



Hamilton

**CITY OF HAMILTON**

**REQUEST FOR TENDERS**

**Contract Number: C13-16-25**

**General Contractor for the Supply and Installation of  
new Energy Efficient LED Lighting at various City  
Yards and Municipal Service Centres**

**Closes: 3:00 PM, Hamilton time  
Thursday, March 27, 2025**

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

**Procurement Section  
Corporate Services Department**

## Table of Contents

<u>Description</u>	<u>Page Number</u>
Communications	3
Request for Tenders Notice	4 to 10
Instructions to Bidders	11 to 27
Supplementary Instructions to Bidders	28 to 29
CCDC 2 -2020 Stipulated Price Contract	30
Supplementary Conditions to Contract CCDC 2-2020	31 to 83
Project Specific Supplementary Conditions to Contract CCDC 2-2020	84 to 87
Specifications	177 pages

### **Online documents:**

Schedule of Prices

Specifications

- Bidder's Business Structure

Bonding

Form of Tender



# COMMUNICATIONS

Revised: March 21, 2023

**Contract Number: C13-16-25**

## **General Contractor for the Supply and Installation of new Energy Efficient LED Lighting at various City Yards and Municipal Service Centres**

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:

Vicki Lafford-Field  
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)

Vicki Lafford-Field  
Procurement Specialist  
Telephone: (905) 546-2424, extension 8844  
Email: [vicki.laffordfield@hamilton.ca](mailto:vicki.laffordfield@hamilton.ca)

## **REQUEST FOR TENDERS NOTICE**

**Contract Number: C13-16-25**

### **General Contractor for the Supply and Installation of new Energy Efficient LED Lighting at various City Yards and Municipal Service Centres**

**Closes: 3:00 PM, Hamilton time  
Thursday, March 27, 2025**

**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 planning an energy efficient, lifecycle upgrade to the interior and exterior lighting systems at seven municipal facilities in Hamilton, Ontario. The retrofit plan largely involves the replacement of fluorescent, metal halide, and compact fluorescent fixtures with new LED luminaires. The Work also includes the installation of low voltage and wall box type occupancy sensors in some rooms.

Limited electrical wiring and device installations are also part of the improvement.

Seven municipal facilities in Hamilton include.

1. Dundas Yard  
189 King Street East,  
Dundas, Ontario
  
2. Forestry Yard  
1301 Upper Ottawa

- Hamilton, ON
3. Glanbrook Municipal Service Centre  
4280 Binbrook Rd,  
Binbrook, ON
  4. Mountain Transit Centre (Select Areas)  
2200 Upper James St,  
Mount Hope, ON
  5. Rymal Road Yard  
308 Rymal Road East,  
Hamilton, ON
  6. Stoney Creek Yard  
349 Jones Road  
Stoney Creek, ON
  7. Winona Community Centre  
255 Winona Rd  
Stoney Creek, ON

## **2.0 CONTRACT REQUIREMENTS**

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

### **2.1 Bid Security**

Bid security: **\$21,000.00**

**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 1: Winona Community Centre**  
255 Winona Rd. Stoney Creek (see location map attached)  
**Date:** Tuesday, March 11, 2025  
**Time:** 1:00 PM, Hamilton time

**Location 2: Stoney Creek Yard**  
349 Jones Rd. Stoney Creek (see location map attached)  
**Date:** Tuesday, March 11, 2025  
**Time:** Immediately following Winona Community Centre, Bidders are welcome to visit the Stoney Creek Yard location.

**Location 3: Rymal Road Yard**  
308 Rymal Road East, Stoney Creek (see location map attached)  
**Date:** Tuesday, March 11, 2025  
**Time:** Immediately following Stoney Creek Yard, Bidders are welcome to visit the Rymal Road Yard location.

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](http://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](http://hamilton.bidsandtenders.ca)

Fee: \$63.65 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

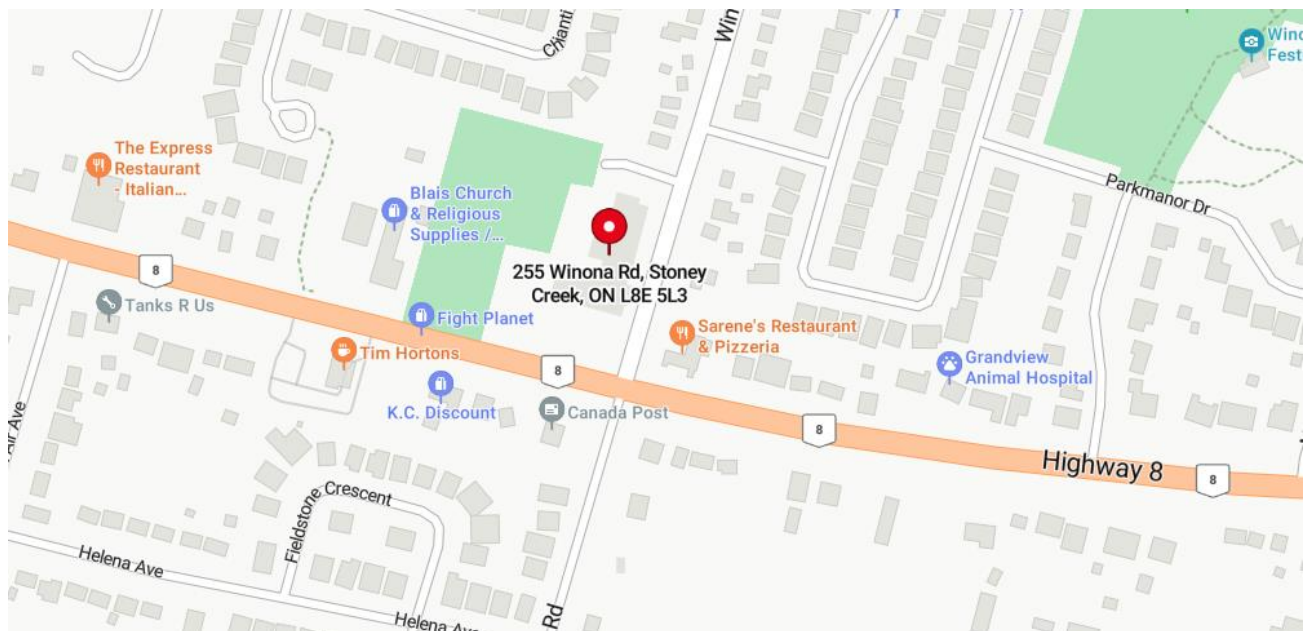
## MAP LOCATION OF LOCATION 1: WINONA COMMUNITY CENTRE 255 Winona Rd. Stoney Creek

### 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.bing.com/search?pglt=2083&q=255+Winona+Rd.+Stoney+Creek&cvid=f7dba9989b3e4731aaacf72a4e5cd03&gs\\_lcrp=EgRIZGdIKgYIABBFGDkyBggAEEUYOTIGCAEQABhAMgYIAhAAGEAyBggDEAAYQDIGCAQQABhAMggIBRDpBxj8VdlBBzU4MGowajGoAgCwAgA&FORM=ANSAB1&PC=U531](https://www.bing.com/search?pglt=2083&q=255+Winona+Rd.+Stoney+Creek&cvid=f7dba9989b3e4731aaacf72a4e5cd03&gs_lcrp=EgRIZGdIKgYIABBFGDkyBggAEEUYOTIGCAEQABhAMgYIAhAAGEAyBggDEAAYQDIGCAQQABhAMggIBRDpBxj8VdlBBzU4MGowajGoAgCwAgA&FORM=ANSAB1&PC=U531)**



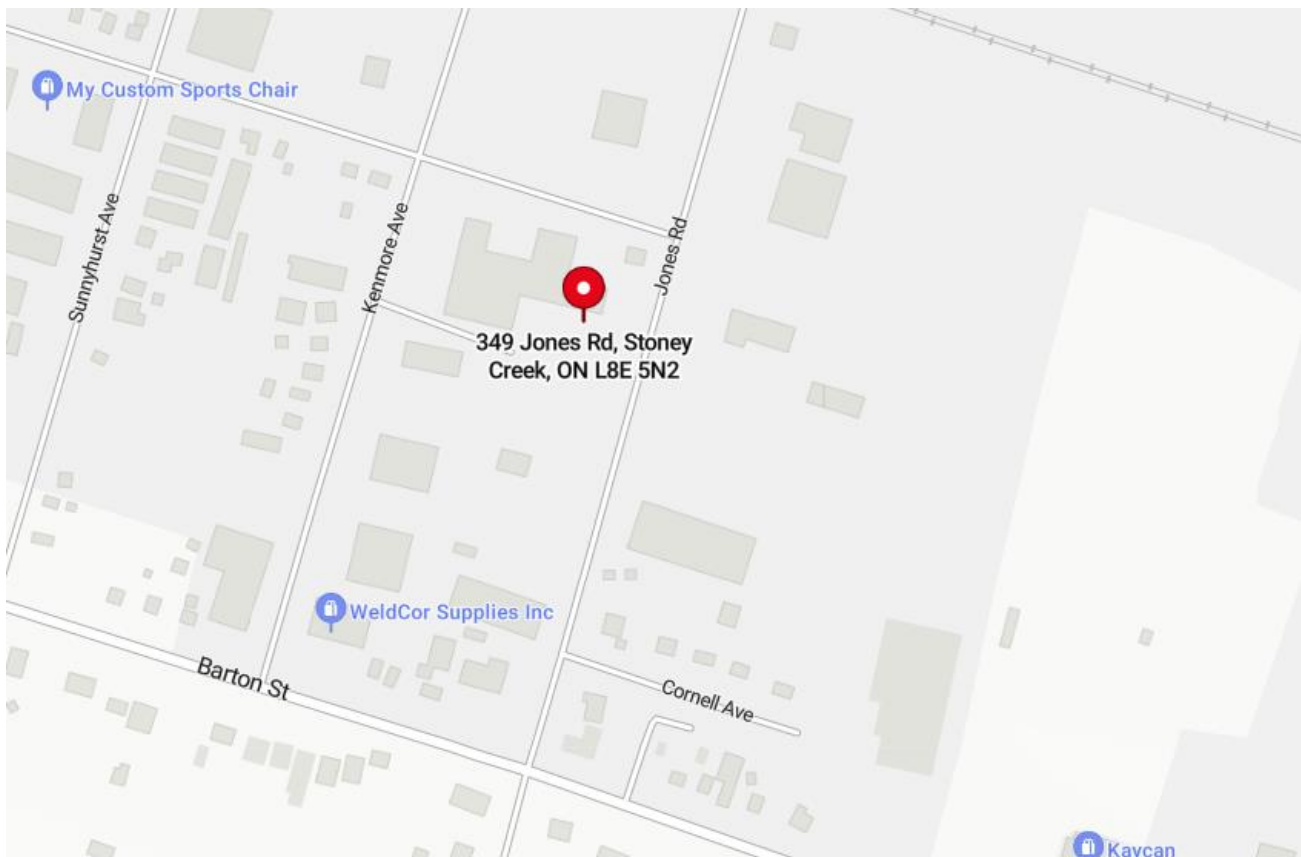
**MAP LOCATION OF LOCATION 2: STONEY CREEK YARD  
349 Jones Rd. Stoney Creek**

**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.bing.com/search?pglt=2083&q=255+Winona+Rd.+Stoney+Creek&cvid=f7dba9989b3e4731aaaacf72a4e5cd03&gs\\_lcrp=EgRIZGdIKgYIABBFGDkyBggAEEUYOTIGCAEQABhAMgYIAhAAGEAyBggDEAAYQDIGCAQQABhAMggIBRDpBxj8VdIBBzU4MGowajGoAgCwAgA&FORM=ANSAB1&PC=U531](https://www.bing.com/search?pglt=2083&q=255+Winona+Rd.+Stoney+Creek&cvid=f7dba9989b3e4731aaaacf72a4e5cd03&gs_lcrp=EgRIZGdIKgYIABBFGDkyBggAEEUYOTIGCAEQABhAMgYIAhAAGEAyBggDEAAYQDIGCAQQABhAMggIBRDpBxj8VdIBBzU4MGowajGoAgCwAgA&FORM=ANSAB1&PC=U531)**



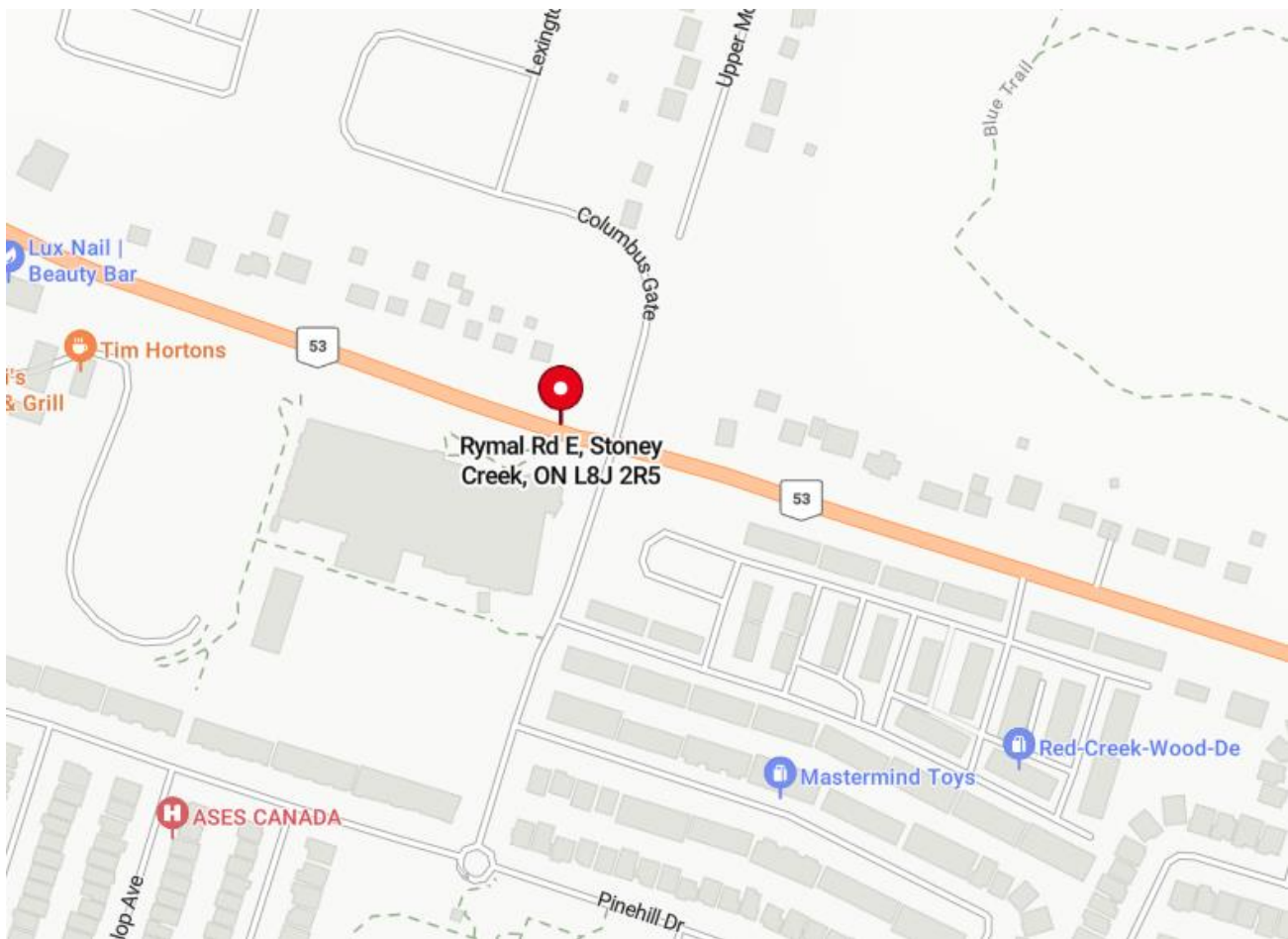
**MAP LOCATION OF LOCATION 3: RYMAL ROAD YARD  
308 Rymal Road East, Stoney Creek**

**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.bing.com/maps?q=308+rymal+road+east%2C+stoney+creek+ontario&FORM=HDRSC7&cp=43.182055%7E-79.815157&lvl=16.8>**





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

**Table of Contents**

1	Interpretation	12
2	Definitions	12
3	Guidelines Regarding Bid Irregularities	15
4	Bid Submission and Form of Tender	16
5	Bid Security	17
6	Addenda and Clarification of the Request for Tenders	19
7	Bidder Responsibilities	20
8	Opening of Bids	21
9	Review of Bids & Bid Verification	21
10	Acceptance & Irrevocability of Bid	22
11	Award of Contract	22
12	Conflict of Interest, Lobbying and Collusion	22
13	Confidentiality	23
14	Withdrawal of Bids by Bidder	24
15	Price	24
16	Reserved Privileges of the City	25
17	Notice to Proceed and Start Date	26
18	Applicable Law and Limit on Liability	26
19	Accommodations for Bidders with Disabilities	26

## 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™ 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. 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 1: Winona Community Centre**  
**255 Winona Rd. Stoney Creek (see location map attached)**

**Date: Tuesday, March 11, 2025**

**Time: 1:00 PM, Hamilton time**

**Location 2: Stoney Creek Yard**  
**349 Jones Rd. Stoney Creek (see location map attached)**

**Date: Tuesday, March 11, 2025**

**Time: Immediately following Winona Community Centre, Bidders are welcome to visit the Stoney Creek Yard location.**

**Location 3: Rymal Road Yard**  
**308 Rymal Road East, Stoney Creek (see location map attached)**

**Date: Tuesday, March 11, 2025**

**Time: Immediately following Stoney Creek Yard, Bidders are welcome to visit the Rymal Road Yard location.**

### 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 **(twenty-one thousand dollars) (\$21,000.00)**.

### 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**

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**

<b>Event</b>	<b>Date</b>
Tender closing date	Thursday, March 27, 2025
Anticipated award date	<b>4 weeks from closing date</b>
Commencement of Work	<b>6 weeks from award date</b>

14. **APPROXIMATE QUANTITIES**

Estimated quantities/locations are indicated in the Request for Tender for the sole purpose of comparing Bids. While these quantities/locations are based on past use and anticipated future requirements, the City is not bound to purchase these quantities or any minimum quantities. The City reserves the right to increase or decrease the estimated quantities at the prices quoted without penalty.

16. **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>

**17. 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, coordination, 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 \$2,000,000 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 Builders Risk Insurance which covers the *Place of Work* for the full amount of the *Contract Price* plus the full value of any optional features or other options that the *Owner* elects to order (but the *Owner* may require insurance up to the amount of the replacement cost of any building or structure in, on, or upon which any *Work* is to be done under the *Contract*, where in the reasonable opinion of the *Owner* there is a sufficient risk of damage to the same). Such policy shall:
- (1) apply to all risks of direct loss or damage (including theft and sinkhole) subject to the actual policy form;
  - (2) unless otherwise directed in writing by the *Owner*, or stipulated elsewhere herein, be in force and be maintained from the commencement date of the *Contract* until the day of issue of the certificate of *Substantial Performance of the Work*;
  - (3) apply to all *Products*, labour, equipment and supplies of every nature, the property of the *Owner* or *Contractor* or for which the *Owner* or *Contractor* may have assumed responsibility (whether on site or in transit), that is to be used in or pertaining to site preparation, and the erection, fabrication, construction, reconstruction, re-modeling or repair of any building, structure, other fixture or thing;
  - (4) include the installation, testing and any subsequent use of machinery and equipment, including boilers, pressure vessels or vessels under vacuum;
  - (5) include damage to the *Work* caused by an accident to or the explosion of any boiler or other pressure vessel or equipment forming part of the *Work*;

- (6) include off-site storage, transit and installation risks;
  - (7) include flood and earthquake insurance;
  - (8) include coverage for loss of income, extra expense and/or expediting expense if such exposures exist;
  - (9) be subject to a waiver of coinsurance;
  - (10) permit use and occupancy of the *Project*, or any part thereof, where such use and occupancy is for the purposes for which the *Project* is intended upon completion;
  - (11) be endorsed to cover the interest of the *Owner* ;
  - (12) unless otherwise approved by the *Owner*, provide for a deductible of not more than \$25,000; and
  - (13) provide that in the case of a loss or damage, payment shall be made to the *Owner* as their interest may appear. The *Contractor* shall act on behalf of the *Owner* for the purpose of adjusting the amount of such loss or damage payment with the insurer. When the extent of the loss or damage is determined, the *Contractor* shall proceed to restore the *Work*. Loss or damage shall not affect the rights and obligations of either party under the *Contract* except that the *Contractor* shall be entitled to a reasonable extension of *Contract Time*.
- .5 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 **October 31, 2025**."

**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.”

**THE CITY OF HAMILTON**

**General Contractor for the Supply and Installation of  
new Energy Efficient LED Lighting at various City  
Yards and Municipal Service Centres**

**CONTRACT No. C13-16-25**



---

SECTION	NAME	PAGE
DIVISION 1		2
01000	GENERAL REQUIREMENTS	2
01010	SUMMARY OF WORK	9
01140	WORK RESTRICTIONS	11
01310	CONSTRUCTION MANAGEMENT & COORDINATION	12
01330	WASTE MANAGEMENT AND DISPOSAL	13
01357	HAZARDOUS MATERIALS	15
01410	REGULATORY REQUIREMENTS	16
01520	CONSTRUCTION FACILITIES	17
01740	CLEANING	18
01770	CLOSEOUT PROCEDURES	19
01900	WARRANTIES	21
DIVISION 26		22
26000	ELECTRICAL GENERAL REQUIREMENTS	22
26050	BASIC MATERIALS & METHODS	26
26500	LIGHTING	29
APPENDIX A:	INSTALLATION SUMMARY	43
APPENDIX B:	INSTALLATION LINE BY LINE	44
APPENDIX C:	DRAWINGS	45
APPENDIX D:	REPRESENTATIVE CUT SHEETS	46

---

**DIVISION 1**01000 GENERAL REQUIREMENTS

## 1.1 INTRODUCTION:

- .1 The City of Hamilton is planning an energy efficient, lifecycle upgrade to the interior and exterior lighting systems at seven municipal facilities in Hamilton, Ontario. The retrofit plan largely involves the replacement of fluorescent, metal halide, and compact fluorescent fixtures with new LED luminaires. The Work also includes the installation of low voltage and wall box type occupancy sensors in some rooms.
- .2 Limited electrical wiring and device installations are also part of the improvement.
- .3 Within this specification, details of the Work are provided in written text, drawings and installation schedules.
- .4 Respondents are instructed to review this specification in its entirety with respect to the overall scope of the Work that is provided throughout various sections of this specification and appendices.



## 1.2 SITE LOCATIONS

- .1 Dundas Yard  
189 King Street East,  
Dundas, Ontario
- .2 Forestry Yard  
1301 Upper Ottawa,  
Hamilton, ON
- .3 Glanbrook Municipal Service Centre  
4280 Binbrook Rd,  
Binbrook, ON
- .4 Mountain Transit Centre (Select Areas)  
2200 Upper James St,  
Mount Hope, ON
- .5 Rymal Road Yard  
308 Rymal Road East,  
Hamilton, ON
- .6 Stoney Creek Yard  
349 Jones Road,  
Stoney Creek, ON
- .7 Winona Community Centre  
255 Winona Rd,  
Stoney Creek, ON

## 1.3 SITE RETROFIT SUMMARY

- .1 Provided in Appendix A – Installation Summary
- .2 Appendix A provides a summary of the retrofit plans for the project. The schedule has been provided for the respondents' convenience and is to be read in reference to the Specification.
- .3 Respondents to provide pricing as directed on the designated bid forms.

## 1.4 INSTALLATION SCHEDULE

- .1 Provided in Appendix B – Installation Line by Line
- .2 Appendix B provides a line-by-line installation schedule showing existing fixture information (type, mounting, lensing, and quantity) and corresponding retrofit information
- .3 Appendix B provides installation details on a room-by-room basis and is to be read in conjunction with site plans provided in Appendix C
- .4 An updated copy of Appendix B will be maintained throughout the project by the Contractor.

## 1.5 SITE PLANS

- .1 Provided in Appendix C – Drawings
- .2 Appendix C provides lighting plans that correspond with installation schedule in Appendix B.
- .3 Drawings are not to scale and shall be considered schematic.
- .4 Details related to fixture relocation and configuration are detailed in the drawings.
- .5 As-Built drawings shall be maintained to identify changes in project by the Contractor.

## 1.6 REPRESENTATIVE CUT SHEETS

- .1 Provided in Appendix D – Representative Cut Sheets
- .2 Appendix D provides lighting cut sheets that meet the performance specifications included in this document.
- .3 These cut sheets have been included to illustrate the form, style and quality of the equipment expected on the project in terms of manufacturer documentation, approval marks, construction and electrical performance. Equivalent products proposed should be accompanied by shop drawings of commensurate quality and detail.

## 1.7 ACRONYMS

- .1 “AHJ” means, Authority Having Jurisdiction.
- .2 “CCN” means, Contemplated Change Notice.
- .3 “CCT” means, Correlated Colour Temperature.
- .4 “CEE” means, Consortium for Energy Efficiency.
- .5 “CO” means, Change Order.
- .6 “COH” means, City of Hamilton
- .7 “CRI” means, Colour Rendering Index.
- .8 “DLC” means, Design Lights Consortium.
- .9 “ESA” means, Electrical Safety Authority.
- .10 “Ft” means, feet (imperial unit of measure).
- .11 “HID” means, High Intensity Discharge lighting.
- .12 “HBF” means, High Ballast Factor electronic ballast.

- .13 "LBF" means, Low Ballast Factor electronic ballast.
- .14 "LED" means, Light Emitting Diode.
- .15 "NBF" means, Normal Ballast Factor electronic ballast.
- .16 "PCB" means polychlorinated biphenyl
- .17 "THD" means, Total Harmonic Distortion.
- .18 "UNV" means, Universal, as in Universal Voltage (120-277VAC or 347-480VAC).
- .19 "ULC" means Underwriters Laboratories of Canada
- .20 "WSIB" means, Workplace Safety and Insurance Board

## 1.8 SUBSTANTIAL PERFORMANCE OF WORK

- .1 Substantial Performance: all Work at related to this project shall be substantially performed on or before October 31, 2025.
- .2 Contractor shall provide a written construction schedule showing resources assigned to complete the project within the desired completion date.
- .3 Contractor shall be responsible to maintain and update the schedule daily to complete all Work prior to the Substantial Performance target date. The schedule will be shared upon request with the COH Project Manager or Consultant.

## 1.9 CONSTRAINTS

- .1 All Work must be coordinated in advance in writing with COH Project Manager. The Contractor shall coordinate with COH Project Manager areas of the interior, exterior, parking and pathways to be closed while Work is undertaken.
- .2 Work must be organized and scheduled to minimize the disruption to each facility's regular operation. Interior Work shall be completed within the hours of 4PM to 6AM, Monday to Friday. Working times outside of these hours, on weekends and holidays may be permitted at the discretion of the COH Project Manager. Requests for changes to the Work schedule must be submitted in writing to the COH Project Manager with sufficient advance notice.
- .3 All Work areas must be thoroughly cleaned and cleared of any hazards following the end of each shift. Areas left un-clean or unsuitable for safe use may be cleaned or cleared of hazards by COH staff or vendors and charged back to the Contractor. All spaces must be ready for occupant use at the end of each shift, with working lighting systems and free of Work-related hazards.
- .4 PCB's - It is not anticipated that PCB containing ballasts will be encountered on this project. If any PCB ballasts are encountered, the Contractor to stop Work in that area and bring to the attention of the Project Manager. Do not include any costs in bid for the removal of PCB ballasts. Disposal costs will be addressed through change order process.
- .5 The Contractor shall be responsible for any sub-trades as may be required.

- .6 Any deviations from these specifications shall be approved by COH's Project Manager and Consultant.

#### 1.10 DELIVERY, STORAGE, HANDLING

- .1 The Contractor shall be permitted to use only those areas which have been designated for equipment, camp or construction areas provided that such use shall not interfere with any part of the Work or the Work of other Contractors, staff or other agencies in the vicinity.
- .2 Limited exterior space will be made available to the Contractor to provide a shipping container for the onsite storage of goods. All project materials, waste and tools shall be stored in a locked shipping container for the duration of the project. The area about the storage container shall be kept neat and free of hazards.
- .3 Storage of waste is specified in Section 01330 Waste Management & Disposal.
- .4 Staging and storage of materials shall be the responsibility of the Contractor. The Contractor shall lock and secure all materials, tools, and equipment when not in use.
- .5 Lost or stolen equipment, tools or goods are not the responsibility of the City. The City shall not be held responsibility for any losses resulting from theft.

#### 1.11 INSPECTION AND TESTS OF MATERIAL

- .1 All materials furnished and all Work performed shall be subject to inspection. The Contractor shall demonstrate that all components are suitable and satisfactory for their intended purpose and that they meet all applicable requirements.
- .2 The Contractor shall provide the COH with the manufacturer's product information sheets and/or shop drawings for all materials installed as part of this project.

#### 1.12 MANUFACTURER'S INSTRUCTIONS

- .1 The Contractor shall be responsible for the correct installation and assembly of all materials and equipment. The manufacturer's instructions shall be carefully read and strictly adhered to in the installation of materials and equipment.
- .2 Any damage resulting from either a failure to observe the manufacturer's instructions or as a result of proceeding with the Work without complete knowledge of how a particular job is to be done, shall be the Contractor's responsibility and the Contractor shall make good on any loss or damage resulting from same.
- .3 Notify the COH's Project Manager and Consultant in writing any conflicts between the Specifications and manufacturer's instructions, so that the correct course of action may be taken.

#### 1.13 WORK BY OTHERS

- .1 The Contractor shall coordinate their activities with occupants so that the Work of all concerned shall proceed with efficiency and dispatch. No claim for additional payment shall be considered on account of delays, changes in construction schedules, or any other reason whatsoever, due to the fact that others are operating in the area.

**1.14 PROTECTION OF CONSTRUCTED WORKS**

- .1 The Contractor shall be responsible for the protection of all materials, equipment and constructed works until acceptance and take-over of the Work.
- .2 The Contractor shall be responsible for keeping the construction area clean and free of hazards.

**1.15 COMMUNICATION**

- .1 The Contractor's site foreman shall be available by cellphone at all times while on-site throughout the duration of this Work.
- .2 All project related communications shall occur between the COH's Project Manager and the Contractor's site foreman or site supervisor. Site staff shall not be engaged with respect to discussions related to the scope of Work or installation details.

**1.16 PROTECTION OF PERSONS AND PROPERTY**

- .1 The Contractor shall use due care and take all necessary precautions to ensure the protection of persons and property and shall comply with the most current requirements of the applicable federal and provincial government agencies including but not limited to the Workplace Safety and Insurance Board and the Ontario Occupational Health and Safety Act and Regulations for Construction Projects. All training and safety equipment acquisition, transportation and maintenance shall be the responsibility of the Contractor.
- .2 The Contractor shall have a site safety management plan prior to mobilizing Work on site. This plan shall include provisions to ensure the safety of the public, those engaged in the Work under this contract and those employed by other agencies or Contractors who may require access to the site against accident and injury. The Contractor shall post on site all necessary and applicable signs regarding safety hazards and the required personal protective equipment. The Contractor shall appoint a competent site supervisor who shall be responsible for the implementation of the site safety plan. The Contractor shall be responsible for all daily construction activities with authority over all Contractors, subcontractors and workers on site, with respect to the site safety management plan.
- .3 The Contractor shall always adhere to the Health and Safety Policies of COH. Requirements will include but are not limited to: the completion of training, testing, and site safety meetings (Contracted Services Program). The Contractor shall not bill COH for worker time spent completing such safety training, testing and meetings deemed necessary by COH. All workers working at heights and on elevated work platforms shall be trained in compliance with Ontario Statutes and Regulations Sections 26.1 to 26.9 for working at heights and shall always have proof of training (certificate) in their possession.
- .4 The Contractor shall abide at all times to all site-specific health and safety requirements and instructions from site management.
- .5 The Contractor shall supply and maintain at all times suitable lock-out devices, barricades and signs as are necessary to ensure the safety of the public, those engaged in the Work under this Contract, and those employed by other agencies or Contractors who may require access to the site against accident and injury.
- .6 Notwithstanding the provisions of the General Conditions, in any emergency affecting the safety of life, or of the Work, or of adjoining property, the Contractor, without direction from COH, shall act in a reasonable manner to prevent loss or injury.

- .7 The Contractor shall complete hazard assessments for the areas where Work is to be conducted and prepare safety control procedures and plans to minimize the risks associated with those areas.

#### 1.17 WASTE MANAGEMENT GOALS

- .1 The waste management goal is that 90 percent of total project waste materials shall be diverted from landfill.
- .2 Provide documentation certifying that waste management, recycling, reuse of recyclable and reusable materials have been completed.
- .3 Preserve environment and prevent pollution and environment damage.
- .4 Provide lamp recycling certificates for all mercury containing lamps removed from project sites, issued by a certified lamp recycling company. One certificate per site address shall be produced by the recycling company.
- .5 Provide scrap metal recycling certificates for all fixture bodies, scrap metal, wire and components removed from the sites.
- .6 Provide proof of cardboard and plastic waste recycling

01010 SUMMARY OF WORK

## 1.1 WORK INCLUDED

- .1 T8-LED and T5-LED Re-Lamp and Re-Ballast. Work generally consists of replacement of existing T8 or T5 linear fluorescent lamps and ballast with new energy efficient T8-LED or T5-LED lamps and high efficiency electronic T8 or T5 ballast (UL Type A). Please note that T5 and T8 lamps and ballasts are not interchangeable. Normal ballast-factor ballasts will be used throughout unless expressly stated otherwise.
- .2 LED recessed downlight retrofit. Work generally consists of removal of existing compact fluorescent lamps, ballasts, trims, and reflectors and the installation of a new LED insert kit in the ceiling existing frame.
- .3 New LED Fixtures. Work generally consists of removing the existing light fixture and installing a new high efficiency LED fixture of a comparable type and mounting method. This scope includes new troffers, suspended and surface mounted fixtures. Fixtures must be installed to satisfy electrical and building codes.
- .4 New LED Exterior Wall Pack Fixture. Work generally consists of removing the existing HID wall pack and installing a new high efficiency LED wall pack in its place. Fixtures must be installed to satisfy electrical codes, securely mounted and appropriately aimed.
- .5 New LED Exterior Area Light Fixture. Work generally consists of removing the existing HID area light from a wall or pole and installing a new high efficiency LED area light in its place. Fixtures must be installed to satisfy electrical codes, securely mounted and appropriately aimed.
- .6 Contracting Services. Supply of all labour, permits, inspections, buried utility locates, tools, equipment, and warehousing required to complete the Work.
- .7 Spare Materials. Provide a small inventory of spare materials to be left at a designated location(s) for future maintenance.
- .8 Warranty. Extend manufacturer warranties to COH and provide a labour warranty
- .9 Project Logistics. Provide delivery and coordinate receiving to site of all materials and equipment. Contractor is required to provide receiving and unloading of all deliveries at site, and to provide safe and orderly unloading, staging and storage of materials and equipment. Contractor is responsible for providing external storage on site or transport materials to site for working day if required. Limited storage on site will be available.
- .10 Temporary Lighting. Provide sufficient temporary lighting for the Work to be completed safely and for facility operators to navigate affected areas safely.
- .11 Lamp Recycling. Remove and recycle lamps firm site and provide a lamp recycling certificate for all lamps disposed of. Recycling must be completed by an approved lamp recycler recognized by the SaveONenergy Rebate program.
- .12 Recycling. Remove waste light fixture housings and ballasts from site and provide a metal recycling certificate from an authorized recycling company.

.13 SAVEONENERGY PROGRAM. This project has been pre-approved under the legacy SaveONenergy Rebate program. The project will not be eligible for the current "Instant Rebate Program" and bidders shall not include or claim such instant rebate discounts in their bids or estimates.

.14 Due Diligence. Contractor shall visit the site prior to ordering materials to assess site conditions that may affect product requirement. This includes all linear fluorescent, downlight retrofits, new fixtures, installation, mounting and wiring requirements. Voltage confirmation for all lighting is required. Contractor to identify lighting circuits in all project areas.

Contractor is to confirm voltages prior to ordering materials. No claim shall be made for material ordered improperly and unsuited to the site conditions.

Voltages presented in this document are based on available information from visual inspection and site drawings and actual conditions may vary from what is indicated herein.

## 1.2 PROJECT IMPLEMENTATION

.1 COH reserves the right to add or remove from the intended project scope to accommodate funding or other conditions at the COH's sole discretion. No change to unit pricing will be made in order to accommodate any reduction in scope or removal of site or phase from the intended project.

.2 Unit prices provided shall be used to modify the project and manage changes in volume.

## 1.3 COMPLETION

.1 Minimize disruption to the normal operation of the buildings. Arrange and carry out the Work in a method which maintains access and exits. Avoid conditions of excessive and unacceptable noise, dust, and debris.

.2 COH's requirement is to maintain normal operations within the facilities during the construction period. The Contractor shall leave those affected facilities in a condition ready for use for the following day.

.3 Complete the Work as to be certifiable by the Consultant and COH Project Manager as having attained substantial completion on or before the date as detailed in the contract to be issued to the successful Contractor.

## 1.4 PROJECT SCHEDULE

.1 Contractor shall provide a preliminary and proposed sequence of construction for the project in the form of a construction schedule. The schedule shall be presented at the pre-construction meeting for review and acceptance in principle by the COH Project Manager and Consultant. Schedules shall be prepared in Gantt chart format.

.2 The Contractor shall revise the proposed schedule as directed for final acceptance before commencement of on-site construction Work and as Work progresses (i.e. whenever a deviation from the schedule occurs) with the COH's Project Manager and Consultant.

.3 Construction schedule shall be broken down to a level of detail as specified by the COH Project Manager and Consultant to complete required planning and coordination of Work and access.

.4 The COH Project manager shall be advised of any changes to the schedule.



01140 WORK RESTRICTIONS

## 1.1 HOURS OF WORK

- .1 Shall be determined at initial Project meeting in consultation with COH.
- .2 For purposes of the tender, construction Work shall be completed between 4:00PM – 6:00AM.
- .3 The preferred work schedule will be Monday – Friday.
- .4 Work shall be coordinated in advance with COH's Project Manager and staged in collaboration with operations managers. Detailed scheduling will be required to minimize disruption to each facility's operation.
- .5 Working outside of the specified hours, including changes of working times, days, and through holidays may be permissible with approval of the COH's Project Manager. Work must be coordinated in advance and approved by the COH Project Manager in writing.

## 1.2 SERVICE SHUTDOWN

- .1 Provide a written requirement of service shut-down a minimum 48 hours in advance of the shut-down.

## 1.3 LIGHTING SYSTEM TO BE SUITABLE FOR OPERATIONS

- .1 The lighting systems at every site shall be left fully operational at the end of each shift. The Contractor shall plan, implement and test work on an ongoing basis to ensure the site is fully illuminated for regular operations at the end of each shift.

01310 CONSTRUCTION MANAGEMENT & COORDINATION

## 1.1 PROJECT MEETINGS

- .1 Attend regular project meetings occurring weekly or as determined by the COH's Project Manager.
- .2 Contractor's Project Manager and Contractor's on-site foreman shall attend each meeting.
- .3 Prior to each meeting, Contractor shall provide the COH Project Manager team with an updated progress report, forecasted schedule, and updated record of changes.
- .4 Contractor shall record all as-built conditions and any changes to the Work on an on-going basis as the Work progresses at the end of each workday. Maintain accurate records to show deviations from Contract drawings and/or schedules.

## 1.2 CHANGE ORDER PROCEDURE

- .1 On receipt of a Contemplated Change Notice (CCN) initiated by the COH's Project Manager and Consultant, the Contractor shall provide cost or credit for the CCN.
- .2 If the COH's Project Manager accepts the CCN, the COH shall issue a Change Order (CO) for the required Work.
- .3 No modifications described by a CCN shall proceed without a CO in place.

01330 WASTE MANAGEMENT AND DISPOSAL

## 1.1 COMPLIANCE

- .1 Comply with the Environmental Protection Act, Ontario Regulations O.Reg. 102/94 and O. Reg. 103/94 for waste management program on construction and demolition projects.
- .2 The Contractor shall comply with the latest applicable regulations and standards for waste management in the AHJ.

## 1.2 COST TO DISPOSE

- .1 Contractor shall be responsible for costs incurred with the disposal of all waste generated during this Project including on-site storage containers, handling and transportation costs.

## 1.3 PROCEDURES

- .1 Contractor shall be responsible for the recycling of all waste materials generated from the Work up to and including all metals, wire, plastics, spent fluorescent, incandescent, metal halide, halogen, CFL (Compact Fluorescent) lamps, non-PCB ballasts, all removed light fixtures, wood and paper waste that may be generated through the course of construction.
- .2 Handle all waste materials which are not reused, salvaged, or recycled in accordance with appropriate Government regulations and codes.
- .3 COH holds exclusive salvage rights on all materials and components decommissioned or removed during this project.
- .4 Contractor shall maintain separate bins for lamps, metal, and non-recyclables.
- .5 A separate area shall be designated for all items the COH may salvage.
- .6 The Contractor shall be entitled to any financial return from reclaiming or recycling of waste material not claimed by COH resulting from Work under this contract.
- .7 Project waste or recyclables shall not be disposed of through existing waste disposal systems in place at the sites (including bins, containers, delivery or pickup).
- .8 Proof of proper disposal as defined in this document shall be required in the form of a receipt and certificate from a qualified recycling company for each project site address. Utility rebate programs require this proof to process rebate claims, which the COH intends to secure. Separate certificates must be produced for lamps, scrap metal, PCB ballast and plastics.
- .9 The Contractor will be held financially responsible for any lost incentives as a result of failure to produce proof of lamp, ballast and metal recycling certificates
- .10 Notify COH's Project Manager, at the commencement of the project with the intended recycling methodology to be employed.
- .11 Substantial Performance will not be recognized prior to receipt of adequate recycling certificates and documentation.

## 1.4 LAMP RECYCLING

- .1 Recycle all mercury containing lamps through an approved company registered to provide hazardous material recycling in the Province of Ontario. This includes any fluorescent, compact fluorescent and High-Intensity-Discharge lamps.
- .2 Provide Certificate indicating project, location and quantity of material recycled from recycling Company. Certificate to comply with the requirements of the SaveONenergy utility rebate program.
- .3 Protect, store and transport lamps in such a way that they shall not break.
- .4 Disposal of the fluorescent lamps in this scope shall include recapturing the mercury content of the bulb.

01357 HAZARDOUS MATERIALS

## 1.1 PCB CONTAINING WASTE

- .1 If PCB ballasts are encountered during the implementation of this project, notify the COH's Project Manager and Consultant immediately.
- .2 Source and supply approved containers for PCB ballasts or capacitors storage and store ballast containing PCB's in designated containers or room as approved by COH.
- .3 Ensure containers are sealed and stored safely for disposal.
- .4 All containers or drums to be separately inventoried for the number of ballasts or capacitors contained therein and the site from which they came from. Drums or containers to be labeled with the Inventory and site information affixed to the drum.
- .5 The COH shall coordinate and pay for the supply, handling and disposal of the filled containers through the CCN and CO process. As any potential quantity is unknown, do not include any costs relating to this item in your bid response.
- .6 All PCB handling and disposal work to comply with Ministry of the Environment regulations as well as COH requirements.

