragraph 4.1.8 as follows:

“4.1.8 The *Owner* reserves the right to call, or to have the *Contractor* call, for competitive bids for portions of the *Work* to be paid from cash allowances.”

#### **SC 32. GC 4.2 CONTINGENCY ALLOWANCE**

1. Add new paragraphs 4.2.5 and 4.2.6:

“4.2.5 Any contingency allowance specified in the *Contract Documents*, the *Owner’s* Council resolution with respect to the *Contract*, or elsewhere, shall be deemed to be solely a budgetary authorization by the *Owner*. The *Contractor* shall have no right to draw upon any such contingency allowance for payment unless specifically authorized to do so by way of *Change Order*.

4.2.6 In the absence of a contingency allowance being shown on the *Contract Documents*, the *Contractor* is not to assume that there is one in place. The disclosure of any contingency allowances is at the discretion of the *Owner*.”

#### **SC 33. GC 4.3 PROVISIONAL AMOUNTS**

1. Add new general condition GC 4.3 PROVISIONAL AMOUNTS as follows:

##### **“GC 4.3 PROVISIONAL AMOUNTS**

4.3.1 The *Contract Price* includes provisional items, if any, as stated in the *Contract Documents*.

4.3.2 The *Contractor* is not entitled to payment of any provisional items except for the extra or additional work carried out by the *Contractor*, as directed by the *Owner* and in accordance with the *Contract* and only to the extent of such extra or additional work and payment approved by the *Owner*.

4.3.3 The *Owner* reserves the right to delete from the *Contract Price* any of the provisional items identified in the *Form of Tender*, for credit at the price shown. All prices are inclusive of all duties and taxes applicable, except *Value Added Taxes*.”

#### **SC 34. GC 5.1 PROVISIONAL AMOUNTS**

1. Delete GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER in its entirety.

#### **SC 35. GC 5.2 APPLICATIONS FOR PAYMENT**

1. Add to the end of paragraph 5.2.1, the following:

“Applications for payment shall be in accordance with the Construction Act and made by way of a *Notice in Writing* delivered by electronic communication, or as may be otherwise agreed, to both the *Consultant* and the *Owner*.”

2. Add to the end of paragraph 5.2.3, the following:

“The *Contractor* shall review with the *Consultant* and the *Owner*, at a scheduled time, the percentage of work completed for each item indicated in the schedule of values. This procedure shall be complied with for each application for payment prior to submitting the formal application for payment.”

3. Delete paragraph 5.2.5 in its entirety and replace with the following:

“The schedule of values shall be made out in such form and supported by such evidence as the *Consultant* may reasonably direct and when accepted by the *Consultant*, shall be used as the basis for applications for payment, unless it is found to be in error.”

4. Delete paragraph 5.2.7 in its entirety and replace with the following:

“Each application for payment shall meet the requirements of a “proper invoice” as defined in the *Construction Act* (Ontario) if the *Contractor* includes the following:

- a statement based on the schedule of values, which statement shall include the *Contract* number, *Project* name and purchase order number;
- breakdown of approved *Change Orders* and percentage completed of each;
- a *Statutory Declaration* as required by paragraph 5.2.9;
- any other requirement that the *Construction Act* (Ontario) prescribes for a proper invoice; and
- evidence of compliance with workers' compensation legislation at the *Place of the Work* and after the first payment, a declaration by the *Contractor* as to the distribution made of the amounts previously received using document CCDC 9A 'Statutory Declaration'.

5. Add to the end of paragraph 5.2.8, the following:

“Any *Products* delivered to the *Place of the Work* but not yet incorporated into the *Work* shall remain at the risk of the *Contractor* notwithstanding that title has passed to the *Owner* pursuant to General Condition 13.1 - OWNERSHIP OF MATERIALS.”

6. Add new paragraphs 5.2.9, 5.2.10, 5.2.11, 5.2.12, 5.2.13, 5.2.14 and 5.2.15, as follows:

- “5.2.9 The *Contractor* must provide with each application of a proper invoice after the first, a *Statutory Declaration*, certifying that all accounts for all subcontract, construction machinery and equipment, materials, *Products*, labour and other indebtedness which may have been incurred by the *Contractor* and for which the *Owner* might in any way be held responsible have been paid in full or will be paid with the proceeds from such application for payment, except for amounts properly retained as holdback or as an identified amount in dispute.

- 5.2.10 After the first application for payment and with each subsequent application for payment the *Contractor* shall submit evidence of compliance with the applicable worker's compensation legislation at the *Place of the Work*, including payments due thereunder.
- 5.2.11 Subject to the *Construction Act* and all other *Applicable Laws*, the *Owner* will pay to the *Contractor* ninety percent (90%) of the amount shown on such application for payment, subject to any amount that is disputed, and where the *Owner* has received notice of a lien, an amount sufficient to satisfy the lien may be retained , less previous payments, less the amount of any liens or any written notice of a lien of which the *Owner* has notice, plus 25% for security for costs, less the maintenance security referred to in GC 12.3 – WARRANTY, and less any amounts that the *Owner* deems necessary to retain for its protection against claims or liabilities or for any claim or claims the *Owner* may have against the *Contractor* under the *Contract*, other contracts, or otherwise, and such payments shall not in any way be construed as, nor shall it constitute, an acceptance of all or any part of the *Work* or material under the *Contract*. Once the reason for the *Owner* being entitled to withhold payment of any amount has been rectified, the amount withheld due to that reason will be paid by the *Owner* to the *Contractor*.
- 5.2.12 Deviation or incomplete submissions with respect to the breakdown of approved *Change Orders* and percentage completed of each will require resubmission of the application for payment.
- 5.2.13 If any *Work* or item under the *Contract* is included by the *Contractor* in its progress claims as partially or fully completed, but it is not completed in accordance with *Drawings* or *Specifications*, or is not completed to the *Consultant's* satisfaction, the *Consultant* shall omit the partial or total cost of such items from the certificates of payment and shall notify the *Contractor* in writing of its action and the reason for same, and shall withhold payments for such items, over, above and distinct from applicable construction lien holdbacks, until they are completed or corrected to its full satisfaction.
- 5.2.14 The *Consultant* and/or the *Owner* shall not be held responsible for any delays in payment due to a disagreement in the amounts shown by the *Contractor* on their payment application as submitted to the *Consultant* for review.
- 5.2.15 The *Contractor* shall not submit an application for payment between the period of December 14 to January 4, inclusive, in any year. The *Contractor* shall not submit an application for payment during any other reasonable period which the *Owner* advises the *Contractor* in writing due to downtime for payment system upgrades.”

#### **SC 36. GC 5.3 PAYMENT**

1. Delete “10 calendar days” in subparagraph 5.3.1.1 and replace with “5 calendar days”.

#### **SC 37. GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK AND PAYMENT OF HOLDBACK**



1. Add to the beginning of paragraph 5.4.1:

“When the *Contractor* considers that the *Work* is substantially performed, or if permitted by the lien legislation applicable to the *Place of the Work* a designated portion thereof which the *Owner* agrees to accept separately is substantially performed, the *Contractor* shall, within one *Working Day*, deliver to the *Consultant* and to the *Owner* a comprehensive list of items to be completed or corrected, together with a written application for a review by the *Consultant* to establish *Substantial Performance of the Work* or substantial performance of the designated portion of the *Work*. Failure to include an item on the list does not alter the responsibility of the *Contractor* to complete the *Contract*.”

2. Delete paragraphs 5.4.2 and 5.4.3 in their entirety.
3. Add new paragraph 5.4.2 as follows:

“The prerequisites to attaining Substantial Performance includes but is not limited to the following:

- .1 Evidence of compliance with the requirements for occupancy or occupancy permit as prescribed by the authorities having jurisdiction
- .2 Final cleaning and waste removal at the time of applying for *Ready-for-Takeover*, as required by the *Contract Documents*.
- .3 The delivery to the *Owner* of such operations and maintenance documents reasonably necessary for immediate operation and maintenance, as required by the *Contract Documents*.
- .4 Make available a copy of the as-built drawings completed to date on site.
- .5 Startup, testing required for immediate occupancy, as required by the *Contract Documents*.
- .6 Ability to secure access to the *Work* has been provided to the *Owner*, if required by the *Contract Documents*.”

4. Add to the end of paragraph 5.4.4, the following:

“and submit CCDC 9A ‘Statutory Declaration’ to state that all accounts for labour, subcontracts, *Products*, *Construction Equipment*, and other indebtedness which may have been incurred by the *Contractor* in the *Substantial Performance of the Work* and for which the *Owner* might in any way be held responsible have been paid in full, except for amounts properly retained as a holdback or as an identified amount in dispute.”

5. Add after “Where legislation” in subparagraph 5.4.5, the following:

“and the Contract”

## **SC 38. GC 5.5 FINAL PAYMENT**

1. Delete paragraph 5.5.1 in its entirety and replace with the following:

- “5.5.1 When the *Contractor* considers that the *Work* is completed, the *Contractor* shall submit an application for final payment. The *Contractor’s* application for final payment shall be accompanied by any documents or materials not yet delivered pursuant to paragraph 5.4.2 and, for purposes of the *Construction Act*, the remaining *Work* is valued at more than \$5,000. The *Work* shall be deemed not to be performed until all of the aforementioned documents have been delivered. Application for final payment shall be made by way of *Notice in Writing* and shall be delivered by electronic communication to both the *Consultant* and the *Owner*. Application for final payment shall meet the requirements of a “proper invoice” as set out in paragraph 5.2.7.”
2. Delete “10 calendar days” in paragraph 5.5.2 and replace with “5 calendar days”.
  3. Delete “5 calendar days after the issuance of a final certificate for payment” in paragraph 5.5.4 and replace with “the deadline prescribed by the *Construction Act* (Ontario)”.
  4. Add new paragraph 5.5.5 as follows:
 

“5.5.5 Prior to the release of the holdback for finishing work under the *Construction Act*, the *Contractor* shall submit:

    - .1 *Contractor’s* written request for release of the holdback, including a statement that no written notices of lien have been received by it;
    - .2 a *Statutory Declaration*; and
    - .3 a final Workplace Safety & Insurance Board Clearance Certificate.”

#### **SC 39. GC 5.6 WITHHOLDING OF PAYMENT**

1. Delete “or if” in paragraph 5.6.1 and replace with “and where”.

#### **SC 40. GC 5.8 LIENS**

1. Add new general condition GC 5.8 LIENS as follows:

##### **“GC 5.80 LIENS**

- 5.8.1 In the event that a construction lien arising from the performance of the *Work* is claimed, the *Contractor* shall, if requested, undertake the *Owner’s* defence of any subsequent lawsuit commenced in respect of the lien at the *Contractor’s* sole expense.
- 5.8.2 Without limiting any of the foregoing, the *Contractor* shall indemnify the *Owner* for all costs (including, without limitation, legal fees on a solicitor and client basis) it may incur in connection with the claim for lien or subsequent lawsuit brought in connection with the lien, or in connection with any other claim or lawsuit brought against the *Owner* by any person that provided services or materials to the *Project* lands which constituted a part of the *Work*.
- 5.8.3 This GC 5.8 does not apply to construction liens claimed by the *Contractor*.”

#### **SC 41. GC 5.9 PAYMENT BY ELECTRONIC FUNDS TRANSFER**

1. Add new general condition GC 5.9 PAYMENT BY ELECTRONIC FUNDS TRANSFER as follows:

**“GC 5.9 PAYMENT BY ELECTRONIC FUNDS TRANSFER**

- 5.9.1 The term "EFT" refers to electronic funds transfer and may also include the payment information transfer.
- 5.9.2 All payments by the *Owner* under the *Contract* shall be made by EFT as a direct deposit to a Canadian chartered bank, save and except where:
  - .1 the funds payable under the terms of the *Contract* are only payable in a single lump sum and not payable by installments or progress payments or otherwise than a single lump sum payment; or
  - .2 the *Owner* is unable to release one or more payments by EFT, in which case the *Contractor* shall agree to accept payment by cheque or some other mutually agreeable method of payment.
- 5.9.3 Mandatory Submission of the *Contractor*'s EFT Information
  - .1 The *Contractor* is required to provide the *Owner* with the information required for the *Owner* to make payment by EFT. A purchase order may not be issued to the *Contractor* without this requisite information.
  - .2 In the event that the EFT information changes, the *Contractor* shall be responsible for providing forthwith the updated information to the *Owner*.
  - .3 Where the *Contractor* provides changes to the EFT information more than once in a calendar year, the *Contractor* shall also pay any fee approved by the Council of the City of Hamilton for each additional change.
  - .4 If the EFT information changes after submission of correct EFT information, the *Owner* shall have thirty (30) calendar days within which to update the changed EFT information after its receipt by the designated officer to the extent payment is made by EFT.
- 5.9.4 Liability for Uncompleted or Erroneous Transfers
  - .1 If an uncompleted or erroneous transfer occurs because the *Owner* used the *Contractor*'s EFT information incorrectly, the *Owner* remains responsible for making a correct payment.
  - .2 If an uncompleted or erroneous transfer occurs because the *Contractor*'s EFT information was incorrect, or was revised within thirty (30) calendar days of the *Owner*'s release of the EFT payment transaction instruction, and
  - .3 Funds are no longer under the control of the *Owner*'s payment office, the *Owner* is deemed to have made payment and the *Contractor* is responsible for recovery of any erroneously directed funds and to comply with the Payment Legislation.
- 5.9.5 EFT and Timely Payment

A payment shall be deemed to have been made in a timely manner in accordance with the payment terms of the *Contract* if, in the *Owner's* EFT payment transaction instruction released to its bank, the date specified for settlement of the payment is on or before the last date for due payment under the terms of the *Contract*, provided the specified payment date is a valid date when the *Owner's* bank is open for business.

- 5.9.6 Liability for Change of EFT Information by Financial Agent  
The *Owner* is not liable for errors resulting from changes to EFT information provided by the *Contractor's* financial agent.”

#### **SC 42. GC 6.1 OWNER'S RIGHT TO MAKE CHANGES**

1. Add new paragraph 6.1.3 as follows:

“6.1.3 The *Contractor* is not entitled to any compensation for loss or loss of anticipated profit as a result of the deletion of any major item or major part of an item.”

#### **SC 43. GC 6.2 CHANGE ORDER**

2. Add after “in a form that can be reasonably evaluated” in subparagraph 6.2.1 and add “and is acceptable to the *Consultant*”.

#### **SC 44. GC 6.3 CHANGE DIRECTIVE**

1. Delete subparagraph 6.3.6.3 in its entirety and replace with the following:

“3 The *Contractor's* fee shall be as specified in GC 6.7 - EXTRA WORK, CLAIMS PAYMENT FROM CONTINGENCY or as otherwise agreed by the parties.”

2. Delete subparagraph 6.3.7 in its entirety and add the following:

“6.3.7 The cost of performing the work attributable to the *Change Directive* shall be limited to the actual cost of the following in as much as it contributes directly to the implementation of the *Change Directive*:

- .1 salaries, wages and benefits paid to personnel in the direct employ of the *Contractor* while directly engaged in the *Work* attributable to the change under a salary or wage schedule agreed upon by the *Owner* and the *Contractor*, or in the absence of such a schedule, actual salaries, wages and benefits paid under applicable bargaining agreement, and in the absence of a salary or wage schedule and bargaining agreement, actual salaries, wages and benefits paid by the *Contractor* while directly engaged in the *Work* attributable to the change, for personnel
  - (1) stationed at the *Contractor's* field office, in whatever capacity employed;
  - (2) engaged in the preparation or review of *Shop Drawings*, fabrication drawings, and coordination drawings; or
  - (3) engaged in the processing of changes in the *Work*;
- .2 contributions, assessments or taxes incurred for such items as employment

insurance, provincial or territorial health insurance, workers' compensation, and Canada or Quebec Pension Plan, insofar as such cost is based on wages, salaries or other remuneration paid to employees of the *Contractor* and included in the cost of the *Work* as provided in paragraph 6.3.7.1;

- .3 travel and subsistence expenses of the *Contractor's* personnel described in paragraph 6.3.7.1;
- .4 all *Products* including cost of transportation thereof;
- .5 materials, supplies, *Construction Equipment*, *Temporary Work*, exclusive of hand tools, including transportation and maintenance thereof, which are consumed in the performance of the *Work*; and cost less salvage value on such items used but not consumed, which remain the property of the *Contractor*;
- .6 all tools and *Construction Equipment*, exclusive of hand tools used in the performance of the *Work*, whether rented from or provided by the *Contractor* or others, including installation, minor repairs and replacements, dismantling, removal, transportation, and delivery cost thereof;
- .7 all equipment and services required for the *Contractor's* field office;
- .8 deposits lost;
- .9 the amounts of all subcontracts provided however that the cost included in such amounts shall be limited to the actual costs of the items described in this paragraph 6.3.7 changing "*Contractor*" to "*Subcontractor*" as necessary;
- .10 quality assurance such as independent inspection and testing services;
- .11 charges levied by authorities having jurisdiction at the *Place of the Work*;
- .12 royalties, patent licence fees and damages for infringement of patents and cost of defending suits therefor subject always to the *Contractor's* obligations to indemnify the *Owner* as provided in paragraph 10.3.1 of GC 10.3 - PATENT FEES;
- .13 any adjustment in premiums for all bonds and insurance which the *Contractor* is required, by the *Contract Documents*, to purchase and maintain;
- .14 any adjustment in taxes, other than *Value Added Taxes*, and duties for which the *Contractor* is liable;
- .15 charges for voice and data communications, courier services, expressage, transmittal and reproduction of documents, and petty cash items;
- .16 incurred in relation to the performance of the *Work*;
- .17 removal and disposal of waste products and debris; and
- .18 safety measures and requirements not caused by the *Contractor* or anyone for whom it is responsible."

3. Delete paragraph 6.3.9 in its entirety and replace with the following:

"6.3.9 The *Contractor* shall keep full and detailed accounts and records, including all documents and invoicing from the *Contractor*, *Subcontractor* and *Supplier*, for the documentation of the cost of performing the *Work* attributable to the *Change Directive* and shall provide the *Consultant* with copies upon submission of any claim for costs related to the *Change Directive* as included in an application for payment."

4. Add to the end of paragraph 6.3.10, the following:

"The *Contractor* shall include all pertinent documentation as back-up with any claims for additional *Contract Time* and/or increase in *Contract Price* to the *Consultant* for review and approval."

5. Add after “proposed adjustment in the *Contract Time* from paragraph 6.3.12, the following:

“and/or *Contract Price*”

#### **SC 45. GC 6.4 CONCEALED OR UNKNOWN CONDITIONS**

1. Add new paragraph 6.4.5 as follows:

“6.4.5 If the *Contractor* was given access to the *Place of the Work* prior to the submission of the bid on which the *Contract* was awarded, then the *Contractor* confirms that it carefully investigated the *Place of the Work* and, in doing so, applied to that investigation the degree of care and skill required by paragraph 3.14.1. In those circumstances, notwithstanding the provisions of paragraph 6.4.1, the *Contractor* is not entitled to an adjustment to the *Contract Price* or to an extension of the *Contract Time* for conditions which could reasonably have been ascertained by the *Contractor* by such careful investigation, or which could have been reasonably inferred from the material provided with the *Contract Documents*. In those circumstances, should a claim arise, the *Contractor* will have the burden of establishing that it could not have discovered the materially different conditions from a careful investigation, because of restrictions placed on its access or inferred the existence of the conditions from the material provided with the *Contract Documents*.”

#### **SC 46. GC 6.5 DELAYS**

1. Delete paragraph 6.5.1 in its entirety and replace with the following:

“6.5.1 If the *Contractor* is delayed in the performance of the *Work* by an action or omission of the *Owner*, *Consultant* or anyone employed or engaged by the *Owner* directly, contrary to the provisions of the *Contract Documents*, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The *Contractor* shall be reimbursed by the *Owner* for reasonable costs incurred by the *Contractor* as the result of such delay, provided that the *Owner* shall not be liable for any other costs or damages whatsoever including, without limitation, any indirect, consequential, or special damages, such as loss of profits, loss of opportunity or loss of productivity resulting from such delay.”

2. Delete the words “Ready-for-Takeover” in paragraph 6.5.2 and replace with “Substantial Performance”.

3. Add to the end of paragraph 6.5.2, the following:

“, provided that the *Owner* shall not be liable for any other costs or damages whatsoever including, without limitation, any indirect, consequential, or special damages, such as loss of profits, loss of opportunity or loss of productivity resulting from such delay.”

4. Delete paragraph 6.5.3 in its entirety and replace with the following:

- “6.5.3 If the *Contractor* is delayed in the performance of *Work* by *Force Majeure* then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The extension of time shall not be less than the time lost as the result of the event causing the delay, unless the *Contractor* agrees to a shorter extension. The *Contractor* shall not be entitled to payment for costs incurred by such delays unless such delays result from actions by the *Owner*, *Consultant* or anyone employed or engaged by them directly, provided that the *Owner* shall in such instance, only be liable for reasonable costs incurred by the *Contractor* and shall not be liable for any other costs or damages whatsoever including, without limitation, any indirect, consequential, or special damages, such as loss of profits, loss of opportunity or loss of productivity resulting from such delay. Notwithstanding the foregoing, the *Contractor* shall use its best efforts to minimize the impact of such event upon the performance of the *Work* and *Contract Time*.
1. Subject to the foregoing, each party shall be excused from performance so long as the *Force Majeure* persists, and shall not be considered to be in default under this section, if and to the extent that its failure of, or delay in performance is due to that *Force Majeure*.
  2. Where a *Force Majeure* remains in effect for more than ninety (90) calendar days, either party may terminate the *Contract* upon thirty (30) calendar days written notice to the other party, provided at the time when that notice is given the *Force Majeure* is then continuing.
  3. While a *Force Majeure* subsists which prevents the *Contractor* from proceeding with the *Work* under the *Contract*, the *Owner* may engage an alternate contractor on an interim basis, and the *Work* and the *Contract Price* will be adjusted accordingly.”

5. Add new paragraph 6.5.6 as follows:

- “6.5.6 Where the *Project* is not totally completed within twenty (20) *Working Days* of the *Substantial Performance Date*, or at a time mutually agreed to by the parties, the *Owner* has the right to complete any remaining deficiencies or outstanding work and deduct the amount from monies that may be due or payable to the *Contractor*.”

#### **SC 47. GC 6.6 CLAIMS FOR A CHANGE IN CONTRACT PRICE**

1. Add new paragraph 6.6.7 as follows:

- “6.6.7 The *Owner* may make claims against the *Contractor* arising out of the costs incurred for additional services provided by the *Consultant* resulting from the *Contractor*’s failure to reasonably perform the *Work* in accordance with the terms and conditions of the *Contract*.”

#### **SC 48. GC 6.7 EXTRA WORK, CLAIMS, PAYMENT FROM CONTINGENCY**

1. Add new general condition GC 6.7 EXTRA WORK, CLAIMS, PAYMENT FROM CONTINGENCY, as follows:

**“GC 6.7 EXTRA WORK, CLAIMS, PAYMENT FROM CONTINGENCY.**

- 6.7.1 When a change in the *Work* is proposed or required, the *Consultant* may, on behalf of the *Owner*, issue a *Contemplated Change Order* to the *Contractor*. The *Contractor* shall upon receipt of a *Contemplated Change Order* promptly present to the *Consultant* a method of adjustment or, pursuant to paragraph 6.7.2, an amount of adjustment for the *Contract Price*, if any, and the adjustment in the *Contract Time*, if any, for the proposed change in the *Work*.
- 6.7.2 When the *Contractor* submits an amount of adjustment in response to a *Contemplated Change Order* or a *Change Directive*, the following provisions shall apply:
  - .1 Where the scope of *Work* identified by the *Contemplated Change Order* or *Change Directive* involves an adjustment in the *Contract Price*, the *Contractor* shall express and calculate the adjustment in the form of a written quotation with supporting documentation, including documentation and detailed invoicing from *Subcontractors*, and *Suppliers*, acceptable to the *Consultant*, and to include an amount:
    - (1) representing the net change in *Construction Costs* of the *Work*, taking into account all credits and scope reductions resulting from the change;
    - (2) for *Overhead Costs* and profit calculated in accordance with paragraph 6.7.3; and,
    - (3) for *Value Added Taxes*.
  - .2 Where the scope of *Work* identified by the *Contemplated Change Order* or *Change Directive* involves an adjustment in the *Contract Time*, the *Contractor* shall express the number of *Working Days*, the reason and logic for the adjustment, and all the supporting documentation inclusive of a *Project* schedule identifying the impacted activities, their inter-relationship, and changes to the critical path.
  - .3 Notwithstanding any other provisions in the General Conditions or Supplementary Conditions of the *Contract*, it is the intention and agreement of the parties that the *Contractor's* submitted adjustment in *Contract Price*, if any, and the adjustment in *Contract Time*, if any, in response to a *Contemplated Change Order* or *Change Directive* shall be all-inclusive of any costs, claims, impacts, and liabilities of the *Contractor* and *Subcontractor(s)* whether known or unknown, direct or indirect, collective or cumulative.
  - .4 The *Consultant* and *Owner* are entitled to rely on the accuracy, completeness, and all-inclusive nature of the *Contractor's* submitted adjustment(s), if any, in response to a *Contemplated Change Order* or *Change Directive*. Once a *Change Order* has been issued for the submitted adjustment(s) the *Contractor* shall not be entitled to any further claim or adjustment in the *Contract Price* or *Contract Time* associated, in part or whole, with the respective change.



- 6.7.3 Where an adjustment to the *Contract Price* and/or *Contract Time* is made for a change carried out by *Change Order* or *Change Directive*, the amount of *Overhead Costs* and profit for the *Contractor* and *Subcontractor* shall be calculated in accordance with the following provisions:
- .1 Where a change in the *Work* is performed by the *Contractor's* own forces, *Overhead Costs* and profit shall not exceed an amount equal to 15% of the first \$50,000.00 in additional *Construction Costs* and 5% thereafter;
  - .2 Where a change in the *Work* is performed by a *Subcontractor's* forces:
    - (1) The *Subcontractor's Construction Costs* for the change in the *Work* shall be all-inclusive to perform the change and be identified separate and apart from any *Value Added Taxes*, *Overhead Costs*, or profit of the *Subcontractor* or *Contractor*.
    - (2) The *Subcontractor's Overhead Costs* and profit shall not exceed an amount equal to 15% of the first \$50,000.00 in additional *Construction Costs* and 5% thereafter; and
    - (3) The *Contractor's Overhead Costs* and profit shall not exceed an amount equal to 10% of the first \$50,000 in additional *Subcontractor Construction Costs* and 5% thereafter;
  - .3 Where a change in the *Work* is performed both by the *Contractor's* own forces and a *Subcontractor's* forces the *Overhead Costs* and profit shall be calculated separately in accordance with paragraph 6.7.3.1 and 6.7.3.2 as the case may be, as applied proportionately to the total amount of change in *Construction Costs* being done by the *Contractor* and *Subcontractor*."

**SC 49. GC 7.1 OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK OR TERMINATE THE CONTRACT**

1. Add before "OR TERMINATE THE CONTRACT" in the title of GC 7.1, the following:  
  
"SUSPEND THE WORK"
2. Delete "however, if such cost of finishing the *Work* is less than the unpaid balance of the *Contract Price*, the *Owner* shall pay the *Contractor* the difference" from subparagraph 7.1.5.3.
3. Delete paragraph 7.1.6 in its entirety.
4. Add new paragraphs 7.1.6, 7.1.7, 7.1.8, 7.1.9 and 7.1.10 as follows:  
  
"7.1.6 In addition to its right to terminate the *Contract* set out herein, the *Owner* may terminate the *Contract* at any time for any other reason and without cause upon giving the *Contractor Notice in Writing* to that effect. In such event, the *Contractor* shall be entitled to be paid for all *Work* performed including reasonable profit, for loss sustained upon *Products* and *Construction Equipment*, and such other damages as the *Contractor* may have sustained as a result of the termination of the *Contract*, but in no event shall the *Contractor* be entitled to

be compensated for any loss of profit on unperformed portions of the *Work*, or indirect, special, or consequential damages incurred.

- 7.1.7 The *Owner* may suspend *Work* under the *Contract* at any time for any reason and without cause upon giving the *Contractor Notice in Writing* to that effect. In such event, the *Contractor* shall be entitled to be paid for all *Work* performed to the date of suspension and be compensated for all actual costs incurred arising from the suspension, including reasonable profit, for loss sustained upon *Products* and *Construction Equipment*, and such other damages as the *Contractor* may have sustained as a result of the suspension of the *Work*, but in no event shall the *Contractor* be entitled to be compensated for any indirect, special, or consequential damages incurred. In the event that the suspension continues for more than one hundred and eighty (180) calendar days, the *Contract* shall be deemed to be terminated and the provisions of paragraph 7.1.6 shall apply.
- 7.1.8 In the case of either a termination of the *Contract* or a suspension of the *Work* under GC 7.1 - OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK, SUSPEND THE WORK OR TERMINATE THE CONTRACT or GC 7.2 - CONTRACTOR'S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT, the *Contractor* shall use its best commercial efforts to mitigate the financial consequences to the *Owner* arising out of the termination or suspension, as the case may be.
- 7.1.9 Upon the resumption of the *Work* following a suspension under GC 7.1 - OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK, SUSPEND THE WORK OR TERMINATE THE CONTRACT or GC 7.2 - CONTRACTOR'S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT, the *Contractor* will endeavour to minimize the delay and financial consequences arising out of the suspension.
- 7.1.10 The *Contractor's* obligation under the *Contract* as to quality, correction, and warranty of the *Work* performed by the *Contractor* up to the time of termination or suspension shall continue after such termination of the *Contract* or suspension of the *Work*."

#### **SC 50. GC 7.2 CONTRACTOR'S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT**

1. Delete "20 *Working Days*" in paragraph 7.2.2 and replace with the following:  
  
"ninety (90) *Working Days*"
2. Delete paragraph 7.2.3 in its entirety and replace with the following:

- “7.2.3 The *Contractor* may give *Notice in Writing* to the *Owner*, with a copy to the *Consultant*, that the *Owner* is in default of the *Owner's* contractual obligations if:
- .1 subject to the other terms and conditions of the *Contract* the *Owner* fails to pay the *Contractor* when due the amounts certified by the *Consultant* or awarded by adjudication, arbitration or court, except where the *Owner* has a bona fide claim for set-off, or
  - .2 the *Owner* fails to comply with the requirements of the *Contract* to a substantial degree and the *Consultant*, confirms by written statement to the *Contractor* and the *Owner*, that sufficient cause exists.”
3. Delete paragraph 7.2.4 in its entirety and replace with the following:
- “7.2.4 The *Contractor's Notice in Writing* to the *Owner* provided under paragraph 7.2.3 shall advise that if the default is not corrected within twenty (20) *Working Days* following the receipt of the *Notice in Writing*, the *Contractor* may, without prejudice to any other right or remedy the *Contractor* may have, suspend the *Work* until the default is corrected, provided, however, that in the event of such suspension, the provisions of paragraph 7.1.10 shall apply. If the *Contractor's Notice in Writing* to the *Owner* was given pursuant to paragraph 7.2.3, then, ninety (90) *Working Days* after the delivery of the *Notice in Writing*, the *Contractor* may terminate the *Contract*, provided, however, that in the event of such termination, the provisions of paragraph 7.1.10 shall apply.”
4. Delete paragraph 7.2.5 in its entirety and replace with the following:
- “7.2.5. If the *Contractor* terminates the *Contract* **by giving a Notice in Writing to the Owner** under the conditions set out above, the *Contractor* shall be entitled to be paid for all *Work* performed to the date of termination and be compensated for all actual costs incurred arising from the suspension, including reasonable profit, for loss sustained upon *Products* and *Construction Equipment*, and such other damages as the *Contractor* may have sustained as a result of the termination of the *Work*, but in no event shall the *Contractor* be entitled to be compensated for any indirect, special or consequential damages incurred.”

## SC 51. GC 8.3 NEGOTIATION, MEDIATION AND ARBITRATION

1. Delete paragraphs 8.3.6, 8.3.7 and 8.3.8 in their entirety.
2. Add new paragraphs 8.3.6 and 8.3.7 as follows:

“8.3.6 When a dispute has not been resolved through negotiation or mediation, within ten (10) *Working Days* after the date of termination of the mediated negotiations under paragraph 8.3.5, either party may give a *Notice in Writing* to the other party and to the *Consultant* inviting the other party to agree to submit the dispute to be finally resolved by arbitration, pursuant to provisions of the *Arbitration Act, 1991*. If the other party wishes to accept the invitation to submit the dispute to arbitration, it shall so indicate by the delivery of a

responding *Notice in Writing* within ten (10) *Working Days* of receipt of the invitation. If, within the required times, no invitation is made or, if made, is not accepted, either party may refer the dispute to the courts or to any other form of dispute resolution, including arbitration, which the parties may agree to use.

- 8.3.7 The determination of a matter by an adjudicator under the *Construction Act* (Ontario) may be submitted to arbitration or the courts or other form of dispute resolution as provided in section 8.3.6 at any time.”

## **SC 52. GC 9.1 PROTECTION OF WORK AND PROPERTY**

1. Delete “property adjacent to the *Place of the Work*” in paragraphs 9.1.1 replace with the following:

“property adjacent, in the vicinity of or proximate to the *Place of the Work*”

2. Delete subparagraph 9.1.1.1 in its entirety and replace with the following:

“.1 errors in the *Contract Documents* which the *Contractor* could not have reasonably discovered applying the standard of care described in paragraph 3.14.1;”

3. Delete paragraph 9.1.2 in its entirety and replace with the following:

“9.1.2 Before commencing any work, the *Contractor* shall determine the locations of all underground utilities and structures indicated in the *Contract Documents* or reasonably apparent from the *Contract Documents*, or that are reasonably apparent from an inspection of the *Place of the Work* exercising the degree of care and skill described in paragraph 3.14.1.”

4. Delete “property adjacent to the *Place of the Work*” in paragraphs 9.1.3 and replace with the following:

“property adjacent, in the vicinity of or proximate to the *Place of the Work*”

5. Add new paragraph 9.1.5 as follows:

“9.1.5 With respect to any damage to which paragraph 9.1.4 applies, the *Contractor* shall neither undertake to repair or replace any damage whatsoever to the work of other contractors, or to property adjacent, in the vicinity of or proximate to the *Place of the Work*, nor acknowledge that the same was caused or occasioned by the *Contractor*, without first consulting the *Owner* and receiving written instructions as to the course of action to be followed from either the *Owner* or the *Consultant*. Where, however, there is danger to life, the environment, or public safety, the *Contractor* shall take such emergency action as it deems necessary to remove the danger.”

## **SC 53. GC 9.2 TOXIC OR HAZARDOUS SUBSTANCES**

1. Delete paragraph 9.2.6 in its entirety and replace with the following:

- “9.2.6 If the *Owner* and *Contractor* do not agree on the existence, significance of, or whether the toxic or hazardous substances were brought onto the *Place of the Work* by the *Contractor* or anyone for whom the *Contractor* is responsible, or whether any toxic or hazardous substances or materials already at the *Place of the Work* (and which were then harmless or stored, contained or otherwise dealt with in accordance with legal and regulatory requirements) were dealt with by the *Contractor* or anyone for whom the *Contractor* is responsible in a manner which does not comply with legal and regulatory requirements, or which threatens human health and safety or the environment, or material damage to the property of the *Owner* or others, the *Owner* shall retain and pay for an independent qualified expert to investigate and determine such matters. The expert's report shall be delivered to the *Owner* and the *Contractor*.”
2. Delete subparagraph 9.2.7.4 in its entirety and replace with the following:
- “9.2.7.4 indemnify the *Contractor* from and against claims, demands, losses, costs, damages, actions, suits or proceedings made, suffered or brought by third parties arising out of or resulting from exposure to, or the presence of, toxic or hazardous substances for which the *Contractor* is not responsible under GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES at the *Place of Work*. This obligation shall not be construed to negate, abridge or reduce other rights or obligations of indemnity set out in GC 13.1 – INDEMNIFICATION or that otherwise exist respecting a person or party described in this paragraph.”
3. Delete paragraph 9.2.8 in its entirety and replace with the following:
- “9.2.8 If the *Owner* and *Contractor* agree or if the expert referred to in paragraph 9.2.6 determines that the toxic or hazardous substances were brought onto the place of the *Work* by the *Contractor* or anyone for whom the *Contractor* is responsible, that any toxic or hazardous substances or materials already at the *Place of the Work* (and which were then harmless or stored, contained or otherwise dealt with in accordance with legal and regulatory requirements) were dealt with by the *Contractor* or anyone for whom the *Contractor* is responsible in a manner which does not comply with legal and regulatory requirements, or which threatens human health and safety or the environment, or material damage to the property of the *Owner* or others, the *Contractor* shall promptly at the *Contractor's* own expense:
- .1 take all necessary steps, in accordance with applicable legislation in force at the *Place of the Work*, to safely remove and dispose the toxic or hazardous substances;
  - .2 make good any damage to the *Work*, the *Owner's* property or property adjacent to the place of the *Work* as provided in paragraph 9.1.3 of GC 9.1- PROTECTION OF WORK AND PROPERTY;
  - .3 reimburse the *Owner* for reasonable costs incurred under paragraph 9.2.6; and as a result of the delay
  - .4 indemnify the *Owner* as required by GC 13.1 - INDEMNIFICATION.”

## SC 54. GC 9.4 CONSTRUCTION SAFETY

1. Delete GC 9.4. in its entirety and replace with the following:

- “9.4.1 The *Contractor* shall be solely responsible for construction safety at the *Place of the Work* and for compliance with the rules, regulations, and practices required by the applicable construction health and safety legislation and shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the *Work*.
- 9.4.2 Prior to the commencement of the *Work*, the *Contractor* shall submit to the *Owner*:
- .1 documentation setting out the *Contractor*’s in-house safety programs; and
  - .2 a copy of the Notice of Project filed with the Ministry of Labour naming the *Contractor* as “constructor” under the *Occupational Health and Safety Act*.
- 9.4.3 The *Contractor* shall indemnify, defend and save harmless the *Owner*, its agents, officers, directors, employees, consultants, successors, appointees, and assigns from and against the consequences of any and all safety infractions committed by the *Contractor* under the *Occupational Health and Safety Act*, including the payment of legal fees and disbursements on a solicitor and client basis. Such indemnity shall apply to the extent to which the *Owner* is not covered by insurance, provided that the indemnity contained in this paragraph shall be limited to costs and damages resulting directly from such infractions and shall not extend to any consequential, indirect or special damages.
- 9.4.4 The *Owner* undertakes to include in its contracts with other contractors and in its instructions to its own forces the requirement that the other contractor or its own forces, as the case may be, comply with the policies and procedures of and the directions and instructions from the *Contractor* with respect to occupational health and safety and related matters. Prior to admission to the *Place of the Work*, the *Contractor* may, as a condition of admission, require any other contractor or the *Owner*’s own forces to sign a written acknowledgement in the following form:

### **Acknowledgement**

The undersigned acknowledges that the *Work* it will perform on behalf of the *Owner* requires it to enter a *Place of the Work* which is under the total control of a *Contractor* that has a contract with the *Owner*, pursuant to which the *Contractor* has assumed overall responsibility for compliance with all aspects of the applicable health and safety legislation, including all the responsibilities of the “constructor” under the *Occupational Health and Safety Act*, as well as responsibility to co-ordinate and schedule the activities of our *Work* with the *Work* of the *Contractor* under its contract. The undersigned agrees to comply with the *Contractor*’s directions and instructions with respect to health, safety, co-ordination, and scheduling and acknowledges that its failure to do so will be cause for termination of employment or of the undersigned’s contract with the

*Owner*, as the case may be. The undersigned also agrees to have the *Contractor* named as an additional insured on any commercial general liability insurance policy, where such insurance is required.

- 9.4.5 Without limiting any of the foregoing, prior to commencement of the *Work*, the *Contractor* shall have both a written occupational health and safety policy and program to implement that policy, and that all of its employees, *Subcontractors* and any other persons performing the *Work* shall be appropriately trained, licensed and certified, as required to perform the *Work*.
- 9.4.6 The *Contractor* and *Subcontractors* shall comply with the safety by-laws of the *Owner*, the *Employment Standards Act*, *Occupational Health and Safety Act* and all regulations thereunder, any other legislation governing construction or workplace safety, and all instructions issued by the *Consultant* or any inspector appointed by the Province of Ontario or City of Hamilton.
- 9.4.7 The *Contractor* shall be responsible for keeping the work free from trespassers and for protection of the work and the public from any loss or injury from commencement of the work to *Substantial Performance of the Work*.
- 9.4.8 The *Contractor* shall comply with all applicable occupational health and safety requirements in force during the time when *Work* is being carried out, and shall provide at the *Place of the Work*, such equipment and medical facilities as are necessary to furnish first aid to anyone who may be injured in connection with the *Work*.
- 9.4.9 Before commencing with any *Work*, the *Contractor*, the *Consultant* and the *Owner's* representative shall meet at the *Place of the Work*, and establish safe routes and routines for material deliveries, material storage locations, construction office location, and all other aspects of the execution of all *Work*.
- 9.4.10 The *Contractor* shall erect and maintain during construction, a dependable temporary fence, barricades, warning lights, and signage around the perimeter of the *Place of the Work*, all hazardous areas and excavations, and the *Consultant* may give reasonable directions to the *Contractor* as to the type and extent of the fence, barriers, warning lights, and signage needed.
- 9.4.11 The *Contractor* shall, at its own expense, shore up or otherwise securely support or protect any buildings, walls, fences, pavement, boulevards or other structures at the *Place of the Work*, and on the adjoining properties which may be endangered or which may cause injury during the *Work*, and in case of damage, disturbance or injuries to any such structures during and attributable, whether directly or indirectly, to any work under the *Contract*, or to any extra work entering into the *Contract*, the *Contractor* shall at its own expense, repair, rebuild or other wise make good all damage, injuries or disturbance to said structures and put all such structures in a condition the same as, or equal to, that existing previous to its beginning that work."

## SC 55 GC 9.5 MOULD

1. Add to the end of subparagraph 9.5.2.3, the following:  
  
“and incurred as a result of the delay”
2. Delete subparagraph 9.5.3.4 in its entirety and replace with the following:  
  
“9.5.3.4 indemnify the *Contractor* from and against claims, demands, losses, costs, damages, actions, suits or proceedings made, suffered or brought by third parties arising out of or resulting from exposure to, or the presence of, mould for which the *Contractor* is not responsible under GC 9.5 – MOULD at the *Place of Work*. This obligation shall not be construed to negate, abridge or reduce other rights or obligations of indemnity set out in GC 13.1 – INDEMNIFICATION or that otherwise exist respecting a person or party described in this paragraph.”

## **SC 56 GC 10.1 TAXES AND DUTIES**

1. Add to the end of paragraph GC 10.1.2 the following:  
  
“The *Contractor* must prove to the satisfaction of the *Owner* that the *Contractor* will not benefit in any way by reason of any increase to the *Contract Price*.”
2. Add new paragraph 10.1.3 as follows:  
  
“10.1.3 Where the *Owner* is entitled to an exemption or a recovery of sales taxes, customs duties, excise taxes or *Value Added Taxes* applicable to the *Contract*, the *Contractor* shall, at the request of the *Owner*, assist with application for any exemption, recovery or refund of all such taxes and duties and all amounts recovered or exemptions obtained shall be for the sole benefit of the *Owner*. The *Contractor* agrees to endorse over to the *Owner* any cheques received from the federal or provincial governments, or any other taxing authority, as may be required to give effect to this paragraph.”

## **SC 57 GC 10.2 LAWS, NOTICES, PERMITS, AND FEES**

1. Add to the beginning of paragraph 10.2.5, the following:  
  
“Subject to paragraph 3.4.1,”

## **SC 58 GC 10.3 PATENT FEES**

1. Add before “hold the *Owner* harmless” in the second sentence of paragraph 10.3.1, the following:  
  
“indemnify and”
2. Add after “which was supplied to the *Contractor*” in paragraph 10.3.2, the following:  
  
“by the *Owner*”



## SC 59 GC 10.4 WORKERS' COMPENSATION

1. Add after the words "Prior to commencing the *Work*," in the first line of paragraph 10.4.1, the following:

"and upon execution of the Agreement, again with each application for progress payment,"

2. Add new paragraph 10.4.2 as follows:

"The *Contractor* shall ensure that each *Subcontractor* complies with the workers' compensation legislation at the *Place of the Work*. At any time during the term of the *Contract*, when requested by the *Owner*, the *Contractor* shall provide such evidence of compliance by the *Contractor* and *Subcontractors*."

## SC 60 GC 11.1 INSURANCE

1. Delete GC 11.1 INSURANCE in its entirety and replace with the following:

### "GC 11.1 INSURANCE

- 11.1.1 The *Contractor* shall obtain and maintain at its own expense, including the cost of any applicable deductible, the following policies of insurance.

- .1 Commercial General Liability Insurance, written on IBC Form 2100 or its equivalent, including but not limited to bodily and personal injury liability, property damage, products liability, completed operations liability, owners & contractors protective liability, blanket contractual liability, premises liability, and contingent employer's liability coverage, having an inclusive limit of not less than \$5,000,000 per occurrence. If a policy has an aggregate limit, the amount of the aggregate shall be double the required per occurrence limit. Coverage shall be included for injury/loss/damage, due to pollution arising from "hostile fires". To achieve the desired limit, Umbrella or Excess liability insurance may be used. Coverage shall be subject to the following:

- (1) where the *Work* involves one or more of the following activities:
  - (i) the use of explosives for blasting;
  - (ii) vibration from pile driving or caisson work;
  - (iii) the removal or weakening of support of any property, building or land whether such support be natural or otherwise,explosion, collapse and underground ("XCU") coverages shall be added by endorsement to the policy and noted on the certificate of insurance;
- (2) where the *Work* provides for or contemplates the handling of asbestos, coverage shall not contain an asbestos exclusion and same shall be noted on the certificate of insurance. Alternatively, coverage may be provided under Contractors Pollution Liability Insurance providing coverage in an amount of not less than \$1,000,000 per claim. Such

Contractors Pollution Liability Insurance coverage shall remain in effect for 12 months following the completion of the *Work*.

- (3) the policy shall include coverage for pollution from "hostile fires";
  - (4) unless otherwise approved by the *Owner*, the *Contractor's* deductible on the Commercial General Liability policy and, if applicable, Contractors Pollution Liability Insurance shall be not more than \$100,000; and
  - (5) the insurance coverage shall remain in effect throughout the time that the *Contract* is in effect, including the warranty period.
- .2 Standard Form Automobile Liability Insurance that complies with all requirements of the current legislation of the Province of Ontario, having an inclusive limit of not less than \$5,000,000 per occurrence for third party liability, in respect of the use or operation of vehicles owned, operated or leased by the *Contractor* for the performance of the *Work* under the *Contract*. The insurance coverage shall remain in effect throughout the time that the *Contract* is in effect, including the warranty period. To achieve the desired limit, Umbrella or Excess liability insurance may be used;
- .3 Non-Owned Automobile Liability Insurance in standard form having an inclusive limit of not less than \$1,000,000 per occurrence, in respect of vehicles not owned by the *Contractor*, that are used or operated on its behalf for the performance of the *Work* under the *Contract*. The insurance coverage shall remain in effect throughout the time that the *Contract* is in effect, including the warranty period. To achieve the desired limit, Umbrella or Excess liability insurance may be used;
- .4 Property Insurance with respect to loss or damage (including fire, theft, burglary, etc.) of the *Contractor's* own property and property in its care, custody and control, including its equipment, tools and stock, used in connection with the *Contract*.
- 11.1.2 All policies of insurance required under paragraph 11.1.1 shall,
- .1 be recorded as being a primary policy and shall be in a form and issued by an insurance company satisfactory to the *Owner*, that is licensed to carry on business in Ontario;
  - .2 be maintained continuously during the course of carrying out the *Work*, or for such period of time as may be required after completion of the *Work* as deemed necessary by the *Owner*;
  - .3 except in the case of standard form automobile liability insurance and non-owned automobile liability insurance, include the *Owner* named as an additional insured, to the extent of the *Contractor's* obligations to the *Owner* under the *Contract Documents*;
  - .4 contain cross liability and severability of interest provisions, as may be applicable;
  - .5 preclude subrogation claims against the *Owner* and any other person insured under the policy; and
  - .6 provide that at least 30 days prior written notice (15 days in the case of standard form automobile liability insurance, and 10 days in the event of non-payment of premiums) shall be given to the *Owner* by the insurer

before the insurer or *Contractor* takes any steps to cancel, terminate, fail to renew, amend or otherwise change or modify the insurance or any part thereof.

- 11.1.3 The *Contractor* shall be responsible for deductible amounts under all of the policies of insurance required under paragraph 11.1.1.
- 11.1.4 The *Owner* reserves the right to require the *Contractor* to purchase such additional insurance coverage as the *Owner* may reasonably require. The *Owner* reserves the right to request such higher limits of insurance or otherwise alter the types of coverage requirements due to material or significant change arising from such matters as the nature of the work, agreement value, industry standards, and availability of insurance, as the *Owner* may reasonably require from time to time. Where such a right is exercised by the *Owner*, the *Owner* will compensate the *Contractor* for any resulting increase in applicable insurance premiums only where the *Contractor* can establish to the satisfaction of the *Owner*, acting reasonably, that such increase in applicable insurance premiums for the insurance required pursuant to the *Contract* does not result from the actions or omissions, negligence, claims history or reassessment by the insurer of the insurable risk posed by the *Contractor*.
- 11.1.5 Any insurance coverage acquired under the *Contract* shall in no manner discharge, restrict or limit the liabilities assumed by the *Contractor* under the *Contract*. The dollar limit of insurance coverage shall not be limited to the *Contract Price*.
- 11.1.6 The *Contractor* shall pay all premiums on the policies as they become due provided that the *Owner* may pay premiums as they become due and deduct the amount thereof from monies due from the *Owner* to the *Contractor* should the *Contractor* fail to do so.
- 11.1.7 The *Contractor* shall deposit with the *Owner* such evidence of its insurance policies required under paragraph 11.1.1 at the time of execution of the Agreement and thereafter during the term of the *Contract*, no later than 20 *Working Days* prior to the renewal date of each applicable policy, a certificate of insurance originally signed by an authorized insurance representative confirming thereon relevant coverage information including but not limited to the *Contract* name and description, name of insurer, name of insurance broker, name of insured, name of additional insureds as may be applicable, commencement and expiry dates of coverage, dollar limits of coverage, deductible levels as may be applicable, cancellation/termination provisions; or at the *Owner's* election, a certified copy of the insurance policy or policies required under paragraph 11.1.1. The *Contractor* shall ensure that the certificate holder is identified on each certificate of insurance as the *Owner* at 71 Main Street West, Hamilton, Ontario L8P 4Y5, or at such other address as the *Owner* may advise in writing, and that all certificates, cancellation, nonrenewal or adverse change notices are mailed to that address.

- 11.1.8 The *Contractor* shall not do or omit to do anything that would impair or invalidate the insurance policies.
- 11.1.9 Delivery to and examination or approval by the *Owner* of any certificates of insurance or policies of insurance or other evidence of insurance does not relieve the *Contractor* of any of its indemnification or insurance obligations under the *Contract*. The *Owner* is not under a duty either to ascertain the existence of or to examine such certificates of insurance or policies of insurance, nor to advise the *Contractor* in the event such insurance coverage is not in compliance with the requirements set out in the *Contract*.
- 11.1.10 The *Contractor* shall promptly investigate claims reported to the *Contractor* by a third party or by the *Owner*. The *Contractor* shall make contact with the claimant within forty-eight (48) hours of the *Contractor's* receipt of notice of a claim. The *Contractor* shall initiate an investigation of the claim immediately upon notice, and advise the claimant by letter of its position regarding resolution of the claim within twenty (20) *Working Days* of the notice. The *Contractor* shall include in its letter of resolution the reasons for its position. Failing acceptance of the resolution by the claimant of the proposed resolution, the *Contractor* agrees to report the claim to its insurer for further review and response to the claimant. Should the *Contractor* fail to follow this procedure, the *Owner* may investigate and resolve such claims, and offset the resultant costs against any monies due to the *Contractor*, from time to time, under the *Contract*."

## **SC 61 GC 11.2 CONTRACT SECURITY**

1. Add new general condition GC 11.2 CONTRACT SECURITY

### **"GC 11.2 CONTRACT SECURITY**

- 11.2.1 The *Contractor* shall, upon execution of the Agreement, provide to the *Owner*:
- .1 a performance bond , in an amount equal to 50% of the *Contract Price*, covering the performance of the *Contract*, including the warranty period and the *Contractor's* requirements with respect to the correction of deficiencies, excluding all extended warranties; and
  - .2 a labour and material payment bond, in the form set out in the *Contract Documents*, in an amount equal to 50% of the *Contract Price* covering payment for labour, *Products*, or both.
- 11.2.2 The bonds referred to in paragraph 11.2.1 shall be issued by a duly licensed surety company authorized to transact the business of suretyship in the Province of Ontario, using the prescribed forms set out in the *Construction Act*, and shall be maintained in good standing until the fulfillment of the *Contract*, including the warranty period."

## **SC 62 GC 11.3 CERTIFICATE OF STATUS**

1. Add new general condition GC 11.3 CERTIFICATE OF STATUS as follows:

## **“GC 11.3 CERTIFICATE OF STATUS**

- 11.3.1 The *Contractor* shall, upon execution of the Agreement, provide to the *Owner* a certificate of status from the Companies and Personal Property Security Branch of the Ontario Ministry of Government Services, or other ministry acceptable to the *Owner*, which indicates that the *Contractor* is an existing corporation and has not been dissolved.”

## **SC 63 GC 12.1 READY-FOR-TAKEOVER**

1. Delete subparagraphs 12.1.1.2 through to 12.1.1.8.
2. Delete subparagraph 12.1.2 in its entirety.
3. Add after the words “the *Work* is *Ready-for-Takeover*,” in the subparagraph 12.1.3, “and where the *Consultant* requests”
4. Delete the word “comprehensive” in subparagraph 12.1.3 and replace with “updated”.

## **SC 64 GC 12.2 EARLY OCCUPANCY BY THE OWNER**

1. Delete GC 12.2 EARLY OCCUPANCY BY THE OWNER in its entirety.

## **SC 65 GC 12.3 WARRANTY**

1. Delete paragraph 12.3.1 in its entirety and replace with the following:

“Except for extended warranties as described in paragraph 12.3.6, the warranty period under the *Contract* is one year from the date when *Substantial Performance of the Work* has been attained, unless the *Contract Documents* otherwise provide.”
2. Add to the beginning of paragraph 12.3.2, the following:

“Subject to paragraph 3.14.1,”
3. Delete “one year” from paragraph 12.3.3.
4. Delete “one year” from paragraph 12.3.4.
5. Delete “one year warranty period as described in paragraph 12.3.1” from paragraph 12.3.6 and replace with the following:

“warranty period”
6. Add new paragraphs 12.3.7, 12.3.8, 12.3.9, 12.3.10, 12.3.11, 12.3.12, 12.3.13, 12.3.14, 12.3.15, 12.3.16, 12.3.17 and 12.3.18 as follows:

- “12.3.7 Any material or equipment requiring excessive servicing during the warranty period (or free maintenance period, if applicable) shall be considered defective and the warranty shall be deemed to take effect from the time that the defect has been corrected so as to cause excessive servicing to terminate. Where an extended warranty is provided beyond the warranty period, and any material or equipment requires excessive servicing during the first fifteen percent (15%) of the extended warranty period (or free maintenance period, if applicable) the material or equipment shall be considered defective and the extended warranty shall be deemed to take effect from the time that the defect has been corrected so as to cause excessive servicing to terminate.
- 12.3.8 The final payment certificate shall not relieve the *Contractor* from its responsibility under this GC 12.3 – WARRANTY.
- 12.3.9 Following *Substantial Performance of the Work*, and without limiting the *Contractor's* warranty under this GC 12.3 WARRANTY, the *Contractor* shall assign to the *Owner*, to the extent assignable the benefit of all warranties and guarantees relating to the *Work*. The assignment shall expressly reserve the right of the *Contractor* to make any claims under such warranties and guarantees and such assignment shall in no way prejudice any rights of or benefits accruing to the *Contractor* pursuant to such warranties and guarantees.
- 12.3.10 The *Contractor* shall provide to the *Owner* for the duration of the warranty period, a maintenance security the value of which shall be derived from the following table:

<b>CONTRACT PRICE</b>		<b>VALUE OF MAINTENANCE SECURITY \$</b>
<b>FROM \$</b>	<b>TO \$</b>	
Less than \$100,000.00		4 % of final <i>Contract Price</i>
\$100,000.00	\$499,999.99	\$4,000.00 on first \$100,000.00 + 3.0% on next \$399,999.99
\$500,000.00	\$999,999.99	\$16,000.00 on first \$500,000.00 + 2.4% on next \$499,999.99
\$1,000,000.00	\$1,999,999.99	\$28,000.00 on first \$1,000,000.00 + 2.2% on next \$999,999.99
\$2,000,000.00	\$3,999,999.99	\$50,000.00 on first \$2,000,000.00 + 2.0% on next \$1,999,999.99
\$4,000,000.00	\$5,999,999.99	\$90,000.00 on first \$4,000,000.00 + 1.8% on next \$1,999,999.99
\$6,000,000.00	\$9,999,999.99	\$126,000.00 on first \$6,000,000.00 + 1.5% on next \$3,999,999.99
\$10,000,000.00 or Greater		\$186,000.00 on first \$10,000,000.00 + 1% on balance

- 12.3.11 The maintenance security, which is at no time a part of the statutory holdback, shall be retained by the *Owner* in increments from monies that would otherwise be payable to the *Contractor*, commencing during the latter part of the period of construction, so that by the date of *Substantial Performance of the Work* the full value of the required maintenance security has been retained.
- 12.3.12 Except as otherwise provided hereunder, the maintenance security, less any deductions made therefrom as provided for in the *Contract*, shall be paid to the *Contractor* following the issuance by the *Consultant* of a final certificate at the end of the warranty period, provided that all defects and deficiencies in the *Work* have been corrected by the *Contractor*. No interest shall be payable to the *Contractor* on such funds withheld in accordance with 12.3.10.
- 12.3.13 The *Contractor* may apply in writing to the *Owner* at the time of *Substantial Performance of the Work* to substitute for the monies retained as the maintenance security an alternative maintenance security of equivalent or greater value comprising:
- .1 one or more irrevocable letters of credit, or
  - .2 another readily negotiable security.
- 12.3.14 Acceptance of any such alternative shall be at the discretion of the *Owner*.
- 12.3.15 Following receipt and acceptance of any such alternative, the *Owner* shall release to the *Contractor* the monies previously retained for maintenance security purposes.
- 12.3.16 The *Owner* may, in its discretion, allow the total maintenance security to be made up in part of monies retained under the *Contract* and in part of an alternative maintenance security as indicated in paragraph 12.3.13 above provided that the total value of such parts, as determined by the *Owner*, shall be not less than the required value as derived from the table set out in paragraph 12.3.10 above.
- 12.3.17 Such alternative maintenance security or the monies derived therefrom, less any deductions made as provided for in the *Contract*, shall be released to the *Contractor* following the issuance by the *Consultant* of the final certificate at the end of the warranty period.
- 12.3.18 The *Contractor* will be responsible for extended warranty periods on equipment and materials as outlined in the *Specifications*. Warranties shall be provided for all inclusive replacement including all costs for labour and materials upon failure. Warranties shall be provided irrespective of the standard manufacturers, *Suppliers* and vendors' warranties and are in addition to the standard construction warranty of one year for general construction, materials and equipment."

## SC 66 GC 13.1 INDEMNIFICATION

1. Delete GC 13.1 INDEMNIFICATION in its entirety and replace with the following:

## **“GC 13.1 INDEMNIFICATION**

- 13.1.1 The *Contractor* shall indemnify, defend, and hold the *Owner*, including its elected officials, officers, employees, agents, affiliates and representatives (collectively referred to as the “Indemnified Party”) harmless against any and all claims, demands, costs (including legal costs on a substantial indemnity basis), penalties, fines, fees, royalties, damages (including indirect, special, remote, and/or consequential damages) and causes of action, including, without limitation, proprietary or personal injury (including death) that arise from, either directly or indirectly, or relate to,
- (a) the *Contractor*, its officials, directors, officers, employees, agents, affiliates, partners (general or limited), joint venturers, contractors, *Subcontractors*, and other representatives (collectively referred to as the “Indemnifying Party”), under this *Contract*,
    - (i) negligently carrying out any obligation to which it is subject,
    - (ii) failing to carry out any obligation to which it is subject,
    - (iii) negligently exercising any right to which it is entitled, or,
    - (iv) exercising any right to which it is entitled in a manner which is inconsistent with the terms and conditions of this *Contract*,
- or any combination thereof, except to the extent that the same are caused by the negligence or deliberate wrong-doing of the Indemnified Party, or
- (b) any patent, trademark, copyright infringement or other breach of any intellectual property right of any person, for which the Indemnifying Party is responsible.
- 13.1.2 The *Owner* shall notify the *Contractor* upon receipt of any such claim or demand that it receives. No settlement shall be made nor consent to judgment given without prior written approval of *Contractor* and its insurers, which approval shall not be unreasonably withheld.
- 13.1.3 The rights to indemnity contained herein shall survive the early termination or expiry of this *Contract*.
- 13.1.4 The *Owner* may enforce the rights of indemnity conferred on any Indemnified Party under this GC 13.1 on their behalf and to the same extent as if they were parties to this *Contract*.
- 13.1.5 The rights to indemnity provided for in this GC 13.1 shall be deemed to be in addition to any rights with respect to insurance in favour of the Indemnified Party provided in this *Contract*.”

## **SC 67 GC 13.2 WAIVER OF CLAIMS**

1. Delete GC 13.2 WAIVER OF CLAIMS in its entirety.



## SC 68 GC 14 MISCELLANEOUS

1. Add new PART 14 MISCELLANEOUS as follows:

### **“PART 14 MISCELLANEOUS GC 14.1 OWNERSHIP OF MATERIALS**

- 14.1.1 All *Work* and *Products* delivered to the *Place of the Work* by the *Contractor* shall be the property of the *Owner*. The *Contractor* shall remove all surplus or rejected materials when notified in writing to do so by the *Consultant*.

### **GC 14.2 REVIEW BY OWNER AND REVIEW BY CONSULTANT**

- 14.2.1 Neither the *Owner's* and/or *Consultant's* receipt, review or approval of any documents of the *Work* nor the failure of the *Owner* and/or *Consultant's* to provide comments shall limit, waive or diminish the *Contractor's* obligations, responsibilities, duties or liabilities under the *Contract*. The review or approval by the *Owner* and/or *Consultant* is intended only to ascertain that the document or the performance of the *Contractor's* duties, liabilities, responsibilities, or obligations under the *Contract* including, without limitation, the *Work* generally meets the intention of the *Contract* and is not an assurance or confirmation of the adequacy, quality, fitness, suitability or correctness of the *Contractor's* obligations, responsibilities, duties and liabilities under the *Contract* including without limitation, the *Work*, for which the *Contractor* is solely responsible in accordance with the *Contract*.

### **GC 14.3 USE AND/OR OCCUPATION OF COMPLETED PORTIONS OF THE WORK**

- 14.3.1 Upon the *Owners'* request, the *Owner* shall, at any time or times, have the right of occupying and/or using any part of parts of the *Work* (including, without limitation, for the purposes of installing and testing fittings and equipment), whether partially performed or entirely complete, or whether completed on schedule or not, before the completion of the *Work*.
- 14.3.2 In the event the *Owner* desires to exercise the privilege of occupancy and/or use of the *Work* as provided above, the *Contractor* shall co-operate with the *Owner* throughout in making available for the *Owners'* use such building services, as heating, ventilation, cooling, water, lighting, and telephone for the space or spaces to be occupied and/or used and if the equipment required to furnish such services is not entirely completed at the time the *Owner* desires to occupy and/or use the aforesaid space or spaces, the *Contractor* shall make every reasonable effort to complete same as soon as possible to the extent that the necessary equipment can be put into operation and use and any extra costs beyond that originally required to complete the *Work* arising from such early occupancy and/or use shall be borne by the *Owner*.
- 14.3.3 In the event that the *Owner* exercises the privilege of occupancy and/or use of the *Work* as provided above, it agrees to do so, as not to materially interfere with

the respective work of the *Contractor*, *Subcontractors* or *Suppliers* and under the understanding that the *Owner* will be occupying premises within a construction site which will require compliance with all normal construction site requirements including, without limitation, health and safety requirements.

- 14.3.4 It shall be understood, however, that the *Owner's* occupancy and/or use of such space or spaces of the *Work* shall not constitute the *Owner's* acceptance of any *Work*, material or equipment which are not in accordance with the requirements of the *Contract Documents*, nor affect the warranty period under the *Contract* nor relieve the *Contractor* from his obligations, duties, responsibilities and liabilities to complete the *Work*, nor for responsibility for loss or damage due to or arising out of defects in, or malfunctioning of, any *Work*, material or equipment, nor from any other unfulfilled duties, liabilities, obligation or responsibilities under the *Contract* nor from any other duty, liability obligation or responsibility under the *Contract* including, without limitation, the *Contractors' warranty obligation*. If however, damage results from any act by the *Owner*, the *Owner* shall assume its share of the responsibility for such damage.

#### **GC 14.4 NON-INTERFERENCE**

- 14.4.1 The *Contractor* acknowledges that the *Place of the Work* is and will continue to be occupied by the *Owner* and the *Owner* will continue to carry out its normal operations at the *Place of the Work*. The *Contractor* agrees to perform the *Work* in the least intrusive manner possible. Without limiting the generality of the foregoing, the *Contractor* acknowledges and agrees that it shall carry out its duties, responsibilities, and obligations under the *Contract* in such a manner so as not to disrupt or interfere with any of the *Owner's* or any third party's existing facilities and ongoing operations or activities or other operations located in the area adjacent to, in the vicinity of or proximate to the *Place of the Work*.

#### **GC 14.5 LIQUIDATED DAMAGES**

- 14.5.1 It is expressly agreed by the parties that if the date of *Substantial Performance of the Work* occurs later than the *Substantial Performance Date*, the *Contractor* shall pay to the *Owner* liquidated damages calculated as ONE THOUSAND DOLLARS (\$1,000.00) for each *Working Day* that *Substantial Performance of the Work* extends beyond the *Substantial Performance Date*.
- 14.5.2 It is expressly agreed that it is difficult to calculate the damages which would result from the *Contractor's* failure to attain *Substantial Performance of the Work* by the *Substantial Performance Date* and the parties agree that the liquidated damages are not intended to be penalties but rather represent the parties' best estimate of damages resulting from the delay.
- 14.5.3 The *Owner* may deduct any amount due under this paragraph from any monies that may be due or payable to the *Contractor* on any account whatsoever. The liquidated damages payable under this paragraph are in addition to and without

prejudice to any other remedy, action or other right that may be available to the *Owner*.

#### **GC 14.6 CONTRACTOR DISCHARGE OF LIABILITIES**

- 14.6.1 In addition to the obligations assumed by the *Contractor* pursuant to General Condition 3.6 – SUBCONTRACTORS AND SUPPLIERS, the *Contractor* agrees to discharge all liabilities incurred by it for labour, materials, services, *Subcontractors* and *Products*, used or reasonably required for use in the performance of the *Work*, except for amounts withheld by reason of legitimate dispute which have been identified to the party or parties, from whom payment has been withheld.

## **GC 14.7 CONTRACTOR EVALUATION**

- 14.7.1 In accordance with the *Owner's* policy for vendor performance evaluation, the *Owner* will evaluate the performance of the *Contractor* with respect to the *Work* using the following criteria:
- .1 general responsiveness of the work relationship;
  - .2 conformity of the work done, materials supplied and provision of services with the description of *Project* and *Specifications*;
  - .3 general dependability and quality of all work done and any goods or services supplied;
  - .4 timely performance;
  - .5 general conformity with the reasonable expectations of the *Owner* under the terms of the *Contract* in their entirety;
  - .6 supervision of subcontractors and the maintenance of an orderly, neat and secure job site;
  - .7 accuracy of carrying out instructions.
- 14.7.2 Where a performance review is conducted at *Final Completion of the Work*, the *Contractor's* performance shall be ranked by the *Owner* at one of the following standards:
- .1 Unacceptable (performance well below the general standard); or
  - .2 Satisfactory (performance in accordance of general standard).
- 14.7.3 Where at a performance review carried out prior to the completion of the *Contract*, one or more criteria of assessment are ranked as unacceptable:
- .1 the parties shall agree at the time of the conduct of the review or within ten (10) *Working Days* thereafter, on the measures to be taken by the *Contractor* during the ensuing *Contract* review period to improve its performance to at least a good standard;
  - .2 within ten (10) *Working Days* of agreeing on those measures, the *Contractor* shall confirm in writing that the measures in question have been implemented.
- 14.7.4 Where the *Contractor* fails or refuses to implement measures as provided in paragraph 14.7.3, it shall be deemed to be in default under the *Contract*, and the *Owner* may take such remedies as provided for in the *Contract Documents* or are otherwise available at law or in equity.
- 14.7.5 Where the unsatisfactory performance of the *Contractor* is not corrected as required under this section, that performance may be taken into account by the *Owner* with respect to the award of any future contract to the *Contractor*.

## **GC 14.8 RECORDS/DAILY REPORTS/DAILY LOGS**

- 14.8.1 The *Contractor* shall maintain and keep accurate *Project* records (which means all tangible records, documents, computer printouts, electronic information, books, plans, *Drawings*, *Specifications*, accounts or other information relating to the *Work*) in its head office in accordance with requirements of *Applicable Laws*, but in any event for not less than four (4) years from *Substantial*

*Performance of the Work* or until all claims have been settled. During this time, the *Contractor* shall allow the *Owner* access to the *Project* records during normal business hours upon the giving of reasonable notice. The *Contractor* shall ensure that equivalent provisions to those provided herein are made in each subcontract and shall require the *Subcontractors* and *Suppliers* to incorporate them into every level of contract thereunder for any part of the *Work*.

#### **GC 14.9 ONTARIANS WITH DISABILITIES ACT, 2001 (ODA) AND THE ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT, 2005 (AODA)**

14.9.1 The *Contractor* shall ensure that all of its employees, agents, volunteers and any *Subcontractors* comply with all applicable accessibility laws, regulations and by-laws, including but not limited to the Ontarians with Disabilities Act, 2001 (ODA), the Accessibility for Ontarians with Disabilities Act, 2005 (AODA), Ontario Regulation 429/07 (Accessibility Standards for Customer Service) and Ontario Regulation 191/11 (Integrated Accessibility Standards), during the term of the *Contract*.

14.9.2 Without limiting the generality of the foregoing, the *Contractor* shall ensure that all of its employees, agents, volunteers and any *Subcontractors* who, as part of the *Contract*:

- (a) deal with members of the public or other third parties, or
- (b) participate in developing policies, practices and procedures governing the provision of goods or services to members of the public or other third parties,

receive training about the provision of its goods or services to persons with disabilities. The *Contractor* shall ensure that such training includes, without limitation, a review of the purposes of the AODA and the requirements of Ontario Regulation 429/07.

14.9.3 Prior to commencing the *Work*, the *Contractor* shall provide a Statement of Acknowledgement to the City of Hamilton that it has read and understands the City of Hamilton's AODA Integrated Accessibility Standards and Customer Service Standard Handbook; that it has provided the training required by said Handbook; and that it will comply with the requirements of said Handbook and applicable accessibility laws, regulations and by-laws.

14.9.4 The *Owner* and the City of Hamilton reserve the right to inspect the *Contractor's* training records relating to Ontario Regulation 429/07 and Ontario Regulation 191/11, which must describe its training policy and summarize the training, including to whom the training has been given and when the training was given. The *Owner* and the City of Hamilton also reserve the right to require the *Contractor* to amend its training policies, practices and procedures if the *Owner* or the City of Hamilton deems the training is not compliant with the requirements of Ontario Regulation 429/07 and Ontario Regulation 191/11.

See City of Hamilton's AODA Integrated Accessibility Standards and Customer Service Standard Handbook at:

<https://www.hamilton.ca/people-programs/equity-diversity-inclusion/accessibility-services/accessibility-guidelines-policies#policies-procedures>

#### **GC 14.10 SET-OFF**

- 14.10.1 The parties agree that the *Owner* has the contractual right to set-off against any amounts owing by the *Owner* to the *Contractor* under this *Contract*, any amount owed to the *Owner* by the *Contractor*, whether such amount arises from this *Contract* or under any other contract between the *Owner* and the *Contractor*, irrespective of whether or not those contracts are related or arise at equity or law. This right of set-off shall be subject to the Construction Act, as applicable.
- 14.10.2 The costs to the *Owner* of sending or publishing any notice or document required by the Construction Act shall constitute damages to the *Owner* and may be retained by the *Owner* in accordance with its set-off rights.”

## Project Specific Supplementary Conditions to Contract CCDC 2-2020

Dated: June 20, 2023

These Project Specific Supplementary Conditions presuppose the use of the Standard Construction Document CCDC 2-2020 Stipulated Price Contract, English version. These "Project Specific Supplementary Conditions" void, supersede or amend the "Agreement", "Definitions", "General Conditions" and "Supplementary Conditions" as hereinafter provided, as the case may be.

### GENERAL CONDITIONS OF THE STIPULATED PRICE CONTRACT

Where a General Condition or paragraph of the General Conditions of the Stipulated Price Contract is deleted by these Project Specific Supplementary Conditions, the numbering of the remaining General Conditions or paragraphs shall remain unchanged, and the numbering of the deleted item will be retained, unused, unless noted otherwise.

#### PSSC 1. GC 3.4 CONSTRUCTION SCHEDULE

1. Add new paragraph 3.4.11 to SC19 of the Supplementary Conditions as follows:

"3.4.11 The *Work* under this *Contract* must achieve *Substantial Performance of the Work* by **April 30, 2024**."

#### PSSC 2. GC 3.8 SHOP DRAWINGS

1. Add after "SHOP DRAWINGS" in the title of GC 3.8, the following:

"AND OTHER SUBMITTALS"

2. Add new paragraph 3.8.13 as follows:

"3.8.13 As the *Work* progresses, the *Contractor* shall keep a complete and accurate record of all changes or deviations from the *Contract Documents* and *Shop Drawings*, indicating the *Work* as actually installed. At the completion of the *Work*, the *Contractor* shall certify by endorsement thereof, that each of the revised prints of the *Drawings* and *Specifications* are complete and accurate. Prior to the *Contractor's* application for final payment, the record *Drawings* and *Specifications*, arranged in proper order, indexed and endorsed, and in the following form, shall be delivered to the *Owner*, namely:

- .1 three (3) complete sets of reproducible final versions of the *As-Built Drawings*; and
- .2 three (3) copies of the final versions of the *As-Built Drawings* in digital format in both AutoCAD and PDF formats (latest version of software)."

#### PSSC 3. GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK AND PAYMENT OF HOLDBACK

1. Delete paragraph 5.4.3 in its entirety and replace with the following:

"5.4.3 Prior to the issuance of the certificate of *Substantial Performance of the Work*, the *Contractor*, in consultation with the *Consultant*, shall establish reasonable dates for finishing the *Work* and correcting deficiencies."

2. Add new paragraphs 5.4.7, 5.4.8, 5.4.9, 5.4.10 and 5.4.11 as follows:

"5.4.7 Within seven (7) calendar days of receiving a copy of the certificate of *Substantial Performance of the Work* signed by the *Consultant*, the *Contractor* shall publish a copy of the certificate in accordance with the *Construction Act*) and shall provide to the *Consultant* and the *Owner* the date of publication and the name of the construction trade newspaper in which the publication

occurred. If the *Contractor* fails to comply with this provision, the *Owner* may publish a copy of the certificate and charge the *Contractor* with the costs so incurred.

- 5.4.8 In addition to the prerequisites identified in paragraph 5.4.2, prior to submitting its written application for *Substantial Performance of the Work*, the *Contractor* shall submit to the *Consultant* all:
- .1 guarantees;
  - .2 warranties;
  - .3 certificates;
  - .4 testing and balancing reports;
  - .5 distribution system diagrams;
  - .6 spare parts;
  - .7 operations and maintenance manuals which shall consist of three (3) hard copies and three (3) digital copies (on CD or DVD) and shall be well-organized and tabbed for ease of reference;
  - .8 samples;
  - .9 existing reports and correspondence from *Authorities Having Jurisdiction* in the *Place of the Work*; and

other materials or documentation required to be submitted under the *Contract*, together with written proof acceptable to the *Owner* and the *Consultant* that the *Work* has been substantially performed in conformance with the requirements of all *Governmental Authority* and utility authorities having jurisdiction in the *Place of the Work*.

- 5.4.9 Where the *Contractor* is unable to deliver the documents and materials described in paragraph 5.4.2 and 5.4.8, then, provided that none of the missing documents and materials interferes with the use and occupancy of the *Project* in a material way, the failure to deliver shall not be grounds for the *Consultant* to refuse to certify *Substantial Performance of the Work*. If the *Contractor* fails to deliver any of the materials required in subparagraphs 5.4.8.7 or 5.4.8.8, the *Consultant* may retain a reasonable amount or, where applicable, the amount specified in the Project Specific Supplementary Conditions from the payment of holdback under General Condition 5.4 – SUBSTANTIAL PERFORMANCE OF THE WORK AND PAYMENT OF HOLDBACK. Should any documents or materials not be delivered in accordance with paragraph 5.4.2 by the earlier of sixty (60) calendar days following publication of the certificate of *Substantial Performance of the Work* and the submission of the *Contractor's* application for final payment under paragraph 5.5.1 of GC 5.5 – FINAL PAYMENT, then the amount previously retained pursuant to this provision shall be forfeited to the *Owner* as compensation for the damages deemed to have been incurred by the *Owner*, and not as a penalty, arising from the failure to deliver the documents or materials, and the *Contract Price* shall be reduced accordingly.

- 5.4.10 Together with the submission of its written application for *Substantial Performance of the Work*, the *Contractor* shall submit to the *Consultant* and to the *Owner* a *Statutory Declaration* setting forth in reasonable detail any then outstanding and unresolved disputes or claims between the *Contractor* and any *Subcontractor* or *Supplier*, including any claims allegedly arising from delay, which are, directly or indirectly, related to any then outstanding or anticipated disputes or claims between the *Contractor* and the *Owner*, and this disclosure shall, at a minimum:

- .1 identify the parties involved;
- .2 identify the amount in dispute;
- .3 provide a brief statement summarizing the position of each party;
- .4 include copies of any correspondence or documents in support of either party's position;
- .5 include copies of any documents of any court or arbitration process related to the matter;
- .6 identify the dispute or claim between the *Contractor* and the *Owner* to which the matter relates; and
- .7 include a copy of any written agreement or a summary of any oral agreement between the parties related to resolution of the matter.

The disclosure requirements detailed herein are of a continuing nature and survive completion of the *Work*. Accordingly, the *Contractor* shall supplement the information provided with the



original *Statutory Declaration* with additional materials pertaining to new or existing disputes or claims, as they become available. The *Contractor* shall not be entitled to recover from the *Owner* any amount pertaining to any claim or dispute referred to in this paragraph, if the provisions of this paragraph have not been fully complied with. For greater certainty, the *Contractor* is not obliged to make the aforementioned disclosure with respect to any dispute or claim that is not related to or does not touch upon any then outstanding and unresolved dispute or claim between the *Contractor* and the *Owner*.

- 5.4.11 Prior to the issuance of the certificate of *Substantial Performance of the Work*, the *Commissioning* of the *Work* must be successfully completed and the associated submittals evidencing same must be provided by the *Contractor* to the *Consultant* in order for the *Consultant* to verify that the *Project* is ready to use and/or is being used for its intended purpose.”

#### **PSSC 4. GC 5.10 WITHHOLDING OF PAYMENT**

1. Add new paragraph 5.10.1 as follows:

“5.10.1 The *Consultant* may withhold from the *Contractor*, a minimum of FIVE THOUSAND DOLLARS (\$5,000.00) from any final payments pending submission and approval of all *Project* close-out documentation including operations & maintenance manuals, *As-Built Drawings*, warranty information, training of staff, and confirmation of any materials to be left on-site for future repairs.”

#### **PSSC 5. FAIR WAGE POLICY**

1. All references to the *Fair Wage Policy* shall only apply to the *Contract* where the *Contract Price* is FIVE HUNDRED THOUSAND DOLLARS (\$500,000.00) or greater.

#### **PSSC 6. GC 11.1 INSURANCE**

1. Delete GC 11.1.1.4 as set out in SC60 of the Supplementary Conditions and replace with the following:

“.4 Property Installation Floater (All Risks) Insurance in an amount to adequately insure the *Contractor's* ownership interest in equipment and materials. The coverage shall provide for the full replacement value of the property, repairs, additions or equipment being installed, handled, or stored on or off premises awaiting installation and while in transit.

If the Property Installation Floater (All Risks) Insurance does not provide transportation coverage, separate Motor Truck Cargo or Transportation (All Risks) Insurance is to be provided for materials or equipment transported in the *Contractor's* vehicles or others hired by the *Contractor* from place of receipt to building sites or other storage sites.”

#### **PSSC 7. GC 11.1 INSURANCE**

1. Add new paragraph 11.1.1.6 to SC60 of the Supplementary Conditions as follows:

“.6 Contractor's Pollution Liability having an inclusive limit of not less than \$1,000,000 per occurrence to insure the *Contractor's* liability for third-party claims caused by pollution events arising out of operations performed by or on behalf of the insured in the performance of the *Work* under the *Contract*. The insurance coverage shall remain in effect throughout the time that the *Contract* is in effect, including the warranty period.”

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A1.00	Cover Sheet, OBC Matrix and Life Safety
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A3.00	Elevations & Section Details
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M-1	Mechanical Layouts
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	<b>ELECTRICAL DRAWINGS</b>
E1	Electrical Legend, Drawing List and Specifications
E2	Floor Plan - Electrical Layout

End of Section

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## **1. Terminology**

1. The following Section of this Specification are of the abbreviated type and include incomplete sentences. Definite and indefinite articles have often been omitted and sentences are written in the form of direct instructions to the Contractor without using the phrase 'the Contractor shall.' Specifications and other quality references inserted govern materials and Workmanship without using phrases such as 'conform with,' 'conformity therewith.' Omitted words and phrases to be supplied in the same manner as they are when a note appears on the Drawings.
2. The Specifications are separated into Sections for reference convenience only. Such separation must in no instance make Owner or his Consultants arbiter to establish subcontract limits between Contractor and Subcontractor.
3. Refer to Section 01020 for details related to Cash Allowances to be carried by General Contractor.
4. Provide all items, articles, materials, operations or methods listed, mentioned or scheduled on Drawings and/or in Specifications, including all labour, materials, equipment, tools, services, and incidentals necessary and required to complete the Work. Responsibility for breakdown into and extension of subcontracts, including co-ordination of same, rests entirely with the Contractor.
5. Standard Specifications referred to are editions in force at Tender Closing Date.
6. Consultants are the team of Architects, Engineers and other experts commissioned by the Owner, directly or indirectly, to execute design, Contract Documents and supervision for the Project, including any of their agents or employees.
7. Prime Consultant is the Architect.
8. Contractor is the Firm or Corporation who, having signed the Agreement, has the sole legal responsibility to carry out the Work shown or described in the Contract Documents for the Owner, whether contractually assigned to a Subcontractor or Supplier, or not.

## **2. Minimum Standards**

1. Unless otherwise specified, Work and material to conform or exceed the minimum standards set out in the editions of the Canadian Government Specification Board, Canadian Standards Associations, the Ontario Building Code, Underwriters' Laboratories of Canada, the Canadian Electrical Code, the Local Building Code in force, whichever is applicable.
2. Copies of Standard Specifications referred to in this Specification to be kept on the site.
3. The use of the name (or its abbreviation) of any of the following bodies, accompanied by the reference number of a Specification of that body to mean that the entire Specification of the body to apply as noted:

AISC: American Institute of Steel Construction;  
ASTM: American Society for Testing Materials;  
CEC: Canadian Electric Code;  
CGSB: Canadian Government Specification Board;  
CISC: Canadian Institute of Steel Construction;  
CRCA: Canadian Roofing Contractors' Association;  
CSA: Canadian Standards Association;  
OBC: Ontario Building Code;  
ULC: Underwriters' Laboratories of Canada;  
CLA: Canadian Lumbermen's Association.

### **3. Cooperation**

1. Each trade to cooperate with the trades of adjacent or affected Work. Supply in good time requirements effecting adjacent and underlying Work in writing and items to be set or built in. Similarly, heed requirements and build-in items Provided by other trades.
2. Take necessary precautions to protect Work of other trades from contamination, marring or other damage due to application or installation processes, methods and activities.
3. General Contractor and each trade to cooperate with Contractors which may be assigned or selected by the Owner to perform Work under Cash Allowances. Owner reserves the right to assign non-unionized labour to perform Work under Cash Allowances, at Owners discretion.

### **4. Coordination**

1. Coordinate the Work of all trades in such a manner that each trade cooperates with the trade of adjacent Work.
2. Organize weekly job site meetings and send out notices stating time and place to Consultants, Subcontractors, Suppliers and all others whose presence is required at the meetings.
3. Take note of all persons attending these meetings and submit to Consultants and Owner, Minutes of these Meetings showing any major decisions made and instructions or information required. Prime Consultant to receive duplicate copies.
4. Coordinate the Work in this Contract with the Work of others awarded Work under Cash Allowances.

### **5. Building Dimensions and Coordination**

1. Ensure that all necessary job dimensions are taken and all trades are coordinated for the proper execution of the Work. Assume complete responsibility for the accuracy and completeness of such dimensions, and for co-ordination.
2. Verify that all Work, as it proceeds, is executed in accordance with dimensions and positions indicated which maintain levels and clearances to adjacent Work, as set out by

requirements of the Drawings, and ensure that Work installed in error is rectified before construction resumes.

3. Check and verify all dimensions referring to the Work and the interfacing of all services. Verify all dimensions, with the trade concerned when pertaining to the Work of other trades. Be responsible to see that Subcontractors for various trades cooperate for the proper performance of the Work.
4. Avoid scaling directly from the Drawings. If there is ambiguity or lack of information, immediately inform the Consultant. Be responsible for any change through the disregarding of this clause.
5. All details and measurements of any Work which is to fit or to conform with Work installed shall be taken at the building.
6. Advise Consultant of discrepancies and if there are omissions on Drawings, particularly reflected ceiling plans and jointing patterns for paving, ceramic tile, or carpet tile layouts, which affect aesthetics, or which interfere with services, equipment or surfaces. **DO NOT PROCEED** without direction from the Consultant.
7. Ensure that each Subcontractor communicates requirements for site conditions and surfaces necessary for the execution of the Subcontractor's Work, and that he Provides setting Drawings, templates and all other information necessary for the location and installation of material, holes, sleeves, insets, anchors, accessories, fastenings, connections and access panels. Inform other Subcontractors whose Work is affected by these requirements and preparatory Work.
8. Prepare interference Drawings to properly coordinate the Work where necessitate. Refer to Section 01340.

## **6. Use of Premises Before Substantial Performance**

1. The Owner shall have the right to enter and occupy the building, in whole or in part, for the purpose of placing fittings and equipment, or for other use, before completion of the Contract if, in the opinion of the Consultant, such entry and occupancy does not prevent or interfere with the Contractor in the performance of the Contract. Such entry shall in no way be considered as an acceptance of the Work in whole, or in part, nor shall it imply acknowledgment that terms of the Agreement are fulfilled.

## **7. Layout of Work**

1. Layout Work with respect to the Work of all trades. Arrange mechanical and electrical Work such as piping, ducts, conduits, panels, equipment and the like to suit the architectural and structural details.
2. Alterations necessary due to conflict and interference between trades, to be executed at no cost to the Owner unless notification is given in writing before Tender Closing Date.

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**8. By-Laws and Regulations**

1. Nothing contained in the Drawings and Specifications are to be so construed as to be knowingly in conflict with any law, by-law or regulation of municipal, provincial or other authorities having jurisdiction.
2. Perform Work in conformity with such laws, by-laws and regulations and make any necessary changes or deviations from the Drawings and Specifications subsequently required as directed and at no cost to the Owner unless notification is given in writing before Tender Closing Date.
3. Furnish inspection certificates and/or permits as may be applicable as evidence, that installed Work conforms with laws, by-laws, and regulations of authorities having jurisdiction.

**9. Protection**

1. Take necessary precautions and supply and install required coverings to protect material, Work and finishes from contamination, damage, the elements, water and frost.
2. Make good any damage or replace damaged materials, as directed. Repairs to be made by the trade having originally installed or fabricated the damaged material, finish or item. Protect electrical equipment from water and the elements.
3. Protect adjacent private and public property from damage and contamination.
4. Protect curbs and sidewalks from damage from trucking by means of boards and the like. Repair, or pay or repair of damage to existing roads and sidewalks.
5. Mark glass after glazing in an acceptable manner, and leave in place until final clean-up.
6. Protect floor finishes from construction traffic and transport of construction materials and equipment by means of 6 mm plywood panels.

**10. Delivery, Handling and Storage of Materials**

1. Schedule material delivery so as to keep storage at site to the absolute minimum, but without causing delays due to late delivery.
2. Store materials which will be damaged by weather in suitable dry accommodation. Provide heat, as required, to maintain temperatures recommended by material manufacturer.
3. Store highly combustible or volatile materials separately from other materials, and under no circumstances, within the building. Protect against open flame and other fire hazards. Limit volume of supply on the site to minimum required for one day's operations.
4. Handle and store material so as to prevent damage to material, structure and finishes. Avoid undue loading stresses in materials or overloading of floors.

5. Do not store material and equipment detrimental to finished surfaces within areas of the building where finishing has commenced or has been completed. All material storage within the building is subject to relocation, as directed.
6. Deliver package material in original, and Storage of unopened and undamaged containers with manufacturer's labels and seals intact.

#### **11. Debris**

1. Assign clean-up duties to a crew with own Foremen which will be of sufficient size to prevent accumulation of debris and dirt in any part of the structure or on the site.
2. Remove construction debris on a daily basis and legally dispose of same.
3. Under no circumstances, should debris, rubbish or trash be burned or buried on the site.

#### **12. Cutting, Fitting and Patching**

1. Required cutting to be done by General Contractor. Patching and painting of Work to be executed by the General Contractor.
2. All sub-trades are to notify the General Contractors bidding as to the extent of the cutting, patching, and painting of their respective trades.
3. Drilling, cutting, fitting and patching necessary due to failure to deliver items to be built-in time, or installation in wrong location to be executed, as directed, at no cost to the Owner.
4. Give written notification prior to commencement of drilling and cutting of load bearing structural members and finished surfaces.
5. Cut holes with smooth, true, clean edges, after they are approved by applicable trade. Size holes and openings for hot water and steam pipes, so as to allow for expansion and contraction of such pipes.

#### **13. Fastenings**

1. Supply all fastenings, anchors and accessories required for fabrication and erection or Work.
2. Metal fastenings to be of the same material as the metal component they are anchoring, or of a metal which will not set up an electrolysis action which would cause damage to the fastening or metal component under moist conditions.
3. Exposed metal fastenings and accessories to be of the same texture, color, and finish as base metal on which they occur. Keep to a minimum; evenly space and lay out.
4. Fastenings to be permanent, of such a type and size and installed in such a manner to Provide positive anchorage of the unit to be secured. Wood plugs are not acceptable. Install anchors at required spacing to Provide required load bearing or shear capacity.
5. Power actuated fastenings not to be used without prior written approval for specific use.



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**14. Snow and Ice Removal**

1. Remove all snow and ice which could impair the progress of the Work, be detrimental to Workmen, or impair movement of material on the site.

**15. Surplus Materials**

1. Surplus materials specifically so specified, to remain property of the Owner and be neatly stockpiled or stored, as directed.
2. All other surplus materials to become property of the Contractor; to be removed from the site and legally disposed of.

**16. Existing Trees**

1. Preserve carefully all existing trees on the site, except those located in the area to be occupied by the building proper or those so designated for removal.
2. Erect and maintain barricade and protective strapping; prevent seepage and spilling of materials injurious to the root system and take all other precautions to preserve trees.

**17. Setting of Work**

1. Provide and pay for the services of a Land Surveyor, registered in the Province of Ontario to establish the building location and two (2) widely separated bench marks at the commencement of the Work.
2. Lay out building lines for the Work and Provide substantial stakes, batterboards or monuments to preserve lines and levels.
3. Provide to the Consultant a survey plan on CAD indicating location of perimeter foundation walls relative to property lines and their top elevation, before construction proceeds on the foundation walls.
4. Verify on the site all grades, lines, levels, dimensions and location of hydrants, existing structures, manholes, overhead and buried utilities, existing trees, roadways, sidewalks and the like, shown on the Drawings, and report omissions, errors, or inconsistencies, before commencing Work.
5. Upon completion of layout Work and before commencement of any excavation, give ample notification to allow for inspection of lines and levels. Such inspection does not in any way mitigate the Contractor's responsibility for accuracy of layout.
6. Preserve and protect bench marks, elevation datum and monuments and check periodically for accuracy until all Work is complete. Remove same and their protection, as directed, and make good site.

**18. Documents Required and General Duties**

1. **At Commencement of Contract**
  - .1 Supply Contract Sum Breakdown of all sub-trades or parts of Work and general

- expense items.
- .2 Supply Construction Schedule.
- .3 Supply Schedule of Shop Drawing Submissions.
- .4 The Owner has paid for the cost of the Building Permit. Mechanical Subcontractor will pay the cost of other Fees related to the Work Specified under Division 15. Electrical Subcontractor will pay the cost of all permits and fees related to the Work Specified under Division 16.
- .5 The General Contractor is to pay all other fees and refundable deposits if applicable.
- .6 Digital copies (in PDF format) of the approved building permit drawings and the building permit will be provided. The General Contractor shall provide and maintain one (1) hardcopy of the building permit drawings for use by the Building Inspector. The general contractor shall provide and display one (1) copy of the building permit.

## **2. During Construction**

- .1 Adjust Allowances, as required.
- .2 Organize Job Meetings.
- .3 Supply Monthly Progress Reports and Construction Schedule.
- .4 Confirm that payments are being made to Subcontractors and Suppliers by submission of receipts with the second and subsequent Progress Payment Application. No payment will be made for unincorporated material on the site, unless Bill of Sale in proper format is provided.

## **3. Upon Completion**

- .1 Upon completion of Work before the Final Certificate of Payment is issued, the following to be observed, executed and submitted:
  - .1 All deficiencies to have been completed in a satisfactory manner.
  - .2 All final clean-up to have been executed, as specified in Section 01710.
  - .3 Finishing Hardware, Inspection and Verification.
  - .4 Organize a Final Inspection tour at which to be present:
    - the Owner's authorized representative;
    - the Architectural, Structural, Mechanical and Electrical Consultants, and their supervisory personnel, if any;
    - the Contractor and his superintendent.
  - .5 Where the above procedure is impossible or where any deficiencies remain outstanding, the Owner's representative and the Consultant concerned, to inspect and accept the affected Work and/or material upon notification by the Contractor, that all deficiencies involving this Consultant have been made good.
  - .6 A complete release of all liens arising out of this Contract, other than his own. If a Subcontractor or Supplier refuses to furnish a release of such a lien, furnish a bond satisfactory to the Owner to indemnify him against any claim under such a lien.
  - .7 Certificates of good standing from the Workers' Compensation board, for the General Contractor and all Subcontractors.
  - .8 All reference records, as specified, under Section 01720.
  - .9 Certificate of Inspection from Mechanical and Electrical Engineers.
  - .10 Copies of all Lists of Deficiencies with each Deficiency verified when complete by only this Project's job Superintendent. The Final List of Deficiencies to be signed, completed by all concerned, if accepted.

- .11 Statement of Completion from General Contractor.
- .12 Final adjustments of all Allowances.
- .13 H.E.P.C. Inspection Certificate and all other Inspection Certificates required by Provincial, Municipal and other authorities having jurisdiction.
- .14 Balancing Reports. Scanned copy on CD of all documents.
- .15 As-Built Drawings. – Hardcopy mark ups in RED, scanned copy of all As-builts. AutoCAD 2015 minimum of all drawings with red line changes noted.
- .16 Maintenance manuals.
- .17 All close out documents to be provided as hard copied and digital on USB stick.

## **19. Progress Reports**

1. Submit to the Architect, Monthly Progress Reports consisting of a concise narrative and a marked-up summary schedule showing physical percentage complete by item and in total. These progress calculations must agree with the Progress Payment Claims.
2. Keep permanent written daily records on the site on the progress of Work. Record to be open to inspection at reasonable times and copies to be furnished upon request. Records to show notes of commencement and completion of different trades and parts of Work; daily high and low temperatures and other weather particulars; number of men engaged on the site (including sub-trades) broken down in groups for each type of construction Work, and particulars about excavation and shoring; erection and removal of form Work; pouring and curing of concrete; floor finishing; placing and compaction of backfill, masonry Work; roofing.
3. Daily progress to give particulars on commencement and completion of each trade or part of Work; form Work erections and removal; concrete pouring and curing; floor finishing; masonry Work; roofing; waterproofing; finishing trades, tests and inspection and the like.

## **20. Inspection and Testing**

1. The contractor is responsible to provide his own quality control in order to meet or exceed the requirements of specified standards, codes, design criteria and referenced documents.

End of Section

**1. Selection of Products**

1. If requested by the Consultant, Provide the following services and/or information:
  - .1 Assist the Consultant in determining qualified suppliers.
  - .2 Obtain proposals from suppliers.
  - .3 Make appropriate recommendations for consideration of Consultant.
  - .4 Notify Consultant of any effect anticipated by selection of Product or supplier under consideration, on construction schedule and contract sum.
2. On notification of selection, enter into purchase agreement with designated supplier.

**2. Cash Allowance**

1. Expend cash allowance only on the Consultant's written instructions.
2. Include in Contract price the Contractor's charges for handling at site, including uncrating and storage, protection from elements and damage, labour, installation and finishing, testing, adjusting and balancing, and other expenses including overhead and profit on account of Cash Allowance in accordance with Article GC4.1 of the General Conditions of the Contract as amended.
3. Credit the Owner with any unused portion of Cash Allowances in the statement for final payment.
4. If a test made under payment by a specific allowance proves that the material or system is not in accordance with the Documents, then the subsequent testing including Owner's testing of replacement materials or systems shall be Contractor's expense and not taken from Cash Allowance.
5. Add or deduct any variation in cost from the Cash Allowance. No adjustment will be made to Contractor's expense.
6. The amount of each allowance includes the net cost of the product or service, delivery and unloading at the site.
7. All refunds, trade and/or quantity discounts which the Contractor may receive in the purchase of goods under allowances, to be extended to the Owner.
8. Receipted invoices covering all disbursements made by the Contractor under Allowances, to be submitted to the Consultant for audit.
9. Where the Cash Allowance stipulates "Supply Only," the Contract Price and not the Cash Allowances include the installation and hook-up costs. The installation and hook-up of some equipment and materials are specified under other Sections of the Specifications. The General Contract includes the installation and hook-up not specified elsewhere.

10. Contractor's profit and overhead on all Cash Allowances to be carried in his lump sum amount, not in the Cash Allowances.
11. All Cash Allowances will be dealt with in accordance with Article GC4.1 of the General Conditions.
12. All expenditures under Cash Allowances must be approved by the Owner.
13. Include in the Stipulated Price quoted, a Cash Allowance in the amount of **Eighteen Thousand Dollars, \$18,000**.  
  
To be allocated as follows:
  - .1 Door Hardware Supply only.
14. HST Goods and Services tax is not to be included in Cash Allowance amounts and will be carried separate from the General Contractor's Stipulated Sum Amount.

End of Section

### **1. Project Meetings for Coordination**

1. In consultation with the Consultant during the second week of construction, arrange for site meetings weekly or every 2 weeks as appropriate to the stage of construction, for Project coordination. Such meetings shall fall at the same time each week the meeting is scheduled.
2. Responsible representatives of the Contractor's and Subcontractor's office and field forces and Suppliers shall be obliged to attend.
3. Inform the Owner, Consultant, and those others whose attendance is obligatory, of the date of each meeting, in sufficient time to ensure their attendance.
4. Provide physical space for meetings, prepare an agenda, chair and record the minutes of each meeting. Relevant information must be made available to all concerned, in order that problems to be discussed may be expeditiously resolved. Identify "action by: \_\_\_\_\_".
5. Within three days after each meeting, distribute two copies of the minutes to each invited person.

### **2. Pre-construction Meeting**

1. Within 5 days after award of Contract, request a meeting of parties in Contract to discuss and resolve administrative procedures and responsibilities.
2. Include in the agenda the following:
  - .1 Appointment of official representative of participants in the Work.
  - .2 Scheduling of Work. Schedule to include a detailed breakdown of mechanical and electrical Works.
  - .3 Interference with ongoing business.
  - .4 Work by other Contractors.
  - .5 Schedule of submission of Shop Drawings and samples.
  - .6 Requirements for temporary facilities, site sign, offices, storage sheds, utilities.
  - .7 Delivery schedule of specified equipment.
  - .8 Site security.
  - .9 Contemplated Change Notices, Change Orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
  - .10 Record Drawings.
  - .11 Maintenance manuals.
  - .12 Take-over procedures, acceptance, warranties.
  - .13 Monthly progress claims, administrative procedures, photographs, holdbacks.
  - .14 Appointments of inspection and testing agencies or firms.
  - .15 Insurance, transcript of policies.
  - .16 Schedule for progress meetings.

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### **3. Project Meetings for Progress of Work**

1. Conduct progress meetings in accordance with the schedule and/or decisions made at Pre-construction meeting.
2. Inform the Owner, Consultant, Project Consultants, Subcontractors and Suppliers and those whose attendance is obligatory, of the date of the meeting, in sufficient time to ensure their attendance.
3. Include in the agenda the following:
  - .1 Review, approval of minutes of previous meeting.
  - .2 Review of Work progress since previous meeting.
  - .3 Field observations, problems, conflicts.
  - .4 Problems which impede construction schedule.
  - .5 Review of off-site fabrication delivery schedules.
  - .6 Corrective measures and procedures to regain Projected schedule.
  - .7 Revisions to construction schedule.
  - .8 Progress during succeeding Work period.
  - .9 Review submittal schedules: expedite as required.
  - .10 Maintenance of quality standards.
  - .11 Pending changes and substitutions.
  - .12 Review proposed changes for effect on construction schedule and on completion date.
  - .13 Other business.

### **4. Progress Records**

1. Maintain a permanent written record on the site of the progress of the Work using standard Ontario General Contractors Association (OGCA) form. This record shall be available to the Consultant at the site, and a copy shall be furnished to same on request. The record shall contain:
  - .1 Daily weather conditions, including maximum and minimum temperatures.
  - .2 Dates of the commencement and completion of stage or portion of the Work of each trade in each area of the Project.
  - .3 Conditions encountered during excavation.
  - .4 Dates of erection and removal of formwork, in each area of the Project.
  - .5 Dates of pouring the concrete in each area of the Project, with quantity and particulars of the concrete.
  - .6 Work force on Project daily per trade.
  - .7 Visits to site by personnel of Consultant, Jurisdictional Authorities and testing companies.

End of Section

### **1. General**

1. Submit to Architect, for review, Shop Drawings, Product data and Samples specified.
2. Until submission is reviewed, Work involving relevant Product must not proceed.

### **2. Shop Drawings**

1. Drawings to be originals prepared by Contractor, Subcontractor, Supplier or Distributor, which illustrate appropriate portion of Work; showing fabrication, layout, setting or erection details as specified in appropriate Sections.
2. Identify details by reference to sheet and detail numbers shown on Contract Drawings.
3. Maximum sheet size 24" x 36".
4. Reproductions for submissions that are larger than 11"x17" must be submitted as noted above. Shop Drawings in an 11"x 17" format may be submitted electronically (pdf) for review.

### **3. Project Data**

1. Certain Specification Sections specify that manufacturer's standard schematic Drawings, catalogue sheets, diagrams schedules, performance charts, illustrations and other standard descriptive data will be accepted in lieu of Shop Drawings.
2. Above will only be accepted if they conform to following:
  - .1 Delete information which is not applicable to Project.
  - .2 Supplement standard information to Provide additional information applicable to Project.
  - .3 Show dimensions and clearances required.
  - .4 Show performance characteristics and capacities.
  - .5 Show wiring diagrams (when requested) and controls.

### **4. Coordination of Submissions**

1. Review Shop Drawings, Product data and samples prior to submission.
2. Verify:
  - .1 Field measurements.
  - .2 Field construction criteria.
  - .3 Catalogue numbers and similar data.
3. Coordinate each submission with requirement of Work and Contract Documents. Individual Shop Drawings will not be reviewed until all related Drawings are available.
4. Contractor's responsibility for errors and omissions in submission is not relieved by Architect's review of submittals.



5. Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Architect's review of submission, unless Architect gives written acceptance of specified deviations.
6. Notify Architect, in writing at time of submission, of deviations from requirements of Contract Documents.
7. After Architect's review, distribute copies.

#### **5. Submission Requirements**

1. Schedule submissions at least fourteen (14) days before dates reviewed submissions will be needed.
2. Submit a digital copy (PDF) of Shop Drawings, Product data to Architect for review.
3. Accompany submissions with transmittal letter, in duplicate, containing:
  - .1 Date.
  - .2 Project title and number.
  - .3 Contractor's name and address.
  - .4 Number of each Shop Drawing, Product data and sample submitted.
  - .5 Other pertinent data.
4. Submissions must include:
  - .1 Date and revision dates.
  - .2 Project title and number.
  - .3 Name of:
    - .1 Contractor.
    - .2 Subcontractor.
    - .3 Supplier.
    - .4 Manufacturer.
    - .5 Separate detailer when pertinent.
5. Identification of Product or material.
  - .1 Relation to adjacent structure or materials.
  - .2 Field dimensions, clearly identified as such.
  - .3 Specification Section number.
  - .4 Applicable standards, such as Canadian Standards Association (CSA) or Canadian General Standards Board (CGSB) numbers.
  - .5 Contractor's stamp, initialed or signed, certifying review of submission, verification of field measurements and compliance with Contract Documents.
6. Interference Drawings
  - .1 Prepare interference Drawings for all Work in confined space (such as ceiling space.)

End of Section

**1. Access**

1. Provide and maintain adequate service roads to Project site to Provide safe and convenient access for deliveries.

**2. Contractor's Site Office**

1. Provide office adequately heated, lighted and ventilated, of sufficient size to accommodate site meetings and furnished with drawing laydown table, telephone, and facsimile machine. Pay telephone not acceptable.
2. Maintain in clean condition.
3. Provide and maintain in clean condition: two separate plans layout tables, minimum 1200 x 1800 each. One table shall be used by the General Contractor and Subcontractors at their discretion. The second shall be Provided for use by Subcontractors and by the Consultant or Inspection and Testing Companies during site visits or Project meetings.

**3. Storage Sheds**

1. Provide adequate weathertight sheds with raised floors, for storage of materials, tools and equipment which are subject to damage by weather.

**4. Sanitary Facilities**

1. Provide sanitary facilities for Workforce in accordance with governing regulations and ordinances.
2. Post notices and take such precautions, as required, by local health authorities. Keep area and premises in sanitary condition.
3. When permanent water and drain connections are completed, Provide temporary water closets and urinals complete with temporary enclosures, inside building. Permanent facilities may be used on approval or Architect.

**5. Parking**

1. Provide, on site, sufficient temporary parking. Owner will not be responsible for any parking cost incurred by Contractor.

**6. Site Enclosures**

1. Provide around the construction site a temporary leased 1.8 m high chain link fence, complete with man and truck gates, which shall be locked when no Work is in progress. Maintain fences in good repair.

**7. Enclosure of Structure**

1. Provide temporary weathertight enclosures protection for exterior openings until permanently enclosed.
2. Erect enclosures to allow access for installation of materials and Working inside enclosure.
3. Design enclosures to withstand wind pressure.

**8. Power**

1. Arrange, pay for and maintain temporary electrical power supply in accordance with governing regulations and ordinances.
2. Install temporary facilities for power such as pole lines and underground cables to approval of local power supply authority.
3. Electrical power and lighting systems installed under this Contract may be used for construction requirements with prior approval of Architect, Provided that guarantees are not affected. Make good damage. Replace lamps which have been used over period of three (3) months.

**9. Water Supply**

1. Arrange, pay for and maintain temporary water supply in accordance with governing regulations and ordinances.

**10. Drainage**

1. Refer to Section 01575 for site drainage and pumping requirements.

**11. Scaffolding**

1. Provide scaffolding in accordance with all by-laws and safety regulations. Scaffolding to be designed by professional engineer when of a complicated nature or when required by safety regulations. Remove promptly when no longer required.

**12. Heat and Ventilating**

1. Pay for cost of temporary heat and ventilation used during construction, including costs of installation, fuel, operation, maintenance and removal of equipment. Use of direct-fired heaters discharging waste Products into Work areas will not be permitted unless prior approvals given by the Architect.
2. Furnish and install temporary heat and ventilation in enclosed areas, as required to:
  - .1 Facilitate progress of Work.
  - .2 Protect Work and Products against dampness and cold.

- .3 Prevent moisture condensation on surfaces.
  - .4 Provide ambient temperatures and humidity for storage, installation, curing of materials.
  - .5 Provide adequate ventilation to meet health regulations for safe working environment.
3. Maintain minimum temperature of 10 degrees C or higher where specified as soon as finishing Work is commenced and maintained until acceptance of structure by Engineer.
4. Ventilating:
- .1 Prevent hazardous accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.
  - .2 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.
  - .3 Dispose of exhaust materials in manner that will not result in harmful exposure to persons.
  - .4 Ventilate storage spaces containing hazardous or volatile materials.
  - .5 Ventilate temporary sanitary facilities.
  - .6 Continue operation of ventilation and exhaust system for time after cessation of Work process to assure removal of harmful elements.
5. Maintain strict supervision of operation of temporary heating and ventilating equipment to:
- .1 Conform with applicable codes and standards.
  - .2 Enforce safe practices.
  - .3 Prevent abuse of services.
  - .4 Prevent damage to finishes.
  - .5 Vent direct -fired combustion units to outside.
6. The Architect may permit the use of permanent system providing agreement can be reached on:
- .1 Conditions of use, special equipment, protection and maintenance.
  - .2 Guarantees will not be affected.
  - .3 Approval of the Owner.

End of Section

## **1. Construction Safety Measures**

1. Observe and enforce construction safety measures required by the National Building Code; the O.B.C.; The Provincial Government; Workers' Compensation Board; and, Municipal authorities.
2. In particular, the Occupational Health and Safety Act (Ont. Re. 213/91), the Occupational Health and Safety Act, the regulations of the Ontario Ministry of Labour and Ontario Hydro Safety requirements shall be strictly enforced.
3. Contractor shall ensure that copies of all applicable construction safety regulations, codes and standards are available on the job-site throughout the period of construction. All Workers are to be informed that these documents are available for reference at any time.
4. The Contractor shall ensure that all supervisory personnel on the job-site are fully aware of the contents of the Occupational Health and safety Act (Ontario Regulation 213/91 - Construction Projects) the Workers' Compensation Act" and, Bill 208 (Chapter 7, Standards of Ontario) "An Act to Amend the Occupational Health & Safety Act and the Workers' Compensation Act", and that they comply with all requirements and procedures prescribed therein. These documents include, but are not limited to, the following construction safety requirements:
  - .1 Contractor to register with the Director of the Occupational Health and Safety Division before or within 30 days of the commencement of the Project, (O.Reg. 213/91, sec 5).
  - .2 File a notice of Project with a Director before beginning Work on the Project, (O.Reg. 313/91, sec 6).
  - .3 Notification prior to trenching deeper than 1.2m, (O.Reg. 213/91, sec 7).
  - .4 Accident Notices and Reports, (O.Reg. 213/91, sec 8 through sec 12).
  - .5 General Safety Requirements, (O.Reg. 213/91, sec 13 through sec 19).
  - .6 General Construction Requirements, e.g. protective clothing, hygiene practices, housekeeping, temporary heat, fire safety, access to the job-site, machine and equipment guarding and coverings, scaffolds and platforms, electrical hazards, roofing, et al, (O.Reg. 213/91, sec 20 through sec 221).
  - .7 Establish a Joint Health and Safety Committee where more than 19 Workers are employed for more than 3 months, (Bill 208, S.8(2) to S.8(14).
  - .8 Establish a Worker Trades Committee for all Projects employing more than 49 Workers for more than 3 months, (Bill 208, S-8a(1) to S.8b(4).
  - .9 Ensure that all activities arising out of (.07) and (.08) above are recorded and that minutes are available to an inspector of the Ontario Ministry of Labour.
5. The Contractor shall be considered as the "Constructor" in consideration of the rights and responsibilities for all construction safety requirements, procedures, facilities and inspection of all Work performed by the Contractor, Subcontractors/Sub-trades and other Contractors engaged on this Project.
6. In the event of a conflict between any of the provisions of the above authorities the most stringent provisions are to be applied.

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## **2. Material Safety Data Sheet**

1. Material safety Data Sheets (MSDS) must be available at the job-site for any Product listed on the Hazardous Ingredients List prior to being used, installed or applied inside of the building.
2. A Material Safety Data Sheet is to be submitted to the Architect for any Product which is known to create, or suspected of creating, a health hazard or discomfort during construction or upon commissioning of the Project including, but not limited to, the following:
  - .1 adhesives
  - .2 solvents
  - .3 sealants, (such as caulking, vapour seals)
  - .4 sprayed-on fireproofing
  - .5 resilient flooring
  - .6 carpet, paint, varnish or other coatings
  - .7 exposed membrane waterproofing
  - .8 special coatings, (such as terrazzo sealants, chafing coatings)
  - .9 solder, brazing and welding and other filler metal
  - .10 other Products whose particles or vapours may become air borne after installation.
  - .11 any other Product as directed by the Consultant.
3. Comply with WHMIS regulation, Workplace Hazardous Material Information System.

## **3. Fire Safety Requirements**

1. Comply with requirements for Building Construction, the Ontario Building Code, the Ontario Fire Code, the requirements of Local Fire Authorities and of the requirements of the Office of the Fire Marshal.