## 1.2 ASBESTOS

- .1 It is believed that asbestos containing materials (ACM's) shall not be impacted through the course of this Work
- .2 If however, materials suspected as containing asbestos are encountered, stop Work in the area immediately and notify the COH's Project Manager and Consultant for direction.
- .3 The COH shall provide removal and disposal of ACM that if found on the site.

## 1.3 MERCURY

- .1 Mercury is a known hazardous material that is present in fluorescent, HID and CFL lamps, which will be handled during the Work
- .2 The Contractor will provide the City with a procedure for safe handling and cleanup plan in case of lamp breakage
- .3 The contractor shall safely dispose of all mercury containing lamps as part of the Work and provide certificates of disposal by an approved recycling agent in Ontario.

01410 REGULATORY REQUIREMENTS

## 1.1 PERMITS

- .1 The Work shall conform to the latest standards and codes listed in the Ontario Electrical Code, National Electrical Code and all applicable provincial and municipal codes as of the date of this project in case of conflict or discrepancy, the most stringent requirement shall apply.
- .2 The Contractor shall comply with all WSIB regulations as they apply to the Work of this Contract.
- .3 Contractor shall apply for and obtain all required Provincial licenses as necessary.
- .4 Contractor shall apply for ESA (Electrical Safety Authority) permit before any Work is started. The requirement for special 'Retrofitted Luminaires Application' permit may be required for retrofitted fixtures requiring internal modifications, where applicable.
- .5 Pay all fees and obtain all permits. Provide authorities with plans and information for acceptance certificates. Provide inspection certificates as evidence that Work conforms to requirements of jurisdiction having authority.

01520 CONSTRUCTION FACILITIES

## 1.1 PROCEDURES

- .1 Provide or rent (at Contractor's expense) manlifts, ramps, ladders, work platforms, and all other temporary services required to execute the Work.
- .2 Coordinate parking with COH's project manager. Designated parking will be provided as well as locations for storage bins as required.
- .3 Contractor shall be permitted to use designated washrooms in COH's facilities. Contractor shall keep facilities clean.
- .4 Contractor shall be permitted to store materials on site subject to the use and availability of the space.
- .5 Notify the COH of intended interruption of services, obtain requisite permission.
- .6 Give 48 hours' notice related to each necessary interruption of any mechanical or electrical service throughout the course of the Work. Keep duration of these interruptions to a minimum.
- .7 All construction Work at all locations and at all times shall be delineated from COH's employee traffic using pylons, construction tape, and signage.
- .8 It shall be Contractor's responsibility to remove notices as soon as Work in the respective areas has been completed.

01740 CLEANING

## 1.1 REQUIREMENTS

- .1 Store waste in covered metal containers.
- .2 Prevent accumulations of wastes which create hazardous conditions.
- .3 Remove waste from site at regularly scheduled times.
- .4 Deposit waste material in containers at end of each working day.
- .5 Remove waste products and debris and leave Work areas clean.
- .6 Clean any areas to pre-condition if they have been soiled due to construction.
- .7 Contractor shall conduct an inspection of each area of Work and notify COH Project Manager and Consultant that final cleaning has been performed prior to Certificate of Completion is issued.
- .8 All Work and activities shall be performed in accordance with the Occupational Health and Safety Act, RSO Chapter 0.1 as amended.



01770 CLOSEOUT PROCEDURES

## 1.1 INSPECTION

- .1 Contractor shall conduct an inspection of Work to identify deficiencies and defects, and repair as required.
- .2 Request COH Project Manager and Consultant's final inspection.
- .3 COH Project Manager and Consultant's Inspection. COH Project Manager and Consultant and Contractor shall perform inspection of Work to identify deficiencies. Contractor shall correct Work accordingly.
- .4 Final Inspection. When items noted in deficiency report are completed, Contractor shall request final inspection. If Work is deemed incomplete by COH Project Manager and Consultant, the Contractor shall complete outstanding items and request re-inspection.

## 1.2 SUBMITTALS

- .1 Contractor shall provide updated installation schedule indicating any changes in quantity or retrofit, and the reason for change.
- .2 Contractor shall provide marked up layout drawings noting any change in quantity or layout, and the reason for the change.
- .3 Provide Electrical Safety Authority Certificate of Inspection(s) showing final certificate of acceptance with all defects corrected.
- .4 Furnish all related certificates/inspections to the COH Project Manager and Consultant at completion of the Contract as evidence of a complete and proper installation.

## 1.3 PHOTOGRAPHIC RECORDS

- .1 Contractor shall provide photographic records of each Luminaire and Lamp product installed as part of the Work. Photos must be a clear legible close-up of the name plate for each Lamp and Luminaire installed. Photos must be supplied to the City of Hamilton and the Consultant in full resolution in .JPG format.
- .2 Contractor shall provide Wide Area Photographs of the installed fixtures and lamps by documenting the Work with wide area shots, showing the general area and volume of fixtures or lamps installed. Wide Area photographs shall be collected for each retrofit type at each project site. Photos must be supplied to the COH and the Consultant in full resolution in .JPG format.
- .3 Photos Shall be collected as part of the installation Work to ensure access to name plates and original files shared with the COH and Consultant upon request.
- .4 Contractor shall collect additional photographs required to verify installation methods, site conditions, existing fixture types, and other details relevant to the project of deemed necessary by the COH Project Manager or Consultant.

#### 1.4 OPERATING INSTRUCTIONS

- .1 Provide operating instructions for each system and principal item of equipment supplied in this Work. Operating instructions shall include following:
  - .1 Wiring diagrams, control diagrams, and control sequence for each principal system and item of equipment.
  - .2 Safety precautions.
  - .3 Procedures shall be followed in event of equipment failure.
  - .4 Other items of instruction as recommended by manufacturer of each system or item of equipment.
  - .5 Installation methods shall be in accordance with CSA 22.1.
- .2 Operating instructions shall be provided to the COH Project Manager and Consultant for inclusion in the operations and maintenance manuals.

#### 1.5 OPERATION AND MAINTENANCE MANUALS

- .1 The Operation and Maintenance Manuals will include the following at a minimum: A table detailing all relevant parties and contact details for the project, a warranty statement with contact information, a complete set of product cut sheets, operating instructions, a complete as-built drawing, an updated as-built line-by-line record of the project, proof of ESA inspection, and certificates of recycling for lamps, scrap metal and any other project waste. The manual shall also include a list of spare materials turned over to the owner, with a signature showing proof of delivery and inspection by the owner's representative.
- .2 The Contractor shall deliver 3 hard-copy binders of the project Operation and Maintenance Manuals. Complete manuals will include a colour copy of all required documentation and a soft copy of the same document in PDF format on a USB flash drive, to be included in the manual binder.
- .3 A soft copy of the document must be submitted to the Consultant and the COH Project Manager for approval prior to printing.
- .4 Spare parts: detailed in Appendix A are the requirements for spare stock. Contractor to include these requirements within be tendered price as shown. Spare parts will be left in a designated location on site, to be determined by the COH Project Manager at the conclusion of the project.
- .5 Contractor shall provide one set of clearly marked and legible line-by-line list and one 'redline' drawing set which will comprise the "as built" records for the project. These documents must accurately detail all changes made during the installation of the project. Submit with one full set of material shop drawings (bound separately) as part of the required close out documents.

01900 WARRANTIES

## 1.1 SCHEDULE OF WARRANTIES

- .1 Contractor shall warrant workmanship for One (1) year from the date of substantial completion.
- .2 Contractor shall register and extend manufacturer's warranty on new LED light fixtures, components and lighting controls for performance and replacement at no cost for a period of One (1) year in the event of malfunction or failure. This warranty shall include all labour, parts and components to service all installed items and return lighting to a fully operational condition for a period of one (1) year.
- .3 The Contractor shall specify one method for reporting new warranty claims by either toll-free phone number, online reporting form, or email.
- .4 The Contractor shall respond to all warranty claims within 7 days of a new request.
- .5 Warranty period shall start from date of "Certificate of Substantial Performance" issued by the COH Project Manager and Consultant.

**DIVISION 26**26000 ELECTRICAL GENERAL REQUIREMENTS

## 1.1 QUALIFICATIONS

- .1 Electrical Work shall be carried out by a Licenced Electrical Contractor (LEC) in the Province of Ontario, operating under ESA guidelines, licencing and permits. All Work will be completed by qualified, licensed electricians.
- .2 Employees registered in provincial apprentice program are permitted, under direct supervision of qualified licensed electrician, to perform specific tasks.
- .3 Permitted activities for apprentices are to be determined based on training level attained and demonstration of ability to perform specific duties as directed by the supervising Master Electrician.

## 1.2 WORK INCLUDED

- .1 Perform all electrical Work associated with the conversion of existing lighting systems to energy efficient technologies.
- .2 Comply with Division 1.
- .3 Comply with Warranties Section 01900.
- .4 Work shall include all labour, materials, tools, equipment, permits, profits and overhead costs required for a complete and working installation.
- .5 Provide for the supply and installation of samples and mock-ups as necessary to verify performance of any equivalent products.

## 1.3 SHOP DRAWINGS

- .1 Upon receipt of written notice to proceed, submit shop drawings for items specified in sections of division 16 to the COH Project Manager for approval.
- .2 Shop drawings shall be reviewed by COH Project Manager and Consultant for compliance with material specifications as outlined in Division 16.
- .3 The review is for the sole purpose of ascertaining conformance with the general design concept and does not mean approval of the design details inherent in the shop drawings, responsibility for which shall remain with the Contractor. Such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of their responsibility for meeting all requirements of the Contract Documents.
- .4 Contractor shall receive written review of shop drawings from Consultant *before* orders placed with suppliers.
- .5 Failure of Contractor to receive written approval of project material may result in material being rejected.

#### 1.4 PRE-CONSTRUCTION SUBMITTALS

- .1 Upon receipt of Purchase Order from COH, the Contractor shall submit the following summary information to the COH Project Manager:
  - .1 A list of all lighting equipment planned for use at that site complete with make and model number, and matching manufacturer cut sheets in Adobe .PDF format. Including but not limited to: lamps, luminaires, drivers, ballasts, control components, and mounting components
  - .2 Luminaire shop drawings will include the following details as a minimum: Lumen output, wattage, CCT, CRI, rated life (L70), polar candela distribution, luminaire light distribution type, transient analysis, THD, IP rating, manufacturer warranty, lens material, housing material, heatsink material, driver type, proof of safety mark.
  - .3 If requested, the Contractor shall submit relevant IES testing files, reports and documentation for the specified luminaire including: IES photometry files in .IES format, IES LM-79-08 test report, IES TM-21-11 report.
  - .4 A Budget Breakdown showing the separate costs for materials, labour, permits and recycling costs per site.

#### 1.5 EQUIVALENTS

- .1 Total contract price shall be based on representative product as listed in Section 26500 of this specification.
- .2 Where a specifications state, "Or Approved Equivalent", COH reserves the right to accept or reject any equivalent product(s) at its sole discretion.
- .3 It is the Contractors' responsibility, not COH's to review the submittals to assure that product meet the required performance prior to submitting equivalent products.
- .4 Proposed Equivalent products submitted for approval must clearly identify make and model proposed with completed order logic provided on the specification document. COH will not be responsible for reviewing and selecting proposed products from a general specification or catalogue page. Equivalents submitted without clear order logic and options shown will not be responded to. Proposed Equivalents submitted that do not meet performance requirements as detailed specifically in this section will not be considered.
- .5 Proposed Equivalent Products submitted for approval **MUST** meet or exceed performance requirements and include Screen Capture in .jpg or .png format, of the exact part number as it appears on:
  - .1 DLC Qualified Product Listing website  
(<https://www.designlights.org/QPL>)  
Or,
  - .2 Energy Star Product List website  
(<https://www.energystar.gov/products>)

- .6 Proposed Equivalent Products submitted for approval MUST meet or exceed Representative Product detailed in this Specification including performance requirements, matching photometric performance and distribution.
- .7 Proposed Equivalent Products submitted for approval are to be comparable with Representative Products in terms of Lumen Output, Efficiency, Voltage, L70 rating, CRI, CCT. Products must meet or exceed Representative Product for all criteria to be considered as equivalent.
- .8 COH may require additional information during the review and evaluation of proposed equivalents including Warranty Statements, Samples, References, and IES Testing Data (LM79, LM-80 and TM21 test results)
- .9 If an equivalent product is deemed, in the opinion of COH, to be an acceptable substitute, prior to bid closing an addendum will be issued advising respondents of this approval prior to Tender closing.
- .10 If no further addendum is issued before tender closing, the product submitted for consideration had not been approved.
- .11 Equivalent product shall meet performance requirements of representative product in all respects. Photometric files may be requested to prove performance of product submitted for consideration.
- .12 Where warranty requirements are conditional on lamp and ballast being the same manufacturer, COH reserves the right to select final product based on this matching requirement.
- .13 Indicate when new LED luminaires are Energy Star or DLC certified for their respective and intended application.
- .14 No Equivalent shall be accepted unless notified in writing by COH.
- .15 Equivalents submitted must be accompanied by a cover sheet listing the following criteria:
- Retrofit Code from Specification including Order Logic
  - Model selected and highlighted if multiple models on product data sheet
  - Voltage of product
  - LED colour
  - Input Wattage
  - Listing ULc or CSA
  - CRI rating
  - DLC rating
  - Energy Star Rating
  - Lumen rating
- .16 Mock-up testing may be required to prove performance and compatibility of equivalent products with dimming components and site specific applications. Contractor shall allow for sufficient time, labour, materials and equipment to facilitate on-site testing when presenting equivalent products.

**1.6 CLEANING**

- .1 Contractor shall clean the interior surfaces of all light fixtures within the Project where a retrofit is specified.
- .2 Contractor shall remove dust from devices, terminals, and vacuum the inside of control panels and enclosures.
- .3 Touch up surfaces of shop-painted equipment scratched or marred during shipment or installation, to match original paint.
- .4 Contractor shall clean the diffuser or lens with approved acrylic cleaner for this purpose with a lint free cloth; ensure lens is clear with no streaks after cleaning.

**1.7 WORKMANSHIP**

- .1 Electrical works shall be completed by a licensed electrician or apprentice under the supervision of a licensed electrician.
- .2 All Work, including subtrades shall be performed by experienced tradesperson in the relevant field and familiar with relevant codes, methods, and materials.
- .3 The Consultant shall inspect the work at regular intervals. Work deemed by the Consultant to be of an inferior, unprofessional or unsafe condition shall be corrected by the Contractor at no additional cost to the COH.

**1.8 PATCHING & REMEDIAL WORK**

- .1 Submit written request in advance of cutting or alteration of exposed elements.
- .2 Do not include any cost or allowance for touch up painting on ceilings and walls unless explicitly requested in the specifications.
- .3 Notify COH of any immediate concern of patching or remedial Work that may be necessary, so corrective action may be planned by COH or incorporated into future plans.

**1.9 LENS & LAMP HOLDER (SOCKET) REPLACEMENT**

- .1 Notify of any existing fixture where lenses or lamp holders are broken, cracked or missing.
- .2 COH Project Manager and Consultant shall notify by method of change order any repair or replacement of lenses or other replacement part in writing to proceed.

**26050 BASIC MATERIALS & METHODS****1.1 WORK INCLUDED**

- .1 All new fixture installations and fixture retrofits shall comply with all codes and standards described in Division 1.

**1.2 QUALITY ASSURANCE**

- .1 All new light fixture installation shall be as per manufacturer's recommended installation procedures.
- .2 All components, including wiring components shall be CSA and/or ULC approved listed and labeled on the device
- .3 Carry out Work using qualified licensed workers or apprentices in accordance with provincial act respecting manpower vocational training and qualification.
- .4 Installations shall be to the satisfaction of the Consultant and the COH Project Manager.

**1.3 CONDUIT**

- .1 All conduit shall be provided by the Contractor.
- .2 Conduit shall be used in all open spaces in parallel evenly spaced runs.
- .3 Conduit shall be run parallel or perpendicular to building lines.
- .4 Provide a separate ground conductor in all EMT conduits.
- .5 Support and secure surface mounted conduit in accordance with the "Canadian Electrical Code" requirements.
- .6 Colour code conduits, boxes and metallic sheathe cables with plastic tape or paint at points where conduit or cable enters wall, ceiling, or floor. For conduits or cables up to 250V use yellow on prime lines, and for lines up to 600V use Yellow on Prime lines, and green on auxiliary lines.
- .7 In wet areas any new conductors shall be installed in PVC conduit or shall be liquid tight type cable. All boxes shall be PVC and any strain relief or connectors shall be suitable for wet locations

**1.4 WIRING**

- .1 Where new fixtures are being installed, all new line voltage wiring shall be enclosed in conduits to match the existing adjacent conduits, connectors and enclosures.
- .2 Low voltage wiring may be open air above ceiling plenum, so long as it is sufficiently rated and in keeping with ESA and JHA regulations.
- .3 All redundant light fixtures and related wiring, conduits and enclosures to be removed and made safe.



### 1.5 BALLAST DISCONNECTS

- .1 Shall be supplied by the Contractor.
- .2 All ballasts shall have a local means of disconnect by an approved manufacturer regardless of primary supply voltage. All fluorescent ballasts shall have a local disconnect.

### 1.6 VOLTAGE

- .1 Shall be verified by Contractor to site conditions prior to ordering material.
- .2 Although every effort has been made to verify the existing voltage, it is the responsibility of the Contractor to confirm the voltage at Work area before the purchasing of materials.

### 1.7 DELETION

- .1 Include deletion of light fixture(s) and all associated conduit, flexible conduit, hangers, and wire back to nearest junction box.
- .2 Circuit shall be made electrically safe.
- .3 Install cover plate shall match existing conditions.

### 1.8 FIXTURE INSTALLATION AND MOUNTING

- .1 Locate and install luminaires at existing fixture locations or as indicated in redesign drawings.
- .2 Contractor shall review site conditions and supply mounting adaptor to match existing site requirements. Install new luminaires as per manufacturer's instructions.
- .3 All new fixtures shall be mounted in the same orientation. Mount new luminaires to ensure all within a given area parallel to one another.
- .4 Contractor shall supply all mounting materials and equipment.
- .5 Contractor to include for all mounting options, including where exterior lighting is specified, to adapt new lighting to existing conditions with manufacturer supplied options.
- .6 Chain mount. Where chain mount specified, use steel double-loop working load limit 90lbs. BEN-MOR 51059 #3 (Zinc) double loop chain steel *or* equivalent.
- .7 Fixtures shall be mounted using manufacturer recommended stems, clips or brackets.
- .8 Install safety chain for all fixtures installed in T-bar ceiling as part of the project.
- .9 Install galvanized steel safety cable or chain for all interior luminaires.
- .10 To ensure the vapour fastness of certain moisture tight luminaires and wet rated fixture bodies shall not be perforated using screws, bolts or other mounting hardware as a method of surface mounting.

- .11 All luminaires shall be level, with mounting cables plumb and neatly finished, free of frayed ends.
- .12 Contractor shall review site conditions and supply mounting adaptor to match existing site requirements. Install as per manufacturer's instructions.
- .13 Installation of luminaires shall follow building lines. Fixtures shall be parallel or perpendicular to building grid lines.
- .14 Where fixtures are mounted to the building façade, caulk and fully seal the fixture installation using professional grade sealant to prevent water penetration at fixture-wall seam.

26500 LIGHTING

1.1 PRODUCT ELECTRICAL SPECIFICATIONS

- .1 All new lamps, ballasts and new light fixtures shall be approved for use in Canada and bear a listing mark from one or more of the following approval bodies: CSA, ETL, ULc, cULus.
- .2 All LED Lamps shall have a current listing on the DLC (Design Lights Consortium) or Energy Star Qualified Product Listing.
- .3 All LED Fixtures shall have a current listing on the DLC Qualified Product List or Energy Star Listing.
- .4 All LED T8 lamps and ballast shall be compatible with one another for all lamp sizes and ballast types. Respective manufacturer's compatibility reports must be adhered to with proper lamp operation guaranteed. Proof of compatibility may be requested by the COH's Project Manager and Consultant.
- .5 Refer to specific product code itemized listings for further details.

## 1.2 LINEAR FLUORESCENT RETROFIT MEASURES

### .1 T8 BALLASTS

- .1 Electronic instant-start ballast
- .2 Application: 1, 2, 3 or 4 – Lamp per ballast
- .3 Application: 4ft and 2ft T8-LED lamps (UL Type A)
- .4 Universal Voltage 120V-277V, or 347V
- .5 0.88 ballast factor
- .6 High Efficiency, CEE listed
- .7 Small can enclosure
- .8 THD, <10%
- .9 Compliant, NEMA premium program
- .10 120V Representative Products:
  - 1-Lamp: ADVANCE (Signify): ICN-1P32-SC@120V
  - 2-Lamp: LEDVANCE (SYLVANIA) LHE2X32T8UNVISLSCB;
  - 4-Lamp: LEDVANCE (SYLVANIA) LHE4X32T8UNVISLSCB;
- .11 347V Representative Product:
  - 1-Lamp: GE (Current): GE232MAXP347-N 347
  - 2-Lamp: LEDVANCE (SYLVANIA) LHE2X32T8347VISNSCB
  - 4-Lamp: LEDVANCE (SYLVANIA) LHE4X32T8347VISNSCB;
- .12 Or Approved Equivalent, from Current (GE) or Signify (Advance/Philips). For other Equivalent product manufacturers Bidders must submit data showing performance and features equal to representative product as detailed in Sec. 26000, item 1.5 Equivalents

### .2 T8 LED LAMPS

- .1 LED T8 replacement lamps shall be compatible with instant start electronic T8 ballasts
- .2 LED T8 replacement lamps shall have a rated life (L<sub>70</sub> Rating) of 50,000 hours minimum.
- .3 Lamp shall be 4100°K (± 100°K) CCT and shall have a CRI of 82 or more unless otherwise stated.
- .4 Lamps shall be capable of dimming.
- .5 Lamps shall be DLC listed
- .6 No UV emission
- .7 THD <20%
- .8 Power Factor 0.90
- .9 4ft T8 LED Lamps shall be rated for no more than 12 W, and shall deliver 2100 lumens or more when operated at normal ballast factor (0.88)
- .10 2ft T8 LED Lamps shall be rated for no more than 9 W, and shall deliver 1200 lumens or more when operated at normal ballast factor (0.88)
- .11 T8-U6 LED Lamps shall be rated for no more than 13 W, and shall deliver 2100 lumens or more when operated at normal ballast factor (0.88)
- .12 4ft T8LED Representative Models: LEDVANCE / LED12T8L48FGDIM841SUBG9 Or approved equivalent lamp(s), from GE (Current by GE) or PHILIPS (Signify). For other equivalent product manufacturers Bidders must submit data showing performance and features equal to representative product as detailed in Sec. 16010, item 1.6 Equivalents
- .13 2ft T8LED Representative Models: LEDVANCE / LED8T8L24FG841SUBG9 Or approved equivalent lamp(s), from GE (Current by GE) or PHILIPS (Signify). For other equivalent product manufacturers Bidders must submit data showing performance and features equal to representative product as detailed in Sec. 26000, item 1.5 Equivalents

- 
- .14 T8-U6 LED Representative Models: LEDVANCE / LED13T8/U/FP/DIM/841/SUB/G8  
Or approved equivalent lamp(s), from GE (Current by GE) or PHILIPS (Signify). For other equivalent product manufacturers Bidders must submit data showing performance and features equal to representative product as detailed in Sec. 26000, item 1.5 Equivalents
  
  - .3 T5 BALLASTS
    - .1 Electronic programmed-start ballast
    - .2 Application: 2 – Lamp per ballast
    - .3 Application: 4ft and 2ft T5-LED lamps (UL Type A)
    - .4 Universal Voltage 347V
    - .5 1.00 ballast factor
    - .6 High Efficiency, CEE listed
    - .7 Small can enclosure
    - .8 THD, <10%
    - .9 Compliant, NEMA premium program
    - .10 347V Representative Product:  
2-Lamp:LEDVANCE (SYLVANIA) QTP2X28T5/347 PS-SC;
    - .11 Or Approved Equivalent, from Current (GE) or Signify (Advance/Philips). For other Equivalent product manufacturers Bidders must submit data showing performance and features equal to representative product as detailed in Sec. 26000, item 1.5 Equivalents
  
  - .4 T5 LED LAMPS
    - .1 LED T5 replacement lamps shall be compatible with the supplied Programmed Start ballasts
    - .2 LED T5 replacement lamps shall have a rated life (L<sub>70</sub> Rating) of 50,000 hours minimum.
    - .3 Lamp shall be 4100°K (± 100°K) CCT and shall have a CRI of 80 or more unless otherwise stated.
    - .4 Lamps shall be capable of dimming.
    - .5 Lamps shall be DLC listed
    - .6 No UV emission
    - .7 THD <20%
    - .8 Power Factor 0.90
    - .9 4ft T8 LED Lamps shall be rated for no more than 14 W, and shall deliver 2100 lumens or more when operated at normal ballast factor (0.88)
    - .10 4ft T8LED Representative Models:  
LEDVANCE / LED13T5HE/L48/FG/841/SUB
    - .13 Or approved equivalent lamp(s), from GE (Current by GE) or PHILIPS (Signify). For other equivalent product manufacturers Bidders must submit data showing performance and features equal to representative product as detailed in Sec. 26000, item 1.5 Equivalents
  
  - .5 T8 LED LIGHTING RETROFIT TYPES:
    - .1 The following retrofit measures use T8 LED lamps and T8 120V ballasts as defined above in the following combinations:  
  
1211-T8LED : 1 pcs 2ft T8 LED Lamps and 1 pcs 1/2-Lamp NBF ballast
-

1411-T8LED : 1 pcs 4ft T8 LED Lamps and 1 pcs 1/2-Lamp NBF ballast  
 1421-T8LED : 2 pcs 4ft T8 LED Lamps and 1 pcs 2-Lamp NBF ballast  
 1441-T8LED : 4 pcs 4ft T8 LED Lamps and 1 pcs 4-Lamp NBF ballast  
 1821-T-T8LED : 2 pcs 4ft T8 LED Lamps and 1 pcs 2-Lamp NBF ballast  
 1841-T-T8LED : 4 pcs 4ft T8 LED Lamps and 1 pcs 4-Lamp NBF ballast  
 2221-T8LED : 2 pcs 2ft T8 LED Lamps and 1 pcs 2-Lamp NBF ballast  
 2221-T8U6-LED: 2 pcs T8-U6 LED Lamps and 1 pcs 2-Lamp NBF ballast  
 2421-T8LED 2 pcs 4ft T8 LED Lamps and 1 pcs 2-Lamp NBF ballast  
 2421-T8LED-DELAMP: 2 pcs 4ft T8 LED Lamps and 1 pcs 2-Lamp NBF ballast,  
 remove additional lamp-holders and wire to convert fixture to 2-Lamp configuration  
 2462-T8LED: 6 pcs 4ft T8 LED Lamps and 1 pcs 4-Lamp NBF ballast and 1 pcs 2-Lamp NBF ballast

- .2 The following retrofit measures use T8 LED lamps and T8 347V ballasts as defined above in the following combinations:

1421-T8LED-347V: 2 pcs 4ft T8 LED Lamps and 1 pcs 2-Lamp NBF ballast, 347V  
 1821-T-T8LED-347V: 2 pcs 4ft T8 LED Lamps and 1 pcs 2-Lamp NBF ballast, 347V  
 1411-T8LED-347V: 1 pcs 4ft T8 LED Lamps and 1 pcs 1/2-Lamp NBF ballast, 347V  
 1211-T8LED-347V: 1 pcs 2ft T8 LED Lamps and 1 pcs 1/2-Lamp NBF ballast, 347V  
 2421-T8LED-347V: 2 pcs 4ft T8 LED Lamps and 1 pcs 2-Lamp NBF ballast, 347V  
 2421-T8LED-347V-DELAMP: 2 pcs 4ft T8 LED Lamps and 1 pcs 2-Lamp NBF, 347V ballast, remove additional lamp-holders and wire to convert fixture to 2-Lamp configuration

- .3 T8 Lamps and ballasts shall be of the same manufacturer, or shall be approved for use in combination by the LED lamp manufacturer

.6 T5 LED LIGHTING RETROFIT TYPES:

- .1 The following retrofit measures use T5 LED lamps and T5 347V ballasts as defined above in the following combinations:

TYPE : 2421-T5LED-347V : 2 pcs T5 LED Lamps and 1 pc 2-Lamp T5 Ballast

- .2 T5 Lamps and ballasts shall be of the same manufacturer, or shall be approved for use in combination by the LED lamp manufacturer

1.3 LED LAMPS

.1 LED-A19

- .1 Medium Base, A-19 Type Lamp
- .2 Rated life ( $L_{70}$  Rating) of 25,000 hours
- .3 Lamp shall be 3000°K ( $\pm 100^\circ$ K) CCT
- .4 CRI of 90 or more
- .5 Lamps shall be Energy Star listed
- .6 UL listed or equal
- .7 No UV emission
- .8 Representative product, LEDVANCE / 78112 LED10A19/DIM/O/930/U/B
- .9 Or approved equivalent fixtures(s), from Current by GE or SIGNIFY. For other Equivalent product manufacturers Bidders must submit data showing performance and features equal to representative product as detailed in Sec. 26000, item 1.5 Equivalents

- 
- .1 LED-MHRL45-347
    - .1 Medium Base, ED17 Type Lamp
    - .2 Convert fixture to appropriate configuration for lamp
    - .3 Provide retrofitted luminaire inspection where necessary
    - .4 Re-label luminaire to indicate any alterations to operation
    - .5 Rated life ( $L_{70}$  Rating) of 50,000 hours
    - .6 Lamp shall be 4000°K ( $\pm 100^\circ\text{K}$ ) CCT
    - .7 CRI of 70 or more
    - .8 UL listed or equal
    - .9 No UV emission
    - .10 Representative product, GE-CURRENT / LED/LC/ED17/7SC/120-347
    - .11 Or approved equivalent fixtures(s), from Ledvance or SIGNIFY. For other Equivalent product manufacturers Bidders must submit data showing performance and features equal to representative product as detailed in Sec. 26000, item 1.5 Equivalents

#### 1.4 NEW FIXTURE MEASURES

- .1 NLED-PO6
  - .1 New recessed downlight
  - .2 Suitable for retrofit of 6" downlights
  - .3 Suitable for installation in wet areas
  - .4 Lens: opal, acrylic
  - .5 Trim: white
  - .6 Wattage: 13W
  - .7 Lumens: 1000 Lm
  - .8 CCT: 4000°K
  - .9 CRI: 80 minimum
  - .10 Dimmable: 0-10V dimming
  - .11 Beam angle: 80°
  - .12 cULus listed
  - .13 Energy Star listed
  - .14 Voltage, 120V
  - .15 Representative product, CURRENT GE / LRX-R6-10-8-40MD
  - .16 Or approved equivalent fixtures(s), from LEDVANCE-SYLVANIA, ACUITY or SIGNIFY. For other Equivalent product manufacturers Bidders must submit data showing performance and features equal to representative product as detailed in Sec. 26000, item 1.5 Equivalents
  
- .2 NLED-PO8
  - .1 New recessed downlight
  - .2 Suitable for retrofit of 8" downlights
  - .3 Suitable for installation in wet areas
  - .4 Lens: opal, acrylic
  - .5 Trim: white
  - .6 Wattage: 13W
  - .7 Lumens: 1000 Lm
  - .8 CCT: 4000°K

- 
- .9 CRI: 80 minimum
  - .10 Dimmable: 0-10V dimming
  - .11 Beam angle: 80°
  - .12 cULus listed
  - .13 Energy Star listed
  - .14 Voltage, 120V
  - .15 Representative product, CURRENT GE / LRX-R8-10-8-40MD
  - .16 Or approved equivalent fixtures(s), from LEDVANCE-SYLVANIA, ACUITY or SIGNIFY. For other Equivalent product manufacturers Bidders must submit data showing performance and features equal to representative product as detailed in Sec. 26000, item 1.5 Equivalents
- .3 NLED-PO10
- .1 New 8" recessed downlight with 10" Trim Extension Ring
  - .2 Suitable for retrofit of 10" downlight cutout
  - .3 Suitable for installation in wet areas
  - .4 Lens: opal, acrylic
  - .5 Trim: white
  - .6 Wattage: 13W
  - .7 Lumens: 1000 Lm
  - .8 CCT: 4000°K
  - .9 CRI: 80 minimum
  - .10 Dimmable: 0-10V dimming
  - .11 Beam angle: 80°
  - .12 cULus listed
  - .13 Energy Star listed
  - .14 Voltage, 120V
  - .15 Representative product, CURRENT GE / LRX-R8-10-8-40MD, complete with 10" Trim extension ring.
  - .16 Or approved equivalent fixtures(s), from LEDVANCE-SYLVANIA, ACUITY or SIGNIFY. For other Equivalent product manufacturers Bidders must submit data showing performance and features equal to representative product as detailed in Sec. 26000, item 1.5 Equivalents
- .4 NLED-VAP30
- .1 New 4' LED vapour tight fixture
  - .2 Smooth frosted acrylic lens
  - .3 Mount to match existing
  - .4 Add suitable 'c-channel' backing structure for secure mounting, plumb and flush where required
  - .5 Mounting shall avoid existing conduits and obstructions
  - .6 IP 65+ rated
  - .7 Nominal fixture dimensions: 1' x 4' x 6" (High)
  - .8 Housing: fiberglass
  - .9 Wattage: <35W
  - .10 Lumens: >4200 Lm
  - .11 CCT: 4000°K
  - .12 CRI: 80 minimum
  - .13 Dimmable: 0-10V dimming
  - .14 cULus Listed
  - .15 DLC Listed
  - .16 Voltage, 120V
  - .17 Cord: white cab-tire with non-metallic watertight strain relief connector
-



- 
- .18 Representative product, BJ TAKE BLV-4'-4.5L-840-UNV
  - .19 Or approved equivalent, from Current by GE, Acuity or Ledvance (Sylvania) submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalents
- .5 NLED-STR2-20
- .1 New 2' LED strip fixture
  - .2 Frosted acrylic lens
  - .3 Mount with chain or to surface to match existing
  - .4 Nominal fixture dimensions: 1' x 2' x 6" (High)
  - .5 Housing: Steel
  - .6 Wattage: <20W
  - .7 Lumens: >2750 Lm
  - .8 CCT: 4000°K
  - .9 CRI: 80 minimum
  - .10 Dimmable: 0-10V dimming
  - .11 cULus Listed
  - .12 DLC Listed
  - .13 Voltage, 120V
  - .14 Representative product, BJ TAKE BLSP-2'-2.75L-840-UNV
  - .15 Or approved equivalent, from Current by GE, Acuity or Ledvance (Sylvania) submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalents
- .6 NLED-STR4-30
- .1 New 4' LED strip fixture
  - .2 Frosted acrylic lens
  - .3 Mount with chain or to surface to match existing
  - .4 Nominal fixture dimensions: 1' x 4' x 6" (High)
  - .5 Housing: Steel
  - .6 Wattage: <30W
  - .7 Lumens: >3600 Lm
  - .8 CCT: 4000°K
  - .9 CRI: 80 minimum
  - .10 Dimmable: 0-10V dimming
  - .11 cULus Listed
  - .12 DLC Listed
  - .13 Voltage, 120V
  - .14 Representative product, BJ TAKE BLSP-4'-3.5L-840-UNV
  - .15 Or approved equivalent, from Current by GE, Acuity or Ledvance (Sylvania) submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalents
- .7 NLED-STR8-50
- .1 New 8' LED strip fixture
  - .2 Frosted acrylic lens
  - .3 Mount with chain or to surface to match existing
  - .4 Nominal fixture dimensions: 1' x 8' x 6" (High)
  - .5 Housing: Steel
  - .6 Wattage: <52W
  - .7 Lumens: >7500 Lm
  - .8 CCT: 4000°K
-

- 
- .9 CRI: 80 minimum
  - .10 Dimmable: 0-10V dimming
  - .11 cULus Listed
  - .12 DLC Listed
  - .13 Voltage, 120V
  - .14 Representative product, BJ TAKE BLSP-8'-7.0L-840-UNV
  - .15 Or approved equivalent, from Current by GE, Acuity or Ledvance (Sylvania) submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalents
- .8 NLED-STR8-50-347V
- .1 As NLED-STR8-50, but suitable for 347 Volt application
  - .2 Voltage, 347V
  - .3 Representative product, BJ TAKE BLSP-8'-7.0L-840-347
  - .4 Or approved equivalent, from Current by GE, Acuity or Ledvance (Sylvania) submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalents
- .9 NLED-24PNL50-347V
- .1 New 2'x4' LED flat panel fixture
  - .2 Frosted acrylic lens
  - .3 Nominal fixture dimensions: 2' x 4' x 3" (High)
  - .4 Housing: Steel
  - .5 Wattage: <46W
  - .6 Lumens: >5000 Lm
  - .7 CCT: 4000°K
  - .8 CRI: 80 minimum
  - .9 Dimmable: 0-10V dimming
  - .10 cULus Listed
  - .11 DLC Listed
  - .12 Voltage, 120V – 347V
  - .13 Representative product, LEDVANCE / PANELF4A045UNHD84024GWH
  - .14 Or approved equivalent, from Current by GE, Acuity or Signify submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalents
- .10 NLED-22PNL20-347V
- .1 New 2'x2' LED flat panel fixture
  - .2 Frosted acrylic lens
  - .3 Nominal fixture dimensions: 2' x 2' x 3" (High)
  - .4 Housing: Steel
  - .5 Wattage: <46W
  - .6 Lumens: >5000 Lm
  - .7 CCT: 4000°K
  - .8 CRI: 80 minimum
  - .9 Dimmable: 0-10V dimming
  - .10 cULus Listed
  - .11 DLC Listed
  - .12 Voltage, 120V – 347V
  - .13 Representative product, LEDVANCE / PANELF4A035UNHD84022GWH
-

- 
- .14 Or approved equivalent, from Current by GE, Acuity or Signify submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalents
  
  - .11 NLED-RND12
    - .1 New 15" LED flush mount fixture
    - .2 Frosted acrylic lens
    - .3 Nominal fixture dimensions: 15" Diameter x 3" (High)
    - .4 Housing: Steel
    - .5 Wattage: <46W
    - .6 Lumens: >1500Lm
    - .7 CCT: 4000°K
    - .8 CRI: 80 minimum
    - .9 Dimmable: Triac dimming
    - .10 cULus Listed
    - .11 DLC Listed
    - .12 Voltage, 120V
    - .13 Representative product, LEDVANCE / PUFF15R1500ST9SC3M Or approved equivalent, from Current by GE, Acuity or Signify submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalents
  
  - .12 NLED-SCO80
    - .1 New 4' LED Direct-Indirect fixture
    - .2 Complete with Wall mounting accessories
    - .3 Patch and paint wall as required
    - .4 Frosted acrylic lens
    - .5 Nominal fixture dimensions: 48" x 4" wide x 4" high
    - .6 Housing: Steel
    - .7 Wattage: <48W
    - .8 Lumens: >4800Lm
    - .9 CCT: 4000°K
    - .10 CRI: 80 minimum
    - .11 Dimmable: 0-10V dimming
    - .12 cULus Listed
    - .13 DLC Listed
    - .14 Voltage, 120-347V
    - .15 Representative product, LEDVANCE / LNSLOT1A48UNHD8SC148DIWWH Or approved equivalent, from Current by GE, Acuity or Signify submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalents
  
  - .13 NLED-HB150, NLED-HB150-347V
    - .1 New round, mono-point high bay fixture
    - .2 Aluminum housing, painted white
    - .3 Connect fixture to power using factory installed 10ft cab-tire cord, black
    - .4 Where suspended, install new mounting chain from ceiling structure
    - .5 Mounting shall avoid existing conduits and obstructions
    - .6 IP 65+ Rated
    - .7 Nominal fixture dimensions: 15" Diameter by 10" Height
    - .8 Wattage: <150W
    - .9 Lumens: >22,000 Lm
-

- 
- .10 CCT: 4000°K
  - .11 CRI: 80 minimum
  - .12 Dimmable: 0-10V dimming
  - .13 cULus Listed
  - .14 DLC Listed
  - .15 Voltage, 120V - 347V
  - .16 Cord: black cab-tire with non-metallic watertight strain relief connector
  - .17 Representative product, LEDVANCE / UFO5A/S200UNHD8SC7/WH
  - .18 Or approved equivalent from Current by GE, Acuity, or Signify submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalents
- .14 NLED-AL120-T2+OCC
- .1 Remove existing area light fixture and install new LED area light on existing Pole
  - .2 Drill mounting holes in existing pole as required to accommodate new Area Light arm
  - .3 Cast aluminum housing and clear molded lens
  - .4 Bronze Finish
  - .5 Complete with integral photocell
  - .6 Complete with integral Occupancy Sensor.
  - .7 Fixture shall dim to 50% after 15 minutes of no motion
  - .8 Input Wattage: <120W
  - .9 Voltage: 347V
  - .10 Lumens: >15,000
  - .11 Distribution Pattern: IES Type II
  - .12 Life: >200,000 hrs (L<sub>70</sub>)
  - .13 Manufacturer's warranty: 5 Years
  - .14 CRI: >70
  - .15 CCT: 4,000K
  - .16 Listings: cUL for wet Locations , DLC
  - .17 Representative product, Current / Beacon RAR2-320L-110-4K7-2-347-ASQ-DBT-complete with SCP40F) or approved equivalent, submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalents
- .15 NLED-AL120, NLED AL120-347V
- .1 Remove existing area light fixture and install new LED area light on existing pole
  - .2 Provide universal mounting arm and mounting hardware and rework necessary to mount on existing poles.
  - .3 Cast aluminum housing and clear molded lens
  - .4 Bronze finish
  - .5 Complete with integral photocell
  - .6 Input Wattage: Selectable Wattage, set to 120W
  - .7 Voltage: 120V – 347V
  - .8 Lumens: >19,000 @120W
  - .9 Distribution Pattern: IES Type 4 forward throw
  - .10 Life: >100,000 hrs (L<sub>70</sub>)
  - .11 Manufacturer's Warranty: 5 Years
  - .12 CRI: >70
  - .13 CCT: 4,000K
  - .14 CSA listed, Wet Locations
  - .15 IP65 Rated
-

- 
- .16 DLC listed
- .17 Representative product, AREAFLD6AS150UNHDSC2T4BZ  
or approved equivalent, from Current by GE, Acuity, Cooper or Signify. Submit data  
showing performance and features equal to representative product as detailed in  
Section 26000, item 1.5 Equivalents
- .16 NLED-FL100
- .1 Remove existing area light fixture and install new LED flood light at existing mounting  
location
- .2 Provide universal mounting arm and mounting hardware and rework necessary to  
mount on existing surface.
- .3 Cast aluminum housing and clear molded lens
- .4 Bronze finish
- .5 Complete with integral photocell
- .6 Input Wattage: Selectable Wattage, set to 90W
- .7 Voltage: 120V – 347V
- .8 Lumens: >14,000 @90W
- .9 Distribution Pattern: IES Type 4 forward throw
- .10 Life: >100,000 hrs (L<sub>70</sub>)
- .11 Manufacturer's Warranty: 5 Years
- .12 CRI: >70
- .13 CCT: 4,000K
- .14 CSA listed, Wet Locations
- .15 IP65 Rated
- .16 DLC listed
- .17 Representative product, AREAFLD6AS150UNHDSC2T4BZ  
or approved equivalent, from Current by GE, Acuity, Cooper or Signify. Submit data  
showing performance and features equal to representative product as detailed in  
Section 26000, item 1.5 Equivalents
- .17 NLED-AL300-347V
- .1 Remove existing area light fixture and install new LED area light on existing pole
- .2 Provide universal mounting arm and mounting hardware and rework necessary to  
mount on existing poles.
- .3 Cast aluminum housing and clear molded lens
- .4 Bronze finish
- .5 Complete with integral photocell
- .6 Input Wattage: Selectable Wattage, set to 300W
- .7 Voltage: 120V – 347V
- .8 Lumens: >49,000 @300W
- .9 Distribution Pattern: IES Type 4 forward throw
- .10 Life: >100,000 hrs (L<sub>70</sub>)
- .11 Manufacturer's Warranty: 5 Years
- .12 CRI: >70
- .13 CCT: 4,000K
- .14 CSA listed, Wet Locations
- .15 IP65 Rated
- .16 DLC listed
- .17 Representative product, LEDVANCE AREAFLD6AS300UNHDSC2T4BZ  
or approved equivalent, from Current by GE, Acuity, Cooper or Signify. Submit data  
showing performance and features equal to representative product as detailed in  
Section 26000, item 1.5 Equivalents
-

## .18 NLED-WP30

- .1 New low-profile, full cutoff wall pack fixture
- .2 Distribution: IES Type 4
- .3 Adjustable aiming angle
- .4 Body: Bronze
- .5 Construction: cast aluminium
- .6 Voltage: 120V - 347V
- .7 Wattage: <35W
- .8 Lumens: >4200 Lm @30W
- .9 CCT: 4000°K
- .10 CSA listed, Wet Locations
- .11 IP65 Rated
- .12 DLC listed
- .13 Include Integral photocell
- .14 Representative product, LEDVANCE SLMWPKC3A/S030UNHD8SC2/BZ or approved equivalent, from Current by GE, Acuity, Cooper or Signify. Submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalents

## .19 NLED-WP120

- .1 New wall pack fixture
- .2 Distribution: IES Type 4
- .3 Body: Bronze
- .4 Construction: cast aluminium
- .5 Voltage: 120- 347V
- .6 Wattage: <130W
- .7 Lumens: >18000 Lm @120W
- .8 CCT: 4000°K
- .9 CSA listed, Wet Locations
- .10 IP65 Rated
- .11 DLC listed
- .12 Integral photocell
- .13 Representative product, LEDVANCE WALPAKN9AS120UNHD8SC2BZP or approved equivalent, from Current by GE, Acuity, Cooper or Signify. Submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalents

## 1.5 LIGHTING CONTROL MEASURES

## .1 WSS-PIR

- .1 Replace existing 120V wall switch with new wall switch sensor
- .2 PIR technology
- .3 Set for vacancy detection
- .4 15 minute time-out
- .5 Provide new stainless steel decora cover plate
- .6 Field adjustable timeout and sensitivity
- .7 All lights in identified room to be controlled by sensor
- .8 Representative product, Legrand / WS-301

- 
- .9 or approved equivalent, from Acuity, Current by GE or Eaton. Submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalentents
  
  - .2 WSS-US
    - .1 Replace existing 120V wall switch with new wall switch sensor
    - .2 PIR + Ultra-Sonic technology
    - .3 Set for vacancy detection
    - .4 15 minute time-out
    - .5 Provide new stainless steel decora cover plate
    - .6 Field adjustable timeout and sensitivity
    - .7 All lights in identified room to be controlled by sensor
    - .8 Representative product, Legrand / DSW-301
    - .9 or approved equivalent, from Acuity, Current by GE or Eaton. Submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalentents
  
  - .3 OS-PIR
    - .1 Install new ceiling mounted low voltage occupancy sensor
    - .2 PIR technology
    - .3 Set for vacancy detection
    - .4 20 minute time-out
    - .5 Provide 1 new power pack to control lights in room or area indicated on Line-By-Line
    - .6 Confirm Location with Consultant
    - .7 Locate sensor in appropriate location and orientation and provide low voltage plenum rated wiring connection to power pack
    - .8 Field adjustable timeout and sensitivity
    - .9 Suitable for 1200 square foot area
    - .10 Representative product, Legrand / CI-305 Sensor complete with power pack
    - .11 Or approved equivalent, from Acuity, Current by GE or Eaton. Submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalentents
  
  - .4 OS-US
    - .1 Install new ceiling mounted low voltage occupancy sensor
    - .2 PIR + Ultra-Sonic technology
    - .3 Set for vacancy detection
    - .4 20 minute time-out
    - .5 Provide 1 new power pack to control lights in room or area indicated on Line-By-Line
    - .6 Confirm Location with Consultant
    - .7 Locate sensor in appropriate location and orientation and provide low voltage plenum rated wiring connection to power pack
    - .8 Field adjustable timeout and sensitivity
    - .9 Suitable for 1000 square foot area
    - .10 Representative product, Legrand / DT-305 Sensor complete with power pack
    - .11 Or approved equivalent, from Acuity, Current by GE or Eaton. Submit data showing performance and features equal to representative product as detailed in Section 26000, item 1.5 Equivalentents
-

1.6 OTHER ELECTRICAL MEASURES

.1 DELETE

- .1 Remove existing fixture and make safe any electrical conductors, conduits and boxes
- .2 Install cover plate



## **APPENDIX A**

### **INSTALLATION SUMMARY**

Appendix A provides a summary of Work included in the retrofit plan.