## **4. Overloading**

1. Ensure no part of Work is subjected to a load which will endanger its safety or will cause permanent deformation.

## **5. FalseWork**

1. Design and construct false work in accordance with CSA S269.1-1975.

## **6. Scaffolding**

1. Design and construct scaffolding in accordance with CSA S269.2-M1980.
2. Scaffolding to be designed by a Professional Engineer when required under the Occupational Health and Safety Act.

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**7. Materials Specifically Excluded**

1. Asbestos and/or asbestos-containing Products are not permitted. Submit Material Safety Data Sheets for any Product suspected of containing asbestos if so requested by Consultant. Examples of some materials requiring close scrutiny and/or confirmation include:
  - .1 Transite drainage pipe - whether buried or above grade - not permitted.
  - .2 Composite floor tile containing asbestos - not permitted.
  - .3 Lay-in ceiling tiles containing asbestos - not permitted.
  - .4 Insulation and/or jacketing for pipes, ducts, motors, pumps - not permitted if any asbestos is present.
2. Solder for all piping is to be lead-free.
  - .1 "Lead Free" shall mean solder which contains less than 0.030% of lead when dissolved in fluoroboric and nitric acids and tested by inductively coupled argon plasma atomic emission spectroscopy. "Steelbond 281", "Silverbrite" and "Aim Aquasol" are acceptable solder Products.
  - .2 The Mechanical Contractor shall Provide an affidavit signed by the Principal of the company, on company letterhead, that all of the solder used on the Project was either one of the two acceptable Products or that the solder used (identified by brand name) meets or exceeds the testing criteria.
  - .3 The Owner shall undertake random testing of the soldered joints. Should testing prove that the solder used was not as specified, the Owner shall take action against the Contractor to the full extent of the law.
3. All paint and finish coatings are to be lead and mercury-free. Submit Material Safety Data Sheets confirming that these Products are free of all lead and/or mercury compounds.

End of Section

## **PART 1 - GENERAL**

### **1.1 Related Work**

1. These Specifications apply to all divisions of the Project Specification. It is the responsibility of the Contractor to apply these provisions wherever practical within Specification limits to all Products and services used on this Project.
2. It is recognized that currently specified materials and methods may conflict with the basic intention of this section. Where reasonable alternate materials and methods exist that are not specified here, and that do not compromise quality or create additional cost for the Owner, notify the Architect of such alternate materials or methods. Do not proceed to use alternate materials or methods to those specified without the express approval of the Architect.
3. Elsewhere, apply the provisions of this section to all Work. Exceptions can only be made when signed off by the Architect. Suitability of all Products used is the responsibility of the Contractor.

### **1.2 Compliance Specifications**

1. The Contractor must comply with all applicable health, safety and environmental regulations.

### **1.3 Beyond Compliance Specifications**

1. These Specifications apply in addition to all applicable health, safety and environmental compliance regulations. They are incorporated here to reflect the Owner's intention to develop a Specification which maximizes environmentally "friendly" materials and methods wherever possible within current technical and budget limitations.
2. Beyond compliance Specifications recognize that performance well beyond the minimum regulatory standard is often desirable, possible and affordable, often with no cost or low cost options. It also recognizes that application methods or protocols may be as important as the material specified. Therefore these Specifications cover both material and methods.
3. The primary goal of beyond compliance Specification is to reduce the use of Products or methods which have negative health and environmental impacts both during and after construction. These considerations may include full life cycle impacts, associated with raw materials, manufacturing, transport, deconstruction and their eventual fate.
4. These Specifications will specifically address primary categories of readily identifiable Products, ingredients and methods.
5. These provisions apply to both indoor and outdoor applications equally.



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#### **1.4 Exceptions**

1. These Specifications recognize that not all substitutes are equal and therefore exceptions can be made based on substantive evidence of necessary and superior performance. Special considerations may be given to restricted substances when secondary provisions are made such as sealed in place (contained) applications. All such exceptions must be approved in writing by the Architect.

### **PART 2 - MATERIALS**

#### **2.1 Products or Substances to be Avoided or Limited in Use**

1. No Product containing the following substances shall be used on this Project when an equivalent Product without or with a lower concentration of this substance is suitable and available. All Products containing substances which are known to cause health effects including but not limited to cancer, mutagenic, neurological, or behavioral effects should be avoided if suitable substitutes not containing or containing lower concentrations are available. This provision shall be limited to information contained on Material Safety Data Sheets, therefore MSDS sheets must be reviewed for all Products for which such sheets are required. Applications for exceptions must be accompanied by related MSDS and Product application and performance sheets, clearly showing a need for the exception.

#### **2.2 Volatile Organic Compounds**

1. No Product containing volatile organic compounds (in over simplified terms volatile petro chemical or similar plant derived solvents) shall be used on this Project when a suitable non VOC or failing that a low VOC substitute is available. Manufacturers may refer to the U.S. EPA definition of VOC's for guidance or alternatively use the low molecular weight organic compound descriptor.

Example: Paints, Coatings, Primer, Adhesives, Chalks, Firestops

2. Waterborne equivalents are available for most of the solvent borne Products used in construction and in most cases would be the preferred alternative. Waterborne Products may in some instances have high VOC contents, therefore the fact that a Product is waterborne does not automatically make it acceptable.

#### **2.3 Chlorinated Substances**

1. Poly Vinyl Chloride (vinyl) and other chlorinated Products should be avoided if suitable substitutes are available.

#### **2.4 Plasticizers**

1. Plasticisers which offgass (low molecular weight) should be avoided.

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### **2.5 Man Made Mineral Fibres**

1. Products containing mineral fibres which can be emitted or abraded should be avoided.

Examples: duct liner, mineral fibre ceiling tiles

### **2.6 Radiation**

1. Products or methods which result in the lowest emission of Electro Magnetic Fields are preferred.

### **2.7 Biocides**

1. Products containing biocides (pesticides, miticides, mildewicides, fungicides, rodenticides) are not to be used if suitable alternatives are available. Highly stable, low human toxicity biocides such as Portcept may be acceptable substitutes. Biocide formulas which break down, emit powders or offgass should be avoided.

### **2.8 Heavy Metals**

1. Heavy metals such as lead, cadmium, mercury should be avoided.

### **2.9 Aluminum**

1. Raw aluminum should be avoided, anodized or factory painted aluminum is acceptable. This is particularly applicable to surfaces which people can touch.

### **2.10 Ozone Depleting Substances**

1. Products which contain or which use Ozone Depleting Substances such as Bromide, Chlorofluorocarbons (CFC) or Hydrofluorocarbons (HFC), should be avoided if suitable substitutes are available.

### **2.11 Greenhouse Gasses**

1. Products which contain, use or generate greenhouse gasses such as CO<sub>2</sub> should be avoided if suitable substitutes are available.

### **2.12 Bituminous (tar) Products**

1. Products containing tar compounds should not be used if suitable substitutes are available.

### **2.13 Chemical Compounds**

1. Products containing the following chemical compounds should not be used if suitable substitutes are available: Neoprene, Latex, Butyl, ABS, Formaldehyde.

#### **2.14 Adhesives**

1. Adhesives containing solvents or other non-preferred ingredients should be avoided if suitable substitutes are available, including systems designs which do not need adhesives or can use alternatives such as mechanical fastening.

#### **2.15 Composite Products**

1. Some composite Products contain adhesives such as formaldehyde which are not preferred, and some composites such as Fibre Reinforced Plastics are not practical for recycling. These Products should be avoided if suitable substitutes are available.

#### **2.16 Cleaners and Solvents**

1. Products, equipment, and methods which require the use of cleaners and solvents are not preferred if suitable substitutes are available. Examples of preferred Products would include No Wax floors, or primerless caulks and adhesives, or Products not requiring caulks and adhesives.

End of Section

## **PART 1 - GENERAL**

### **1.1 Fires**

1. Fires and burning of rubbish on site is not permitted.

### **1.2 Disposal of Wastes**

1. Do not bury rubbish and waste materials on site.
2. Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

### **1.3 Drainage**

1. Provide temporary drainage and pumping, as necessary to keep excavations and site free from water.
2. Do not pump water containing suspended materials into waterways, sewer or drainage systems.
3. Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

### **1.4 Site Clearing and Plant Protection**

1. Protect trees and plants on site and adjacent properties, which are to be retained.
2. Wrap in burlap trees and shrubs adjacent to construction Work, storage areas and trucking lanes, and encase with protective wood frameWork from grade level to height of 2 m.
3. Protect roots of trees to drip line during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.

### **1.5 Pollution Control**

1. Install and maintain temporary erosion and pollution control features as requested by local Municipal and Regional Authorities.
2. Install, maintain, restore, replace sediment control fence as required by Municipal and Regional authorities. The fence shall be in accordance with Municipal standards.
3. Install, maintain, restore, replace roadside catchbasin sediment protection at all street catchbasin in accordance with Municipal standards.
4. Install, maintain, restore, replace catchbasin sediment barrier immediately after installation of catch basins on the property in accordance with Municipal Standards.

5. Install and maintain a mud mat at the construction access made consisting of 30m x 5m x 0.45m clear stone.
6. Control emissions from equipment and plant to local authorities' emission requirements.
7. Cover or wet down dry materials and rubbish to prevent blowing dust and debris.  
Provide dust control for temporary roads.

End of Section

**1. General**

1. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
2. Store volatile wastes in covered metal containers, and remove from premises daily.
3. Prevent accumulation of wastes which create hazardous conditions.
4. Provide adequate ventilation during use of volatile or noxious substances.

**2. Materials**

1. Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
2. Provide on-site dump containers for collection of waste materials, and rubbish.

**3. Cleaning During Construction**

1. Maintain Project grounds, and public properties free from accumulations of waste materials and rubbish. Clean streets as often as required by the local authorities.
2. Remove waste materials, and rubbish from site.
3. Vacuum clean interior building areas when ready to receive finish painting, and continue vacuum cleaning on an as-needed basis until building is ready for Substantial Completion or occupancy.
4. Schedule cleaning operations so that resulting dust and other contaminants will not fall on wet, newly painted surfaces.

**4. Final Cleaning**

1. At completion of Work, remove waste materials, rubbish, tools, equipment, machinery, and surplus materials, and clean all surfaces exposed to view; leave Project clean and ready for occupancy.
2. Employ qualified Workers, or professional cleaners, for final cleaning.
3. In preparation for Substantial Performance or fitness for occupancy status, whichever occurs first, conduct final inspection of interior and exterior surfaces exposed to view, and of concealed spaces.
4. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from all sight-exposed interior and exterior finished surfaces; polish resilient and ceramic surfaces so designated to shine finish. Vacuum carpet.
5. Clean and polish glass and mirrors.

6. Repair, patch and touch-up marred surfaces to specified finish, to match adjacent surfaces.
7. Broom-clean paved surfaces; rake clean other surfaces of grounds.
8. Clean exposed ductwork, and structure.
9. Replace filters.
10. Clean bulbs and lamps and replace those burned out.
11. Clean diffusers and grilles.
12. Clean sinks, faucets, and water closets and controls.
13. Remove snow and ice from access to building.
14. Maintain cleaning until Project, or portion thereof, is occupied by Owner.

End of Section

### **1. Requirements Included**

1. Record Documents, samples, and Specifications.
2. Equipment and systems.
3. Product data, materials and finishes, and related information.

### **2. Quality Assurance**

1. Prepare instructions and data by qualified personnel experienced in maintenance and operation of described Products.

### **3. Format**

1. Organize data in the form of an instructional manual.
2. Binders: commercial quality, 8½" x 11" maximum 2½" ring size.
3. When multiple binders are used, correlate data into related consistent groupings.
4. Cover: Identify each binder with type or printed title "Project Record Documents", list title of Project, identify subject matter of contents.
5. Arrange content under Section numbers and sequence of Table of Contents.
6. Provide tabbed fly leaf for each separate Product and system, with typed description of Product and major component parts of equipment.
7. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger Drawings to size of text pages.

### **4. Contents, Each Volume**

1. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Consultant and Contractor with name of responsible parties; schedule of Products and systems, indexed to content of the volume.
2. For each Product or System: list names, addresses and telephone numbers of Subcontractors and Suppliers, including local source of supplies and replacement parts.
3. Product Data: mark sheet to clearly identify specific Products and component parts, and data applicable to installation; delete inapplicable information.
4. Drawings: supplement Product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
5. Typed Text: as required to supplement Product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.



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## **5. Submission**

1. Submit for review a digital pdf file of completed closeout documents in final form 15 days prior to substantial performance. For equipment put into use with Owner's permission during construction, submit Operating and Maintenance Manuals within 10 days after start-up. For items of Work delayed materially beyond date of Substantial Performance, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.
2. Consultant comments will be returned and the contractor is to revise content of documents as required prior to final submittal.
3. Revise content of documents as required prior to final submittal.
4. Submit two copies of revised volumes of data in final form within ten days after final inspection.
5. For Contract Drawings (architectural, civil, landscaping, structural, mechanical, electrical), transfer neatly as-built notations onto second set and submit both sets.
6. Prepare digital pdf file for submission on USB of completed closeout documents.

## **6. Record Documents and Samples**

1. In addition to requirements in General Conditions, maintain at the site for Owner one record copy of:
  - .1 Contract Drawings.
  - .2 Specifications.
  - .3 Addenda
  - .4 Change Orders and other modifications to the Contract.
  - .5 Reviewed Shop Drawings, Product data and samples.
  - .6 Field test records.
  - .7 Inspection certificates.
  - .8 Manufacturer's certificates.
2. Store Record Documents and Samples in Field Office apart from documents used for construction. Provide files, racks, and secure storage.
3. Label and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document "Project Record" in neat, large, printed letters.
4. Maintain Record Documents in a clean, dry, and legible condition. Do not use Record Documents for construction purposes.
5. Keep Record Documents and samples available for inspection by Consultant.

## **7. Recording As-Built Conditions**

1. Consultant will provide electronic copies of project drawings in PDF format. Make one (1) hardcopy of the project drawings for the purpose of recording as-built conditions. Mark and record changes on an on-going basis as construction proceeds. **Near the end of the construction period transfer all marks to the supplied electronic documents, and submit for consultant review as project record as-built documents.** As an alternative, scan the record set in PDF format and submit for consultant review.
2. Refer to Drawings / Specification for additional mechanical and electrical requirements.
3. Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
4. Contract Drawings and Shop Drawings: legibly mark each item to record actual construction, including:
  - .1 Measure depths of elements of foundation in relation to finish first floor datum.
  - .2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  - .3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
  - .4 Field changes of dimension and detail.
  - .5 Changes made by Change Orders.
  - .6 Details not on original Contract Drawings.
  - .7 References to related Shop Drawings and modifications.
5. Specifications: legibly mark each item to record actual construction, including:
  - .1 Manufacturer, trade name, and catalog number of each Project actually installed, particularly optional items and substitute items.
  - .2 Changes made by Addenda and Change Orders.
6. Other Documents: maintain manufacturer's certifications, inspection certifications, field test records, required by individual Specifications sections.

## **8. Digital As-Built Drawings**

1. Retain the services of a CAD drafting company acceptable to the consultant to prepare digital CAD As-Built documents for all Architectural and Engineering drawings.
2. After the consultant has found the Redlined As-Built drawings to be acceptable, transfer to digital file all information recorded on As-Built drawings. Layering of information as per consultant's instructions.

## **9. Equipment and Systems**

1. Each Item of Equipment and Each System: include description of unit or system, and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.

2. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications.
3. Include installed colour coded wiring diagrams.
4. Operating Procedures: include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instruction. Include summer, winter, and any special operating instructions.
5. Maintain Requirements: include routine procedures and guide for trouble-shooting; disassembly, repair and reassemble instructions; and alignment, adjusting, balancing, and checking instructions.
6. Provide servicing and lubrication schedule, and list of lubricants required.
7. Include manufacturer's printed operation and maintenance instructions.
8. Include sequence of operation by controls manufacturer.
9. Provide original manufacturer's parts lists, illustrations, assembly Drawings, and diagrams required for maintenance.
10. Provide installed control diagrams by controls manufacturer.
11. Provide Contractor's co-ordination Drawings, with installed colour coded piping diagrams.
12. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
13. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
14. Include test balancing reports as specified in Mechanical Specifications.
15. Additional Requirements: As specified in individual Specification sections.

## **10. Materials and Finishes**

1. Building Products, Applied Materials, and Finishes: include Product data, with catalog number, size, composition, and colour and texture designations. Provide information for re-ordering custom manufactured Products.
2. Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
3. Moisture-protection and Weather-exposed Products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommend schedule for cleaning and maintenance.

4. Additional Requirements: as specified in individual Specifications sections.

#### **11. Guarantees, Warranties and Bonds**

1. Separate each warranty or bond with index tab sheets keyed to the List of Contents listing.
2. List Subcontractor, Supplier, and manufacturer, with name, address, and telephone number of responsible principal. Use standard preprinted trade or manufacturer's Guarantee/Warranty forms where available.
3. Obtain warranties and bonds, executed in duplicate by Subcontractors, Suppliers, and manufacturers, within ten days after completion of the applicable item of Work.
4. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial Performance is determined.
5. Verify that documents are in proper form, contain full information, and are notarized.
6. Execute submittals when required.
7. Retain warranties and bonds until time specified for submittal.

End of Section

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**1. Maintenance Manual**

1. On completion of Project, submit to Architect two (2) copies of Operations Data and Maintenance Manual in English, made up as follows:
  - .1 Bind data in vinyl hard covered, 3 ring loose leaf binder for 8½" x 11" size paper.
  - .2 Enclose title sheet, labeled "Operation Data and Maintenance Manual", Project name, date and list of contents.
  - .3 Organize contents into applicable sections of Work to parallel Project Specification break-down. Mark each section by labeled tabs protected with celluloid covers fastened to hard paper dividing sheets.
  - .4 A digital copy of all documents in the operations and manuals must be provided on a USB, format to be PDF.
2. Include following information, plus data specified.
  - .1 Maintenance instructions for finished surface and materials.
  - .2 Copy of hardware and paint schedules.
  - .3 Description, operation and maintenance instructions for equipment and systems, including complete list of equipment and parts list. Indicate nameplate information such as make, size, capacity, serial number.
  - .4 Names, addresses and phone numbers of Subcontractors and Suppliers.
  - .5 Guarantees, Warranties and bonds showing:
    - .1 Name and address of Project.
    - .2 Guarantee commencement date (date of Final Certificate of Completion).
    - .3 Duration of guarantee.
    - .4 Clear indication of what is being guaranteed and what remedial action will be taken under guarantee.
    - .5 Signature and seal of Contractor.
    - .6 Additional material used in Project listed under various Sections showing name of manufacturer and source of supply.
3. Neatly type lists and notes. Use clear Drawings, diagrams or manufacturers' literature.
4. Include in the Manuals a complete set of final Shop Drawings indicating corrections and changes made during fabrication and installation.

End of Section

## **PART 1 - GENERAL**

### **1.1 Related Work Specified Elsewhere**

1. Not applicable

### **1.2 Existing Conditions**

1. Take over structures to be demolished based on their conditions (on date that tender is accepted).

### **1.3 Demolition Drawings**

1. Where required by authorities having jurisdiction, submit for approval Drawings, diagrams or details clearly showing sequence of disassembly Work or supporting structures.

### **1.4 Protection**

1. Prevent movement, settlement or damage of adjacent grades. Provide bracing, shoring as required.
2. Prevent debris from blocking surface drainage inlets which must remain in operation.
3. Protect existing items designated to remain and materials designated for salvage. In the event of damage to such items, immediately replace or make repairs to approval of Owner and at no cost to Owner.

## **PART 2 - PRODUCTS**

1. Not applicable.

## **PART 3 - EXECUTION**

### **3.1 Work**

1. Dispose of demolished materials except where noted otherwise.

### **3.2 Safety Code**

1. Unless otherwise specified, carry out demolition Work in accordance with Canadian Construction Safety Code 1980.
2. Should material resembling spray or trowel-applied asbestos be encountered, notify Architect. Any asbestos encountered will be removed by the Owner's Contractor.

### **3.3 Preparation**

1. Disconnect electrical and telephone service lines entering areas to be demolished as per rules and regulations of authorities having jurisdiction. Post warning signs on electrical

lines and equipment which must remain energized to serve other areas during period of demolition.

2. Inspect site and rectify with Architect items designated for removal and items to remain.
3. Disconnect and cap mechanical services in accordance with requirements of local authority having jurisdiction.
4. Natural gas supply lines to be removed by Gas Company or by qualified tradesman in accordance with gas company instructions.

### **3.4 Demolition & Field Work**

1. Demolish areas as indicated on the Drawings.
2. Remove existing equipment, services and obstacles, where required, for refinishing or making good of existing surfaces, and replace same as Work progresses.
3. At end of each day's Work, leave Work in safe condition so that no part is in danger of toppling or falling. Protect interiors of parts not to be demolished from exterior elements at all times).
4. Demolish in a manner to minimize dusting. Keep dusty materials wetted.
5. Demolish masonry and concrete walls in small sections. Carefully remove and lower structural framing and other heavy or large objects.
6. Burning materials on site is not permitted.
7. Remove contaminated or dangerous materials from site and dispose of in safe manner.
8. Employ rodent and vermin exterminators to comply with health regulations.

### **3.5 Salvage**

1. Carefully dismantle items containing materials for salvage and stock pile salvaged materials at locations as directed by Architect.

### **3.6 Restoration**

1. Upon completion of Work, remove debris, trim services and leave Work site clean.
2. Reinstall areas and existing Works outside areas of demolition to match condition of adjacent, undisturbed areas.

### **3.7 Scheduling**

1. Demolition of areas adjacent to occupied spaces shall not occur during occupancy of these spaces. Contractor to schedule the demolition of these areas to occur after hours and weekends.

End of Section

## **PART 1 - GENERAL**

### **1.1 Related Work**

1. Not applicable

### **1.2 Reference Standards**

- |                            |   |
|----------------------------|---|
| 1. CSA-S304.1-04           | Design of Masonry Structures  |
| 2. CSA- A370-04 (R2009)    | Connectors to Masonry.  |
| 3. CAN/CSA-A371-04 (R2009) | Masonry Construction for Buildings.   |
| 4. CSA A179-04 (R2009)     | Mortar and Grout for Unit Masonry   |
| 5. CSA-A82-06              | Fired Masonry Brick From Clay or Shale  |
| 6. CSA A165 Series-04      | CSA Standards for Concrete Masonry Units.   |
| 7. CSA G30.18-09           | Carbon Steel Bars for Concrete Reinforcement  |
| 8. CAN/CSA-A3000-08        | Cementitious Materials Compendium   |
| 9. ASTM A951/A951M-06      | Standard Specification for Steel Wire for Masonry Joint Reinforcement                                 |
| 10. ASTM C216-07a          | Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)                 |
| 11. ASTM C568-08a          | Standard Specification for Limestone Dimension Stone  |
| 12. ASTM A1064/A1064       | Standard Specification for Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete |
| 13. ASTM C331-05           | Standard Specification for Lightweight Aggregates for Concrete Masonry Units                          |
| 14. ASTM A153/A153M-09     | Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware                          |

### **1.3 Source Quality Control**

1. Submit laboratory test reports certifying compliance of masonry units (and mortar ingredients) with specification requirements.
2. For clay units, in addition to requirements set out in referenced CSA and ASTM Standards include data indicating initial rate of absorption for units proposed for use.



3. All masonry: mortar and grout is to be tested in accordance with CSA-S304.

#### **1.4 Product Delivery, Storage and Handling**

1. Ensure that materials are delivered to job site in dry condition.
2. Except where wetting of bricks is specified, keep materials dry until use.
3. Store under waterproof cover on pallets or plank platforms held off ground by means of plank or timber skids.
4. Store cement under cover. Keep dry and unfrozen.
5. Pile sand on platforms. Exclude foreign matter.
6. Materials stacked on floors of building shall not exceed structural design loads.

#### **1.5 Cold Weather Requirements**

1. Comply with Clause 6.7.2 of CSA-A371.

#### **1.6 Hot Weather Requirements**

1. Protect freshly laid masonry from drying too rapidly, by means of waterproof, non-staining coverings.

#### **1.7 Protection**

1. Until completed and protected by flashings or other permanent construction, keep masonry dry using waterproof, non-staining coverings that extend over walls and down sides sufficient to protect walls from wind driven rain.
2. Protect masonry and other work from marking and other damage. Protect completed Work from mortar droppings. Use non-staining coverings.
3. Provide temporary bracing of masonry Work during and after erection until permanent lateral support is in place.
4. When air temperature has dropped below 0 degrees C (eg. Overnight), ensure that materials are above freezing and free from ice when installed.
5. Prevent Work from freezing for at least 48 hours by enclosure, artificial heat, or other acceptable method.
6. Provide adequate bracing to walls during erection to prevent damage due to winds or other lateral loads.
7. Make good any damage to masonry Work until completion of the Work.

8. Build masonry in enclosures heated by approved smokeless means, when temperature remains below 0 degrees C. All materials shall be above 4 degrees when installed.
9. Demolish and replace masonry Work damaged by freezing.
10. Supplement CSA-A371 as follows:
  - .1 Maintain temperature of mortar between 5 degrees Celsius and 50 degrees Celsius until used.

## **PART 2 - PRODUCTS**

### **2.1 Materials**

1. **Concrete Masonry Units:**

Must be "Bubble Cure" or autoclave process, modular metric size conforming to CSA Standard A165 series.  
Normal Weight - H/20/A/M, S/20/A/M.  
Lightweight - H/20/C/M, S/20/C/M.  
Use normal weight in below ground floor elevation. Use normal weight for all above grade walls. All exposed corners to have bullnose units. All block to be uniform in color, shade and texture.
2. **Portland Cement:**
  - .1 Type 10, in accordance with CSA A3001.
3. **Masonry Cement:**
  - .1 Type "S" and shall comply with CSA A3002.
4. **Hydrated Lime:**
  - .1 Type "S" in accordance with CSA A179.
5. **Aggregate:**
  - .1 Fine grain aggregate, grading in accordance with CSA A179. When 6mm joints are specified, grain shall pass through a 1.18 mm sieve.
6. **Water:**
  - .1 Ensure that water contains no salts which may cause efflorescence.
7. **Horizontal Masonry Reinforcing:**

Welded truss type or ladder type, as specified from wire to ASTM A951, hot dipped galvanized after fabrication to ASTM A153-05, Class B2, minimum coating 457 G/m2, wire size 4.76 mm diameter. Reinforcing as per the following:

- Single wythe walls Dur-O-Wal DW 100;
- Double wythe walls (up to 390 in width) Dur-O-Wal DW 120;
- Double wythe walls (greater than 390) Dur-O-Wal DW 220;
- Cavity Walls Blok-Lok- Blok truss II - BL37 to accommodate 95 mm cavity with 64 mm thick insulation. Use Blok-truss BL 30- or DW 100 if using Ferro slotted block ties.

Similar reinforcing by Dur-O-Wal, Blok-Lok, and Hohmann & Barnard Inc. is acceptable.

8. **Reinforcing Bars:** billet steel to grade 400, deformed bars to CSA-G30.18.

9. **Lateral Support Anchors:**

.1 **Vertical:**

- .1 At intersection and abutting load bearing walls, use prefabricated corners and tees to match horizontal reinforcing.
- .2 At intersection of non-load bearing walls with load bearing or non-load bearing walls, use corrugated galvanized ties.
- .3 At wood parapet and similar conditions, use slotted Rap ties by Fero. Ensure ties extend a minimum of 50 mm into the brick or block outer wythe.
- .4 At connection with existing masonry, use joint stabilization anchors by DUR-O-WAL D/A 2200.
- .5 At control joints, use joint stabilization anchors by DUR-O-WAL D/A 2200.
- .6 At connection with steel structure use weld-on column assembly D/A 709 and D/A 701 by DUR-O-WAL. Supply welded anchor to steel trade for installation.

- .2 **Horizontal:** At underside of building structure use steel angles on both sides of partitions as detailed on drawings. Where not practical, use D/A 2200 joint stabilization anchors by DUR-O-WAL. Fasten to structure. Install at 800 mm O.C.

10. **Bolts and Anchors:** To CSA-A370.

11. **Natural Mortar:**

- .1 **Generally:** Use materials only as specified in CSA A179. Ensure that weather and aggregate used in mortar, other than in walls buried in earth, will not cause efflorescence.
- .2 **Mixes:** Mix mortars as specified in CSA A179 using the Proportion Specification.
- .3 **Mortar Types:**
  - .1 For masonry walls in contact with earth and bedding for bearing plates and lintels: Mortar Type "S".
  - .2 For load-bearing walls: Mortar Type "S".
  - .3 For brick: Mortar Type "N" (1:1:6) premixed "Betomix 1-1-6", portland cement, "S" type, hydrated lime as supplied by Daubois Inc., Jiffy Mortar Systems or approved equivalent. Mix on site with sand, water, and colour pigment.
  - .4 For all other masonry walls, use regular Type "N" mortar.
- .4 **Grout:** To CSA A179 Table 5.

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## **PART 3 - EXECUTION**

### **3.1 Workmanship**

1. Build masonry plumb, level, and true to line, with joints in proper alignment.
2. Layout coursing and bond to achieve correct coursing heights, and continuity of bond above and below openings, with minimum of cutting.
3. Set out and build masonry Work to the respective dimensions called for on the Drawings. Build and lay the block true to line, and level, align vertical joints. Keep angles, reveals, and as such, square and plumb.
4. Assume complete responsibility for dimensions of this Work.
5. Construct masonry fire rated assemblies in accordance with tested design specifications.
6. Make all joints uniform, in line, square and plumb, with mortar compressed to form joints as specified.
7. Course units to bring wall to required elevations using even, uniform, horizontal and vertical joints of maximum 10mm thickness. Horizontal joints brick soldier coursing to suit adjacent running bond.
8. Check and co-ordinate location of all anchors, connections and built-in items.
9. Bond units at intersection of walls by horizontal prefabricated "tee" or corner reinforcing units.
10. Lay each solid unit in full bed or mortar. Fill vertical joints. Slushing of joints not permitted.
11. Base course to be solid concrete masonry units laid in full mortar bed.
12. Lay each hollow unit in full bed or mortar for face shells. Butter vertical joints full. When laying closure units, butter vertical units already in place instead of units being placed.
13. Lay exposed masonry units using blocks having square, unbroken edges and corners.
14. Tolerances:
  - .1 Variation from mean plane: 6 mm when measured with 3000 mm straight edge.
  - .2 Variation from plumb: 6 mm on any vertical line up to 6000 mm high.
  - .3 Variation in wall opening sizes: 6 mm maximum.
  - .4 Variation of building lines from plan: in any bay or 6000 mm maximum – 12 mm or in 1200 mm or more, 20 mm.
15. Lay out masonry units carefully so as to run as often as possible in full and half unit dimensions. All exposed ends shall match the finish of the faces.

16. All units cut around pipes, ducts and openings, shall be accurately and neatly cut with a power carborundum wheel, and remaining voids shall be slushed full with mortar.
17. Make joints flush and smooth on both sides excepts where they are to be exposed to view. When exposed to view, tool the joints concave, unless otherwise noted.
18. Lay and set up all units carefully so that both faces of the walls are true and even. Do not use chipped or cracked units where exposed to view, even where the defect would not impair strength or durability.
19. Take particular care to keep cavities, weep holes, vents and exposed faces of all units free of mortar.

### **3.2 Tolerances**

1. Clause 6.2 of CAN3-A371 applies except as follows: Walls to receive thinset ceramic tile: plumb within 1:600.

### **3.3 Exposed Masonry**

1. Remove chipped, cracked, and otherwise damaged units in exposed masonry and replace with undamaged units.

### **3.4 Jointing**

1. Concave joints, allow joints to set just enough to remove excess water, then tool with round jointer to provide smooth, compressed, uniformly concave joints.
2. Raked joints, where split rib blocks are used, allow joints to set just enough to remove excess water, then rake joints uniformly to depth of rib and compress with square tool to provide smooth, compressed, raked joints of uniform depth.
3. Where joints are concealed in walls and where walls are to receive plaster, tile insulation, or other applied material, except paint or similar thin finish coating, strike flush.

### **3.5 Weepholes**

1. Install weepers at regular intervals at both top and bottom of walls as indicated on Drawings. Ensure weepers are clear and unblocked mortar.

### **3.6 Joining of Work**

1. Where necessary to temporarily stop horizontal runs of masonry, and in building corner, step-back masonry diagonally to lowest course previously laid. Do not "tooth" new masonry. Fill in adjacent course before heights of stepped masonry reach 1200 mm.

### **3.7 Cutting**

1. Cut out neatly for electrical switches, outlet boxes, and other recessed or built-in objects.

2. Make cuts straight, clean, and free from uneven edges. Use masonry saw where necessary.

### **3.8 Building-In**

1. Build in items required to be built into masonry by other trades.
2. Prevent displacement of built-in items during construction. Check for plumbness, alignment, and correctness of position, as Work progresses.
3. Brace door jambs to maintain plumbness. Fill door frame with concrete.

### **3.9 Wetting of Bricks**

1. Except during winter, wet clay brick having an initial rate of absorption exceeding  $1\text{g/min}/100\text{mm}^2$ ; wet to uniform degree of saturation, to 24 hours before laying, and do not lay until surface is dry.
2. Similarly, wet tops of walls built of bricks qualifying for wetting, when recommencing work on such walls.

### **3.10 Support of Loads**

1. Where concrete fill is used in lieu of solid units, use 20 MPa concrete to Structural Drawings for Cast in Place Concrete.
2. Install building paper below voids to be filled with concrete; keep paper 25 mm back from faces of units.

### **3.11 Provision for Movement**

1. Leave 5 mm space below shelf angles.
2. Leave 6 mm space and do not use wedges between tops of non-load bearing walls and partitions and structural elements.

### **3.12 Loose Steel Lintels**

1. Install loose steel lintels. Centre over opening width.

### **3.13 Control Joints**

1. Except as noted following, control joints required at maximum of 6000 mm o.c. in continuous walls having no openings, intersections or column locations. Refer to elevations for locations on exterior walls and advise Consultant of variances prior to executing the work. Control joints are not shown for clarity on the Drawings for interior walls. If in doubt, request assistance from the Consultant.

2. At doorway locations, unless indicated otherwise on elevation Drawings, use one side of doorway beyond lintel. Use building paper to prevent that end of lintel to bond.
3. Use standard block with concrete filled end core to form key. Line one side of core with building paper before filling core to prevent bonding. Complete vertical separation, full height and thickness of wall are required.
4. Stop masonry reinforcing at each side of the joints. Caulking specified in Section 07900 Sealants.
5. At expansion joints in brick and veneer, install Rapid Expansion joint DA 2015, to leave vertical joint free of mortar to allow for horizontal expansion.

### **3.14 Horizontal Reinforcing**

1. Horizontal reinforcing at 400 mm o.c. (every 2nd course), except solid walls greater than, or equal to 340 mm in width. At 340 mm, or greater, horizontal reinforcing at 200 mm o.c. (every course). Use prefabricated corners and tees at all intersecting load bearing walls.

### **3.15 Vertical Reinforcing**

1. Install vertical reinforcing to size and spacing as shown on Drawings. Fill voids with 20MPa concrete.

### **3.16 Brick Ties**

1. Install specified brick ties at maximum 800 mm horizontal and 400 mm vertical spacing.

### **3.17 Bonding**

1. Walls of two or more widths: bond using metal ties in accordance with subsection 9.4 of CSA-A371.
2. Procedure approval by Architect.
3. In cavity walls, keep all cavity spaces free of mortar and debris by placing a wood strip on the ties. Retain strip on a wire line and pull up level and clean off droppings prior to placing next course of ties. Install mortar control device at 300 mm o.c. horizontally, in a staggered pattern so as to overlap each other on each side. Install in every 2nd course above foundation and shelf angles.

### **3.18 Sound and Fire Separation**

1. All load bearing and non-load bearing partitions shall carry to the underside of structure above, except for allowing for deflection of structure.
2. All openings in partitions, even above ceilings shall be patched to maintain sound and fire separation.

3. In fire separations and sound separations, spaces between partition and structures to be firestopped or sound sealed under Section 07270.
4. Use U.L.C. labeled mortar for all patching in fire separations.

### **3.19 Dampproof Course Flashing**

1. Install dampproof course flashing at ground floor elevation in all walls on foundations.

### **3.20 Testing**

1. Masonry units to be tested in accordance with S304.1, Clause 15.1, for engineered masonry design, and in conformance with clause 15.1.2
2. Mortar testing to be in accordance with S304.1, clause 15.2
3. Grout testing to be in accordance with S304.1, clause 15.3

### **3.21 Blockwork - General**

1. Do not wet concrete block before laying.
2. Lay block with thicker end of face shell upward.
3. Lay interior block in running bond, concave tooled joints.
4. Use solid block or hollow block filled with concrete for top 2 courses under point bearing loads extending minimum 200 mm each side of bearing and where indicated.
5. Install special shaped units where indicated.
6. In block walls install continuous trussed wire reinforcement, as noted.
7. Where resilient base is indicated, tool the joints to within 100 mm of the floor. Cut joints flush behind the base.
8. Extend all walls/partitions to underside of steel/concrete deck unless shown otherwise on drawings and as required. Coordinate wall locations with structure above and prior to commencing work, advise Consultant of interference.
9. When masonry walls are not built at once, the ends of the walls are to be raked back at an angle, or terminated at a control joint. Toothing will not be permitted.

### **3.22 Mortar**

1. Measure loose damp ingredients accurately by volume. Place water in mixer, add half volume of sand, add cement, add remainder of sand, add water for plasticity. Mix for at least four minutes. Keep mixer clean.



2. Incorporate colour into mixes in accordance with manufacturer's instructions.
3. Use clean mixer for coloured mortar.
4. Prehydrate pointing mortar by mixing ingredients dry, then mix again adding just enough water to produce damp unworkable mix that will retain its form when pressed into a ball. Allow to stand for not less than 1 hour nor more than 2 hours then remix with sufficient to produce mortar of proper consistency for pointing.

### **3.23 Concrete Core Fill**

1. All concrete block walls shall have vertical grout core fill each side of openings and where shown and as detailed on the drawings.
2. Core fill in walls shall extend from bottom bearing surface to underside of bond beams or structure.
3. Grout core fill shall be placed with a trunk or chute in maximum lifts 2000 mm. Compaction shall be by interior mechanical vibrator. All fill shall be placed in accordance with CSA A23.1.
4. Fill minimum ½ block core each side of frame from foundation to underside of lintels of all door openings over 1 metre wide.
5. Provide inspection openings in base of walls to be grouted. Make good to match adjacent block work after inspection and approval by Engineer.

### **3.24 Reinforced Block Lintels**

1. Install reinforced concrete block lintels at all openings where steel lintels are not indicated in accordance with structural details.
2. Install shoring and bracing as required to openings prior to placing lintel units and concrete fill.

End of Section

## **PART 1 - GENERAL**

### **1.1 Related Work**

1. Not applicable

### **1.2 Source Quality Control**

1. Identify lumber by grade stamp of an agency certified by Canadian Lumber Standards Administration Board.

## **PART 2 - PRODUCTS**

### **2.1 Materials**

1. **Wood Materials:** Material, straight, sawn square, true, dressed four (4) sides properly sized, shaped to correct dimensions from nominal sizes indicated or specified.
2. **Lumber: Use only grade marked lumber. Where left exposed, use best brand of lumber available.** Lumber and moisture content to conform to official grading rules of NLGA, for particular lumber and grade, and structurally conform to latest requirements of Ontario Building Code. Conform to Grading Standards, CSA Standard Softwood Lumber 2005. Moist content not greater than 19% at time of installation.
3. **Blocking, Cants, Bucks, Grounds and Nailing Strips:** Douglas fir Graded 122-C, construction or No. 2 Pine, pressure treated in accordance with CSA 080 Series - 08.
4. **Plywood:** Douglas fir plywood to CSA 0121-08, good one side with waterproof adhesive.
5. **Rough Hardware:** Nails, screws, bolts, lag screws, anchors, special fastening devices and supports required for erection of all carpentry components. Use galvanized components where exposed to exterior atmosphere.

## **PART 3 - EXECUTION**

### **3.1 General**

1. Do all wood framing in accordance with the Ontario Building Code, CSA 086-01 and Engineering Design in Wood.
2. Machine dressed Work shall be slow fed using sharp cutters and finished members shall be free from drag, feathers, slivers or roughness of any kind.
3. Frame materials with tight joints rigidly held in place.
4. Design construction methods for expansion and contraction of the materials.
5. Erect Work plumb, level, square and to required lines.

6. Be responsible for methods of construction for ensuring that materials are rigidly and securely attached and will not be loosened by the Work of other trades.

### **3.2 Furring and Blocking**

1. Supply and install furring and blocking, required.
2. Align and plumb faces of furring and blocking to tolerance of 1:600.

### **3.3 Rough Bucks, Nailers**

1. Install wood bucks and nailers, as indicated, including wood bucks and linings around frames for doors and windows.
2. Except where indicated, otherwise, use material at least 1½" thick secured with 3/8" bolts located within 12" from ends of members and uniformly spaced at 48" between.
3. Countersink bolts where necessary to Provide clearance for other Work.

### **3.4 Pressure Treated Wood**

1. Use wood pressure treated in accordance with CSA 080 for all wood members in contact with exterior walls and roofs.
2. Re-treat surfaces exposed by cutting, trimming or boring with liberal brush application of preservative before installation.

### **3.5 Installation of Hollow Metal Frames**

1. Set frames plumb and square in their exact location and at correct elevation. Firmly block and brace to prevent shifting. Shim up where required to ensure proper alignment dimensions from finished floor to head of frame. Install temporary wood spreaders at mid-height.
2. Where pressed steel frames are installed in concrete walls, secure frames to concrete using lead expansion shields and anchor bolts through pipe sleeves. Perform drilling of concrete as required. Fill recessed bolt heads flush to frame face with approved metal filler and sand smooth.
3. Install fire rated doorframes in accordance with requirements of National Fire Code Volume 4, produced by The National Fire Protection Association (NFPA 80).

### **3.6 Wood blocking for steel stud partitions**

1. Supply and install ¾" plywood fastened to 2" x 4" wood studs (fastened to steel studs) to Provide solid backing for fastening of toilet partitions, grab bars and millwork.

**3.7 General**

1. Supply and install all other carpentry shown on Drawings or as required for completion of Work. Co-operate with other trades in installing items supplied by other sections, cut openings in woodwork when so required and make good disturbed surfaces.

End of Section

## **PART 1 - GENERAL**

### **1.1 Related Work**

1. Rough Carpentry: Section 06100
2. Gypsum Board: Section 09250
3. Firestopping and Smoke Seals for Mechanical and Electrical Work: refer to Drawings

### **1.2 Reference**

1. ASTM E814 - Test Method of fire tests of through-penetration firestops, factory mutual.
2. CAN4-S101M - Standard Methods of Fire Endurance Tests of Building Construction and Materials.
3. CAN4-S115M - Standard Method of Fire Tests of Firestop Systems.
4. ULC - List of Equipment and Materials.

### **1.3 System Description**

1. Firestopping Materials: CAN4-S115M ASTM E814 to achieve a fire protection rating as noted on Drawings.
2. It is the intent of this Section that in conjunction with Divisions 15 and 16 a competent, single source be responsible for the firestopping and smoke seals of the entire Project.

### **1.4 Submittals**

1. Submit a Product data to requirements of Section 01340.
2. Submit manufacturer's product data for materials and prefabricated devices, providing descriptions are sufficient for identification at job site. Include manufacturer's printed instructions for installation, ULC design references.
3. Submit proposed type of fireproofing system for each location for approval by Architect. Fireproofing System must be appropriate to achieve expected appearance and finish.

### **1.5 Quality Assurance**

1. Manufacturer: Company specializing in manufacturing Products of this Section.
2. Applicator: Approved, licensed and supervised by the manufacturer of firestopping materials.
3. Product: Manufactured under ULC Follow-up Program. Each container or package shall bear ULC label.

### **1.6 Regulatory Requirements**

1. Conform to applicable code for fire protection ratings.
2. Provide certificate of compliance for authority having jurisdiction indicating approval.

### **1.7 Delivery, Storage & Handling**

1. Deliver and store materials in a dry, protected area, off ground in original, undamaged, sealed containers with manufacturer's labels and seals intact.

### **1.8 Project & Site Conditions**

1. Application temperature and ventilation as per manufacturer's instructions.

### **1.9 Sequencing & Scheduling**

1. Sequence Work to permit installation of firestopping and smoke seal materials to be installed after adjacent Work is complete and before closure of spaces.

## **PART 2 - PRODUCTS**

### **2.1 Materials**

1. Acceptable manufacturers: A/D Fire Protection Systems, Inc., 3M and Hilti.
2. Firestop Systems capable of maintaining an effective barrier against flame, smoke and gases in compliance with requirements of CAN4-S115 and not to exceed opening sizes for which they are intended.
3. Mineral Wool Backing Insulation: ULC labeled, preformed non-combustible material
4. Retainers: Clips to support mineral wool.
5. Firestopping Sealant: ULC labelled, single component silicone bases.
6. Firestopping Seal: ULC labelled, single component water-bases seal.
7. Firestopping Foam: ULC labelled, two components silicone foam.
8. Firestopping Mortar: ULC labelled, non-combustible fibre reinforced, foamed cement mortar.
9. Damming Material: In accordance with tested assembly being installed as acceptable to authorities having jurisdiction.

## **PART 3 - EXECUTION**

### **3.1 Examination**

1. Examine surfaces to receive Work of this Section and report any defects which may affect the Work of this Section.
2. Verify that openings are ready to receive the Work of this Section.
3. Confirm compatibility of surfaces to receive firestopping and smoke seal materials.
4. Beginning of installation means acceptance of existing surfaces and substrate.

### **3.2 Preparation**

1. Examine sizes and conditions of voids to be filled to establish correct thicknesses and installation of materials. Ensure that substrates and surfaces are clean, dry and frost free.
2. Prepare surfaces in contact with firestopping materials and smoke seals to manufacturer's instruction.

### **3.3 Application**

1. Install firestopping and smoke seal material and components in accordance with ULC listing and manufacturer's instructions.
2. Seal holes or voids made by through penetrations, poke-through termination devices, and unpenetrated openings or joints to ensure continuity and integrity of fire separation are maintained.
3. Apply in sufficient thickness to achieve rating to uniform density and texture.
4. Provide temporary forming if required.
5. Tool or trowel exposed surfaces to a neat finish where required.
6. Remove excess material promptly as work progresses and upon completion.
7. Protect installed material until cured or set.

### **3.4 Cleaning**

1. Clean adjacent surfaces of firestopping and smoke seal materials.

### **3.5 Field Quality Control**

1. Notify Consultant when ready for inspection and prior to concealing or enclosing firestopping materials and service penetration assemblies.

### **3.6 Scheduling**

1. Firestop and smoke seal at:
  - .1 Penetrations through fire-separations: masonry, concrete, and gypsum board partitions and walls.
  - .2 Edge of floor slabs at curtain wall and precast concrete panels.
  - .3 Top of fire-separations: masonry and gypsum board partitions.
  - .4 Intersection of fire-separations: masonry and gypsum board partitions.
  - .5 Control and sway joints in fire-resistance rated masonry and gypsum board partitions and walls.
  - .6 Penetrations through fire-separations: floor slabs, ceilings and roofs.
  - .7 Openings and sleeves installed for future use through fire separations.

End of Section



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## **PART 1 - GENERAL**

### **1.1 Related Work Specified Elsewhere**

1. Not applicable.

### **1.2 Environmental Conditions**

1. Sealant and substrata materials to be minimum 5 deg. C.
2. Should it become necessary to apply sealants below 5 deg. C, consult sealant manufacturer and follow their recommendations.

## **PART 2 - PRODUCTS**

### **2.1 Materials**

1. Primers: type recommended by sealant manufacturer.
2. Joint Fillers:
3. General: compatible with primers and sealants outsized 30 to 50%.
4. Polyethylene, urethane, neoprene or vinyl: extruded closed cell foam, Shore A hardness 20, tensile strength 140 to 200 kPa.
5. Neoprene or butyl rubber: round solid rod, Shore A hardness 70.
6. Polyvinyl chloride or neoprene: extruded tubing with 6 mm minimum thick walls.
7. Bond breaker: pressure sensitive plastic tape, which will not bond to sealants.
8. Sealant Type A: One component, chemical curing, conforming to CAN2-19.13-M82, Class C-2-25-B-N; multi-component, chemical curing, conforming to CAN2-19.24-M80, Type 2, Class B.
9. Sealant Type B: Multi-component, chemical curing mildew resistant conforming to CGSB 19-GP-22M.
10. Sealant type C: Multi-component, acrylic emulsion base, conforming to CGSB 19-GP-17M.
11. Acceptable Manufacturers: Tremco, DOW Corning or Sika.
12. Joint cleaner: xylol, methylethyl-ketone or non-corrosive type recommended by sealant manufacturer and compatible with joint forming materials.

## **PART 3 - EXECUTION**

### **3.1 New Work**

1. Caulk where specified and everywhere required.
2. Remove dust, paint, loose mortar and other foreign matter. Dry joint surfaces.
3. Remove rust, mill scale and coatings from ferrous metals by wire brush, grinding or sandblasting.
4. Remove oil, grease and other coatings from non-ferrous metals with joint cleaner.

5. Prepare concrete, masonry, glazed and vitreous surfaces to sealant manufacturer's instructions.
6. Examine joint sizes and correct to achieve depth ratio 1/2 of joint width with minimum width and depth of 1/4", maximum width 1".
7. Install joint filler to achieve correct joint depth.
8. Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.
9. Apply bond breaker tape where required to manufacturer's instructions.
10. Prime sides of joints to sealant manufacturer's instructions immediately prior to caulking.

### **3.2 Application**

1. Apply sealants, primers, joint fillers, bond breakers, to manufacturer's instructions. Apply sealant, using gun with proper size nozzle. Use sufficient pressure to fill voids and joints solid. Superficial pointing with skin bead is not acceptable.
2. Form surface of sealant with full bead, smooth, and free from ridges, wrinkles, sags, air pockets, and embedded impurities. Neatly tool surface to a slight concave joint.
3. Clean adjacent surfaces immediately and leave Work neat and clean. Remove excess sealant and droppings using recommended cleaners as Work progresses. Remove masking after tooling of joints.
4. Use sealants specified in the following locations:
  - Type A: Joints between windows or door frames and adjacent building components; control and expansion joints and all other locations where sealing is required, except in locations designated for Type B, C and D. Ensure that sealant chosen (from the several specified under "MATERIALS") for each location is recommended by manufacturer for use on surfaces encountered.
  - Type B: Joints between splash backs and walls.
  - Type C: Joints between interior metal doorframes and partitions.
  - Type D: Joints in horizontal surfaces between concrete slabs, pavers and precast concrete panels.

### **3.3 Work Included**

1. Work shall include but not limited to the following areas:
  - .1 Interior hollow metal frames; both sides;
  - .2 Exposed control and expansion joints in masonry walls, masonry corners, joints in front of steel lintels bearing on exterior brick jambs;

- .3 Joints between masonry and concrete surfaces.
  - .4 Joints between gypsum board and masonry, or other materials. At all other locations on Drawings, except as noted below.
- 2. Sealing of joints to the underside of exposed precast slab to be by precast installer.
  - 3. Sealing of all joints at top of walls meeting exposed flat or sloped precast ceilings to be included in this section.

End of Section

**1.1 General Notes**

1. Door Schedule heading "DC" refer to "Door Contacts" used in the security system.  
Refer to Electrical Drawings for locations, zoning and description of system.
2. Refer to Drawings for door and frame types.

**1.2 Door Schedule**

1. Refer to Drawings.

End of Section

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## **PART 1 - GENERAL**

### **1.1 Work Included**

1. A single manufacturer shall fabricate Products included within the scope of this Section.
2. Manufacturer shall be a member in good standing of the Canadian Steel Door Manufacturers Association (CSDMA).
3. Supply only of steel frame Products including frames, transom frames, sidelight and window assemblies with provision for glazed, paneled or louvered openings, fire labeled and non-labeled, as scheduled or detailed by the Architect.
4. Supply only of flush steel doors with provision for glazed, paneled or louvered openings, insulated and un-insulated, fire labeled, with or without temperature rise ratings and non-labeled, as scheduled or detailed by the Architect.
5. Supply only of steel panels, similar in construction to steel doors, with flush or abetted bottoms for steel frames, transom frames, sidelight and window assemblies, fire labeled and non-labeled, as scheduled or detailed by the Architect.
6. Doors and frames shall be prepared for, but not limited to, preparation for continuous hinges, heavy weight hinges, cylindrical locks, rim and concealed vertical rod/ mortise lock case exit devices, surface door closers and concealed overhead stops.

### **1.2 Related Work**

1. Building-in of frame Product into unit masonry, previously placed concrete, structural or steel or wood stud walls.
2. Supply and installation of wood, plastic or composite core doors.
3. Supply and installation of builders' hardware except as specified for acoustic assemblies.
4. Drilling and tapping for surface mounted or non-templated builders' hardware.
5. Caulking of joints between frame Product and other building components.
6. Supply and installation of gaskets or weather-strip.
7. Supply and installation of louvers or vents.
8. Supply and installation of glazing materials.
9. Site touch-up and painting.
10. Wiring for electronic or electric hardware.
11. Field measurements.
12. Fasteners for frame Product in previously placed concrete, masonry or structural steel.
13. Steel lintels, posts, columns or other load-bearing elements.

14. Field welding.

### **1.3 Requirements of regulatory agencies**

1. Install fire labeled steel door and frame Product in accordance with NFPA-80, current edition, unless specified otherwise.

### **1.4 References**

- |                      |  |
|----------------------|--|
| 1. ANSI A115.IG-1994 | Installation Guide for Doors and Hardware  |
| 2. ANSI A250.4-1994  | Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors and Hardware Reinforcings.                             |
| 3. ASTM A653-M97     | Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.    |
| 4. ASTM A924-M97     | Standard Specification for General Requirements for Sheet, Metallic-Coated by the Hot-Dip Process.                                   |
| 5. ASTM B117-95      | Method of Salt Spray (Fog) Testing.  |
| 6. ASTM C177-97      | Test Method for Steady-State heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus. |
| 7. ASTM C518-91      | Test method for Steady State Heat Flux Measurements and Thermal Transmission properties by means of the heat Flow Meter Apparatus.   |
| 8. ASTM C578-95      | Specification for Rigid, Cellular polystyrene Thermal Insulation   |
| 9. ASTM C665-95      | Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.                    |
| 10. ASTM D1735-92    | Practice for Testing Water Resistance of Coating Using Water Fog Apparatus   |
| 11. CAN4-S104-M80    | Fire Tests of Door Assemblies  |
| 12. CAN4-S105-M85    | Standard Specification for Fire Door Frames Meeting the performance required by CAN4-S104  |
| 13. CAN4-S106-M80    | Standard Method for Fire Tests of Window and Glass Block Assemblies  |
| 14. CGSB 41-Gp-19Ma  | Rigid Vinyl Extrusions for Windows and Doors   |
| 15. CGSB 82.5-M88    | Insulated Steel Doors  |

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|--|---|
| 16. CSA A101-M83                                       | Mineral Fiber Thermal insulation for Buildings              |
| 17. CSA W59-M89  | Welded Steel Construction (Metal Arc Welding)               |
| 18. ISO 9001:1994                                      | Quality Systems – Model for Quality Assurance               |
| 19. NFPA-80, 1999                                      | Fire Doors and Windows                                      |
| 20. CSDMA  | Dimensional Standards for Commercial Steel Doors and Frames |
| 21. Manufacturers Standard and Galvanized Sheet Gauges |   |
| 22. Fleming Fire Labeling Specifications               |   |
| 23. ULC List of Equipment and Materials, Volume 2      |   |

### **1.5 Testing and Performance**

1. Door constructions covered by this Specification shall be certified as meeting Level “A” (1,000,000 cycles) and Twist Test Acceptance Criteria (deflection not to exceed 6.4 mm /13.6kg force, total deflection at 136.1kg force not to exceed 63.5 mm and permanent deflection not to exceed 3.2 mm) when tested in strict conformance with ANSI-A250.4-1994. Test shall be conducted by an independent nationally recognized accredited laboratory.
2. Fire labeled Product shall be provided for those openings requiring fire protection and temperature rise ratings, as determined and scheduled by the Architect. Doors, frames, transom frames and sidelight assemblies shall be tested in strict accordance with CAN4-S106. Product shall be listed by Underwriters Laboratories of Canada under an active Factory Inspection Program and shall be constructed as detailed in Follow-Up Service procedures issued to the manufacturer.
3. Should any door or frame specified by the Architect to be fire rated, not qualify for labeling due to design, hardware, glazing or any other reason, the Architect shall be so advised before manufacturing commences.
4. Core materials for exterior doors shall attain a thermal resistance rating of RSI 1.06 (R6.0) when tested in accordance with ASTM C177 or ASTM C518.
5. Product shall be manufactured by a firm qualified in the design and Production of standard and custom commercial steel door and frame assemblies, the integration of builders’ or electronic hardware and glazing materials and their impact on the scope of Work.
6. Manufacturer shall be assessed and registered as meeting the requirements of Quality Systems under ISO 9001.
7. Product quality shall meet standards set by the Canadian Steel Door Manufacturers Association.