Each retrofit Type is described in Section 26500 of this specification

The summaries have been provided for the bidder's convenience and are to be read in concert with the specifications and drawings.

**Appendix A: Installation Summary by Site**

<b>Retrofits</b>	<b>Project Qty</b>
<b>Dundas Yard</b>	<b>216</b>
1411-T8LED	5
1421-T8LED	65
1821-T-T8LED	1
2421-T8LED-DELAMP	59
2462-T8LED	15
Delete	2
LED-A19	1
N/C	45
NLED-FL100	2
NLED-HB150	12
NLED-RND12	1
NLED-STR2-20	3
NLED-WP30	5

<b>Forestry Yard</b>	<b>144</b>
1421-T8LED	53
2421-T8LED	6
2421-T8LED-DELAMP	73
NLED-FL100	2
NLED-STR8-50	10

<b>Glanbrook Municipal</b>	<b>204</b>
1421-T8LED	20
1841-T-T8LED	4
2421-T8LED	9
2421-T8LED-DELAMP	65
N/C	1
NLED-PO6	67
NLED-22PNL20	18
NLED-PO10	9
LED-MHRL45-347	8
NLED-PO8	3

<b>Mountain Transit Centre</b>	<b>280</b>
2221-T8LED	1
2421-T8LED	12
2421-T5LED-347V	22
1421-T8LED-347V	162
1821-T-T8LED-347V	5
NLED-SCO80-347V	7
1411-T8LED-347V	26
1211-T8LED-347V	2
2421-T8LED-347V	33
2421-T8LED-347V-DELAMP	4
LED-MHRL45-347V	6

**Appendix A: Installation Summary by Site**

<b>Retrofits</b>	<b>Project Qty</b>
<b>Rymal Road Yard</b>	<b>349</b>
1211-T8LED	2
1421-T8LED	186
1841-T-T8LED	2
2221-T8U6-LED	12
2421-T8LED-DELAMP	44
2462-T8LED	21
Delete	6
N/C	24
NLED-AL120	10
NLED-FL100	7
NLED-PO6	5
NLED-STR4-20	27
NLED-STR8-50	2
NLED-WP30	1
OS-PIR	2
WSS-US	2

<b>Stoney Creek Yard</b>	<b>313</b>
1411-T8LED	18
1421-T8LED	33
1841-T-T8LED	2
2421-T8LED	45
LED-A19	1
N/C	99
NLED-AL120	10
NLED-PO6	8
NLED-VAP30	11
NLED-WP30	12
2421-T8LED-347V-DELAMP	6
NLED-STR8-50-347V	14
NLED-24PNL50-347V	17
NLED-HB150-347V	21
NLED-AL120-347V	1
NLED-WP120-347V	6
NLED-AL300-347V	9
OS-PIR	2
OS-US	3
WSS-PIR	3

<b>Winona Community Centre</b>	<b>436</b>
1411-T8LED	1
1421-T8LED	221
1441-T8LED	112
1841-T-T8LED	1
2421-T8LED	42
2421-T8LED-DELAMP	34
N/C	24
NLED-AL120	1

## **APPENDIX B**

### **INSTALLATION LINE BY LINE**

Appendix B provides the site line-by-line installation plan.

Each retrofit Type is described in Section 26500 of this specification.

Appendix B has been provided for the bidder's reference and is to be read in concert with the specifications, drawings and floorplans.

Building Name	Voltage	Room No	Room Name	Room Type	Ceiling Height	Ceiling Type	Existing Code	Ex Qty	Ex Lens	Ex Mount	Retrofit Code	Retro Qty	Retro Lens	Retro Mount	Retrofit Control	Retro Control Qty	Note
Dundas Yard	120	100		OFF	8	DRW	1421-T8	1	WRA	SUR	1421-T8LED	1	WRA	SUR			
Dundas Yard	120	100		OFF	8	DRW	1421-T8	3	LOU	REC	1421-T8LED	3	LOU	REC			
Dundas Yard	120	100		OFF	9	TBR	2431-T8	21	LOU	REC	2421-T8LED-DELAMP	21	LOU	REC			
Dundas Yard	120	100		OFF	8	DRW	PO4-LED	2	PO4	REC	N/C	2	PO4	REC			
Dundas Yard	120	101		OFF	9	TBR	2431-T8	3	LOU	REC	2421-T8LED-DELAMP	3	LOU	REC			
Dundas Yard	120	102		OFF	9	TBR	2431-T8	4	LOU	REC	2421-T8LED-DELAMP	4	LOU	REC			
Dundas Yard	120	103		STAIR	12	TBR	2431-T8	3	LOU	REC	2421-T8LED-DELAMP	3	LOU	REC			
Dundas Yard	120	104		COR	9	DRW	1421-T8	1	K12	REC	1421-T8LED	1	K12	REC			
Dundas Yard	120	105		WC	9	TBR	1421-T8	1	K12	REC	1421-T8LED	1	K12	REC			
Dundas Yard	120	106		WC	9	TBR	14-LED-PNL	1	K12	REC	N/C	1	K12	REC			
Dundas Yard	120	107		REC	8	TBR	1421-T8	3	LOU	REC	1421-T8LED	3	LOU	REC			
Dundas Yard	120	108		VES	8	TBR	1421-T8	1	LOU	REC	1421-T8LED	1	LOU	REC			
Dundas Yard	120	110		OFF	8	DRW	1421-T8	2	LOU	REC	1421-T8LED	2	LOU	REC			
Dundas Yard	120	110		OFF	9	TBR	2431-T8	6	LOU	REC	2421-T8LED-DELAMP	6	LOU	REC			
Dundas Yard	120	111		FAID	8	TBR	1421-T8	1	KEY	REC	1421-T8LED	1	K12	REC			
Dundas Yard	120	112		OFF	9	TBR	2431-T8	2	LOU	REC	2421-T8LED-DELAMP	2	LOU	REC			
Dundas Yard	120	113		LUN	9	TBR	2431-T8	5	LOU	REC	2421-T8LED-DELAMP	5	LOU	REC			
Dundas Yard	120	114		OFF	8	TBR	1421-T8	6	BOX	SUR	1421-T8LED	6	BOX	SUR			
Dundas Yard	120	115		STO	8	DRW	1421-T8	4	IND	SUR	1421-T8LED	4	IND	SUR			
Dundas Yard	120	116		WC	8	DRW	CF13X3	1	GLA	WAL	NLED-STR2-20	1	GLA	WAL			
Dundas Yard	120	117		STO	8	WOD	1411-T8	4	IND	SUR	1411-T8LED	4	IND	SUR			
Dundas Yard	120	117		STO	8	WOD	1821-T-T8	1	IND	SUR	1821-T-T8LED	1	IND	SUR			
Dundas Yard	120	118		GAR	20	STL	2462-T8	15	CAG	CHA	2462-T8LED	15	CAG	CHA			
Dundas Yard	120	118		GAR	20	STL	2462-T8LED	2	CAG	CHA	N/C	2	CAG	CHA			
Dundas Yard	120	119		GAR	18	STL	1841-T-T8LED	1	IND	CHA	N/C	1	IND	CHA			
Dundas Yard	120	119		GAR	8	STL	1841-T-T8LED	2	IND	TSK	N/C	1	IND	TSK			
Dundas Yard	120	119		GAR	20	STL	2462-T8LED	17	CAG	CHA	N/C	17	CAG	CHA			
Dundas Yard	120	120		GAR	20	STL	2441-TSHO	12	VAP	CHA	NLED-HB150	12	VAP	CHA			
Dundas Yard	120	120		GAR	9	STL	INC-100	1	JJ	WAL	NLED-WP30	1	JJ	WAL			
Dundas Yard	120	200		COR	9	TBR	1421-T8	1	CUB	WAL	1421-T8LED	1	CUB	WAL			
Dundas Yard	120	200		COR	9	TBR	2431-T8	3	LOU	REC	2421-T8LED-DELAMP	3	LOU	REC			
Dundas Yard	120	201		OFF	9	TBR	2431-T8	4	LOU	REC	2421-T8LED-DELAMP	4	LOU	REC			
Dundas Yard	120	202		MEET	9	TBR	2431-T8	8	LOU	REC	2421-T8LED-DELAMP	8	LOU	REC			
Dundas Yard	120	203		COR	9	TBR	1421-T8	3	CUB	WAL	1421-T8LED	3	CUB	WAL			2 X MISSING LENSES
Dundas Yard	120	204		WC	6	DRW	CF15X2	1	GLA	SUR	NLED-RND12	1	OPL	SUR			
Dundas Yard	120	204		WC	6	DRW	1311-T8	1	STR	WAL	NLED-STR2-20	1	STR	WAL			
Dundas Yard	120	205		WC	7	DRW	1411-T8	1	WRA	SUR	1411-T8LED	1	WRA	SUR			
Dundas Yard	120	205		WC	6	DRW	1311-T8	1	STR	WAL	NLED-STR2-20	1	STR	WAL			
Dundas Yard	120	206		JCL	7	DRW	LED-A19	1	KEY	SUR	N/C	1	KEY	SUR			
Dundas Yard	120	207		CHA	7	TBR	1421-T8	2	K12	REC	1421-T8LED	2	K12	REC			
Dundas Yard	120	208		COR	9	TBR	1421-T8	3	CUB	WAL	1421-T8LED	3	CUB	WAL			2 X MISSING LENSES
Dundas Yard	120	209		STO	7	DRW	1421-T8	1	WRA	SUR	1421-T8LED	1	WRA	SUR			
Dundas Yard	120	210		STO	7	DRW	INC-100	1	KEY	SUR	LED-A19	1	KEY	SUR			
Dundas Yard	120	211		STO	7	DRW	1421-T8	1	WRA	SUR	1421-T8LED	1	WRA	SUR			NO ACCESS - ESTIMATED
Dundas Yard	120	212		COR	12	STL	1421-T8	2	WRA	SUR	1421-T8LED	2	WRA	SUR			1 X MISSING LENS
Dundas Yard	120	213		CHA	7	DRW	1421-T8	1	VAP	SUR	1421-T8LED	1	VAP	SUR			
Dundas Yard	120	213		CHA	9	TBR	1421-T8	2	K12	REC	1421-T8LED	2	K12	REC			
Dundas Yard	120	214		MEZ	12	STL	1421-T8	4	STR	SUR	1421-T8LED	4	STR	SUR			
Dundas Yard	120	215		LUN	7	DRW	1421-T8	3	WRA	SUR	1421-T8LED	3	WRA	SUR			
Dundas Yard	120	215		LUN	9	DRW	1421-T8	6	K12	REC	1421-T8LED	6	K12	REC			
Dundas Yard	120	216		CHA	7	DRW	1421-T8	2	VAP	SUR	1421-T8LED	2	VAP	SUR			
Dundas Yard	120	216		CHA	9	TBR	1421-T8	8	K12	REC	1421-T8LED	8	K12	REC			
Dundas Yard	120	217		STAIR	6	TBR	1421-T8	3	BOX	WAL	1421-T8LED	3	BOX	WAL			
Dundas Yard	120	217		STAIR	14	TBR	1421-T8-DECOM	2	WRA	SUR	Delete	2	WRA	SUR			FIXTURES ABANDONED - REMOVE FROM CEILING
Dundas Yard	120	EXT		EXT	18	NA	AL-LED120	4	GLA	POL	N/C	4	GLA	POL			
Dundas Yard	120	EXT		EXT	18	NA	AL-LED200	4	GLA	POL	N/C	4	GLA	POL			
Dundas Yard	120	EXT		EXT	18	NA	WP-LED30	4	GLA	WAL	N/C	4	GLA	WAL			
Dundas Yard	120	EXT		EXT	18	NA	FL-LED30	4	GLA	WAL	N/C	4	GLA	WAL			
Dundas Yard	120	EXT		EXT	18	NA	FL-HPS250	2	GLA	POL	NLED-FL100	2	GLA	POL			
Dundas Yard	120	EXT		EXT	10	NA	INC-100	1	JJ	WAL	NLED-WP30	1	JJ	WAL			
Dundas Yard	120	EXT		EXT	10	NA	WP-HPS100	3	GLA	WAL	NLED-WP30	3	GLA	WAL			
Dundas Yard	120	EXT	SALTBARN	STO	50	STL	LED-HB	4	VAP	CHA	N/C	4	VAP	CHA			
Forestry Yard	120	100		OFF	9	TBR	1421-T8	2	K12	REC	1421-T8LED	2	K12	REC			
Forestry Yard	120	101		STO	9	DRW	1421-T8	2	WRA	SUR	1421-T8LED	2	WRA	SUR			
Forestry Yard	120	101		STO	9	DRW	1421-T8	2	BOX	SUR	1421-T8LED	2	BOX	SUR			
Forestry Yard	120	102		SHOP	9	CEM	1421-T8	1	VAP	TSK	1421-T8LED	1	VAP	TSK			
Forestry Yard	120	102		SHOP	9	CEM	1421-T8	5	BOX	SUR	1421-T8LED	5	BOX	SUR			
Forestry Yard	120	102		SHOP	9	CEM	2421-T8	6	K12	CHA	2421-T8LED	6	K12	CHA			
Forestry Yard	120	103		STO	9	CEM	1421-T8	10	IND	CHA	1421-T8LED	10	IND	CHA			
Forestry Yard	120	104		WC	9	CEM	1421-T8	2	CUB	WAL	1421-T8LED	2	CUB	WAL			
Forestry Yard	120	105		SHO	9	CEM	1421-T8	1	VAP	SUR	1421-T8LED	1	VAP	SUR			
Forestry Yard	120	106		MEC	9	CEM	1421-T8	4	BOX	STM	1421-T8LED	4	BOX	STM			
Forestry Yard	120	107		MEC	9	CEM	1421-T8	2	IND	WAL	1421-T8LED	2	IND	WAL			

Building Name	Voltage	Room No	Room Name	Room Type	Ceiling Height	Ceiling Type	Existing Code	Ex Qty	Ex Lens	Ex Mount	Retrofit Code	Retro Qty	Retro Lens	Retro Mount	Retrofit Control	Retro Control Qty	Note
Forestry Yard	120	107		MEC	9	CEM	1421-T8	2	IND	SUR	1421-T8LED	2	IND	SUR			
Forestry Yard	120	108		STO	9	CEM	1421-T8	1	IND	SUR	1421-T8LED	1	IND	SUR			
Forestry Yard	120	109		JCL	9	CEM	1421-T8	1	IND	SUR	1421-T8LED	1	IND	SUR			
Forestry Yard	120	110		STO	9	DRW	2441-T8	6	BOX	SUR	2421-T8LED-DELAMP	6	BOX	SUR			
Forestry Yard	120	111		STO	9	DRW	2441-T8	2	BOX	SUR	2421-T8LED-DELAMP	2	BOX	SUR			
Forestry Yard	120	112		STO	9	DRW	2441-T8	2	BOX	SUR	2421-T8LED-DELAMP	2	BOX	SUR			
Forestry Yard	120	113		WC	9	DRW	2431-T8	1	K12	REC	2421-T8LED-DELAMP	1	K12	REC			
Forestry Yard	120	113		WC	9	DRW	2441-T8	2	K12	REC	2421-T8LED-DELAMP	2	K12	REC			
Forestry Yard	120	114		WC	9	DRW	2441-T8	2	K12	REC	2421-T8LED-DELAMP	2	K12	REC			
Forestry Yard	120	115		CHA	12	STL	1421-T8	9	BOX	CHA	1421-T8LED	9	BOX	CHA			
Forestry Yard	120	116		LAU	12	STL	2441-T8	2	K12	CHA	2421-T8LED-DELAMP	2	K12	CHA			
Forestry Yard	120	117		COR	9	TBR	1421-T8	2	K12	REC	1421-T8LED	2	K12	REC			
Forestry Yard	120	118		CHA	9	DRW	2441-T8	2	K12	REC	2421-T8LED-DELAMP	2	K12	REC			
Forestry Yard	120	118		CHA	9	TBR	2431-T8	2	K12	REC	2421-T8LED-DELAMP	2	K12	REC			
Forestry Yard	120	119		OFF	12	STL	1421-T8	3	K12	CHA	1421-T8LED	3	K12	CHA			
Forestry Yard	120	119		OFF	12	STL	2441-T8	14	K12	CHA	2421-T8LED-DELAMP	14	K12	CHA			
Forestry Yard	120	120		VES	8	TBR	2441-T8	2	K12	CHA	2421-T8LED-DELAMP	2	K12	CHA			
Forestry Yard	120	121		WC	8	TBR	1421-T8	1	K12	REC	1421-T8LED	1	K12	REC			
Forestry Yard	120	122		NET	12	STL	1421-T8	1	K12	CHA	1421-T8LED	1	K12	CHA			
Forestry Yard	120	123		CLA	12	STL	2441-T8	22	K12	CHA	2421-T8LED-DELAMP	22	K12	CHA			
Forestry Yard	120	124		OFF	12	STL	2441-T8	10	K12	CHA	2421-T8LED-DELAMP	10	K12	CHA			
Forestry Yard	120	125		OFF	12	STL	2441-T8	2	K12	CHA	2421-T8LED-DELAMP	2	K12	CHA			
Forestry Yard	120	126		MEET	12	STL	2441-T8	2	K12	CHA	2421-T8LED-DELAMP	2	K12	CHA			
Forestry Yard	120	EXT		EXT	20	NA	FL-MH250	2	GLA	POL	NLED-FL100	2	GLA	POL			OLD GARAGE BLDG
Forestry Yard	120	OG100		STO	9	WOD	1421-T8	1	IND	SUR	1421-T8LED	1	IND	SUR			OLD GARAGE BLDG
Forestry Yard	120	OG100		STO	9	WOD	1421-T8	1	CAG	SUR	1421-T8LED	1	CAG	SUR			OLD GARAGE BLDG
Forestry Yard	120	OG101		STO	9	WOD	1821-T12	1	CAG	SUR	NLED-STR8-50	1	STR	SUR			OLD GARAGE BLDG
Forestry Yard	120	OG102		SHO	9	WOD	1421-T12	6	BOX	SUR	NLED-STR8-50	6	STR	SUR			OLD GARAGE BLDG
Forestry Yard	120	OG102		SHO	9	WOD	1821-T12	3	IND	SUR	NLED-STR8-50	3	STR	SUR			OLD GARAGE BLDG
Glanbrook Municipal	120	101		VES	9	DRW	CF23x2	5	PO6	REC	NLED-PO6	5	PO6	REC			
Glanbrook Municipal	120	102		WC	9	DRW	CF23x2	1	PO6	REC	NLED-PO6	1	PO6	REC			
Glanbrook Municipal	120	102		WC	9	DRW	1421-T8	5	LOU	VAL	1421-T8LED	5	LOU	VAL			
Glanbrook Municipal	120	103		WC	9	DRW	CF23x2	1	PO6	REC	NLED-PO6	1	PO6	REC			
Glanbrook Municipal	120	103		WC	9	DRW	1421-T8	5	LOU	VAL	1421-T8LED	5	LOU	VAL			
Glanbrook Municipal	120	104		COUNCIL	9	DRW	CF23x2	8	PO6	REC	NLED-PO6	8	PO6	REC			
Glanbrook Municipal	120	104		COUNCIL	9	TBR	2221-T8-U3	18	LOU	REC	NLED-22PNL20	18	LOU	REC			
Glanbrook Municipal	120	104		COUNCIL	12	TBR	CF23x2	8	PO6	REC	NLED-PO6	8	PO6	REC			
Glanbrook Municipal	120	104		COUNCIL	9	DRW	CF23x2-WW	4	PO6	REC	NLED-PO6	4	PO6	REC			WALL WASH FIXTURES
Glanbrook Municipal	120	105		LOB	9	DRW	CF23x2	11	PO6	REC	NLED-PO6	11	PO6	REC			
Glanbrook Municipal	120	105		LOB	20	DRW	PO10-CF	9	PO10	REC	NLED-PO10	9	PO10	REC			
Glanbrook Municipal	120	105		LOB	12	DRW	MH150-SCO	8	SCO	WAL	LED-MHRL45-347	8	SCO	WAL			
Glanbrook Municipal	120	107		STO	9	TBR	2421-T8	4	BOX	SUR	2421-T8LED	4	BOX	SUR			
Glanbrook Municipal	120	108		MEET	9	TBR	2421-T8	4	BOX	SUR	2421-T8LED	4	BOX	SUR			
Glanbrook Municipal	120	109		COR	9	TBR	1421-T8	5	K12	REC	1421-T8LED	5	K12	REC			
Glanbrook Municipal	120	109		COR	9	DRW	CF23x2	3	PO6	REC	NLED-PO6	3	PO6	REC			
Glanbrook Municipal	120	109		COR	9	TBR	2441-T8	5	K12	REC	2421-T8LED-DELAMP	5	K12	REC			
Glanbrook Municipal	120	110		OFF	8	DRW	CF23x2	2	PO6	REC	NLED-PO6	2	PO6	REC			
Glanbrook Municipal	120	110		OFF	9	TBR	2441-T8	2	K12	REC	2421-T8LED-DELAMP	2	K12	REC			
Glanbrook Municipal	120	111		OFF	9	TBR	2441-T8	2	K12	REC	2421-T8LED-DELAMP	2	K12	REC			
Glanbrook Municipal	120	111-		OFF	9	TBR	2441-T8	2	K12	REC	2421-T8LED-DELAMP	2	K12	REC			
Glanbrook Municipal	120	112		OFF	8	DRW	CF23x2	3	PO6	REC	NLED-PO6	3	PO6	REC			
Glanbrook Municipal	120	112		OFF	9	TBR	2441-T8	8	K12	REC	2421-T8LED-DELAMP	8	K12	REC			
Glanbrook Municipal	120	113		OFF	8	DRW	CF23x2	6	PO6	REC	NLED-PO6	6	PO6	REC			
Glanbrook Municipal	120	113		OFF	9	TBR	2441-T8	9	K12	REC	2421-T8LED-DELAMP	9	K12	REC			
Glanbrook Municipal	120	116		OFF	9	TBR	2441-T8	2	K12	REC	2421-T8LED-DELAMP	2	K12	REC			
Glanbrook Municipal	120	117		OFF	9	TBR	2441-T8	2	K12	REC	2421-T8LED-DELAMP	2	K12	REC			
Glanbrook Municipal	120	118		OFF	9	TBR	2441-T8	2	K12	REC	2421-T8LED-DELAMP	2	K12	REC			
Glanbrook Municipal	120	120		VES	9	DRW	CF23x2	5	PO6	REC	NLED-PO6	5	PO6	REC			
Glanbrook Municipal	120	121		STO	9	TBR	2441-T8	4	K12	REC	2421-T8LED-DELAMP	4	K12	REC			
Glanbrook Municipal	120	123		WC	9	DRW	1421-T8	2	LOU	VAL	1421-T8LED	2	LOU	VAL			
Glanbrook Municipal	120	124		STF	9	TBR	2441-T8	5	K12	REC	2421-T8LED-DELAMP	5	K12	REC			
Glanbrook Municipal	120	125		MEC	12	CEM	1841-T-T8	4	CAG	SUR	1841-T-T8LED	4	CAG	SUR			
Glanbrook Municipal	120	126		JCL	9	DRW	2421-T8	1	BOX	SUR	2421-T8LED	1	BOX	SUR			
Glanbrook Municipal	120	128		NETWO	9	TBR	2441-T8	1	K12	REC	2421-T8LED-DELAMP	1	K12	REC			
Glanbrook Municipal	120	129		OFF	9	TBR	2441-T8	2	K12	REC	2421-T8LED-DELAMP	2	K12	REC			
Glanbrook Municipal	120	130		OFF	9	TBR	2441-T8	1	K12	REC	2421-T8LED-DELAMP	1	K12	REC			
Glanbrook Municipal	120	131		OFF	9	TBR	2441-T8	2	K12	REC	2421-T8LED-DELAMP	2	K12	REC			
Glanbrook Municipal	120	132		OFF	9	TBR	2441-T8	2	K12	REC	2421-T8LED-DELAMP	2	K12	REC			
Glanbrook Municipal	120	133		STO	9	TBR	2441-T8	1	K12	REC	2421-T8LED-DELAMP	1	K12	REC			
Glanbrook Municipal	120	133		STO	9	TBR	24LED-PNL	1	K12	REC	N/C	1	K12	REC			
Glanbrook Municipal	120	134		LOU	9	DRW	CF23x2	2	PO6	REC	NLED-PO6	2	PO6	REC			
Glanbrook Municipal	120	134		LOU	9	TBR	2441-T8	4	K12	REC	2421-T8LED-DELAMP	4	K12	REC			
Glanbrook Municipal	120	135		WC	9	DRW	1421-T8	2	LOU	VAL	1421-T8LED	2	LOU	VAL			

Building Name	Voltage	Room No	Room Name	Room Type	Ceiling Height	Ceiling Type	Existing Code	Ex Qty	Ex Lens	Ex Mount	Retrofit Code	Retro Qty	Retro Lens	Retro Mount	Retrofit Control	Retro Control Qty	Note
Glanbrook Municipal	120	136		VAU	9	DRW	1421-T8	1	K12	REC	1421-T8LED	1	K12	REC			
Glanbrook Municipal	120	137		OFF	8	DRW	CF23x2	8	PO6	REC	NLED-PO6	8	PO6	REC			
Glanbrook Municipal	120	137		OFF	9	TBR	2441-T8	9	K12	REC	2421-T8LED-DELAMP	9	K12	REC			
Glanbrook Municipal	120	EXT		EXT	9	STL	CF26	3	PO8	REC	NLED-PO8	3	PO8	REC			
Mountain Transit Centre	120	01	DIRECTORS OFFICE	OFF	9	TBR	2421-T8	6	K12	REC	2421-T8LED	6	K12	REC			
Mountain Transit Centre	347	01	DIRECTORS OFFICE	OFF	9	TBR	2421-T8	6	K12	REC	2421-T8LED-347V	6	K12	REC			
Mountain Transit Centre	347	01	DIRECTORS OFFICE	OFF	9	TBR	2421-T8	6	K12	REC	2421-T8LED-347V	6	K12	REC			
Mountain Transit Centre	347	02		OFF	9	TBR	2421-T5	6	VOL	REC	2421-T5LED-347V	6	VOL	REC			
Mountain Transit Centre	347	03		OFF	9	TBR	2421-T5	2	VOL	REC	2421-T5LED-347V	2	VOL	REC			
Mountain Transit Centre	347	04		OFF	9	TBR	2421-T5	3	VOL	REC	2421-T5LED-347V	3	VOL	REC			
Mountain Transit Centre	347	05		LOU	20	TBR	CAN-MH200	6	GLA	SUR	LED-MHRL45-347V	6	GLA	SUR			
Mountain Transit Centre	347	05		LOU	16	TBR	SCO-MH200	6	SCO	WAL	NLED-SCO80-347V	6	SCO	WAL			
Mountain Transit Centre	347	06		OFF	9	TBR	2421-T5	6	VOL	REC	2421-T5LED-347V	6	VOL	REC			
Mountain Transit Centre	347	07	TIRE ROOM	STO	12	CEM	1421-T8	31	VAP	STM	1421-T8LED-347V	31	VAP	STM			
Mountain Transit Centre	347	08	LUBE ROOM	STO	12	CEM	1421-T8	5	VAP	STM	1421-T8LED-347V	5	VAP	STM			
Mountain Transit Centre	347	09		COR	12	CEM	1421-T8	2	VAP	STM	1421-T8LED-347V	2	VAP	STM			
Mountain Transit Centre	347	10	BUS WASH AREA	WASH	18	CEM	1821-T-T8	5	VAP	CHA	1821-T-T8LED-347V	5	VAP	CHA			
Mountain Transit Centre	347	11	SMALL UPSTAIRS + LUNCH R	LUN	9	TBR	1421-T8	4	K12	REC	1421-T8LED-347V	4	K12	REC			
Mountain Transit Centre	347	12	SHOP - TOOL CRIB COUNTER	SHOP	9	CEM	1211-T8	2	LOU	VAL	1211-T8LED-347V	2	LOU	VAL			
Mountain Transit Centre	347	12	SHOP - TOOL CRIB COUNTER	SHOP	9	CEM	1411-T8	14	LOU	VAL	1411-T8LED-347V	14	LOU	VAL			
Mountain Transit Centre	347	12	SHOP - TOOL CRIB COUNTER	SHOP	9	CEM	1421-T8	1	VAP	CHA	1421-T8LED-347V	1	VAP	CHA			
Mountain Transit Centre	347	13	SERVICE LINE WC - MEN	WC	9	TBR	1421-T8	2	K12	REC	1421-T8LED-347V	2	K12	REC			
Mountain Transit Centre	347	14	SERVICE LINE WC - WOMEN	WC	9	TBR	1421-T8	1	K12	REC	1421-T8LED-347V	1	K12	REC			
Mountain Transit Centre	347	15	SERVICE LINE	SHOP	12	CEM	1421-T8	2	VAP	WAL	1421-T8LED-347V	2	VAP	WAL			
Mountain Transit Centre	347	15	SERVICE LINE	SHOP	9	CEM	1421-T8	3	VAP	CHA	1421-T8LED-347V	3	VAP	CHA			
Mountain Transit Centre	347	16	ATS WC - MENS	WC	9	TBR	1411-T8	3	LOU	VAL	1411-T8LED-347V	3	LOU	VAL			
Mountain Transit Centre	347	16	ATS WC - MENS	WC	9	TBR	2421-T5	2	VOL	REC	2421-T5LED-347V	2	VOL	REC			
Mountain Transit Centre	347	17	ATS WC - WOMENS	WC	9	TBR	1411-T8	3	LOU	VAL	1411-T8LED-347V	3	LOU	VAL			
Mountain Transit Centre	347	17	ATS WC - WOMENS	WC	9	TBR	2421-T5	3	VOL	REC	2421-T5LED-347V	3	VOL	REC			
Mountain Transit Centre	347	18	ATS DOUBLE OFFICE	OFF	9	TBR	2421-T8	2	K12	REC	2421-T8LED-347V	2	K12	REC			
Mountain Transit Centre	347	18	ATS DOUBLE OFFICE	OFF	9	TBR	2441-T8	4	K12	REC	2421-T8LED-347V-DELAMP	4	K12	REC			
Mountain Transit Centre	347	19	ATS RECEPTION/OFFICE	OFF	12	DRW	1421-T8	2	OPL	STM	1421-T8LED-347V	2	OPL	STM			
Mountain Transit Centre	347	19	ATS RECEPTION/OFFICE	OFF	12	DRW	1421-T8	2	BOX	STM	1421-T8LED-347V	2	BOX	STM			
Mountain Transit Centre	347	19	ATS RECEPTION/OFFICE	OFF	10	DRW	SCO-MH200	1	SCO	WAL	NLED-SCO80-347V	1	SCO	WAL			
Mountain Transit Centre	347	20	PLANNING OFFICE	OFF	10	TBR	1421-T8	57	K12	REC	1421-T8LED-347V	57	K12	REC			
Mountain Transit Centre	347	21		GYM	16	STL	1421-T8	28	BOX	STM	1421-T8LED-347V	28	BOX	STM			
Mountain Transit Centre	347	22	MENS CHANGE RM	CHA	9	TBR	1411-T8	4	LOU	VAL	1411-T8LED-347V	4	LOU	VAL			
Mountain Transit Centre	347	22	MENS CHANGE RM	CHA	9	TBR	1421-T8	6	VAP	SUR	1421-T8LED-347V	6	VAP	SUR			
Mountain Transit Centre	347	22	MENS CHANGE RM	CHA	9	TBR	1421-T8	2	K12	REC	1421-T8LED-347V	2	K12	REC			
Mountain Transit Centre	347	22	MENS CHANGE RM	CHA	9	TBR	2421-T8	14	K12	REC	2421-T8LED-347V	14	K12	REC			
Mountain Transit Centre	347	23	WOMENS CHANGE RM	CHA	9	TBR	1411-T8	2	LOU	VAL	1411-T8LED-347V	2	LOU	VAL			
Mountain Transit Centre	347	23	WOMENS CHANGE RM	CHA	9	TBR	1421-T8	2	VAP	SUR	1421-T8LED-347V	2	VAP	SUR			
Mountain Transit Centre	347	23	WOMENS CHANGE RM	CHA	9	TBR	2421-T8	5	K12	REC	2421-T8LED-347V	5	K12	REC			
Mountain Transit Centre	347	24	PLANNING INFR. OFFICE	OFF	9	TBR	1421-T8	12	K12	REC	1421-T8LED-347V	12	K12	REC			
Mountain Transit Centre	120	25	BUSINESS ADMIN OFFICE	OFF	9	TBR	2221-T8	1	K12	REC	2221-T8LED	1	K12	REC			
Mountain Transit Centre	120	25	BUSINESS ADMIN OFFICE	OFF	9	TBR	2421-T8	6	K12	REC	2421-T8LED	6	K12	REC			
Rymal Road Yard	120	100		OFF	9	TBR	1841-T-T8	1	CUB	WAL	1841-T-T8LED	1	CUB	WAL			
Rymal Road Yard	120	100		OFF	8	TBR	2441-T8	2	K12	REC	2421-T8LED-DELAMP	2	K12	REC			
Rymal Road Yard	120	101		VES	8	DRW	PO6-13LED	2	PO6	REC	NLED-PO6	2	PO6	REC			
Rymal Road Yard	120	102		COR	9	TBR	1421-T8	3	K12	REC	1421-T8LED	3	K12	REC			
Rymal Road Yard	120	102		COR	9	TBR	1841-T-T8	1	CUB	WAL	1841-T-T8LED	1	CUB	WAL			
Rymal Road Yard	120	103		MEET	8	TBR	2441-T8	4	K12	REC	2421-T8LED-DELAMP	4	K12	REC			
Rymal Road Yard	120	104		STO	8	DRW	PO6-13LED	3	PO6	REC	N/C	3	PO6	REC			
Rymal Road Yard	120	105		OFF	8	TBR	2441-T8	6	K12	REC	2421-T8LED-DELAMP	6	K12	REC			
Rymal Road Yard	120	106		OFF	8	TBR	2441-T8	3	K12	REC	2421-T8LED-DELAMP	3	K12	REC			
Rymal Road Yard	120	107		OFF	8	TBR	2441-T8	12	K12	REC	2421-T8LED-DELAMP	12	K12	REC			
Rymal Road Yard	120	107		OFF	8	TBR	PAR30-CFL23	6	PO6	REC	Delete	6	PO6	REC			
Rymal Road Yard	120	108		COR	8	TBR	2221-T8U6	12	K12	REC	2221-T8U6-LED	12	K12	REC			
Rymal Road Yard	120	109		STAIR	8	TBR	1421-T8	4	BOX	SUR	1421-T8LED	4	BOX	SUR			3 X MISSING LENSES
Rymal Road Yard	120	110		OFF	9	TBR	2441-T8	2	K12	REC	2421-T8LED-DELAMP	2	K12	REC			1 X MISSING LENS
Rymal Road Yard	120	111		STO	8	TBR	PAR30-CFL23	1	PO6	REC	NLED-PO6	1	PO6	REC			
Rymal Road Yard	120	112		JCL	DRW	1421-T8	1	BOX	SUR	1421-T8LED	1	BOX	SUR				
Rymal Road Yard	120	113		WC	9	DRW	1421-T8	1	BOX	SUR	1421-T8LED	1	BOX	SUR			
Rymal Road Yard	120	114		WC	9	DRW	1421-T8	1	BOX	SUR	1421-T8LED	1	BOX	SUR			
Rymal Road Yard	120	115		STA	9	TBR	1421-T8	3	K12	REC	1421-T8LED	3	K12	REC			
Rymal Road Yard	120	115		STA	12	DRW	1421-T8	2	CUB	SUR	1421-T8LED	2	CUB	SUR			FIXTURES ABOVE STAIRS - DIFFICULT TO ACCESS
Rymal Road Yard	120	116		ELEC	9	TBR	1421-T8	4	BOX	SUR	1421-T8LED	4	BOX	SUR			
Rymal Road Yard	120	117		MEC	9	TBR	1421-T8	2	BOX	SUR	1421-T8LED	2	BOX	SUR			
Rymal Road Yard	120	118		OFF	9	TBR	2441-T8	11	K12	REC	2421-T8LED-DELAMP	11	K12	REC			
Rymal Road Yard	120	119		STO	9	TBR	PO6-LED	2	PO6	REC	N/C	2	PO6	REC			
Rymal Road Yard	120	120		MEC	9	TBR	1421-T8	6	BOX	SUR	1421-T8LED	6	BOX	SUR			
Rymal Road Yard	120	121		STO	9	TBR	1421-T8	9	BOX	SUR	1421-T8LED	9	BOX	SUR			
Rymal Road Yard	120	122		STO	9	TBR	2441-T8	4	K12	REC	2421-T8LED-DELAMP	4	K12	REC			

Building Name	Voltage	Room No	Room Name	Room Type	Ceiling Height	Ceiling Type	Existing Code	Ex Qty	Ex Lens	Ex Mount	Retrofit Code	Retro Qty	Retro Lens	Retro Mount	Retrofit Control	Retro Control Qty	Note
Rymal Road Yard	120	123		SHO	9	TBR	1421-T8	29	BOX	SUR	1421-T8LED	29	BOX	SUR			
Rymal Road Yard	120	124		STAIR	8	TBR	1421-T8	4	BOX	SUR	1421-T8LED	4	BOX	SUR			ALL MISSING LENSES
Rymal Road Yard	120	126		STO	9	TBR	1421-T8	5	BOX	SUR	1421-T8LED	5	BOX	SUR			
Rymal Road Yard	120	127		SHO	9	TBR	2462-T8	21	CAG	CHA	2462-T8LED	21	CAG	CHA			
Rymal Road Yard	120	128		OFF	9	TBR	24LED-PNL	2	OPL	REC	N/C	2	OPL	REC			
Rymal Road Yard	120	129		STO	9	TBR	PAR30-CFL23	2	PO6	REC	NLED-PO6	2	PO6	REC			
Rymal Road Yard	120	130		STO	9	TBR	1421-T8	2	K12	REC	1421-T8LED	2	K12	REC			MISSING ALL LENSES
Rymal Road Yard	120	131		STO	9	TBR	1421-T8	12	BOX	SUR	1421-T8LED	12	BOX	SUR			
Rymal Road Yard	120	132		LUN	9	TBR	1421-T8	9	BOX	SUR	1421-T8LED	9	BOX	SUR			
Rymal Road Yard	120	133		CHA	9	TBR	1421-T8	2	BOX	SUR	1421-T8LED	2	BOX	SUR			
Rymal Road Yard	120	134		WC	9	TBR	1421-T8	2	BOX	SUR	1421-T8LED	2	BOX	SUR			
Rymal Road Yard	120	135		OIL	9	TBR	1421-T8	4	VAP	STM	1421-T8LED	4	VAP	STM			
Rymal Road Yard	120	200		LUN	9	TBR	1421-T8	35	BOX	SUR	1421-T8LED	35	BOX	SUR			
Rymal Road Yard	120	201		OFF	9	TBR	1421-T8	2	BOX	SUR	1421-T8LED	2	BOX	SUR			
Rymal Road Yard	120	202		COR	9	DRW	1421-T8	2	BOX	SUR	1421-T8LED	2	BOX	SUR			
Rymal Road Yard	120	203		COR	9	DRW	2221-T8U6	7	BOX	SUR	1421-T8LED	7	BOX	SUR			1 X MISSING LENS
Rymal Road Yard	120	204		STO	9	DRW	1421-T8	2	BOX	SUR	1421-T8LED	2	BOX	SUR			
Rymal Road Yard	120	205		STO	9	DRW	1421-T8	2	BOX	SUR	1421-T8LED	2	BOX	SUR			
Rymal Road Yard	120	206		LAU	9	DRW	1421-T8	2	BOX	SUR	1421-T8LED	2	BOX	SUR			
Rymal Road Yard	120	207		JCL	9	DRW	1421-T8	2	BOX	SUR	1421-T8LED	2	BOX	SUR			
Rymal Road Yard	120	208		CHA	9	TBR	1421-T8	21	WRA	SUR	1421-T8LED	21	WRA	SUR			ALL MISSING LENSES
Rymal Road Yard	120	208		CHA	9	TBR	1421-LED	2	VAP	SUR	N/C	2	VAP	SUR			
Rymal Road Yard	120	209		CHA	9	TBR	1211-T8	2	VAP	SUR	1211-T8LED	2	VAP	SUR			
Rymal Road Yard	120	209		CHA	9	TBR	1421-T8	6	WRA	SUR	1421-T8LED	6	WRA	SUR			ALL MISSING LENSES
Rymal Road Yard	120	EXT		EXT	9	NA	A19-LED	1	JJ	WAL	N/C	1	JJ	WAL			GREEN BARN EXT
Rymal Road Yard	120	EXT		EXT	20	NA	WP-LED120	4	GLA	WAL	N/C	4	GLA	WAL			GREEN BARN EXT
Rymal Road Yard	120	EXT		EXT	9	NA	WP-LED60	2	GLA	WAL	N/C	2	GLA	WAL			CONCRETE SHED EXT
Rymal Road Yard	120	EXT		EXT	20	NA	AL-CORNLED-120	5	GLA	POL	NLED-AL120	5	GLA	POL			PARKING LOT LIGHTS
Rymal Road Yard	120	EXT		EXT	16	NA	AL-MH250	4	GLA	POL	NLED-AL120	4	GLA	POL			GAS BAR POLE LIGHTS
Rymal Road Yard	120	EXT		EXT	20	NA	AL-HP5400	1	GLA	WAL	NLED-AL120	1	GLA	WAL			OLD SALT STORAGE BLDG
Rymal Road Yard	120	EXT		EXT	12	NA	FL-MH400	2	GLA	WAL	NLED-FL100	2	GLA	WAL			BUTLER BLDG
Rymal Road Yard	120	EXT		EXT	12	NA	FL-MH400	3	GLA	WAL	NLED-FL100	3	GLA	WAL			OLD SALT STORAGE BLDG
Rymal Road Yard	120	EXT		EXT	20	NA	FL-CORNLED-120	2	GLA	WAL	NLED-FL100	2	GLA	POL			GREEN BARN EXT
Rymal Road Yard	120	EXT		EXT	9	NA	WP-MH75	1	GLA	WAL	NLED-WP30	1	GLA	WAL			BUTLER BLDG
Rymal Road Yard	120	GB100		GARAGE	9	WOD	14-LED-WRA	8	WRA	SUR	N/C	8	WRA	SUR			GREEN BARN
Rymal Road Yard	120	GB100		GARAGE	9	WOD	1421-T8	15	STR	SUR	NLED-STR4-20	15	STR	SUR			GREEN BARN
Rymal Road Yard	120	GB101		COR	9	WOD	1421-T8	1	WRA	SUR	NLED-STR4-20	1	STR	SUR			GREEN BARN
Rymal Road Yard	120	GB102		OFF	9	WOD	1421-T8	6	WRA	SUR	NLED-STR4-20	6	STR	SUR	OS-PIR		1 GREEN BARN
Rymal Road Yard	120	GB103		STO	9	WOD	1431-T8	1	WRA	SUR	NLED-STR4-20	1	WRA	SUR	OS-PIR		1 GREEN BARN
Rymal Road Yard	120	GB104		WC	9	WOD	1421-T8	1	WRA	SUR	NLED-STR4-20	1	STR	SUR	WSS-US		1 GREEN BARN
Rymal Road Yard	120	GB105		STAIR	9	WOD	1421-T8	1	KEY	SUR	NLED-STR4-20	1	STR	SUR	WSS-US		1 GREEN BARN
Rymal Road Yard	120	GB200		LOFT	14	WOD	A19-LED	1	KEY	SUR	NLED-STR4-20	1	KEY	SUR			1 GREEN BARN
Rymal Road Yard	120	GB200		LOFT	14	WOD	HAL-75	1	KEY	SUR	NLED-STR4-20	1	KEY	SUR			1 GREEN BARN
Rymal Road Yard	120	GB200		LOFT	14	WOD	1821-T12	2	STR	CHA	NLED-STR8-50	2	STR	CHA			1 GREEN BARN
Stoney Creek Yard	347	100		GAR	28	STL	LED-HB200	4	NA	CHA	N/C	4	NA	CHA			
Stoney Creek Yard	347	100		GAR	10	CEM	LED-CAN60	4	GLA	SUR	N/C	4	GLA	SUR			
Stoney Creek Yard	347	100		GAR	28	STL	2462-T8	27	CAG	CHA	NLED-HB150-347V	15	CAG	CHA			
Stoney Creek Yard	347	100		GAR	10	CEM	1841-T-T8	6	STR	SUR	NLED-STR8-50-347V	6	STR	SUR			
Stoney Creek Yard	347	101		WASHBAY	28	STL	LED-HB120	16	NA	CHA	N/C	16	NA	CHA			
Stoney Creek Yard	347	102		STO	12	TBR	2462-T8	4	CAG	SUR	NLED-24PNL50-347V	6	OPL	REC			
Stoney Creek Yard	347	103		STO	12	TBR	2431-T8	11	K12	REC	NLED-24PNL50-347V	11	K12	REC			
Stoney Creek Yard	120	104		COR	9	TBR	1421-T8	11	K12	REC	1421-T8LED	11	K12	REC			
Stoney Creek Yard	120	104		COR	9	TBR	LED-A19	2	PO6	REC	NLED-PO6	2	PO6	REC			
Stoney Creek Yard	120	105		STAF	9	TBR	1411-T8	18	K12	REC	1411-T8LED	18	K12	REC			
Stoney Creek Yard	120	106		WC	9	TBR	1421-T8	1	K12	REC	1421-T8LED	1	K12	REC			
Stoney Creek Yard	120	106		WC	9	DRW	1421-T8	4	BOX	SUR	1421-T8LED	4	BOX	SUR			
Stoney Creek Yard	120	107		CHA	9	DRW	1421-T8	1	WRA	SUR	1421-T8LED	1	WRA	SUR			
Stoney Creek Yard	120	107		CHA	9	DRW	1421-T8	1	VAP	SUR	1421-T8LED	1	VAP	SUR			
Stoney Creek Yard	120	107		CHA	9	DRW	1421-T8	10	BOX	SUR	1421-T8LED	10	BOX	SUR			
Stoney Creek Yard	120	107		CHA	9	DRW	LED-WRAP	3	WRA	SUR	N/C	3	WRA	SUR			
Stoney Creek Yard	120	108		OFF	10	TBR	2421-T8	2	K12	REC	2421-T8LED	2	K12	REC	WSS-PIR		1
Stoney Creek Yard	120	109		OFF	10	TBR	2421-T8	2	K12	REC	2421-T8LED	2	K12	REC	WSS-PIR		1
Stoney Creek Yard	120	110		OFF	10	TBR	2421-T8	4	K12	REC	2421-T8LED	4	K12	REC	WSS-PIR		1
Stoney Creek Yard	120	111		MEET	10	TBR	2421-T8	6	K12	REC	2421-T8LED	6	K12	REC	OS-PIR		1
Stoney Creek Yard	120	112		OFF	10	TBR	2421-T8	5	K12	REC	2421-T8LED	5	K12	REC	OS-PIR		1
Stoney Creek Yard	120	113		OFF	10	TBR	2421-T8	18	K12	REC	2421-T8LED	18	K12	REC	OS-US		2
Stoney Creek Yard	120	114		OFF	10	TBR	2421-T8	8	K12	REC	2421-T8LED	8	K12	REC	OS-US		1
Stoney Creek Yard	120	115		VES	9	STL	CF13	1	PO6	REC	NLED-PO6	1	PO6	REC			
Stoney Creek Yard	120	116		LOB	9	STL	CF13	4	PO6	REC	NLED-PO6	4	PO6	REC			
Stoney Creek Yard	120	117		GAR	12	STL	1841-T-T8	2	IND	SUR	1841-T-T8LED	2	IND	SUR			
Stoney Creek Yard	120	117		GAR	26	STL	LED-HB200	25	NA	CHA	N/C	25	NA	CHA			
Stoney Creek Yard	120	118		STO	10	TBR	24LED-PNL	1	OPL	REC	N/C	1	OPL	REC			
Stoney Creek Yard	120	119		STO	10	TBR	24LED-PNL	2	OPL	REC	N/C	2	OPL	REC			



Building Name	Voltage	Room No	Room Name	Room Type	Ceiling Height	Ceiling Type	Existing Code	Ex Qty	Ex Lens	Ex Mount	Retrofit Code	Retro Qty	Retro Lens	Retro Mount	Retrofit Control	Retro Control Qty	Note
Stoney Creek Yard	120	120		OFF	10	TBR	24LED-PNL	1	OPL	REC	N/C	1	OPL	REC			
Stoney Creek Yard	120	121		OFF	10	TBR	24LED-PNL	2	OPL	REC	N/C	2	OPL	REC			
Stoney Creek Yard	120	122		MEC	12	STL	1421-T8	1	IND	CHA	1421-T8LED	1	IND	CHA			
Stoney Creek Yard	120	123		COR	12	STL	1421-T8	2	IND	CHA	1421-T8LED	2	IND	CHA			
Stoney Creek Yard	120	124		STO	16	STL	1421-T8	2	IND	CHA	NLED-VAP30	2	VAP	CHA			OIL STORAGE ROOM
Stoney Creek Yard	120	125		ELEC	12	STL	1421-T8	2	IND	CHA	1421-T8LED	2	IND	CHA			
Stoney Creek Yard	120	126		STO	6	STL	1421-T8	9	IND	CHA	NLED-VAP30	9	IND	CHA			BATTERY STORAGE
Stoney Creek Yard	120	127		STO	16	STL	LED-WP20	1	WRA	CHA	N/C	1	WRA	CHA			
Stoney Creek Yard	120	127		STO	16	STL	LED-HB120	8	IND	CHA	N/C	8	IND	CHA			
Stoney Creek Yard	347	200		MEZ	8	TBR	2441-T8	6	K12	REC	2421-T8LED-347V-DELAMF	6	K12	REC			
Stoney Creek Yard	347	200		MEZ	9	STL	1841-T-T8	8	STR	SUR	NLED-STR8-50-347V	8	STR	SUR			
Stoney Creek Yard	120	EXT		EXT	9	NA	CF23	1	JJ	WAL	LED-A19	1	JJ	WAL			
Stoney Creek Yard	347	EXT		EXT	20	NA	WP-LED120	7	GLA	WAL	N/C	7	GLA	WAL			
Stoney Creek Yard	347	EXT		EXT	9	NA	WP-LED30	4	GLA	WAL	N/C	4	GLA	WAL			
Stoney Creek Yard	120	EXT		EXT	25	NA	FL-LED120	2	GLA	PEN	N/C	2	GLA	PEN			OIL PUMP AREA
Stoney Creek Yard	120	EXT		EXT	12	NA	AL-MH250	2	GLA	POL	NLED-AL120	2	GLA	POL			OIL PUMP AREA
Stoney Creek Yard	120	EXT		EXT	25	NA	AL-MH400	8	GLA	POL	NLED-AL120	8	GLA	POL			
Stoney Creek Yard	347	EXT		EXT	50	NA	AL-HPS1000	9	GLA	POL	NLED-AL300-347V	9	GLA	POL			COBRAHEAD HIGH MAST
Stoney Creek Yard	120	EXT		EXT	9	NA	CF23	1	PO6	REC	NLED-PO6	1	PO6	REC			
Stoney Creek Yard	347	EXT		EXT	20	NA	WP-HPS400	3	GLA	WAL	NLED-WP120-347V	3	GLA	WAL			
Stoney Creek Yard	347	EXT		EXT	20	NA	WP-HPS400	3	GLA	WAL	NLED-WP120-347V	3	GLA	WAL			SAND TENT
Stoney Creek Yard	120	EXT		EXT	12	NA	WP-HPS100	12	GLA	WAL	NLED-WP30	12	GLA	WAL			
Stoney Creek Yard	347	SA100	SAND TENT	EXT	20	NA	WP-LED120	7	GLA	WAL	N/C	7	GLA	WAL			
Stoney Creek Yard	347	SA100		STO	25	STL	CAN-LED100	4	GLA	SUR	N/C	4	GLA	SUR			
Stoney Creek Yard	347	SA100		STO	16	STL	WP-LED120	2	GLA	SUR	N/C	2	GLA	SUR			SAND TENT
Stoney Creek Yard	347	SB100		STO	40	WOD	HB-LED200	6	NA	CHA	N/C	6	NA	CHA			SALT BARN
Stoney Creek Yard	347	SB100		STO	20	WOD	HPS400-BARN	1	NA	WAL	NLED-AL120-347V	1	NA	WAL			SALT BARN
Stoney Creek Yard	347	SB100		STO	20	WOD	HB-HPS400	5	NA	CHA	NLED-HB150-347V	5	NA	CHA			SALT BARN
Stoney Creek Yard	347	SB100		STO	20	WOD	LED-HB120	1	NA	CHA	NLED-HB150-347V	1	NA	CHA			SALT BARN
Winona Community Centre	120	017		STO	9	TIL	1421-T8	16	BOX	SUR	1421-T8LED	16	BOX	SUR			016 ON THE DOOR NUMBER
Winona Community Centre	120	018		STO	9	TIL	1421-T8	16	BOX	SUR	1421-T8LED	16	BOX	SUR			018 ON THE DOOR NUMBER
Winona Community Centre	120	019		MEET	9	TIL	1421-T8	16	BOX	SUR	1421-T8LED	16	BOX	SUR			017 ON THE DOOR NUMBER
Winona Community Centre	120	101		VES	8	DRW	LED-17-PAR38	2	PO6	REC	N/C	2	PO6	REC			
Winona Community Centre	120	102		LOB	9	DRW	1421-T8	9	BOX	SUR	1421-T8LED	9	BOX	SUR			
Winona Community Centre	120	102		LOB	8	TBR	2421-T8	1	K12	REC	2421-T8LED	1	K12	REC			
Winona Community Centre	120	102		LOB	8	DRW	LED-17-PAR38	2	PO6	REC	N/C	2	PO6	REC			
Winona Community Centre	120	103		COR	9	TBR	2421-T8	9	K12	REC	2421-T8LED	9	K12	REC			
Winona Community Centre	120	104		OFF	9	TBR	1421-T8	6	K12	REC	1421-T8LED	6	K12	REC			
Winona Community Centre	120	104		OFF	9	TBR	2441-T8	1	K12	REC	2421-T8LED-DELAMF	1	K12	REC			
Winona Community Centre	120	105		OFF	9	TBR	1421-T8	4	K12	REC	1421-T8LED	4	K12	REC			
Winona Community Centre	120	108		OFF	9	TBR	1421-T8	2	K12	REC	1421-T8LED	2	K12	REC			
Winona Community Centre	120	109		WC	9	DRW	1421-T8	1	BOX	SUR	1421-T8LED	1	BOX	SUR			
Winona Community Centre	120	110		COPY	9	TBR	1421-T8	4	K12	REC	1421-T8LED	4	K12	REC			
Winona Community Centre	120	111		KIT	9	TBR	1421-T8	2	K12	REC	1421-T8LED	2	K12	REC			
Winona Community Centre	120	112		STO	9	TBR	1421-T8	3	K12	REC	1421-T8LED	3	K12	REC			
Winona Community Centre	120	113		MEET	9	TBR	1421-T8	6	K12	REC	1421-T8LED	6	K12	REC			
Winona Community Centre	120	114		SMUZ	9	TBR	1421-T8	5	K12	REC	1421-T8LED	5	K12	REC			
Winona Community Centre	120	115		JCL	8	TBR	1421-T8	2	CAG	SUR	1421-T8LED	2	CAG	SUR			
Winona Community Centre	120	116		WC	8	DRW	LED-17-PAR38	1	PO6	REC	N/C	1	PO6	REC			
Winona Community Centre	120	117		CHA	8	STL	1421-T8	7	CAG	SUR	1421-T8LED	7	CAG	SUR			
Winona Community Centre	120	118		STO	8	STL	1421-T8	3	CAG	CHA	1421-T8LED	3	CAG	CHA			NO ACCESS - ESTIMATED QTY
Winona Community Centre	120	119		WC	9	DRW	1421-T8	6	BOX	SUR	1421-T8LED	6	BOX	SUR			
Winona Community Centre	120	120		WC	9	DRW	1421-T8	6	BOX	SUR	1421-T8LED	6	BOX	SUR			
Winona Community Centre	120	121		GYM	24	STL	1421-T8	33	CAG	SUR	1421-T8LED	33	CAG	SUR			
Winona Community Centre	120	122		CHA	10	STL	1421-T8	8	CAG	SUR	1421-T8LED	8	CAG	SUR			
Winona Community Centre	120	123		STO	10	STL	1421-T8	4	CAG	CHA	1421-T8LED	4	CAG	CHA			
Winona Community Centre	120	124		STO	8	TBR	1421-T8	4	K12	REC	1421-T8LED	4	K12	REC			
Winona Community Centre	120	125		KIT	8	TBR	1421-T8	2	K12	REC	1421-T8LED	2	K12	REC			
Winona Community Centre	120	126		MPR	9	TBR	1421-T8	4	K12	REC	1421-T8LED	4	K12	REC			
Winona Community Centre	120	126		MPR	8	DRW	LED-17-PAR38	1	PO6	REC	N/C	1	PO6	REC			
Winona Community Centre	120	127		MPR	9	TBR	2441-T8	30	K12	REC	2421-T8LED-DELAMF	30	K12	REC			
Winona Community Centre	120	127		MPR	8	DRW	2441-T8	1	K12	REC	2421-T8LED-DELAMF	1	K12	REC			
Winona Community Centre	120	128		STO	9	TBR	2441-T8	1	K12	REC	2421-T8LED-DELAMF	1	K12	REC			
Winona Community Centre	120	129		STO	9	TBR	2441-T8	1	K12	REC	2421-T8LED-DELAMF	1	K12	REC			
Winona Community Centre	120	130		WC	9	DRW	1421-T8	5	BOX	SUR	1421-T8LED	5	BOX	SUR			
Winona Community Centre	120	131		WC	9	DRW	1421-T8	5	BOX	SUR	1421-T8LED	5	BOX	SUR			
Winona Community Centre	120	132		JCL	12	STL	1411-T8	1	CAG	SUR	1411-T8LED	1	CAG	SUR			
Winona Community Centre	120	132		JCL	12	STL	1841-T-T8	1	LOU	SUR	1841-T-T8LED	1	LOU	SUR			
Winona Community Centre	120	133		STO	8	WOD	1421-T8	1	IND	SUR	1421-T8LED	1	IND	SUR			
Winona Community Centre	120	134		COR	9	TBR	2421-T8	7	K12	REC	2421-T8LED	7	K12	REC			
Winona Community Centre	120	135		WC	8	DRW	LED-17-PAR38	2	PO6	REC	N/C	2	PO6	REC			
Winona Community Centre	120	137		STO	9	TBR	2421-T8	6	K12	REC	2421-T8LED	6	K12	REC			NO ACCESS - ESTIMATED QTY
Winona Community Centre	120	138		VES	9	TBR	1421-T8	2	K12	REC	1421-T8LED	2	K12	REC			

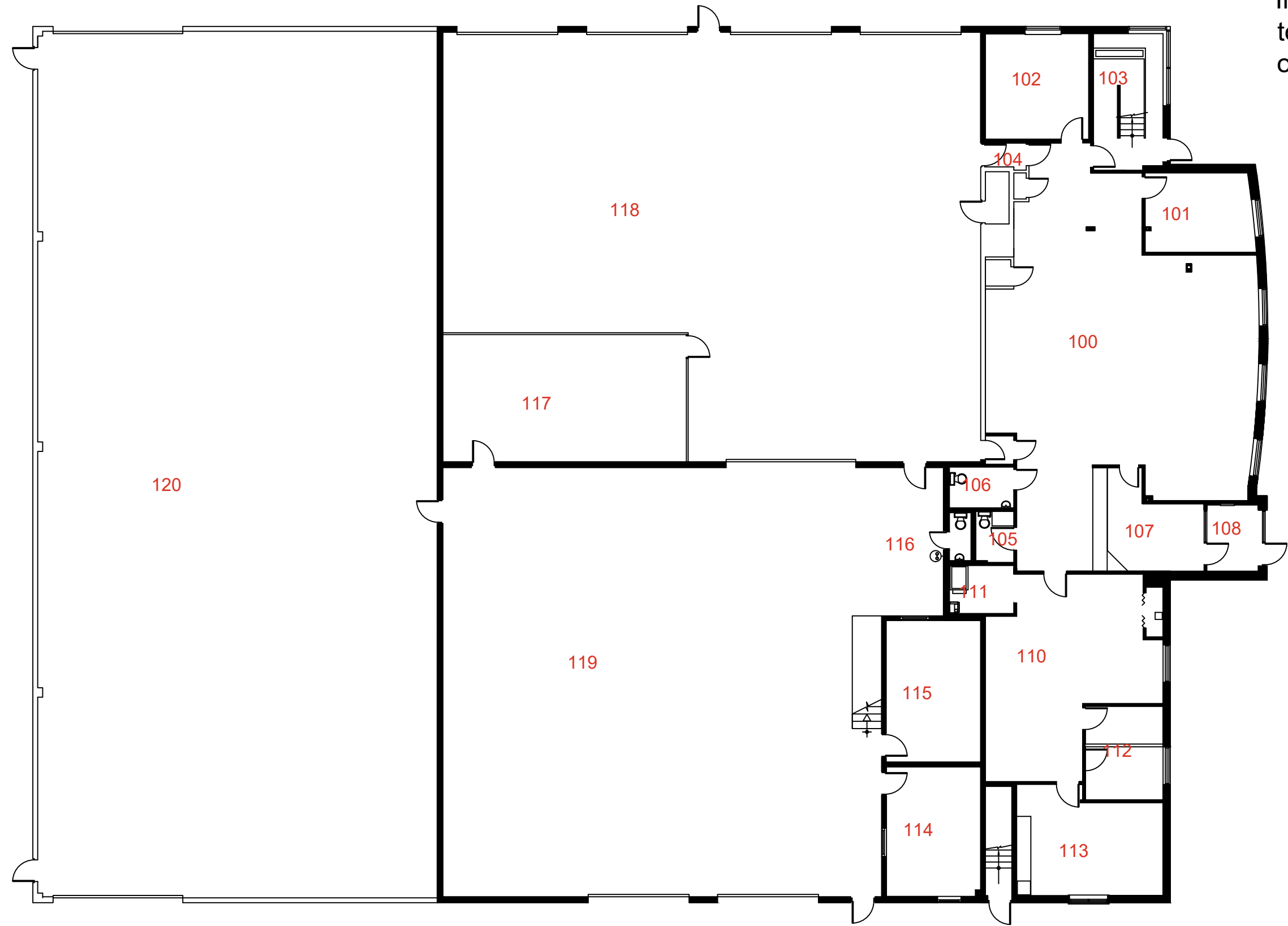
Building Name	Voltage	Room No	Room Name	Room Type	Ceiling Height	Ceiling Type	Existing Code	Ex Qty	Ex Lens	Ex Mount	Retrofit Code	Retro Qty	Retro Lens	Retro Mount	Retrofit Control	Retro Control Qty	Note
Winona Community Centre	120	139		LAU	12	STL	1421-T8	1	BOX	SUR	1421-T8LED	1	BOX	SUR			
Winona Community Centre	120	140		CLA	12	TIL	1421-T8	2	LOU	STM	1421-T8LED	2	LOU	STM			
Winona Community Centre	120	140		CLA	12	TIL	1841-T-T8	8	LOU	STM	1421-T8LED	8	LOU	STM			
Winona Community Centre	120	141		MPR	12	TIL	1441-T8	16	LOU	SUR	1441-T8LED	16	LOU	SUR			
Winona Community Centre	120	142		MPR	12	TIL	1441-T8	16	LOU	SUR	1441-T8LED	16	LOU	SUR			
Winona Community Centre	120	143		MPR	12	TIL	1441-T8	16	LOU	SUR	1441-T8LED	16	LOU	SUR			
Winona Community Centre	120	144		MPR	12	TIL	1441-T8	16	LOU	SUR	1441-T8LED	16	LOU	SUR			
Winona Community Centre	120	145		MPR	12	TIL	1441-T8	16	LOU	SUR	1441-T8LED	16	LOU	SUR			
Winona Community Centre	120	146		MPR	12	TIL	1441-T8	16	LOU	SUR	1441-T8LED	16	LOU	SUR			
Winona Community Centre	120	147		MPR	12	TIL	1441-T8	16	LOU	SUR	1441-T8LED	16	LOU	SUR			
Winona Community Centre	120	148		COR	9	TBR	2421-T8	11	K12	REC	2421-T8LED	11	K12	REC			
Winona Community Centre	120	149		VES	9	TBR	1421-T8	1	K12	REC	1421-T8LED	1	K12	REC			
Winona Community Centre	120	150		COR	9	TBR	2421-T8	3	K12	REC	2421-T8LED	3	K12	REC			
Winona Community Centre	120	151		MPR	9	TIL	1421-T8	16	BOX	SUR	1421-T8LED	16	BOX	SUR			
Winona Community Centre	120	152		WC	9	DRW	1421-T8	2	BOX	SUR	1421-T8LED	2	BOX	SUR			
Winona Community Centre	120	153		VES	9	TBR	2421-T8	1	K12	REC	2421-T8LED	1	K12	REC			
Winona Community Centre	120	102C		MEC	10	STL	1421-T8	7	IND	CHA	1421-T8LED	7	IND	CHA			NO ACCESS - ESTIMATED QTY
Winona Community Centre	120	102C		MEC	9	STL	1421-T8	1	CAG	WAL	1421-T8LED	1	CAG	WAL			NO ACCESS - ESTIMATED QTY
Winona Community Centre	120	148A		VES	9	TBR	1421-T8	1	K12	REC	1421-T8LED	1	K12	REC			
Winona Community Centre	120	150A		COR	9	TBR	2421-T8	4	K12	REC	2421-T8LED	4	K12	REC			2X MISSING LENSES
Winona Community Centre	120	EXT		EXT	12	PLA	PO6-13LED	2	PO6	REC	N/C	2	PO6	REC			
Winona Community Centre	120	EXT		EXT	12	STL	CAN-LED20	3	GLA	SUR	N/C	3	GLA	SUR			
Winona Community Centre	120	EXT		EXT	10	NA	WP-LED20	8	GLA	WAL	N/C	8	GLA	WAL			
Winona Community Centre	120	EXT		EXT	15	NA	FL-LED60	3	GLA	WAL	N/C	3	GLA	WAL			
Winona Community Centre	120	EXT		EXT	20	WOD	AL-HPS400	1	GLA	POL	NLED-AL120	1	GLA	POL			

## **APPENDIX C**

### **DRAWINGS**

The drawings include floor plans to be read in conjunction with Appendix B

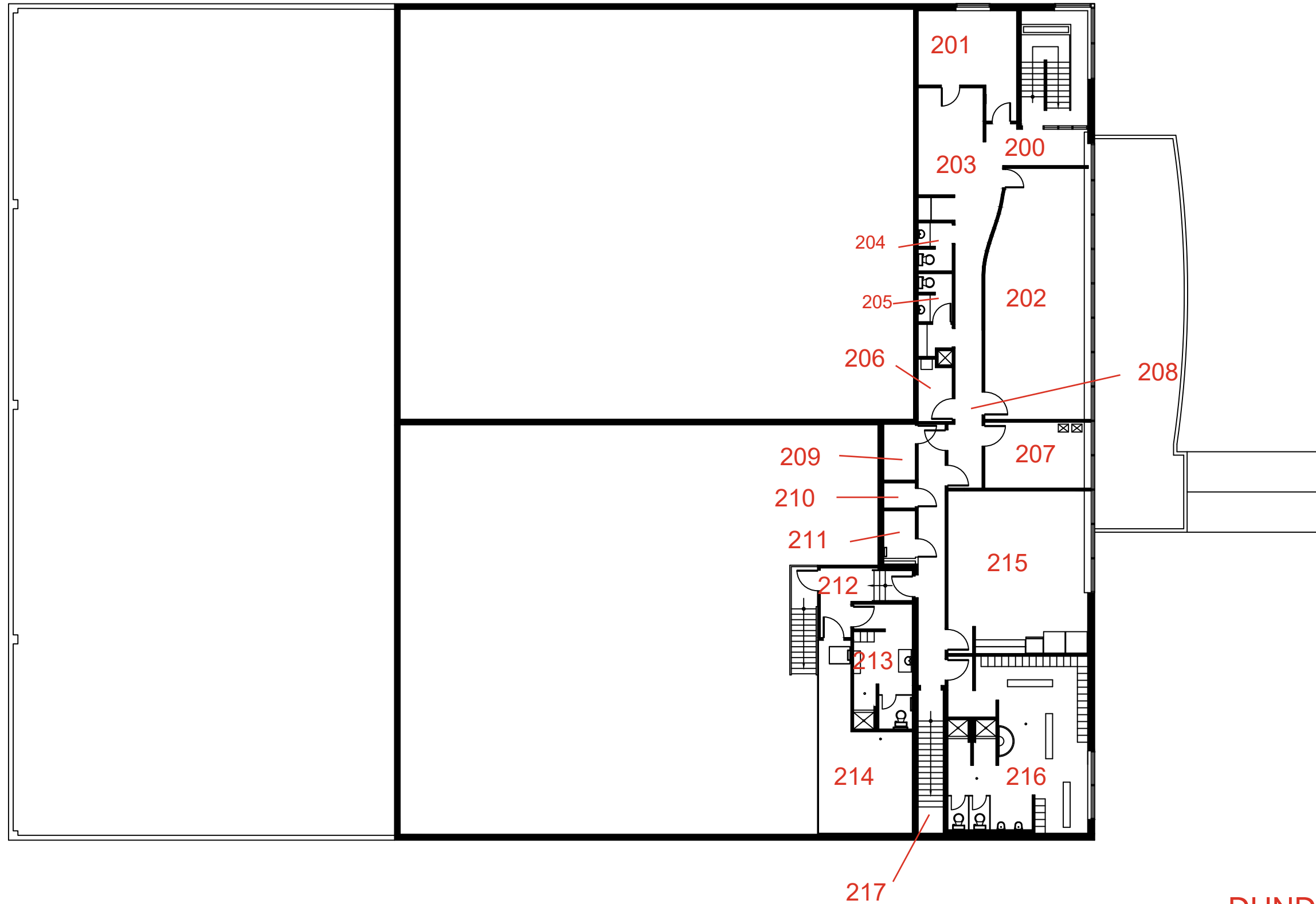
Int. Gross Area:  
total: 19,460.60 SQFT  
office: 3,755.37 SQFT



DUNDAS YARD



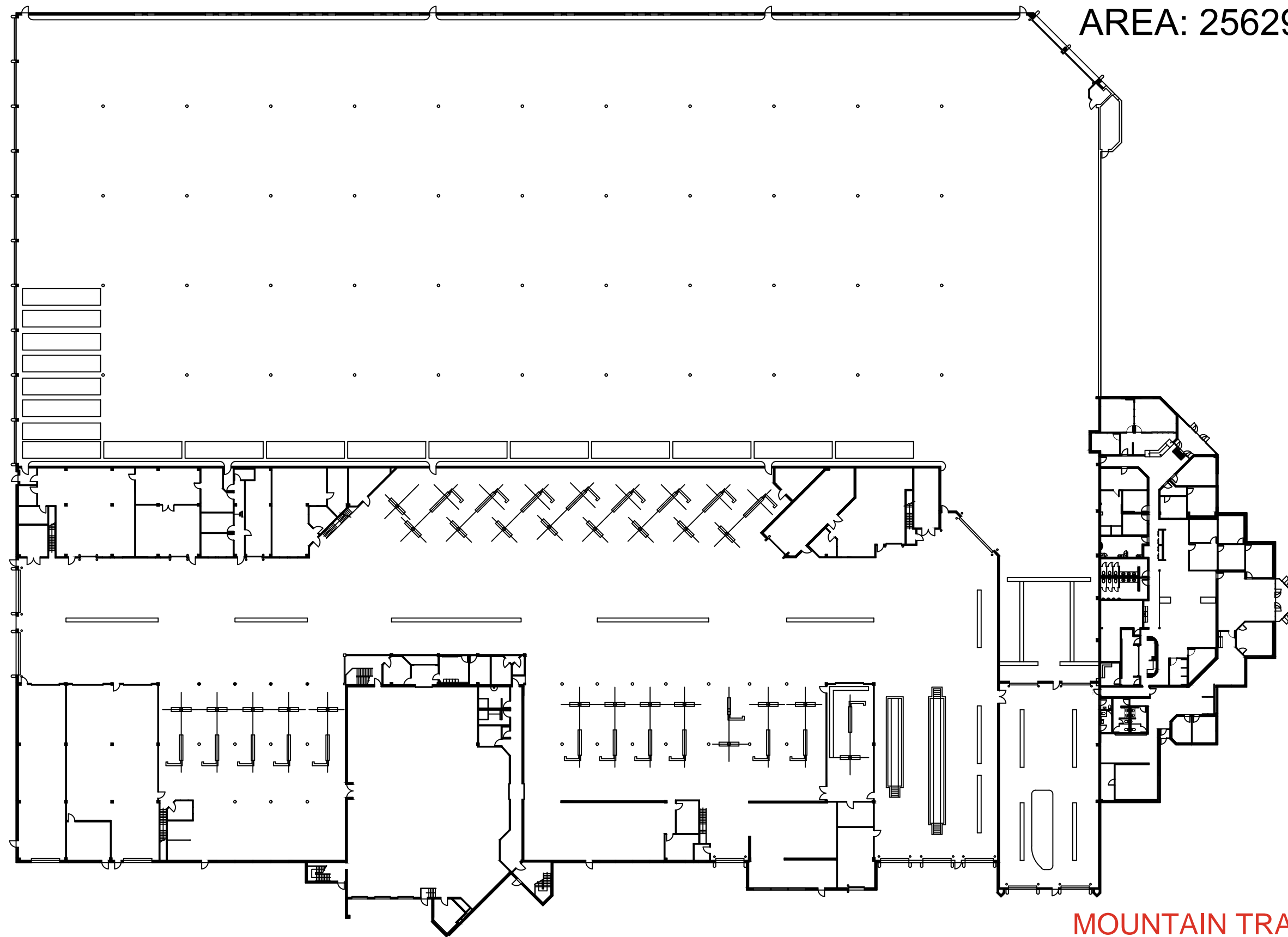
Int. Gross Area:  
3,734.49 SQFT



DUNDAS YARD



AREA: 256297.89 SQFT



MOUNTAIN TRANSIT CENTRE



Hamilton

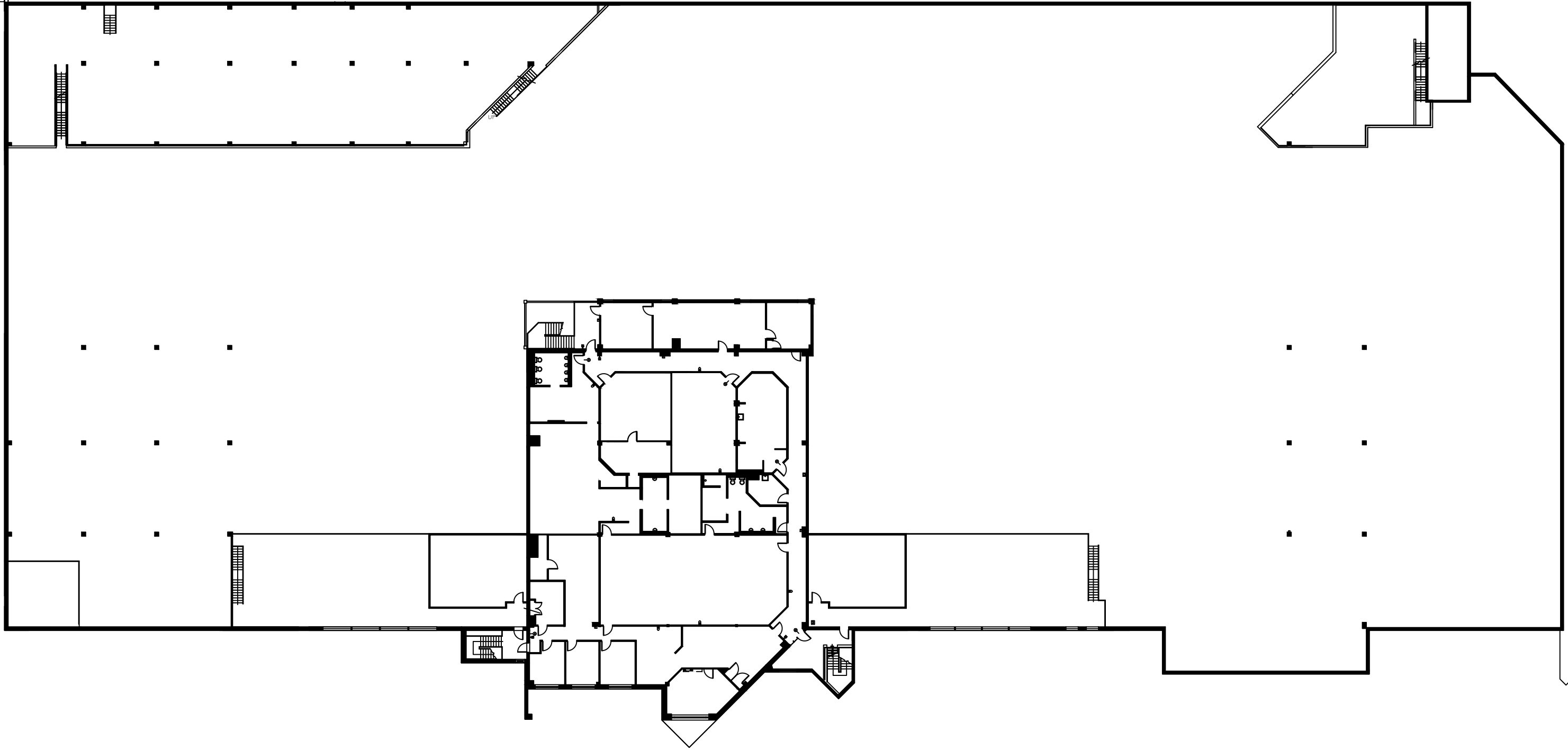
YRD035 - 2200 Upper James Street - Mountain Transit Centre