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### **1.6 Test Reports**

1. All alternates to this Specification shall be submitted to the Architect for acceptance ten (10) days prior to bid date, complete with test reports from independent, nationally recognized testing authorities, certifying that:
  - .1 Steel door and frame assemblies furnished under this section meet the acceptance criteria of ANSI-A250.4-1994, Level "A".
  - .2 Insulated door cores furnished in exterior doors under this Section meet the specified thermal resistance rating.
2. All reports shall include name of testing authority, date of test, location of test facility, descriptions of test specimens, procedures used in testing and indicate compliance with acceptance criteria of the test.

### **1.7 Submittals**

1. Submit Shop Drawings in accordance with the General Conditions of the Contract.
2. Indicate each type of door, frame, steel, core, material thickness, mortises, reinforcements, anchorages, locations of exposed fasteners, openings (glazed, paneled or louvered) and arrangement of standard builders' hardware.
3. Include a schedule identifying each unit, with door marks or numbers referencing the numbering in Architect's schedules or Drawings.
4. Provide confirmation in writing that all aspects to reinforcing, construction, and gauge of metal are met as written in this section.

### **1.8 Warranty**

1. All steel door and frame Product shall be warranted from defects in Workmanship for a period of two (2) years from date of shipment.
2. All steel door and frame Product shall be warranted against rust perforation for a period of five (5) years when the installed and finish painted with a commercial quality paint to the manufacturers recommendations.
3. Finish paint adhesion on all door and frame Product shall be warranted for a period of five (5) years when the Product has been properly cleaned and finish painted with commercial quality paint applied as recommended by the paint manufacturer. This warranty shall not exceed that provided by the paint manufacturer.



## **PART 2 - PRODUCTS**

### **2.1 Doors**

#### **1. Materials**

- .1 Doors shall be fabricated from tension leveled steel to ASTM A924-M97, galvanized to ASTM A653-M97, Commercial Steel (CS), Type B, coating designation ZF75, known commercially as paintable galvalume.
- .2 Door Cores:
  - Honeycomb:  
Structural small cell (25.4 mm maximum) kraft paper "honeycomb". Weight: 36.3 kg per ream (minimum), density: 16.5 kg/m<sup>3</sup> (minimum), sanded to the required thickness.
  - .1 Polystyrene:  
Rigid extruded, fire retardant, closed cell board, density 16kg/m<sup>2</sup>, thermal values: RSI 1.06 minimum, conforming to ASTM C578.
  - .2 Temperature Rise Rated (TRR):  
Solid slab core of non-combustible, inorganic composite to limit temperature rise on the "unexposed" side of door to 250°C at 30 or 60 minutes, as required by governing building code requirements and determined and scheduled by the Architect.
- .3 Adhesives:
  - .1 Honeycomb Cores and Steel Components:  
Heat resistant, spray grade, resin reinforced neoprene/rubber (polychloroprene) based, low viscosity, contact cement or ULC approved equivalent.
  - .2 Interlocking Edge Seams:  
Resin reinforced polychloroprene (RRPC), fire resistant, high viscosity, sealant/adhesive or UL approved equivalent.
  - .3 Polystyrene Cores:  
Heat resistant, epoxy based, low viscosity, contact cement.
- .4 Primer:  
Rust inhibitive touch-up only.
- .5 Exterior Top Caps:  
Rigid polyvinylchloride (PVC) extrusion.

#### **2. Construction**

- .1 General:
  - .1 This section is based on doors and frames as manufactured by Fleming or equivalent. Doors and frames by other manufacturers are acceptable subject to be similar to the one specified and meeting the terms of this section.
  - .2 Doors shall be swinging, 44.4 mm thick of the types and sizes indicated on the Architect's schedules or Drawings.
  - .3 Exterior doors shall be lock seam, flush.
  - .4 Face sheets for exterior doors shall be fabricated from (16) gauge steel.

- .5 Longitudinal edges of exterior doors shall be mechanically interlocked, fully welded, ground smooth with no visible seams. Do not fill seams.
  - .6 Face sheets of interior doors shall be fabricated from 18 gauge steel, except for heavy traffic doors (noted **HT** in Door Schedule) face sheet to be 16 gauge.
  - .7 Longitudinal edge of heavy traffic doors (noted **HT** in Door Schedule) shall be mechanically interlocked, fully welded, ground smooth with no visible seams. Do not fill seams.
  - .8 Interior doors shall be stiffened, insulated and sound deadened with honeycomb core laminated under pressure to each face sheet.
  - .9 Stiffened, insulated and sound deadened with Fleming's propriety core where Temperature Rise Rated (TRR) fire labeled doors are specified on the Architect's schedules.
  - .10 Longitudinal edges of interior doors shall be mechanically interlocked, adhesive assisted with edge seams visible.
  - .11 Door faces of all steel doors shall be fabricated without visible seams, free of scale, pitting, coil brakes, buckles and waves.
  - .12 Formed edges shall be true and straight with a minimum radius for the thickness of steel used.
  - .13 Lock and hinge edges shall be beveled 3 mm in 50 mm unless builders' hardware or door swing dictates otherwise.
  - .14 Top and bottom of doors shall be Provided with inverted, recessed, 16 gauge steel end channels, welded to each face sheet at 150 mm on center maximum.
  - .15 Exterior doors shall be Provided with factory installed flush PVC top caps. Fire labeled exterior doors shall be Provided with factory installed flush steel top caps.
  - .16 Unless ineligible due to design, size, hardware or glazing specified on the Architects' or hardware Suppliers' schedules or details, fire labeled doors shall be Provided for those openings requiring fire protection ratings and temperature rise ratings, as determined and scheduled by the Architect.
  - .17 Exterior doors shall be internally reinforced with 20 gauge continuous; interlocking steel stiffeners at 150mm O.C. max, with voids between stiffeners filled and insulated with 24kg/m3 density loose batt type fiberglass material to suit fully welded design.
- .2 Hardware Preparations:
- .1 Doors shall be factory blanked, reinforced, drilled and tapped for fully templated mortised hardware only, in accordance with the final approved schedule and templates Provided by the hardware Supplier.
  - .2 Doors shall be factory blanked and reinforced only for mortised hardware that is not fully templated.
  - .3 Doors shall be factory reinforced only for surface mounted hardware.
  - .4 Templated holes 12.7mm diameter and larger shall be factory prepared, except mounting and through bolt holes, which shall be by the Contractor responsible for installation on site, at the time of application. Templated holes less than 12.7mm diameter shall be factory prepared only when required for the function of the device (for knobs, levers, cylinders, thumb or turn pieces) or when these holes over-lap function holes.
  - .5 Drilling and tapping for surface mounted hardware or mortised hardware that is not fully templated shall be by the Contractor responsible for installation on site, at the time of application.

- .6 Hinge and pivot reinforcements shall be 10 gauge steel minimum high frequency type reinforcing.
  - .7 Hinge reinforcements for acoustic doors and doors in excess of 2450mm rabbet height shall be 10 gauge minimum with each cutout Provided with 114.3mm heavy weight (4.6mm) high frequency type.
  - .8 Lock, strike and flush bolt reinforcements shall be 12 gauge steel minimum.
  - .9 Reinforcements for concealed closers and holders shall be 12 gauge steel minimum.
  - .10 For surface mounted hardware, reinforcements shall be 16 gauge steel minimum.
  - .11 All pairs of fire labeled doors shall be Provided with 12 gauge steel surface mounted flat bar astragal, shipped loose for application on site, by the Contractor responsible for installation.
  - .12 Pairs of doors up to 2450mm x 2450mm, to 1½ hour fire rating maximum shall be Provided without astragals. Lock edge seam of such doors shall be tacked-welded and ground smooth. All other fire labeled pairs shall be Provided with 12 gauge steel surface mounted flat bar astragal, shipped loose for application on site, by the Contractor responsible for installation.
  - .13 Where electrically or electronically operated hardware is specified on the Architects' schedules or details of the final approved schedule and templates Provided by the hardware Supplier, hardware enclosures and/or junction boxes, where indicated on the templates, shall be Provided and interconnected with CSA Approved 12.7mm diameter conduit and connectors.
  - .14 Prepare doors to receive security door contacts – refer to electrical Drawings for locations. Door contacts to be installed at 100 mm from the latch side door edge.
  - .15 Doors and Frames shall be prepared for, but not limited to preparations for heavy weight Butt Hinges, Continuous Hinges, Cylindrical Locksets, Concealed Vertical Rod and Mortise Lock Case Exit Devices, Surface Door Closer and Concealed Overhead Stops.
- .3 Glazing:
- .1 Where 6mm thick glazing materials are specified on the Architects schedules or details, doors shall be Provided with 20 gauge steel glazing trim and snap-in glazing stops.
  - .2 Where other than 6mm glazing is specified on the Architect's schedules or details, doors shall receive 20 gauge steel trim and screw fixed glazing stops.  
Screws shall be #6 x 32mm oval head scrulox (self-drilling) type at 300mm on center maximum.
  - .3 Glazing trim and stops shall be accurately fitted, butted at corners, with removable glazing stops located on the 'push' side of the door.
- .4 Louver Preparations:
- .1 Where specified on the Architect's schedules or details, non-labeled doors shall be prepared on accordance with the louver manufacturer's details.
  - .2 Where specified on the Architect's schedules or details, fire labeled doors shall be prepared for UL listed sight-proof fusible link louvers in accordance with the louver manufacturer's details.
  - .3 Louvers shall be supplied and installed by others.

**.5 Finishing:**

- .1 Remove weld slag and splatter from exposed surfaces.
- .2 All tool marks, abrasions and surface blemishes shall be filled and sanded to present smooth uniform surfaces.
- .3 On exposed surfaces where zinc coating has been removed during fabrication, doors shall receive a factory applied touch-up primer.
- .4 Primer shall be fully cured prior to shipment.

**2.2 Panels**

1. Panels shall be fabricated from the same materials, construction and finished in the same manner as doors as specified in Section 2.1.

**2.3 Frame Product**

**1. Materials**

**.1 Steel:**

Frame Product shall be fabricated from tension leveled steel to ASTM A924-M97, galvanized to ASTM A653-M97, Commercial Steel (CS), Type B, coating designated ZF75, known commercially as paintable galvalume.

**.2 Primer:**

Rust inhibitive touch up only.

**.3 Miscellaneous:**

- .1 Door Silencers:  
Single stud rubber/neoprene type. GJ-64 (Glynn Johnson) or equivalent
- .2 Thermal Breaks:  
Rigid polyvinylchloride (PVC) extrusion
- .3 Fiberglass:  
Loose batt type, density: 24kg/m<sup>3</sup> (minimum), conforming to ASTM C665

**2. Construction**

**.1 General:**

- .1 All steel frame Products shall be as manufactured by Fleming, Gensteel, or Metal Door Ltd. of the types, sizes and profiles indicated on the Architects' schedules or details.
- .2 Interior and exterior sections of thermally broken frames shall be separated by a continuous PVC thermal break.
  - .1 Thermally broken sections shall not be assembled by means of screws, grommets or other fasteners and welds shall not cause thermal transfers between interior and exterior surfaces of the frame sections.
  - .2 Closed sections (mullions and center rails) of thermally broken frames shall be factory insulated with 24kg/m<sup>3</sup> loose batt type fiberglass material.
- .3 Insulation of open sections (jambs, heads and sills) on exterior frame Product shall be Provided and installed by the Contractor responsible for installation.
- .4 Interior and exterior frames shall be fabricated from 16 gauge steel.

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- .5 Interior and exterior frame Products shall be supplied profile welded (PW).
  - .6 Knocked-down and knocked-down drywall frames shall not be acceptable.
  - .7 Jambs, heads, mullions, sills and center rails shall be straight and uniform throughout their lengths.
  - .8 Frame Product shall be square, free of defects, wraps or buckles.
  - .9 Corner joints shall be profile welded (PW) (continuously welded on the inside of the profiles' faces, rabbets, returns and soffit intersections with exposed faces filled and ground to a smooth, uniform, seamless surface)"
  - .10 Joints at mullions, transom bars, sills or center rails shall be coped accurately, butted and tightly fitted, with faces securely welded, matching corner joint faces.
  - .11 All steel mullions will be fabricated from the same materials as specified for the steel frames. Steel mullions will be fabricated as a fully assembled three piece unit consisting of a front, back and full height one piece attachment clip. The attachment clip will completely fill the stop area of the mullion on both sides and span the void between each side forming a grid channel like structure. Mullions used as hinge mullions or strike mullions between doors will be filled with grout by the General Contractor either prior to or following installation of the frame. The head of the frame shall have an opening sufficient for the grout to be poured in to the mullion.
  - .12 Mullions shall be fabricated with continuous 20 gauge galvalume steel internal reinforcing clips.
  - .13 Frame Product shall be fabricated with integral door stops having a minimum height of 16mm.
  - .14 Glazing stops shall be formed 20 gauge steel, 16mm height channel, accurately fitted, butted at corners and fastened to frame sections with #6 x 32mm oval head scrulox (self-drilling) type screws at 300mm on center maximum.
  - .15 Where required due to site access, as indicated on the Architects' schedules or details, when advised by the Contractor responsible for coordination or installation, or when shipping limitations so dictate, frame Product shall be fabricated in sections for splicing in the field.
    - .1 Field spliced jambs, heads and sills shall be Provided with 16 gauge steel splice plates securely welded into one section, extending 100mm minimum each side of splice joint.
    - .2 Field splices at closed sections (mullions or center rails) shall be 16 gauge steel splice angles securely welded to the abutting member. Face of splice angle shall extend 100mm minimum into closed sections when assembled.
    - .3 Field splice joints shall be welded, filled and ground to present a smooth uniform surface by the Contractor responsible for installation after assembly.
  - .16 Each door opening shall be Provided with two (2) temporary steel jamb spreaders welded to the base of the jambs or mullions to maintain proper alignment during shipping and handling. Spreaders shall be removed by the Contractor responsible for installation prior to anchoring of frame to floor.
  - .17 Each door opening shall be prepared for single stud door silencers, three (3) for single door openings, two (2) for double door openings. Silencers shall be shipped loose for installation by the Contractor after finish painting.

- .18 Unless ineligible due to design, size, hardware or glazing specified on the Architects' or Hardware Suppliers' schedules or details, fire labeled frame Product shall be Provided for those openings required fire protection ratings as determined and scheduled by the Architect.

**.2 Hardware Preparations**

- .1 Frame Product shall be blanked, reinforced, drilled and tapped for fully templated mortised hardware only, in accordance with the final approved schedule and templated Provided by the hardware Supplier.
- .2 Frame Product shall be factory blanked and reinforced only for mortised hardware that is not fully templated.
- .3 Frame Product shall be reinforced only for surface mounted hardware.
- .4 Drilling and tapping for surface mounted hardware or mortised hardware that is not fully templated shall be by the Contractor responsible for installation on site, at the time of application.
- .5 Frames shall be prepared for 114.3mm standard weight hinges (minimum).
- .6 Hinge and pivot reinforcements shall be 10 gauge steel minimum reinforcing, high frequency type shall be Provided.
- .7 Hinge reinforcements for acoustic frames and frames in excess of 2450mm rabbet height shall be 10 gauge minimum with each cutout Provided with 114.3mm heavy weight (4.6mm) high frequency type.
- .8 Strike reinforcements shall be 16 gauge steel minimum.
- .9 Reinforcements for surface mounted hardware, concealed closers and holders and flush bolts shall be 12 gauge steel minimum.
- .10 Mortised cutouts shall be protected with 22 gauge steel minimum guard boxes.
- .11 Where electrically or electronically operated hardware is specified on the Architects schedules or details or the final approved schedule and templates Provided by the hardware Supplier, hardware enclosures and/or junction boxes, where indicated on templates, shall be Provided and inter-connected with CSA Approved 12.7mm diameter conduit and connectors.
- .12 Prepare frames to receive security door contacts – refer to electrical Drawings for locations. Door contacts to be installed at 100 mm from the latch side door edge.

**.3 Anchorage:**

- .1 Frame Product shall be Provided with anchorage appropriate to floor, wall and frame construction.
- .2 Each wall anchor shall be located immediately above or below each hinge reinforcement on the hinge jamb and directly opposite on the strike jamb, except as indicated below.
- .3 Frame Product installed in unit masonry partitions shall be Provided with 4.0mm diameter steel wire anchors, 18 gauge steel adjustable stirrup and strap or "T" type anchors as conditions dictate.
- .4 Where frame Product is installed prior to construction of the adjacent wall, each jamb shall be Provided with 16 gauge steel floor anchors. Each anchor shall be Provided with two (2) holes for mounting to the floor and shall be securely welded to the inside of the jamb.
- .5 Floor anchors for thermally broken exterior frames shall be designed so as not to permit thermal transfers from exterior to interior surfaces of the frame sections.

- .6 Frame Product installed in drywall partitions shall be Provided with 20 gauge steel snap-in or "Z" type stud type anchor.
  - .7 Jambs of frames in previously placed concrete, masonry or structural steel shall be punched and dimpled to accept machine bolt anchors, 6.4mm diameter, located not more than 150mm from the top and bottom of each jamb. Anchor preparations and guides shall also be located immediately above or below the intermediate hinge reinforcements and directly opposite on the strike jamb. Each preparation shall be Provided with 16 gauge anchor bolt guides.
  - .8 Anchor bolts and expansion shell anchors for the above preparations shall be Provided by the Contractor responsible for installation.
  - .9 After sufficient tightening of the anchor bolts, the heads shall be welded do as to Provide a non-removable application. Welded bolt head and dimple shall be filled and ground to present a smooth uniform surface by the Contractor responsible for installation, prior to finish painting.
  - .10 Where indicated on the Architects' schedules or details, channel extensions shall be Provided from the top of the frame assembly to the underside of the structure above. Extensions shall be fabricated from 12 gauge steel formed channel, mounting angles welded to inside of frame head and adjusting brackets. Formed channels, adjusting brackets and fasteners shall be shipped loose. Channels shall be mechanically connected to mounting angles and adjusting brackets with supplied fasteners, on site, by Contractor responsible for installation.
- .4 Finishing:
- .1 Remove weld slag and spatter from exposed surfaces.
  - .2 All tool marks, abrasions and surface blemishes shall be filled and sanded to present smooth and uniform surfaces.
  - .3 On exposed surfaces where zinc has been removed during fabrication, frame Product shall receive a factory applied touch-up primer.
  - .4 Primer shall be fully cured prior to shipment.

## **2.4 Sizes and Tolerances**

1. All sizes and tolerances shall be in accordance with the Canadian Steel Door Manufacturers Association "Recommended Dimensional Standards for Commercial Steel Doors and Frames" as follows:
  - .1 Widths of door openings shall be measured from inside of frame jamb rabbet with a tolerance of +1.6mm, -0.8mm.
  - .2 Heights of door openings shall be measured from the finished floor (exclusive of floor coverings) to the head rabbet of the frame with a tolerance of  $\pm 1.2$ mm.
  - .3 Unless builders' hardware dictates otherwise, doors shall be sized so as to fit the above openings and allow a 3mm clearance at jambs and head. A clearance of 19mm between the bottom of the door and the finished floor (exclusive of floor coverings) shall be Provided. Tolerances on door sizes shall be  $\pm 1.2$ mm.
  - .4 Manufacturing tolerances on formed frame profiles shall be  $\pm 0.8$ mm for faces, door stop heights and jamb depths. Tolerances for throat openings and door rabbet shall be  $\pm 1.6$ mm and  $\pm 0.4$ mm respectively. Hardware cutout dimensions shall be as per template dimensions, +0.4mm, -0.

## **2.5 Hardware Locations**

1. Hardware preparations in frame Product shall be as noted below and locations on doors shall be adjusted for clearances specified in 2.4.
2. Top of upper hinge preparation for 114.3mm hinges shall be located 180mm down from head, transom mullion or panel as appropriate. The top of the bottom hinge preparation for 114.3mm hinges shall be located 310mm from finished floor as defined in 2.4.3. Intermediate hinge preparations shall be spaced equally between top and bottom cutouts. For dutch door frames, top and bottom hinge locations shall be as above, with the tops of intermediate hinges located at 930mm and 1403mm from finished floor.
3. Strike preparations for unit, integral, cylindrical and mortise locks and roller latches shall be centered 1033mm from finished floor. Strikes for deadlocks shall be centered at 1200mm from finished floor. Strikes for panic or fire exit hardware shall be located as per device manufacturer's templates.
4. Push and/or pulls on doors shall be centered 10701mm from finished floor.
5. Preparations not noted above shall be as per hardware manufacturer's templates.
6. Hardware preparation tolerances shall comply with the ANSI A115 series standards.

## **PART 3 - EXECUTION**

### **3.1 Site and Protection of Materials**

1. The Contractor responsible for installation shall remove wraps or covers from door and frame Product upon delivery at building site.
2. All materials shall be thoroughly inspected upon receipt and all discrepancies, deficiencies and/or damages shall be immediately reported in writing to the Supplier. All damage shall be noted on the carriers' Bill of Landing.
3. Contractor responsible for installation shall ensure all materials are properly stored on planks or dunnage in a dry location. Product shall be stored in a vertical position, spaced with blocking to permit air circulation between them. Materials shall be covered to protect them from damage from any cause.
4. Contractor shall notify the Supplier in writing of any errors or deficiencies in the Product itself before initiating any corrective Work.

### **3.2 Installation**

1. Install doors and frames in accordance with the Door and Hardware Institute "Installation guide for doors and hardware".
2. Set frame Product plumb, square, aligned, without twist at correct elevation.
3. Frame Product Installation Tolerances:



- .1 Plumbness tolerance, measured through a line from the intersecting corner of vertical members and the head to the floor, shall be  $\pm 1.6\text{mm}$ .
  - .2 Squareness tolerance, measured through a line  $90^0$  from one jamb at the upper corner of the Product, to the opposite jamb, shall be  $\pm 1.6\text{mm}$ .
  - .3 Alignment tolerance, measured on jambs, through a horizontal line parallel to the plane of the wall, shall be  $\pm 1.6\text{mm}$ .
  - .4 Twist tolerance, measured at face corners of jambs, on parallel lines perpendicular to the plane of the wall, shall be  $\pm 1.6\text{mm}$ .
4. Fire labeled Product shall be installed in accordance with NFPA-80.
  5. Secure anchorages and connections to adjacent construction.
  6. Brace frame Product rigidly in position while building-in. Remove temporary steel shipping jamb spreaders. Install wood spreaders at mid points of frame rabbet height and at floor level to maintain frame widths. Provide vertical support at center of head for openings exceeding 1250mm in width. Remove wood spreaders after Product has been built-in.
  7. Frame Product in unit masonry shall be fully grouted in place. Install doors maintaining clearances outlined in Section 2.4.
  8. Install louvers and vents.
  9. Adjust operable parts for correct clearances and function.
  10. Steel surfaces shall be kept free of grout, tar or other bonding materials or sealers.
  11. Any grout or other bonding material shall be cleaned from Products immediately following installation.
  12. Exposed field welds shall be finished to present a smooth uniform surface and shall be touched-up with a rust inhibitive primer.
  13. Exposed surfaces that have been scratched or otherwise marred during shipment, installation or handling shall be touched-up with a rust inhibitive primer.
  14. Finish paint in accordance with Section 09900.
  15. Install glazing materials and door silencers.

End of Section

## **PART 1 - GENERAL**

### **1.1 Related Work**

1. Painting: Section 09900
2. Access Doors: refer to related mechanical and electrical

### **1.2 Reference Standards**

1. Do Work to CSA A82.31-1977, except where specified otherwise.

## **PART 2 - PRODUCTS**

### **2.1 Gypsum Board**

1. Plain: to CSA A82.27-M1977 standard, 5/8" thick or as indicated, tapered edges.
2. Plain: to CSA A82.27-M1977, Fire-rated Type X, 5/8" thick or as indicated, tapered edges.
3. Plain: to CSA A82.27-M1977, Washroom walls and ceilings 5/8" dens-shield or as indicated, tapered edges.
4. Acceptable Manufacturers: CGC, Domtar, Certain Teed.

### **2.2 Fastenings and Adhesives**

1. Screws: to CSA A82.31-1977.
2. Adhesive: to CGSB 71 GP 25M.
3. Laminating Compound: to CSA A82.31-1077.
4. Concrete Anchors: Manufacturer: Phillips Red Head TW-614 or equivalent. Do not use powder activated fasteners for ceiling support.
5. Tie Wire: #16 ga. galvanized soft annealed steel wire.

### **2.3 Accessories**

1. Casing Beads and Corner Beads: 0.5 mm base thickness commercial sheet steel with G90 zinc finish to ASTM A 525-78 A.
2. Joint compound: to CSA A82.31-1977, asbestos-free.
3. Caulking: Acoustical sealant.

### **2.4 Insulation Blanket**

1. 38 mm thick mineral wool batts ULC labelled, if indicated on Drawings.

## **PART 3 - EXECUTION**

### **3.1 Gypsum Board Application**

1. Do not apply gypsum board until bucks, anchors, blocking, electrical and mechanical Work are approved.
2. Install metal studs plumb and true to sizes and locations indicated on Drawings.
3. Apply single and double layers gypsum board to metal furring or framing, using screw fasteners and laminating adhesive. Maximum spacing of screw 12" oc.
4. Apply gypsum board to concrete block surfaces, where indicated, using laminating adhesive.
5. Apply type x gypsum board where indicated, in accordance with U.L.C. requirements and with supplement to the National Building Code of Canada to obtain the required fire protection, fire rating and fire separation.

### **3.2 Insulation and Blanket Application**

1. Where indicated on Drawings, staple blanket to wallboard in accordance with ULC design requirements. Blanket shall be continuous and tightly fitted between studs and at perimeter.

### **3.3 Accessories**

1. Erect accessories straight, plumb or level, rigid and at proper plane. Use full length pieces, where practical. Make joints tight, accurately aligned and rigidly secure. Mitre and fit corners accurately, free from rough edges.
2. Install casing beads around perimeter of suspended ceilings.
3. Install casing beads where gypsum board butts against surfaces having no trim concealing junction and where indicated.

### **3.4 Access Doors**

1. Install access doors to electrical and mechanical fixtures specified in respective Sections.
2. Rigidly secure frames to furring or framing systems.

### **3.5 Taping and Filling and Sound Seal**

1. Seal with acoustical sealant at ceilings, floors, wall intersections and all penetrations such as electrical outlets.
2. Finish face panel joints and internal angles with joint system consisting of joint compound, joint tape and taping compound installed according to manufacturer's directions and feathered out onto panel faces.

3. Finish corner beads, control joints and trim as required with two (2) coats of joint compound and one (1) coat of taping compound, feathered out onto panel faces.
4. Fill screw head depressions with joint and taping compounds to bring flush with adjacent surface of gypsum board so as to be invisible after painting is completed.
5. Sand lightly to remove burred edges and other imperfections. Avoid sanding adjacent surface of board.
6. Completed installation to be smooth, level or plumb, free from waves and other defects and ready for painting.

End of Section

## **PART 1 - GENERAL**

### **1.1 Related Work**

- |                       |               |
|-----------------------|---------------|
| 1. Sealants: caulking | Section 07900 |
| 1. Ceramic Tile:      | Section 09310 |

### **1.2 Reference Standards**

1. Do tile Work to Installation Manual 200-1979, "Ceramic Tile," produced by Terrazzo Tile and Marble Association of Canada (TTMAC), except where specified otherwise.

### **1.3 Maintenance Material**

1. Provide maintenance data for tile Work for incorporation into Maintenance Manual specified in Section 01720.
2. Provide 12 additional tiles of each type and color of tile required for Project for maintenance use. Store where directed. Clearly identify each box.
3. Maintenance material to be of same production area as installed material.

### **1.4 Environmental Requirements**

1. Air temperature and structural base temperature at tile installation area must be above 13 degrees C for 24 hours before, during and 24 hours after installation.

### **1.5 Extended Warranty:**

1. Submit a warranty for entire flooring tile installation, covering materials and labour and the repair or replacement of defective work for three (3) years total.

## **PART 2 - PRODUCTS**

### **2.1 Tiles**

1. Designation PT: 300 mm x 300 mm porcelain tile to CAN 2-75-1M77.
  - .1 Acceptable material: Arkitekt series, distributed by Centura. Size 300 mm x 300 mm, plus trim and 300 mm x 100 mm bullnosed base. Architect to confirm selection from manufacturer's full line.
  - .2 Acceptable Alternates: Le Pietre distributed by Olympia.  
Cross Colors-porcelain stone by Crossville Group 2  
Porcelato Solid and Grani Series Allow for all price groups and (10 % group 3 & 4) By Daltile.  
Savoia Canada – Corindo Series

## **2.2 Accessories**

1. Control Joints – Schluter Dilex KSN or equivalent, for floors and walls with tiles.

## **2.3 Setting Materials**

1. Cement Mortar: Mixture of 1 part Portland cement, 4 parts dry sand and 1/10 hydraulic lime. Materials shall conform to the following:
2. Portland Cement: To CAN3-A, Type 10.
3. Hydrated Lime: To ASTM C-206 or 207, Type 5.
4. Sand: To CSA A82.56, passing 1.6 mm sieve.
5. Water: Potable, containing no contaminants which cause efflorescence.
6. Thin Set Mortar: field mixed, blended sand-Portland cement-latex mortar, “Kerapoxy” by Mapei, distributed by Midgley and West, Hamilton Ontario.
  - .1 Acceptable Alternates: Laticrete 4237 distributed by Ceratec Inc., or Flextile 52 thin set.
  - .2 Latex Additive: Cemtex by Master Builders, Laticrete 2022 distributed by Ceratec Inc. or equivalent.

## **2.4 Grout**

1. Sanded, Portland cement based with Plastijoints acrylic additive, Kerncolour / Floor by Mapei or similar by Laticrete or equivalent. Colour as selected by Architect.

## **PART 3 - EXECUTION**

### **3.1 Workmanship**

1. Apply tile to clean and sound surfaces.
2. Fit tile units around corners, fitments, fixtures, drains and other built-in objects to maintain uniform joint appearance. Make cut edges smooth, even and free from chipping. Edges resulting from splitting not acceptable.
3. Maximum surface tolerance: 1:800.
4. Make joints between tiles uniform and approximately 3 mm wide, (maximum 4 mm) plumb, straight, true, even and with adjacent units flush. Align patterns.
5. Lay out units so perimeter tile are minimum 1/2 size.
6. Install floor tiles as per pattern. Pattern will be supplied by architect at a later date.
7. Sound tiles after setting and replace hollow sounding units to obtain full bond.

8. Make internal angles square, external angles chamfered at 45° with narrow tile strip.
8. Construct base, as indicated on drawings, with rounded top edge.
10. Use bullnose edged tiles at termination of wall tiles, except where tiles abut projecting surface or differing plane.
11. Seal grouted joints with sealer.
12. Clean installed tile surfaces after installation cured.
13. Keep building expansion joints free of mortar or grout.
14. Tiles must be flush with adjacent dissimilar finishes. Add leveler at lower floor finishes to porcelain tile at all door openings, feather back as required to eliminate visible elevation difference around doorways. Typical at all locations.
15. Install steel floor termination strip at all door openings where porcelain tile meets VCT.

### **3.2 Setting System**

1. Install porcelain floor tiles in accordance with TTMAC applicable thinset detail.

End of Section

## **PART 1 - GENERAL**

### **1.1 Related Work**

1. Not applicable.

### **1.2 Maintenance Data**

1. Provide data for maintenance of resilient flooring for incorporation into Maintenance Manual.

### **1.3 Environmental Requirements**

1. Maintain minimum 20 deg. C air temperature at flooring installation area for three (3) days before, during and for seven (7) days after installation.

## **PART 2 - PRODUCTS**

### **2.1 Materials**

1. **Resilient Rubber Base (RB):** top set coved, 3 mm thick, rubber, 100 mm high minimum 1200 mm long, including premoulded end stops and external corners, non-shrink rubber wall base with toe. Manufacturer: Johnsonite or equivalent, colours from full Johnsonite "Coloright" colour line. Up to three (3) colour selections.
2. **Primers and adhesives:** waterproof, recommended by flooring manufacturer for specific material on applicable substrate, above, at or below grade. Manufacturer: Johnsonite 990 Solvent Free Environmentally Safe White Acrylic Cove Base Adhesive or equivalent for rubber base.
3. **Sub-floor filler:** white premix latex requiring water only to produce cementitious paste.
2. **Sealer:** not required
5. **Wax:** not required
6. **Polyethylene sheet:** to CAN2 51.33-M77, Type 2, for protection.
7. **Nose filler:** Epoxy caulking compound. Manufacturer: Johnsonite 930 or equivalent.
8. **Metal Edge Strip:** Smooth aluminum alloy, with lip extending under tile and shoulder flush to top of resilient tile flooring.

## **PART 3 - EXECUTION**

### **3.1 Inspection**

1. Ensure concrete floors are dry, by using test methods recommended by tile manufacturer, and inspect for negative alkalinity, carbonization or dusting.
2. Commencement of Work indicates acceptance of conditions by flooring installer.



### **3.2 Subfloor Treatment**

1. Remove subfloor ridges and bumps. Fill low spots, cracks, joints, holes and other defects with subfloor filler.
2. Clean floor and apply filler; trowel and float to leave smooth, flat hard surface. Prohibit traffic until filler cured.

### **3.3 Tile**

1. Apply adhesive uniformly using recommended notched trowel in accordance with Flooring Manufacturer's instructions. Do not spread more adhesive than can be covered by flooring before initial set takes place.
2. Lay flooring with joints parallel to building lines to produce symmetrical tile pattern. Border tiles - minimum half tile width or as indicated by Drawings and Finish Schedule.
3. Cut tile and fit neatly around fixed or excessively heavy objects.
4. Install flooring in pan type floor access covers and all clean out covers, where applicable. Maintain floor pattern.
5. Terminate flooring at center line of door in openings where adjacent floor finish or color is dissimilar.
6. Install metal edge strips at unprotected or exposed edges where flooring terminates.

### **3.4 Base Application**

1. Set base in adhesive tightly against wall and floor surfaces. Use lengths as long as practicable and not less than minimum 500 mm long.
2. Install straight and level to variation of 1:1000.
3. Scribe and fit to door frames and other obstructions. Use premoulded end pieces at flush door frames.
4. Miter internal corners. Use premoulded corner pieces at all external corners and ensure full adhesion through to ends of corner pieces. See detail for termination at door frames.
5. Leave in the building one (1) complete carton of each of two (2) colours of floor tile and twelve (12) tiles of each of the remaining colours. Colours of extra tile to be specified by Architect.

### **3.5 Initial Maintenance after Installation**

1. Broom sweep or vacuum thoroughly.
2. Do not wet mop, wash, scrub, or strip the floor. These procedures will be done by the Owner.

### **3.6 Protection of Work**

1. Following broom sweeping, protect new floors with 0.15 mm thick Polyethylene cover and lay planking in all necessary traffic areas to minimize damage by other trades. Maintain until just before final inspection.

### **3.7 Preparation for Inspection**

1. Only if so notified by Architect, and in the presence of the Owner, scrub the floor using a neutral detergent and a floor machine of 170-250 rpm capability equipped with a scrub brush or a scrubbing pad. Manufacturer: 3M blue or equivalent.
2. Lightly rinse and allow to dry. Note: Do not flood the floor with rinse water, scrubbing, or stripping solutions. Final re-washing, if required, and waxing will be done by Owner.

End of Section

## **PART 1 – GENERAL**

### **1.1 Submittals**

1. Product Data: Submit Manufacturer's technical data, installation instructions, and general recommendations for each resinous flooring material required. Include certification indicating compliance of materials with requirements.
2. Samples: Submit, for verification purposes, 4-inch square samples of each type of resinous flooring required, applied to a rigid backing, in color and finish indicated.
  - .1 For initial selection of colors and finishes, submit Manufacturer's color charts showing full range of colors and finishes available.

### **1.2 Quality Assurance**

1. Single Source Responsibility: Obtain primary resinous flooring materials including primers, resins, hardening agents, finish or sealing coats from a single manufacturer with not less than ten years of successful experience in manufacturing and installing principal materials described in this section. Provide secondary materials only of type and from source recommended by manufacturer of primary materials.
2. ISO 9002: All materials, including primers, resins, curing agents, finish coats, aggregates and sealants are manufactured and tested under an ISO 9002 registered quality system.

### **1.3 Delivery, Storage And Handling**

1. Material shall be delivered to job site and checked by Flooring Contractor for completeness and shipping damage prior to job start.
2. All materials used shall be factory pre-weighed and pre-packaged in single, easy to manage batches to eliminate on site mixing errors. No on site weighing or volumetric measurements allowed.
3. Material shall be stored in a dry, enclosed area protected from exposure to moisture. Temperature of storage area shall be maintained between 60 and 85°F/16 and 30°C.

### **1.4 Project Conditions**

1. Concrete substrate shall be properly cured for a minimum of 30 days. A vapor barrier must be present for concrete subfloors on or below grade. Otherwise, an osmotic pressure resistant grout must be installed prior to the resinous flooring.
2. Utilities, including electric, water, heat (air temperature between 60 and 85°F/16 and 30°C) and finished lighting to be supplied by General Contractor.
3. Job area to be free of other trades during, and for a period of 24 hours, after floor installation.

4. Protection of finished floor from damage by subsequent trades shall be the responsibility of the General Contractor.

### **1.5 Warranty**

1. Manufacturer shall furnish a single, written warranty covering both material and workmanship for a period of one (1) full year from date of installation.

## **PART 2 - PRODUCTS**

### **2.1 Colors**

1. Colors: As selected by Architect from manufacturer's standard colors.
2. Pattern: As provided by Architect using two standard colors.

### **2.2 Epoxy Flooring**

1. Sikafloor® Quartzite Trowel System (supersedes Duoquartz 9200) or equivalent: a seamless, aesthetic, 3 - 6 mm ( $\frac{1}{8}$  -  $\frac{1}{4}$  in) thick, trowelled and sealed epoxy floor, composed of multicoloured quartz aggregates finished with transparent top coats. Provide a durable, impermeable finish with superior mechanical and chemical resistance. Final surface appearance include: integral cove base, gloss, satin or matte surface sheen and variable surface texture to produce a range of slip-resistant finishes – selection to be confirmed. Acceptable alternate: Stonshield HRI by Stonhard.
2. Non Slip Finish: Medium Texture. Install mock up patch to confirm required non slip texture. To be reviewed and approved by Owner before proceeding with installation.

- .1 Physical Properties: Provide flooring system in which physical properties of topping including aggregate, when tested in accordance with standards or procedures referenced below, are as follows:

Compressive Strength.....	7,000 psi
(ASTM C-579)	
Tensile Strength.....	1,000 psi
(ASTM C-307)	
Flexural Strength.....	1,600 psi
(ASTM C-580)	
Hardness.....	85-90
(ASTM D-2240/Shore D Durometer)	
Bond Strength.....	>600 psi
(ASTM D-4541)	(100% concrete failure)
Impact Resistance.....	>160 in. lbs.
(ASTM D-4226)	
Abrasion Resistance .....	0.06 gm max. weight loss
(ASTM D-4060, Taber Abrader CS-17 wheel)	
Coefficient of Friction.....	0.7-0.8
(ASTM D-2047)	

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Flexural Modulus of Elasticity .....	622 psi
(ASTM C-580)	
Flammability .....	Self Extinguishing
(ASTM D-635)	Extent of burning 0.25 inches max.
Thermal Coefficient of	
Linear Expansion.....	1.8 x 10 <sup>-5</sup> in/in°C
(ASTM C-531)	
Water Absorption.....	0.1%
(ASTM C-413)	
Heat Resistance Limitation .....	140°F/60°C
	(for continuous exposure)
.....	200°F/93°C
	(for intermittent spills)
Cure Rate allow.....	8 hours for foot traffic
(at 77°F/25°C)	18 hours for light traffic
	24 hours for normal operations

### **2.3 Joint Sealant Materials**

1. Type produced by Manufacturer of resinous flooring system for type of service and joint condition indicated.

## **PART 3 - EXECUTION**

### **3.1 Preparation**

1. Substrate: Concrete preparation shall be by mechanical means and include use of a scabblers, scarifier or shot blast machine for removal of bond inhibiting materials such as curing compounds or laitance.
2. Proper substrate preparation is crucial to ensure adequate bond. Substrate must be dry and free of all wax, grease, oils, fats, soil, loose or foreign materials and laitance. Laitance and unbonded cement particles must be removed by mechanical methods. Other contaminants may be removed by scrubbing with a heavy-duty industrial detergent (Stonkleen DG9 or equivalent) and rinsing with clean water. The surface must show open pores throughout and have a sandpaper texture.
3. Cove base substrate: existing or new gypsum board to be properly prepared including sanding and priming, to manufacturer's requirement.

### **3.2 Application**

1. General: Apply each component of resinous flooring system in compliance with manufacturer's directions to produce a uniform monolithic wearing surface of thickness indicated, uninterrupted except at divider strips, sawn joints or other types of joints (if any), indicated or required.
2. Primer: Mix and apply primer over properly prepared substrate with strict adherence to manufacturer's installation procedures and coverage rates. Coordinate timing of primer application with application of troweled mortar to ensure optimum adhesion between

resinous flooring materials and substrate. Primer must be tacky during the application of the Stonshield HRI or equivalent base. If the primer becomes tack-free, the area must be re-primed prior to continuing the application.

3. Troweled Mortar: Mix mortar material according to manufacturer's recommended procedures. Uniformly spread mortar over substrate using manufacturer's specially designed screed box adjusted to manufacturer's recommended height. Hand trowel apply mixed material over freshly primed substrate using steel finishing trowels or power trowel material.
4. Undercoat: Remove any surface irregularities by lightly abrading and vacuuming the floor surface. Mix and apply undercoat with strict adherence to manufacturer's installation procedures and coverage rates.
5. Broadcast: Immediately broadcast quartz silica aggregate into the undercoat using manufacturer's specially designed sprayer. Strict adherence to manufacturer's installation procedures and coverage rates is imperative.
6. Sealer: Remove excess unbonded granules by lightly brushing and vacuuming the floor surface. Mix and apply sealer with strict adherence to manufacturer's installation procedures.

### **3.3 Field Quality Control**

1. The right is reserved to invoke the following material testing procedure at any time, and any number of times during period of flooring application.
2. The Owner will engage service of an independent testing laboratory to sample materials being used on the job site. Samples of material will be taken, identified and sealed, and certified in presence of Contractor.
3. Testing laboratory will perform tests for any of characteristics specified, using applicable testing procedures referenced herein, or if none referenced, in manufacturer's Product data.
4. If test results show materials being used do not comply with specified requirements, Contractor may be directed by Owner to stop work; remove non-complying materials; pay for testing; reapply flooring materials to properly prepared surfaces which had previously been coated with unacceptable materials.

### **3.4 Curing, Protection and Cleaning**

1. Cure resinous flooring materials in compliance with manufacturer's directions, taking care to prevent contamination during stages of application and prior to completion of curing process. Close area of application for a minimum of 24 hours.
2. Protect resinous flooring materials from damage and wear during construction operation. Where temporary covering is required for this purpose, comply with manufacturer's recommendations for protective materials and method of application.

General Contractor is responsible for protection and cleaning of surfaces after final coats.

3. Cleaning: Remove temporary covering and clean resinous flooring just prior to final inspection. Use cleaning materials and procedures recommended by resinous Flooring Manufacturer.

End of Section

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## **PART 1 - GENERAL**

### **1.1 Related Work**

1. Door Schedule refer to Drawings
2. Room Finish Schedule refer to Drawings

### **1.2 Reference Standard**

1. Ontario Painting Contractors Association (OPCA) Architectural Specification Manual - referenced as OPCA Manual, latest Edition. Paint formulations and methods referred to herein refer to this Manual. If Contractor is unfamiliar with this reference standard, contact the OPCA.

### **1.3 Product Data**

1. Submit to Architect, for review, Product data for all formulas, including manufacturer's trade names.
2. Paint Manufacturer will Provide periodic reviews and reports to Architect regarding Work in this Section and if Contractor is adhering to manufacturer's Product Specifications.

### **1.4 Environmental Requirements**

1. Do not apply paint finish in areas where dust is being generated.
2. Conform to requirements of OPCA Manual.
3. Comply with the requirements of Health and Environmental Specifications.

### **1.5 Extent of Painting**

1. For new construction, for rooms shown in room finish schedule to have painted walls, paint all non prefinished surfaces unless indicated otherwise, and repaint prefinished surfaces where indicated.
2. For existing construction, for rooms shown in room finish schedule to have repainted walls:
  - Paint all non prefinished new surfaces unless indicated otherwise.
  - Repaint prefinished surfaces where indicated.
  - Repaint all previously painted surfaces unless indicated otherwise.

### **1.6 Finishes and Colours**

1. Review the requirements outlined in Finish and Colour Notes.  
A separate colour schedule will be issued after Contract award.



### **1.7 Warranty**

1. Provide a 2 year warranty on completion stating that the work has been performed with respect to the standards and requirements incorporated in the OPCA specification manual latest edition.

## **PART 2 - PRODUCTS**

### **2.1 Materials**

1. Acceptable Products: Per Chapter 5 OPCA Manual as listed.
2. Paint materials for each paint system to be Products of a single manufacturer.
3. Use low-VOC and low-odour paints only.

## **PART 3 - EXECUTION**

### **3.1 Preparation of Surfaces in new Construction**

1. Prepare surfaces to receive paint per Chapter 3 OPCA Manual.
2. Prepare wood surfaces to CGSB 85-GP-1M.
  - .1 Use CGSB 1-GP-126M vinyl sealer over knots resinous areas.
  - .2 Apply wood paste filler to nail holes and cracks.
  - .3 Tint filler to match stains for stained woodwork.
3. Touch up Shop paint primer on steel with CGSB 1-GP-40M to CGSB 85-GP-14M.
4. Prepare galvanized steel and zinc coated surface to CGSB 85-GP-16.
5. Prepare wallboard surfaces to CGSB 85-GP-33M. Fill minor cracks with plaster patching compound.

### **3.2 Preparation of Previously Painted Surfaces**

1. Remove screws, bolts, nails, and the like, from all surfaces to be painted
2. Remove all peeling and scaling paint by scraping and sanding.
3. Remove loose and broken pieces. Fill all holes, cracks and crevices with appropriate patching compound and match surrounding texture. Touch-up with appropriate primer.
4. Remove all dirt, grease, oil, wax and other contaminants by scrubbing with a detergent solution such as trisodium phosphate. Rinse with clean water.
5. All metal surfaces must be washed with mineral spirits. Change solvent and rags frequently. Remove all rust by sanding. Prime with rust inhibitive paint.
6. Dull all glossy surfaces by sanding.

8. Wash with solvent surfaces that have been subject to writing with marking pens, crayons, or lipsticks. Prime to stop bleeding.
9. For joints within or adjacent to exterior areas to be painted or cleaned, remove old cracked and loose caulking and replace with a high quality caulking compound.

### **3.3 Application**

1. Sand and dust between each coat to remove defects visible from distance up to 60".
2. Finish closets and alcoves as specified for adjoining rooms.
3. Apply each coat at the proper consistency. Each coat of finish should be fully dry and hard before applying the next coat, unless the manufacturer's instructions state otherwise.

### **3.4 Mechanical and Electrical Equipment**

1. Paint exposed conduits, pipes, hangers and other mechanical and electrical equipment occurring in finished areas as well as inside cupboards and cabinet Work. Colour and texture to match adjacent surfaces, except as noted otherwise. Coordinate with mechanical trades applying banding and labeling after pipes have been painted. Do not paint white PVC covers on exposed mechanical water, drain and other lines.
2. Paint gas piping standard yellow where visible on roof or in service spaces.
3. Paint surfaces inside of ductwork and elsewhere behind grilles where visible using primer and one coat of matte black paint.
4. Paint both sides and edges of plywood backboards for equipment before installation.
5. Leave equipment in original finish except for touch-up as required, and paint conduits, mounting accessories and other unfinished items.

### **3.5 Paint Systems**

1. System references listed are based on Chapters 4A and 4B of OPCA Manual and are OPCA Premium Grade, unless noted otherwise.

### **3.6 Interior Finishes**

1. Wood, where applicable: INT. 1-A, Alkyd Semi-Gloss Finish, Premium Grade.
2. Gypsum board - Ceilings and bulkheads - INT. 4-A, Alkyd Flat Finish, Premium Grade.
3. Gypsum board – walls: JNT4A, Alkyd eggshell, Premium Grade.
4. Concrete Block: INT. 8-B, Alkyd Semi-Gloss Finish, Premium Grade.
5. Galvanized metal: INT. 13-A, Alkyd Semi-Gloss Finish, Premium Grade.

**3.7 Refinishing of Previously Painted Surfaces**

1. Apply two (2) finishing coats of paint materials listed in Section 3.5 and 3.6 for the type of surface considered.
2. When satisfactory coverage can be achieved by only one (1) coat, the second coat is not required.
3. Apply additional coats if necessary to cover, such as for accent colours, graphics.

End of Section

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## **PART 1 - GENERAL**

### **1.1 General Requirements**

1. Division One, General Requirements is part of this Section and shall apply as if repeated here.

### **1.2 Related Work Specified Elsewhere**

1. Electrical conduit and wiring to junction boxes and hand dryers: refer to Drawings

### **1.3 Referenced Standards**

1. ASTM A167-87: Specification for Stainless and Heat Resisting Chromium -Nickel Steel Plate, Sheet and Strip
2. ASTM A525: Standard Specification for General Requirements for Steel Sheet, Zinc Coated (Galvanized) by the Hot-Dip Process (Metric)
3. CAN/CSA-G164-M92: Hot Dip Galvanizing of Irregularly Shaped Articles.

### **1.4 Shop Drawings**

1. Submit Shop Drawings in accordance with Section 01340, for Consultant's review before fabrication. Shop Drawings of units for use by the handicapped shall be distinctly marked and cross-referenced to the corresponding article in the Specifications.

### **1.5 Quality Standard**

1. This Specification section is based generally on Bobrick equipment. Similar equipment and accessories by ASI Group Watrous and American Specialties Inc. are also acceptable.

## **PART 2 - PRODUCTS**

### **2.1 Materials - Generally**

1. Ferrous Steel: Sheet, cold-rolled furniture steel, double annealed, mill stretched and leveled, and fully pickled. Otherwise, steel shall be hot-rolled or cold-rolled of alloy to suit needs of fabrication, use, and appearance.
2. Stainless Steel: Type 304, conforming to ASTM A167-87, No. 4 finish.
3. Galvanized Steel: For sheet, Z275 zinc coating designation in accordance with ASTM Specification A525. For irregular sections, hot dip galvanized to comply with CSA G164.
4. Anchors and Fastenings: Where exposed, use stainless steel and otherwise to match metal anchored. Where non-exposed, use the same as that specified for exposed, or use galvanized steel. Anchors and fastenings shall be of the type appropriate for the substrate to which accessory unit is secured.

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## **2.2 Products**

This Specification section is based generally on Bobrick equipment. Similar equipment and accessories by ASI Group Watrous and Bradley are also acceptable.

1. **Soap Dispensers (SD):** Supplied by owner and installed by General Contractor.
2. **Mirrors:**
  - .1 **(MI 1)** - B290 series by Bobrick, stainless steel frame, vandal resistant mounting, 6mm glass mirror with 15-year guaranty against silver spoilage.
  - .2 **(MI 2)** Handicapped mirror: B-293 series by Bobrick, tilt mirror, stainless steel. Size: 600 x 910 mm. Quantity: Refer to Drawings.
  - .3 Acceptable alternates: Watrous and Bradley
  - .4 Quantity: refer to drawings
3. **Sanitary Napkin Disposal (ND):**
  - .1 Stainless steel, surface mounted B5270 by Bobrick
  - .2 Acceptable alternates: Watrous and Bradley
  - .3 Quantity: at all female washrooms and stalls as indicated
4. **Handicapped Grab Bars (GB):** by Bobrick
  - .1 GB-1: B-5898 x 750 mm x 750 mm "L" shaped grab bar beside water closet mounted as per OBC requirements.  
GB-2: B-5806 x 600 mm long bar behind water closet. Installed as per drawing.
  - .2 All bars to have concealed mounting hardware.
  - .3 Quantity: refer to Drawings.
  - .4 All bars to withstand horizontal and vertical pull of 2.2 kN
5. **Vandal Resistant Clothes Hooks (CH):** Model B-983
  - .1 Stainless steel
  - .2 Quantity: 1, Universal washroom. Mounting height to be 1200 max.
6. **Baby Change Table:** basis of design: model KB311-SSWM, vertical wall surface-mounted stainless steel finish, by Koala Kare.

## **2.3 Component Minimum Requirements**

1. **Construction:** Fabricate with materials, component sizes, metal gauges, reinforcing, anchors and fasteners of adequate strength to withstand intended use.
2. Where specified as frameless, Provide stainless steel accessories with one-piece fronts having 90 degree formed returns at their edges and openings.
3. Where accessory fronts are framed, frame edges, both inside and outside, with 90 degree formed returns continuously welded and ground smooth at the corners. Doors shall also have 90 degree formed returns as specified.
4. Unless otherwise specified, hinges shall be semi-concealed stainless steel piano hinges extending full-length of hinged element. Provide hinged elements with concealed,

mechanically-retained rubber bumpers for silent closing, and shall close flush with faces of fronts or frames.

5. Ensure that Work will remain free of warping, buckling, opening of joints and seams, distortion and permanent deformation.
6. No exposed fixings permitted. Cut edges and openings square and smooth. Chamfer corners of edges and cut-outs 1.6 mm.
7. **Assembly** Accurately cut, machine and fit joints, corners, copes and mitres so that junctions between components fit together tightly and in true planes.
8. Fasten Work with concealed methods, unless otherwise indicated on Drawings.
9. Weld all connections where possible, bolt where not possible and cut off bolts flush with nuts. Countersunk bolt heads, and Provide method to prevent loosening of nuts. Ream holes drilled for fastening.
10. Welded joints shall be tight, flush, and in true planes with base metals. Make welds continuous at joints where entry of water into voids of members or assemblies is possible.
11. Provide for differential movements within assemblies and at junctions of assemblies with surrounding Work.
12. Welds in exposed locations shall be ground and polished smooth.
13. **Finish Work:** Provide holes and connections for related Work installed under other Sections of this Specification, if applicable.
14. Cleanly and smoothly finish exposed edges of materials, including holes.

## **PART 3 - EXECUTION**

### **3.1 Inspection of Site**

1. Take site measurements to ensure that Work is fabricated to fit surrounding construction around obstructions and Projects in place, or as shown on Drawings, and to suit service locations.

### **3.2 Installation**

1. Install all accessories in accordance with manufacturer's instructions at their recommended mounting heights unless noted otherwise on Drawings.
2. Securely fasten accessories plumb, true, square, straight, level, and accurately and tightly fitted together and to surrounding Work. Install in locations shown and specified herein. Mounting heights as shown or in accordance with the OBC in the case of barrier-free accessories.

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3. Work shall include anchor bolts, bolts, washers and nuts, lag screws, expansion shields, toggles, straps, sleeve brackets, clips, and other items necessary for secure installation, as required by loading and by Jurisdictional Authorities.
  4. Attach Work at wood by screws through countersunk holes in metal.
  5. Attach Work to masonry with lead plugs and non-corrosive fastenings, to support load with a safety factor of 3. Perform all drilling necessary to install the Work.
  6. Insulate between dissimilar metals or between metals and masonry or concrete with bituminous paint, to prevent electrolysis.
  7. Coordinate installation with the Work of other trades adjacent to accessories to achieve the reveals or other edge conditions shown, where their front faces are flush with the finished wall surfaces.
  8. Owner to supply and install remainder of washroom accessories not specified here (such as toilet paper dispensers). Cooperate with Owner as required.

### **3.3 Cleaning Up and Adjustment**

1. Upon completion of the Work, or when directed, remove all traces of protective coatings or paper.
2. Test mechanisms, hinges, locks and latches, and where necessary, adjust and lubricate and ensure that accessories are in perfect Working order.

End of Section





## **PART 1 GENERAL**

### **1.1 General and Related Work**

- .1 Read this Section in conjunction with all drawings and all other Sections so as to comply with the requirements of the General Conditions of the Contract.
- .2 Related work specified elsewhere:
  - .1 Section 02 83 10 Lead Abatement – Class 1 Procedures
  - .2 Section 02 83 11 Lead Abatement – Class 2 Procedures
  - .3 Section 02 85 10 Silica – Minimum Precautions
  - .4 Section 02 85 11 Silica – Intermediate Precautions
- .3 Site Conditions identifies all known hazardous building materials within the Project Area. The information provided is for general reference only. It is recommended each Contractor confirm existing conditions on site prior to tender close.
  - .1 The specification fulfils the requirements of Section 30 of the Ontario Occupational Health and Safety Act.
  - .2 The specification fulfils the requirements of the Section 10 of Ontario Regulation 278/05.
- .4 The Outline of Work identifies the location, condition and quantities of hazardous building materials to be removed as part of this project.
  - .1 It is the intent that work prescribed this Section will result in the removal of all hazardous materials as outlined and the decontamination of all surfaces or materials which may have been or become contaminated by hazardous materials either during or prior to work of this Contract.

### **1.2 Site Conditions**

- .1 Refer to the report entitled “Hazardous Building Materials Assessment (Pre-construction), Victoria Park, 500 King Street West, Hamilton, Ontario”, dated December 16, 2021, prepared by Pinchin Ltd., file number 286548.016.