Scale: NTS

First Floor

September 2024

AREA: 27219.28 SQFT



MOUNTAIN TRANSIT CENTRE



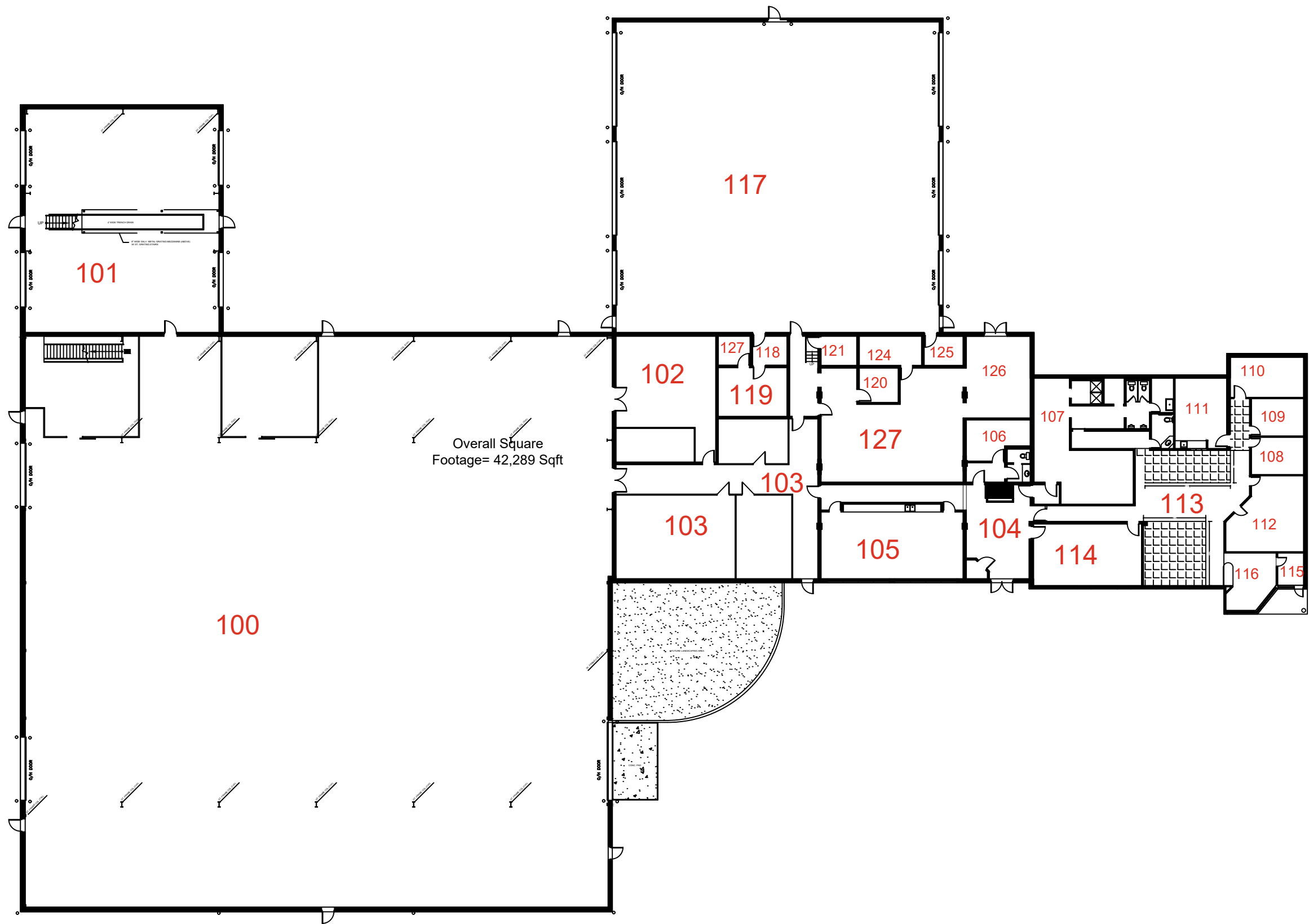
Hamilton

YRD035 - 2200 Upper James Street - Mountain Transit Centre

Scale: NTS

Second Floor

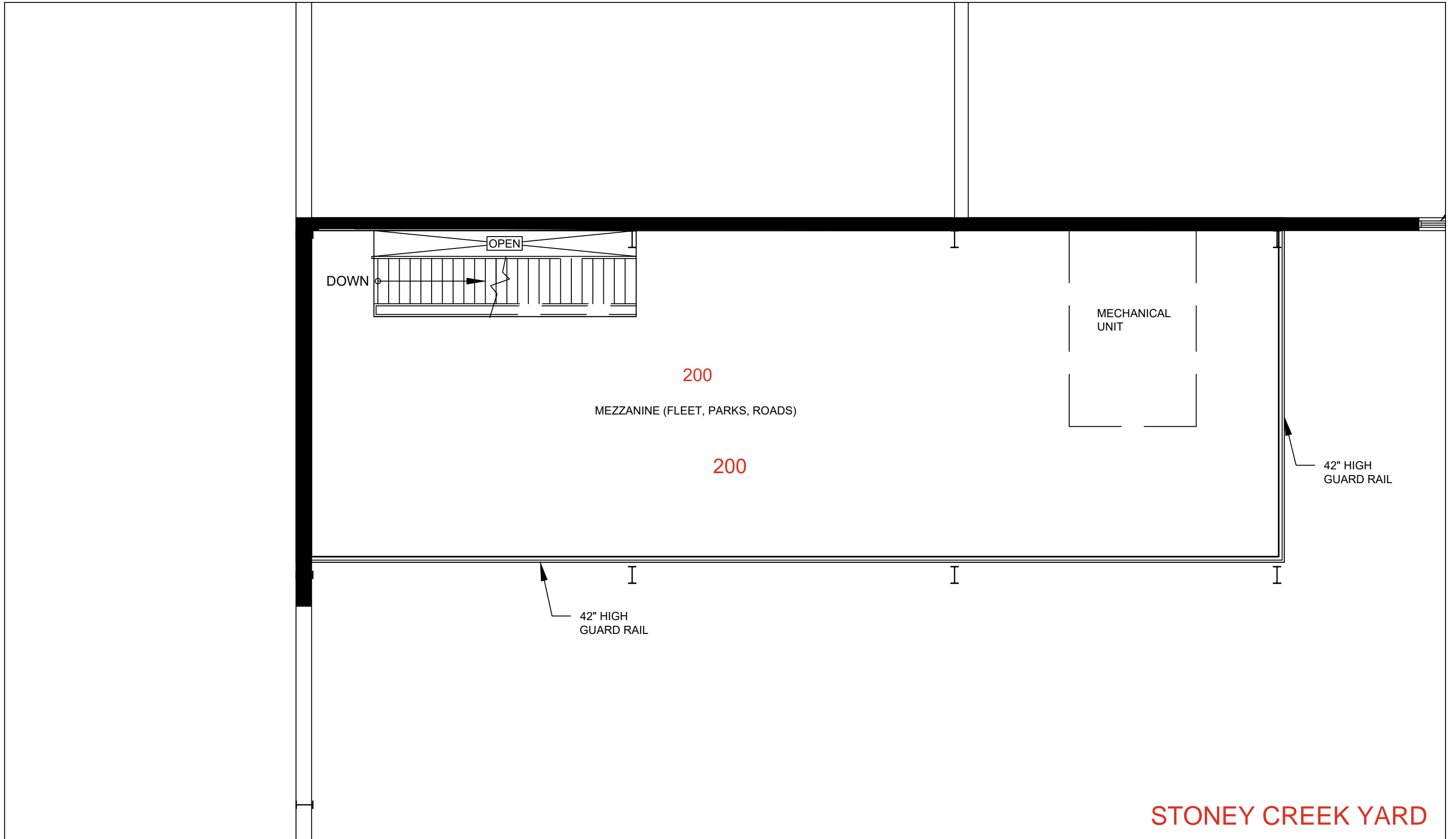
June 22, 2022



Overall Square Footage= 42,289 Sqft

STONEY CREEK YARD

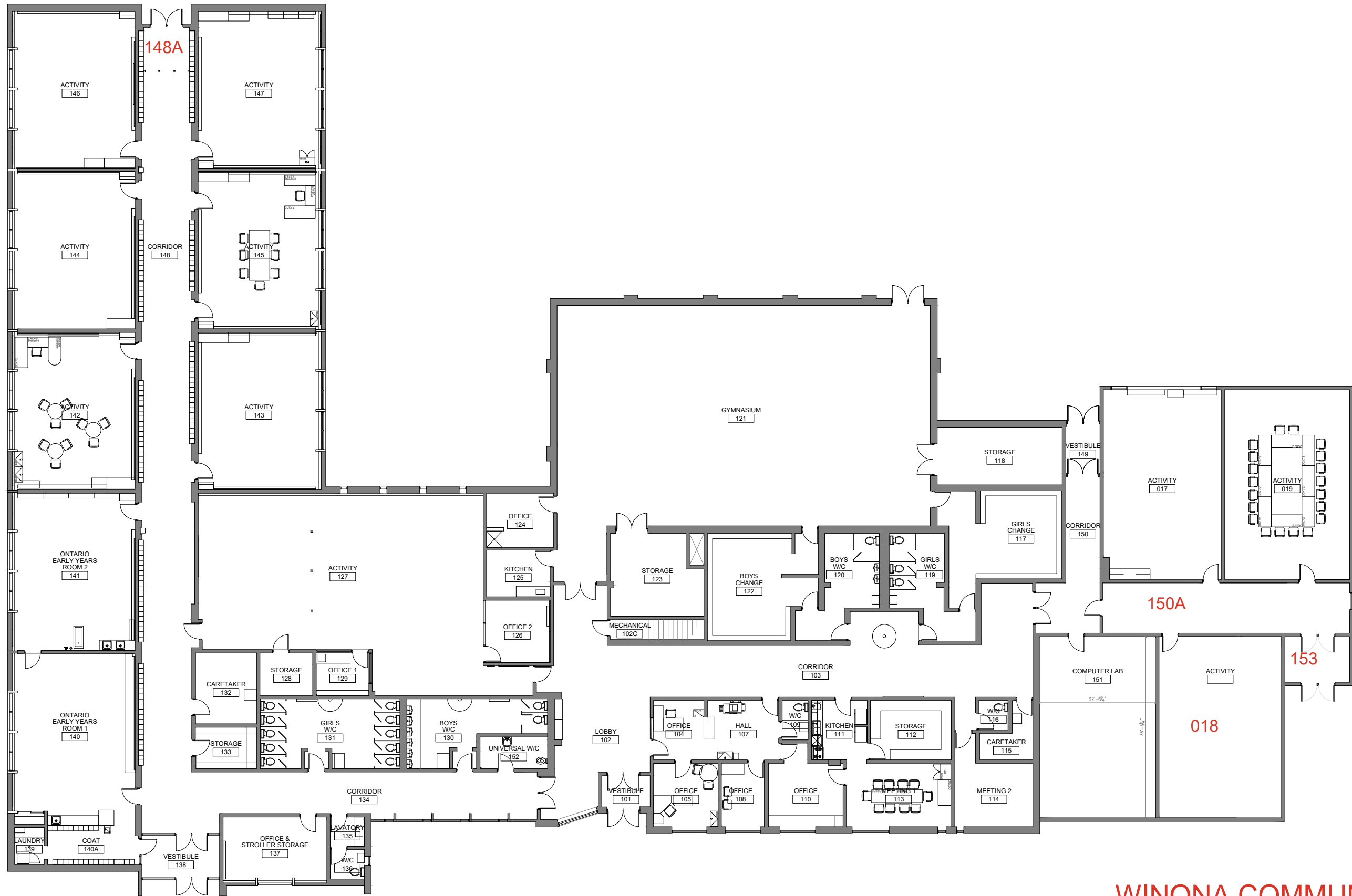




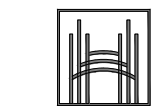


**FORESTRY YARD**

1301 Upper Ottawa

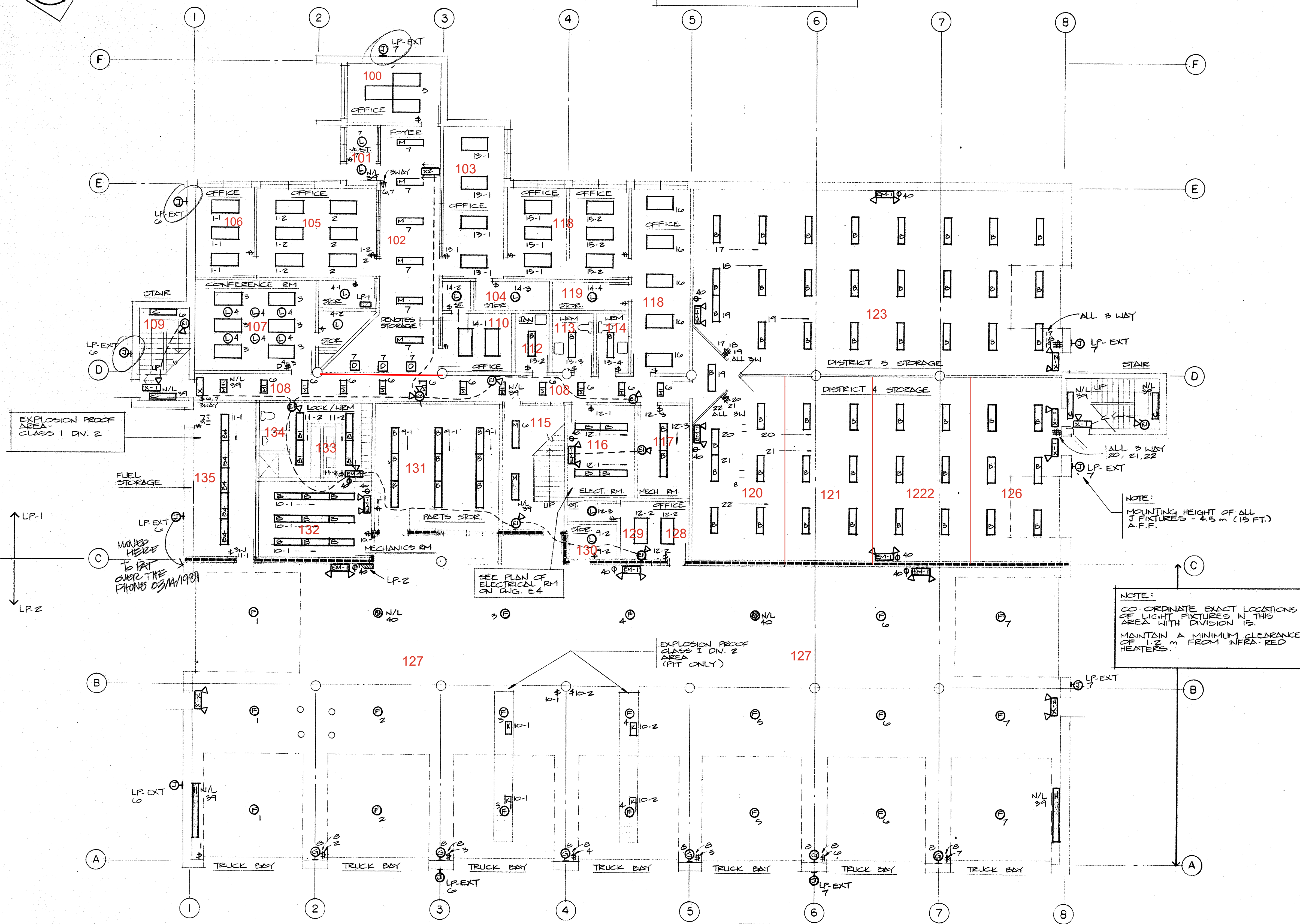
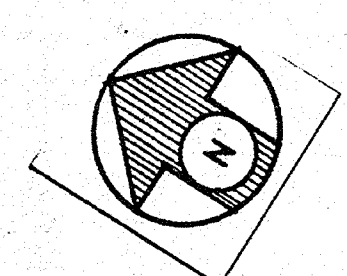


**WINONA COMMUNITY CENTRE**





NOTE: ALL LIGHT FIXTURES ON THIS DRAWING ARE TYPE 'A' UNLESS NOTED OTHERWISE.



PANEL - LP-1 120-208V 3φ 4W

	KW	BREAKER	CIRCUIT	CIRCUIT	BREAKER	KW
OFFICE LTR.	1.2	15	1	2	15	0.6 OFFICE LTR.
	1.0		3	4	0.8 OFFICE LTR.	
	1.0		5	6	1.0 OFFICE LTR.	
CONF. LTR.	1.0		7	8	SPARE	
FLOOR LTR.	1.0		9	10	1.0 FLOOR LTR.	
	0.7		11	12	1.0	
	1.0		13	14	0.9	
			15	16	1.0	
			17	18		
			19	20		
			21	22		
SPARE			23	24	SPARE	
4 #			25	26	0.8 4 #	
3 #	0.6		27	28	0.8 4 #	
5 #	1.0		29	30	0.5 GFR #	
4 #	0.8		31	32	0.8 4 #	
3 #	0.6		33	34	0.8 4 #	
3 #	0.6		35	36	0.6 3 #	
4 #	0.8		37	38	0.8 4 #	
N/L	1.0		39	40	1.0 EM. / EXIT LT.	
# EL. RM.	0.8		41	42	0.5 # TELEPHONE	
MAX. DEM. LOAD-					20 KW	
TOTAL CONNECTED LOAD-					26 KW	

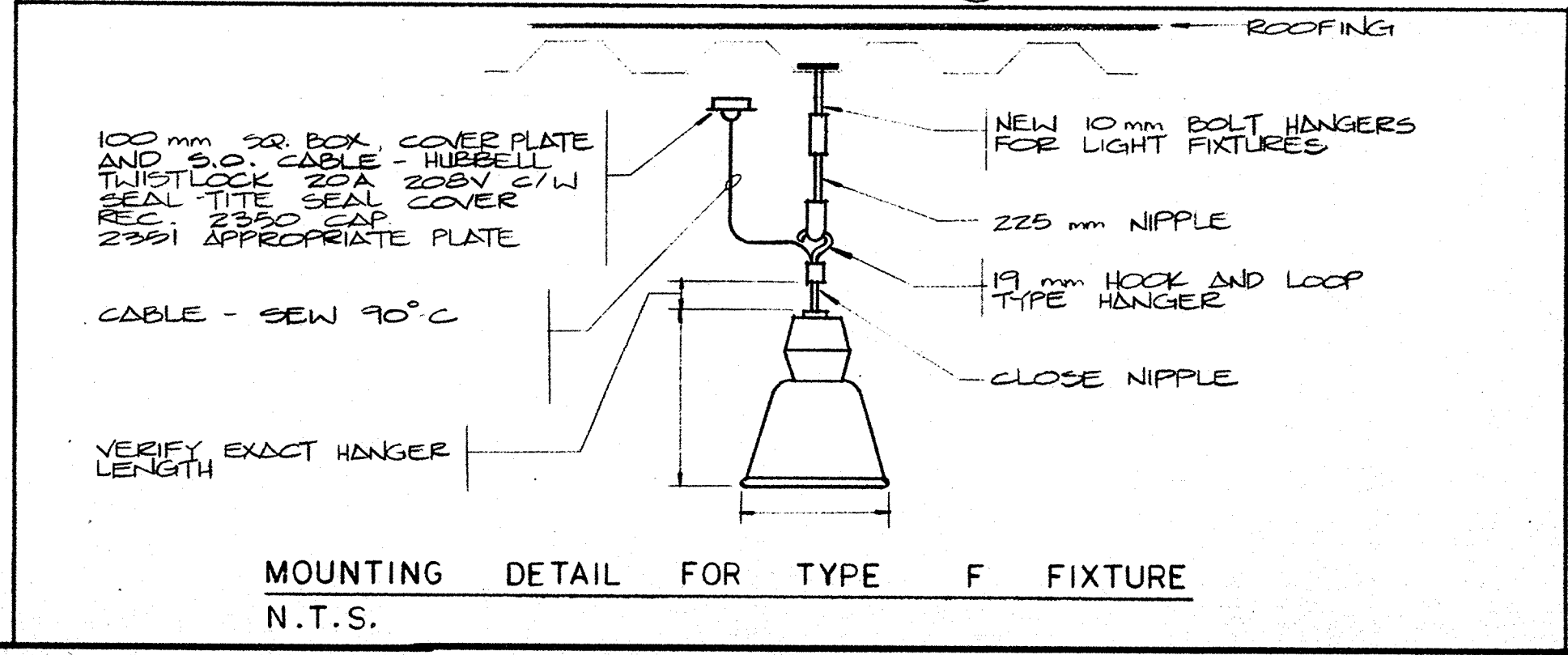
PANEL - LP-2 120-208V 3φ 4W

	KW	BREAKER	CIRCUIT	CIRCUIT	BREAKER	KW
GARAGE LTR.	1.0	20	1	2	20	0.8 GARAGE LTR.
	1.0		3	4	1.0	
	1.0		5	6	1.0	
	1.0		7	8	0.6	
SPARE			9	10	SPARE	
2 #	0.4	15	11	12	0.4	2 #
2 #	0.4		13	14	SPARE	
PLUG MOLD	0.5		15	16	SPARE	
			17	18	0.5 PLUG MOLD	
			19	20	0.5 PLUG MOLD	
			21	22	0.5 OUTLET	
			23	24	0.5	
			25	26	0.5	
			27	28	0.5	
OUTLETS			29	30	1 FUEL PUMP	
SPARE			31	32	1 FUEL PUMP	
CF-1, 2, 3	2.5		33	34	2 FUEL PUMP LIGHTS	
SPARE			35	36	2 SPARE	
SPARE			37	38	1.0	SPARE
N/L	0.6		39	40	0.9	N/L
SPARE			41	42	SPARE	
MAX. DEM. LOAD-					20 KW	
TOTAL CONNECTED LOAD-					25 KW	

PARKING LOT BLOCK HEADERS

PANEL - LP-0 120-208V 3φ 4W

	KW	BREAKER	CIRCUIT	CIRCUIT	BREAKER	KW
BLOCK HTR.	1.0	15	1	2	15	1.0 BLOCK HTR.
			3	4		
			5	6		
			7	8		
			9	10		
			11	12		
			13	14		SPARE
			15	16		1.0 BLOCK HTR.
			17	18		
			19	20		
			21	22		
			23	24		
			25	26		
			27	28		
SPARE			29	30		SPARE
			31	32		
			33	34		
			35	36		
			37	38		
			39	40		
			41	42		
MAX. DEM. LOAD-						20 KW
TOTAL CONNECTED LOAD-						20 KW



GROUND FLOOR PLAN (LIGHTING AND EMERGENCY LIGHTING)  
SCALE: 1:100

RYMAL ROAD YARD

**P.T. engineering**  
CONSULTING ENGINEERS  
HAMILTON ONTARIO  
PROJECT # 8802

DESCRIPTION: DATE ISS.  
REVISIONS:  
THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND REPORT ALL ERRORS AND OMISSIONS TO THE ARCHITECT. DO NOT SCALE THE DRAWING. THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNTIL ISSUED BY THE ARCHITECT.



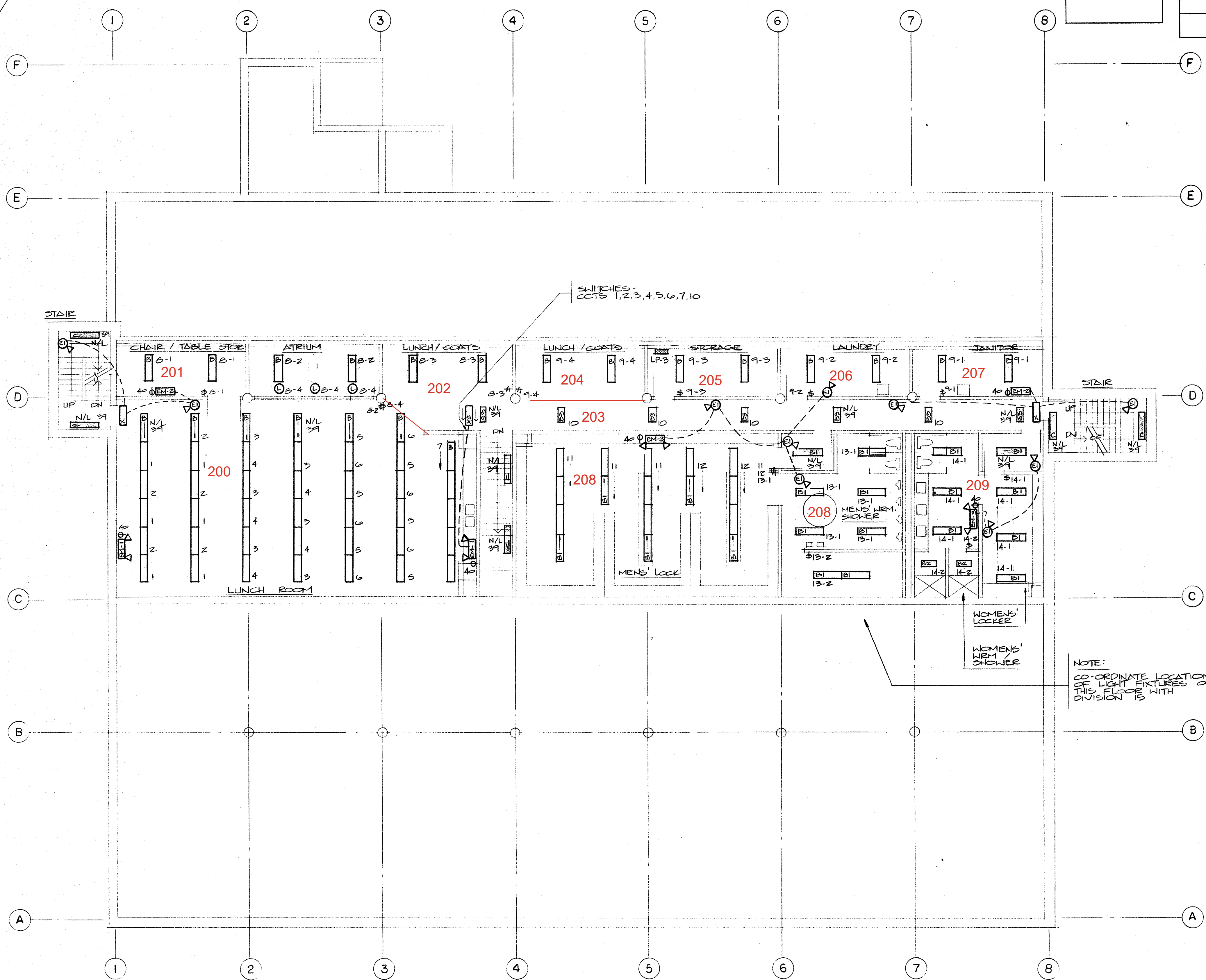
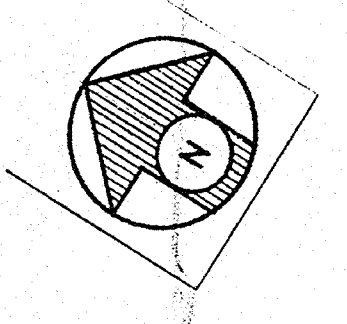
**BRUCE BERGLUND ARCHITECTS**

DATE: 1987-08-08  
SCALE: AS NOTED  
PROJECT: DISTRICT OFFICE AND UTILITY BUILDING, RYMAL ROAD, HAMILTON, ONTARIO  
ELECTRICAL - GROUND FLOOR PLAN

PROJECT NO: AD '87-028  
AUG 31 1987

**E2**





SECOND FLOOR PLAN (LIGHTING AND EMERGENCY LIGHTING)  
SCALE: 1:100

RYMAL ROAD YARD

LAMPS:  
2 x 7W AC FL,  
1 x 0W DC

SWITCHES -  
CCTS 1, 2, 3, 4, 5, 6, 7, 10

NOTE:  
CO-ORDINATE LOCATION  
OF LIGHT FIXTURES ON  
THIS FLOOR WITH  
DIVISION 15

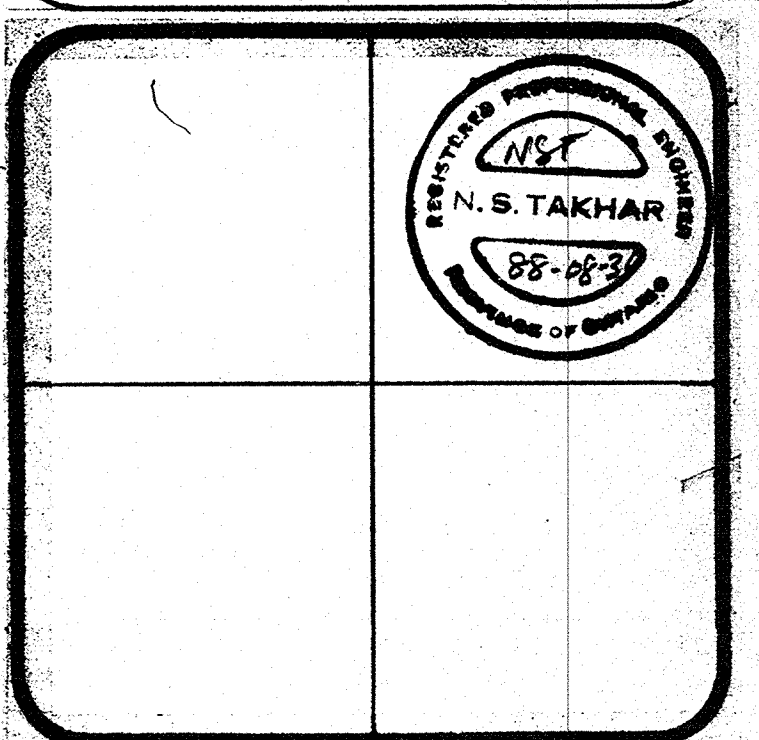
EMERGENCY/EXIT LIGHTING FIXTURES SCHEDULE		
MARK	DESCRIPTION	MFR. # CAT. NO
RE-1	EXIT LIGHT FIXTURE NOT POWERED CONNECTED TO OTHER UNIT OR EMERGENCY BATTERY	LUMACELL # RE1-C-U
RE-2	EXIT LIGHT FIXTURE NOT POWERED CONNECTED TO OTHER UNIT OR EMERGENCY BATTERY, DOUBLE FACE	LUMACELL # RE2-C-U
RE-1-MQ1	EXIT LIGHT FIXTURE, SELF POWERED WITH MOUNTED 1-12W & LAMP	LUMACELL # RGS 30-RE1-C-PPR-TS-MQ1
RE-2-MQ2	EXIT LIGHT FIXTURE, SELF POWERED WITH MOUNTED 2-12W & LAMPS	LUMACELL # RGS 30-RE1-C-PPR-TS-MQ2
MQ-1	EMERGENCY LIGHTING FIXTURE, WALL OR CEILING MOUNTED, 1-12W & LAMP CANOPY MOUNTED	LUMACELL # MQ-1 GV 1-12W LAMP
MQ-2	EMERGENCY LIGHTING FIXTURE, WALL OR CEILING MOUNTED, 2-12W & LAMP CANOPY MOUNTED	LUMACELL # MQ-2 GV 2-12W LAMPS
RGS 30-2	EMERGENCY BATTERY UNIT 30W/1/2HR WITH MOUNTED 2-12W & LAMPS	LUMACELL # RGS 30-2 C/W SHELF
RGS 30	EMERGENCY BATTERY UNIT SAME AS RGS 30 EXCEPT NO MOUNTED	LUMACELL # RGS 30 C/W SHELF
RGS 100-2	EMERGENCY BATTERY UNIT 100W/1/2 HR WITH MOUNTED 2-12W & LAMPS	LUMACELL # RGS 100-2 C/W SHELF
RGS 100-1	EMERGENCY BATTERY UNIT 100W/1/2 HR WITH MOUNTED 1-12W & LAMP	LUMACELL # RGS 100-1 C/W SHELF

LIGHTING FIXTURES SCHEDULE			
TYPE	DESCRIPTION, MANUFACTURER # CAT. #	LAMPS	
A	2'x4' FLUORESCENT, RECESS MOUNTED FOR T-BAR CEILING C & M # AG-6024-4 (600x1200 mm) OR SYLVANIA EQUAL	4-40W RS	
B	1'x4' FLUORESCENT, SURFACE MOUNTED OR SUSPENDED TO SUIT C & M # SAG-1024-4 (600x1200 mm) OR SYLVANIA EQUAL	2-40W RS	
B1	1' FLUORESCENT SURFACE MOUNTED CRAFT LITE C & M # F040 OR SYLVANIA EQUAL (1200 mm)	2-40W RS	
B2	2' FLUORESCENT SURFACE MOUNTED CRAFT LITE C & M # G20 OR SYLVANIA EQUAL (600 mm)	1-20W RS	
B3	2' FLUORESCENT SURFACE MOUNTED C & M # SAG-6024-2U OR SYLVANIA EQUAL (600 mm)	2-40W U RS	
C	4' FLUORESCENT CUBE LITE, WALL OR CEILING MOUNTED C & M # AG-1224-4 (1200 mm) OR SYLVANIA EQUAL	2x40W RS	
B4	FLUORESCENT EXPLOSION PROOF C.H. # ENF 2208-5069	2x40W RS	
D	INCANDESCENT SURFACE CYLINDERS SQUARE 6" CAPRI # WS 300 COLOUR BY ARCHITECT	150W R40	
F	M.H. SUSPENDED TO SUIT HOLOPHONE PRISMFACE II # PPK-400 MH-12 GREY FINISH OR HUBBELL EQUAL	400W MH	
G	H.P.S. WALL PACK HOLOPHONE WALL PACK III # WLK-100 HP-12-GR HUBBELL PERMALITER # PVL-0100 S HPS	100W H.P.S.	
H	6' FLUORESCENT HIGH OUTPUT SURFACE MOUNTED C & M # CRL-296-F C/W WIRE GUARD	2x105W	
F1	SAME AS TYPE F EXCEPT WITH TUNGSTEN HALOGEN LAMP		
I	EXTERIOR H.P.S. WALL MOUNTED, MOLD CAST PARACRYL # RL-2 C/W CUTTING PHOTOCELL AND FLAT POLYCARBONATE LENS OR HUBBELL PERMALITER # PVL-0100 S HPS	150W H.P.S.	
K	H.P.S. FIXTURE RECESSED C.H. (CRUSE HINDS) # MPL-70LE-C2-G POINTING UP	1-70W HPS 120 VOLT	
L	INCANDESCENT RECESSED 6" DOWNLIGHT CAPRI # AE11X-T12	150W R40	
M	1'x4' FLUORESCENT, RECESS MOUNTED T-BAR CEILING C & M # AG-1024-4	2x40W RS	
M1	SAME AS TYPE M EXCEPT 2' LONG C & M # AG-6024-2U	2x40W RS U	
N	EXTERIOR POLE MOUNTED FIXTURES GARCO # E1H-11-3 250 HPS - BRA # POLE CSP 5-30-D1-BRP	250W HPS	
NI	EXTERIOR FIXTURE POLE MTD. VEH 19-1 40-14-BRP	400W HPS	
P	HIGH PRESSURE SODIUM, POLE MOUNTED, PAINTED BLACK - POLE 4.0m HIGH, ANCHOR END, LUMINAIRE HOLOPHONE M5FAIR WITH FLAT PRISMATIC LENS (FOR FUEL PUMP ISLAND)	250W HPS	

NOTES:  
1. RE: EMERGENCY / EXIT LIGHTING:  
• VERIFY MOUNTING ARRANGEMENTS AND CONFIGURATION ON SITE.  
• ARROW ON EXIT LIGHT FIXTURES DENOTES DIRECTION OF ARROW ON FACEPLATE.

**P.T. engineering**  
CONSULTING ENGINEERS  
HAMILTON ONTARIO  
PROJECT # 8802

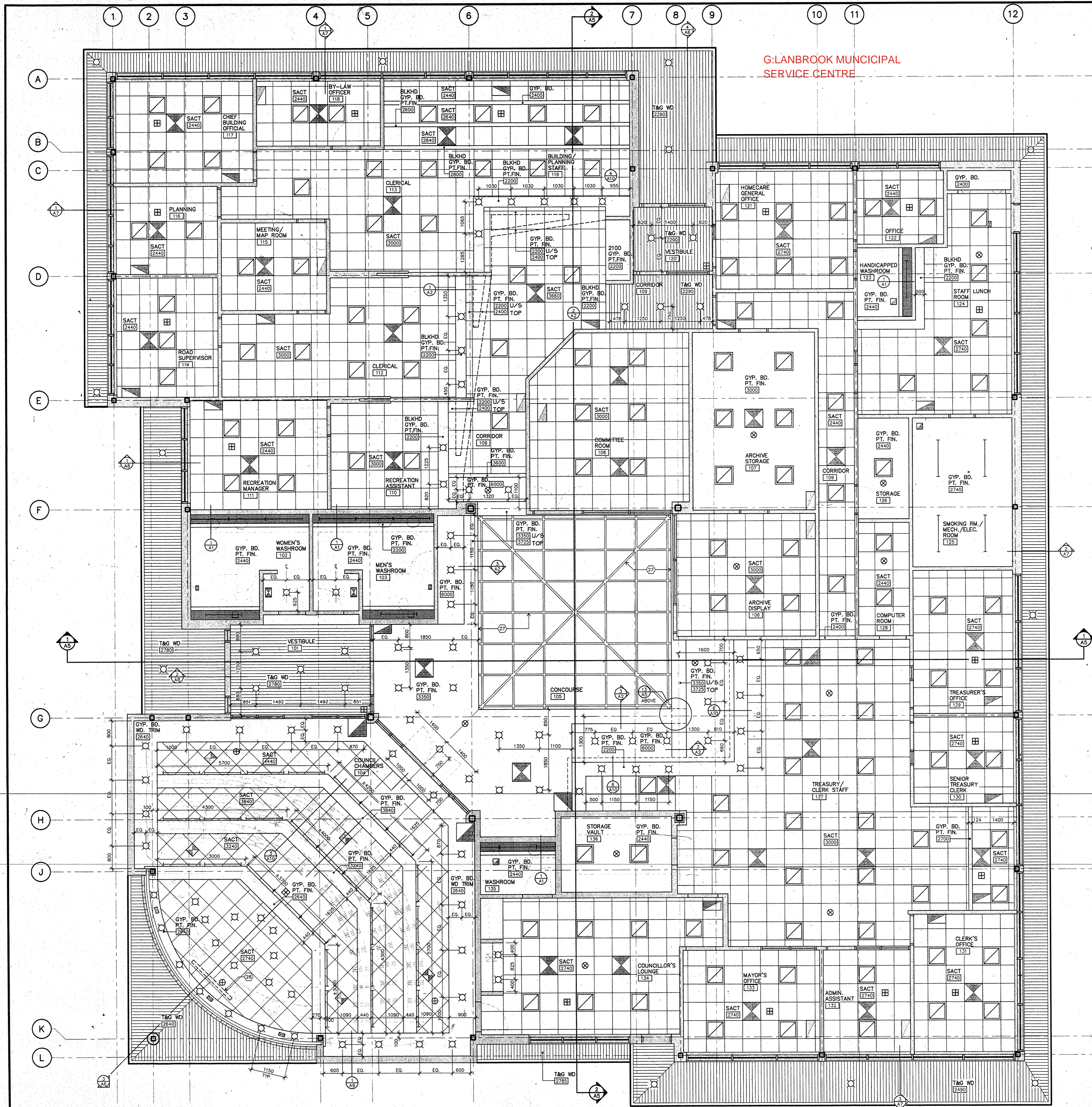
DESCRIPTION	DATE	BY
REVISIONS		
THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND REPORT ALL ERRORS AND OMISSIONS TO THE ARCHITECT. DO NOT SCALE THE DRAWING. TWO DIMENSIONS SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNLESS CHECKED BY THE ARCHITECT.		