### **1.3 Outline of Work**

- .1 Coordinate the following items with the Owner’s Project Manager and the Construction Manager, which are to be included in the abatement contractor’s scope of work, including but not limited to: electrical isolations, GFI connection, water connections, HVAC and exhaust ventilation system isolation, bin placement, schedule, disconnects, etc.
- .2 Refer to the Contract Drawings for the extent of construction work and the Work Areas.

- .3 Follow lead procedures prescribed in the Sections identified in Related Work, complete the following:
  - .1 Follow lead procedures when disturbing lead materials, lead paint and/or materials with lead paint.
  - .2 Remove and dispose of paint debris and peeling/flaking lead paint in the Basement.
  - .3 Paint to be disposed of as hazardous waste.
- .4 Follow silica procedures prescribed in the Section identified in Related Work when disturbing silica-containing materials.
- .5 Follow mercury procedures prescribed in the Sections identified in Related work when removing all light fixtures and fluorescent light tubes. Place all light fixtures into containers to avoid breakage.
- .6 Following Polychlorinated Biphenyls (PCB) procedures, remove and dispose of PCB-containing ballasts.
- .7 Refer to Specification Sections identified in the Related Work for specified personnel protective measures for the safe handling, removal, clean-up, of hazardous materials in each phase or work area.
- .8 Protect surfaces, building fabrics and items remaining within the Abatement Work Area.
- .9 Without disturbing hazardous materials, perform removals where required, prior to abatement work.
  - .1 Maximize waste diversion by use of resale of building materials, or recycling.
- .10 Isolate the Abatement Work Area from adjoining Occupied and Non-Occupied Areas whether present at an interior or exterior location.
- .11 Maintain emergency and fire exits from Abatement Work Area, or establish alternative exits satisfactory to Provincial Fire Marshall and local authorities having jurisdiction. Maintain extra routes from occupied areas. Place emergency exit signs at locations to clearly mark exit route. Seal emergency exit doors so as not to impede use of door during emergency evacuation.
- .12 Remove and dispose of as appropriate waste, building components, materials and items contaminated by hazardous materials that cannot be effectively cleaned.
- .13 Encapsulate remaining hazardous materials at locations where removal is deemed impractical by the Abatement Consultant.
- .14 Final clean work area to remove visible signs of hazardous materials, other debris or settled dust.

- .15 Apply lock-down agent to exposed surfaces throughout the work area and to surfaces from which any hazardous materials have been removed.
  - .1 Do not apply lock-down to materials which would be damaged by its application.
- .16 Unless otherwise specified, the handling, removal, clean-up or repair of hazardous materials or surfaces contaminated with hazardous materials is to be performed following wet removal techniques.

#### **1.4 Schedule**

- .1 Coordinate all work, scheduling and phasing with the Owner.
- .2 Duration for which HVAC systems may remain shutdown to accommodate quiet hours work will vary in accordance with outside weather conditions and internal demand. Duration of quiet hours work will have to be scheduled accordingly and in consultation with the Abatement Consultant and Owner.
- .2 Provide 48 hours written notice to the Abatement Consultant of any request to work outside normal working hours. Obtain written approval before proceeding.

#### **1.5 Definitions**

- .1 Abatement Consultant: Owner's Representative providing inspection and air monitoring.
- .2 Abatement Contractor: Contractor or sub-contractor performing work of this section.
- .3 Abatement Work Area: Area where work takes place which will, or may, disturb hazardous materials.
- .4 Amended Water: Water with wetting agent added for the purpose of reducing surface tension to allow thorough wetting of materials.
- .5 Authorized Visitors: Building Owner, Abatement Consultant, or designated representative, and persons representing regulatory agencies.
- .6 Competent Worker: A worker who is qualified because of knowledge, training and experience to perform the work, is familiar with Regulation 278/05 and the Occupational Health and Safety Act, and has knowledge of the potential or actual danger to health and safety in the work.
- .7 Contaminated Waste: Material identified under Site Conditions, including fallen material, settled dust, other debris and materials or equipment deemed to be contaminated by the Abatement Consultant.
- .8 Curtained Doorway: Doorway consisting of two (2) overlapping flaps of rip-proof polyethylene arranged to permit ingress and egress from one room to another while permitting minimal air movement between rooms.

- .9 DOP Test: A testing method used to determine the integrity of the Negative Pressure unit or vacuum using a Dispersed Oil Particulate (DOP) or Poly Alpha Olefin (PAO) HEPA filter leak test. This test is to be conducted on site where units are to be installed. Refer to the Environmental Abatement Council of Ontario (EACO) DOP/PAO Testing Guideline 2013 or ANSI/ASME N510-2007.
- .10 HEPA: High Efficiency Particulate Aerosol filter that is at least 99.97 percent efficient in collecting a 0.3 micrometre aerosol.
- .11 Lead-Containing: The Ontario Ministry of Labour (MOL) has not established a lower limit for concentrations of lead in paint, below which precautions do not need to be considered during construction projects. Pinchin follows the recommendations of the Environmental Abatement Council of Ontario (EACO) Lead Guideline for Construction, Renovation, Maintenance or Repair. The Guideline suggests that 0.1% (1,000 ppm) lead in paint represents a de minimis concentration of lead in paint for construction hygiene purposes, that is a concentration below which the lead content is not the limiting hazard in any disturbance of leaded paint for non-aggressive disturbance of painted finishes, (hand powered demolition, chipping, scraping, light sanding, etc.).
- .12 Lead Waste: Waste generated from removal of lead-containing materials, or the substrate and paint finish where left intact.
- .13 Mercury Waste: Equipment, materials or items containing mercury or contaminated with mercury.
- .14 Milestone Inspection: Inspection of the Abatement Work Area at a defined point in the abatement operation.
- .15 Occupied Area: Any area of the building or adjoining space outside the Abatement Work Area.
- .16 Personnel: All Contractor's employees, sub-contractors employees, supervisors.
- .17 PCBs: Monochlorinated or Polychlorinated Biphenyls (or any mixture of both).
- .18 PCB Material: means solid material containing PCBs at a concentration of more than fifty milligrams per kilogram (mg/kg) or 50 parts per million (ppm), or liquid with greater than 2 mg/kg or ppm.
- .19 PCB Waste: PCB Equipment, PCB Material, PCB Liquids and materials or items contaminated with PCBs.
- .20 Remove: Remove means remove and dispose of (as applicable type of waste) unless followed by other instruction (e.g. remove and turn over to Owner).

## **1.6 Regulations and Guidelines**

- .1 Comply with Federal, Provincial, and local requirements, provided that in any case of conflict among those requirements or with these Specifications, the more stringent requirements shall apply. Work shall be performed under regulations in effect at the time work is performed.
- .2 Where regulations are not present, follow accepted industry standards and applicable Guideline documents.
- .3 Regulations and Guidelines include but are not limited to the following:
  - .1 Ministry of Labour Occupational Health and Safety Act Regulations for Construction Projects including Revised Statutes of Ontario 1990, Chapter 0.1 and Ontario Regulation 278/05.
  - .2 Ministry of the Environment and Climate Change Regulation for the disposal of waste, including R.R.O. 1990, Reg. 347 as amended.
  - .3 PCB Regulations, SOR 2008-273 and R.R.O. 1990, Reg 362.
  - .4 Regulation 490/09 Designated Substances.
  - .5 Environmental Abatement Council of Ontario (EACO), Lead Guideline For Construction, Renovation, Maintenance or Repair, October 2014.
  - .6 Ministry of Labour, Guideline, Silica on Construction Projects, 2011.

## **1.7 Quality Assurance**

- .1 Removal and handling of hazardous materials is to be performed by persons trained in the methods, procedures and industry practices for Abatement.
- .2 Ensure work proceeds to schedule, meeting all requirements of this Specification.
- .3 Complete work so that at no time airborne dust, visible debris, or water runoff contaminate areas outside the Abatement Work Area.
- .4 Any contamination of surrounding area (indicated by visual inspection or air monitoring) shall necessitate the clean-up of affected area, and in the same manner applicable to an Abatement Work Area at no cost to the Owner.
- .5 All work involving electrical, mechanical, carpentry, glazing, etc., shall be performed by licensed persons experienced and qualified for the work required.

## **1.8 Supervision**

- .1 Provide on site for each work shift, a Shift Superintendent(s), who has authority regarding all aspects related to manpower, equipment and production.

- .2 At all times during work, Shift Superintendent(s) must be on site. Failure to comply with this requirement will result in a stoppage of all work, at no cost to the Owner.
- .3 Replace supervisory personnel, with approved replacements, within three (3) working days of a written request from the Owner. Owner reserves the right to request replacement of supervisory personnel without explanation.
- .4 Do not replace supervisory personnel without written approval from the Owner.

## **1.9 Instruction and Training**

- .1 Instruction and training must be provided by a competent person.

## **1.10 Notification**

- .1 Before commencing work, notify orally and in writing, an inspector at the office of the Ontario Ministry of Labour nearest the project site, where required.
- .2 Inform all trades on site of the presence and location of hazardous materials identified in the Contract documents.
- .3 Notify the Owner or Owner's Representative, the Joint Occupational Health and Safety Committee and the Provincial Ministry of Labour, if suspected asbestos-containing materials not identified in the contract documents are discovered during the course of the work. Stop work in these areas immediately.
- .4 Notify Sanitary Landfill site as per O.Reg. 347/90 as amended.

## **1.11 Submittals**

- .1 Submit prior to starting work:
  - .1 Provincial Workers' Compensation Board Clearance Certificate.
  - .2 Insurance certificates.
  - .3 Copy of Company Health and Safety Policy and applicable programs.
  - .4 Ministry of Labour Notice of Project form.
  - .5 Copy of Certificate of Approval for disposal of hazardous materials waste and location of landfill.
  - .6 Pre-removal damage survey of the Abatement Work Area(s), waste transport routes, and bin storage areas
- .2 Submit the following information regarding personnel prior to starting work:
  - .1 Written statement that personnel have had instruction on hazards of exposure to hazardous materials identified within this scope, the use of respirator, protective

- clothing, worker and waste decontamination procedures, and all aspects of work procedures and protective measures.
- .2 WHMIS training certificates for all personnel.
- .3 Certificate proving that each worker on site has been fit tested for the respirator appropriate for the work being performed.
- .3 Submit the following information regarding HEPA filtered devices prior to construction of enclosure:
  - .1 Performance data on HEPA filtered vacuums including DOP tests no more than 3 months old.
  - .2 Performance data on negative air units including DOP tests which must be no more than 3 months old if the unit is vented outdoors or which must be performed on site immediately prior to initial usage and when HEPA filters are changed if the unit is vented indoors.
  - .3 DOP tests to be performed by an independent testing company.
    - .1 DOP testing company is required to submit a detailed technical report of testing protocol, including Introduction, Methodology, Results, Conclusions, and Recommendations, including results of the Air-Aerosol Mixing Uniformity test as per ASME N510-1989 (1995).
    - .2 DOP testing company must also provide calibration certificates from an independent calibration firm or from the manufacturer of the testing equipment for both the aerosol photometer and the pressure gauge on the aerosol generator dated within 1 calendar year from the on-site testing date.
    - .3 DOP testing company must also provide the National Sanitation Foundation (NSF) certification name and number of the on-site technician performing the testing.
  - .4 Proof of calibration of DOP testing equipment.
- .4 Submit the following prior to isolating the work area:
  - .1 Safety Data Sheets for chemicals or material used in the course of the Abatement Project.
- .5 Submit the following upon completion of the work.
  - .1 Manifests, waybills, bills of lading etc. as applicable for each type of waste.

## **1.12 Inspection**

- .1 From commencement of work until completion of clean-up operations, the Abatement Consultant is empowered by the Owner to inspect for compliance with the requirements of governing authorities, adherence to specified procedures and materials, and to inspect for final cleanliness and completion.

- .2 The Abatement Consultant is empowered by the Owner to order a shutdown of work when leakage of hazardous materials from the controlled work area has occurred or is likely to occur.
- .3 Any deviation from the requirements of the Specifications or governing authorities that is not approved in writing may result in a stoppage of work, at no cost to the Owner.
- .4 Additional labour or materials expended by the Contractor to rectify unsatisfactory conditions and to provide performance to the level specified shall be at no additional cost to the Owner.
- .5 Inspection and air monitoring performed as a result of Contractor's failure to perform satisfactorily regarding quality, safety, or schedule, shall be back-charged to the Contractor.
- .6 Facilitate inspection and provide access as necessary. Make good work disturbed by inspection and testing at no cost to the Owner.
- .7 Refer to the Sections identified in Related Work for specified milestone inspections which are to take place at defined points throughout the abatement operation specific to each phase or work area.
- .8 Provide 24 hours written notice to the Abatement Consultant of any request for scheduling of milestone inspections or transportation of waste through Occupied Areas.
- .9 The following Milestone Inspections may take place, at the Owner's cost, as outlined in each related specification:
  - .1 Milestone Inspection - Clean Site Preparation
    - .1 Inspection of preparations and set-up prior to contaminated work in the Abatement Work Area.
  - .2 Milestone Inspection – Bulk Removal Inspection
    - .1 Inspection during hazardous material removal, monitoring removal methods, site deficiencies, performing occupied air monitoring, etc.
  - .3 Milestone Inspection - Visual Clearance
    - .1 Inspection of Abatement Work Area after completion of all abatement, but prior to application of lock-down agents or dismantling of enclosure.
- .10 Refer to the Sections identified in Related Work for specified milestone inspections which are to take place at defined points throughout the abatement operation specific to each phase or work area.
- .11 Do not proceed with next phase of work until written approval of each milestone is received from the Abatement Consultant.



### **1.13 Worker Protection**

- .1 Instruct workers before allowing entry to the Abatement Work Area. Instruction shall include training in use of respirators, dress, showering, entry and exiting from an Abatement Work Area, and all other aspects of work procedures and protective measures.
- .2 Workers shall not eat, drink, chew gum or tobacco, vape or smoke in the Abatement Work Area.
- .3 Workers shall be fully protected at all times when possibility of disturbance of hazardous materials exists.
- .4 Provide soap, towels and facilities for washing of hands and face, which shall be used by all personnel when leaving the Abatement Work Area.
- .5 Respiratory Protection
  - .1 Refer to each particular Section of the Specification for specified type of respiratory equipment specific to each phase or work area.
  - .2 Respirators shall be:
    - .1 Certified by the National Institute of Occupational Safety and Health (NIOSH) or other testing agency acceptable to the Ministry of Labour.
    - .2 Fitted so that there is an effective seal between the respirator and the worker's face. Ensure that no person required to enter an Abatement Work Area has facial hair which affects the seal between respirator and face.
    - .3 Assigned to a worker for their exclusive use.
    - .4 Maintained in accordance with manufacturer's specifications.
    - .5 Cleaned, disinfected and inspected by a competent person after use on each shift, or more often if required.
    - .6 Repaired or have damaged or deteriorated parts replaced.
    - .7 Stored in a clean and sanitary location.
    - .8 Provided with new filters as necessary, according to manufacturer's instructions.
    - .9 Worn by personnel who have been fit checked by qualitative or quantitative fit-testing.
    - .10 Instruction on proper use of respirators must be provided by a competent person as defined by the Occupational Health and Safety Act.
  - .3 Provide protective clothing, to all personnel which:
    - .1 Is made of a material that does not readily retain nor permit penetration of asbestos fibres or lead/silica dust.
    - .2 Consists of head covering and full body covering that fits snugly at the ankles, wrists and neck.
    - .3 Once coveralls are worn, treat and dispose of as contaminated waste.
    - .4 Is replaced or repaired if torn or ripped.
  - .4 Use hard hats, safety footwear and other protective equipment and apparel required by applicable construction safety regulations.

#### **1.14 Visitor Protection**

- .1 Provide clean protective clothing and equipment to Authorized Visitors.
- .2 Instruct Authorized Visitors in the use of protective clothing and Abatement Work Area entry and exit procedures.
- .3 Authorized visitors are required to be fit tested on respirators, prior to entering Abatement Work Area.
  - .1 Respirator worn must be compliant with Section 13 and Table 2 of O.Reg. 278/05.

#### **1.15 Signage**

- .1 Lead Abatement Signs: Post signs at access points to the Abatement Work Area, stating at minimum, the following:
  - .1 There is a lead dust, fume or mist hazard.
  - .2 Access to the work area is restricted to authorized persons.
  - .3 Respirators must be worn in the work area.
- .2 Silica Warning Signs: Post signs at access points to the Abatement Work Area, stating at minimum, the following:
  - .1 There is a silica dust hazard.
  - .2 Access to the work area is restricted to authorized persons.
  - .3 Respirators must be worn in the work area.
- .3 Place placards in accordance with Transportation of Dangerous Goods Act.

#### **1.16 Waste and Material Handling**

- .1 Waste bins must be placed on grade or in receiving.
- .2 All bins for hazardous materials must be covered and locked when waste transfer is not being performed.
- .3 Ensure redundant non-ACM, rubble, debris, etc. removed during contaminated work are treated, packaged, transported and disposed of as appropriate waste.
- .4 Clean, wash and apply Post Removal Sealant to metal waste prior to removal from Abatement Work Area. Recycle metals.
- .5 Clean, wash and apply Post Removal Sealant to non-porous materials prior to disposal as clean waste. Obtain prior written approval from the Abatement Consultant for each individual type of material.

- .6 Clean and wash equipment prior to removal from Abatement Work Area if removed prior to completion.
- .7 Place all equipment, tools and unused materials that cannot be cleaned in Abatement Waste Containers.
- .8 As work progresses, and at regular intervals, transport the sealed and labelled waste containers from the Abatement Work Area to waste bin.
- .9 Place items in bins according to waste classification. Place lead waste, metals, non-asbestos waste, etc. in separate bins.
- .10 Removal of waste containers and decontaminated tools and materials from the Abatement Work Area shall be performed as follows:
  - .1 Remove any visible contamination from the surface of non-porous or cleanable waste being removed from the Abatement Work Area. If the item can be cleaned, remove it from the site as clean waste.
  - .2 Place waste or item in Waste Container and seal closed.
  - .3 Wet wipe outside of Waste Container.
  - .4 Within Decontamination Facility, Transfer Room or at the perimeter of the Abatement Work Area, place in second Waste Container. Seal closed.
  - .5 Remove waste containers and transport to appropriate bin.
- .11 Transport waste and materials via the predetermined routes and exits. Arrange waste transfer route with Owner. Use a closed, covered cart to transport through Occupied Areas.
- .12 Provide workers transporting waste with means to access full personal protective equipment and all tools required to properly clean up spilled material in the case of a rupture of a Waste Container.
- .13 Pick-up and drop off of garbage bin shall be at pre-approved times, and must not interfere with the Owners operations.
- .14 Transport hazardous waste to landfill or waste transfer station licensed by the provincial Ministry of the Environment.
- .15 Cooperate with the provincial Ministry of the Environment inspectors and immediately carry out instructions for remedial work at dump to maintain environment, at no additional cost to the Owner.

#### **1.17 Re-establishment of Objects and Systems**

- .1 Re-establish objects and items relocated by the Contractor's workforce to facilitate work.

- .2 Re-establish electrical, communication, HVAC and other services previously disconnected or otherwise isolated to accommodate work by this Section.
- .3 Make good at completion of work, all damage not identified in pre-removal survey.

## **PART 2 PRODUCTS AND FACILITIES**

### **2.1 Materials and Equipment**

- .1 Refer to the Sections identified in Related Work for specified materials, equipment or facilities specific to each phase or work area.
- .2 Materials and equipment must be in good condition and free of debris and fibrous materials. Disposable items must be of new materials only.
- .3 Airless Sprayer: AC powered pressure washer that allows wetting agent to mix with water, uses no air or compressed air, and has a nozzle to regulate power and pressure.
- .4 Amended Water: Water with wetting agent added for purpose of reducing surface tension to allow thorough wetting of materials.
- .5 Discharge Ducting: Polyethylene Tubing. Reinforced with wire. Diameter to equal negative pressure machine discharge. Not to be longer than required, or so long that negative pressure is compromised.
- .6 HEPA Vacuum: Vacuum with necessary fittings, tools and attachments. Discharged air must pass through a HEPA filter.
- .7 Lead Waste Container: An impermeable container acceptable to disposal site and Ministry of the Environment, that is:
  - .1 Dust tight.
  - .2 Suitable for the type of waste.
  - .3 Evaluated for leachable lead content, and disposed of in accordance with applicable regulations.
    - .1 Where lead waste exceeds 5.0 mg/L of lead in the TCLP analysis, label as lead waste and dispose of as leachate toxic hazardous waste.
    - .2 Where lead waste is below 5.0 mg/L of lead in the TCLP analysis, disposed of as construction waste.
- .8 Polyethylene Sheeting: 6 mil (0.15 mm) minimum thickness unless otherwise specified, in sheet size to minimize joints.: 6 mil (0.15 mm) minimum thickness unless otherwise specified, in sheet size to minimize joints.

- .9 Post Removal Sealant (or Lockdown): Sealant that when applied to surfaces serves the function of trapping residual asbestos fibres or other dust. Product must have flame spread and smoke development ratings both less than 50. Product shall leave no stain when dry. Post Removal Sealant shall be compatible with replacement insulation or fireproofing where required and capable of withstanding service temperature of substrate. Apply to manufacturer's instructions.
- .10 Protective Clothing: Disposable coveralls complete with head covering and full body covering that fits snugly at the ankles, wrists and neck.
- .11 Rip-Proof Polyethylene Sheeting: 8 mil (0.20 mm) fabric made up from 5 mil (0.13 mm) weave and two (2) layers of 1.5 mil (0.05 mm) poly laminate or approved equal. In sheet size to minimize on-site seams and overlaps.
- .12 Sprayer: Garden type portable manual sprayer or water hose with spray attachment if suitable.
- .13 Tape: Duct tape or tape suitable for sealing polyethylene to surfaces under both dry and wet conditions in the presence of Amended Water.
- .14 Wetting Agent: Non-sudsing surfactant added to water to reduce surface tension and increase wetting ability.

### **PART 3 EXECUTION**

- .1 Refer to the Sections identified in Related Work for specified procedures for work area preparation, maintenance, site dismantlement, application of lock-down agent and all other procedures for the safe handling, removal and clean-up of hazardous materials specific to each phase or work area.

### **END OF SECTION**

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## **PART 1      GENERAL**

- .1 Read this Section in conjunction with all drawings and all other Sections so as to comply with the requirements of the General Conditions of the Contract.
- .2 Requirements specified elsewhere:
  - .1 Section 02 81 00 Hazardous Materials – General Provisions

### **1.2      Outline of Work**

- .1 Refer to Section 02 81 00 Hazardous Materials – General Provisions for the Outline of Work.
- .2 The intent of this Section is to provide safe work practices and procedures to govern the handling, removal, clean-up and disposal of lead-containing materials following Class 1 or Low Risk procedures, and Pinchin and Owner specific requirements.
- .3 Comply with requirements of this Section when performing following Work:
  - .1 Removal of lead-containing surface coatings with a chemical gel, stripper or paste.
  - .2 Removal of materials coating with lead-containing surface coatings, using non-powered hand tools, where the materials remains primarily intact, and is not crumbled, pulverized or powdered.

### **1.3      Instruction and Training**

- .1 Provide instruction and training to all workers including the following:
  - .1 Hazards of lead.
  - .2 Use, care and disposal of protective equipment (including but not limited to respirators and filters) and clothing that would be used and worn during abatement work, including:
    - .1 Limitations of equipment.
    - .2 Inspection and maintenance of equipment.
    - .3 Proper fitting of equipment.
    - .4 Disinfecting and cleaning of equipment.
  - .3 Personal hygiene to be observed when performing the work.
  - .4 The measures and procedures prescribed by this section including decontamination of the worker.
  - .5 Instruction and training must be provided by a competent person.

### **1.4      Personal Protection**

- .1 Provide non-powered half-face respirators with P100 high efficiency cartridge filters when requested by personnel.
- .2 Provide protective clothing, when requested by personnel, entering the Abatement Work Area, including:
  - .1 Disposable protective clothing that does not readily retain or permit skin contamination, consisting of full body covering including head covering with snug fitting cuffs at wrists, ankles, and neck.

- .3 Provide protective clothing, to all personnel entering the Abatement Work Area, including:
  - .1 Dust impermeable gloves appropriate for the work being completed.
- .4 Wear hard hats, safety shoes and other personal protective equipment required by applicable construction safety regulations.
- .5 Lead-specific soaps and hygiene indicators are recommended to be provided for shower and hand-wash stations.

## **1.5 Inspections**

- .1 Refer to Section 02 81 00 – General Provisions.
- .2 The following Milestone Inspections are to be scheduled:
  - .1 Milestone Inspection - Clean Site Preparation
  - .2 Milestone Inspection – Bulk Removal Inspection
  - .3 Milestone Inspection - Visual Clearance

## **PART 2 PRODUCTS AND FACILITIES**

- .1 Refer to Section 02 81 00.

### **2.2 Hoarding Walls**

- .1 Type A Hoarding Wall: One layer of rip-proof polyethylene sheeting installed floor to ceiling, secured with telescopic poles, clips, or other suitable methods.

### **2.3 Curtained Doorways**

- .1 Construct as follows:
  - .1 Install two flap doors, full width and height of door opening at all doors to Abatement Work Area and both ends of Transfer Room.
  - .2 Construct each flap door of two layers of polyethylene sheeting with all edges reinforced with tape. Use wood strapping to securely fasten flap doors to head and alternate jambs.
  - .3 Install weights attached to bottom edge of each door flap.
  - .4 Provide direction arrows on flaps to indicate opening.

## **PART 3 EXECUTION**

### **3.1 Site Preparation - General**

- .1 Provide washing facilities consisting of a wash basin, clean water, soap and towels.
  - .1 Workers are to use washing facilities each time leaving the Abatement Work Area.
- .2 Stored or non-fixed items, including but not limited to equipment, furniture, waste etc., shall be removed from the Abatement Work Area prior to abatement work.
- .3 Isolate, at panel, and disconnect existing power supply to Abatement Work Area. Power supply to remaining areas of building must not be disrupted during work of this section.
  - .1 Lock-out/tag-out power at electrical panels.

- .2 Mark/tag any items within or passing through the Abatement Work Area that are to remain live including but not limited to cable, conduit, wire, fixtures, equipment panels, etc.
- .4 Shut down HVAC systems serving the Abatement Work Area.
  - .1 Install polyethylene sheeting over openings in ducts and diffusers and seal.
  - .2 HVAC to remaining areas of building must not be disrupted during work of this section.
  - .3 System shall remain inoperative until completion of work, unless ducts can be effectively capped.
  - .4 Perform work at scheduled times after shutting down HVAC systems affecting the Abatement Work Area.
- .5 Remove visible dust from all surfaces in the work area including those to be worked on, using HEPA Vacuums or wet wiping.
- .6 Provide amended water for wetting materials, and adequate method of wetting (garden sprayers, airless sprayers, etc.).
- .7 Provide electrical power and shut off for operation of powered tools and equipment. Provide ground fault interrupter circuits on power source for electrical tools, in accordance with applicable CSA Standard.
  - .1 Ensure safe installation of electrical lines and equipment.
- .8 Do not use compressed air to clean or remove dust or debris.
- .9 Frequently and at regular intervals during the work, clean up dust and waste using HEPA vacuums and/or wet sweeping or mopping.
- .10 Frequently and at regular intervals, place all waste in waste containers.
- .11 Immediately upon completion of work, clean area with HEPA vacuum and/or wet sweeping or mopping.

### **3.2 Site Preparation – No Enclosure Required**

- .1 Isolate Abatement Work Area with barrier tape.
- .2 Protect floor surfaces covered from wall to wall with polyethylene sheets.
- .3 Maintain Abatement Work Area in tidy condition.
- .4 Remove waste and debris frequently.
- .5 Remove standing water on polyethylene/floor at the end of every shift.
- .6 Turn off water supply to hoses and reduce pressure in hose, prior to leaving the Abatement Work Area at end of shift.

### **3.3 Lead-Containing Paint Abatement**

- .1 Removal methods minimizing dust generation should be used wherever possible.
  - .1 Wet methods are to be used to reduce dust generation.
  - .2 Wetting agents should be used where possible.



- .3 Wet methods are not to be used if it creates a hazard or cause damage to equipment or to project.
- .2 Provide drop sheets below all lead operations that may produce dust, chips or debris containing lead.
- .3 Waste water from cleaning or removal operations must be contained, for treatment or disposal.
- .4 Remove lead-containing paint in small sections and pack as it is being removed in sealable lead waste containers.
- .5 Follow manufacturer's instructions for all use of chemical gels, strippers and pastes.
  - .1 Ensure agent neutralizers, were required, are applied.
  - .2 Do not use chemical gels, strippers or pastes on surfaces where they are scheduled to be repainted, and the material affect the new paint application.
- .6 After completion of stripping work, wire brush and wet sponge surface from which lead based paint has been removed to remove visible material. During this work keep surfaces wet.
- .7 After wire brushing and wet sponging to remove visible lead-containing paint, wet clean entire work area, and equipment used in process.
  - .1 Compressed air or dry sweeping not be used to clean up lead-containing dust or waste.
  - .2 Ensure all waste is cleaned and packaged.
- .8 Seal filled containers. Clean external surfaces thoroughly by wet sponging. Remove from immediate working area to staging area. Clean external surfaces thoroughly again by wet sponging. Wash containers thoroughly pending removal to outside.

### **3.4 Waste Management and Disposal**

- .1 Per Section 02 81 00.

### **3.5 Final Cleaning**

- .1 Remove polyethylene sheet by rolling it away from walls to centre of work area. Vacuum visible lead containing particles observed during cleanup, immediately, using HEPA vacuum.
- .2 Place polyethylene sheets, tape, cleaning material, clothing, and contaminated waste in plastic bags and sealed labelled waste containers for transport.
- .3 Conduct final check to ensure no dust or debris remains on surfaces as result of dismantling operations.

## **END OF SECTION**

## **PART 1 GENERAL**

- .1 Read this Section in conjunction with all drawings and all other Sections so as to comply with the requirements of the General Conditions of the Contract.
- .2 Requirements specified elsewhere:
  - .1 Section 02 81 00 Hazardous Materials – General Provisions

### **1.2 Outline of Work**

- .1 Refer to Section 02 81 00 Hazardous Materials – General Provisions for the Outline of Work.
- .2 The intent of this Section is to provide safe work practices and procedures to govern the handling, removal, clean-up and disposal of lead-containing materials following Class 2 or Moderate Risk procedures, and Pinchin and Owner specific requirements.
- .3 Comply with requirements of this Section when performing following Work:
  - .1 Removal of lead containing paint using power tools with an effective dust collection system equipped with HEPA filter.
  - .2 Removal of lead-containing surface coatings or materials by scraping or sanding (including wet sanding) using non-powered hand tools.
  - .3 Demolition of plaster or other building components that crumble, pulverize or powder and are covered with lead-containing surface coating.

### **1.3 Instruction and Training**

- .1 Provide instruction and training to all workers including the following:
  - .1 Hazards of lead.
  - .2 Use, care and disposal of protective equipment (including but not limited to respirators and filters) and clothing that would be used and worn during abatement work, including:
    - .1 Limitations of equipment.
    - .2 Inspection and maintenance of equipment.
    - .3 Proper fitting of equipment.
    - .4 Disinfecting and cleaning of equipment.
  - .3 Personal hygiene to be observed when performing the work.
  - .4 The measures and procedures prescribed by this section including decontamination of the worker.
  - .5 Instruction and training must be provided by a competent person.

### **1.4 Personal Protection**

- .1 Provide the following respiratory protection to all personnel, at minimum:
  - .1 Non-powered half-face respirators with P100 high efficiency cartridge filters.
  - .2 Non-powered full-face respirators with P100 high efficiency cartridge filters for spray application of lead-containing surface coatings.
- .2 Provide protective clothing, to all personnel entering the Abatement Work Area, including:

- .1 Dust impermeable gloves appropriate for the work being completed.
- .2 Disposable protective clothing that does not readily retain or permit skin contamination, consisting of full body covering including head covering with snug fitting cuffs at wrists, ankles, and neck.
- .3 Provide protective clothing, to all personnel entering the Abatement Work Area.
- .4 Wear hard hats, safety shoes and other personal protective equipment required by applicable construction safety regulations.
- .5 Lead-specific soaps and hygiene indicators are recommended to be provided for shower and hand-wash stations.

## **1.5 Inspections**

- .1 Refer to Section 02 81 00 – General Provisions.
- .2 The following Milestone Inspections are to be scheduled:
  - .1 Milestone Inspection - Clean Site Preparation
  - .2 Milestone Inspection – Bulk Removal Inspection
  - .3 Milestone Inspection - Visual Clearance

## **PART 2 PRODUCTS AND FACILITIES**

- .1 Refer to Section 02 81 00.

### **2.2 Hoarding Walls**

- .1 Type A Hoarding Wall: One layer of rip-proof polyethylene sheeting installed floor to ceiling, secured with telescopic poles, clips, or other suitable methods.

### **2.3 Transfer Room**

- .1 Transfer Room to be generally 2000 mm x 2000 mm x 2200 mm high. Increase size accordingly to accommodate number of workers.
- .2 Install walls as follows:
  - .1 Install 38 x 89 mm wood framing at 610 mm o/c with continuous top and sill plates.
  - .2 Install one layer rip-proof polyethylene sheeting on interior walls of Transfer Room.
- .3 Install one layer of rip-proof polyethylene sheeting over two layers of 6 mil polyethylene sheeting beneath entire Transfer Room.
- .4 Install one layer rip-proof polyethylene sheeting over roof.
- .5 Turn 600 mm of polyethylene down the sides over polyethylene on the perimeter walls.
- .6 Install a fire extinguisher, mount to wall.

### **2.4 Curtained Doorways**

- .1 Construct as follows:
  - .1 Install two flap doors, full width and height of door opening at all doors to Abatement Work Area and both ends of Transfer Room.
  - .2 Construct each flap door of two layers of polyethylene sheeting with all edges

reinforced with tape. Use wood strapping to securely fasten flap doors to head and alternate jambs.

- .3 Install weights attached to bottom edge of each door flap.
- .4 Provide direction arrows on flaps to indicate opening.

## **PART 3 EXECUTION**

### **3.1 Site Preparation - General**

- .1 Provide washing facilities consisting of a wash basin, clean water, soap and towels.
  - .1 Workers are to use washing facilities each time leaving the Abatement Work Area.
- .2 Stored or non-fixed items, including but not limited to equipment, furniture, waste etc., shall be removed from the Abatement Work Area prior to abatement work.
- .3 Isolate, at panel, and disconnect existing power supply to Abatement Work Area. Power supply to remaining areas of building must not be disrupted during work of this section.
  - .1 Lock-out/tag-out power at electrical panels.
  - .2 Mark/tag any items within or passing through the Abatement Work Area that are to remain live including but not limited to cable, conduit, wire, fixtures, equipment panels, etc.
- .4 Shut down HVAC systems serving the Abatement Work Area.
  - .1 Install polyethylene sheeting over openings in ducts and diffusers and seal.
  - .2 HVAC to remaining areas of building must not be disrupted during work of this section.
  - .3 System shall remain inoperative until completion of work, unless ducts can be effectively capped.
  - .4 Perform work at scheduled times after shutting down HVAC systems affecting the Abatement Work Area.
- .5 Remove visible dust from all surfaces in the work area including those to be worked on, using HEPA Vacuums or wet wiping.
- .6 Provide amended water for wetting materials, and adequate method of wetting (garden sprayers, airless sprayers, etc.).
- .7 Provide electrical power and shut off for operation of powered tools and equipment. Provide ground fault interrupter circuits on power source for electrical tools, in accordance with applicable CSA Standard.
  - .1 Ensure safe installation of electrical lines and equipment.

- .8 Do not use compressed air to clean or remove dust or debris.
- .9 Frequently and at regular intervals during the work, clean up dust and waste using HEPA vacuums and/or wet sweeping or mopping.
- .10 Frequently and at regular intervals, place all waste in waste containers.
- .11 Immediately upon completion of work, clean area with HEPA vacuum and/or wet sweeping or mopping.

### **3.2 Site Preparation –Enclosure Required**

- .1 Install Transfer Room where duration of work is to last longer than one 8 hour shift.
- .2 Install Curtained Doorways.
- .3 Install polyethylene sheeting at openings in walls (as required) and seal.
- .4 Seal openings in floor using tape, caulking, polyethylene, etc. Floor openings are to be sealed independently prior to installation of floor polyethylene.
- .5 Install polyethylene sheeting on floors of Abatement Work Area. Use sufficient layers to provide adequate protection for carpeting and equipment.
  - .1 Cover floors first so that polyethylene on walls is overlapped by at least 305 mm.
- .6 Install 6 mil polyethylene sheeting on walls to remain, within the Abatement Work Area., including existing walls that make up, or are within, the Abatement Work Area.
- .7 Install one layer of 6 mil polyethylene sheeting so as to protect all equipment and finishes in the Abatement Work Area that may be damaged.
- .8 Place required tools to complete the abatement with the Abatement Work Area.
- .9 Install temporary lighting in enclosure to a level that will provide for safe and efficient use of work area - minimum 550 LUX.
- .10 Establish negative pressure in Abatement Work Areas as follows:
  - .1 Provide sufficient HEPA filtered negative pressure machines to exchange a volume of air equivalent to that of the Abatement Work Area a minimum of every 20 minutes.
  - .2 Provide additional HEPA filtered negative pressure machines as required to ensure air flow from Occupied Area into Abatement Work Area.
  - .3 Operate HEPA filtered negative pressure machines continuously from first disturbance of lead-containing materials until completion of dismantling.
  - .4 Replace prefilters to maintain specified flow rate.
  - .5 Replace HEPA filter as required to maintain flow rate and integrity of unit.
  - .6 Discharge HEPA filtered negative air machines to building exterior, where possible.
    - .1 Direct discharge away from building access points.
- .11 Install Signage in clearly visible locations and in sufficient numbers to adequately warn of lead hazard, and lead hazard where appropriate.

### **3.3 Site Preparation – No Enclosure Required**

- .1 Cover materials to remain in the Abatement Work Area with polyethylene sheeting before disturbing lead-containing materials to control the spread of dust.
- .2 Install caution tape around work area where existing walls are not present.
- .3 Install temporary lighting in enclosure to a level that will provide for safe and efficient use of work area - minimum 550 LUX.
- .4 Place HEPA vacuum in Abatement Work Area.
- .5 Place required tools to complete the abatement with the Abatement Work Area.
- .6 Install Signage in clearly visible locations and in sufficient numbers to adequately warn of a lead dust hazard.

### **3.4 Maintenance of Abatement Work Area**

- .1 Inspect polyethylene sheeting and ensure it is effectively sealed and taped. Repair damage and remedy defects immediately.
- .2 Inspect electrical panels and ensure locks and tags are on panels prior to entering the Abatement Work Area.
- .3 Inspect HEPA filtered negative pressure machines including discharge ducting at the beginning and end of each working period. Inspection must be performed by competent person.
- .4 Maintain Abatement Work Area in tidy condition.
- .5 Remove standing water on polyethylene/floor at the end of every shift.
- .6 Turn off water supply to any hoses and reduce pressure in hose, prior to leaving the Abatement Work Area at end of shift.

### **3.5 Lead Abatement**

- .1 Use the procedures described above under *Site Preparation – Enclosure Required*.
  - .1 Removal of lead-containing surface coatings or materials by scraping or sanding (including wet sanding) using non-powered hand tools.
  - .2 Demolition of plaster or other building components that crumble, pulverize or powder and are covered with lead-containing surface coating.
- .2 Use the procedures described above under *Site Preparation – No Enclosure Required*.
  - .1 Removal of lead containing paint using power tools with an effective dust collection system equipped with HEPA filter.
- .3 Provide washing facilities consisting of a wash basin, clean water, soap and towels.
  - .1 Workers are to use washing facilities each time leaving the Abatement Work Area.
- .4 Removal methods minimizing dust generation should be used wherever possible.
  - .1 Wet methods are to be used to reduce dust generation.
    - .1 Wetting agents should be used where possible.

- .2 Wet method not be used if it creates a hazard or cause damage to equipment or to project.
- .5 Provide drop sheets below all lead operations that may produce dust, chips or debris containing lead.
- .6 Waste water from cleaning or removal operations must be contained, for treatment or disposal.
- .7 Remove lead containing paint in small sections and pack as it is being removed in sealable waste containers.
- .8 Waste generated should be maintained wet until cleaned and packaged.
- .9 After completion of stripping work, wire brush and wet sponge surface from which lead based paint has been removed to remove visible material. During this work keep surfaces wet.
- .10 After wire brushing and wet sponging to remove visible lead containing paint, wet clean entire work area, and equipment used in process.
  - .1 Compressed air or dry sweeping not be used to clean up lead-containing dust or waste.
  - .2 Ensure all waste is cleaned and packaged.
- .11 Seal filled containers. Clean external surfaces thoroughly by wet sponging. Remove from immediate working area to staging area. Clean external surfaces thoroughly again by wet sponging. Wash containers thoroughly pending removal to outside. Ensure containers are removed by workers who have entered from uncontaminated areas dressed in clean coveralls.

### **3.6 Waste Management and Disposal**

- .1 Per Section 02 82 00.

### **3.7 Final Cleaning**

- .1 Following specified cleaning procedures, and when lead wipe sampling is below acceptable concentrations proceed with final cleanup.
- .2 Remove polyethylene sheet by rolling it away from walls to centre of work area. Clean visible lead containing particles observed during cleanup, immediately, using HEPA vacuum.
- .3 Place polyethylene sheets, tape, cleaning material, clothing, and contaminated waste in plastic bags and seal. Dispose of in accordance with waste materials generated.
- .4 Clean Work areas and Transfer Room, where present.
- .5 Remove sealed waste containers and equipment used in Work and remove from work areas at appropriate time in cleaning sequence.
- .6 Conduct final check to ensure no dust or debris remain on surfaces as result of dismantling operations.

**END OF SECTION**

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## **PART 1        GENERAL**

### **1.1            General and Related Work**

- .1        Read this Section in conjunction with all drawings and all other Sections so as to comply with the requirements of the General Conditions of the Contract.
- .2        Requirements specified elsewhere:
  - .1            Section 02 81 00 Hazardous Materials – General Provisions

### **1.2            Outline of Work**

- .1        Refer to Section 02 81 00 Hazardous Materials – General Provisions for the Outline of Work.
- .2        The intent of this Section is to provide safe work practices and procedures to govern the handling, removal, clean-up and disposal of silica-containing materials following Type 1 or Low Risk procedures, and Pinchin and Owner specific requirements.
- .3        Comply with requirements of this Section when performing following Work:
  - .1            Drilling of holes in concrete or rock, excluding tunneling operations and road construction
  - .2            Any operation at a project that requires handling of silica-containing material in a way that may result in a worker being exposed to airborne silica, and not defined in other sections.

### **1.3            Instruction and Training**

- .1        Provide instruction and training to all workers including the following:
  - .1            Hazards of silica.
  - .2            Use, care and disposal of protective equipment (including but not limited to respirators and filters) and clothing that would be used and worn during abatement work, including:
    - .1            Limitations of equipment.
    - .2            Inspection and maintenance of equipment.
    - .3            Proper fitting of equipment.
    - .4            Disinfecting and cleaning of equipment.
  - .3            Personal hygiene to be observed when performing the work.
  - .4            The measures and procedures prescribed by this section including decontamination of the worker.
  - .5            Instruction and training must be provided by a competent person.

### **1.4            Personal Protection**

- .1        Provide non-powered half-face respirators with P100 high efficiency cartridge filters.
- .2        Provide protective clothing, when requested by personnel, entering the Abatement Work Area, including:
  - .1            Disposable protective clothing that does not readily retain or permit skin contamination, consisting of full body covering including head covering with snug fitting cuffs at wrists, ankles, and neck.

## **1.5 Inspections**

- .1 Refer to Section 02 81 00 – General Provisions.
- .2 The following Milestone Inspections are to be scheduled:
  - .1 Milestone Inspection - Clean Site Preparation
  - .2 Milestone Inspection – Bulk Removal Inspection
  - .3 Milestone Inspection - Visual Clearance

## **PART 2 PRODUCTS AND FACILITIES**

- .1 Refer to Section 02 81 00.

## **PART 3 EXECUTION**

### **3.1 Site Preparation - General**

- .1 Stored or non-fixed items, including but not limited to equipment, furniture, waste etc., shall be removed from the Abatement Work Area prior to abatement work.
- .2 Provide amended water for wetting silica-containing materials and adequate method of wetting (garden sprayers, airless sprayers, etc).
- .3 Provide electrical power and shut off for operation of powered tools and equipment. Provide ground fault interrupter circuits on power source for electrical tools, in accordance with applicable CSA Standard.
  - .1 Ensure safe installation of electrical lines and equipment.
- .4 Do not use compressed air to clean or remove dust or debris.
- .5 Frequently and at regular intervals during the work, clean up dust and waste using HEPA vacuums and/or wet sweeping or mopping.
- .6 Immediately upon completion of work, clean area with HEPA vacuum and/or wet sweeping or mopping.
- .7 Remove standing water on polyethylene/floor at the end of every shift.
- .8 Turn off water supply to hoses and reduce pressure in hose, prior to leaving the Abatement Work Area at end of shift.

### **3.2 Site Preparation – No Enclosure Required**

- .1 Isolate Abatement Work Area with barrier tape located a minimum of 10 metres away from work being performed.
- .2 Install Signage in clearly visible locations and in sufficient numbers to adequately warn of a silica dust hazard.
- .3 Maintain Abatement Work Area in tidy condition.
- .4 Remove waste and debris frequently.
- .5 Place required tools to complete the abatement with the Abatement Work Area.

### **3.3 Silica Handling**

- .1 Provide washing facilities consisting of a wash basin, clean water, soap and towels.

- .1 Workers are to use washing facilities each time leaving the Abatement Work Area.
- .2 Removal methods minimizing dust generation should be used wherever possible.
  - .1 Wet methods are to be used to reduce dust generation.
    - .1 Wetting agents should be used where possible.
    - .2 Wet methods should not be used if it creates a hazard or cause damage to equipment or to project.
  - .2 Power tools to be equipped with a shroud, and to be kept flush with surface.
- .3 Waste generated should be maintained wet until cleaned.

**END OF SECTION**

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## **PART 1 GENERAL**

### **1.1 General and Related Work**

- .1 Read this Section in conjunction with all drawings and all other Sections so as to comply with the requirements of the General Conditions of the Contract.
- .2 Requirements specified elsewhere:
  - .1 Section 02 81 00 Hazardous Materials – General Provisions

### **1.2 Outline of Work**

- .1 Refer to Section 02 81 00 Hazardous Materials – General Provisions for the Outline of Work.
- .2 The intent of this Section is to provide safe work practices and procedures to govern the handling, removal, clean-up and disposal of silica-containing materials following Type 2 or Moderate Risk procedures, and Pinchin and Owner specific requirements.
- .3 Comply with requirements of this Section when performing following Work:
  - .1 Use of power tool to cut, grind, or polish concrete, masonry, terrazzo and refractory materials.
  - .2 Use of power tool to remove silica-containing materials.
  - .3 The use of a power tool indoors to chip or break, and remove concrete, masonry, stone, terrazzo or refractory materials.

### **1.3 Instruction and Training**

- .1 Provide instruction and training to all workers including the following:
  - .1 Hazards of silica.
  - .2 Use, care and disposal of protective equipment (including but not limited to respirators and filters) and clothing that would be used and worn during abatement work, including:
    - .1 Limitations of equipment.
    - .2 Inspection and maintenance of equipment.
    - .3 Proper fitting of equipment.
    - .4 Disinfecting and cleaning of equipment.
  - .3 Personal hygiene to be observed when performing the work.
  - .4 The measures and procedures prescribed by this section including decontamination of the worker.
  - .5 Instruction and training must be provided by a competent person.

### **1.4 Personal Protection**

- .1 Provide the following respiratory protection to all personnel, at minimum:
  - .1 Non-powered full-face respirators with P100 high efficiency cartridge filters.
- .2 Provide protective clothing, to all personnel entering the Abatement Work Area, including:

- .1 Disposable protective clothing that does not readily retain dust or permit skin contamination, consisting of full body covering including head covering with snug fitting cuffs at wrists, ankles, and neck.

## **1.5 Inspections**

- .1 Refer to Section 02 81 00 – General Provisions.
- .2 The following Milestone Inspections are to be scheduled:
  - .1 Milestone Inspection - Clean Site Preparation
  - .2 Milestone Inspection – Bulk Removal Inspection
  - .3 Milestone Inspection - Visual Clearance

## **PART 2 PRODUCTS AND FACILITIES**

- .1 Refer to Section 02 81 00.

### **2.2 Hoarding Walls**

- .1 Type A Hoarding Wall: One layer of rip-proof polyethylene sheeting installed floor to ceiling, secured with telescopic poles, clips, or other suitable methods.

### **2.3 Transfer Room**

- .1 Transfer Room to be generally 2000 mm x 2000 mm x 2200 mm high. Increase size accordingly to accommodate number of workers.
- .2 Install walls as follows:
  - .1 Install 38 x 89 mm wood framing at 610 mm o/c with continuous top and sill plates.
  - .2 Install one layer rip-proof polyethylene sheeting on interior walls of Transfer Room.
- .3 Install one layer of rip-proof polyethylene sheeting over two layers of 6 mil polyethylene sheeting beneath entire Transfer Room.
- .4 Install one layer rip-proof polyethylene sheeting over roof.
- .5 Turn 600 mm of polyethylene down the sides over polyethylene on the perimeter walls.
- .6 Install a fire extinguisher, mount to wall.

### **2.4 Curtained Doorways**

- .1 Construct as follows:
  - .1 Install two flap doors, full width and height of door opening at all doors to Abatement Work Area and both ends of Transfer Room.
  - .2 Construct each flap door of two layers of polyethylene sheeting with all edges reinforced with tape. Use wood strapping to securely fasten flap doors to head and alternate jambs.
  - .3 Install weights attached to bottom edge of each door flap.
  - .4 Provide direction arrows on flaps to indicate opening.

## **PART 3 EXECUTION**

### **3.1 Site Preparation - General**

- .1 Stored or non-fixed items, including but not limited to equipment, furniture, waste etc., shall be removed from the Abatement Work Area prior to abatement work.
- .2 Remove visible dust and friable material from all surfaces in the work area including those to be worked on, using HEPA Vacuums or wet wiping.
- .3 Provide amended water for wetting materials, and adequate method of wetting (garden sprayers, airless sprayers, etc).
- .4 Provide electrical power and shut off for operation of powered tools and equipment. Provide ground fault interrupter circuits on power source for electrical tools, in accordance with applicable CSA Standard.
  - .1 Ensure safe installation of electrical lines and equipment.
- .5 Do not use compressed air to clean or remove dust or debris.
- .6 Frequently and at regular intervals during the work, clean up dust and waste using HEPA vacuums and/or wet sweeping or mopping.
- .7 Immediately upon completion of work, clean area with HEPA vacuum and/or wet sweeping or mopping.
- .8 Remove standing water on polyethylene/floor at the end of every shift.
- .9 Turn off water supply to hoses and reduce pressure in hose, prior to leaving the Abatement Work Area at end of shift.

### **3.2 Site Preparation –Enclosure Required**

- .1 Install Curtained Doorways.
- .2 Install polyethylene sheeting at openings in walls (as required) and seal.
- .3 Seal openings in floor using tape, caulking, polyethylene, etc. Floor openings are to be sealed independently prior to installation of floor polyethylene.
- .4 Install 6 mil polyethylene sheeting on walls to remain, within the Abatement Work Area., including existing walls that make up, or are within, the Abatement Work Area.
- .5 Install one layer of 6 mil polyethylene sheeting so as to protect all equipment and finishes in the Abatement Work Area that may be damaged.
- .6 Place required tools to complete the abatement with the Abatement Work Area.
- .7 Install temporary lighting in enclosure to a level that will provide for safe and efficient use of work area - minimum 550 LUX.
- .8 Establish negative pressure in Abatement Work Areas as follows:
  - .1 Provide sufficient HEPA filtered negative pressure machines to exchange a volume of air equivalent to that of the Abatement Work Area a minimum of every 20 minutes.
  - .2 Provide additional HEPA filtered negative pressure machines as required to ensure air flow from Occupied Area into Abatement Work Area.

- .3 Operate HEPA filtered negative pressure machines continuously from first disturbance of materials until completion of dismantling.
- .4 Replace prefilters to maintain specified flow rate.
- .5 Replace HEPA filter as required to maintain flow rate and integrity of unit.
- .6 Discharge HEPA filtered negative air machines to building exterior, where possible.
  - .1 Direct discharge away from building access points.
- .9 Install Signage in clearly visible locations and in sufficient numbers to adequately warn of a silica dust hazard.

### 3.3 Maintenance of Abatement Work Area

- .1 Inspect polyethylene sheeting and ensure it is effectively sealed and taped. Repair damage and remedy defects immediately.
- .2 Inspect electrical panels and ensure locks and tags are on panels prior to entering the Abatement Work Area.
- .3 Inspect HEPA filtered negative pressure machines including discharge ducting at the beginning and end of each working period. Inspection must be performed by competent person.

### 3.4 Silica Handling

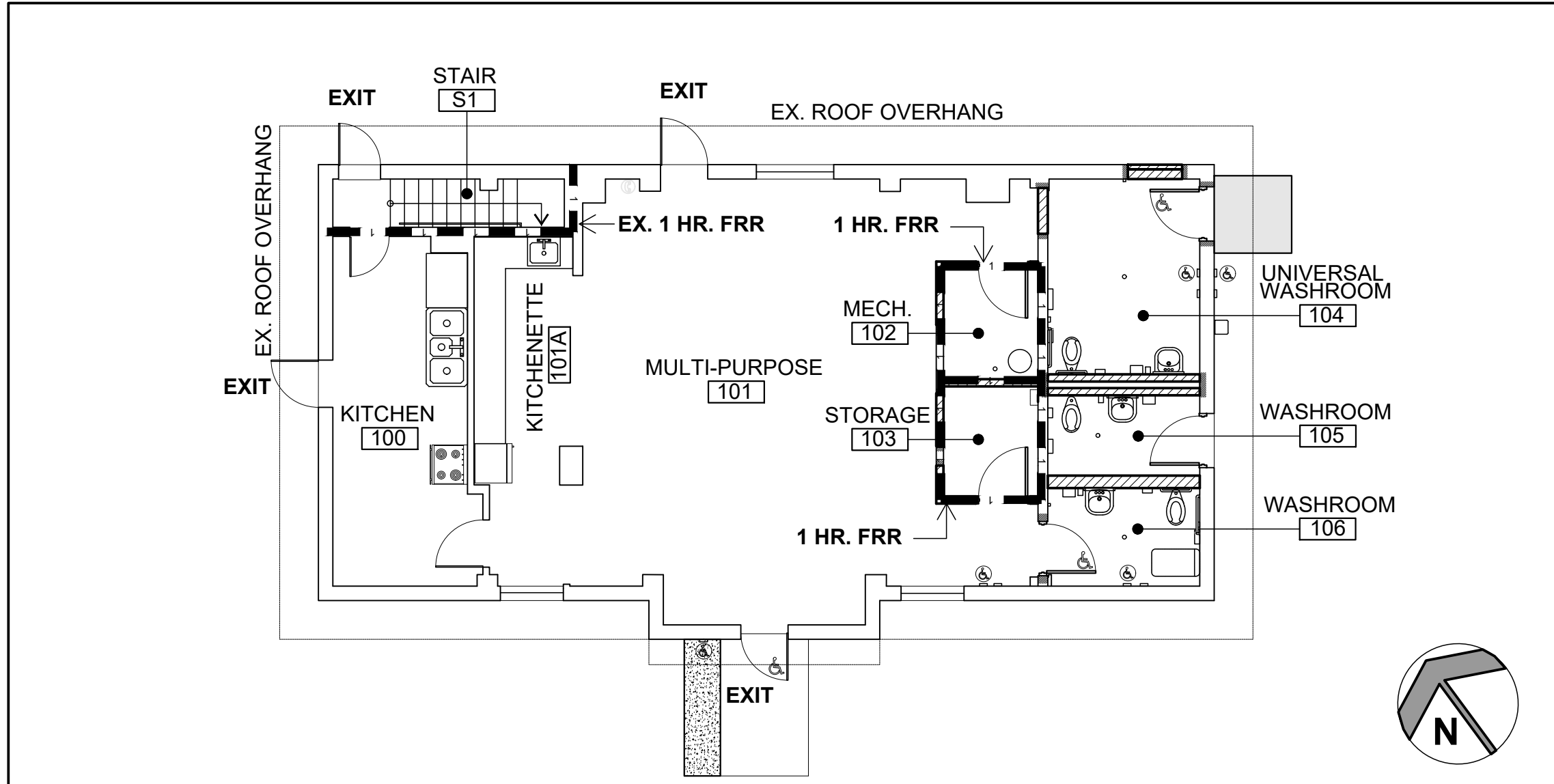
- .1 Construct an enclosure around Abatement Work Area and use the procedures described above under *Site Preparation –Enclosure Required*, for the following work:
  - .1 Use of power tool to cut, grind, or polish concrete, masonry, terrazzo and refractory materials.
  - .2 Use of power tool to remove silica-containing materials.
  - .3 The use of a power tool indoors to chip or break, and remove concrete, masonry, stone, terrazzo or refractory materials.
- .2 Provide washing facilities consisting of a wash basin, clean water, soap and towels.
  - .1 Workers are to use washing facilities each time leaving the Abatement Work Area.
- .3 Removal methods minimizing dust generation should be used wherever possible.
  - .1 Wet methods are to be used to reduce dust generation.
    - .1 Wetting agents should be used where possible.
    - .2 Wet methods should not be used if it creates a hazard or cause damage to equipment or to project.
  - .2 Power tools to be equipped with a shroud, and to be kept flush with surface.
- .4 Waste generated should be maintained wet until cleaned.