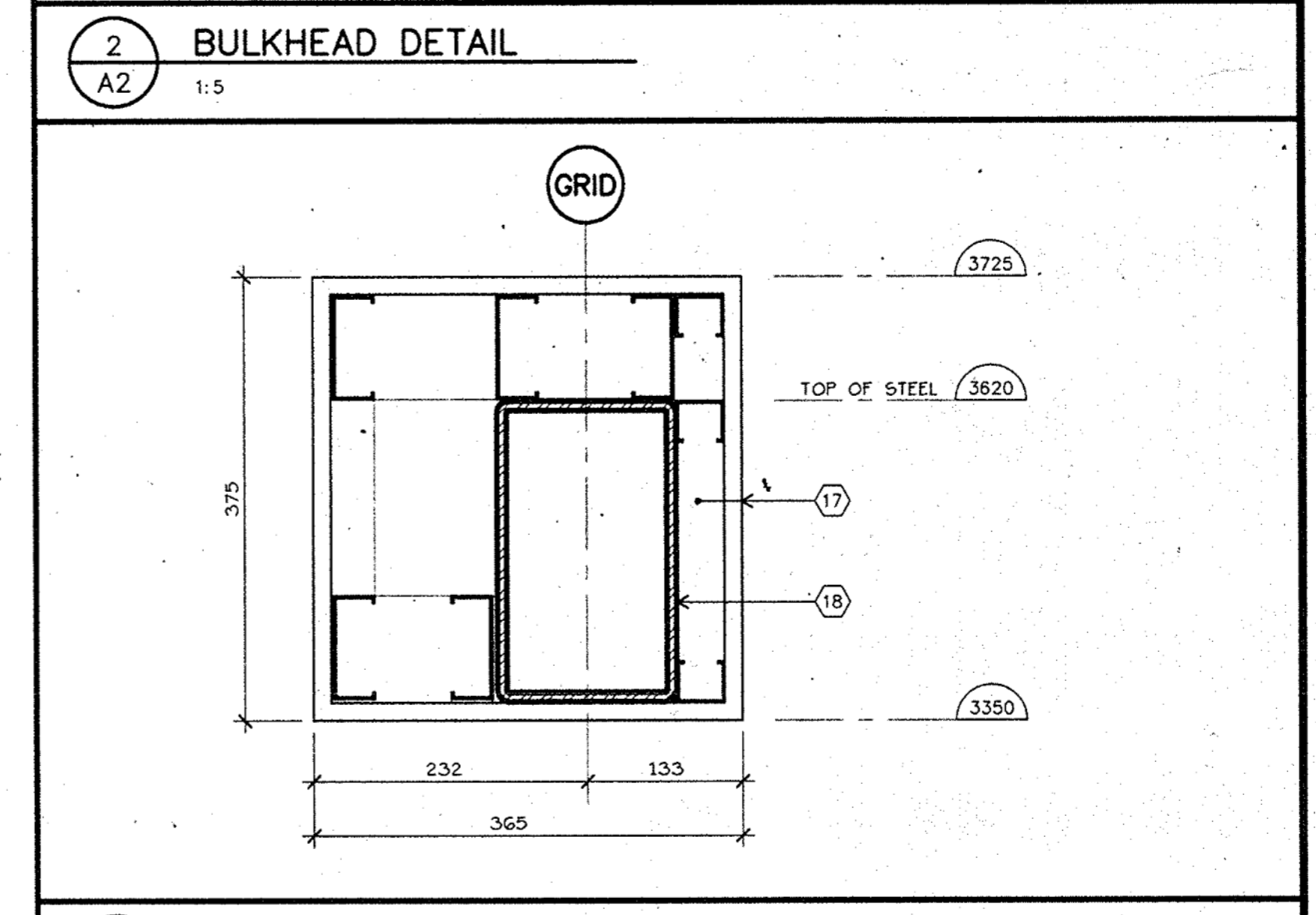
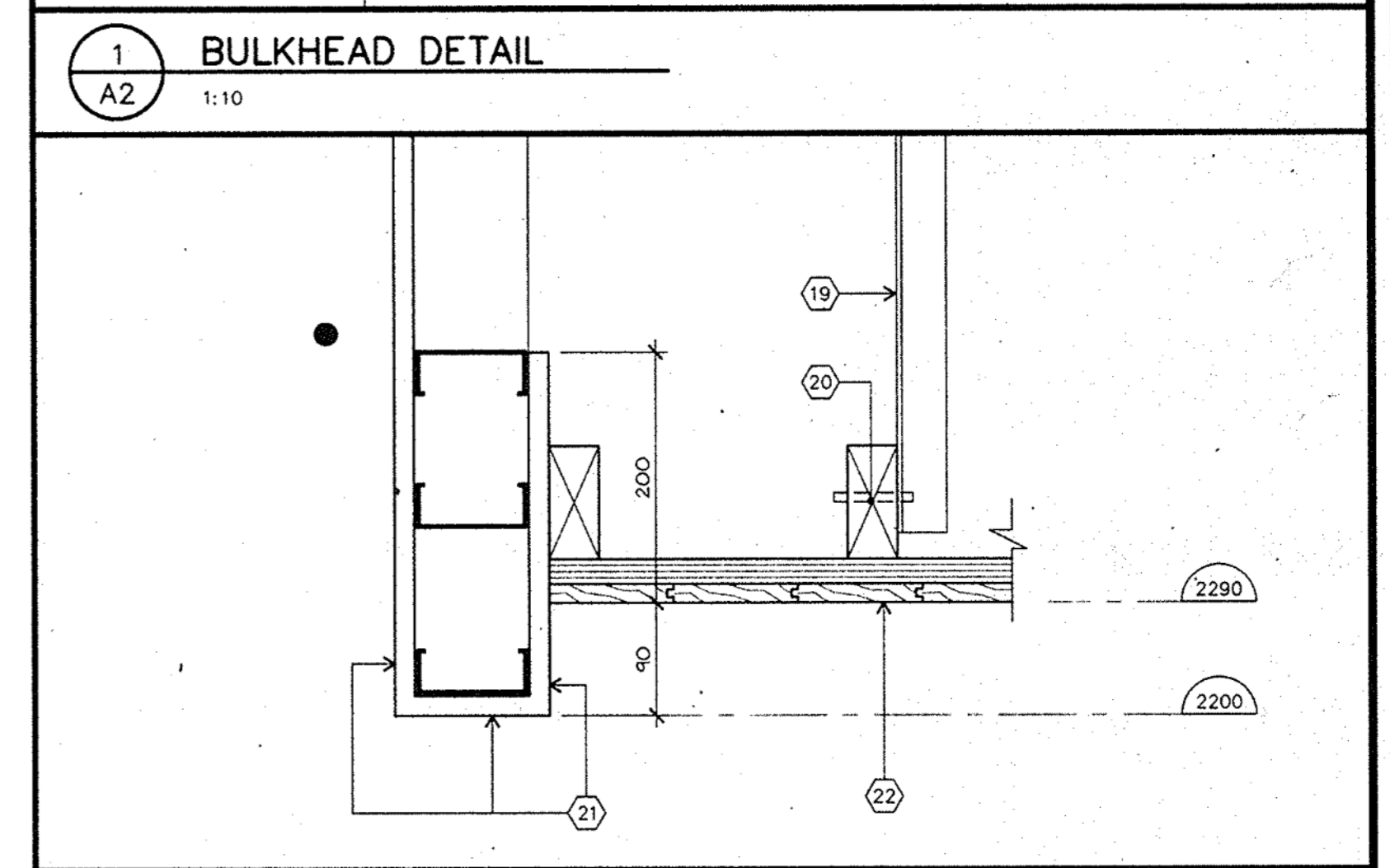
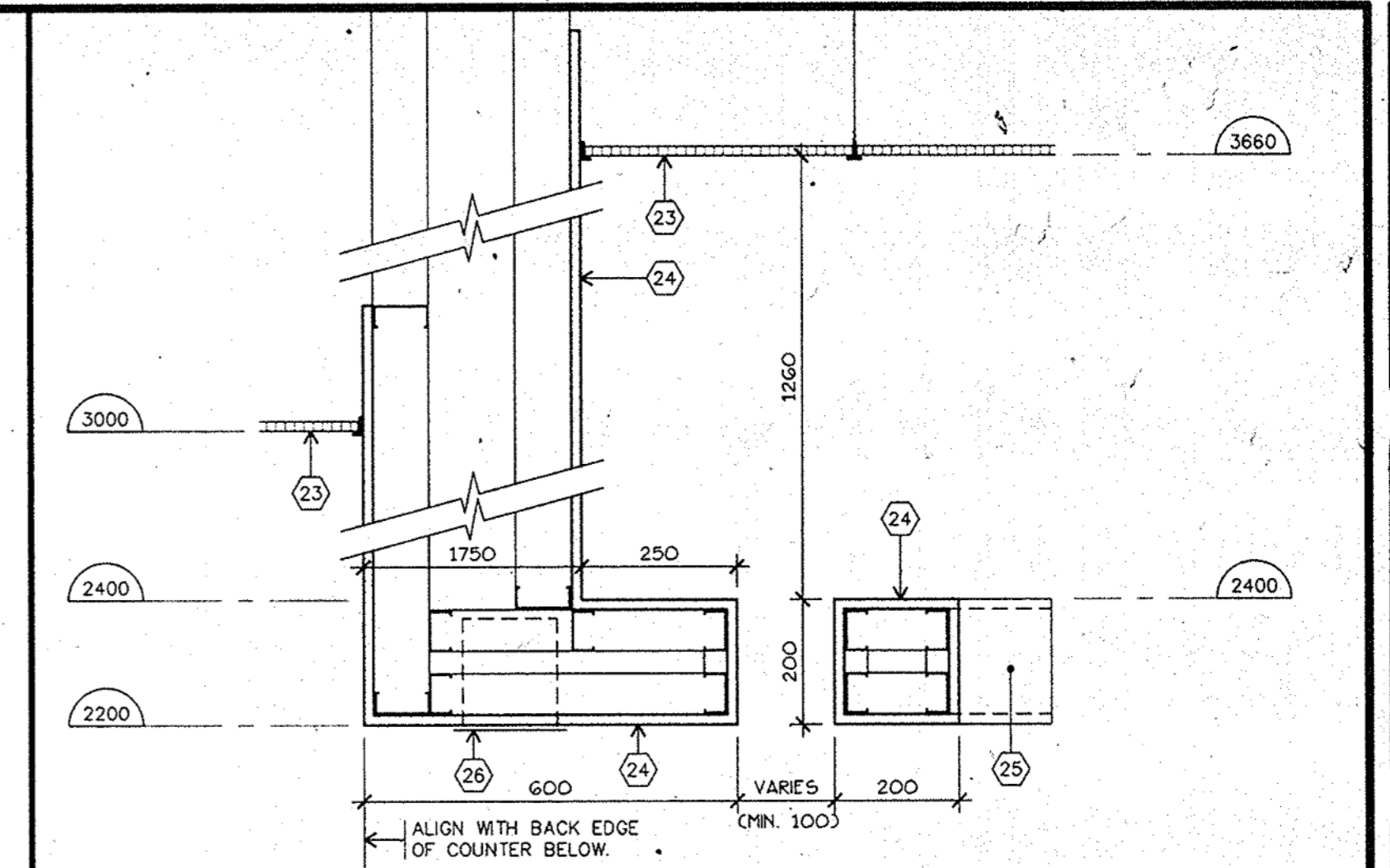
**BRUCE BERGLUND ARCHITECTS**

DATE	NT	DATE	AS NOTED
1988		1988	
SCALE			
PROJECT OFFICE AND UTILITY			
100-1000, RYMAL ROAD, HAMILTON, ONTARIO			
ELECTRICAL - SECOND FLOOR PLAN			
PROJECT NO: AD 87-028			
AUG 31 1988			
<b>E3</b>			





G. LANBROOK MUNICIPAL SERVICE CENTRE



SYMBOL LEGEND		DRAWING NOTES	
	FLUORESCENT LIGHT FIXTURE	1	40 x 6mm STAINLESS STEEL BENT PLATE BRACKET FOR VANITY SUPPORT.
	RECESSED POT LIGHT	2	POST FORMED VANITY TOP WITH PLASTIC LAMINATE FINISH. REFER TO COLOUR SCHEDULE.
	SURFACE MOUNTED STRIP LIGHTING FIXTURE	3	2 LAYERS - 20mm PLYWOOD. CONTINUOUS ALONG LENGTH OF VANITY AND AT EACH END.
	SUPPLY AIR DIFFUSER	4	PROVIDE 20mm PLYWOOD AT EXPOSED ENDS OF VANITIES. FINISH ALL EXPOSED SURFACES WITH PLASTIC LAMINATE TO MATCH COUNTER TOPS.
	RETURN AIR DIFFUSER	5	MIRROR TO EXTEND FROM TOP OF BACKSPLASH TO U/S OF LIGHT VALANCE. FULL LENGTH OF VANITY. (TYPICAL)
	Denotes ceiling material and ceiling height	6	DELETE WALL TILE BEHIND MIRROR. (TYPICAL)
	LAT-IN ACOUSTICAL CEILING	7	PROVIDE BLOCKING IN WALL AS REQUIRED FOR VANITY AND MIRROR SUPPORT.
	25 x 100mm T&G CEDAR CLEAR SEALER FINISH	8	INSTALL WALL TILE BELOW VANITY. (TYPICAL)
	ANODIZED ALUMINUM EGGRATE LENS	9	FLOOR TILE WITH COVE BASE C/W BULLNOSE EDGE. REFER TO COLOUR SCHEDULE.
	SUSPENDED ACOUSTIC TILE	10	65mm STEEL STUDS AT LIGHT VALANCE.
	GYP. BD. PT. FIN.	11	PROVIDE ADDITIONAL SUPPORT FOR SECURING FLUORESCENT STRIP FIXTURES IF REQUIRED.
	ARE TYPE BREAK GLASS DETECTOR	12	13 x 13 x 13mm METAL LAT-IN EGGRATE LENS. COLOUR: WHITE.
	SMOKE DETECTOR	13	CONTINUOUS METAL SUPPORT ANGLE FOR EGGRATE LENS. COLOUR: WHITE.
		14	SURFACES BEHIND VALANCE AREA TO BE PAINTED WHITE. (TYPICAL)
		15	GYP. BOARD CEILING. PAINTED FINISH. REFER TO COLOUR SCHEDULE.
		16	PANT EXPOSED SURFACES OF VALANCE TO MATCH GYP. BOARD CEILING.
		17	METAL STUD FLOORING AND GYP. BOARD GLASSING AT LOWER PERIMETER SKYLIGHT BEAM. REFER TO REFLECTED CEILING PLAN FOR LOCATIONS.
		18	LOWER STRUCTURAL STEEL BEAM AROUND PERIMETER OF SKYLIGHT OPENING. REFER TO STRUCTURAL DRAWINGS.
		19	STEEL ANGLE WELDED TO STEEL STRUCTURE ABOVE FOR WOOD FRAMING SUPPORT.
		20	40 x 90mm WOOD FRAMING SCREWED TO STRUCTURAL ANGLE. FOR SECURING OF WOOD CEILING.
		21	16mm GYP. BOARD ON 90mm METAL STUD FRAMING. NOTE GYP. BOARD TO EXTEND A MIN. OF 200mm BEYOND UNDERSIDE OF CEILING.
		22	T&G CEDAR SOING SECURED TO 20mm PLYWOOD SUB-CEILING. (TYPICAL WHERE INDICATED ON REFLECTED CEILING PLAN)
		23	SUSPENDED ACOUSTIC CEILING SYSTEM (REFER TO REFLECTED CEILING PLAN AND SPECIFICATIONS)
		24	16mm GYP. BOARD ON METAL STUDS SUSPENDED FROM STRUCTURE ABOVE. PAINTED FINISH. REFER TO FINISH SCHEDULE.
		25	FACE OF BULKHEAD ANGLED BACK TO FACE OF WALL BEYOND LOCATION OF DEPARTMENTAL SIGNAGE. (TYPICAL OVER 3 LOCATIONS)
		26	TYPICAL LOCATION OF POT LIGHT FIXTURES IN BULKHEADS.
		27	SKYLIGHT GLAZING + FRAMING ABOVE. PAINT STRUCTURAL MEMBERS.
		28	RECESSED CEILING MOUNTED PROJECTION SCREEN. 1828x1828mm MANUAL OPERATION. C/W FULLY ENCLOSED CASE AND MOUNTING BRACKETS. BY KOLLERMAN BY DRAPER SHADE AND SCREEN CO. INC. OR APPROVED ALTERNATE.

**CHAMBERLAIN ARCHITECT SERVICES LIMITED**  
 1001 CHAMPLAIN AVENUE SUITE 300  
 BURLINGTON ONTARIO L7R 4S4  
 TELEPHONE 416-332-8888  
 TELEFAX 332-7911

CHAMBERLAIN ASSOCIATES  
 BURLINGTON CHAMBERLAIN  
 1990-1991

REVISIONS  
 NO. DATE

PROJECT TITLE  
**GLANBROOK CIVIC ADMINISTRATION BUILDING**

LOCATION  
 WHITE CHURCH ROAD  
 GLANBROOK, ONTARIO

DATE  
 MAY 1994

DRAWN  
 LB

CHECKED

SCALE  
 AS NOTED

ISSUED FOR  
 BLOCK PRINT

ISSUED FOR  
 TENDER  
 MAY 9 1994

ISSUED FOR  
 CONSTRUCTION

CAD FILE NO.  
 92081A02

COPYLOT  
 MAY 9 1994

SHEET TITLE  
**REFLECTED CEILING PLAN**

PROJECT NUMBER  
**92081**

DIVISION  
 A

NUMBER  
 2



## **APPENDIX D**

### **REPRESENTATIVE CUT SHEETS**

Representative manufacturer cut sheets have been included to illustrate the form, style and quality of products requested in the performance specifications.

Refer to Section 26500 of this specification for performance specification.

Refer to Section 26000, item 1.5 for detail on the submission of Equivalents.

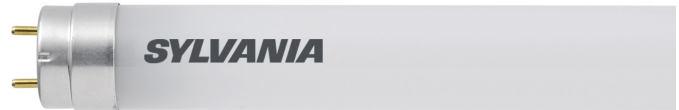
2' T8 LED - LEDVANCE / 40993 LED8T8L24FG841SUBG9  
 4' T8 LED - LEDVANCE/ 41276 LED12T8L48FGDIM841SUBG9

# SYLVANIA Lamps

## SubstiTUBE® IPS LED T8

Compatible LED T8 for use with instant start and select programmed rapid start electronic T8 ballasts

SubstiTUBE IPS LED T8 lamps are an energy saving alternative, designed to replace traditional fluorescent T8 lamps. These LED T8 lamps contain no mercury, and provide instant light and a uniform light distribution. Engineered to operate on existing instant start and select program rapid start electronic T8 ballasts, these lamps minimize labor and recycling costs.



### Benefits and Features

- The SubstiTUBE IPS LED T8 is not affected by switching cycles, occupancy or vacancy sensors, and thus can be installed with the existing instant start ballasts for optimal energy savings
- NSF Listed: NSF/ANSI Standard 2 – Food Equipment
- No warm-up time, instant-on with full light output and stable lamp to lamp color
- DLC listed allows for rebates in areas where applicable saving on overall project cost
- No UV emission
- Suitable for dry and damp locations (cannot come in direct contact with water)
- Maximize energy savings with occupancy sensors
- Suitable for open and enclosed fixtures
- Glass lamps are suitable for use with tube guards
- Up to 178 LPW (Lamp efficacy)
- 3000K, 3500K, 4100K, 5000K color temperatures
- CRI: 82
- Available beam angle: 220° and Light Emitting Angle 340°

### Electrical

- Compatible with instant start and select programmed rapid start electronic T8 ballasts with input voltage of 120-277V and 347V
- Dimmable down to 10% with compatible 0-10V ballast (4ft 13W, 12W and 9W; 3ft 10W (G9); and 2ft 8W (G9) only)
- Power factor >0.90
- THD <10% (or <20% for G8 & G7)

### Rated Life

- 50,000 hours (L<sub>70</sub>)

### Ambient Operating Range

- -4°F to 113°F (-20°C to 45°C)

### Wattage Comparison

	System Power <sup>1</sup>	Traditional System Power F032T8 (with QHE2x32 ISN)	Energy Savings/Year <sup>2</sup>
LED13T8L48FGDIM SUBG9	32W	55W	42%
LED12T8L48FGPDIMSUBG9	29W	55W	47%
LED10T8L48FG SUBG9	26W	55W	53%
LED9T8L48FGPDIMSUBG9	24W	55W	56%

1. With QHE2x32 ISN  
 2. 24 hours a day

### Warranty

- 5 year limited lamp warranty (24/7 operation)
- NLB Trusted Warranty Program
- Install a new QHE instant start ballast with the SubstiTUBE IPS LED T8 lamp for optimal performance and to take advantage of the QUICK 72SUB+ system warranty. (See website for details.)

### Certifications and Listings

- cULus 1993
- ETL
- RoHS
- Lead Free
- Mercury Free
- FCC\*
- NSF
- DLC Standard

\*FCC Title 47 CFR, Part 18, Non-Consumer

### Installation

- Please refer to the Installation manual included inside the packaging and the applications information listed below for more information. (G13 medium bi-pin base)





## Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	

### Ordering Guide

LED	XX	T8	LXX	FG	DIM	8	XX	SUB	GX
LED	Wattage 13 = 13 Watts 12 = 12 Watts 10 = 10 Watts 9 = 9 Watts 8 = 8 Watts	Lamp Type T8	Length 48", 36", 24"	FG = Frosted Glass	DIM = Dimmable	CRI 8 = 82	Color Temperature 30 = 3000K 35 = 3500K 41 = 4100K 50 = 5000K	SubstiTUBE® IPS	Generation 9 Generation 8 Generation 7

### Ordering Information

Item Number	Ordering Abbreviation	Length	Lens Material	Power (W) <sup>1</sup>	Lamp Efficacy	Typical Lumens (lm) <sup>1</sup>	CCT	CRI	Life (L <sub>70</sub> ) Hours	Beam Angle (°)	Case Qty	DLC Listed
40691*	LED13T8L48FGDIM830SUBG9	4ft	Frosted Glass	13	154	2000	3000K	82	50,000	220	25	Yes
40692*	LED13T8L48FGDIM835SUBG9	4ft	Frosted Glass	13	154	2000	3500K	82	50,000	220	25	Yes
40693*	LED13T8L48FGDIM841SUBG9	4ft	Frosted Glass	13	162	2100	4100K	82	50,000	220	25	Yes
40694*	LED13T8L48FGDIM850SUBG9	4ft	Frosted Glass	13	162	2100	5000K	82	50,000	220	25	Yes
41274	LED12T8L48FGDIM830SUBG9	4ft	Frosted Glass	12	167	2000	3000K	82	50,000	220	25	Yes
41275	LED12T8L48FGDIM835SUBG9	4ft	Frosted Glass	12	167	2000	3500K	82	50,000	220	25	Yes
41276	LED12T8L48FGDIM841SUBG9	4ft	Frosted Glass	12	175	2100	4100K	82	50,000	220	25	Yes
41277	LED12T8L48FGDIM850SUBG9	4ft	Frosted Glass	12	175	2100	5000K	82	50,000	220	25	Yes
40695*	LED10T8L48FG830SUBG9	4ft	Frosted Glass	10	160	1600	3000K	82	50,000	220	25	Yes
40696*	LED10T8L48FG835SUBG9	4ft	Frosted Glass	10	160	1600	3500K	82	50,000	220	25	Yes
40697*	LED10T8L48FG841SUBG9	4ft	Frosted Glass	10	160	1600	4100K	82	50,000	220	25	Yes
40698*	LED10T8L48FG850SUBG9	4ft	Frosted Glass	10	160	1600	5000K	82	50,000	220	25	Yes
40995	LED10T8L36FG830SUBG9	3ft	Frosted Glass	10	145	1450	3000K	82	50,000	220	25	Yes
40996	LED10T8L36FG835SUBG9	3ft	Frosted Glass	10	145	1450	3500K	82	50,000	220	25	Yes
40997	LED10T8L36FG841SUBG9	3ft	Frosted Glass	10	145	1450	4100K	82	50,000	220	25	Yes
40998	LED10T8L36FG850SUBG9	3ft	Frosted Glass	10	145	1450	5000K	82	50,000	220	25	Yes
41270	LED9T8L48FGDIM830SUBG9	4ft	Frosted Glass	9	178	1600	3000K	82	50,000	220	25	Yes
41271	LED9T8L48FGDIM835SUBG9	4ft	Frosted Glass	9	178	1600	3500K	82	50,000	220	25	Yes
41272	LED9T8L48FGDIM841SUBG9	4ft	Frosted Glass	9	178	1600	4100K	82	50,000	220	25	Yes
41273	LED9T8L48FGDIM850SUBG9	4ft	Frosted Glass	9	178	1600	5000K	82	50,000	220	25	Yes
40991	LED8T8L24FG830SUBG9	2ft	Frosted Glass	8	156	1250	3000K	82	50,000	220	25	Yes
40992	LED8T8L24FG835SUBG9	2ft	Frosted Glass	8	156	1250	3500K	82	50,000	220	25	Yes
40993	LED8T8L24FG841SUBG9	2ft	Frosted Glass	8	156	1250	4100K	82	50,000	220	25	Yes
40994	LED8T8L24FG850SUBG9	2ft	Frosted Glass	8	156	1250	5000K	82	50,000	220	25	Yes
75508*	LED13T8L48DIM830SUBG8	4ft	Frosted Glass	13	154	2000	3000K	82	50,000	220	25	Yes
75510*	LED13T8L48DIM841SUBG8	4ft	Frosted Glass	13	162	2100	4100K	82	50,000	220	25	Yes
75511*	LED13T8L48DIM850SUBG8	4ft	Frosted Glass	13	162	2100	5000K	82	50,000	220	25	Yes
79547*	LED10T8L48FG850SUBG7	4ft	Frosted Glass	10	160	1600	5000K	82	50,000	220	10	Yes
75516*	LED10T8L36FG830SUBG7	3ft	Frosted Glass	10	145	1450	3000K	82	50,000	220	10	Yes
75519*	LED10T8L36FG850SUBG7	3ft	Frosted Glass	10	145	1450	5000K	82	50,000	220	10	Yes
75520*	LED8T8L24FG830SUBG7	2ft	Frosted Glass	8	150	1200	3000K	82	50,000	220	10	Yes
75521*	LED8T8L24FG835SUBG7	2ft	Frosted Glass	8	150	1200	3500K	82	50,000	220	10	Yes

1. Average Lamp Power and Average Lamp Lumens rated on QHE2x32T8/UNV ISN.

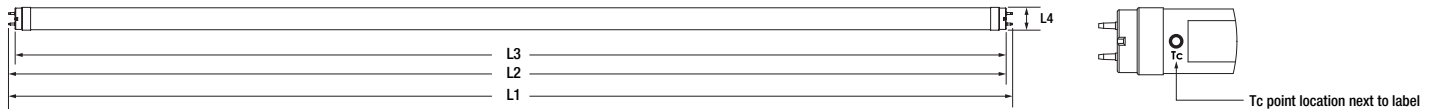
\* Items will be discontinued when stock is depleted.

### Specifications & Lighting Data

Lamp	Ballast	Current (Amps)	System Power (W)	System Lumens (lm)	System Efficacy (lm/W)	No of Lamps
LED13T8/L48/FG/DIM	QHE 2X32T8/UNV ISN	0.26/0.12	32	4200	130	2
LED12T8L48FGPDIM	QHE 2X32T8/UNV ISN	0.24/0.10	29	4200	140+	2
LED10T8/L48/FG	QHE 2X32T8/UNV ISN	0.22/0.10	26	3200	123	2
LED9T8L48FGPDIM	QHE 2X32T8/UNV ISN	0.20/0.09	24	3200	133+	2
LED10T8/L36	QHE2X32T8/UNV/ISN	0.20/0.09	24	2900	120	2
LED8T8/L24	QHE2X32T8/UNV/ISN	0.17/0.08	20	2400	120	2

Note: For complete system information refer to LED495 – SubstiTUBE System Information.

## Physical Information



Lamp Description	L1 End of Base Pin to End of Opposite Pin End	L2 Base Face to Opposite Base Pin	L3 Base Face to Base Face	L4 Bulb Outside Diameter
LED13T8/L48 LED12T8/L48 LED10T8/L48 LED9T8/L48	47.725" ± 0.055" (1212.2mm ± 1.4mm)	47.45" ± 0.05" (1205.25mm ± 1.25mm)	max 47.22" (1199.4mm)	1.02" ± 0.08" (25.9mm ± 2.0mm)
LED10T8/L36	35.72" ± 0.055" (907.4mm ± 1.4mm)	35.45" ± 0.05" (900.45mm ± 1.25mm)	max 35.22" (894.6mm)	1.02" ± 0.08" (25.9mm ± 2.0mm)
LED08T8/L24	23.72" ± 0.055" (602.6mm ± 1.4mm)	23.45" ± 0.05" (595.65mm ± 1.25mm)	max 23.22" (589.8mm)	1.02" ± 0.08" (25.9mm ± 2.0mm)

## Application Information

1. Due to numerous ballast designs and topologies, this lamp should be tested on existing ballasts before mass quantities are installed.
2. Not intended for use with older dedicated voltage (120V or 277V) ballasts. These ballasts have electronic components that degrade over time and may become unsuitable for the new LED T8 lamp.
3. All installation, inspection, and maintenance of lighting fixtures should be done with the power to the fixture turned off. Lamps should be installed and operated in compliance with the National Electrical Code (NEC), Underwriters Laboratories Inc. (UL) requirements, and all applicable codes and regulations.
4. Insert and align tubes properly in lamp holders. Partial insertion results in a poor or intermittent electrical contact that can result in short lamp life and arcing. Arcing at the lamp holder can result in localized overheating.
5. For instant start ballasts, use lamp holders with an internal shunt or ensure that lamp holders are wired in a shunt configuration.
6. For Programmed Rapid Start ballasts, use rapid-start lamp holders (non-shunted lamp holders).
7. De-lamp is not allowed for ISH ballasts. For approved ISN and ISL ballasts, de-lamp is allowed for only 1 lamp so long as the ballast factor remains below 1.20 (for example, 4 lamp ballast can de-lamp to 3 lamps).
8. Suitable for use in dry and damp environments.
9. Maximum mounting distance between tube and ballast is 20 feet.
10. Not for use with other LED or fluorescent lamps on the same ballast.
11. Not for use with magnetic ballasts.
12. Max case temperature: 158°F (70°C) for LED13/L48/G9, LED12/L48/G9, LED10/L48/G9 or LED9/L48/G9; 167°F (75°C) for LED13T8/L48/G8; 149°F (65°C) for LED10T8/L48/G7; 136°F (58°C) for LED10T8/L36/G7 or LED8/L24/G7
13. Please read all installation instructions before attempting installation.
14. For detailed warranty information, please see [www.ledvanceUS.com](http://www.ledvanceUS.com).

LEDVANCE LLC  
 200 Ballardvale Street  
 Wilmington, MA 01887 USA  
 Phone 1-800-LIGHTBULB (1-800-544-4828)  
[www.ledvanceUS.com](http://www.ledvanceUS.com)

SYLVANIA and LEDVANCE are registered trademarks.  
 All other trademarks are those of their respective owners.  
 Licensee of product trademark SYLVANIA in general lighting.  
 Specifications subject to change without notice.

/sylvania /sylvania



# SubstiTUBE® CURVALUME® IPS LED T8

Energy saving replacement for 32W T8 U-Bend fluorescent lamps



SYLVANIA SubstiTUBE CURVALUME IPS LED T8 lamps are an energy saving alternative, designed to replace traditional fluorescent T8 lamps. These shatter-resistant LED T8 lamps contain no mercury, provide instant light and a uniform light distribution.

Engineered to operate on existing instant start and select programmed rapid start electronic T8 ballasts, these lamps minimize labor and recycling costs. Since the SubstiTUBE CURVALUME IPS LED T8 is not affected by switching cycles, these lamps can be used with occupancy or vacancy sensors for optimal energy savings.

Install a new QHE Instant start ballast with the SubstiTUBE CURVALUME IPS LED T8 lamp for optimal performance and to take advantage of the QUICK 72SUB+ System warranty. (See website for details.)

## Key Features & Benefits

- CCT: 3000K, 3500K, 4100K, 5000K
- Dimmable down to 10% with compatible 0-10V ballast for flexible light levels
- Compatible with instant start and select programmed rapid start (parallel-wiring) electronic T8 ballasts with input voltage of 120-277V and 347V
- Power factor >0.90
- G13 medium bi-pin base
- Long life: 50,000 hour life (L<sub>70</sub>)
- 5 year limited lamp warranty (24/7 operation)
- 6 year limited system warranty with purchase of new QHE IS ballast (16/7 operation)
- ETL Sanitation listed to NSF/ANSI Standard 2 – Food Equipment
- Reduces energy consumption up to 43%
- No warm-up time, instant-on with full end-to-end illumination and stable lamp to lamp color
- Glass free and impact resistant
- Suitable for open and enclosed fixtures
- Suitable for dry and damp locations (cannot come in direct contact with water)
- Maximize energy savings with occupancy sensors

## Product Offering

Description	Color Temperature	CRI
13W DIM U Bend LED T8	3000K, 3500K, 4100K, 5000K	83

## Application Information

### Applications

- Education
- General illumination
- Office
- Parking garage

### Specifications and Certifications



## Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	

## Specifications

### Energy Data

**Ambient Operating Temperature:** -4°F to 113°F (-20°C to 45°C)

**EMI/RFI:** FCC Title 47 CFR, Part 18, Non-Consumer

**Max. Case Temperature:** 140°F (60°C)

### Lighting Data

**Lumen Output:** See specification table below (output is dependent on operating ballast)

**Lumens per Watt:** Up to 162 LPW

**Correlated Color Temperature (CCT):** 3000K, 3500K, 4100K, 5000K

**Color Rendering Index (CRI):** 83

## Ordering Information

Item Number	Ordering Abbreviation	Leg Spacing	Lamp Power (W) <sup>1</sup>	Lamp Lumens (lm) <sup>1</sup>	Color Temp (CCT)	CRI	Beam Angle (°)	Pkg. Qty.	DLC (Y/N)
40580	LED13T8/U/FP/DIM/830/SUB/G8	6 inch	13	2100	3000K	83	160	10	Y
40581	LED13T8/U/FP/DIM/835/SUB/G8	6 inch	13	2100	3500K	83	160	10	Y
40582	LED13T8/U/FP/DIM/841/SUB/G8	6 inch	13	2100	4100K	83	160	10	Y
40583	LED13T8/U/FP/DIM/850/SUB/G8	6 inch	13	2100	5000K	83	160	10	Y

1. Lamp Power and Lamp Lumens rated on QHE2x32T8/UNV ISN  
Please contact SYLVANIA for additional information.

## Ordering Guide

LED	13	T8	/	U	/	F	P	/	DIM	/	8	41	/	SUB	/	G8
LED	Wattage (ISN ballast)	Lamp Type	/	Shape U-Bend	/	Frosted	Plastic	/	Dimmable with compatible dimming ballast	/	CRI 83	Color Temp 41 = 4100K 30 = 3000K 35 = 3500K 50 = 5000K	/	SubstiTUBE® IPS (Compatible LED T8 for use with instant start and select programmed rapid start – parallel wiring – T8 electronic ballasts)	/	Generation

## Specifications & Lighting Data

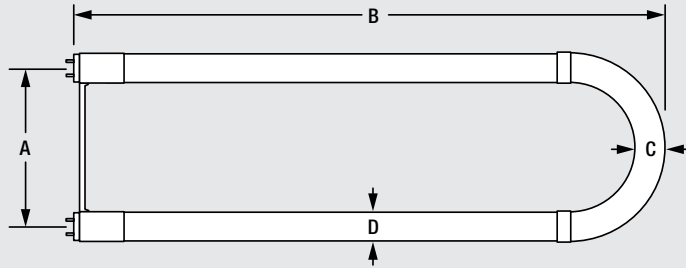
Lamp	Ballast	Current (AMPS)	System Power (W)	System Lumens (lm)	System Efficacy (lm/W)	No. of Lamps
LED13T8/U/FP/DIM/8XX/SUB/G8	QHE2X32T8/UNV-ISN-SC	0.26/0.12	32	4200	131	2

## Application Information

### Application Notes

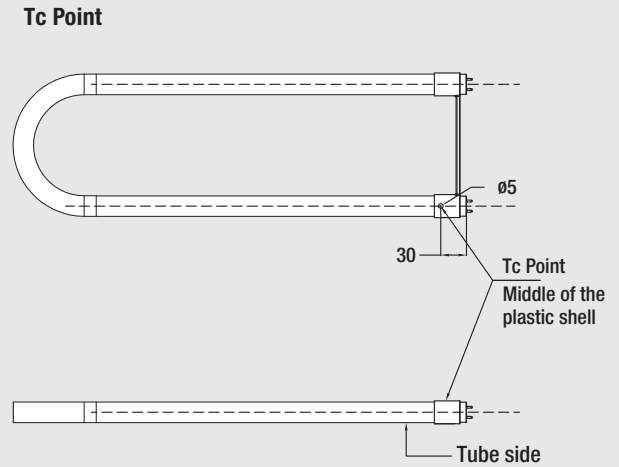
- Due to numerous ballast designs and topologies, this lamp should be tested on existing ballasts before mass quantities are installed.
- Not intended for use with older dedicated voltage (120V or 277V) ballasts. These ballasts have electronic components that degrade over time and may become unsuitable for the new LED T8 lamp.
- All installation, inspection, and maintenance of lighting fixtures should be done with the power to the fixture turned off. Lamps should be installed and operated in compliance with the National Electrical Code (NEC), Underwriters Laboratories Inc. (UL) requirements, and all applicable codes and regulations.
- Insert and align tubes properly in lamp holders. Partial insertion results in a poor or intermittent electrical contact that can result in short lamp life and arcing. Arcing at the lamp holder can result in localized overheating.
- For instant start ballasts, use lamp holders with an internal shunt or ensure that lamp holders are wired in a shunt configuration.
- For Programmed Rapid Start ballasts, use rapid-start lamp holders (non-shunted lamp holders).
- De-lamp is not allowed for ISH ballasts. For approved ISN and ISL ballasts, de-lamp is allowed for only 1 lamp so long as the ballast factor remains below 1.20 (for example, 4 lamp ballasts can de-lamp to 3 lamps).
- Operating temperature range between -4°F and 113°F (-20°C and 45°C).
- Suitable for use in dry and damp environments.
- Maximum mounting distance between tube and ballast is 20 feet.
- Please read all installation instructions before attempting installation.
- For detailed warranty information, please see [www.sylvania.com](http://www.sylvania.com)

## Dimensions



ANSI Spec	Typical
A (Lamp legs, center to center, nominal)	152
B (Base face to lamp end)	566
C (Bulb diameter in bend)	26
D (Bulb diameter in legs)	26

Units: millimeters



## Warranty

SubstiTUBE® CURVALUME® IPS LED T8 lamps are covered by the LED T8 Lamp Limited Warranty and the QUICK 72SUB+ System Warranty, a comprehensive system warranty. For additional details, please visit [www.sylvania.com/warranty](http://www.sylvania.com/warranty)

LEDVANCE LLC  
 200 Ballardvale Street  
 Wilmington, MA 01887 USA  
 Phone 1-800-LIGHTBULB (1-800-544-4828)  
[www.sylvania.com](http://www.sylvania.com)

SYLVANIA and LEDVANCE are registered trademarks.  
 All other trademarks are those of their respective owners.  
 Licensee of product trademark SYLVANIA in general lighting.  
 Specifications subject to change without notice.

[/sylvania](https://twitter.com/sylvania) [/sylvania](https://facebook.com/sylvania)



## GE232MAXP347-N 347

T8 347V Linear Fluorescent Ballasts

SKU # 74093



---

### SPECIFICATIONS

#### GENERAL

Technology Type	Traditional
Voltage	347
Lamp Count	1 or 2
Ballast Factor	Normal
System Power Factor	0.99
THD	≤6%
Starting Method	Instant Start
Lamp Wiring	Parallel
Safety Certifications	CSA
Warranty	5 year limited warranty

#### DIMENSIONS

Length	9.5 in
Width	1.3 in
Height	1.2 in
Weight	1.19 lb
Lead Exit Length	

#### PACKAGING INFO

Standard Pack Quantity	10
UPC	043168740937

---

Source URL: <https://www.led.com/catalog/t8-347v-linear-fluorescent-ballasts-74093>

# LEDVANCE T8 Instant Start

Low and Normal Ballast Factor

347 Volt High Efficiency Ballasts

### Lamp/Ballast Guide

T8 Ballast 347V ISN and ISL

2 - lamp

4 - lamp

Primary lamps: 32W T8

Also operates:

FB032, FB031, FB024, F017, FB016, F030/SS, FB029SS, F028SS, F025WW, F17, F25, F32 and U-bend lamps.

F40T8 operates :

1 lamp on a 2L ballast

3 lamp on a 4L ballast



Scan or click QR code to access TLED Ballast Compatibility Listing for approved Type A lamps.

### Application Information

These LEDVANCE High Efficiency ballasts are ideally suited for:

- Commercial and Industrial
- Retail and Office
- Hospitality and Institutional
- Maintenance Replacement



SHOWN WRAPPED

### Ordering Information

Item Number	Description	# of Lamps	Primary Lamp (W)	Lamp family	Line Voltage	Starting Method	Ballast Factor	Case Size	Packaging
75883	LHE2X32T8347VISNSCB	2	32	T8	347V	IS	N	Small	10/CS 1/SKU
75884	LHE4X32T8347VISNSCB	4	32	T8	347V	IS	N	Small	10/CS 1/SKU
75885	LHE2X32T8347VISLSCB	2	32	T8	347V	IS	L	Small	10/CS 1/SKU
75886	LHE4X32T8347VISLSCB	4	32	T8	347V	IS	L	Small	10/CS 1/SKU

### Electrical Specifications at 347V

Item Number	Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens (lm)	Mean Lumens (lm)	Input Power (W)	System Efficacy (lm/W)	BEF*
75883	LHE2X32T8347VISNSCB	0.16	F32T8	2800	2	0.88	4925	4435	54	91	1.63
75884	LHE4X32T8347VISNSCB	0.30		2800	4	0.88	9855	8870	104	95	0.85
75885	LHE2X32T8347VISLSCB	0.14		2800	2	0.78	4370	3930	48	91	1.63
75886	LHE4X32T8347VISLSCB	0.28		2800	4	0.78	8725	7860	95	92	0.82

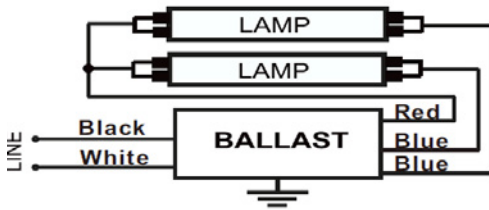
\*Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power 347V 60Hz data



## Wiring Diagram

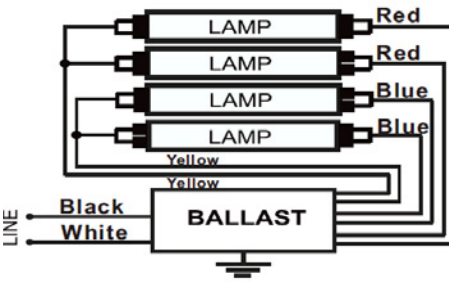
CAP ALL UNUSED LEADS

### 2 Lamp



FOR ONE LAMP APPLICATION, CAP ANY BLUE LEAD.  
INSULATE TO 600 VOLTS.

### 4 Lamp



FOR THREE LAMP APPLICATION, CAP ANY BLUE LEAD.  
INSULATE TO 600 VOLTS.

### Dimensions :

Enclosure:

Overall: 9.5"L x 1.3"W x 1.1"H  
(241.3mm L x 33.02mm W x 27.94mm H)

Mounting: 8.9" (226.06mm)

Weight: 1.10 lbs. each (approx.)

Leads Length:

White, Black 25" (±1")

Red 46" (±1")

Blue 31" (±1")

### Packaging:

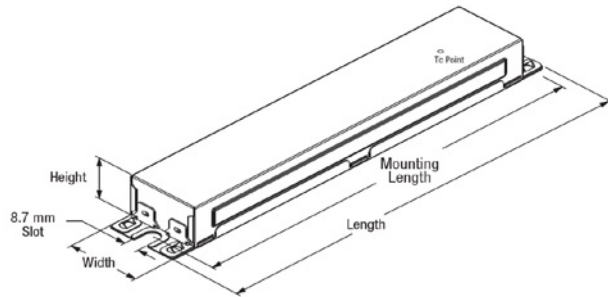
Quantity: 10 per case/1 per SKU

Weight: 11.3 per case (approx)

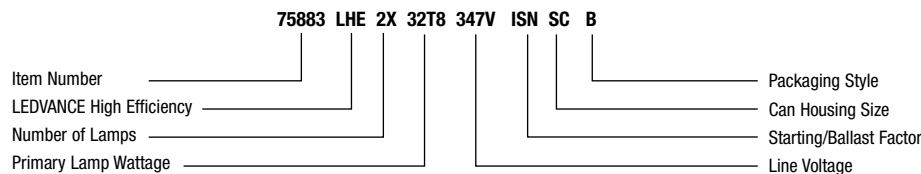
Banded packaging: No tangled wires.

Easily removable rubber bands.

Note: Leads only. (No connectors provided).



## Ordering Guide



Products distributed by LEDVANCE LLC

LEDVANCE LLC

181 Ballardvale Street, Suite 203

Wilmington, MA 01887 USA

Phone 1-800-LIGHTBULB (1-800-544-4828)

www.ledvanceUS.com

LEDVANCE is a registered trademark. All other trademarks are those of their respective owners. Specifications subject to change without notice.



SCAN TO FOLLOW US  
ON SOCIAL MEDIA

© 2023 LEDVANCE LLC

2 of 2

## Specification Data

Type

Catalog #

Project

Comments

Prepared by

## Performance Guide

Data based on fluorescent lamps listed. LHE Instant Start ballasts are also compatible with other lamp manufacturer's equivalent lamp types that meet ANSI specifications.

## Specifications

Starting Method: Instant Start

Ballast Factor: 0.78-0.88 based on model

Circuit Type: Parallel

Lamp Frequency: >42 kHz

Input Frequency: 50/60 Hz

Low THD: <10%

Power Factor: ≥98% @347V 4 / 3 lamps

≥97% @347V Delamp-1 lamp

Lamp CCF: <1.7

Voltage Range: ±10% of Rated Input (312-381V)

## Operating Temperatures

Starting Temperature: -20°F (-29°C)

Operation below 50°F (10°C) may affect light output or lamp

Case Temp: 158°F (70°C) Max

Max Ambient Temp.: 131°F (55°C)

## Product Ratings

UL Listed Class P, Type 1, Outdoor,

FCC Part 18 Non-Consumer

Class A Sound Rating

ANSI C62.41 Cat. A Transient Protection

RoHS Compliant<sup>1</sup>, NRCAN cert.

No PCBs.

Type HL

OCV 600V

<sup>1</sup> Complies with European Union Restriction of Hazardous Substances (Directive 2002/95/EC)

## Installation Notes

- Ground ballast case
- Install in accordance with National Electrical Codes
- Insulate unused leads for 600V
- Remote Mounting- 18ft. max Lead Length 18AWG

## Warranty

Ledvance ballasts carry a five-year warranty from date of manufacture. For additional details, check out the latest Warranty Bulletin on our website [ledvanceUS.com](http://ledvanceUS.com)



SCAN OR CLICK QR  
CODE TO ACCESS  
WARRANTY.





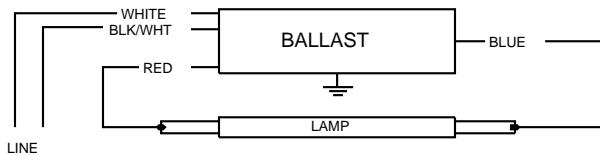


<b>ICN-1P32-SC@120V</b>	
Brand Name	CENTIUM
Ballast Type	Electronic
Starting Method	Instant Start
Lamp Connection	Parallel
Input Voltage	120-277
Input Frequency	50/60 HZ
Status	Active

### Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
* F17T8	1	17	0/-18	0.16	19	0.93	15	0.96	1.7	4.89
F25T8	1	25	0/-18	0.22	26	0.91	10	0.98	1.7	3.50
F32T8	1	32	0/-18	0.26	31	0.90	10	0.98	1.7	2.90
F32T8/ES (30W)	1	30	60/16	0.24	29	0.90	10	0.98	1.7	3.10

### Wiring Diagram



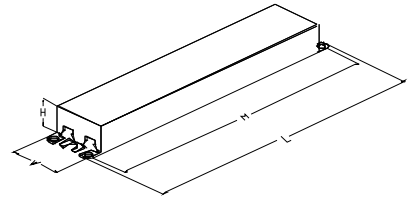
Diag. 63

The wiring diagram that appears above is for the lamp type denoted by the asterisk (\*)

### Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black			Yellow/Blue		
White	25.0		Blue/White		
Blue	31.0		Brown		
Red	37.0		Orange		
Yellow			Orange/Black		
Gray			Black/White	25.0	
Violet			Red/White		

### Enclosure



### Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
9.50 "	1.7 "	1.18 "	8.90 "
9 1/2	1 7/10	1 9/50	8 9/10
24.1 cm	4.3 cm	3 cm	22.6 cm

Revised 08/26/2002



Data is based upon tests performed by Advance Transformer in a controlled environment and representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

### ADVANCE

O'HARE INTERNATIONAL CENTER · 10275 WEST HIGGINS ROAD · ROSEMONT, IL 60018  
 Customer Support/Technical Service: Phone: 800-372-3331 · Fax: 630-307-3071  
 Corporate Offices: Phone: 800-322-2086



<b>ICN-1P32-SC@120V</b>	
Brand Name	CENTIUM
Ballast Type	Electronic
Starting Method	Instant Start
Lamp Connection	Parallel
Input Voltage	120-277
Input Frequency	50/60 HZ
Status	Active

## **Electrical Specifications**

### **Notes:**

#### Section I - Physical Characteristics

- 1.1 Ballast shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.
- 1.2 Ballast shall be provided with integral leads color-coded per ANSI C82.11.

#### Section II - Performance Requirements

- 2.1 Ballast shall be \_\_\_\_\_ (Instant, Rapid or Programmed) Start.
- 2.2 Ballast shall provide Independent Lamp Operation (ILO) for Instant Start ballasts allowing remaining lamp(s) to maintain full light output when one or more lamps fail.
- 2.3 Ballast shall contain auto restart circuitry in order to restart lamps without resetting power (except T8/HO and FT5 ballasts).
- 2.4 Ballast shall operate from 60 Hz input source of 120V, 277V or 347V as applicable with sustained variations of +/- 10% (voltage and frequency) with no damage to the ballast. IntelliVolt models shall operate from 50/60 Hz input source of 120V through 277V with sustained variations of +/- 10% (voltage and frequency) with no damage to the ballast.
- 2.5 Ballast shall be high frequency electronic type and operate lamps at a frequency above 42 kHz ("GCN" models between 20kHz and 30kHz) to avoid interference with infrared devices and eliminate visible flicker.
- 2.6 Ballast shall have a Power Factor greater than 0.98 for primary lamp.
- 2.7 Ballast shall have a minimum ballast factor for primary lamp application as follows: 0.75 for Low Watt, 0.85 for Normal Light Output, and 1.20 for High Light.
- 2.8 Ballast shall provide for a Lamp Current Crest Factor of 1.7 or less in accordance with lamp manufacturer recommendations.
- 2.9 Ballast input current shall have Total Harmonic Distortion (THD) of less than 20% for Standard models and THD of less than 10% for Centium models when operated at nominal line voltage with primary lamp.
- 2.10 Ballast shall have a Class A sound rating for all 4-foot lamps and smaller.
- 2.11 Ballast shall have a minimum starting temperature of \_\_\_\_\_ [-18C (0F) for standard T8 and Long Twin Tube lamps, 10C (50F) for standard T12 lamps, 0C (32F) for Slimline T8 lamps and "GCN" models, -29C (-20F) for T8/HO lamps,] for primary lamp application. Ballast shall have a minimum starting temperature of 60F (16C) for energy-saving T8 and T12 lamps.
- 2.12 Ballast shall tolerate sustained open circuit and short circuit output conditions without damage.

#### Section III - Regulatory Requirements

- 3.1 Ballast shall not contain any Polychlorinated Biphenyl (PCB).
- 3.2 Ballast shall be Underwriters Laboratories (UL) listed, Class P and Type 1 Outdoor; and Canadian Standards Association (CSA) certified where applicable. Models with -HAZ suffix meet UL 935 Type HL (hazardous location) requirements.
- 3.3 Ballast shall comply with ANSI C62.41 Category A for Transient protection.
- 3.4 Ballast shall comply with ANSI C82.11 where applicable.
- 3.5 Ballast shall comply with the requirements of the Federal Communications Commission (FCC) rules and regulations, Title 47 CFR part 18, Non-Consumer (Class A) for EMI/RFI (conducted and radiated).

#### Section IV - Other

- 4.1 Ballast shall be manufactured in a factory certified to ISO 9002 Quality System Standards.
- 4.2 Ballast shall carry a five-year warranty from date of manufacture against defects in material or workmanship, including replacement, for operation at a maximum case temperature of 70C.
- 4.3 Manufacturer shall have a fifteen-year history of producing electronic ballasts for the North American market.

NOTE: The use of Optanium (IOP) and ICN-2P32-N models is recommended to reduce striation in energy-saving T8 lamps (25W, 28W or 30W).

Remote or tandem wiring of energy-saving T8 lamps (25W, 28W or 30W) is only recommended for Optanium (IOP) models.

Revised 08/26/2002



Data is based upon tests performed by Advance Transformer in a controlled environment and representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

**ADVANCE**

O'HARE INTERNATIONAL CENTER - 10275 WEST HIGGINS ROAD  
ROSEMONT, ILLINOIS 60018  
TELEPHONE: (847) 390-5000 FAX: (847) 390-5109

# LEDVANCE T8 INSTANT START UNV

Low and Normal Ballast Factor Models

120-277 Voltage High Efficiency Systems

## LHE T8 UNV Gear Guide

T8 Ballast 120-277V ISN and ISL:

- 2-lamp
- 3-lamp
- 4-lamp

Operates 32W T8, FBO32, FBO31, FBO24, F017, FBO16, F030/SS, F030/SS(30W), FBO29/SS (29W), F028/SS (28W) and F025/WW (25W), as well as F17, F25, F32, the U-bend and Energy Saving equivalents.

F40T8 operation:

- 1 lamp on 2L ballast
- 2 lamps on 3L ballast
- 3 lamps on 4L ballast

Click here to get the latest Ballast Compatibility Chart.

## Application Information

LEDVANCE High Efficiency ballasts are ideally suited for:

- Commercial and retail
- Hospitality and institutional
- New construction



## Ordering Information

Item Number	Description	# of Lamps	Primary Lamp (W)	Lamp family	Line Voltage	Starting Method	Ballast Factor	Case Size	Packaging
75861	LHE2X32T8UNVISNSCB	2	32	T8	UNV	IS	N	Small	10/CS 1/SKU
75862	LHE3x32T8UNVISNSCB	3	32	T8	UNV	IS	N	Small	10/CS 1/SKU
75863	LHE4X32T8UNVISNSCB	4	32	T8	UNV	IS	N	Small	10/CS 1/SKU
75864	LHE2X32T8UNVISLSCB	2	32	T8	UNV	IS	L	Small	10/CS 1/SKU
75865	LHE3x32T8UNVISLSCB	3	32	T8	UNV	IS	L	Small	10/CS 1/SKU
75866	LHE4X32T8UNVISLSCB	4	32	T8	UNV	IS	L	Small	10/CS 1/SKU

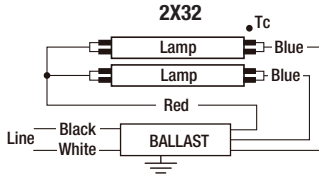
## Efficiency

Item Number	Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens (lm)	Mean Lumens (lm)	Input Power (W)	System Efficacy (lm/W)	BEF*
<b>High Efficiency Normal Ballast Factor (0.88)</b>											
75861	LHE2X32T8UNVISNSCB	0.19	F032/841	2800	2	0.88	4925	5500	53	97	1.57
		0.19	F032/XP	3000	2	0.88	5280	4965	54	97	1.57
75862	LHE3x32T8UNVISNSCB	0.3	F032	2800	3	0.88	4925	8250	81	97	1.05
		0.29	F032/XP	3000	3	0.88	7920	7445	80	97	1.05
75863	LHE4X32T8UNVISNSCB	0.28	F032/841	2800	4	0.88	9855	8870	104	97	0.80
		0.39	F032/XP	3000	4	0.88	10560	9925	105	97	1.07
<b>High Efficiency Low Ballast Factor (0.78)</b>											
75864	LHE2X32T8UNVISLSCB	0.17	F032/841	2800	2	0.78	4150	3825	48	97	1.60
		0.18	F032/XP	3000	2	0.78	4680	4400	50	97	1.56
75865	LHE3x32T8UNVISLSCB	0.23	F032/841	2800	3	0.78	6150	5700	73	97	1.05
		0.27	F032/XP	3000	3	0.78	7020	6600	73	97	1.06
75866	LHE4X32T8UNVISLSCB	0.36	F032/841	2800	4	0.78	8150	7500	98	97	0.80
		0.35	F032/XP	3000	4	0.78	9360	8800	96	97	0.80

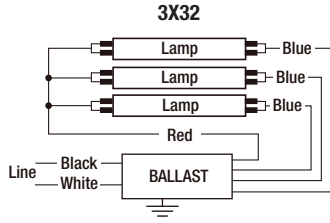
\*Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power 277V 60Hz data



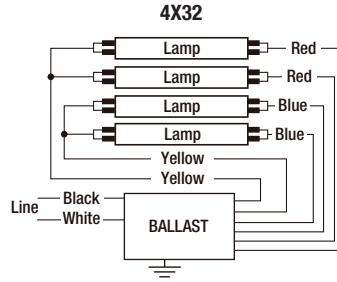
## Wiring Diagrams



Note: For one lamp application, cap any blue lead. Insulate to 600 volts.



Note: For two lamp application, cap any blue lead. Insulate to 600 volts.



Note: For three lamp application, cap any blue lead. Insulate to 600 volts.

### Dimensions:

Enclosure size: 2x

Overall: 9.5" L x 1.2" W x 0.9" H  
(241mm L x 31mm W x 23mm H)  
Mounting: 8.90" (226mm)

### Packaging:

Quantity: 10-pack  
Weight: 0.7 lbs. each (approx.)

### Wiring:

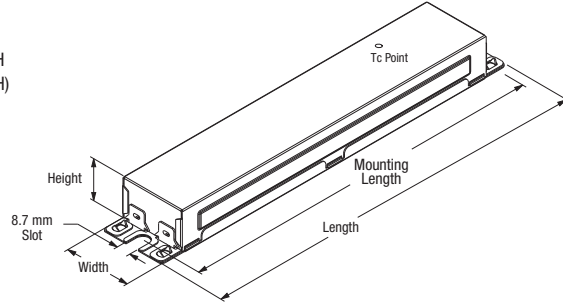
Leads only  
(no connectors provided)

Enclosure size: 3x and 4x

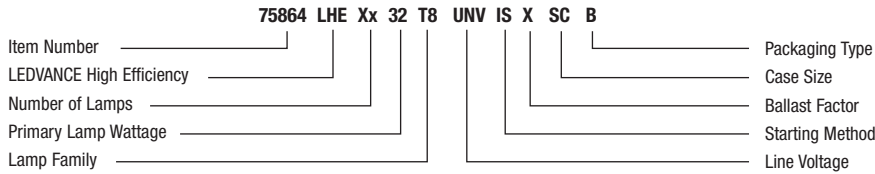
Overall: 9.5" L x 1.3" W x 1.1" H  
(241mm L x 33mm W x 28mm H)  
Mounting: 8.90" (226mm)

### Packaging:

Quantity: 10-pack  
Weight: 1.1 lbs. each (approx.)



## Ordering Guide



## Specification Data

Type	
Catalog #	
Project	
Comments	
Prepared by	

## Performance Guide

Data based on fluorescent lamps shown. LHE Instant Start ballasts are also compatible with other lamp manufacturers' equivalent lamp types that meet ANSI specifications.

## Specifications

**Starting Method:** Instant Start

**Ballast Factor:** 0.78-0.88

**Circuit Type:** Parallel

**Lamp Frequency:** >42kHz

**Input Frequency:** 50/60 Hz

**Low THD:** <10%

**Power Factor:** >97%

**Voltage Range:** ±10% rated input

### Operating Temperatures

**Starting Temperature:**<sup>1</sup>

0°F (-18°C) for T8 Lamps

32°F (0°C) for Supersaver T8 lamps

0°F (-18°C) for FOT8 lamps

**Case Temp:** 194°F (90°C) Max

**Max Ambient Temp.:** 131°F (55°C)

### Product Ratings

UL Listed Class P, Type 1, Outdoor, CEC, NRCAN

FCC Part 18 Non-Consumer

Class A Sound Rating

ANSI C62.41 Cat. A Transient Protection

RoHS Compliant<sup>2</sup>

No PCBs

<sup>1</sup> Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition

<sup>2</sup> Complies with European Union Restriction of Hazardous Substances (Directive 2002/95/EC)

## Installation Notes

- Ground ballast case
- Install in accordance with the National Electrical Code
- Remote Mounting: 18ft. max lead length 18AWG

## System Life/Warranty

LEDVANCE ballasts carry a five-year warranty from date of manufacture. For additional details, check out the latest Warranty Bulletin on our website, ledvanceUS.com.

LEDVANCE LLC

181 Ballardvale Street, Suite 203

Wilmington, MA 01887 USA

Phone 1-800-LIGHTBULB (1-800-544-4828)

www.ledvanceUS.com

SYLVANIA and LEDVANCE are registered trademarks.  
All other trademarks are those of their respective owners.  
Licensee of product trademark SYLVANIA in general lighting.  
Specifications subject to change without notice.  
Products distributed by LEDVANCE LLC.



# SubstiTUBE® LED T5HE | 2421-T5LED-347V - LEDVANCE / LED13T5HE/L48/FG/841/SUB

Energy saving replacement for fluorescent T5 s



- SYLVANIA SubstiTUBE linear LED T5HE lamps are a lightweight, energy saving alternative to replace traditional fluorescent T5 standard output lamps
- Reduced energy usage saves operational costs resulting in attractive payback time
- Easiest way to upgrade to LED technology
- The full product family offering in multiple lengths and color temperatures covers a wide variety of applications

## Key Features & Benefits

- CCT:3000K, 3500K, 4100K & 5000K
- Available in 2 feet, 3 feet & 4 feet
- Operates on programmed rapid start T5 electronic ballasts with input voltage of 120-277V
- 13W dimmable with compatible dimming ballast
- Long life: 50,000 hour life (L<sub>70</sub>)
- 5 year limited lamp warranty (24/7 operation)
- NLB Trusted Warranty Program
- Suitable for open fixtures
- Beam angle: 180°
- Power factor > 0.9
- CRI: 83
- G5 Miniature bipin base
- 13W Dimmable with compatible dimming ballasts
- DLC listed for rebates
- Long life lowers maintenance costs
- Certified to NSF standards for food preparation and handling applications
- No UV emission
- No warm-up time, instant-on with full light output and stable lamp to lamp color
- Optimized glass optical design to mimic traditional fluorescent T5 lamp
- Suitable for dry and damp locations (cannot come in direct contact with water)
- Maximize energy savings with occupancy sensors

## Product Offering

Lamp Type	Color Temperature	CRI
LED T5HE	3000K, 3500K, 4100K, 5000K	83

## Specifications and Certifications



## Application Information

### Applications

- Cove lighting
- Education space lighting
- General illumination
- Office lighting
- Retail space lighting

### Application Notes

1. Due to numerous ballast designs and topologies, this lamp should be tested on existing ballasts before mass quantities are installed.
2. All installation, inspection, and maintenance of lighting fixtures should be done with the power to the fixture turned off. Lamps should be installed and operated in compliance with the National Electrical Code (NEC), Underwriters Laboratories Inc. (UL) requirements, and all applicable codes and regulations.
3. Insert and align tubes properly in lamp holders. Partial insertion results in a poor or intermittent electrical contact that can result in short lamp life and arcing. Arcing at the lamp holder can result in localized overheating.
4. Operating temperature range between -4°F and 113°F (-20°C and 45°C).
5. Suitable for use in dry and damp environments.
6. Maximum mounting distance between tube and ballast is 20 feet.
7. Due to the programmed rapid start coil-heat circuitry, start times of lamps within a fixture may vary, but all reach maximum lumen output in less than one second.
8. Please read all installation instructions before attempting inspection, service or installation.
9. This product cannot be used with High Output Ballasts.
10. For detailed warranty information, please see [www.sylvania.com](http://www.sylvania.com).
11. For High Output applications refer to SYLVANIA SubstiTUBE® T5HO products and documentation.

## Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	

## Specifications

### Energy Data

Ambient Operating Temperature: -4°F to 113°F  
(-20°C to 45°C)

EMI/RFI: FCC Title 47 CFR, Part 18, Non-Consumer

Max Case Temperature: 167°F (75°C)

### Lighting Data

Lumen Output: Up to 2100 lumens

Lumens per Watt: Up to 128 LPW

Correlated Color Temperature (CCT): 3000K, 3500K, 4100K, 5000K

Color Rendering Index (CRI): 83

## Ordering Information

Item Number	Ordering Abbreviation	Length (feet)	Lamp Power (W) <sup>1</sup>	Lamp Lumens (lm) <sup>1</sup>	Color Temp.	CRI	Beam Angle (°)	Package Quantity	DLC <sup>2</sup>
40088	LED7T5HE/L24/FG/830/SUB	2	7	1000	3000	83	180	25	N/A
40089	LED7T5HE/L24/FG/835/SUB	2	7	1000	3500	83	180	25	N/A
40090	LED7T5HE/L24/FG/841/SUB	2	7	1000	4100	83	180	25	N/A
40091	LED7T5HE/L24/FG/850/SUB	2	7	1000	5000	83	180	25	N/A
40092	LED10T5HE/L36/FG/830/SUB	3	10	1400	3000	83	180	25	N/A
40093	LED10T5HE/L36/FG/835/SUB	3	10	1400	3500	83	180	25	N/A
40094	LED10T5HE/L36/FG/841/SUB	3	10	1500	4100	83	180	25	N/A
40095	LED10T5HE/L36/FG/850/SUB	3	10	1500	5000	83	180	25	N/A
40107	LED13T5HE/L48/FG/830/SUB	4	13	2000	3000	83	180	25	Y
40108	LED13T5HE/L48/FG/835/SUB	4	13	2000	3500	83	180	25	Y
40109	LED13T5HE/L48/FG/841/SUB	4	13	2100	4100	83	180	25	Y
40110	LED13T5HE/L48/FG/850/SUB	4	13	2100	5000	83	180	25	Y

<sup>1</sup>Lamp Power and Lamp Lumens rated on QHE 2x28T5/UNV PSN.

System power for LED13T5HE/L48/FG/8xx/SUB lamps is 16W.

<sup>2</sup>DLC does not have T5 2ft & 3ft product category.

Please contact your SYLVANIA product sales representative for additional information.

## Ordering Guide

LED	13	T5	HE	/	L	48	/	FG	/	8	41	/	SUB
LED	Wattage	Lamp Type		/	Length	48 Inches	/	Frosted Glass	/	CRI 83	Color Temperature 41 = 4100K 30 = 3000K 35 = 3500K 50 = 5000K	/	SubstiTUBE® (Compatible LED T5HE for use with select programmed rapid start – T5 electronic ballasts)

## Specifications & Lighting Data

Lamp	Ballast	Current (AMPS)	System Power (W)	System Lumens (lm)	System Efficacy (lm/W)	No. of Lamps
LED7T5HE/L24/FG/8XX/SUB	QHE2X28T5/UNV PSN	0.14/0.06	17	2000	118	2
LED10T5HE/L36/FG/8XX/SUB	QHE2X28T5/UNV PSN	0.19/0.08	23	3000	130	2
LED13T5HE/L48/FG/8XX/SUB	QHE2X28T5/UNV PSN	0.27/0.12	32	4200	131	2

## Lamp Dimensions

Model	(A) Max. Overall Length (in/mm)	(B) MIN (in/mm)	(B) MAX (in/mm)	(C) MIN (in/mm)	(C) MAX (in/mm)	(D) MAX (in/mm)
LED7T5HE/L24/FG/8XX/SUB	22.17/563	21.54/547	21.61/549	21.8/553	21.89/556	0.67/17
LED10T5HE/L36/FG/8XX/SUB	33.98/863	33.35/847	33.43/849	33.61/853	33.71/856	0.67/17
LED13T5HE/L48/FG/8XX/SUB	45.80/1163	45.16/1147	45.24/1149	45.42/1153	45.52/1156	0.67/17

**For XX:**  
30 = 3000K  
35 = 3500K  
40 = 4000K  
50 = 5000K



---

## Warranty

SubstiTUBE® LED T5HE lamps are covered by a 5 year limited warranty (24/7 operation).  
For additional details, please visit [www.ledvanceUS.com/warranty](http://www.ledvanceUS.com/warranty).

LEDVANCE LLC  
200 Ballardvale Street  
Wilmington, MA 01887 USA  
Phone 1-800-LIGHTBULB (1-800-544-4828)  
[www.ledvanceUS.com](http://www.ledvanceUS.com)

SYLVANIA and LEDVANCE are registered trademarks.  
All other trademarks are those of their respective owners.  
Licensee of product trademark SYLVANIA in general lighting.  
Specifications subject to change without notice.

 /sylvania  /sylvania





# QUICKTRONIC® PROStart® T5

## 347 Voltage – Canada

2421-T5LED-347V -  
LEDVANCE / 42050 LED13T5HEL48FG841SUBG2

### Professional Series

CANADA  
QTP T5 347V

#### Lamp / Ballast Guide

28W T5 – PENTRON® lamps  
2-lamp QTP2x28T5/347 PS-SC

Primary Lamp Type:  
FP28/ECO

Also operates:  
FP14, FP21 T5 lamps

#### Key System Features

- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- PROStart programmed rapid start
- Min. Starting Temp:
  - 0°F (-18°C)
- Operates at >42 kHz to reduce potential interference with infrared control systems
- High power factor (>98%)
- Low harmonic distortion
- Lightweight
- UL, CSA, FCC
- Small can enclosure
- RoHS compliant
- Lead-free solder and manufacturing process



#### Application Information

SYLVANIA QUICKTRONIC PROStart T5 347 Voltage ballasts are ideally suited for:

- Commercial
- Retail
- Hospitality
- Institutional
- New construction
- Direct lighting
- Indirect lighting
- Surface mount
- Cove lighting

SYLVANIA QUICKTRONIC PROStart ballasts operate PENTRON T5 lamps with full lumen output and optimal system performance.

QUICKTRONIC PROStart T5 ballasts contain QUICKSENSE ballast technology, a patented circuitry designed to shut down the system reliably and safely when lamps reach end-of-life.

These ballasts are RoHS compliant and feature lead-free solder and manufacturing process.

Setting the standard for quality, QUICKTRONIC PROStart T5 Systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

#### System Information

QUICKTRONIC PROStart T5 ballasts deliver optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensors and building control systems.

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto reset when the end-of-life lamps are replaced with new ones.



System Type (2-lamp)	Input Power (W)	Initial System Lumens	System Efficacy LPW
F40T12 - Standard Magnetic	96	5795	60
Energy Saver Magnetic	86	5795	67
F34T12 - Energy Saver Magnetic	72	4750	66
QT2x32IS - F032/800	59	5310	90
QTP2x28T5/347 PS-SC - FP28/800	60	5510	92

**SPECIFICATION DATA**

Catalog #	Date	Type
Project	Prepared by	
Comments		

**Electronic T5 Fluorescent 347V Systems**

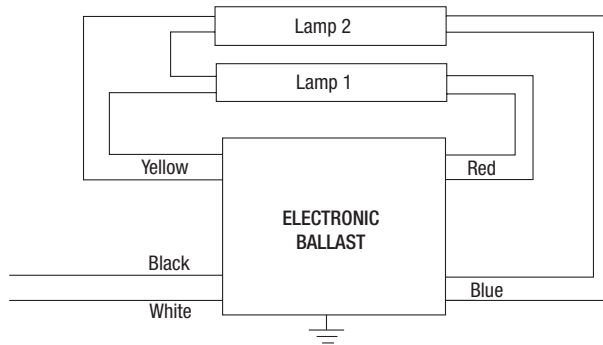


Item Number	Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System <sup>1</sup> Lumens	Input <sup>1</sup> Power (Watts)	System Efficacy (lm/W)	BEF <sup>2</sup>
<b>QTP Fixed Output</b>										
49185	QTP2x28T5/347 PS-SC	0.18	FP28T5/ECO	2900	2	0.95	5510	60	92	1.58
		0.135	FP21T5/ECO	2100	2	0.98	4115	46	89	2.13
		0.10	FP14T5/ECO	1350	2	1.00	2700	32	84	3.13

<sup>1</sup> At 35°C lamp ambient temperature.  
<sup>2</sup> Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

**Installation Notes**

- Install in accordance with National & Local Electrical Code
- Ground ballast case



**2-Lamp QTP**  
Fixed output only

**Dimensions:**

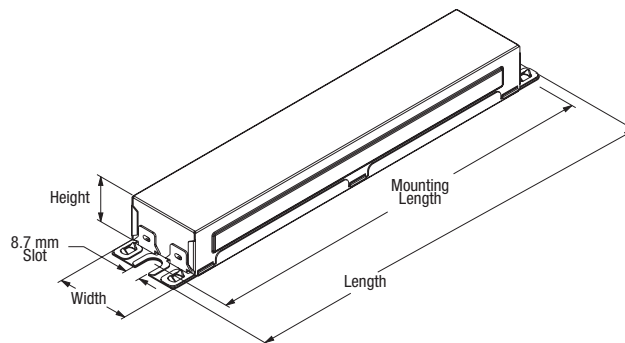
Overall: 9.5" L x 1.68" W x 1.18" H  
 Mounting: 8.90"

**Product Weight:**

1.6 lbs each (approx.)

**Wiring:**

Leads only (no connectors provided)



Item Number **49185** QTP 2 x 28 T5/347 PS - SC Case Size  
 QUICKTRONIC PROFESSIONAL Starting  
 Number of Lamps Line Voltage  
 Primary Lamp Wattage

**T5 PROStart®**

**Professional Series**

**Performance Guide**

Data based upon SYLVANIA PENTRON® lamps shown. QUICKTRONIC® PROStart T5 347 Voltage ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI standards.

**Specifications**

- Starting Method:** Programmed Rapid Start
- Ballast Factor:** 0.95 - 1.00
- Circuit Type:** Series
- Lamp Frequency:** >42 kHz
- Lamp CCF:** Less than 1.6
- Starting Temp:** 0°F (-18°C)
- Input Frequency:** 50/60 Hz
- Low THD:** <10%
- Power Factor:** >98%
- Voltage Range:** ±10% of Rated Input
- UL Listed Class P, Type 1, Outdoor
- CSA Certified
- 70°C Max Case Temperature
- FCC 47CFR Part 18 Non-Consumer
- Class A Sound Rating
- RoHS Compliant <sup>3</sup>
- ANSI C62.41 Cat. A Transient Protection
- Dynamic End-of-Lamp-Life Sensing
- Remote Mounting (Max. wire length from ballast case to lampholder): up to 8 feet
- <sup>3</sup> Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

**System Life / Warranty**

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

**OSRAM SYLVANIA**  
**National Customer Service and Sales Center**  
 1-800-LIGHTBULB  
 (1-800-544-4828)  
[www.sylvania.com](http://www.sylvania.com)

Specifications subject to change without notice.

# ULTRA LED™ High CRI A-line Lamps

Omnidirectional



470lm, 800lm, 1100lm

1600lm

800lm, GU24

1600lm, GU24

SYLVANIA ULTRA LED High CRI A-line lamps are high performing bulbs that are ideal for ambient or general lighting applications in both residential and commercial applications.

The 40/60/75/100W replacement lamps are available in 2700K, 3000K, and 5000K color temperatures and deliver excellent 92+ color rendering for crisp and vibrant color to meet California Quality Specifications.

These CEC lamps also meet ENERGY STAR® v 2.1 requirements for omnidirectional lamps by emitting 300° of smooth, high quality light.

## Key Features & Benefits

- California Energy Commission (CEC) and JA8 Certified
- ENERGY STAR v2.1
- Indoor/Outdoor Damp rated
- Available in 2700K, 3000K, and 5000K color temperatures
- GU24 base available for 60W and 100W replacements
- 92+ CRI
- Dimmable down to 10%
- 25,000 hours rated life (L<sub>70</sub>)
- Approved for use in totally enclosed fixtures (except for 100W)



## Product Offering

Ordering Abbreviation	Wattage	Color Temperature	Typical Lumens
LED 6A19	6	2700K, 3000K, 5000K	470
LED 10A19	10	2700K, 3000K, 5000K	800
LED 12A19	12	2700K, 3000K, 5000K	1100
LED 17A21	17	2700K, 3000K, 5000K	1600

## Application Information

### Applications

- Downlights
- Pendant fixtures
- Table lamps
- Wall sconces

### Market Segments

- Hospitality
- Office
- Residential
- Retail

### Application Notes

1. Operating temperature range between -20°C and +45°C (-4°F and + 113°F)
2. Not for use with emergency light fixtures or exit lights
3. Approved for use in totally enclosed fixtures (except for 100W)



Catalog #	Type
Project	
Comments	
Prepared by	

Ordering Information

Item Number	Ordering Abbreviation	Power (W)	Light Output (lm)	Base Type	Replaces	Input Voltage (V)	CCT	CRI	Average Rated Life (hrs.)	Finish	ENERGY STAR®
78108	LED6A19/DIM/O/927/U/B	6	470	Medium	40W	120	2700K	93	25,000	Frosted	Yes
78109	LED6A19/DIM/O/930/U/B	6	470	Medium	40W	120	3000K	93	25,000	Frosted	Yes
78110	LED6A19/DIM/O/950/U/B	6	470	Medium	40W	120	5000K	93	25,000	Frosted	Yes
78111	LED10A19/DIM/O/927/U/B	10	800	Medium	60W	120	2700K	93	25,000	Frosted	Yes
78112	LED10A19/DIM/O/930/U/B	10	800	Medium	60W	120	3000K	93	25,000	Frosted	Yes
78113	LED10A19/DIM/O/950/U/B	10	800	Medium	60W	120	5000K	93	25,000	Frosted	Yes
40343	LED10A19/DIM/O/927/GU24/U/RP	10	800	GU24	60W	120	2700K	93	25,000	Frosted	Yes
40344	LED10A19/DIM/O/930/GU24/U/RP	10	800	GU24	60W	120	3000K	93	25,000	Frosted	Yes
40345	LED10A19/DIM/O/950/GU24/U/RP	10	800	GU24	60W	120	5000K	93	25,000	Frosted	Yes
78114	LED12A19/DIM/O/927/U/B	12	1100	Medium	75W	120	2700K	92	25,000	Frosted	Yes
78115	LED12A19/DIM/O/930/U/B	12	1100	Medium	75W	120	3000K	92	25,000	Frosted	Yes
78116	LED12A19/DIM/O/950/U/B	12	1100	Medium	75W	120	5000K	92	25,000	Frosted	Yes
78117	LED17A21/DIM/O/927/U/B	17	1600	Medium	100W	120	2700K	92	25,000	Frosted	Yes
78118	LED17A21/DIM/O/930/U/B	17	1600	Medium	100W	120	3000K	92	25,000	Frosted	Yes
78119	LED17A21/DIM/O/950/U/B	17	1600	Medium	100W	120	5000K	92	25,000	Frosted	Yes
40349	LED17A21/DIM/O/927/GU24/U/RP	17	1600	GU24	100W	120	2700K	92	25,000	Frosted	Yes
40350	LED17A21/DIM/O/930/GU24/U/RP	17	1600	GU24	100W	120	3000K	92	25,000	Frosted	Yes
40351	LED17A21/DIM/O/950/GU24/U/RP	17	1600	GU24	100W	120	5000K	92	25,000	Frosted	Yes

Ordering Guide

<b>LED</b>	<b>6</b>	<b>A19</b>	<b>/</b>	<b>DIM</b>	<b>/</b>	<b>0</b>	<b>/</b>	<b>9</b>	<b>27</b>	<b>/</b>	<b>U</b>	<b>/</b>	<b>B</b>
LED	Wattage	Lamp Type		Dimmable		Omnidirectional		CRI	CCT		ULTRA		Box

Energy Savings

Basic Product Description	LED Life (hrs.)	LED Lumens	Similar Incandescent	Incandescent Life (hrs.)	Incandescent Lumens	Watts Saved	Energy Savings*	LED Life vs. Incandescent
LED6A19	25,000	450	40W A19	1500	465	34	\$93	15x
LED10A19	25,000	800	60W A19	1000	850	50	\$137	25x
LED12A19	25,000	1100	75W A19	750	1170	63	\$173	30x
LED17A21	25,000	1600	100W A19	750	1600	83	\$228	30x

\*Energy savings over life of lamp calculated at \$0.11/kWh

Lamp Dimensions

	(A) MOL (inches)	(B) Diameter (inches)
LED6 & 10A19	4.17	2.36
LED12A19	4.42	2.36
LED17A21	5.15	2.75
LED10A19 GU24	4.25	2.36
LED17A21 GU24	5.08	2.81

## Dimmer Compatibility

Dimmer Manufacturer	Dimmer Model	Control Type <sup>1</sup>	Item Number							
			78108, 78109, 78110		78111, 78112, 78113		78114, 78115, 78116		78117, 78118, 78119	
			6W		10W		12W		17W	
			Lamps Min-Max <sup>2</sup>	Dimming Range <sup>3</sup>	Lamps Min-Max <sup>2</sup>	Dimming Range <sup>3</sup>	Lamps Min-Max <sup>2</sup>	Dimming Range <sup>3</sup>	Lamps Min-Max <sup>2</sup>	Dimming Range <sup>3</sup>
Lutron	C.L. <sup>4</sup>	FP	1 to 25	10-100%	1 to 15	10-100%	1 to 12	10-100%	1 to 8	10-100%
	MACL-153M	FP	1 to 25	10-100%	1 to 15	10-100%	1 to 12	10-100%	1 to 8	10-100%
	PD-6WCL	FP	1 to 25	10-100%	1 to 15	10-100%	1 to 12	10-100%	1 to 8	10-100%
	DVELV-300P	RP	1 to 30	10-100%	1 to 20	10-100%	1 to 15	10-100%	1 to 12	10-100%
	SELV-300P	RP	1 to 30	10-100%	1 to 20	10-100%	1 to 15	10-100%	1 to 12	10-100%
	MAELV-600	RP	1 to 35	10-100%	1 to 25	10-100%	1 to 20	10-100%	1 to 15	10-100%
Leviton	6674	FP	1 to 25	10-100%	1 to 15	10-100%	1 to 12	10-100%	1 to 8	10-100%
Legrand	RHCL-453PW	FP	1 to 25	10-100%	1 to 15	10-100%	1 to 12	10-100%	1 to 8	10-100%

<sup>1</sup>Control types FP and RP represent Forward Phase and Reverse Phase, respectively.

<sup>2</sup>Maximum lamps per dimmer value represents the maximum safe loading of the control.

<sup>3</sup>Values are based on light output using the specified dimming control, and may not be an indication of the fixture's full rated capability.

<sup>4</sup>Includes models DVCL/TGCL/AYCL/SCL/CTCL/LECL

LEDVANCE LLC  
 200 Ballardvale Street  
 Wilmington, MA 01887 USA  
 Phone 1-800-LIGHTBULB (1-800-544-4828)  
[www.sylvania.com](http://www.sylvania.com)

SYLVANIA and LEDVANCE are registered trademarks.  
 All other trademarks are those of their respective owners.  
 Licensee of product trademark SYLVANIA in general lighting.  
 Specifications subject to change without notice.

[/sylvania](https://twitter.com/sylvania) [/sylvania](https://facebook.com/sylvania)



**LED/LC/ED17/7SC/120-347**

LED HID TYPE B ED17 Lamps



**SKU #** 93314526



**SPECIFICATIONS**

**GENERAL**

UL Type	Type B
Bulb Shape	ED17
Bulb Base Type	E26/EX39
Voltage	120-347
Wattage	21 W/35 W/45 W
Wattage Replacement	
Operating Life	50,000 hr
Dimmable	No
Operating Temp	-40 to 50 °C
Warranty	5 year limited warranty

**PHOTOMETRIC**

Efficacy	162 LPW/157 LPW/156 LPW
Lumens	3,400 lm/5,500 lm/7,000 lm
CCT	3000K/4000K/5000 K
CRI	70 CRI

**DIMENSIONS**

MOL	5.4 in
Diameter	2.6 in

**RATINGS & CERTIFICATIONS**

Safety Certifications	cULus
Energy Certifications	No, To check or confirm DLC QPL status, visit <a href="http://www.designlights.org/search">www.designlights.org/search</a>
Location Ratings	Damp

**PACKAGING INFO**

Standard Pack Quantity	3
UPC	662049525540



# Lumination® LRX Series

LED Downlights



NLED-PO6 - CURRENT GE / LRX-R6-10-8-40MD  
NLED-PO8 - CURRENT GE / LRX-R8-10-8-40MD  
NLED-PO10 - CURRENT GE / LRX-R8-10-8-40MD,  
c/w 93114520 GRRX8R10PTWT

CUSTOMER

Project

Date

Catalog Number

The **Lumination®** LRX Series is a specifiable downlight for retrofit and new construction applications. The LRX series is available in round and square form factors with 5 aperture options ranging from 4in to 12in. The LRX series features field-selectable lumen options, adapter rings, and a variety of reflector and trim finishes, making it a versatile solution for commercial spaces.

## CONSTRUCTION

<b>Housing:</b>	16 gauge aluminum spinning reflector housing
<b>Lens:</b>	Custom engineered reflectors for wide distributions.
<b>Paint:</b>	Powdercoat painted
<b>Weights:</b>	Up to 4.6 pounds
<b>Optical Assembly:</b>	High efficiency reflector and optical diffuser.

## AMBIENT TEMPERATURE

TYPE	TEMPERATURE RATE
OPERATING TEMPERATURE	-10°C TO +40°C (no EMBB) 0°C TO +25°C (with EMBB)

## LUMEN MAINTENANCE

LXX(10K) @ Hours 50,000 HR
L85

## OPTICAL SYSTEM

<b>Lumens:</b>	1000–6000lm Selectable: 650/1000lm, 3000/4000lm, 4000/5000/6000lm
<b>Distribution:</b>	90°
<b>Efficacy:</b>	Up to 112 LPW
<b>CCT:</b>	3000K,3500K, 4000K
<b>CRI:</b>	82

## MOUNTING

- Spring clips clamp on to existing frame.
- Accessible from beneath the ceiling.
- New construction utilizing FRAME.
- Fixture mounting to an existing metal frame, or install with new frame kit (ordered separately), interior ceiling applications only.
- Conduit connect to quick-disconnect for easy installation.

## ELECTRICAL

<b>Input Voltage:</b>	120–277V
<b>Input Frequency:</b>	50/60Hz
<b>Power Factor (PF)*:</b>	> 0.9%
<b>Total Harmonic Distortion (THD)*:</b>	<20%

\* PF and THD may vary with options

## ADDITIONAL NOTES

- Non-IC Rated
- IK00 Impact Resistant
- Optional black, white or silver trims available (ordered separately)

## CONTROLS

<b>Dimming:</b>	Standard 0–10V, Dimming 10%
<b>Controls:</b>	Daintree compatible with accessory kit

## DESIGN LIFE & WARRANTY

- **Current's Limited 5-year Warranty:**  
Please see website.



CUSTOMER NAME \_\_\_\_\_

Project Name \_\_\_\_\_

Date \_\_\_\_\_ Type \_\_\_\_\_

Catalog Number \_\_\_\_\_

**LRX**
**8**
**MD**

FAMILY	SHAPE/SIZE	LUMENS	CRI	CCT	DIMMING	OPTIONS
LRX = Lumination® LRX Series Downlight	<b>R4</b> = 4" Round Retrofit Downlight <b>S4</b> = 4" Square Retrofit Downlight	<b>10</b> <sup>1</sup> = 1000lm/650lm	<b>8</b> = 82 CRI	<b>30</b> = 3000K <b>35</b> = 3500K <b>40</b> = 4000K	<b>MD</b> = 0–10V Dimming	<b>Blank</b> = None <b>EL</b> = EMBB Ready
	<b>R6</b> = 6" Round Retrofit Downlight <b>S6</b> = 6" Square	<b>10</b> <sup>1</sup> = 1000lm/650lm <b>18</b> = 1800lm				
	<b>R8</b> = 8" Round Retrofit Downlight <b>S8</b> = 8" Square Retrofit Downlight	<b>10</b> <sup>1</sup> = 1000lm/650lm <b>18</b> = 1800lm <b>30</b> = 3000lm <b>40</b> <sup>1</sup> = 4000lm/3000lm				
	<b>R10</b> <sup>4</sup> = 10" Round Retrofit Downlight	<b>30</b> <sup>4</sup> = 3000lm <b>60</b> <sup>1,4</sup> = 4000lm/5000lm/6000lm				
	<b>R12</b> <sup>4</sup> = 12" Round Retrofit Downlight	<b>60</b> <sup>1,4</sup> = 4000lm/5000lm/6000lm				

**Notes:**

- Selectable Lumen packages allow for field adjustments to light output. See page 7 for details.
- The standard trim is white. Colored trim options are available see page 4 for details.
- Attach to existing frame or install with new frame kit (ordered separately) per UL.
- 10inch and 12inch 3000lm & 4000/5000/6000lm only for MD=0–10V dimming.

0–10V DIMMING							
NOMINAL LUMENS	650	1000	1800	3000	4000	5000	6000
<b>Delivered Lumens - LRX*4</b>	700	1020	N/A	N/A	N/A	N/A	N/A
<b>Delivered Lumens - LRX*6</b>	700	1050	1900	N/A	N/A	N/A	N/A
<b>Delivered Lumens - LRX*8</b>	750	1200	2000	3300	N/A	N/A	N/A
<b>Delivered Lumens - LRXR10</b>	N/A	N/A	N/A	3180	4600	5400	6200
<b>Delivered Lumens - LRXR12</b>	N/A	N/A	N/A	N/A	4650	5450	6250
<b>System Input Power (W)</b>	8.5	13	22	35	41	49	59.5
<b>System Efficacy (LPW)</b>	88	92	91	94	112	110	104

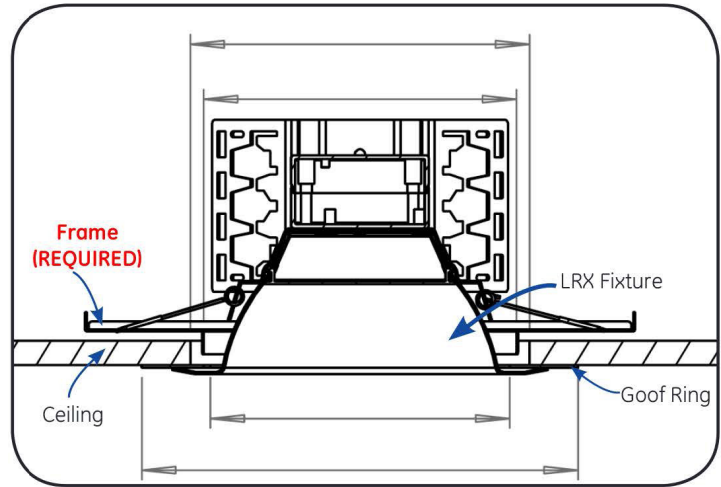
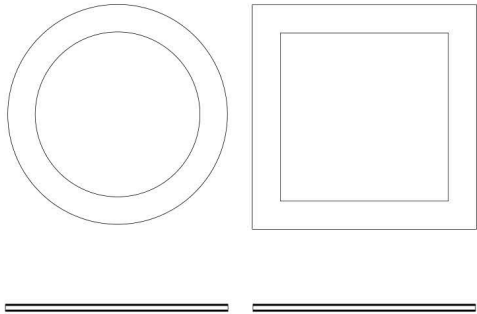
DELIVERED LUMEN MULTIPLIERS	
CCT	MULTIPLIERS
4000K	1
3500K	0.98
3000K	0.94



## ACCESSORIES: LUMINATION® LRX SERIES - REMODEL (GOOF) RINGS

The essential accessory for any project, the goof ring helps to cover openings in the ceiling with a trim that blends with the existing LRX trim. Goof rings are available in white only. Verify the existing opening and LRX fixture to order the correct goof ring, details shown in the table below. Always verify proper installation per the Installation Guide.