## END OF SECTION



NAME OF PRACTICE: GRGURIC ARCHITECTS INCORPORATED CERTIFICATE OF PRACTICE NUMBER: 4760 CONTACT: JOHN GRGURIC 28 KING STREET EAST, UNIT B, STONEY CREEK, ON L8G 1J8 TEL: 905-664-8737 NAME OF PROJECT: VICTORIA PARK FIELD HOUSE RENOVATIONS LOCATION: 500 KING STREET WEST											
Item	Ontario's 2012 Building Code Data Matrix Parts 3 or 9						OBC Reference				
							References are to Division B unless noted [A] for Division A or [C] for Division C				
1	Project Description: VICTORIA PARK FIELD HOUSE RENOVATIONS		<input type="checkbox"/> New <input type="checkbox"/> Addition <input checked="" type="checkbox"/> Change of Use		<input checked="" type="checkbox"/> Part 11 11.1 to 11.4	<input checked="" type="checkbox"/> Part 3 1.1.2 [A]	<input type="checkbox"/> Part 9 1.1.2 [A] & 9.10.1.3				
2	Major Occupancy(s) GROUP A DIVISION 2 - (A2)						3.1.2.1.(1)		9.10.2		
3	Building Area 150 m²						1.4.1.2 [A]		1.4.1.2 [A]		
4	Gross Area 150 m²						1.4.1.2 [A]		1.4.1.2 [A]		
5	Number of storeys 1		Above grade 1		Below grade Partial Basement Mechanical Room		1.4.1.2 [A] & 3.2.1.1		1.4.1.2 [A] & 9.10.4		
7	Number of Streets/ Fire Fighter Access 1						3.2.2.10 & 3.2.5		9.10.20.		
8	Building Classification GROUP A, DIV. 2, UP 1 STOREY (3.2.2.28)						3.2.2.20 - -83		9.10.2.		
9	Sprinkler System Proposed		<input type="checkbox"/> entire building <input type="checkbox"/> selected compartments <input type="checkbox"/> selected floor areas <input type="checkbox"/> basement <input type="checkbox"/> in lieu of roof rating <input checked="" type="checkbox"/> not required			3.2.2.20 - -83 3.2.1.5 3.2.2.17. INDEX		9.10.8.2  INDEX			
10	Standpipe required		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			3.2.9		N/A			
11	Fire Alarm required		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			3.2.4		9.10.18			
12	Water Service/Supply is Adequate		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			3.2.5.7.		N/A			
13	High Building		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			3.2.6		N/A			
14	Permitted Construction		<input type="checkbox"/> Combustible permitted <input type="checkbox"/> Combustible		<input type="checkbox"/> Non-combustible required <input checked="" type="checkbox"/> Non-combustible	<input checked="" type="checkbox"/> Both	3.2.2.20 - -83		9.10.6		
15	Mezzanine(s) Area m²		N/A				3.2.1.1.(3)-(8)		9.10.4.1		
16	Occupant load based on Ground Floor		<input type="checkbox"/> m²/person Occupancy		<input checked="" type="checkbox"/> design of building ASSEMBLY Load 10 persons		3.1.17		9.9.1.3		
17	Barrier-free Design		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain)			3.8		9.5.2			
18	Hazardous Substances		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			3.3.1.2. & 3.3.1.19		9.10.1.3(4)			
19	Required Fire Resistance Rating (FRR)	Horizontal Assemblies FRR (Hours)			Listed Design No. or Description (SB-2)			3.2.2.20 - -83 & 3.2.1.4		9.10.8. 9.10.9.	
Floors		- Hours		Ground Floor: Slab on Grade Construction							
Roof		- Hours		N/A							
Mezzanine		- Hours		N/A							
FRR of Supporting Members			Listed Design No. or Description (SB-2)								
Floors		- Hours		Ground Floor: Slab on Grade Construction							
Roof		- Hours		N/A							
Mezzanine		- Hours		N/A							
19	Spatial Separation - Construction of Exterior Walls						3.2.3		9.10.14		
	Wall	Area of EBF (m²)	L.D. (m)	L/H or H/L	Permitted Max. % of Openings	Proposed % of Openings	FRR (Hours)	Listed Design or Description	Comb. Constr.	Comb. Constr. Nonc. Cladding	Non-comb. Constr.
	North	EX.	EX.	EX.	EX.	EX.	EX.	Refer to drawings	-	YES	YES
	South	EX.	EX.	EX.	EX.	EX.	EX.	Refer to drawings	-	YES	YES
	East	19.7	> 6m	Less than 3:1	100	19.3%	EX.	Refer to drawings	-	YES	YES
	West	EX.	EX.	EX.	EX.	EX.	EX.	Refer to drawings	-	YES	YES
20	Plumbing Fixture Requirements								Building Code Reference		
	Male / Female Count @ 50 % / 50 %, except as noted otherwise								<input checked="" type="checkbox"/> Part 3 <input type="checkbox"/> Part 9		
	Occupancy	Male						Occupant Load	BC Table / REF. Number	Fixtures Required	Fixtures Provided
	Occupancy	Female						5	3.7.4.2 (9)	1	1
								5	3.7.4.2 (9)	1	1
										3.7.4.2 - 3.7.4.3	3.7.4.2 - 3.7.4.3
21	Travel Distance to Exits (Refer to Drawings)										

Ontario Building Code Data Matrix Part 11 -- Renovation of Existing Building						Building Code Reference	
11.2.	Existing Building classification:	Change in Major Occupancy <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not Applicable (no major change of occupancy)	<b>GROUP A2</b>			11.2.1	T 11.2.1.1A T 11.2.1.1B to N
		Describe Existing Use: Construction Index: Hazard Index Existing: Hazard Index Proposed: Building Size: (Small Building)					
11.3.	Alteration to Existing Building is:	Basic Renovation Extensive Renovation	<input checked="" type="checkbox"/> <input type="checkbox"/>			11.3.3.1 11.3.3.2	
11.4.	Reduction in Performance Level:	Structural: By increase in occupant load: By change of major occupancy: Hazard Index is not greater than existing Plumbing: Sewage System:	<input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes	11.4.2 11.4.2.1 11.4.2.2 11.4.2.3 11.4.2.4 11.4.2.5		
11.4.3.	Compensating Construction:	Structural: Increase in occupant load: Change of major occupancy: Plumbing: Sewage system:	<input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> No	Yes (explain) <input type="checkbox"/> Yes (explain) <input type="checkbox"/> Yes (explain) <input type="checkbox"/> Yes (explain) <input type="checkbox"/> Yes (explain)	11.4.3 11.4.3.2 11.4.3.3 11.4.3.4 11.4.3.5 11.4.3.6		
11.5	Compliance Alternatives Proposed:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (give number [s])				11.4.2	



## GROUND FLOOR

SCALE: 1:100

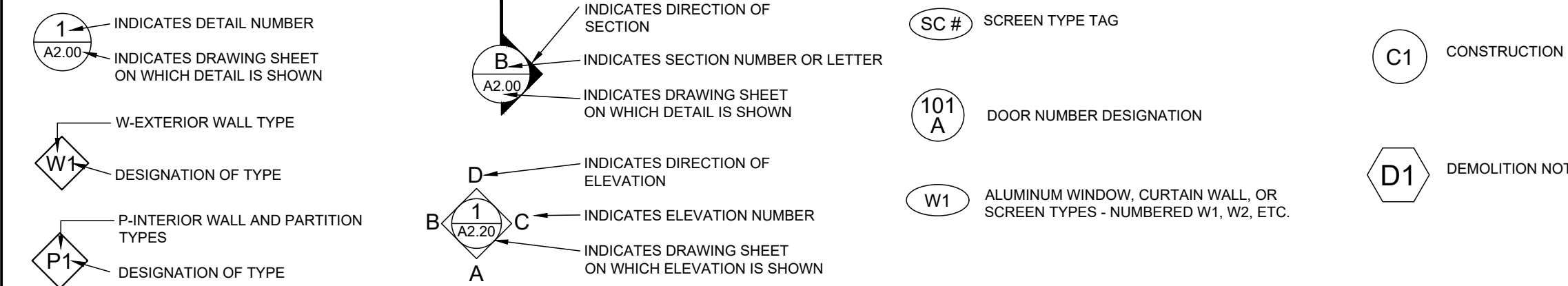
## FIRE RESISTANCE RATING SCHEDULE

1 HOUR FIRE SEPARATION — 1 — 1 — 1 — 1 — 1 — 1 — 1 —

## TRAVEL DISTANCE

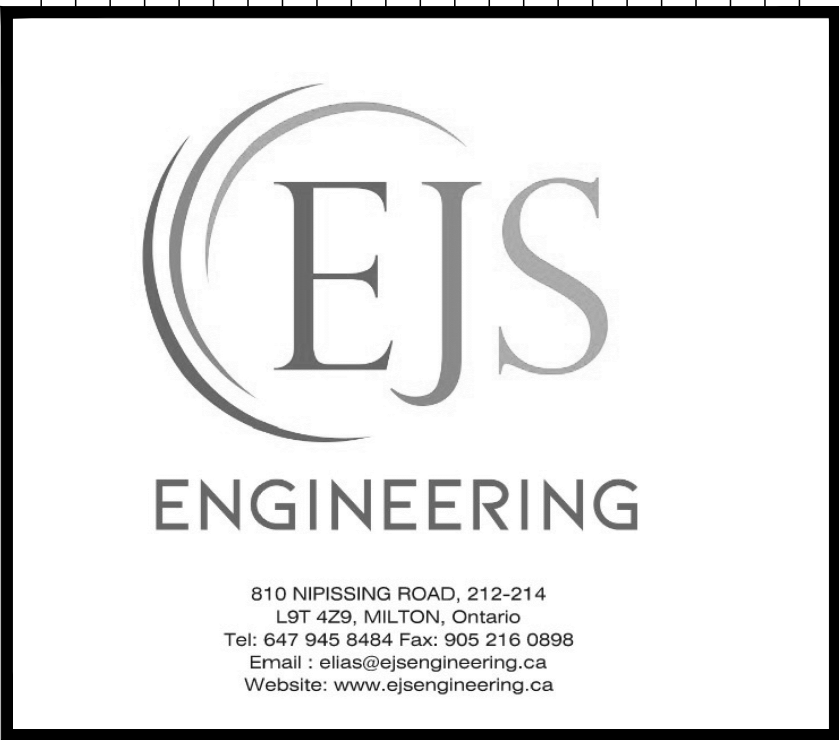
LINE OF EGRESS ROUTE + TRAVEL DISTANCE  
ARROWS DENOTE DIRECTION OF TRAVEL  
MAXIMUM 30m TRAVEL DISTANCE TO NEAREST EXIT

## GRAPHIC SYMBOLS LEGEND



## KEY MAP LOCATION PLAN

SCALE: NTS



## DRAWING LIST:

### ARCHITECTURAL

A 1.00 COVER SHEET, OBC MATRIX & LIFE SAFETY  
A 2.00 GROUND FLOOR PLAN AND SCHEDULES  
A 3.00 ELEVATIONS AND SECTION DETAILS

### MECHANICAL

M-1 MECHANICAL LAYOUTS  
M-2 MECHANICAL SPECIFICATIONS

### ELECTRICAL

E1 LEGEND, DRAWING LIST & SPECIFICATIONS  
E2 FLOOR PLAN ELECTRICAL LAYOUT

## GENERAL LIFE SAFETY NOTES:

- THE FOLLOWING GENERAL NOTES ON THIS DRAWING PROVIDE AN OVERVIEW AND SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL, STRUCTURAL MECHANICAL AND ELECTRICAL DRAWINGS, DETAILS AND SPECIFICATIONS.
- REFER TO FIRE SEPARATION LOCATIONS INDICATED ON PLANS OF THIS DRAWING AND BUILDING SECTIONS.
- GROUND FLOOR IS SLAB ON GRADE CONSTRUCTION UNLESS OTHERWISE NOTED
- ENSURE CONTINUITY OF FIRE SEPARATION FRR BEHIND ALL BUILT-IN MECHANICAL AND ELECTRICAL WORK. INCREASE WALL THICKNESS LOCALLY FOR FULL HEIGHT OF WALL TO SUIT INSTALLATION OF MECHANICAL AND ELECTRICAL WORK
- BARRIER FREE PATH OF TRAVEL SHALL HAVE AN UNOBSTRUCTED WIDTH OF 1.1m
- PORTABLE FIRE EXTINGUISHERS SHALL BE PROVIDED IN ACCORDANCE WITH OBC 3.2.5.17. (1).
- BARRIER FREE DOORS & HARDWARE TO COMPLY WITH THE REQUIREMENT OF THE 2012 OBC 3.8.3.3. & 3.8.2.1.
- EVERY DOOR IN A FIRE SEPARATION SHALL BE EQUIPPED WITH A SELF CLOSING DEVICE & POSITIVE LATCHING MECHANISM AS PER OBC 3.1.8.11 & 3.1.8.13.
- ALL DOOR LOCKING HARDWARE IN AN ACCESS TO EXITS ARE TO BE IN COMPLIANCE WITH OBC 3.3.1.12. DOORS SHALL BE READILY OPENABLE IN TRAVELLING TO AN EXIT WITHOUT REQUIRING KEYS, SPECIAL DEVICES, OR SPECIALIZED KNOWLEDGE OF THE DOOR OPENING MECHANISM.

## GENERAL DOOR & FRAME NOTES:

- GENERAL CONTRACTOR TO FIELD VERIFY ALL DOOR & FRAME / SCREEN QUANTITIES
- GENERAL CONTRACTOR TO CO-ORDINATE LOCATION & INSTALLATION OF PUSH BUTTON / AUTOMATIC DOOR OPERATIONS AND ALL OTHER RELATED TRADES. TO BE SUPPLIED BY GENERAL CONTRACTOR & INSTALLED BY ELECTRICAL
- REFER TO DOOR SCHEDULE FOR FIRE RESISTANCE RATINGS FOR DOOR, FRAMES & GLAZED FRAMES / SCREENS.
- ALL HM DOORS & FRAMES TO BE PAINTED.
- REFER TO PLANS / DETAILS & WALL SECTIONS FOR LOCATIONS OF REQUIRED STEEL LINTELS / ANGLES (BY GENERAL CONTRACTOR) AND ANY FORMED ALUMINUM CLOSURE ANGLES OR SUPPORTS FOR DOOR / FRAMES (BY DOOR / FRAME INSTALLER)
- AT ALL EXTERIOR DOORS PROVIDE CONTINUOUS SEALANT & BACKER ROD AROUND PERIMETER EDGES OF FRAME (TYP. FOR BOTH EXTERIOR & INTERIOR SIDES) ALL EXTERIOR DOOR FRAMES TO BE THERMALLY BROKEN.

## GENERAL NOTES

- MECHANICAL AND ELECTRICAL ITEMS SHOWN, I.E. DUCTWORK, PIPING, LIGHT FIXTURES, ETC. ARE FOR REFERENCE ONLY AND ARE NOT INCLUSIVE. REFER TO MECHANICAL AND ELECTRICAL DRAWING FOR ALL RELATED NEW AND DEMOLITION WORK REQUIRED.
- CONNECTIONS OF ALL NON STRUCTURAL ELEMENTS AND EQUIPMENT TO SUPPORTING STRUCTURE TO BE DESIGNED TO COMPLY WITH ARTICLE 4.1.8.18 OF THE 2012 ONTARIO BUILDING CODE FOR SEISMIC LOADS. CONTRACTOR TO SUBMIT SHOP DRAWINGS SHOWING THESE CONNECTIONS STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER IF APPLICABLE.
- TRANSITIONS BETWEEN FLOOR FINISHES TO BE MADE SMOOTH, CONTINUOUS & FLUSH. GRIND DOWN EXISTING FLOOR SLAB ACROSS DOOR THRESHOLDS WHERE APPLICABLE TO SUIT THICKNESS OF NEW MATERIALS AND ENSURE NEW MATERIALS ARE INSTALLED FLUSH THROUGHOUT
- CONTRACTOR TO ALLOW FOR PATCHING AND REPAIR OF ALL EXISTING ADJACENT MATERIALS, SURFACES & FINISHES AT SLAB CUTTING & TRENCHING OF ALL PLUMBING FIXTURES AS WELL AS MECHANICAL EQUIPMENT TO BE REMOVED OR RELOCATED. REFER TO MECHANICAL DRAWINGS. PREPARE ALL SURFACES FOR NEW FINISHES.
- CONTRACTOR TO ALLOW FOR PATCHING AND REPAIR OF ADJACENT MATERIALS AT ALL ELECTRICAL LIGHTING. EQUIPMENT, CONDUIT, RACEWAYS, ETC. TO BE REMOVED OR RELOCATED. REFER TO ELECTRICAL DRAWINGS. PREPARE ALL SURFACES FOR NEW FINISHES.
- APPLIANCES SHOWN IN KITCHENS, KITCHENETTES AND LAUNDRY ROOMS ARE SHOWN FOR REFERENCE. SUPPLY & INSTALL BY OTHERS, NOT IN CONTRACT. INCLUDES BUT IS NOT LIMITED TO: WASHERS, DRYERS, FRIDGES, STOVES, MICROWAVES, ETC.

ISSUED FOR TENDER  
2023-10-03

PROJECT NUMBER

2023-01

SHEET NUMBER

A 1.00

VICTORIA PARK FIELD HOUSE RENOVATIONS

500 KING STREET WEST, HAMILTON, ON.



LEGEND	
BF/PB	BARRIER FREE PUSH BUTTON
BFS	BOTTLE FILLING STATION
BLK	BLOCK
CONC	CONCRETE
CH	CHANG
CHG	CHANGE
CLR	CLEAR
CLRT	CLEAR TRANSFER
CW	COMPLETE WITH
DIA	DIAMETER
ECS	EMERGENCY CALL SWITCH
ELEC.	ELECTRICAL
EX.	EXISTING ITEM
FD	FLOOR DRAIN
GB	GRAB BAR
GYP. BD	GYPSUM BOARD
HCPB	HANDICAP PUSH BUTTON
HD	HAND DRYER
HM	HOLLOW METAL
LAV	LAVATORY
MECH	MECHANICAL
MIN	MINIMUM
MH	MOP HOLDER
M#	MIRROR
NAPK	NAPKIN DISPOSAL
O/C	ON CENTRE
OBC	ONTARIO BUILDING CODE
PT	PORCELAIN TILE
RB	RUBBER BASE
SD	SOAP DISPENSER
SHT. FL.	SHEET FLOOR
TPD	TOILET PAPER DISPENSER
TYP	TYPICAL
U/S	UNDERSIDE
WC	WATER CLOSET
W/R	WASHROOM
WSH	STEEL WALL SHELF

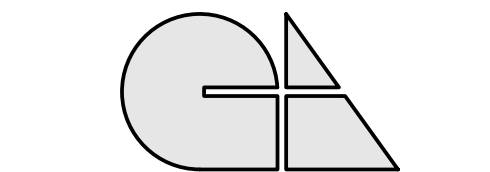
NO	REVISIONS	DATE
2	ISSUED FOR TENDER	2023-10-03
1	ISSUED FOR PERMIT	2023-08-18

DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE PROJECT, AND MUST REPORT ANY DISCREPANCIES TO THE ARCHITECTS BEFORE PROCEEDING WITH THE WORK. THE USE OF THIS DRAWING OR PART THEREOF IS FORBIDDEN WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECTS.

**VICTORIA PARK  
FIELD HOUSE  
RENOVATIONS**  
500 KING STREET WEST  
HAMILTON, ON. L8R

**GROUND FLOOR  
PLAN & SCHEDULES**

**GRGURIC  
ARCHITECTS  
INCORPORATED**



28 KING STREET EAST, UNIT B  
STONE CREEK, ONTARIO, L8G 1J8  
Tel. 905-664-8735 Fax. 905-664-8737  
Web: www.2gai.com

SCALE: AS NOTED	PROJECT: <b>2023-01</b>
DATE STARTED: JUNE, 2023	
DRAWN R.P.	DRAWING: <b>A2.00</b>
CHECKED W.P.	
PRINT DATE 10/04/23	

## GENERAL NOTES

- ALL EXISTING VISIBLE PROTRUSIONS, ANCHORS, REBAR, GLUES & ADHESIVES ETC. AT PARTITION WALL OR FLOOR REMOVAL NOTED ON DEMOLITION PLAN ARE TO BE REMOVED / GRINDED DOWN COMPLETELY AT EXISTING CONCRETE SLAB ON GRADE TO REMAIN AT ALL AREAS IN SCOPE OF WORK. POUR LEVELLING CONCRETE SLURRY COAT WHERE NEEDED TO FILL ANY VOIDS OR DEPRESSIONS AND ENSURE FLOORING IS FLUSH THROUGHOUT. ENSURE SUB-FLOOR SURFACE IS MADE COMPLETELY LEVEL & SMOOTH AND CLEANED OF ALL IMPERFECTIONS TO ALLOW FOR INSTALLATION OF NEW FLOOR FINISHES AS PER SCHEDULE.
- FLOORING TRANSITIONS AT DOORWAYS OR DISSIMILAR FLOORING MATERIALS: GRIND, DOWN, FILL & FEATHER EXISTING CONCRETE SUB-FLOOR AS REQUIRED AT ALL DOOR THRESHOLDS OR WHERE DISSIMILAR FLOORING MATERIALS ABUT AND ARE BEING INSTALLED TO ENSURE ALL TRANSITIONS ARE FLUSH & SMOOTH (TYPICAL).
- AT ALL NEW UNDERGROUND MECHANICAL / PLUMBING CONNECTIONS AND / OR DEMOLITION WORK SHOWN ON MECHANICAL DRAWINGS: PATCH AND MAKE GOOD ALL EXISTING CONCRETE SLAB ON GRADE CONSTRUCTION TO MATCH AND TIE IN WITH EXISTING.
- PATCH AND MAKE GOOD ALL EXISTING CONCRETE BLOCK WALL WHERE EX. FIXTURES, DEVICES, ACCESSORIES OR ANY FIXED ELEMENTS ARE BEING REMOVED WITH NEW CONC. BLOCK INFILL TO MATCH EX. ALLOW FOR A MIN. OF 50mm OF CONCRETE BLOCK REMOVAL, PATCHING AND RESTORATION.

## DEMOLITION NOTES

NOTE: REFERENCE ABATEMENT SPECIFICATIONS FOR RELATED DEMOLITION WORK NOT SHOWN ON PLAN.

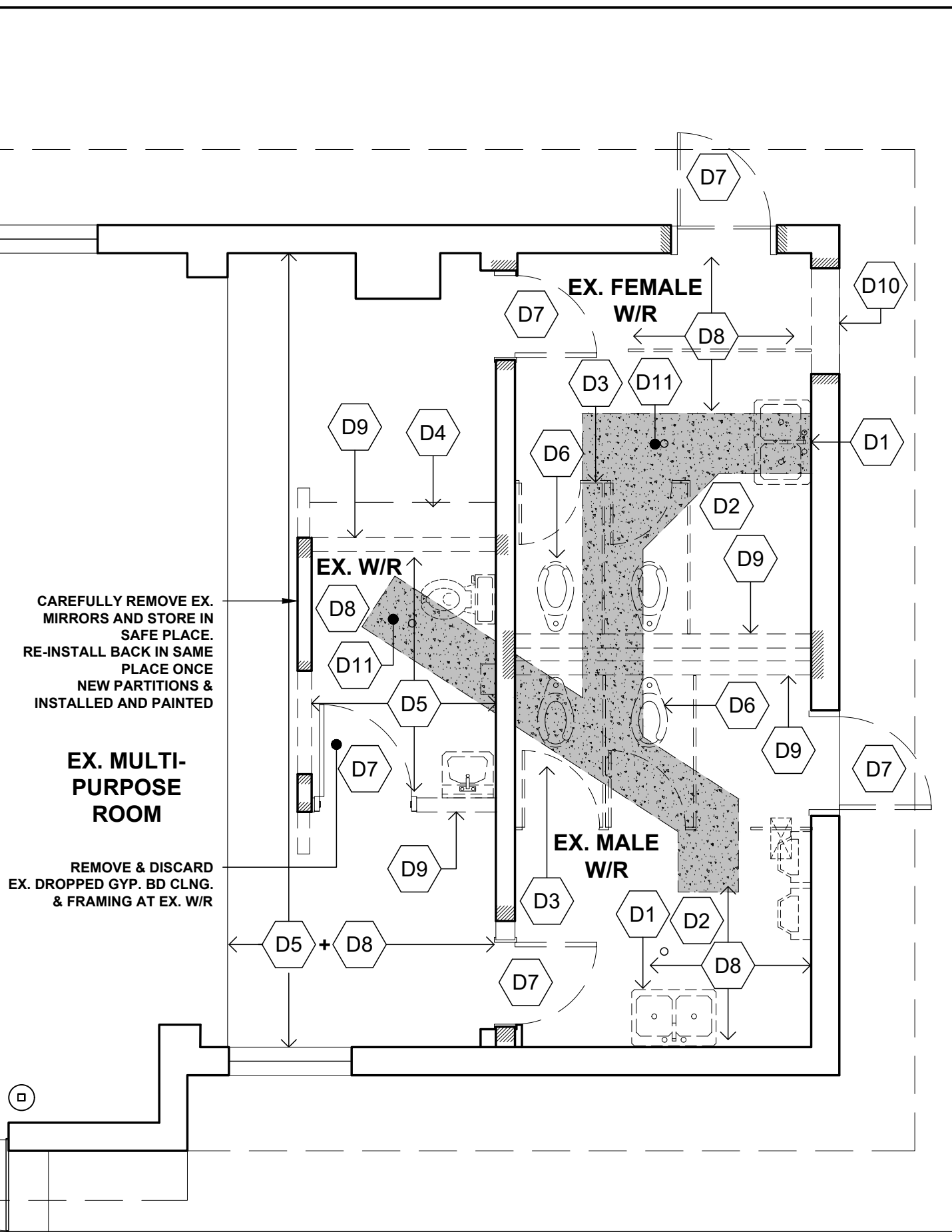
- D1 REMOVE & DISCARD EXISTING MILLWORK SINK VANITY UNIT AND ALL ASSOCIATED BRACKETS / ANCHORAGE. (SEE MECH. FOR RELATED DEMOLITION WORK)
- D2 REMOVE & DISCARD ALL EXISTING WASHROOM ACCESSORIES WITHIN EX. ROOM SHOWN INCLUDING, BUT NOT LIMITED TO ALL EXISTING PAPER TOWEL DISPENSERS, SHELF UNITS, DISPOSAL BINS, TOILET PAPER DISPENSERS GRAB BARS AND MIRRORS, ETC.
- D3 REMOVE & DISCARD EXISTING METAL TOILET PARTITIONS & DOORS
- D4 REMOVE & DISCARD EXISTING METAL CLOSET SHELF UNITS & BRACKETS
- D5 REMOVE & DISCARD EXISTING SHEET FLOORING & RUBBER BASE WITHIN EXISTING ROOM OR OVER EXTENT SHOWN AND ALL ASSOCIATED ANCHORS, NAILS OR ADHESIVES. CLEAN FLOOR OF ALL IMPERFECTIONS AND PREPARE CONC. SLAB FOR INSTALLATION OF NEW FINISHES.
- D6 REMOVE AND DISCARD ALL EXISTING PLUMBING FIXTURES WITHIN ROOM SHOWN (SEE MECHANICAL FOR RELATED) PATCH AND MAKE GOOD EXISTING FLOOR SLAB, VOIDS / DAMAGED CONC. BLK CAUSED BY REMOVAL.
- D7 REMOVE & DISCARD EXISTING HOLLOW METAL DOOR & FRAME
- D8 REMOVE & DISCARD EXISTING GYPSUM BOARD / PLASTER CEILING ATTACHED TO US OF EXISTING WOOD TRUSS STRUCTURE WITHIN EXISTING ROOM OR OVER EXTENT SHOWN. REMOVE & DISCARD EX. A/V BARRIER AND EXISTING BLOWN IN ATTIC INSULATION AND REPLACE WITH NEW MIN. R60 BATT OR BLOWN IN INSULATION TO REPLACE EXISTING.
- D9 REMOVE AND DISCARD EXISTING CONC. BLOCK WALL PARTITIONS TO US OF EX. STRUCTURE. REMOVE & DISCARD ALL EX. ADJACENT BLOCK WHERE INTERSECTING BLOCKS MEET. SAWTOOTH AS REQUIRED AND ENSURE BLOCK IS SMOOTH AND FLUSH WITH EXISTING ADJACENT CONCRETE BLOCK WALLS. COURSING STACK IS TO MATCH EXISTING. APPROX. HEIGHT TO US OF EXISTING STRUCTURE ± 2700mm (TO BE SITE VERIFIED).
- D10 AT BASE OF REMOVED WALLS: CUT & GRIND DOWN ANY EXISTING FOUNDATION / SLAB THICKENING AS REQUIRED TO ENSURE NEW FLOORING IS FLUSH. POUR CONC. SLURRY COAT TO FILL ALL VOIDS AND DEPRESSIONS WHERE WALLS ARE BEING REMOVED. (TYPICAL)
- D11 CUT OUT NEW OPENING IN EXISTING EXTERIOR WALL ASSEMBLY TO SUIT NEW DOOR AND FRAME. INSTALL NEW STEEL LINTEL ABOVE TO SUIT. 100mm CONC. BLOCK INFILL AND 90mm E.I.F.S TO MATCH EXISTING THICKNESS

## SLAB TRENCHING

- OVER EXTENT DENOTED BY HATCHED AREA:
- A. REMOVE & DISCARD EXISTING CONCRETE SLAB ON GRADE ± 600mm WIDE TO ALLOW FOR INSTALLATION OF SANITARY CONNECTIONS OVER EXTENT SHOWN. (REFER TO MECHANICAL DRAWINGS FOR COMPLETE LAYOUT) EX. SLAB THICKNESS ± 100mm (SITE VERIFY)
- B. INSTALL & REINSTATE CONC. SLAB ON GRADE BACK TO ITS ORIGINAL INTEGRITY. NEW CONCRETE SLAB ON GRADE & GRANULAR TO MATCH EX. (EXISTING SLAB THICKNESS ± 100mm) NEW FLOOR FINISHES AS PER SCHEDULE & NEW PLAN LAYOUT.

## CONSTRUCTION NOTES

- C1 INSTALL NEW CAVITY WALL ASSEMBLY INFILL AT REMOVED DOOR TO MATCH AND TIE IN WITH EXISTING OVER EXTENT SHOWN. APPROX. HEIGHT ± 2200mm
- C2 INFILL - 190mm CONC. BLOCK INFILL AND 90mm CONC. BLOCK INFILL AT EXTERIOR SIDE TO MATCH EXISTING THICKNESS (PARGE OVER BLOCK WITH CEMENTITIOUS PARGING AND STIPPLE COAT TO MATH EXISTING)
- C3 INSTALL DROPPED CEILING AT ROOMS SHOWN AS FOLLOWS  
- 13mm GYP. BD ON - 22mm METAL FURRING HAT CHANNELS (400 O/C, TYP.) ON 64mm METAL STUD C-CHANNEL FRAMING (400 O/C) SUSPENDED / HUNG FROM US OF STRUCT ABOVE.
- C4 INSTALL NEW 13mm GYPSUM BOARD TO US OF EXISTING WOOD TRUSS STRUCTURE
- C5 GC. TO ALLOW FOR TEMPORARY REMOVAL & DISCONNECTION OF EX. WALL MOUNTED A/C UNIT TO SUIT NEW GYP. BD CEILING INSTALLATION AND TO REINSTALL SAME UNIT BACK IN PLACE AND RECONNECT.
- C6 PATCH, PRIME AND PAINT OVER EXTENT DENOTED BY DASHED LINE ALONG EXISTING AND NEW INTERIOR PARTITION WALLS ON SIDE OF EXISTING MULTI-PURPOSE ROOM 101
- C7 PATCH, PRIME AND REPAINT OVER EXTENT DENOTED BY DASHED LINE ALONG EXISTING EXTERIOR CONCRETE PARGED WALL FINISH AND ACROSS FULL HEIGHT OF WALL FROM BASE TO US OF EXISTING SOFFIT. APPROX. AVERAGE HEIGHT FROM BASE TO SOFFIT ± 2.8m. COLOUR TO MATCH WITH EXISTING BUILDING.
- C8 REMOVE LOOSE DELAMINATING SURFACE COATING AND REAPPLY NEW PARGING TO MATCH EXISTING. ALLOW FOR REPLACEMENT OF APPROX. 1200mm (W) x 1000 (H) TO INCLUDE, CORNER BEAD, CRACKED AND SPALLING SURFACES. PAINT TO FINISH.
- INSTALL NEW H.3 COMPACTED TOP COARSE (UP TO 75mm THICK), OVER A MIN. 1.5m X1.5m AREA. TAPER NEW ASPHALT UP TO NEW DOOR THRESHOLD AND PROVIDE LEVEL SURFACE MIN. 20mm BELOW AND ACROSS NEW THRESHOLD. OVER THIS SAME AREA EXTENT ALLOW FOR SAW-CUTTING AND REMOVAL OF MIN. 25mm OF EXISTING ASPHALT TOP COARSE AND PROVIDE FULL BONDING OF NEW TOP COARSE TO EXISTING BASE COURSE



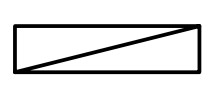
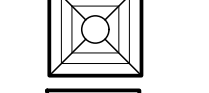
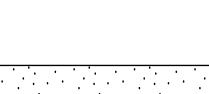
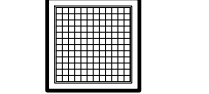


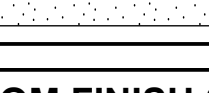

## PARTIAL GROUND FLOOR DEMOLITION PLAN

SCALE: 1:50

## INTERIOR WALL PARTITION TYPES

NO.	DESCRIPTION	REMARKS	REINFORCING NOTES
P1	140mm CONC. BLOCK	<ul style="list-style-type: none"><li>EXTEND TO US OF EX. STRUCTURE</li><li>BULL NOSE EDGES AT ALL EXPOSED CORNERS</li><li>PAINT TO FINISH ALL EXPOSED SIDES</li><li>REFER TO TYPICAL RESTRAINT &amp; REINFORCING DETAILS</li></ul>	<b>TYPICAL FOR ALL BLOCK PARTITIONS</b> - C/W 15 M VERTICAL REINFORCING BARS AT 800mm O.C. EMBEDDED IN GROUT FILLED BLOCKS. - CONTINUOUS FULL HEIGHT - PROVIDE STANDARD HORIZ. BLOCK REINFORCING HEAVY DUTY TRUSS TYPE EVERY 2ND. COURSE (TYP.) - EMBEDDED FULLY IN BED JOINT MORTAR - BLOCK COMP. STRENGTH = 15MPa ANCHOR NEW BLOCK WALLS TO ADJACENT EXISTING BLOCK WALLS WITH 10M DOWEL TIES AT 400mm O/C 400mm LONG 100mm EPOXY EMBEDMENT INTO EXISTING WALLS REFER TO TYPICAL SLAB THICKENING DETAIL FOR THICKENING OF SLAB AT ALL NEW PARTITION WALLS
P2	190mm CONC. BLOCK	<ul style="list-style-type: none"><li>EXTEND TO US OF EX. STRUCTURE</li><li>BULL NOSE EDGES AT ALL EXPOSED CORNERS</li><li>PAINT TO FINISH ALL EXPOSED SIDES</li><li>REFER TO TYPICAL RESTRAINT &amp; REINFORCING DETAILS</li></ul>	
P3	240mm CONC. BLOCK	<ul style="list-style-type: none"><li>EXTEND TO US OF EX. STRUCTURE</li><li>BULL NOSE EDGES AT ALL EXPOSED CORNERS</li><li>PAINT TO FINISH ALL EXPOSED SIDES</li><li>REFER TO TYPICAL RESTRAINT &amp; REINFORCING DETAILS</li></ul>	

## GRAPHIC RCP LEGEND

	300x1200 LIGHT FIXTURE (REFER TO ELEC. FOR ACTUAL TYPES)		DIFFUSER (SQUARE)
	EX = EXISTING		RETURN AIR GRILLE
	REL = RELOCATED		SPRINKLER HEAD
	NEW GYPSUM BOARD CEILING (INSTALL TO US OF EX. WOOD TRUSS ROOF STRUCTURE)		EXHAUST FAN

## ROOM FINISH SCHEDULE

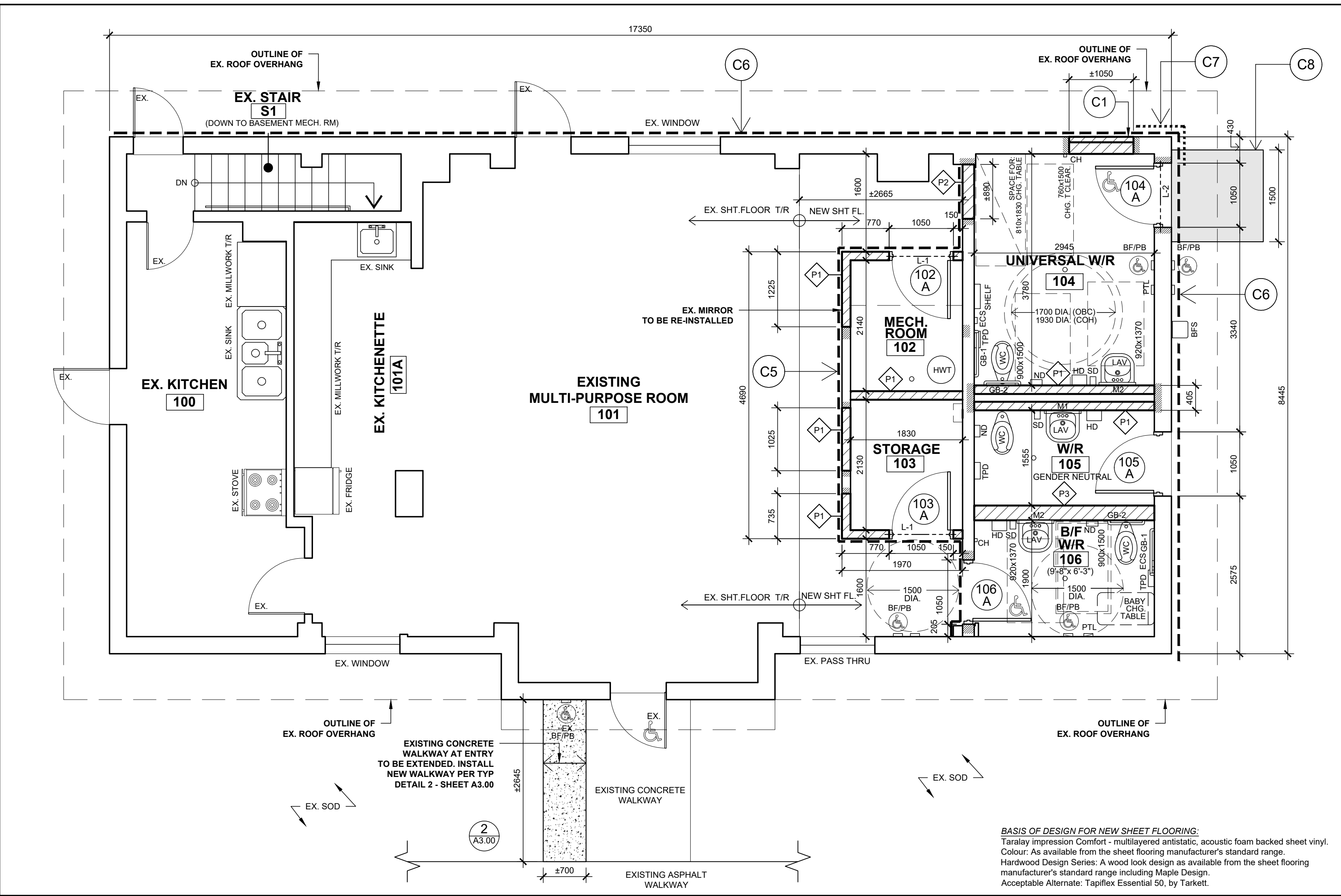
ROOM NAME	ROOM No.	FLOOR FINISH		WALLS	CEILING			REMARKS
		FINISH	BASE		MATERIAL	FINISH	HEIGHT	
MULTIPURPOSE ROOM	101	EX. SHT FL. / NEW SHT FL.	EX. RB / NEW RB	EX. CONC BLOCK / NEW CONC. BLK	EX. GYP. / NEW GYP. BD	PAINT	2286	PAINT CEILING TO EXTENT OF NEW GYPSUM BOARD ONLY. EXISTING TO REMAIN
MECHANICAL ROOM	102A	EPOXY	EPOXY	EX. CONC BLOCK / NEW CONC. BLK	GYP. BD	PAINT	2286	EX. CONC. SLAB ON GRADE TO BE BLAST SHOT TO ALLOW FOR INSTALLATION OF NEW EPOXY FLOORING
STORAGE	103A	EPOXY	EPOXY	EX. CONC BLOCK / NEW CONC. BLK	GYP. BD	PAINT	2286	EX. CONC. SLAB ON GRADE TO BE BLAST SHOT TO ALLOW FOR INSTALLATION OF NEW EPOXY FLOORING
UNIVERSAL WASHROOM	104A	EPOXY	EPOXY	EX. CONC BLOCK / NEW CONC. BLK	GYP. BD	PAINT	2700	EX. CONC. SLAB ON GRADE TO BE BLAST SHOT TO ALLOW FOR INSTALLATION OF NEW EPOXY FLOORING
WASHROOM	105A	EPOXY	EPOXY	EX. CONC BLOCK / NEW CONC. BLK	GYP. BD	PAINT	2700	EX. CONC. SLAB ON GRADE TO BE BLAST SHOT TO ALLOW FOR INSTALLATION OF NEW EPOXY FLOORING
BARRIER FREE WASHROOM	106A	PT	PT	EX. CONC BLOCK / NEW CONC. BLK	GYP. BD	PAINT	2700	EX. CONC. SLAB ON GRADE TO BE BLAST SHOT TO ALLOW FOR INSTALLATION OF NEW EPOXY FLOORING

## DOOR SCHEDULE

ROOM NAME	DOOR NO.	DOORS					FRAMES					PANIC BAR	DOOR CLOSER	REMARKS
		WIDTH	HEIGHT	THK.	FIRE R	TYPE	MATL	FINISH	GLASS	TYPE	MATL	FINISH	GLASS	
MECHANICAL ROOM	102A	950	2150	44	45 MIN.	A	HM	PAINT	-	1	HM	PAINT	-	•
STORAGE	103A	950	2150	44	45 MIN.	A	HM	PAINT	-	1	HM	PAINT	-	•
UNIVERSAL WASHROOM	104A	950	2150	44	-	A	HM	PAINT	-	1	HM	PAINT	-	•
WASHROOM	105A	950	2150	44	-	A	HM	PAINT	-	1	HM	PAINT	-	•
BARRIER FREE WASHROOM	106A	950	2150	44	-	A	HM	PAINT	-	1	HM	PAINT	-	•

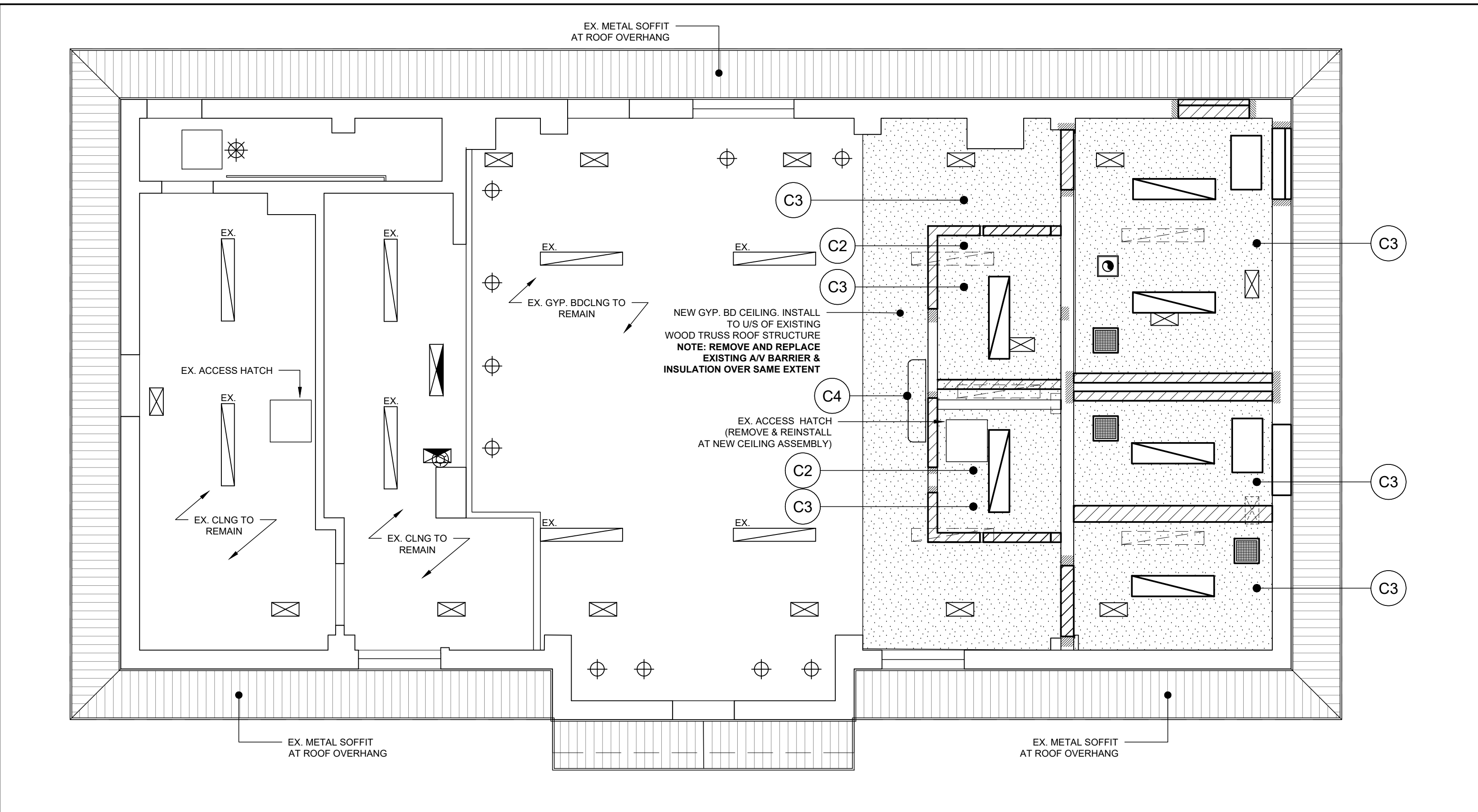
## LINTEL SCHEDULE

TYPE	DESCRIPTION	REMARKS
L-1	2 - L 64mm x 64mm x 6mm	BACK TO BACK 140mm BLOCK - 1200mm SPAN MAXIMUM MIN. BEARING AT EACH END 100MM
L-2	2 - L 89mm x 89mm x 6mm	BACK TO BACK 190mm BLOCK - 1200mm SPAN MAXIMUM MIN. BEARING AT EACH END 150MM



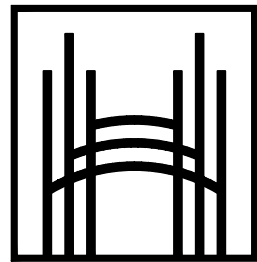
## GROUND FLOOR PLAN

SCALE: 1:50



## REFLECTED CEILING PLAN

SCALE: 1:50



Hamilton

LEGEND

CH	COAT HOOK
CHG	CHANGE
CLR	CLEAR
CLR T	CLEAR TRANSFER
CONC.	CONCRETE
C/W	COMPLETE WITH
DIA	DIAMETER
ECS	EMERGENCY CALL SWITCH
EX	EXISTING ITEM
FD	FLOOR DRAIN
GB-#	GRAB BAR
GYP	GYPSUM
HCPB	HANDICAP PUSH BUTTON
HD	HAND DRYER
HM	HOLLOW METAL
M#	MOP HOLDER
M#	MIRROR
ND	NAPKIN DISPOSAL
OC	ON CENTRE
OBC	ONTARIO BUILDING CODE
SD	SOAP DISPENSER
TPD	TOILET PAPER DISPENSER
T/R	TO REMAIN
TYP	TYPICAL
WC	WATER CLOSET
WR	WASHROOM
WSH	STEEL WALL SHELF

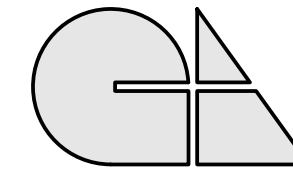
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1	ISSUED FOR PERMIT	2023-08-18
NO	REVISIONS	DATE

DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE PROJECT, AND MUST REPORT ANY DISCREPANCIES TO THE ARCHITECTS BEFORE PROCEEDING WITH THE WORK. THE USE OF THIS DRAWING OR PART THEREOF IS FORBIDDEN WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECTS.

VICTORIA PARK  
FIELD HOUSE  
RENOVATIONS  
500 KING STREET WEST  
HAMILTON, ON. L8R

ELEVATIONS  
& SECTION  
DETAILS

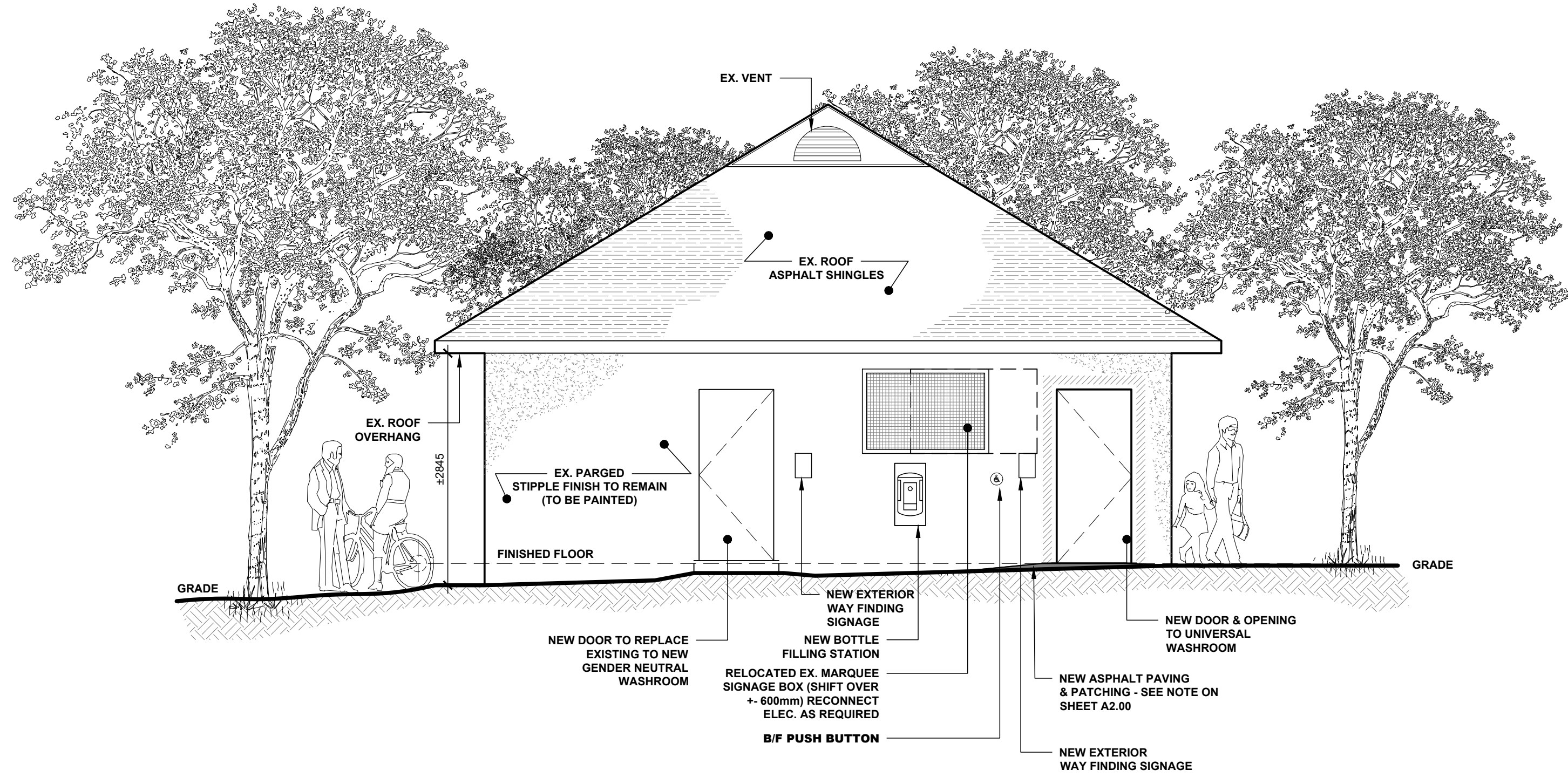
GRGURIC  
ARCHITECTS  
INCORPORATED



28 KING STREET EAST, UNIT B  
STONE CREEK, ONTARIO, L8G 1J8  
Tel. 905-664-8735 Fax. 905-664-8737  
Web: www.2gai.com

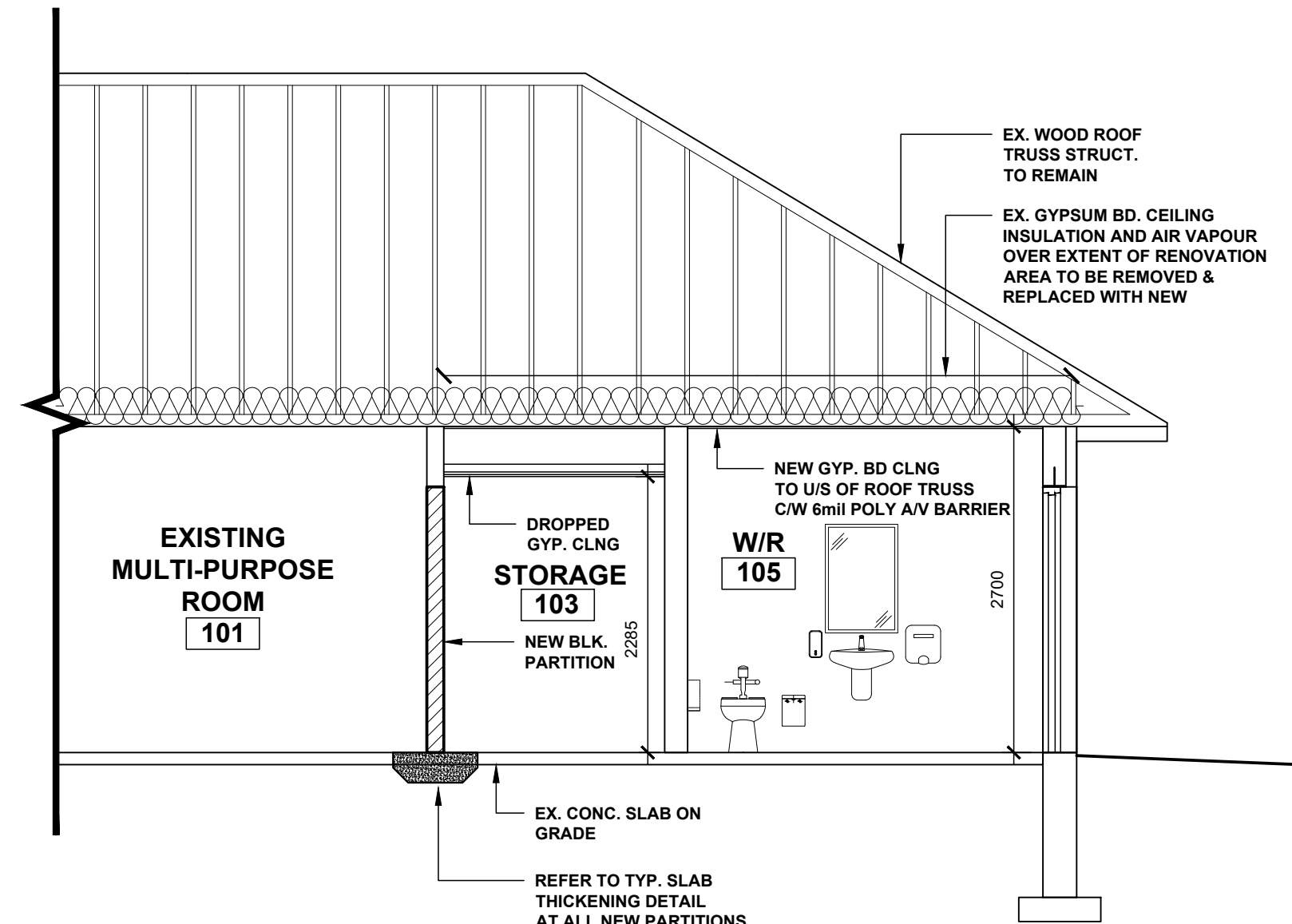
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AS NOTED	2023-01
DATE STARTED:	
JUNE, 2023	
DRAWN:	DRAWING:
R.P.	A3.00
CHECKED:	
W.P.	
PRINT DATE:	10/04/23

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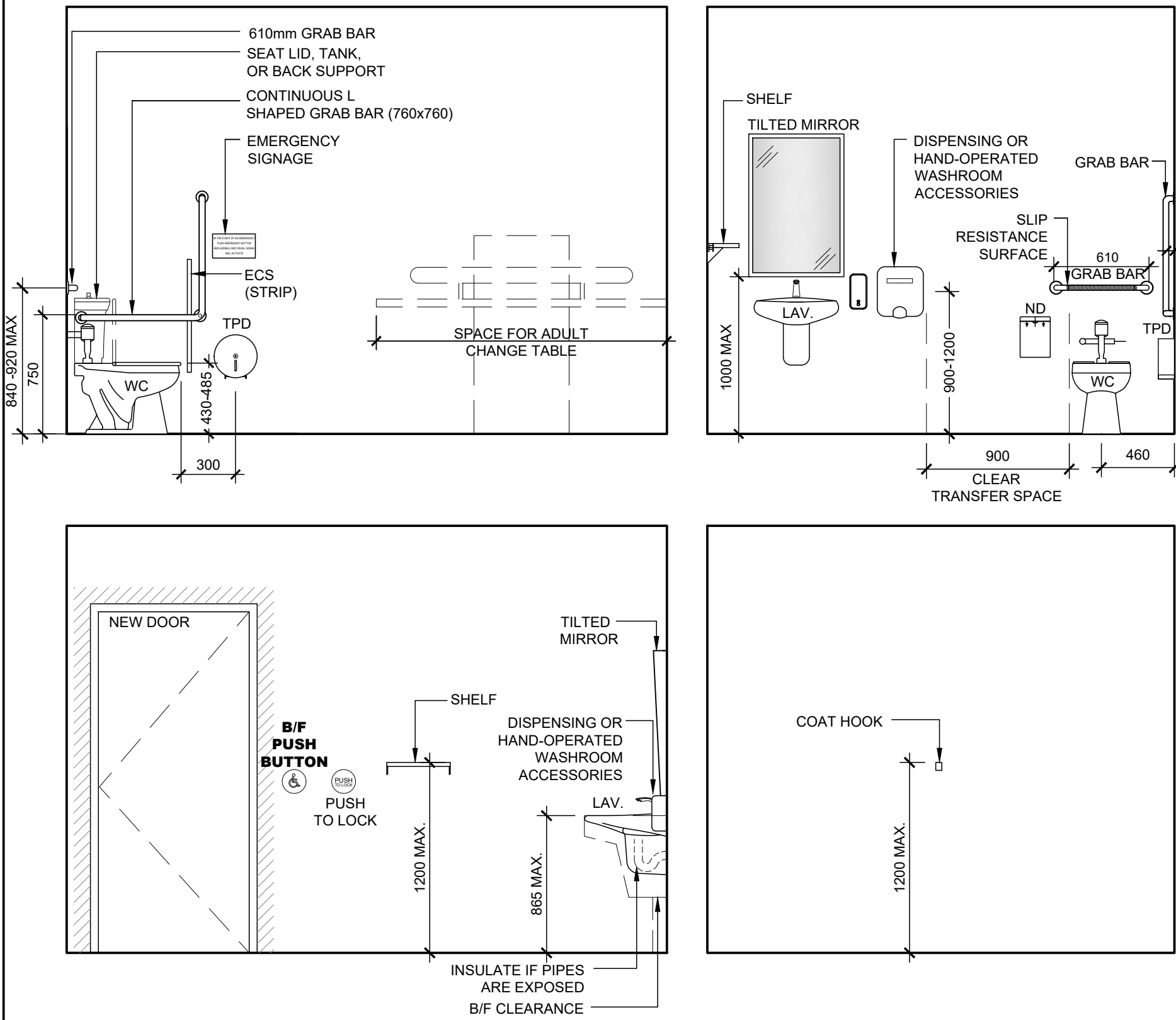
EXTERIOR EAST ELEVATION

SCALE: 1:50



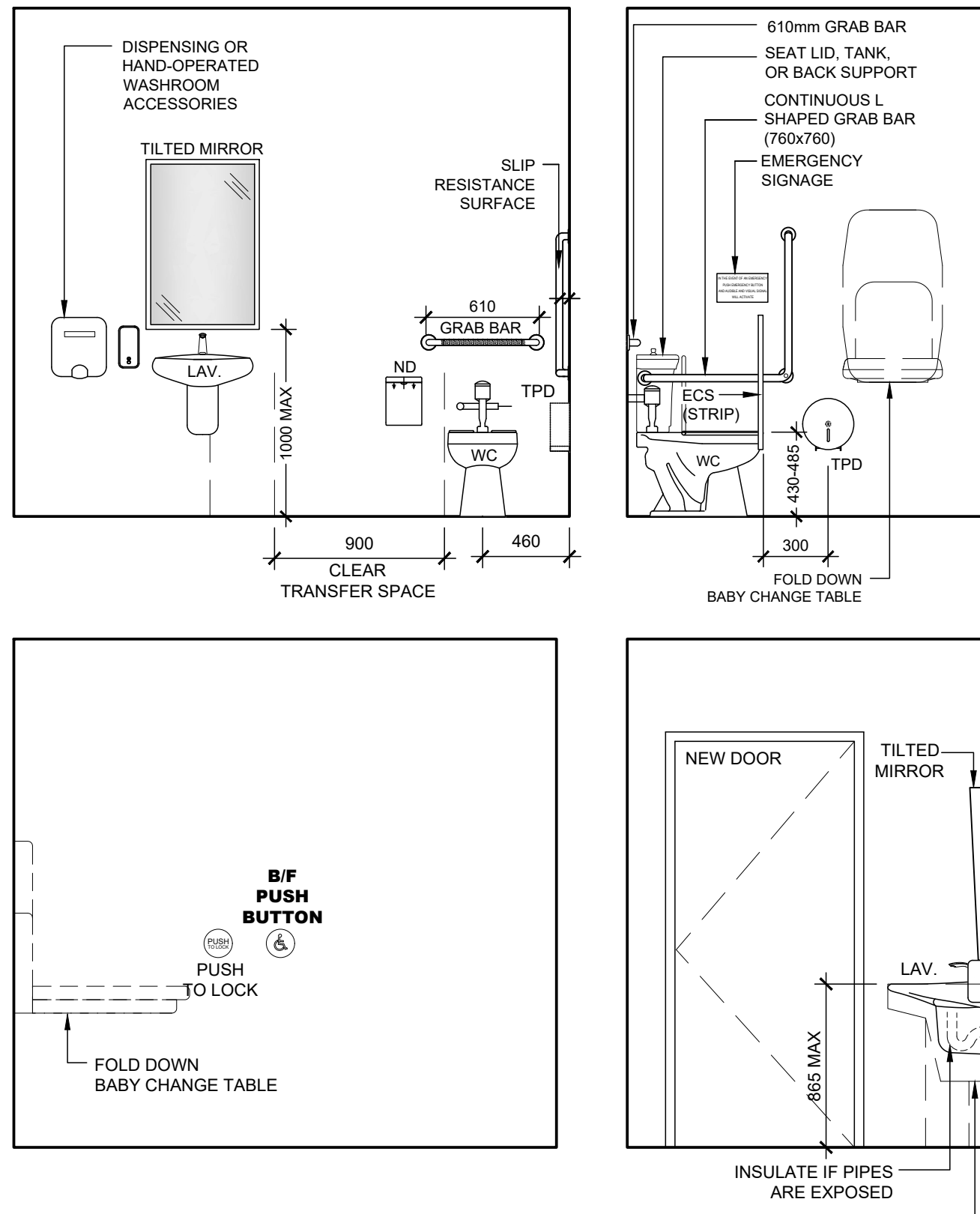
PARTIAL BUILDING CROSS SECTION AT RENOVATION AREA

SCALE: 1:50

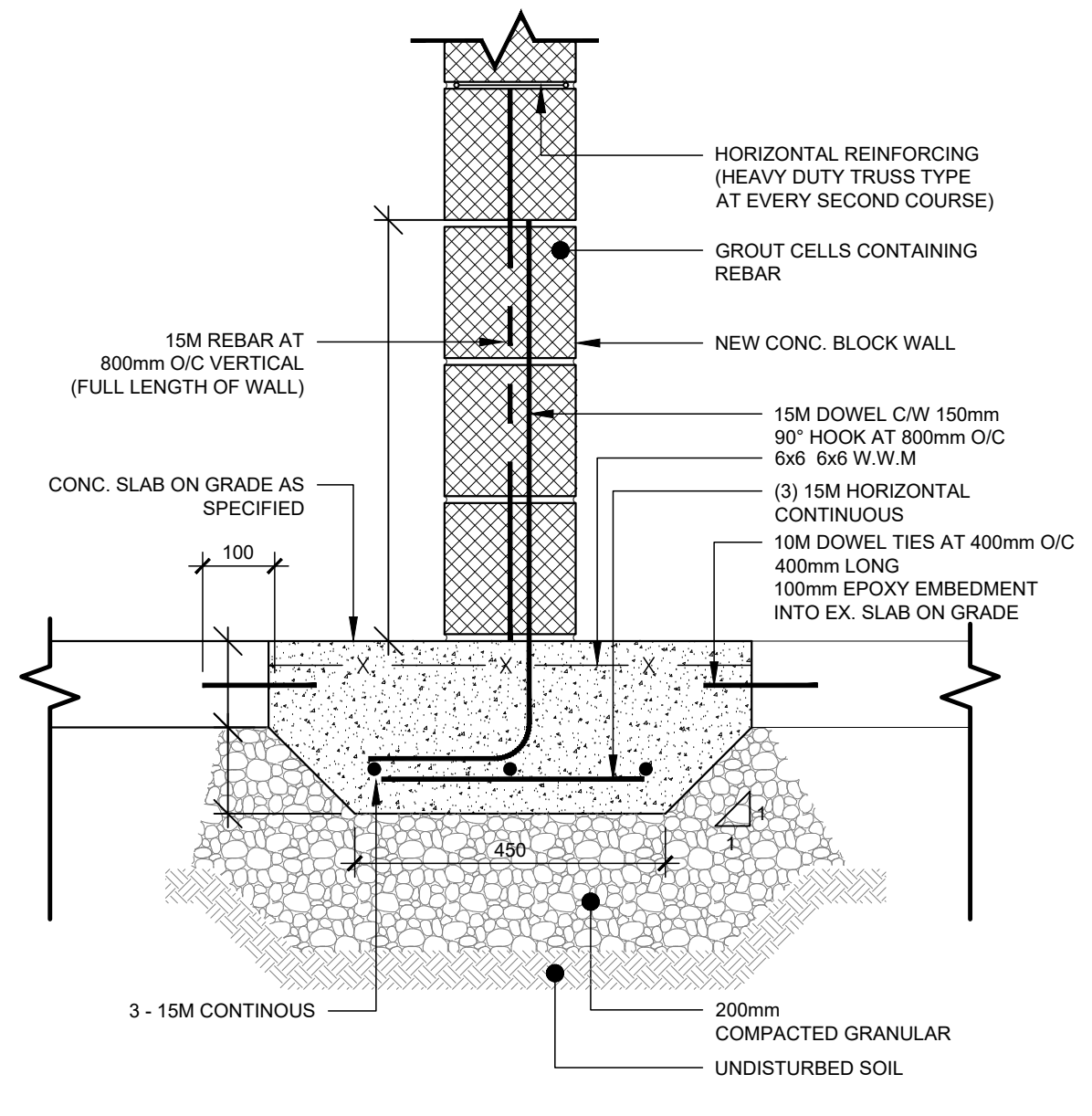


UNIVERSAL WASHROOM 104

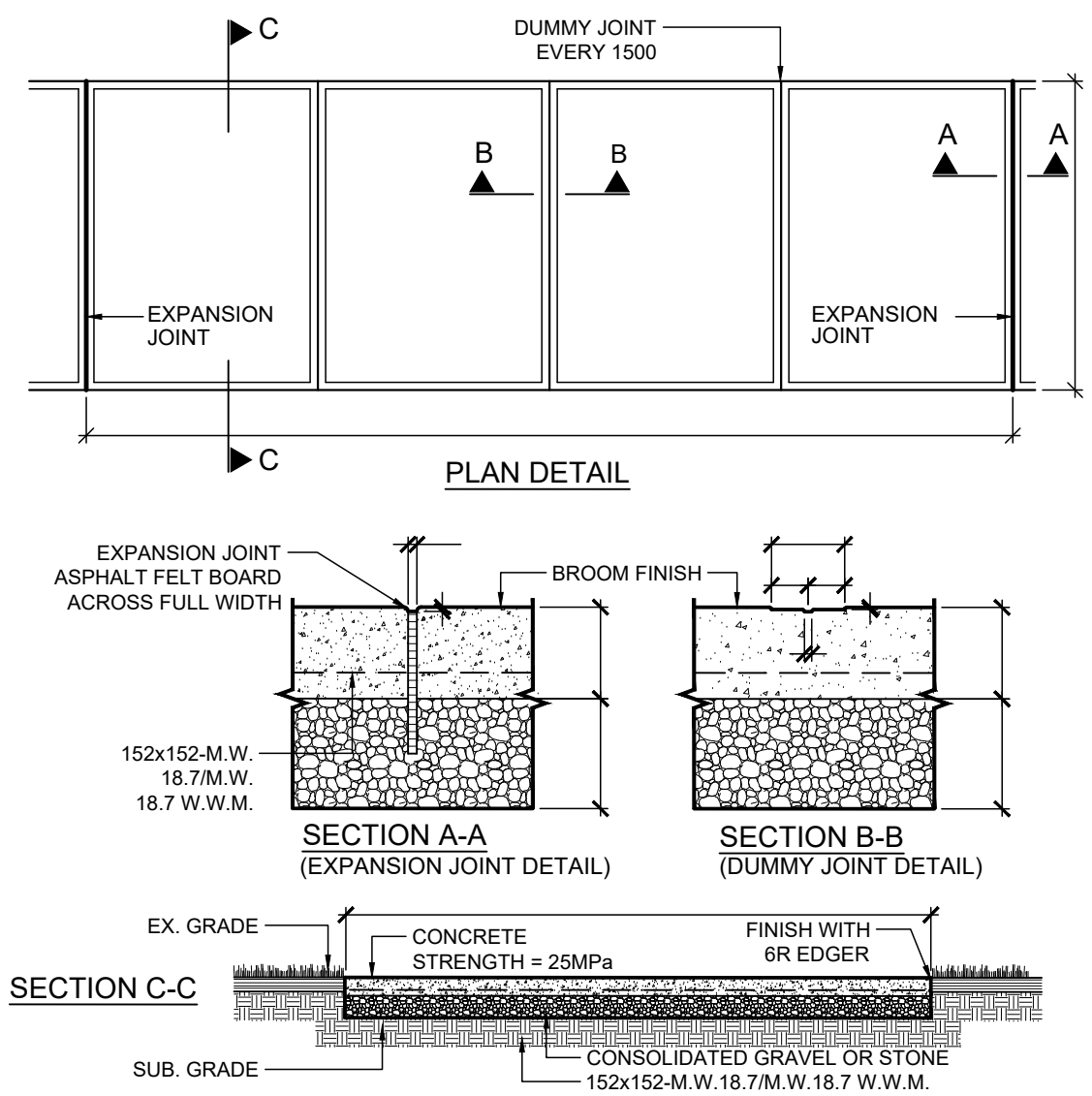
WASHROOM INTERIOR ELEVATIONS  
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BARRIER FREE WASHROOM 106

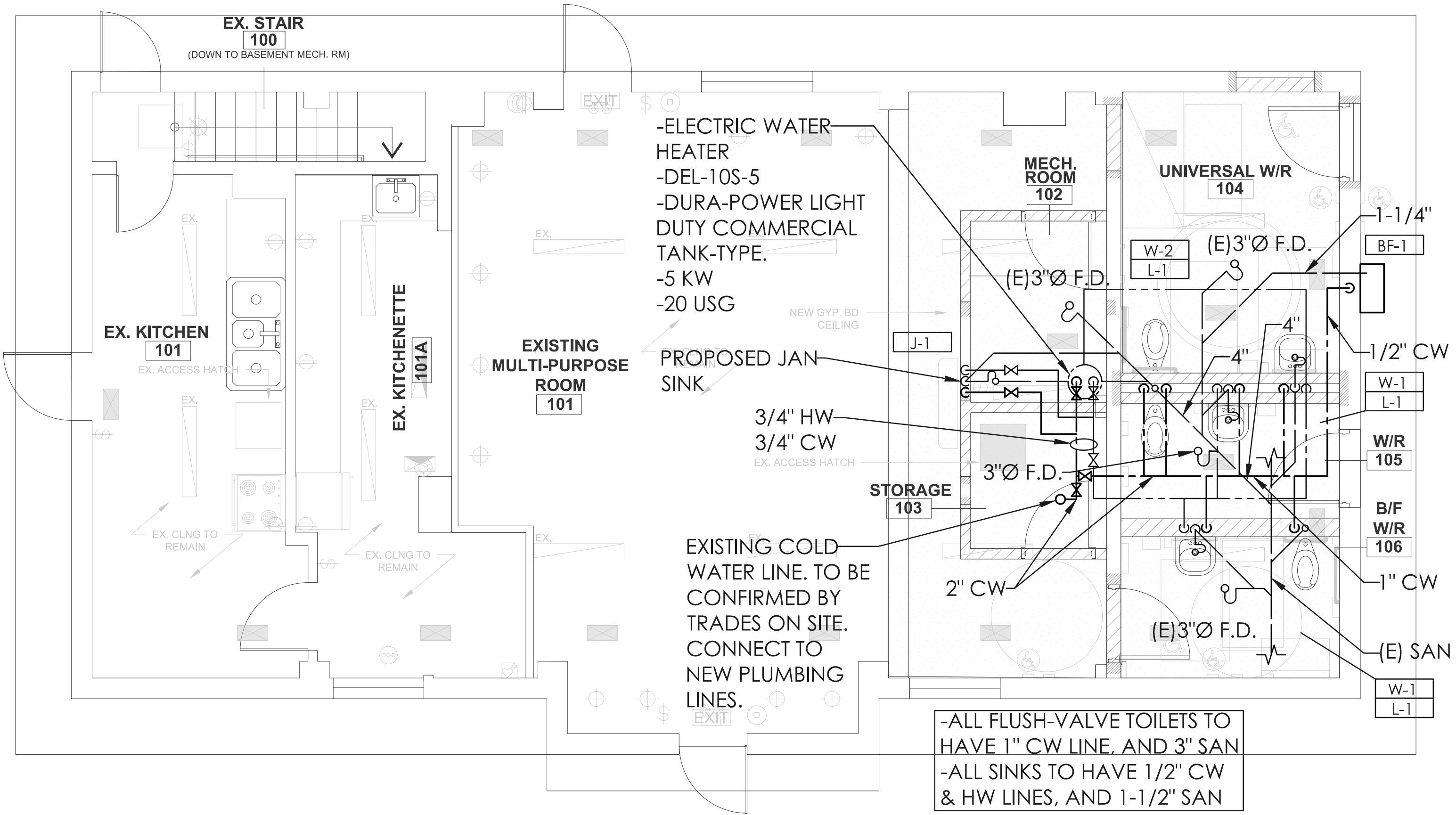
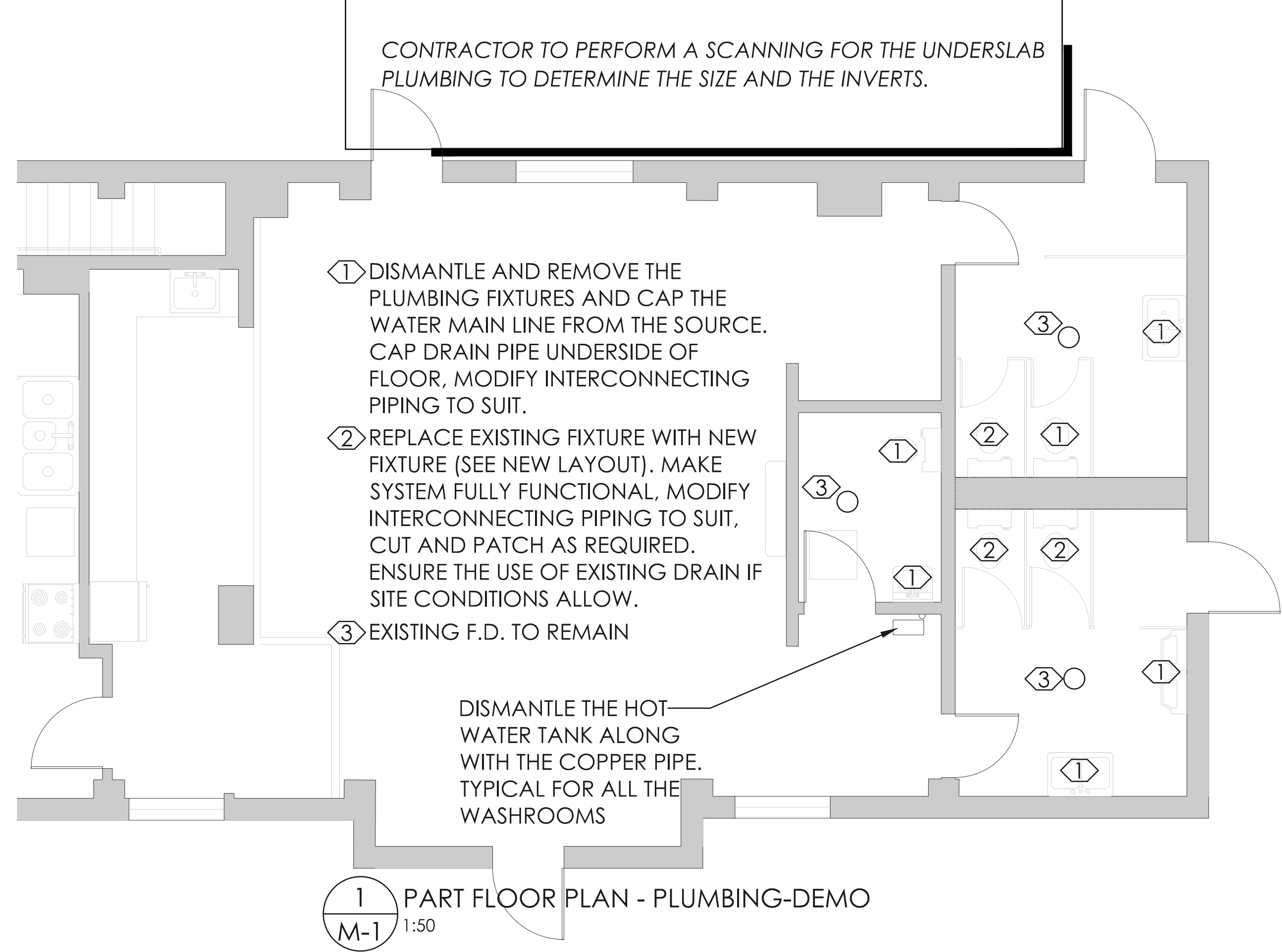


1 SECTION DETAIL - TYP. SLAB THICKENING  
AT NEW MASONRY WALLS  
SCALE: 1:10



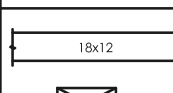
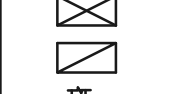
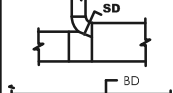
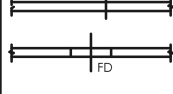

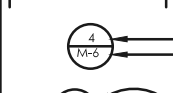
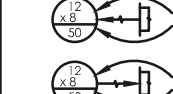
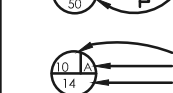
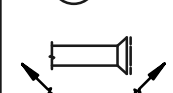
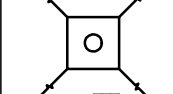
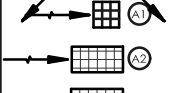
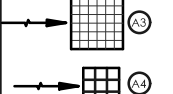



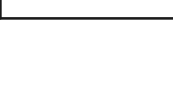



2 SECTION DETAIL - TYP. SLAB THICKENING  
AT NEW MASONRY WALLS  
SCALE: 1:10

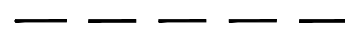
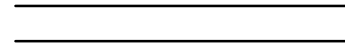
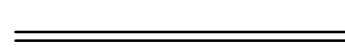
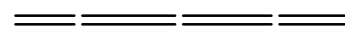
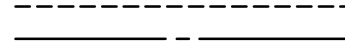
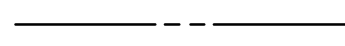

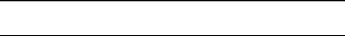

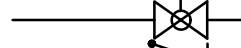
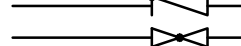
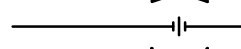
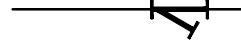

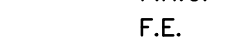







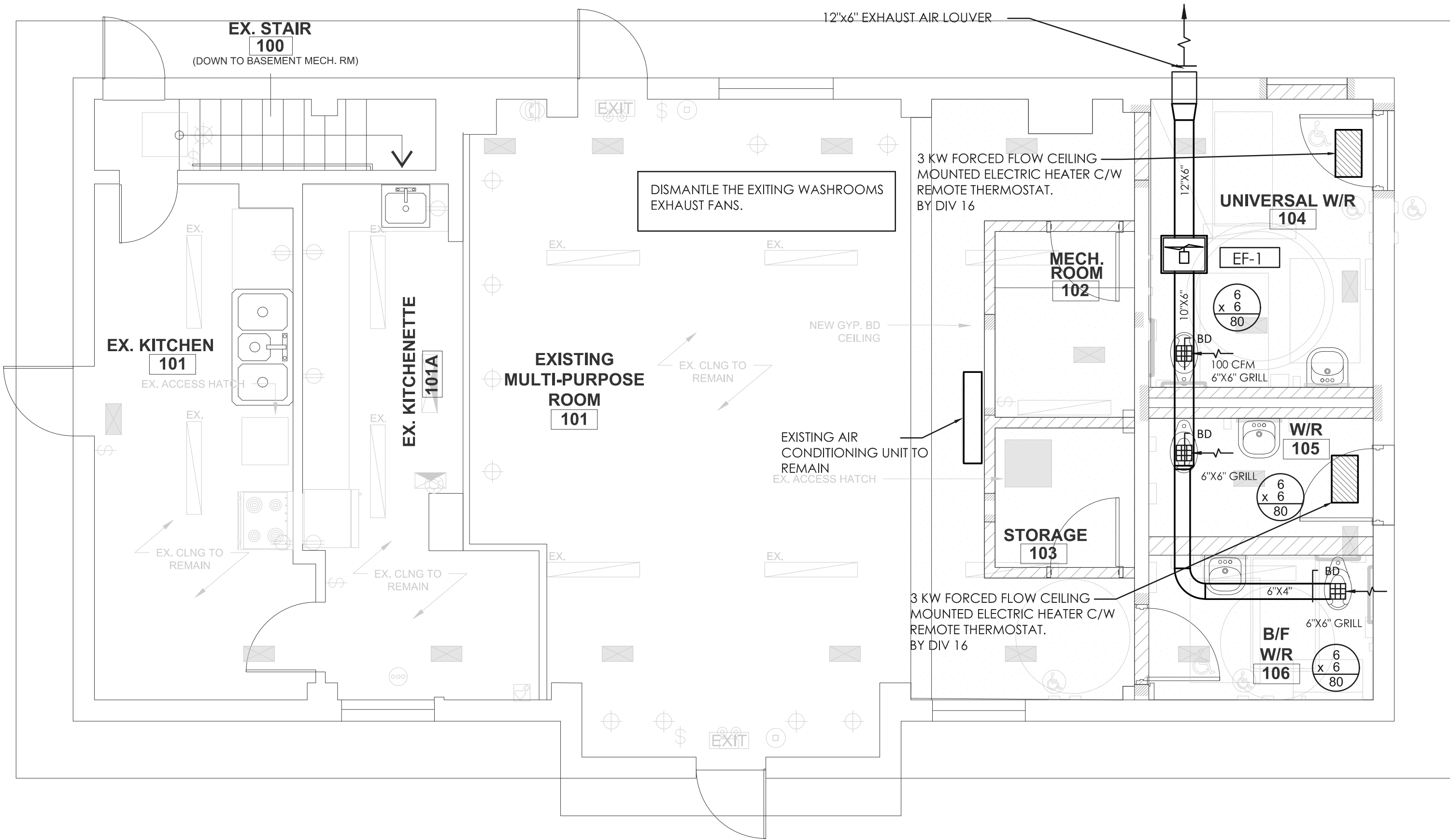
2 PART FLOOR PLAN - PLUMBING  
1:50

EXHAUST FAN SCHEDULE												
TAG	SYMBOL AND LABEL	LOCATION OF FAN	MAKE OF FAN	MODEL	VOL. CFM	S.P. (IN)	NEW FAN	ROTATION	ELECTRIC V	PH	HZ	
EF-1	WASHROOM ROOM	WASHROOM ROOM	PENN	ZYPHER ZC105 (TDA)	300	0.2	1050	200 W	115	1	60	C/W INLET GUARDS, REAR GUARD, VIBRATION ISOLATORS & HANGERS, IN LINE CONVERSION (TDA) KIT, SAFETY DISCONNECT SWITCH, WALL SHUTTERS, BACK-DRAFT DAMPER WALL SLEEVES AND BOX ENCLOSURE POWER ROOF VENT CONSTRUCTION UNIT TO START FROM REVERSE ACTING THERMOSTAT. SET THERMOSTAT TO RUN AT 80 DEG F.
NOTE: APPROVED EQUAL: GREENHECK, PRICE, CARNES												


H.V.A.C. LEGEND	
	DOUBLE LINE DUCT FIRST FIGURE IS DUCT WIDTH DUCT UNDER POSITIVE PRESSURE
	DUCT UNDER NEGATIVE PRESSURE
	SPLITTER DAMPER
	BALANCING DAMPER
	FIRE DAMPER
	SHADING DENOTES SOUND LINING (SEE SPECS).
	DENOTES SILENCER
	DETAIL OR SECTION NUMBER DETAIL OR SECTION SHEET
	GRILLE SIZE (SUPPLY) CFM
	GRILLE SIZE (RETURN OR EXH.) CFM
	SIZE TYPE OF DIFFUSER CFM
	OPEN END DUCT C/W 0.5" MESH SCREEN
	SQUARE DIFFUSER
	12x12 RETURN/EXHAUST GRILLE
	24x12 RETURN/EXHAUST GRILLE
	24x24 RETURN/EXHAUST GRILLE
	16x16 RETURN/EXHAUST GRILLE
	8x8 RETURN/EXHAUST GRILLE
	12x6 RETURN AIR GRILLE C/W SOUNDLINED 12x8x48 LONG OPEN END DUCT
	SOUNDLINED 12x6 ELBOW AIR TRANSFER DUCT
	SOUNDLINED 24x12 ELBOW AIR TRANSFER DUCT

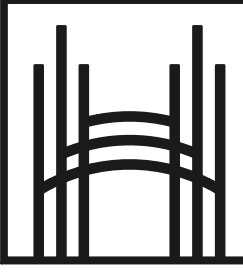
PLUMBING LEGEND	
	SANITARY PIPE (BELOW GRADE)
	SANITARY PIPE (ABOVE GRADE)
	SANITARY PIPE (ABOVE GRADE BELOW SLAB)
	STORM PIPE (ABOVE GRADE)
	STORM PIPE (BELOW GRADE)
	VENT LINE
	DOMESTIC COLD WATER LINE
	DOMESTIC HOT WATER LINE
	DOMESTIC RECIRCULATION LINE
	GATE VALVE
	CHECK VALVE
	GLOBE VALVE
	UNION
	STRAINER
	F.H.C.
	F.E.
	FIRE HOSE CABINET
	FIRE EXTINGUISHER

PLUMBING FIXTURE SCHEDULE								
TAG	LOCATION	FIXTURE TYPE	FAUCET/WATER SUPPLY FIXTURE	PLUMBING CONNECTIONS				MANUFACTURER (MODEL) / ALTERNATE MANUFACTURERS
				DHW (MM)	DCW (MM)	TRAP (MM)	VENT (MM)	
W-1	WASHROOM 105 & 106	WATER CLOSET FLOOR MOUNTED FLUSH TANK	ZURN EXPOSED ZEMS8000AV-WS1-YO HARDWIRED AUTOMATIC SENSOR FLUSH VALVE C/W BUMPER ON ANGLE STOP WITH ACCESSORIES	-	25	INTERNAL	40	KOHLER WELLCOMME NO. K-4350 ELONGATED BOWL, VITREOUS CHINA, WHITE, WITH ACCESSORIES
W-2	UNIVERSAL WASHROOM 104	ACCESSIBLE WATER CLOSET FLOOR MOUNTED FLUSH TANK	ZURN EXPOSED ZEMS8000AV-WS1-YO HARDWIRED AUTOMATIC SENSOR FLUSH VALVE C/W ACCESSORIES	-	25	INTERNAL	40	KHOLER HIGHCLIFF K-4388 BARRIER-FREE TOILET, ELONGATED BOWL, VITREOUS CHINA, WHITE, WITH ACCESSORIES.
L-1	WASHROOM 105, 106, UNIVERSAL 104	WALL-MOUNTED BATHROOM SINK	ZURN AQUA/SENSE, NO.28915-CWB, HARDWIRE POWERED FAUCED C/W ACCESSORIES, P-TRAP (ZURN Z8700-PC-B-D) AND THERMOSTATIC MIXING VALVE (LAWLER 570)	13	13	1-1/4	-	KOHLER KINGSTON NO. K-2005 WALL-MOUNT BATHROOM SINK, VITREOUS CHINA, WITH ACCESSORIES
J-1	MECHANICAL ROOM	STERN WILLIAMS MOP SINK, FLOOR MOUNTED C/W P-TRAP BACK SPLASH PANEL, T-35 HOSE, T-40 SS MOP HANGER	ZURN SERVICE SINK FAUCET, NO.21996-SF, C/W VACCUIM BREAKER, ADJUSTABLE WALL BRACE, PAIL HOOK & 19MM THREADED HOSE SPOUT	20	20	32	32	AM. STD. LUCERNE, #0356.012.
BF-1	OUTDOOR	OUTDOOR WALL-MOUNTED BOTTLE FILLER	-	-	13	-	-	HAWS MODEL 3690 CONFIG WM
NOTES: 1. FLOOR DRAINS VENTING AS REQUIRED BY PLUMBING CODE. 2. ALL SINK AND LAVATORY DRILLING TO MATCH SPECIFIED TRIM. 3. ALL FIXTURES TO BE INDIVIDUALLY VENTED.								
ARCHITECTURAL DRAWINGS TO GOVERN FOR LOCATION AND NUMBER OF PLUMBING FIXTURES								



3 PART FLOOR PLAN - VETILATION  
1:50






**Hamilton**

3	ISSUED FOR TENDER	2023-09-19
2	ISSUED FOR BUILDING PERMIT	2023-08-17
1	ISSUED FOR COORDINATION	2023-06-07
NO	REVISIONS	DATE

DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE PROJECT, AND MUST REPORT ANY DISCREPANCIES TO THE ARCHITECTS BEFORE PROCEEDING WITH THE WORK. THE USE OF THIS DRAWING OR PART THEREOF IS FORBIDDEN WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECTS.



**EJS**

ENGINEERING

VICTORIA PARK  
FIELD HOUSE  
RENOVATIONS  
500 KING STREET WEST  
HAMILTON, ON. L8R

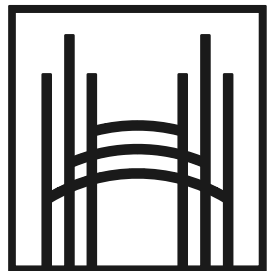
GRGURIC  
ARCHITECTS  
INCORPORATED



28 KING STREET EAST, UNIT B  
STONE CREEK, ONTARIO, L8G 1J8  
Tel. 905-664-8735 Fax. 905-664-8737  
Web: www.2gai.com

SCALE: AS NOTED	PROJECT: <b>2313</b>
DATE STARTED: JUNE, 2023	
DRAWN N.P.	DRAWING: <b>M-1</b>
CHECKED G.S.	
PRINT DATE	





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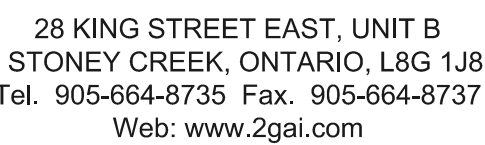
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2313

# M-2







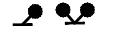

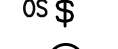




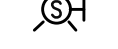











1.01	GENERAL CONDITIONS		
1	Conform to Instructions to Bidders.		
2	All work must conform to local Bylaws, BC Building Code and Authorities having jurisdictions.		
3	Work includes supply and installation of all labour and material necessary for various systems as required to make finished and fully functional installations even though each and every miscellaneous item of labour and material is not mentioned in Specifications or shown on Drawings.		
4	The most stringent of the base building specifications and this specification shall form the basis for construction.		
5	Contractor shall account in his tender price for premium time cost for work performed outside of the regular working hours.		
6	Obtain Architect / Engineer's approval; of diffusers, grilles, access doors and thermostats located prior to installation of different from drawings.		
7	Contingent change notices shall be submitted with breakdown of breakdown of materials on labor cost. Pricing shall be in accordance with MCA (Mechanical Contractors Association).		
8	Contractor shall adhere to the construction schedule prepared by the General Contractor.		
1.02	BY-LAWS & PERMITS		
1	Obey Government, Municipal and Underwriters Standards and perform work in accordance with Regulations & By-Laws and Regulations in force where building is located. Obtain and pay for all fees, inspections, deposits and service charges required by Authorities.		
1.03	CO-ORDINATION & CO-GRADATION		
1	Each Section and Trade shall:		
	Coordinate with other Sections and arrange work so it will be carried on in best interests of all concerned bearing in mind building construction and finish required.		
1.04	EXAMINE SITE & CONDITIONS		
1	Examine site and local conditions during tender period. Examine carefully all Drawings and ensure that work can be satisfactorily carried out as shown. Before commencing work, examine the work of other Sections and report at once any defect or interference affecting the work. Its completion or removal. No allowance will be made later for any expense incurred through failure to make these examinations or due to existing conditions or to report any such discrepancies in writing.		
1.05	DRAWINGS		
1	Mechanical Drawings do not show all existing, structural and related details. Take information involving accurate measurement from building drawings, or of building, made, without additional charge, any necessary changes or additions to runs of piping, conduits and ducts to accommodate structural conditions.		
1.06	CUTTING & PATCHING		
1	Perform all cutting and patching of portions of building as necessary to accommodate installation of work of the Contract.		
2	Core drill holes in concrete walls and floors for piping where not previously sleeved.		
1.07	SUPPORTS		
1	Provide supports, stands and platforms necessary for proper installation of equipment and materials. Supports of concrete, steel or wood as may be required and as approved or otherwise shown or specified. Provide necessary anchor bolts and other fastenings. Secure work to concrete with Phillips "Red Head" concrete anchors.		
1.08	HANGERS		
1	Provide hangers to support unbanded piping and ducts. Obtain approval of methods of hanging to building before proceeding. Insure that load on building structure does not exceed maximum mechanical loading per square metre.		
2	Do not hang from steel or tectum decking. Provide structural framing where necessary to support work in these areas. Provide hanger at each fitting.		
3	Support unbanded horizontal cast iron piping at each hub length (max. 1500 mm) with 2" nominal #260 or A471 #24 steel hangers. Where groups of fittings are spaced, not more than 900 mm apart, support with cast iron. Support other horizontal piping with Grinnell #260 or Metric #24 steel hangers as follows:		
	Up to 1 1/4" size - 6' maximum spacing		
	1 1/2" to 3" size - 10' maximum spacing		
	3 1/2" to 4" size - 12' maximum spacing		
	4 1/2" to 6" size - 15' maximum spacing		
	6" to 8" size - 18' maximum spacing		
	8" to 10" size - 21' maximum spacing		
	10" to 12" size - 24' maximum spacing		
	12" to 14" size - 27' maximum spacing		
	14" to 16" size - 30' maximum spacing		
	16" to 18" size - 33' maximum spacing		
	18" to 20" size - 36' maximum spacing		
	20" to 22" size - 39' maximum spacing		
	22" to 24" size - 42' maximum spacing		
	24" to 26" size - 45' maximum spacing		
	26" to 28" size - 48' maximum spacing		
	28" to 30" size - 51' maximum spacing		
	30" to 32" size - 54' maximum spacing		
	32" to 34" size - 57' maximum spacing		
	34" to 36" size - 60' maximum spacing		
	36" to 38" size - 63' maximum spacing		
	38" to 40" size - 66' maximum spacing		
	40" to 42" size - 69' maximum spacing		
	42" to 44" size - 72' maximum spacing		
	44" to 46" size - 75' maximum spacing		
	46" to 48" size - 78' maximum spacing		
	48" to 50" size - 81' maximum spacing		
	50" to 52" size - 84' maximum spacing		
	52" to 54" size - 87' maximum spacing		
	54" to 56" size - 90' maximum spacing		
	56" to 58" size - 93' maximum spacing		
	58" to 60" size - 96' maximum spacing		
	60" to 62" size - 99' maximum spacing		
	62" to 64" size - 102' maximum spacing		
	64" to 66" size - 105' maximum spacing		
	66" to 68" size - 108' maximum spacing		
	68" to 70" size - 111' maximum spacing		
	70" to 72" size - 114' maximum spacing		
	72" to 74" size - 117' maximum spacing		
	74" to 76" size - 120' maximum spacing		
	76" to 78" size - 123' maximum spacing		
	78" to 80" size - 126' maximum spacing		
	80" to 82" size - 129' maximum spacing		
	82" to 84" size - 132' maximum spacing		
	84" to 86" size - 135' maximum spacing		
	86" to 88" size - 138' maximum spacing		
	88" to 90" size - 141' maximum spacing		
	90" to 92" size - 144' maximum spacing		
	92" to 94" size - 147' maximum spacing		
	94" to 96" size - 150' maximum spacing		
	96" to 98" size - 153' maximum spacing		
	98" to 100" size - 156' maximum spacing		
	100" to 102" size - 159' maximum spacing		
	102" to 104" size - 162' maximum spacing		
	104" to 106" size - 165' maximum spacing		
	106" to 108" size - 168' maximum spacing		
	108" to 110" size - 171' maximum spacing		
	110" to 112" size - 174' maximum spacing		
	112" to 114" size - 177' maximum spacing		
	114" to 116" size - 180' maximum spacing		
	116" to 118" size - 183' maximum spacing		
	118" to 120" size - 186' maximum spacing		
	120" to 122" size - 189' maximum spacing		
	122" to 124" size - 192' maximum spacing		
	124" to 126" size - 195' maximum spacing		
	126" to 128" size - 198' maximum spacing		
	128" to 130" size - 201' maximum spacing		
	130" to 132" size - 204' maximum spacing		

<p>1. INSTALL ALL PLUMBING SYSTEMS &amp; VENT PIPING IN ACCORDANCE WITH PROVINCIAL PLUMBING CODE AND LOCAL AUTHORITY HAVING JURISDICTION .</p> <p>2. PROVIDE CRANE OR EQUAL APPROVED GLOBE VALVES, #37 CHECK VALVES, GAS COCKS SHALL BE CGA APPROVED WITH QUARTER STOPS. PROVIDE ACCESSIBLE SCREW DRIVER STOPS OR VALVES ON WATER SERVICES AT ALL FIXTURES AND EQUIPMENT. INSTALL BACKFLOW PREVENTERS ON EQUIPMENT CONNECTIONS. PROVIDE ISOLATING VALVES ON THE DOMESTIC COLD AND HOT WATER BRANCHES TO EACH WASHROOM.</p> <p>3. BEFORE STARTING THE WORK, VERIFY EXACT LOCATIONS, INVERTS &amp; SIZES OF ALL EXISTING SERVICES AND CONNECTIONS.</p> <p>4. CO-ORDINATE PIPING INSTALLATION WITH OTHER TRADES AND RUN PIPES IN CEILINGS SPACE AS HIGH AS POSSIBLE.</p> <p>5. READ PLUMBING DRAWINGS IN CONJUNCTION WITH I.D. DRAWINGS AND SHOP DRAWINGS. PROVIDE HOOK- UP OF ALL PLUMBING AND NATURAL GAS SERVICES OF THE REQUIRED SIZE AND AT REQUIRED LOCATION.</p> <p>6. PIPING INSULATION: COMPONENTS OF INSULATION SYSTEM TO HAVE MAXIMUM FLAME SPREAD RATING OF 25 AND MAXIMUM SMOKE DEVELOPED RATING OF 50 IN ACCORDANCE WITH CAN/ULC-S102.</p> <p>DOMESTIC HOT WATER PIPING: FORMED MINERAL FIBER TO 200°C, RIGID MINERAL FIBER SLEEVING FOR PIPING. 25MM THICK FOR PIPES 50MM &amp; UNDER. 38MM THICK FOR PIPES 65MM &amp; OVER.</p> <p>DOMESTIC COLD WATER: FORMED MINERAL FIBER WITH VAPOUR BARRIER TO 85°C. RIGID MINERAL FIBER SLEEVING FOR PIPING AND CGSB 51-GP-52MA, VAPOUR BARRIER JACKET AND FACING MATERIAL. 25MM THICK FOR PIPES 25MM &amp; UNDER. 38MM THICK FOR PIPES 32MM &amp; OVER.</p> <p>JACKETING FOR EXPOSED PIPING: PVC, APPLY IN ACCORDANCE WITH CGSB 51-GP-53M, 0.38 MM THICK MINIMUM, FITTING COVERS, ONE PIECE, PREMOULDED TO MATCH.</p> <p>ON PIPING WITH INSULATION AND VAPOUR BARRIER, INSTALL HIGH DENSITY INSULATION UNDER HANGER SHIELD. MAINTAIN INTEGRITY OF VAPOUR BARRIER OVER FULL LENGTH OF PIPE WITHOUT INTERRUPTION AT SLEEVES, FITTINGS AND SUPPORTS.</p>	<p>10. NATURAL GAS PIPING: TO THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION. ASTM A-53 SCH. 40 STEEL PIPING, SCREWED OR WELDED TO CODE REQUIREMENTS.</p> <p>11. PLUMBING SPECIALTIES AND ACCESSORIES :</p> <p>FLOOR DRAINS ( FD ): TO CAN3-B79, ACCEPTABLE MANUFACTURERS: WATTS, ZURN.</p> <p>CLEANOUTS (CO): FLOOR ACCESS: ROUND NICKEL BRONZE BODY AND FRAME WITH ADJUSTABLE SECURED NICKEL BRONZE TOP. COVER FOR CARPETED FLOORS, POLISHED NICKEL BRONZE WITH DEEP FLANGE COVER FOR CARPET INFILL. COMPLETE WITH CARPET RETAINER VANDAL-PROOF LOCKING SCREWS. ACCEPTABLE: WATTS, ZURN</p> <p>WATER HAMMER ARRESTORS: STAINLESS STEEL CONSTRUCTION. BELLOWS OR PISTON ACCEPTABLE: PIP INC. WATTS</p> <p>TRAP SEAL PRIMERS: ALL BRASS, WITH INTEGRAL VACUUM BREAKER, NPS 1/2 SOLDER ENDS, NPS 1/2 DRIP LINE CONNECTION. INSTALL FOR ALL FLOOR DRAINS. INSTALL ON COLD WATER SUPPLY TO NEAREST FREQUENTLY USED PLUMBING FIXTURE IN CONCEALED SPACE. TO APPROVAL OF ENGINEER. INSTALL SOFT COPPER TUBING TO FLOOR DRAIN.</p> <p>12. COMMISSIONING OF PLUMBING SPECIALTIES: CLEAN OUT AND PRIME ALL FLOOR DRAIN TRAPS USING TRAP SEAL PRIMERS OR OTHER MEANS ACCEPTABLE TO THE AUTHORITIES. PROVE FREEDOM OF MOVEMENT OF CLEANOUTS.</p> <p>13. PLUMBING FIXTURES:</p> <p>FIXTURES AND TRIM: ARCHITECTURAL DRAWINGS TO GOVERN IN DETERMINATION OF NUMBER AND LOCATION OF FIXTURES. EXPOSED PLUMBING BRASS TO BE CHROME PLATED. FOR SPECIFICATIONS REFER TO PLUMBING FIXTURE SCHEDULE.</p> <p>14. DOMESTIC HOT WATER HEATER: REFER TO SCHEDULE ON DRAWING.</p> <p>SUPPLY AND INSTALL THERMOMETER ON HW DISCHARGE PIPE. ADJUST DISCHARGE TEMPERATURE FOR 140 °F. SUPPLY AND INSTALL HEAT TRAP, SHUT-OFF VALVES, TEMPERATURE AND PRESSURE RELIEF VALVE. PIPE RELIEF TO DISCHARGE LOCATION AS SHOWN ON DRAWING.</p> <p>PROVIDE EXPANSION TANK AS INDICATED ON DRAWING. ACCEPTABLE: AMTROL</p> <p>15. PROVIDE AND INSTALL THERMOSTATIC MIXING VALVE, SIZE INDICATED ON DWG. ACCEPTABLE: HYDROGUARD, LEONARD, RADA. INSTALLATION STRICTLY PER MANUFACTURER'S INSTRUCTION.</p> <p>16. PROVIDE SEISMIC RESTRAINT FOR ALL PIPES, DHWT, EXPIATION AND ALL EQUIPMENT UNDER THIS CONTRACT.ETC.</p> <p>17. ALL SEISMIC RESTRAINT TO BE INSPECTED AND CERTIFIED BY STRUCTURAL OR SEISMIC ENGINEER UPON COMPLETION. CONTRACTOR TO PROVIDE WRITTEN REPORT TO THE ENGINEER WITH CERTIFICATE OF COMPLIANCE.</p> <p>18. REFER TO MECHANICAL DWGS M2.2 FOR DETAILED SEISMIC SPECS.</p>
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1.2.0 DUCTWORK	<p>1 Provide ducts and sheet metal work sections and required to complete duct sections and put each in operating condition. Ducts shall be constructed of #24 gauge (#22 gauge over 30" width) first quality, smooth finished, cold rolled galvanized steel per SMANOA 1" metal and steel Class "Z" guaranteed to double seam without fluting.</p> <p>2 Make joints suitably air tight with laps in direction of air flow. Whenever possible, sizes of ducts shall conform to those indicated. Where structural conditions require shape be modified, ducts MUST have minimum section. Ducts are indicated with width of duct shall NOT EXCEED 3/8" times depth except with special approval. Ductwork shall be in accordance with ASHRAE 154, Method of Installation.</p> <p>3 Support duct assemblies from building structure with 1" x 1/8" galvanized steel "Z" band hangers secured under ducts. Hangers shall be spaced at NOT OVER 72" CENTRES.</p> <p>4 Provide extension collars for outlets, air guide vanes and other special features indicated or required. Transition ducts at not more than 30 degree slope. Elbows and bends shall be minimum one duct width radius.</p> <p>5 Provide Ductwork coated glass fabric connections between ductwork and equipment.</p> <p>6 Provide 1" thick Fiberglass Flexible Duct Liner acoustic liner with Neoprene gasket in 20" of supply and return ducts. Secure liner with welded pins and push on caps. Mastic seal all joints. Where ducts are acoustic liners, they must be fire rated.</p> <p>7 Where return zones, pre-insulated-Tenax Continental Equipment Ltd. Type "S" "A1" or FLEX-aluminum or Thermoflex MKC glass fibre flexible duct. All such U.L.C. listed for service temperatures of 200 degrees Fahrenheit. Ducts 3/4" - 5" duct section and tape seal with Permacore Fiberglass duct tape. Minimum length 25% longer than measured - dimension. Maximum length 50% more than measured length. 120' total. Provide manual balancing damper in truck duct at connection to each flexible duct.</p>	<p>1.2.1 Controls</p> <p>1 The Control Contractor must be approved by the Landlord / Owner.</p> <p>2 Any new controls shall be compatible with the Base Building Central Control System (BMS).</p> <p>3 Mounting height of thermostats or sensors shall be 1200 mm to 1500 mm (4'-0" Contractor shall provide all necessary EMT Conduits, and wire to provide a complete and totally functional control system. Wire control wiring to equipment starter Auxiliary Control Panel. Provide transformer &amp; power to component nearest the nearest electrical distribution panel.</p> <p>4 Control wiring &amp; devices are parts of this contract. When required, control wiring shall be performed by the landlord / Owners Control Contractors paid for under this contract.</p>
1.2.0 INSULATION	<p>1 Provide insulation of new equipment and ductwork as described or noted. Insulation, jackets and adhesives shall be incombustible, in compliance with BC Building Code, installed in accordance with the standards, and to be approved. No sheet plastics or asbestos materials shall be used. Make suitable approved openings in insulation for inspection outlets and equipn. non-completes.</p> <p>2 Insulation shall continue through sleeves and openings except at "Required Fire Separations" where sleeves and coatings shall be "Fire Stopped" per Sleeves. Insulation shall be built tight to fire stopping and vapour sealed.</p> <p>3 Insulation which is inaccessible for application of insulation after installation shall be insulated and finished before being installed and finished.</p> <p>4 Seal duct insulation with mastic at all joints and pins. Tape all joints with approved self-adhesive full faced glass fibre reinforced 2" wide vapour barrier tape. Where ducts are insulated for fire proofed thermal insulation is not required but shall overlap liner at 6" except where noted.</p> <p>5 Externally insulate all concealed supply and ducts carrying cooled conditioned air with 1" thick, 0.748 lbs./cu.ft. density glass fibre reinforced full faced flexible vapour seal insulation (not more than 0.22 perm) gelling and copper wired on and secured to approval. Mechanically secure insulation on ducts over 30" in diameter. Apply air ducts in return air ceiling plenums from air conditioned spaces.</p> <p>6 Do NOT break continuity of insulation vapour barrier by hanger or support. Remove hangers temporarily to facilitate installation of vapour barrier where necessary.</p> <p>7 Insulate and install cap strips to cover turned out legs of ductwork reinforcing and supporting members.</p> <p>8 Repair or repair existing insulation where damaged or broken during construction to approved.</p> <p>9 Recover exposed interior insulation including fittings with 0.041lbs/sq.ft. covered ducts pasted on over entire surface of insulation with approved incombustible logging adhesive and finished with 1" coat of logging adhesive.</p>	<p>1.3.0 OPERATE AND ADJUST SYSTEMS</p> <p>1 Operate system to full capacity and verify proper, safe efficient operation of all parts and each complete system. Oil motors and grease bearings before starting equipment.</p> <p>2 When work is complete and system is in operation, adjust valves, belt drives, controls, dampers and thermostats so that there is even distribution of cooling, heating and ventilation air throughout. Turn over to Owner, necessary keys, handles and operating devices for each system.</p> <p>3 Each air handling system shall be balanced and air quantities per outlet listed and forwarded to Engineer for checking and approval. Balancing Report shall be suitably bound, 8" size, six copies required. Clean or replace filters and leave systems in clean operating condition.</p> <p>4 Test and balance each system such that air quantities at each outlet, grille and register are within 5% of design figures. Test, balance and adjust dampers and balancing devices shall be achieved these results. Prepare and submit a final balancing report for checking and approval.</p> <p>5 Testing and balancing of air handling systems shall be under supervision of qualified personnel. Balancing and testing shall be performed by trained personnel with records kept of each trial balance for supervision and approval.</p> <p>6 If spot checking systems reveals actual air quantities do not agree with air balance report, the Contractor shall be called upon to completely re-balance systems until satisfactory, without extra remuneration.</p>
1.2.0 INSULATION	<p>1.3.1 QUIET OPERATION</p> <p>1 Each air handling systems has been designed to be quiet in operation, N.C. 35 maximum. It is the responsibility of this Section to supply equipment and install systems to ensure noise levels will be maintained satisfactory to Architect.</p> <p>1.3.2 WARRANTY</p> <p>1 Furnish to Owner through General Contractor and Architect, written warranty covering materials and workmanship and free service for one year from date of start of life period.</p> <p>2 Warrant apparatus installed to properly cool, heat and ventilate without undue noise through every item of equipment and system and to maintain required room conditions.</p> <p>3 Warranty shall entail repair or replacement of materials installed without charge to Owner except where, in opinion of Architect, such repair or replacement was caused by improper use or misuse or neglect of maintenance.</p>	<p>1.3.4 SEISMIC RESTRAINTS</p> <p>1 Work shall conform to Ontario building code, American Society of Heating, Refrigerating and Air Conditioning Engineers ASHRAE Handbook, HVAC Systems and Equipment and ASHRAE Handbook, HVAC Applications along with National Fire Protection Association (NFPA) 90A with the Standard for the Installation of Air Conditioning and Ventilating Systems and Steel Metal and Air Conditioning Contractors National Association (SMANOA) Seismic Restraint Manual Guidelines for Mechanical Systems and SMANOA Duct Construction Standards - Metal and Flexible</p> <p>2 Submit Shop Drawings showing isolator types, locations with static and dynamic load on each location, and installation details, including recording and dam device wiring and control diagrams where required. Including manufacturer's product data and certificates of compliance for each type of vibration control product provided.</p> <p>3 Submit Seismic Calculations: Submit seismic calculations on all equipment, ductwork and piping restraints, anchors and supports. Calculations shall be prepared by a civil or structural engineer currently registered in the province of Ontario and shall conform to BAF Facilities Standards Structure - Seismic Design Criteria.</p> <p>4 The Contractor shall arrange with the manufacturers of the vibration isolation and seismic control devices to provide field services and provide the calculation of seismic loading, installation instructions, and provide piping, ductwork and equipment isolation systems and seismic control systems as indicated along with the specified equipment and control devices.</p>
1.2.0 INSULATION	<p>1.3.1 QUIET OPERATION</p> <p>1 Each air handling systems has been designed to be quiet in operation, N.C. 35 maximum. It is the responsibility of this Section to supply equipment and install systems to ensure noise levels will be maintained satisfactory to Architect.</p> <p>1.3.2 WARRANTY</p> <p>1 Furnish to Owner through General Contractor and Architect, written warranty covering materials and workmanship and free service for one year from date of start of life period.</p> <p>2 Warrant apparatus installed to properly cool, heat and ventilate without undue noise through every item of equipment and system and to maintain required room conditions.</p> <p>3 Warranty shall entail repair or replacement of materials installed without charge to Owner except where, in opinion of Architect, such repair or replacement was caused by improper use or misuse or neglect of maintenance.</p>	<p>Restraints shall permit adjustment during installation to ensure sufficient vibration between vibration isolation and rigid restraining device. A restraint shall not be installed until vibration isolators have been loaded and adjusted to achieve the specified static deflection and clearance. And restraints at each supported equipment shall include restraint neoprene pads at all potential contact areas between isolated equipment and rigid restraining element.</p> <p>1 Piping to vibration-isolated equipment shall have vibration isolation isolator type seismic restraints. The isolator type seismic restraints shall, as a minimum, consist of steel rods, 3/8 inch minimum diameter together with neoprene washers arranged to achieve the required all-directional restraint anchored and sized to resist the seismic forces as specified above. Shop Drawings shall indicate proposed method for achieving vertical restraint for cooling suspended piping. Rods shall have sufficient stock to avoid shrouding the vibration isolators.</p> <p>2 Seismic control for piping shall be longitudinal and transverse seismic bracing of all piping, including plumbing piping, fire protection piping, and storm drain piping, shall be installed in accordance with Section Piping isolation shall be by means of flexible connector furnished as follows:</p>
1.2.0 INSULATION	<p>1.3.1 QUIET OPERATION</p> <p>1 Each air handling systems has been designed to be quiet in operation, N.C. 35 maximum. It is the responsibility of this Section to supply equipment and install systems to ensure noise levels will be maintained satisfactory to Architect.</p> <p>1.3.2 WARRANTY</p> <p>1 Furnish to Owner through General Contractor and Architect, written warranty covering materials and workmanship and free service for one year from date of start of life period.</p> <p>2 Warrant apparatus installed to properly cool, heat and ventilate without undue noise through every item of equipment and system and to maintain required room conditions.</p> <p>3 Warranty shall entail repair or replacement of materials installed without charge to Owner except where, in opinion of Architect, such repair or replacement was caused by improper use or misuse or neglect of maintenance.</p>	<p>1 For flexible connector 60 to 250 psi: Provide stainless steel below hose assembly complete with bellows with stainless steel woven wire mesh jacket and stainless steel nipple ends, threaded for piping 2 inches and smaller, rated, 250 pounds per square inch (2-1/2 inches and larger. The nipple above assembly shall be rated for 450 pounds operating pressure at 120 degrees F.</p> <p>2 For pressure below less than 60 psi: Provide woven nylon or polymer reinforced neoprene or BUNA or corrugated or pressure type flexible connector with integral flanges, 125 pound drilling. Unit shall be rated for a minimum 12500 psi drilling. Unit shall be rated for minimum 125 psi operating pressure.</p> <p>3 For refrigerant lines: Provide stainless steel or copper bellows assembly with woven stainless steel mesh jackets rated for refrigerant service, 12 inch minimum length overall.</p> <p>4 For electrical conduit: Provide 3 inch length steel flexible conduit in accordance with applicable requirements of the Canadian Electrical Code.</p>
1.2.0 INSULATION	<p>1.3.1 QUIET OPERATION</p> <p>1 Each air handling systems has been designed to be quiet in operation, N.C. 35 maximum. It is the responsibility of this Section to supply equipment and install systems to ensure noise levels will be maintained satisfactory to Architect.</p> <p>1.3.2 WARRANTY</p> <p>1 Furnish to Owner through General Contractor and Architect, written warranty covering materials and workmanship and free service for one year from date of start of life period.</p> <p>2 Warrant apparatus installed to properly cool, heat and ventilate without undue noise through every item of equipment and system and to maintain required room conditions.</p> <p>3 Warranty shall entail repair or replacement of materials installed without charge to Owner except where, in opinion of Architect, such repair or replacement was caused by improper use or misuse or neglect of maintenance.</p>	<p>Seismic control for ductwork shall be by means of 3-1/2 inch gap with flexible fabric connections furnished and installed in accordance with SMANOA Duct Construction Standards - Metal and Flexible and ASHRAE Handbook, HVAC Systems and Equipment, Chapter 16. Flexible fabric connections shall conform to NFPA 90A. Fabric shall be expanded over each weighing not less than 1/2 inch square foot. Each cloth be coated with fire-resistant neoprene on both sides. Flexible portion shall be 6-1/2 inches long. Partner connection on each end shall be 3-1/2 inch wide galvanized steel, and shall be mechanically bonded to the fabric. Fasteners shall be either screws or bolts. Fasteners which shall be mechanically secured, at both ends, to provide additional support.</p> <p>1 All piping, electrical conduit, and ductwork shall be isolated from the equipment to which they are attached.</p>
1.2.0 INSULATION	<p>1.3.1 QUIET OPERATION</p> <p>1 Each air handling systems has been designed to be quiet in operation, N.C. 35 maximum. It is the responsibility of this Section to supply equipment and install systems to ensure noise levels will be maintained satisfactory to Architect.</p> <p>1.3.2 WARRANTY</p> <p>1 Furnish to Owner through General Contractor and Architect, written warranty covering materials and workmanship and free service for one year from date of start of life period.</p> <p>2 Warrant apparatus installed to properly cool, heat and ventilate without undue noise through every item of equipment and system and to maintain required room conditions.</p> <p>3 Warranty shall entail repair or replacement of materials installed without charge to Owner except where, in opinion of Architect, such repair or replacement was caused by improper use or misuse or neglect of maintenance.</p>	<p>Isolators shall comply with vibration isolation deflections recommended by ASHRAE referenced standards for selection and application of vibration isolation material and bolts as indicated along comply with manufacturer's instructions and recommendations for selection and application of vibration isolation materials and devices.</p>

SANITARY  
CONTRACTOR TO DETERMINE THE SIZE AND CONDITION  
OF EXISTING SANITARY SYSTEM AND INFORM THE ENGINEER  
FOR POSSIBLE PIPE AND SIZE INCREASE  
PROVIDE CLEANOUTS OER OBC



LEGEND	
  CEILING MOUNTED LUMINAIRE TYPE 'A', CONNECTED TO PANEL '1A', CIRCUIT #6	
  WALL MOUNTED LUMINAIRE	
 SELF-POWERED EXIT SIGN FIXTURE WALL OR CEILING MOUNTED – ARROW INDICATES DIRECTION, SHADED AREA DENOTES FACE.	
 EMERGENCY BATTERY UNIT.	
 EMERGENCY REMOTE SINGLE OR DOUBLE HEADS.	
 SINGLE POLE LIGHT SWITCH	
 SINGLE POLE LIGHT SWITCH WITH OCCUPANCY SENSOR AND MANUAL OVERRIDE.	
 CEILING OCCUPANCY SENSOR SWITCH	
 15A, 125V DUPLEX RECEPTACLE	
 15A, 125V DUPLEX GROUND FAULT INTERRUPTER RECEPTACLE.	
 FIRE ALARM SMOKE DETECTOR, CEILING MOUNTED	
 FIRE ALARM STROBE	
 FIRE ALARM HORN	
 FIRE ALARM COMBINATION HORN AND STROBE	
 TELEPHONE OUTLET.	
 DATA OUTLET.	
 WIRELESS ACCESS POINTS.	
 "OCCUPIED WHEN LIT" DEVICE. PROVIDE EMPTY CONDUIT 1" MIN AND JUNCTION BOX ACCORDING TO DOOR HARDWARE SUPPLIER REQUIREMENTS.	
 WALL RECESSED OR WALL MOUNTED ELECTRICAL PANEL BOARD.	
 DIRECT POWER CONNECTION TO EQUIPMENT AS NOTED	
 DISCONNECT SWITCH	
 PUSH BUTTON FOR DOOR OPERATOR. PROVIDE EMPTY CONDUIT 1" MIN AND JUNCTION BOX ACCORDING TO DOOR HARDWARE SUPPLIER REQUIREMENTS.	
 ELECTRIC HEATER. STELPRO #CF3008T. 208V/1PH. 20A–2P	

LUMINAIRE SCHEDULE					
TYPE	DESCRIPTION	CATALOGUE NO.	VOLTAGE	DRIVER	SUPPLIED
L1	1'X4" LED CEILING RECESSED LUMINAIRE	ACUITY BRANDS #CPX 1X4 AL07 SWW7 M4 OR APPROVED EQUAL	120V	120V LED DRIVER WITH DIMMING CAPABILITY	CONTRACTOR

ABBREVIATIONS	
R	REMOVE (DEMOLISH)
EX	EXISTING TO REMAIN
C	CEILING MOUNTED
GFI	GROUND FAULT INTERRUPTER
IR	INFARED SENSOR
HD	HAND DRYER
①	NOTE (GENERAL OR SPECIFIC)
① EXXX	DETAIL #1 ON DRAWING EXXX

NOTES FOR ENTIRE DRAWING PACKAGE:

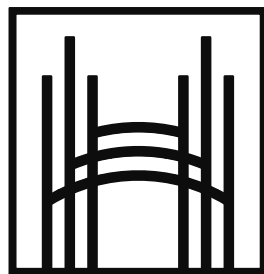
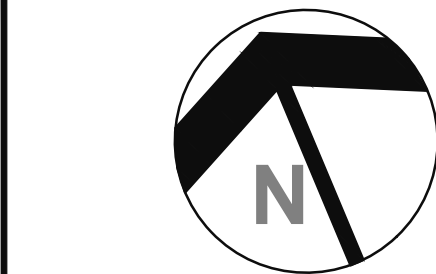
- CONTRACTOR SHALL SUPPLY AND INSTALL EVERYTHING SHOWN OR MENTIONED IN THE ELECTRICAL DESIGN DRAWINGS AND ELECTRICAL SPECIFICATIONS
- CONTRACTOR TO WIRE ALL DEVICES SHOWN IN THIS DRAWINGS PACKAGE TO THE CIRCUIT AND PANEL MENTIONED ON DEVICE. IF NUMBER IS MISSING, OR CIRCUIT UNCLEAR, CONTRACTOR TO REPORT TO ENGINEER AND ASSUME WIRE AND FEED FOR THAT DEVICE FROM NEAREST AVAILABLE PANEL (AT CONTRACTOR DISCRETION). NO EXTRAS SHALL BE ENTERTAINED FOR RELATED MATTERS.
- CONTRACTOR TO READ THESE DRAWINGS CAREFULLY AND IN CONJUNCTION WITH ARCHITECTURAL, INTERIOR DESIGNER, AND ALL OTHER DRAWINGS FROM ALL DISCIPLINES FOR THIS PROJECT. ENSURE FULL COORDINATION PRIOR TO ANY ROUGH-INS.
- CONTRACTOR SHALL COORDINATE MOUNTING HEIGHTS OF ALL RECEPTACLES WITH MILLWORK, ARCHITECTURAL DRAWINGS, AND INTERIOR DESIGN DRAWINGS PRIOR TO ANY ROUGH INS.
- CONTRACTOR SHALL PERFORM A THOROUGH SITE VISIT TO GET ACCUSTOMED TO SITE CONDITIONS PRIOR TO BIDDING ON THIS PROJECT.
- CONTRACTOR SHALL DEMOLISH ALL UNUSED/REDUNDANT ELECTRICAL DEVICES IN AREA UNDER RENOVATION AND INSTALL ALL NEW DEVICES.
- ALL WIRING AND CABLES FOR DEMOLISHED DEVICES SHALL ALSO BE DEMOLISHED. TRACE CIRCUIT BACK TO SOURCE AND LABEL CIRCUIT AS SPARE (IF APPLICABLE).
- ALL WIRING SHALL BE NEW.

DRAWING LIST		
DRAWING NO.	TITLE	SCALE
E1	LEGEND, DRAWING LIST, & SPECIFICATIONS	N.T.S.
E2	PART FLOOR PLAN – LIGHTING LAYOUT	1:50

LIGHTING CONTROL SPECIFICATIONS		
TYPE	DESCRIPTION	CATALOGUE NO.
\$OS	OCCUPANCY SENSOR MANUAL OVERRIDE LIGHT SWITCH	LEVITON #OSSMT–MD OR APPROVED EQUAL
\$D	DIMMER LIGHT SWITCH	LEVITON #P710–LFZ OR APPROVED EQUAL
\$3	THREE WAY LIGHT SWITCH	LEVITON #5639 OR APPROVED EQUAL
\$K	KEY OPERATED LIGHT SWITCH	LEVITON #1221–2KL OR APPROVED EQUAL
\$M	SUITE MASTER LIGHT SWITCH	LEVITON #HKSWP–ODX OR APPROVED EQUAL
CS	CEILING MOUNTED OCCUPANCY SENSOR	LEVITON #ODC20–MDW OR APPROVED EQUAL

ELECTRIC HEATER SCHEDULE				
TYPE	DESCRIPTION	VOLTAGE/PHASE	OVERCURRENT PROTECTION	CATALOGUE NO.
EH3	3KW CEILING RECESSED ELECTRIC HEATER	208V/1PH	20A–2P	STELPRO #CF3008T OR APPROVED EQUAL

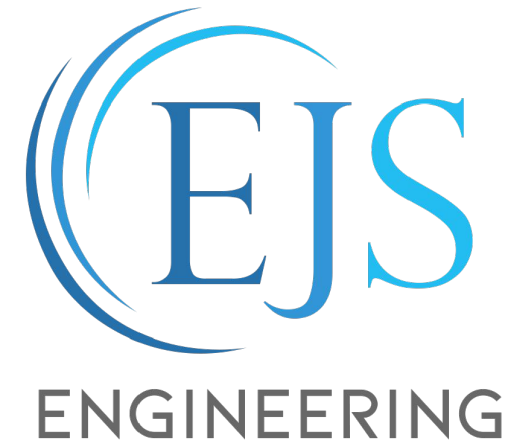
ELECTRICAL SPECIFICATIONS			
1. GENERAL CONDITIONS	2. CONSTRUCTION SCHEDULE	16. COORDINATION	23. WIRE AND CABLE
A. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL LABOUR, MATERIAL, TOOLS, EQUIPMENT, ETC. REQUIRED TO COMPLETE ALL WORK SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED. THE WORK SHALL BE IN ACCORDANCE WITH RULES AND REGULATIONS OF ALL AUTHORITIES HAVING LEGAL JURISDICTION OVER THE WORK. THIS CONTRACTOR SHALL PROVIDE ANY SMALL ITEMS OF WORK NOT SPECIFICALLY CALLED FOR BUT REQUIRED TO COMPLETE THE INTENDED INSTALLATION.	THIS CONTRACTOR SHALL SCHEDULE AND PERFORM THEIR WORK TO MEET THE COMPLETION SCHEDULE AS SET OUT BY THE GENERAL CONTRACTOR AND THE OWNER'S REPRESENTATIVE.	THIS CONTRACTOR SHALL BE RESPONSIBLE TO CO-ORDINATE THE INSTALLATION OF EQUIPMENT, CONDUIT WORK, LIGHTING FIXTURES, ETC. WITH OTHER TRADES PRIOR TO THE ACTUAL INSTALLATION.	A. UNLESS OTHERWISE NOTED, ALL WIRES SHALL BE COPPER R90, RW90, RA90 OR RWU90 RATING AS REQUIRED ON SITE AND AS DICTATED BY CODE. ALUMINUM WIRE SHALL NOT BE USED.
B. THE CONSULTANT RESERVES THE RIGHT TO APPROVE THE QUALITY OF MATERIAL AND WORKMANSHIP, ALSO TO CALL FOR ANY TESTS WHICH ARE DEEMED NECESSARY DURING THE PROGRESS OF THE WORK AND A COMPLETE TEST OF EACH SYSTEM AT THE COMPLETION OF THE WORK. THE COST OF SUCH TESTS ARE NOT TO BE CONSIDERED AS EXTRAS.	9. REVISIONS AND EXTRAS NO ADDITIONAL MONEY OVER THE CONTRACT PRICE SHALL BE PAID UNLESS AN APPROVED CHANGE ORDER IS ISSUED BY THE CONSULTANT. CLAIMS FOR EXTRAS SHALL BE SUBMITTED WITH A COMPLETE BREAKDOWN OF MATERIAL, LABOUR, HOURLY RATES, ETC.  THERE SHALL BE NO EXTRA CLAIM FOR RELOCATION OF ANY EQUIPMENT/DEVICE WITHIN 10 FEET FROM ORIGINAL LOCATION.	17. ACCESSIBILITY ALL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIRS.	B. THE MINIMUM PERMISSIBLE SIZE FOR BRANCH CIRCUIT WIRING SHALL BE #12 (20m). EXCEPT FOR EMERGENCY LIGHTING SYSTEM SHALL BE MIN. #10.
2. SCOPE OF WORK THE WORK SHALL CONSIST OF, BUT SHALL NOT BE LIMITED TO THE FOLLOWING: A. ALL NECESSARY CONDUIT WIRING AND CONNECTIONS FOR A COMPLETE INSTALLATION. B. LIGHTING AND POWER DISTRIBUTION SYSTEM AS SHOWN ON DRAWINGS.	10. CLEAN UP THIS CONTRACTOR SHALL BE RESPONSIBLE TO PERIODICALLY REMOVE ALL DEBRIS AND TO KEEP THIS AREA CLEAN AT ALL TIMES. CLEAN ALL LUMINAIRES, PANELBOARDS UPON COMPLETION OF WORK.	18. RESPONSIBILITY THIS TRADE SHALL BE RESPONSIBLE FOR THIS WORK UNTIL THE COMPLETION AND FINAL ACCEPTANCE. FOR REPLACING ANY ITEM THAT MAY BE DEFECTIVE, DAMAGED, LOST OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY TO THE COMPLETION OF THE PROJECT.	C. FOR BRANCH WIRING EXCEEDING 100 FEET (30.5M) TO FURTHEST OUTLET FROM A PANEL SHALL BE #10 AT 120 VOLTS.
3. CODES, PERMITS AND INSPECTION A. OWNERSHIP SHALL APPLY FOR AND PAY FOR THE PERMIT. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL OBTAIN ALL SUPPLEMENTARY PERMITS (ESA), INSPECTIONS, ETC. AS REQUIRED BY ALL AUTHORITIES HAVING JURISDICTION OVER THIS WORK AND SHALL PAY FOR SAME. THESE COSTS SHALL BE INCLUDED IN THE TENDER PRICE. B. ALL PERMITS SHALL BE DELIVERED TO THE OWNER REPRESENTATIVE AS SOON AS THEY BECOME AVAILABLE. C. ALL VERIFICATION REPORTS SHALL BE SUBMITTED TO CONSULTANT AND OWNER.	11. CUTTING AND PATCHING ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING, OPENINGS, ETC. AND SHALL INFORM THE GENERAL CONTRACTOR OF SLEEVES OR OPENINGS REQUIRED DURING TENDERING SO THAT COSTS ARE INCLUDED.	19. WARRANTY THIS CONTRACTOR SHALL WARRANT ALL WORK AND EQUIPMENT INSTALLED UNDER THIS CONTRACT, AGAINST ALL DEFECTS OR WORKMANSHIP AND MATERIAL FOR A PERIOD OF TWO (2) YEARS AFTER ACCEPTANCE OF THE INSTALLATION BY THE OWNER.	D. WIRES AND CABLES SHALL BE RATED AT 600 VOLTS EXCEPT FOR LOW VOLTAGE CONTROL WIRING WHICH SHALL BE RATED AT 300V.
4. DRAWINGS THIS CONTRACTOR SHALL PREPARE, AT OWN EXPENSE, ANY LARGE SCALE WORKING DRAWINGS WHICH MAY BE REQUIRED BY THE EXAMINING AUTHORITIES.	12. DELIVERY DATES THIS CONTRACTOR SHALL PLACE AN ORDER FOR ALL MATERIAL AND EQUIPMENT IMMEDIATELY AFTER SIGNING OF THE CONTRACT. HE SHALL SUBMIT A LIST OF DELIVERY DATES FOR EACH TYPE OF EQUIPMENT WITHIN 30 DAYS OF THE AWARDED OF THE CONTRACT. THE LIST SHALL INCLUDE MANUFACTURER'S NAMES.	20. CONDUIT AND FITTINGS A. CONDUIT SIZES SHALL BE AS INDICATED ON THE DRAWINGS AND SHALL NOT BE REDUCED IN SIZE WITHOUT AUTHORIZATION. CONDUIT IN FINISHED AREA SHALL BE CONCEALED. ALL CONDUIT SHALL BE INSTALLED PARALLEL TO BUILDING LINES. MAKE FINAL CONNECTIONS TO VIBRATING EQUIPMENT WITH FLEXIBLE CONDUIT. B. CONDUITS SHALL BE INSTALLED AT A MINIMUM OF 6" (152MM) FROM UNINSULATED HEATING PIPES. C. CLEAN INTERIOR OF ALL CONDUITS TO REMOVE WATER AND DEBRIS BEFORE PULLING WIRES. D. BX CABLES SHALL BE USED ONLY FOR FINAL SHORT CONNECTIONS BETWEEN OUTLET AND OUTLET BOX IN CEILING SPACE TO CEILING MOUNTED LIGHTING FIXTURES OR TO FEED OUTLETS, RECEPTACLES IN THE DRYWALL PARTITIONS. BX CABLES ARE NOT ALLOWED TO RUN IN THE OPEN CEILING AREAS.	E. ALL WIRES SHALL BE NEW AND DELIVERED TO THE SITE OF THE PROJECT IN THEIR ORIGINAL PACKING. WIRES #10 AND BIGGER SHALL BE STRANDED. THIS DENOTES GAUGE #8, #6, #4, ETC. WIRES SHALL BE FACTORY IDENTIFIED, SHOWING SIZE, VOLTAGE RATING AND INSULATION TYPE.
5. AS-BUILT DRAWINGS THIS CONTRACTOR SHALL KEEP A SEPARATE SET OF WHITE PRINTS ON THE SITE AND NOTE ALL CHANGES AND DEVIATIONS FROM THE ORIGINAL DESIGN. TWO SETS OF THESE PLANS ALONG WITH UPDATED AUTOCAD DRAWINGS SHOWING ALL AS-BUILT CONDITIONS SHALL BE FORWARDED TO THE CONSULTANT AT THE COMPLETION OF THIS CONTRACT BEFORE APPLYING FOR FINAL PAYMENT.	13. EQUIPMENT AND MATERIAL GROUNDING SHALL BE AS REQUIRED BY ELECTRICAL CODE AND THE APPROVAL OF ALL EQUIPMENT AND MATERIAL UNLESS SPECIFICALLY NOTED OTHERWISE, SHALL BE NEW AND WITHOUT BLEMISH OR DEFECT. ALL MATERIAL AND EQUIPMENT SHALL BE OF THE TYPE SUBJECT TO FACTORY MUTUAL, U.L.C. OR C.S.A. INSPECTION AND APPROVAL" AND SHALL BEAR "U.L.C." OR "C.S.A." LABELS.	21. PULL AND JUNCTION BOXES A. BOXES SHALL BE CODE GAUGE AND SIZES TO MEET THE ELECTRICAL CODE REQUIREMENTS. SHEET STEEL BOXES FOR CONCEALED WORK AND CAST BOXES FOR EXPOSED WORK.  B. PROVIDE BARRIERS IN BOXES WHERE DIFFERENT VOLTAGES ARE USED.  C. BOXES SHALL BE SUPPORTED INDEPENDENTLY OF CONDUIT.	F. PROVIDE SEPARATE INSULATED GROUND CONDUCTOR FOR EACH FEEDER AND BRANCH CIRCUIT.
6. SHOP DRAWINGS SUBMIT ONE (1) ELECTRONIC AND ONE (1) HARD COPIES OF MANUFACTURER'S SHOP DRAWINGS FOR ALL DEVICES, SYSTEMS AND SUCH FOR REVIEW BY THE CONSULTANT. CLEARLY MARK ALL APPLICABLE OPTIONS ON THESE SHOP DRAWINGS.	14. CLOSE-OUT DEMONSTRATE THE FUNCTION AND OPERATION OF EACH SYSTEM IN MAINTENANCE STAFF, OWNER AND CONSULTANT PRESENCE. CO-ORDINATE COMMISSIONING AND TRAINING SCHEDULE WITH ALL PARTIES. PROVIDE THE FOLLOWING DOCUMENTS AT PROJECT COMPLETION: – AS BUILT DRAWING AS DESCRIBED ABOVE – ELECTRICAL INSPECTION REPORT – FIRE ALARM VERIFICATION REPORT AND CERTIFICATE – WARRANTY LETTER	22. INSTALLATION OF OUTLETS A. THE PLANS SHOW APPROXIMATE LOCATION OF OUTLETS, EXACT LOCATION SHALL BE CO-ORDINATED ON THE SITE WITH OTHER TRADES, ARCHITECTURAL PLANS, ETC. OUTLETS INACURATELY LOCATED SHALL BE RE-ADJUSTED OR RELOCATED AT THE CONTRACTOR'S EXPENSE. REFER TO ARCHITECT DRAWINGS FOR HEIGHT OF VARIOUS DEVICES.	G. FINAL CONNECTIONS TO LUMINAIRES SHALL ORIGINATE FROM AN OUTLET BOX. CONNECTIONS OF FIXTURE BODY TO FIXTURE BODY SHALL NOT BE ACCEPTABLE.
7. EXAMINATION OF SITE A. THIS CONTRACTOR SHALL VISIT THE SITE OF THE PROJECT AND FAMILIARIZE THEMSELVES WITH THE SPECIFIC SITE CONDITIONS. B. ANY DEVIATION AND / OR CONFLICTS ON SITE SHALL BE REPORTED TO THE CONSULTANT PRIOR TO SUBMITTING TENDER.	15. IDENTIFICATION PROVIDE LAMACOID IDENTIFICATION NAMEPLATES WHERE APPLICABLE. THESE SHALL BE BLACK WITH WHITE ENGRAVED LETTERS AND SHALL BE INSTALLED WITH SCREWS ON ALL EQUIPMENT, DISCONNECT SWITCHES, PANELS, ETC. INDICATING THE LOAD SERVED. EACH LIGHTING PANEL SHALL HAVE A TYPED WRITTEN DIRECTORY SHOWING LIGHTS OR EQUIPMENT CONNECTED TO EACH CIRCUIT. DIRECTORIES SHALL BE MOUNTED ON THE INSIDE OF THE PANEL DOOR WITH A TRANSPARENT PLASTIC COVER.		H. CODE APPROVED WIRE SHALL BE USED FOR FINAL LUMINAIRE OR APPLIANCE CONNECTIONS.



Hamilton

3	ISSUED FOR TENDER	2023-09-19
2	ISSUED FOR BUILDING PERMIT	2023-08-17
1	ISSUED FOR COORDINATION	2023-06-07
NO	REVISIONS	DATE

DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE PROJECT, AND MUST REPORT ANY DISCREPANCIES TO THE ARCHITECTS BEFORE PROCEEDING WITH THE WORK. THE USE OF THIS DRAWING OR PART THEREOF IS FORBIDDEN WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECTS.



ENGINEER SEAL:

VICTORIA PARK  
FIELD HOUSE  
RENOVATIONS  
500 KING STREET WEST  
HAMILTON, ON. L8R

LEGEND, DRAWING LIST,  
& SPECIFICATIONS

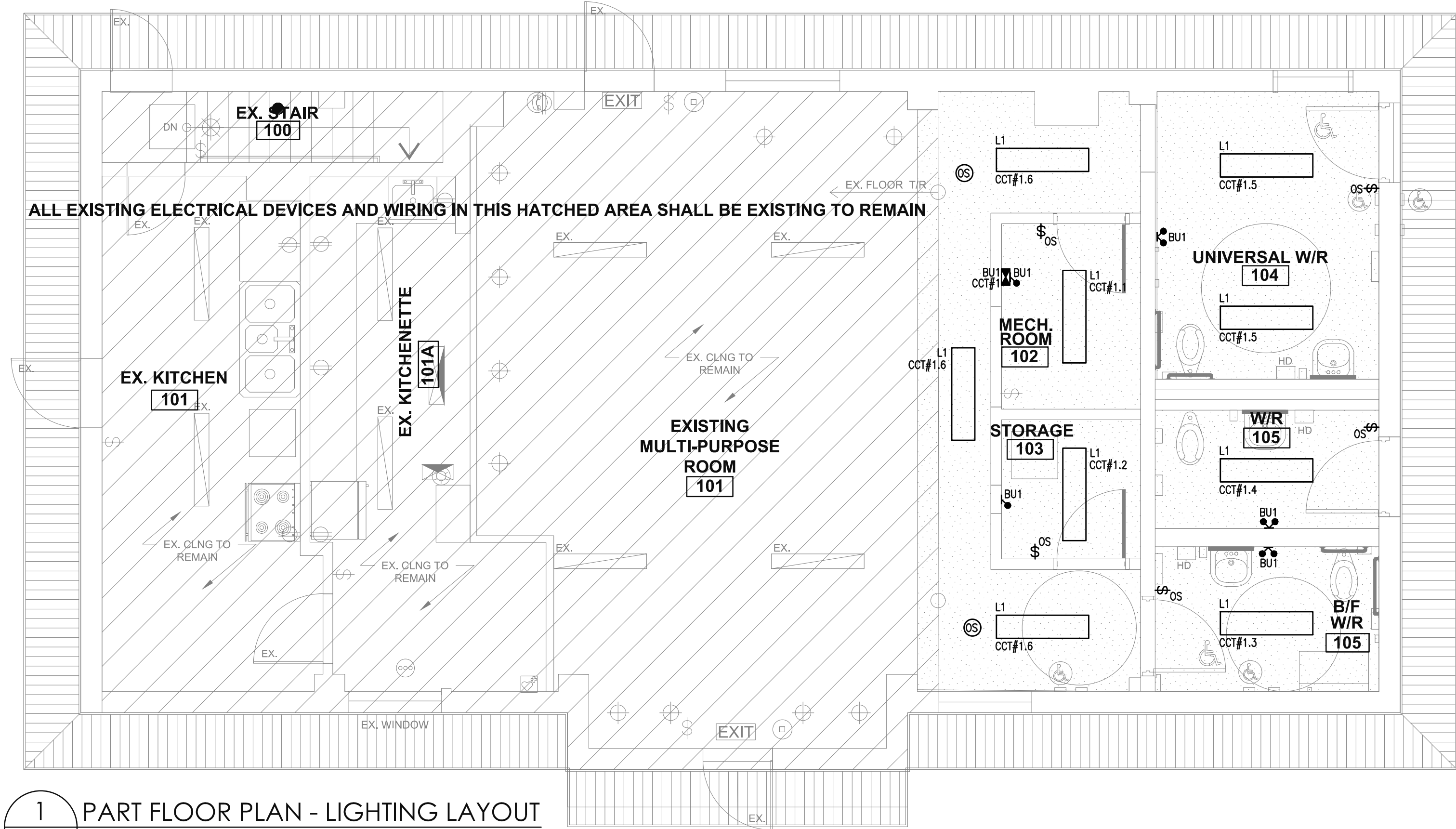
GRGURIC  
ARCHITECTS  
INCORPORATED



28 KING STREET EAST, UNIT B  
STONEY CREEK, ONTARIO, L8G 1J8  
Tel. 905-664-8735 Fax. 905-664-8737  
Web: www.2gai.com

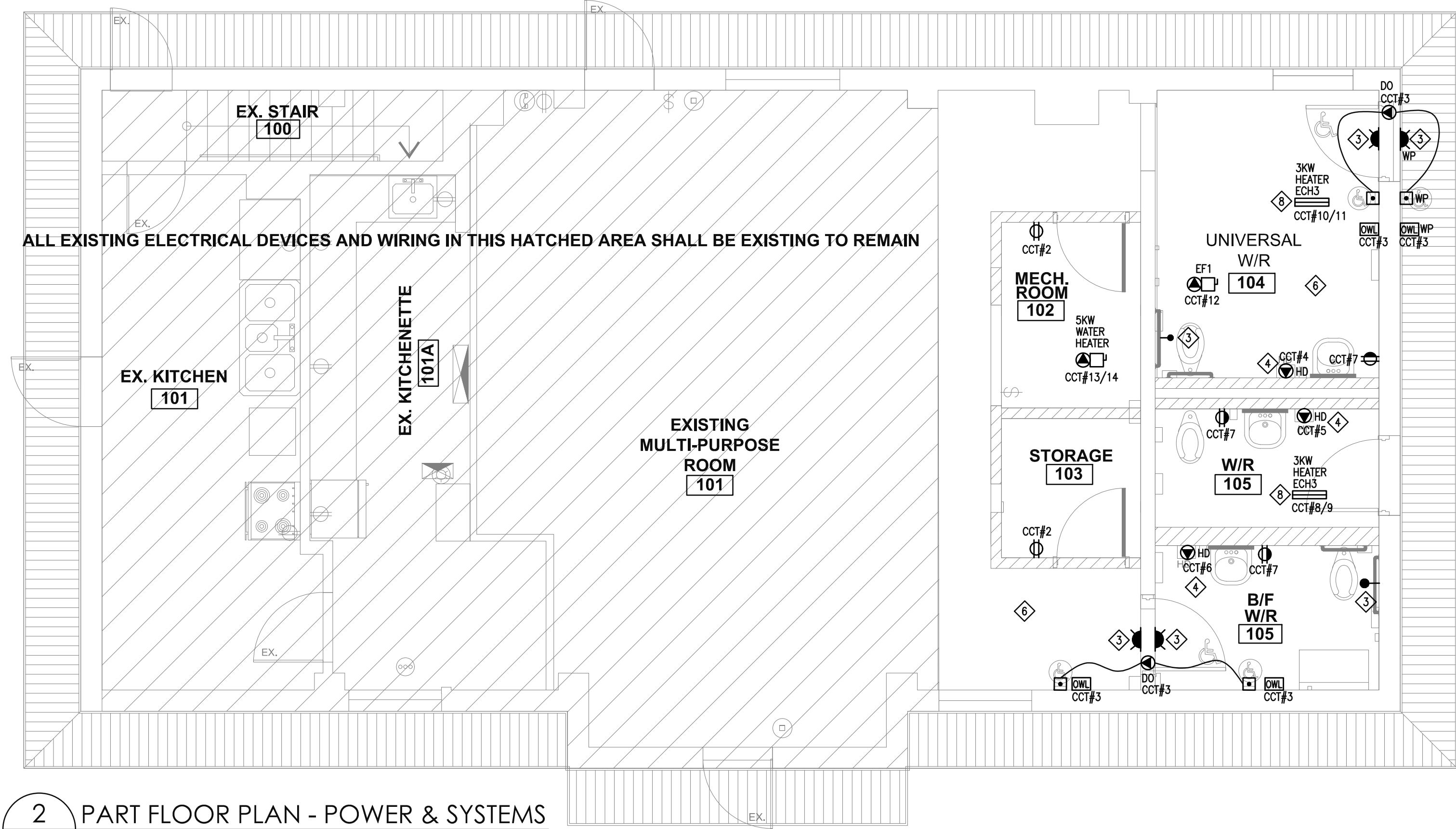
SCALE: AS NOTED	PROJECT:  2313
DATE STARTED: JUNE, 2023	
DRAWN N.P.	DRAWING:  E1
CHECKED G.S.	
PRINT DATE	





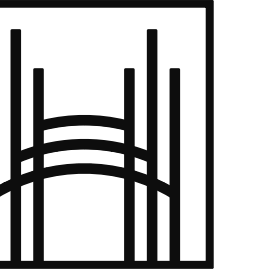
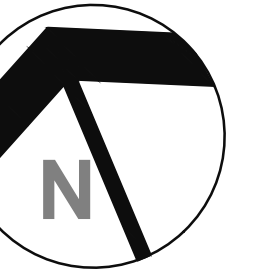
1 PART FLOOR PLAN - LIGHTING LAYOUT  
E3 1:50

- LIGHTING NOTES:
- 1 ALL LIGHTING IN THIS PROJECT SHALL BE RECESSED INTO THE CEILING.
  - 2 PROVIDE NEW DEDICATED CIRCUITS FROM NEAREST AVAILABLE PANEL FOR THE FOLLOWING AS SHOWN AND NOTED AS CCT#X. EACH NUMBER IS REFERRING TO A DEDICATED CIRCUIT.
  - 3 THE EXISTING ELECTRICAL PANEL IS IN THE BASEMENT.



2 PART FLOOR PLAN - POWER & SYSTEMS  
E3 1:50

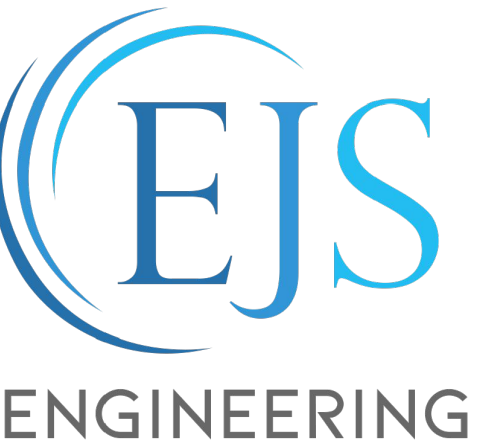
- POWER & SYSTEMS NOTES:
- 1 COORDINATE WITH ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS PRIOR TO ANY ROUGH-INS.
  - 2 PROVIDE NEW DEDICATED CIRCUITS FROM NEAREST AVAILABLE PANEL FOR THE FOLLOWING AS SHOWN AND NOTED AS CCT#X. EACH NUMBER IS REFERRING TO A DEDICATED CIRCUIT. 7 NEW CIRCUITS TOTAL. FIRST CIRCUIT IS FOR LIGHTING. EACH CIRCUIT IS 15A-1P EXCEPT HAND DRYERS (HD) WHICH ARE 20A-1P.
  - 3 PROVIDE CALL FOR ASSISTANCE SYSTEM IN B.F. WASHROOM:  
EDWARDS SIGNALING 'EMERGENCY PUSH BUTTON (MAINTAINED TYPE PUSH ON/TWIST OFF TO RE-SET) C/W COVER PLATE & SUITABLE FOR SINGLE GANG MOUNTING' OF CALL FOR ASSISTANCE TO BE CONNECTED TO EDWARDS SIGNALING KIT CAT NO. 6536-05 HORN/STROBE UNIT. NOTE: PROVIDE AN EMERGENCY SIGN TO SUIT APPLICATION ABOVE THE PUSH BUTTON STATION WHICH SHALL READ AS 'IN THE EVENT OF EMERGENCY, PUSH THE EMERGENCY PUSH BUTTON, THEN THE AUDIBLE AND VISUAL SIGNAL WILL ACTIVATE'. THE SIGN ABOVE THE EMERGENCY PUSH BUTTON SHALL BE WRITTEN IN LETTERS AT LEAST 25MM HIGH WITH A 5MM STROKE TO BE POSTED ABOVE THE EMERGENCY PUSH BUTTON AS PER OBC.  
HORN/STROBE CAT.# 6536-05 TO BE CONNECTED TO THE CALL FOR ASSISTANCE SYSTEM. PROVIDE A 24V AC COIL RELAY (C/W OUTPUT CONTACTS RATED @ 120V AC) IN CEILING SPACE. THE COIL OF THE RELAY SHALL BE ENERGIZED THROUGH THE TRANSFORMER OF THE CALL FOR ASSISTANCE SYSTEM. THE NORMALLY OPEN CONTACT OF THE RELAY SHALL BE UTILIZED TO SWITCH ON THE HORN/STROBES. 2 NOS. OF HORN STROBES-6536-05 SHALL BE PROVIDED: 1 NO. INSIDE THE WASHROOM AND THE SECOND OUTSIDE THE WASHROOM.
  - 4 PROVIDE HAND DRYERS: DYSON AIRBLADE V. WHITE FINISH.
  - 5 THE EXISTING ELECTRICAL PANEL IS IN THE BASEMENT.
  - 6 CIRCUITS SHALL BE AS FOLLOWS:  
CCT#1 LIGHTING 15A-1P BREAKER FROM PANEL  
CCT#2 RECEPTACLES 15A-1P BREAKER FROM PANEL  
CCT#3 DOOR OPENER 15A-1P BREAKER FROM PANEL  
CCT#4 HAND DRYER 20A-1P BREAKER FROM PANEL  
CCT#5 HAND DRYER 20A-1P BREAKER FROM PANEL  
CCT#6 HAND DRYER 20A-1P BREAKER FROM PANEL  
CCT#7 GFI RECEPTACLES 15A-1P BREAKER FROM PANEL  
CCT#8/9 ELECTRICAL HEATER 20A-2P BREAKER FROM PANEL  
CCT#10/11 ELECTRICAL HEATER 20A-2P BREAKER FROM PANEL  
CCT#12 EXHAUST FAN 15A-1P BREAKER FROM PANEL  
CCT#13/14 5KW ELEC. WATER HEATER 35A-2P BREAKER FROM PANEL  
PROVIDE FOR ALL WIRING/FEEDERS FROM MAIN ELECTRICAL ROOM, TO EACH DEVICES. ALL WIRING AND FEEDERS SHALL BE AS PER OESC LATEST EDITION.
  - 7 CONTRACTOR TO INSTALL WIRE AND CONDUIT CAPABLE OF SUPPLYING THE CURRENT ACCORDING TO THE BREAKER AMPERAGES SHOWN ON DRAWING.
  - 8 FOR MORE DETAIL REFER TO ELECTRIC HEATER SCHEDULE PAGE E1



Hamilton

NO	REVISIONS	DATE
3	ISSUED FOR TENDER	2023-09-19
2	ISSUED FOR BUILDING PERMIT	2023-08-17
1	ISSUED FOR COORDINATION	2023-06-07

DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE PROJECT, AND MUST REPORT ANY DISCREPANCIES TO THE ARCHITECTS BEFORE PROCEEDING WITH THE WORK. THE USE OF THIS DRAWING OR PART THEREOF IS FORBIDDEN WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECTS.



ENGINEER SEAL:

VICTORIA PARK  
FIELD HOUSE  
RENOVATIONS  
500 KING STREET WEST  
HAMILTON, ON. L8R

PART FLOOR PLAN  
- ELECTRICAL LAYOUT

GRGURIC  
ARCHITECTS  
INCORPORATED



28 KING STREET EAST, UNIT B  
STONE CREEK, ONTARIO, L8G 1J8  
Tel. 905-664-8735 Fax. 905-664-8737  
Web: www.2gai.com

SCALE: AS NOTED	PROJECT: 2313
DATE STARTED: JUNE, 2023	
DRAWN N.P.	DRAWING: E2
CHECKED G.S.	
PRINT DATE	

# **C13-31-23 - General Contractor Required for Victoria Park Field House Renovations**

Opening Date: November 3, 2023 4:00 PM

Closing Date: November 29, 2023 3:00 PM

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**\*\*\* *IMPORTANT* \*\*\***

**Bidders are advised to review and confirm their bids&tenders<sup>TM</sup> vendor account is set up in the bidder's correct LEGAL name.**

**This name must exactly match the name on all documentation required of the Successful Bidder, eg; insurance certificate, WSIB certificate.**



## Schedule of Prices

\* Denotes a "MANDATORY" field

Do not enter \$0.00 dollars unless you are providing the line item at zero dollars to the City of Hamilton (unless otherwise specified).

If the line item and/or table is "NON-MANDATORY" and you are not bidding on it, leave the table and/or line item blank. Do not enter a \$0.00 dollar value.

## Cost of Work

Line Item No.	Description	Lump Sum Price *
1	Cost of Work excluding Cash Allowances	
Subtotal:		

## Cash Allowances

Line Item No.	Description	Lump Sum Price
1	Testing and inspection allowance	\$10,000.0000
2	Door Hardware Supply only	\$18,000.0000
Subtotal:		


## Summary Table

Bid Form	Amount
Cost of Work	
Cash Allowances	\$ 28,000.00
Total Contract Price:	

## Specifications

## Bidder's Business Structure

The City of Hamilton reserves the right to verify the business name and structure of the bidder, whether or not this section is completed, to ensure that the bidder is an existing legal entity. If the bidder is not an existing legal entity, the Bid will be rejected.

Business Structure of Bidder *	If 'Corporation' Selected, Specify Where Incorporated:	If 'Other' Selected, Specify Business Structure:	Registered Business Name of Bidder (if applicable):
Select A Value 			

## Documents

It is your responsibility to ensure the uploaded file(s) is/are not defective or corrupted and are able to be opened and viewed by the City. If the attached file(s) cannot be opened or viewed, your Bid shall be rejected.

## **BONDING UPLOAD SECTION**

Each Bid submission must be accompanied by a **digital** bid bond.

The City will only accept submissions that include the bid bond in an electronically verifiable and enforceable (e-Bond) format.

**A scanned PDF copy of the bond is not acceptable.**

Instruction: After uploading the bid bond, ensure the uploaded bid bond is electronically verifiable and enforceable prior to submission of this Bid.

For additional information on Bid Security refer to the Request for Tenders document.

- Bid Bond \* (mandatory)

## **Form of Tender**

**The bidder hereby acknowledges and agrees:**

### **1. Submission of Bid**

I/We the undersigned bidder, having examined the locality and site of the Work as well as all the Request for Tenders documents, hereby tenders and offers to furnish all material, labour, service, equipment, scaffolding and all incidentals, and to render all services and pay all applicable customs duties and taxes (other than any Value Added Taxes) and all other charges as specified and/or as necessary for performance and completion of the above referred to Work, all in full accordance with the Request for Tenders documents provided to the bidder by the City (receipt of which is hereby acknowledged) for the Base Bid Price (which is included in the "Contract Price" in the CCDC 2 – 2020 Stipulated Price Contract).

### **2. Base Bid Price**

I/We confirm all prices provided in this Bid:

- are in Canadian funds
- include Provisional Items, if applicable
- include contingency allowances, if applicable
- include cash allowances, if applicable
- do not include Value Added Taxes

Any Value Added Taxes payable are for the account of the City and are in addition to the Base Bid Price stated in the Schedule of Prices.

I/We understand that if this Request for Tenders contains a contingency allowance, Provisional Item(s) or cash allowances, I/we are not entitled to payment thereof except for the extra or additional work carried out by me/us, as directed by the City and in accordance with the Contract and only to the extent of such extra or additional work and payment approved by the City.

### **3. Addenda**

I/We have made any necessary inquiries with respect to Addenda issued by the City and have ensured that we have received, examined and provided for all Addenda to the Request for Tenders in this Bid.

### **4. Commencement and Completion**

If awarded the Request for Tenders, I/we agree and undertake that:

- I/We will provide all necessary documents required as set forth prior to the commencement of the Work.
- I/We will commence the Work following receipt of a notice to proceed and otherwise in accordance with the Contract. I/We agree to have the Works "substantially performed" as described in the Construction Act (Ontario) and in accordance with the requirements set out in the Contract.
- in the event that I/we fail to perform the Contract as provided, I/we understand and agree that I/we shall be liable to liquidated damages and other remedies as specified in the contract documents.

### **5. Contract**

I/We understand and agree that a binding contract shall come into being upon acceptance of this Bid by the City and the award of the Request for Tenders to me/us. The subsequent execution of the Contract for the Work is a formality and not a condition precedent to the existence of a binding contract.

### **6. Occupational Health and Safety**

I/We understand and agree that the Work must be conducted in a safe manner. Accordingly, I/we confirm that I/we and all subcontractors used on the Work for the City of Hamilton will comply with all applicable laws, regulations and by-laws of Canada, the Province of Ontario and the City of Hamilton, including but not limited to the Occupational Health and Safety Act, and all applicable regulations thereunder. Further, without limiting any of the foregoing, I/we confirm that I/we have both a written occupational health and safety policy and program to implement that policy, and that all of our employees,

subcontractors and any other persons performing the Work shall be appropriately trained, licensed and certified, as required to perform the Work.

## **7. Fair Wage Policy and Schedule**

I/We agree to comply in all respects with the City of Hamilton's Fair Wage Policy and to be fully responsible for ensuring that all of my/our subcontractors also comply in all respects with said Fair Wage Policy.

## **8. Execution**

If this Bid is accepted by the City and the Request for Tenders is awarded to me/us, I/we agree to provide and pay for the proof of insurance, WSIB clearance certificate, performance of contract security and a labour and material payment bond as required by the contract documents, my/our health & safety manual and any other document identified in the award letter as being required by the City prior to it being able to issue a purchase order, and to execute the Contract, in quadruplicate, all within 10 Business Days after the City has issued its award letter or within such longer time period as the City may specify.

## **9. Bid Security**

I/We have submitted the Bid Security as specified in the Request for Tenders. The Bid Security shall be irrevocable for **90 CALENDAR DAYS** after the closing date and time of the Request for Tenders.

In the event of default or failure on my/our part to execute the Contract as required above and to provide the specified security required under the Request for Tenders and the Contract, I/we agree that the City may at its discretion do one or more of the following: declare the Bid Security forfeited, annul the award or terminate the Contract, accept the next lowest compliant Bid, advertise for new tenders, or carry out the Work in any manner deemed in the best interests of the City. In such a case, if required by the City, I/we shall pay the City the difference between the Base Bid Price and any greater sum that the City may be obligated to pay by reason of that default or failure, including the cost of any advertisement for new tenders.

## **10. Time Open for Acceptance**

I/We agree and confirm that this Bid is irrevocable and is to continue open to acceptance by the City for a period of **90 CALENDAR DAYS** after the closing date and time of the Request for Tenders. The City may at any time within the above **90 CALENDAR DAY** period accept this Bid whether or not any other Bid has previously been accepted, upon notice of acceptance and award in writing to me/us, personally delivered or mailed to me/us by ordinary prepaid mail, to the address provided in the Bid submission, or delivered by fax to the fax number set forth in the Bid submission. Any notice mailed or faxed shall be deemed to have been received on the date mailed or faxed. Any notice personally delivered shall be deemed to have been received on the date the notice is personally delivered.

## **11. No Collusion / Conflict of Interest**

I/We hereby declare that no person, firm or corporation other than me/us has any interest in this Bid or in the proposed Contract for which this Bid is made. I/We further declare that this Bid is made without any connection, comparison of figures or arrangements with, or knowledge of, any other person making a Bid for the same work and is in all respects fair and without collusion or fraud.

I/We confirm that we comply with Article 12 - Conflict of Interest, Lobbying and Collusion of the Instructions to Bidders and Article 4 – Joint Ventures of the Supplementary Instructions to Bidders.

I/We understand that, without limiting or restricting any other right or privilege of the City, the City may terminate the Contract where the bidder is in contravention with the City's Procurement Policy with respect to conflict of interest or vendor eligibility.

## **12. Interpretation**

I/We confirm that we have received no oral information, instruction or advice from any officer, employee, agent or consultant of the City which changes the content of the Request for Tenders and all Addenda thereto.

I/We acknowledge and agree that we have not assumed that any information concerning our operations, business or personnel or any other information required to be provided by us when submitting our Bid is known to the City, regardless of whether such information may be actually previously known to the City or not. Further, we acknowledge and agree that all information to be provided by us is to be complete and full and in such detail as required.

### **13. Procurement Policy**

In submitting a Bid in response to the Request for Tenders, I/we agree and acknowledge that I/we have read and will be bound by the terms and conditions of the City's Procurement Policy. I/We understand that the City's Procurement Policy can be viewed on the City's website at: <https://www.hamilton.ca/build-invest-grow/buying-selling-city/bids-and-tenders/procurement-policy-by-law>

### **14. Ontarians with Disabilities Act, 2001 and Accessibility for Ontarians with Disabilities Act, 2005**

I/We confirm that I/we and all Subcontractors used on the Work for the City of Hamilton will comply with all applicable accessibility laws, regulations and by-laws of Canada, the Province of Ontario and the City of Hamilton, including but not limited to the Ontarians with Disabilities Act, 2001 (ODA), the Accessibility for Ontarians with Disabilities Act, 2005 (AODA), Ontario Regulation 429/07 (Accessibility Standards for Customer Service) and Ontario Regulation 191/11 (Integrated Accessibility Standards), throughout the term of the Contract. Without limiting the generality of the foregoing, I/we shall provide to the City, prior to commencing Work, a Statement of Acknowledgement that I/we have read and understand the City's AODA Integrated Accessibility Standards and Customer Service Standard Handbook (the "Handbook"), that I/we have provided the training required by the Handbook, and that I/we will comply with the requirements of the Handbook and applicable accessibility laws, regulations and by-laws. See City of Hamilton's AODA Integrated Accessibility Standards and Customer Service Standard Handbook at: <https://www.hamilton.ca/people-programs/equity-diversity-inclusion/accessibility-services/accessibility-guidelines-policies#policies-procedures>

### **15. Compliance with City of Hamilton By-laws**

I/We declare that I/we are in compliance with all municipal by-laws as they pertain to the City of Hamilton in respect of the operation of my/our business and in respect of the Work described in the Request for Tenders. I/We understand and agree that if this statement is untrue or incorrect, the City of Hamilton shall be entitled at its sole discretion to reject this Bid, or if such untruth or incorrectness comes to light after this Bid is accepted, to terminate or refuse to enter into, as applicable, any Contract and to pursue any other legal recourse the City deems appropriate, and that such untruth or incorrectness shall be a default under the Contract.

### **16. Lump Sum Breakdown**

I/We understand and agree that after the opening of the Bids, if I/we are one of the two apparent low bidders, if requested by the City we are required to submit to the Tender Coordinator, within two Business Days of the closing date of the Request for Tenders, the document entitled Lump Sum Breakdown of Base Bid Price. The breakdown shall be given on the breakdown pages provided in the Request for Tenders. I/We acknowledge and agree that the City may refuse to accept any breakdown which contains prices considered to be unbalanced and may request me/us to adjust the breakdown to correct such unbalancing, and I/we agree to do so upon such request of the City.

### **17. Provisional Items**

I/We understand and agree that, after the award of the Request for Tenders, the City reserves the right to delete from the Base Bid Price one or more of the items identified in the Schedule of Prices as Provisional Items, without penalty or compensation to the Successful Bidder, for credit at the price shown in the table. All prices are inclusive of all duties and taxes applicable, except for Value Added Taxes.

I/We understand that I/we are required to complete the table in the Schedule of Prices for each Provisional Item listed. I/We understand that failure to do so will result in the rejection of this Bid by the City.

I/We agree that the Unit Prices provided for each Provisional Item include all costs required for complete execution of the item of work, including the bidder's office staff, site supervisory staff, project management costs, clerical and other costs for documentation, materials, labour, equipment, delivery, handling, statutory charges, overhead and profit, other related charges, inclusive of all other duties and taxes applicable, and similar charges on account of such item of work. Unit Prices entered shall exclude all Value Added Taxes.

I/We agree that if the quantity actually required for each item of work is more or less than estimated, the extended price for such item of work will be increased or decreased respectively using the same Unit Price or Lump Sum Price specified in the Schedule of Prices.

I/We agree that these Provisional Items are in addition to the requirements outlined in the Specifications. I/We understand that

if I/we are awarded the Request for Tenders, I/we are not entitled to payment for any Provisional Item except for the extra or additional work carried out by me/us, as directed by the City and in accordance with the Contract and where payment was previously approved by the City.

#### 18. Alternatives

I/We understand and agree that alternatives to specified equipment suppliers and/or equipment in the Request for Tenders will not be considered by the City prior to the award of the Request for Tenders.

#### 19. Electronic Funds Transfer

I/We acknowledge and agree to provide the City with the information required for the City to make payment by EFT.

☐ I/WE agree to be bound by the terms and conditions and have authority to bind the Bidder and submit this Bid on behalf of the Bidder.

#### Conflict of Interest

Except with the prior express written consent of the City, **prior to submitting this Bid**, vendors are required to notify the City in writing, of any potential conflict of interest that may arise prior to the award of any contract and fully disclose any details thereof. Failure on the part of a vendor to declare a conflict of interest to the City and to obtain the City's prior express written consent to waive the conflict of interest shall result in the vendor being ineligible to Bid and shall form a basis for rejection of a Bid submitted to the City.

Do you have a potential conflict of interest? ☒ Yes ☐ No

#### Acknowledgement of Addenda

The Bidder acknowledges and agrees that any Addenda below form part of the bid document.

Please check the box in the column "**I have reviewed this addendum**" below to acknowledge each of the Addenda.

File Name	I have reviewed the below addendum and attachments (if applicable)	Pages
There have not been any addenda issued for this bid.		