### Installation Position



**Notes:** Please check the compatibility of the goof ring and the fixture by referring to the table below.










### Goof Rings

FOR NEW CONSTRUCTION									FOR RETROFIT	
GOOF RING SKU	GOOF RING DESCRIPTION	GOOF RING SHAPE	SUITABLE FIXTURE	SUITABLE FRAME	INSIDE OF GOOF RING (IN)	OUTSIDE OF GOOF RING (IN)	CEILING HOLD MIN. (IN)	CEILING HOLE MAX. (IN)	SUITABLE FRAME DIMENSION (IN)	FRAME HOLE (IN)
93114516	GRRX4R6PTWT	ROUND	LRXR4XXXXXXXX	FRAME4RXXXX	4.48	7.09	5.20	6.69	12.60 x 7.64 x 3.54	4.20–4.70
93114517	GRRX4S6PTWT	SQUARE	LRXS4XXXXXXXX	FRAME4SXXXX	4.48	7.09	5.20	6.19	12.60 x 7.64 x 3.54	4.20–4.90
93114518	GRRX6R8PTWT	ROUND	LRXR6XXXXXXXX	FRAME6RXXXX	6.18	9.00	6.50	8.60	12.60 x 7.64 x 3.54	5.91–6.50
93114519	GRRX6S8PTWT	SQUARE	LRXS6XXXXXXXX	FRAME6SXXXX	6.22	8.98	7.50	8.08	13.35 x 11.34 x 3.54	5.95–7.50
93114520	GRRX8R10PTWT	ROUND	LRXR8XXXXXXXX	FRAME8RXXXX	7.87	10.50	8.27	10.10	15.55 x 11.34 x 3.54	7.68–8.27
93114521	GRRX8S10PTWT	SQUARE	LRXS8XXXXXXXX	FRAME8SXXXX	8.23	10.98	9.50	10.08	13.35 x 11.34 x 3.54	7.95–9.50
93114522	GRRX8R12PTWT	ROUND	LRXR8XXXXXXXX	FRAME8RXXXX	7.87	12.99	10.10	12.59	15.55 x 11.34 x 3.54	7.68–8.27
93114523	GRRX8S12PTWT	SQUARE	LRXS8XXXXXXXX	FRAME8SXXXX	8.23	12.99	10.58	12.09	13.35 x 11.34 x 3.54	7.95–9.50

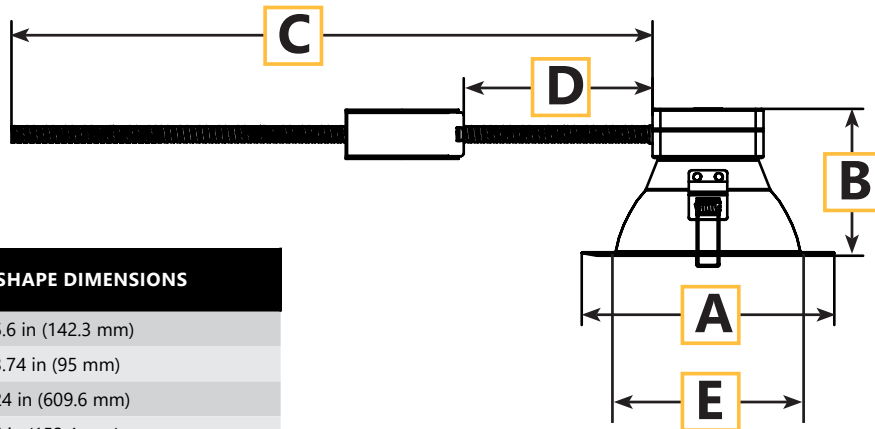
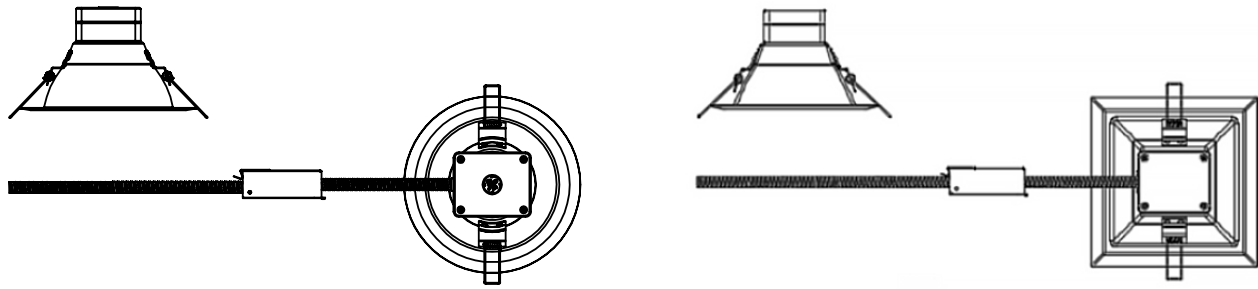
**ACCESSORIES: LUMINATION® LRX SERIES**

PRODUCT DESCRIPTION	MATERIAL DESCRIPTION	MATERIAL	NOTES
EMERGENCY BATTERY BACKUP KIT (7W)	LRXEMBBKIT07	93043031	7 WATT EMBB QUICK CONNECT KIT (MUST HAVE FIXTURE WITH "EL" OPTION)
EMERGENCY BATTERY BACKUP KIT (10W)	LRXEMBBKIT10	93043540	10 WATT EMBB QUICK CONNECT KIT (MUST HAVE FIXTURE WITH "EL" OPTION)
4" NEW CONSTRUCTION ROUND FRAME KIT	FRAME4R	93090208	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
6" NEW CONSTRUCTION ROUND FRAME KIT	FRAME6R	93025091	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
8" NEW CONSTRUCTION ROUND FRAME KIT	FRAME8R	93025092	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
10" NEW CONSTRUCTION ROUND FRAME KIT	FRAME10R	93124880	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
12" NEW CONSTRUCTION ROUND FRAME KIT	FRAME12R	93124881	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
4" NEW CONSTRUCTION SQUARE FRAME KIT	FRAME4S	93090209	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
6" NEW CONSTRUCTION SQUARE FRAME KIT	FRAME6S	93045426	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
8" NEW CONSTRUCTION SQUARE FRAME KIT	FRAME8S	93045427	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS
347V KIT	LRX347V277	93036250	347V TRANSFORMER QUICK CONNECT KIT
DAINTREE CONTROLS ACCESSORY KIT	LCABAVTQUNGALV	93057194	SEE LCA KIT LITERATURE & INSTALL GUIDE, DOES NOT INCLUDE SENSOR
SENSOR ACCESSORY KIT - DAINTREE ENTERPRISE	LSAATZFM6	93098473	SEE LSA KITS LITERATURE & INSTALL GUIDE
SENSOR ACCESSORY KIT - DAINTREE ONE & EZ CONNECT	LSAAT/T1FM6	93098472	SEE LSA KITS LITERATURE & INSTALL GUIDE
HANGER BAR, C-CHANNEL, 25 - 1/4" (BOXED PAIR)	BH3	93110306	RECOMMENDED FOR NEW CONSTRUCTION APPLICATIONS

**ACCESSORIES: LUMINATION® LRX SERIES COLORED ROUND TRIM OPTIONS**

	ROUND					SQUARE			
	SILVER	BLACK	SPECULAR WITH WHITE TRIM	SEMI-DIFFUSE WITH WHITE TRIM	SEMI-DIFFUSE WITH MATCHING TRIM	SILVER	BLACK	SPECULAR WITH WHITE TRIM	SEMI-DIFFUSE WITH WHITE TRIM
									
4"	93151744 LRXTRIMR4SV	93151745 LRXTRIMR4BL	93151746 LRXTRIMR4SP	93151747 LRXTRIMR4SD		93151748 LRXTRIMS4SV	93151749 LRXTRIMS4BL	93151750 LRXTRIMS4SP	93151751 LRXTRIMS4SD
6"	93059502 LRXTRIMR6SV	93059501 LRXTRIMR6BL	93151752 LRXTRIMR6SP	93151753 LRXTRIMR6SD	93152569 LRXTRIMR6SA	93151754 LRXTRIMS6SV	93151755 LRXTRIMS6BL	93151756 LRXTRIMS6SP	93151757 LRXTRIMS6SD
8"	93059504 LRXTRIMR8SV	93059503 LRXTRIMR8BL							

**DIMENSIONS**



**ROUND SHAPE DIMENSIONS**

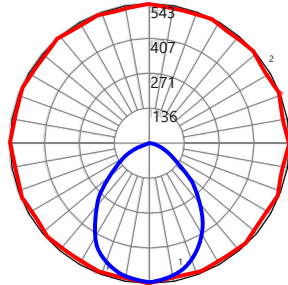
	A	
<b>4 in</b>	A	5.6 in (142.3 mm)
	B	3.74 in (95 mm)
	C	24 in (609.6 mm)
	D	6 in (152.4 mm)
	E	Ceiling Cutout Min: 4.4 in
<b>6 in</b>	A	7.75 in (196.8 mm)
	B	4.5 in (114.2 mm)
	C	24 in (609.6 mm)
	D	6 in (152.4 mm)
	E	Ceiling Cutout Min: 5.7 in
<b>8 in</b>	A	9.75 in (247.6 mm)
	B	5.1 in (129.4 mm)
	C	24 in (609.6 mm)
	D	6 in (152.4 mm)
	E	Ceiling Cutout Min: 7.7 in
<b>10 in</b>	A	12 in (305 mm)
	B	5.8 in (148.2 mm)
	C	24.0 in (609.6 mm)
	D	6 in (152.4 mm)
	E	Ceiling Cutout Min: 9.7 in
<b>12 in</b>	A	14 in (355 mm)
	B	6.23 in (158.2 mm)
	C	24 in (609.6 mm)
	D	6 in (152.4 mm)
	E	Ceiling Cutout Min: 11.7 in

**SQUARE SHAPE DIMENSIONS**

<b>4 in</b>	A	5.75 in (146 mm)
	B	3.74 in (95 mm)
	C	24 in (609.6 mm)
	D	6 in (152.4 mm)
	E	Ceiling Cutout Min: 4 in for ceiling thickness ≤ 10 mm; 4.2 in for ceiling thickness > 10 mm
<b>6 in</b>	A	7.75 in (196.8 mm)
	B	4.5 in (114.2 mm)
	C	24 in (609.6 mm)
	D	6 in (152.4 mm)
	E	Ceiling Cutout Min: 5.6 in
<b>8 in</b>	A	9.75 in (247.6 mm)
	B	5.1 in (129.4 mm)
	C	24 in (609.6 mm)
	D	6 in (152.4 mm)
	E	Ceiling Cutout Min 7.6 in

**PHOTOMETRIC DATA:**

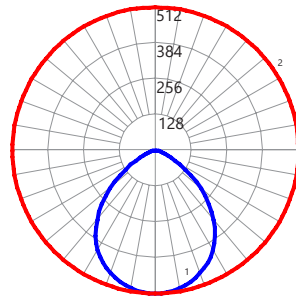
**4" Round LRX**  
1059 LM  
LRXR410830MD



ZONE	LUMENS
0-10	50.98
10-20	143.53
20-30	208.85
30-40	226.68
40-50	194.68
50-60	131.45
60-70	66.78
70-80	29.04
80-90	6.9

ZONE	LUMENS	% OF FIXTURE
0-20	194.51	18.4
0-30	403.36	38.1
0-40	630.04	59.5
0-60	956.17	90.3
0-80	1052.0	99.3
0-90	1058.9	100.0

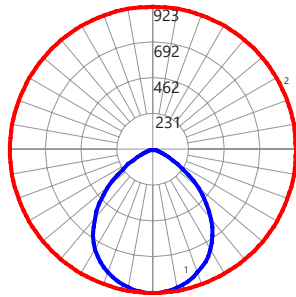
**6" Round LRX**  
1000 LM  
LRXR610830MD



ZONE	LUMENS
0-10	48.26
10-20	135.99
20-30	199.14
30-40	221.96
40-50	188.12
50-60	118.95
60-70	54.04
70-80	25.47
80-90	7.78

ZONE	LUMENS	% OF FIXTURE
0-20	184.25	18.4
0-30	383.39	38.3
0-40	605.34	60.5
0-60	912.41	91.2
0-80	991.92	99.2
0-90	999.70	100.0

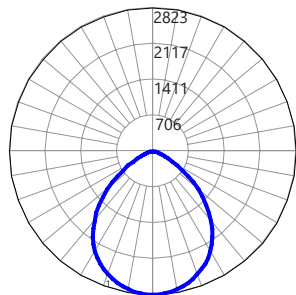
**8" Round LRX**  
1797 LM  
LRXR818830MD



ZONE	LUMENS
0-10	87.00
10-20	245.00
20-30	357.94
30-40	405.72
40-50	355.72
50-60	213.19
60-70	84.35
70-80	37.58
80-90	10.61

ZONE	LUMENS	% OF FIXTURE
0-20	332.00	18.4
0-30	689.94	38.3
0-40	1095.66	60.9
0-60	1664.57	92.5
0-80	1786.51	99.2
0-90	1797.12	99.8

**10" Round LRX**  
5893 LM  
LRXR1030830MD

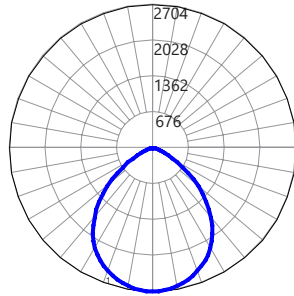


ZONE	LUMENS
0-10	265.56
10-20	751.07
20-30	1109.15
30-40	1284.03
40-50	1192.46
50-60	797.55
60-70	323.82
70-80	129.46
80-90	639.60

ZONE	LUMENS	% OF FIXTURE
0-20	538.49	17.2
0-30	2125.78	36.0
0-40	3409.81	57.8
0-60	5399.82	91.5
0-80	5853.11	99.2
0-90	5892.71	99.9
10-90	5627.15	95.4
20-40	2393.19	40.6
20-50	3585.65	60.8
40-70	2313.83	39.2
60-80	453.28	7.7
70-80	129.46	2.2
80-90	39.60	0.7

**PHOTOMETRIC DATA:**

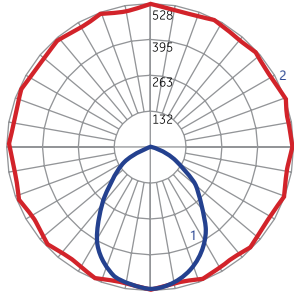
**12" Round LRX**  
6070 LM  
LRXR1260830MD



ZONE	LUMENS
0-10	254.76
10-20	726.52
20-30	1087.30
30-40	1279.70
40-50	1270.85
50-60	939.08
60-70	372.27
70-80	106.14
80-90	33.16

ZONE	LUMENS	% OF FIXTURE
0-20	981.28	16.1
0-30	2068.58	34.0
0-40	3348.28	55.1
0-60	5558.22	91.5
0-80	6036.63	99.3
0-90	6069.79	99.9
10-90	5815.03	95.7
20-40	2367.00	39.0
20-50	3637.86	59.9
40-70	2582.21	42.5
60-80	478.41	7.9
70-80	106.14	1.7
80-90	33.16	0.5

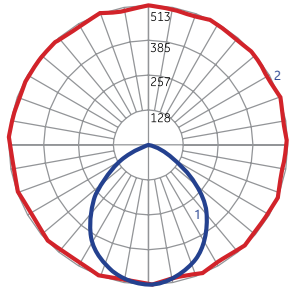
**4" Square LRX**  
1045 LM  
LRXS410830MD



ZONE	LUMENS
0-10	48.79
10-20	136.05
20-30	195.03
30-40	214.18
40-50	192.29
50-60	143.00
60-70	81.10
70-80	27.89
80-90	6.20

ZONE	LUMENS	% OF FIXTURE
0-20	184.85	17.7
0-30	379.88	36.3
0-40	594.06	56.7
0-60	929.35	88.8
0-80	1038.34	99.2
0-90	1044.54	99.8

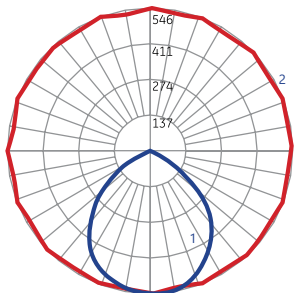
**6" Square LRX**  
1050 LM  
LRXS610830MD



ZONE	LUMENS
0-10	48.40
10-20	137.38
20-30	203.26
30-40	229.80
40-50	202.64
50-60	136.51
60-70	63.03
70-80	22.61
80-90	6.12

ZONE	LUMENS	% OF FIXTURE
0-20	185.78	17.7
0-30	389.04	37.1
0-40	618.84	58.9
0-60	957.99	91.2
0-80	1043.63	99.4
0-90	1049.74	100.0

**8" Square LRX**  
1199 LM  
LRXS810830MD



ZONE	LUMENS
0-10	51.81
10-20	147.65
20-30	220.84
30-40	258.58
40-50	243.12
50-60	169.22
60-70	75.23
70-80	25.23
80-90	7.77

ZONE	LUMENS	% OF FIXTURE
0-20	199.46	16.6
0-30	420.3	35.0
0-40	678.88	56.6
0-60	1091.68	90.9
0-80	1191.68	99.3
0-90	1199.45	100.0

## DAINTREE CONTROLS

---

### Daintree® Wireless Controls:

There is no one size fits all for wireless controls. Some networks want simple solutions that reduce energy consumption and meet code compliance while others are more ambitious, looking to capitalize on the LED and controls savings to fund a scalable, enterprise-grade, internet of things solution. The advantage of the Daintree® Wireless platform is it's ability to integrate into indoor, outdoor and high bay environments. The Daintree® Wireless Controls provide the infrastructure to future proof your buildings, easily upgrade to Networked solutions and provide the ability to integrate into IoT solutions that are right for your business.

- **Daintree® One:** Standalone Wireless Controls
- **Daintree® EZ Connect:** Room-Based Wireless Lighting Controls
- **Daintree® Networked:** Networked Lighting Controls for Smart Building & IoT Enablement.

Daintree® Wireless Controls are already integrated in your favorite Current LED fixtures. Integrating the controls into the fixture cuts labor costs considerably since the sensors are already embedded in the lighting fixtures. There's no need to get above the ceiling plenum and install additional devices. Visit our website [LED.com](http://LED.com) for a complete list of LED Fixtures.



Project	
Nomenclature	
Type	Date
Approval	
Notes	

The BLV is a LED linear vapour proof fixture designed for surface and suspended mounting. It is well suited for indoor or outdoor use where there is a high probability of moisture and exposure to dust. Its unique, IP67 certified body makes it ideal in environments where vapour proof efficiency and performance are a factor. The fixture is rated for standard operation at temperatures as low as -30°C. For environments requiring even more extreme conditions, an optional upgrade<sup>[T0]</sup> rated for -40°C is available.

### LUMINAIRE SUMMARY

#### Features

- L70 of 98,000.00+ hours; L90 of 30,000.00+ hours
- 80 CRI standard - 90 CRI, 95+CRI available
- Standard cold temperature rating of -30°C
- -40°C cold temperature option available
- Lumen packages are available from 2,500L to 11,500L
- Available in 2700K, 3000K, 3500K, 4000K, 5000K, and 6500K
- Pendant Mount
- Wireless controls
- IP66 rated motion sensor available
- Polycarbonate and acrylic lenses

#### Optics

- High-efficiency diffuser maximizes light distribution while providing diffusion of LED point sources and reducing glare
- Surface-mount brackets available

#### Electrical

- ETL certified to UL Canada and United States standards
- Available in 120-277V and 347V

#### Construction

- Manufactured in Ontario, Canada
- Fibreglass enclosure with neoprene gasket ensures a dust and water-resistant seal
- Frosted acrylic lens for even light distribution
- Standard white nylon latches
- Stainless Steel Latches are available

#### Approvals

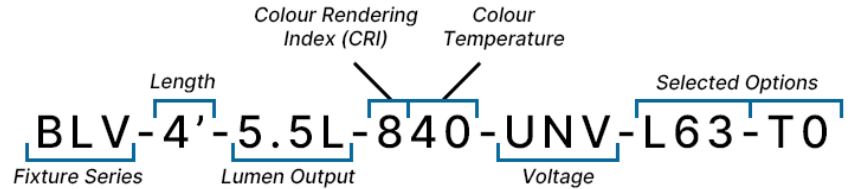
- Dry and Damp Environment Rated
- ETL Listed
- DLC Certified
- IP65, IP66, and IP67 Rated
- NEMA 4X Rated
- NSF Rated

#### Mounting

- Can be suspended, surface, pendant or wall mounted

### ORDERING INFORMATION

Fill in the fields below with your product selections. If you need help with this section, contact your local sales professional. An example of a finished product name would be **'BLV-4'-5.5L-840-UNV-L63-T0'**.



1	2	3	4	5	6
BLV					

Series	Length	Lumen Output		CRI	Color Temp	Voltage		
BLV	2' - 4' (ft)	2' 1/4'	2.5L (2500lm)	4'	11L (11000lm)	8 - 80CRI	27 - 2700K	UNV - 120-277V
	4' - 4' (ft)	2' 1/4'	3.5L (3500lm)	4'	11.5L (11500lm)	9 - 90CRI	30 - 3000K	347 - 347V
	8' - 4' (ft)	2' 1/4'	4.5L (4500lm)	8'	13L (13000lm)	95 -	35 - 3500K	480 - 480V
		4'	5L (5000lm)	8'	15L (15000lm)	95+CRI	40 - 4000K	
		4'	5.5L (5500lm)	8'	17L (17000lm)		50 - 5000K	
		4'	7L (7000lm)	8'	19L (19000lm)		65 - 6500K	
		4'	7.5L (7500lm)	8'	21L (21000lm)			
		4'	9L (9000lm)	8'	23L (23000lm)			
		4'	9.5L (9500lm)					

7
---

### Options

Lenses	Controls	Packaging
L16 Ribbed frosted Acrylic	B11 0-10v Dimming Leads (see comment)	Blank Individually Boxed on Pallets (standard)
L17 Ribbed Clear Acrylic	B12 Line Voltage Dimming (select models only)	P0 Bulk Packaging (minimal cardboard)
L26 Ribbed Clear Polycarbonate (Not available in 8 foot)	WC19A Avi-on LVFA	P** Other Options Available
L61 Smooth Clear Acrylic	WC19C Avi-on LVFA with End Mounted PIR/Daylight Sensor	Fasteners
L63 Smooth frosted Acrylic	WC** Other Wireless Controls Options**	BLANK Standard White Nylon Latches
L64 Ribbed Frosted Polycarbonate		H4 Stainless Steel Latches (4-Foot Fixture)
L65 Smooth Clear Polycarbonate	Motion Sensors	Mounting
L71 Smooth frosted Polycarbonate	W30XXX IP-Rated Motion Sensor (SBOR)	M2xx V-Hanger with Aircraft Loop Cables
Fixture Efficacy	WX16 Microwave Sensor	M3xx Y-Toggle Aircraft Cables
BLANK Standard Efficiency	W** Other Options Available	M24 Single Pendant Mount(3/4 Hub)
HE High Efficiency	Emergency Driver	M33 Dual Pendant Mount Brackets
Cords	B24 UL924 10W Battery Back-up	M** Other Options Available
W1xx White 16/4 (Specify Length)	Temperature Rating	Warranty
W2xx Black 16/4 (Specify Length)	BLANK Standard	CL7 10-Year Comprehensive Warranty Upgrade
W3xx White 16/3 (Specify Length)	T0 -40°C Cold Temperature Rated Components	
W4xx Black 16/3 (Specify Length)		
W*** Other Options Available		

XX Cord Length	XX Aircraft Length
06 6 FT	05 5 FT
10 10 FT	10 10 FT
15 15 FT	15 15 FT
20 20 FT	20 20 FT

\* = More options available

Please contact your local sales agent [here](#) or contact sales@bjtake.com for more information.



### DOCUMENTATION AND RESOURCES

All files and resources are available on our website for download. Files and resources are also embedded as links in this document, listed below. Additional files may be available upon request. Please contact your local sales agent [here](#) or contact [sales@bjtake.com](mailto:sales@bjtake.com) for more information.

- [2024 Specification Sheet](#)
- [BLV-4FT-10.5L-840-L16.ies](#)
- [BLV-4FT-11.5L-840-L16.ies](#)
- [BLV-4FT-2.5L-840-L16.ies](#)
- [BLV-4FT-3.5L-840-L16.ies](#)
- [BLV-4FT-4.5L-840-L16.ies](#)
- [BLV-4FT-5.5L-840-L16.ies](#)
- [BLV-4FT-6.5L-840-L16.ies](#)
- [BLV-4FT-7.5L-840-L16.ies](#)
- [BLV-4FT-8.5L-840-L16.ies](#)
- [BLV-4FT-9.5L-840-L16.ies](#)
- [BLV-8FT-11L-840-L16.ies](#)
- [BLV-8FT-13L-840-L16.ies](#)
- [BLV-8FT-15L-840-L16.ies](#)
- [BLV-8FT-17L-840-L16.ies](#)
- [BLV-8FT-19L-840-L16.ies](#)
- [BLV-8FT-21L-840-L16.ies](#)
- [BLV-8FT-23L-840-L16.ies](#)
- [BLV-8FT-5L-840-L16.ies](#)
- [BLV-8FT-7L-840-L16.ies](#)
- [BLV-8FT-9L-840-L16.ies](#)

### CERTIFICATIONS AND LISTINGS

Certifications that apply to this fixture and its possible configurations are listed here. More information available upon request.

Icon	Description
	Bluetooth
	DLC Listed
	ETL Listed
	NEMA 4X
	IP67 Rated
	NSF Rated
	90CRI+ Available
	-40°C Available (-30°C Standard)

### USAGE APPLICATIONS

This fixture can be used in a variety of applications, and is ideal for the following:

Food Processing Plants
Storage Facilities
Manufacturing

### Important Information

This wattage table pertains specifically to the **L16 standard ribbed frosted acrylic** lens. More lens options are available, and the **L63 smooth frosted acrylic** wattage table is on the next page.

### BLV, L16 Standard Lens, Lumen Output

#### BLVN 2FT L16

Size	Lumen Output	Actual Lumen Output	Fixture Wattage	Efficacy (lm/W)
2'	2.5L	2353	18.10	130.00
2'	3.5L	3294	24.83	132.66
2'	4.5L	4271	31.56	135.33

Based on 2 foot, 4000K, 80 CRI, (120-277V) w/ L16 Lens @ 25°C

#### BLVN 4FT L16

Size	Lumen Output	Actual Lumen Output	Fixture Wattage	Efficacy (lm/W)
4'	2.5L	2337	17.70	132.03
4'	3.5L	3309	25.14	131.62
4'	4.5L	4274	32.58	131.18
4'	5.5L	5232	40.02	130.73
4'	6.5L	6184	47.46	130.30
4'	7.5L	7129	54.90	129.85
4'	8.5L	8068	62.34	129.42
4'	9.5L	9000	69.78	128.98
4'	10.5L	9926	72.22	137.44
4'	11.5L	10836	84.62	128.05

Based on 4 foot, 4000K, 80 CRI, (120-277V) w/ L16 Lens @ 25°C

#### BLVN 8FT L16

Size	Lumen Output	Actual Lumen Output	Fixture Wattage	Efficacy (lm/W)
8'	5L	4698	35.35	132.90
8'	7L	6650	50.21	132.44
8'	9L	8589	65.07	132.00
8'	11L	10516	79.93	131.57
8'	13L	12430	94.79	131.13
8'	15L	14328	109.64	130.68
8'	17L	16215	124.50	130.24
8'	19L	18088	139.36	129.79
8'	21L	19948	154.22	129.35
8'	23L	21779	169.00	128.87

Based on 8 foot, 4000K, 80 CRI, (120-277V) w/ L16 Lens @ 25°C

### Important Information

This wattage table pertains specifically to the L63 **smooth frosted acrylic** lens. More lens options are available, and the L16 **standard ribbed frosted acrylic** wattage table is on the previous page.

### BLV, L63 Standard Lens, Lumen Output

#### BLVN 2FT L63

Size	Lumen Output	Actual Lumen Output	Fixture Wattage	Efficacy (lm/W)
2'	2.5L	2483	18.10	137.18
2'	3.5L	3476	24.83	139.99
2'	4.5L	4508	31.56	142.84

Based on 2 foot, 4000K, 80 CRI, (120-277V) w/ L63 Lens @ 25°C

#### BLVN 4FT L63

Size	Lumen Output	Actual Lumen Output	Fixture Wattage	Efficacy (lm/W)
4'	2.5L	2467	17.70	139.38
4'	3.5L	3491	25.13	138.92
4'	4.5L	4508	32.56	138.45
4'	5.5L	5518	39.99	137.98
4'	6.5L	6521	47.42	137.52
4'	7.5L	7518	54.85	137.06
4'	8.5L	8507	62.28	136.59
4'	9.5L	9489	69.71	136.12
4'	10.5L	10465	77.14	135.66
4'	11.5L	11429	84.56	135.16

Based on 4 foot, 4000K, 80 CRI, (120-277V) w/ L63 Lens @ 25°C

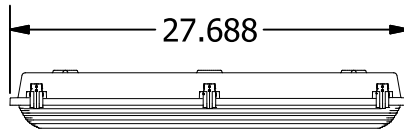
#### BLVN 8FT L63

Size	Lumen Output	Actual Lumen Output	Fixture Wattage	Efficacy (lm/W)
8'	5L	5200	35.35	147.10
8'	7L	7361	50.21	146.60
8'	9L	9507	65.07	146.10
8'	11L	11640	79.93	145.63
8'	13L	13757	94.79	145.13
8'	15L	15861	109.64	144.66
8'	17L	17948	124.50	144.16
8'	19L	20020	139.36	143.66
8'	21L	22081	154.22	143.18
8'	23L	24108	169.00	142.65

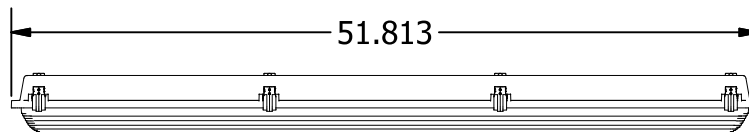
Based on 8 foot, 4000K, 80 CRI, (120-277V) w/ L63 Lens @ 25°C

### BLV, Side Dimensions

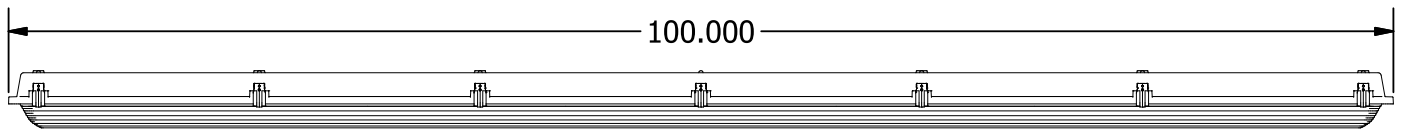
#### BLV 2FT - Side View



#### BLV 4FT - Side View

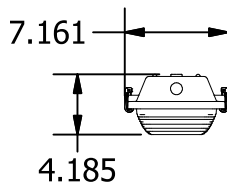


#### BLV 8FT - Side View

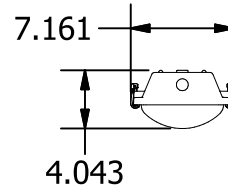


### BLV, Side Dimensions

#### BLV - End View, L16/L17



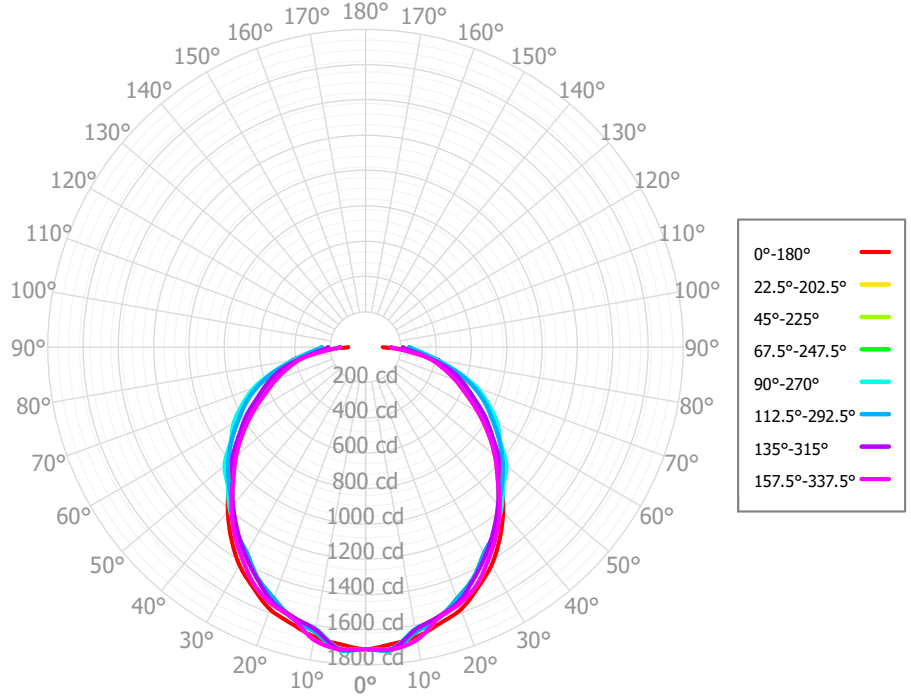
#### BLV - End View, L61/L63



**BLV-4'-5.5L-840-UNV-L16**

**CONE OF LIGHT**

Mtg Height	Light Level	Beam Diameter
6.0 ft	47.5 fc	17.1 ft
8.0 ft	26.7 fc	22.9 ft
10.0 ft	17.1 fc	28.6 ft
12.0 ft	11.9 fc	34.3 ft
14.0 ft	8.7 fc	40.0 ft
16.0 ft	6.7 fc	45.7 ft

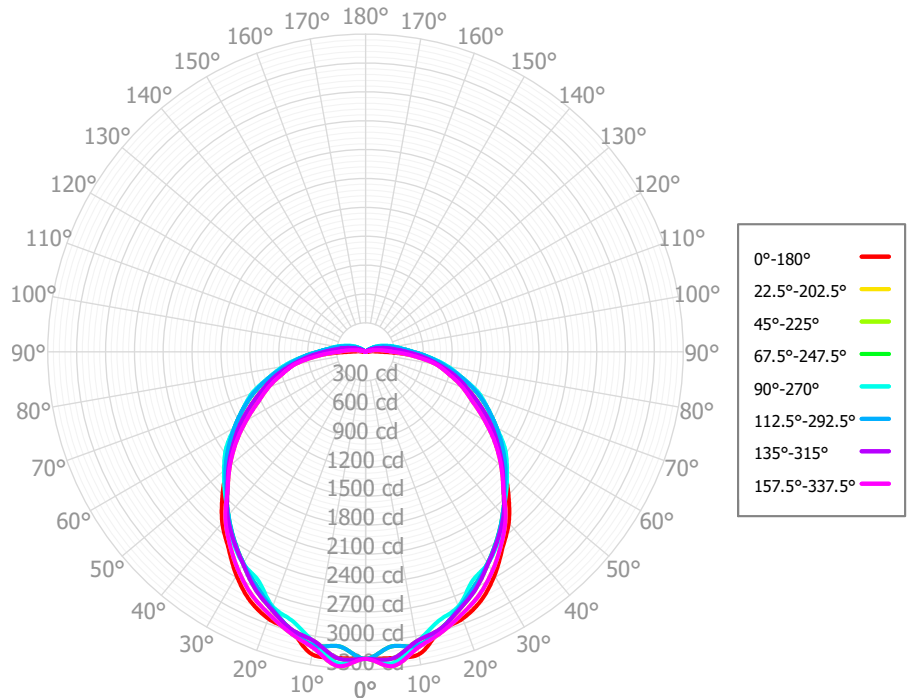


Based on 'BLV-4'-5.5L-840-UNV-L16', ie. (BLV, 4 foot, 5500lm, 80 CRI, 4000K, 120-277V)

**BLV-8'-11L-840-UNV-L16**

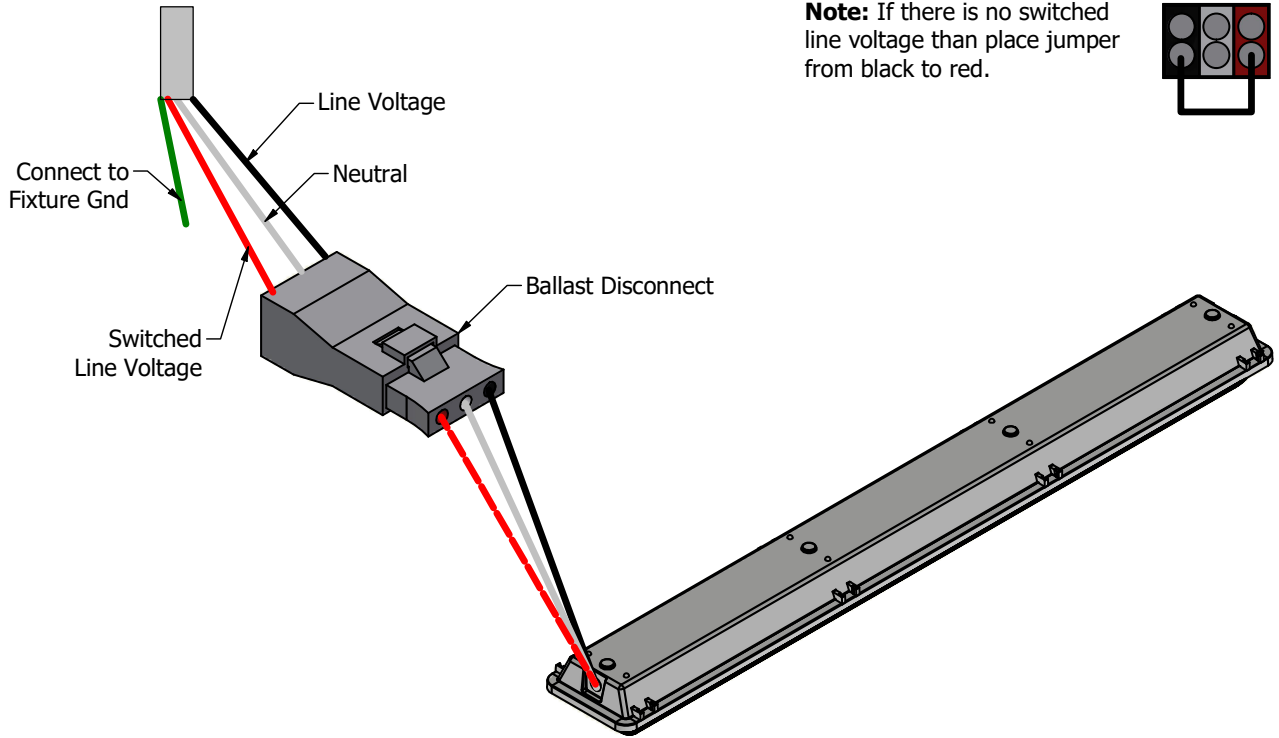
**CONE OF LIGHT**

Mtg Height	Light Level	Beam Diameter
6.0 ft	88.6 fc	18.0 ft
8.0 ft	49.8 fc	24.0 ft
10.0 ft	31.9 fc	30.0 ft
12.0 ft	22.1 fc	36.0 ft
14.0 ft	16.3 fc	42.0 ft
16.0 ft	12.5 fc	47.9 ft



Based on 'BLV-8'-11L-840-UNV-L16', ie. (BLV, 4 foot, 5500lm, 80 CRI, 4000K, 120-277V)

### Emergency Lighting Wiring



**Note:** If there is no switched line voltage than place jumper from black to red.

Please contact your local sales representative for more information or visit our website at <https://bjtake.com/>

# BLSP

## LED Linear Strip Fixture



NLED-STR2-20 - BJTAKE / BLSP-2'-2.5-8-40-UNV  
NLED-STR4-20 - BJTAKE / BLSP-S-4'-3.5-8-40-UNV  
NLED-STR8-50 - BJTAKE / BLSP-S-8'-7-8-40-UNV



Project	
Nomenclature	
Type	Date
Approval	
Notes	

The BLSP is an LED linear strip fixture designed for surface and suspended mounting. It is well suited for indoor use where high efficiency, row-mountable task lighting is required. Its narrow strip design and modern profile make it an ideal fixture for task lighting applications.

### Luminaire Summary

#### Features

- Operating temperature ranges available from -40C to 40C
- L70 of 99,000+ hours, L90 of 30,000+ hours
- Standard 0 - 10V dimming
- Available in 2700K, 3000K, 3500K, 4000K, 5000K and 6500K

#### Approvals

- ETL certified to UL Canada and United States standards
- Made with UL Listed components
- DLC Listed
- ETL Listed

#### Mounting

- Surface mount
- Pendant mount
- Aircraft cables
- Knockouts provided for row-mounting

#### Construction

- Manufactured in Ontario, Canada
- Powder-coated in high reflectance gloss white (other colours available)
- Precision bent for added strength and rigidity
- Welded end caps

#### Electrical

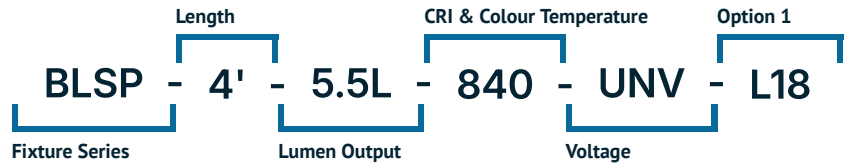
- Available in 120-277V, 120-347V, 347V and 480V

#### Options

- Wireless Controls Available
- 90 and 95+ CRI Options Available
- 120-347V(UN3) Available

### Ordering Information

Fill in the fields below with your product selections. If you need help with this section, [contact your local sales professional](#).



1	2	3	4	5	6
BLSP					

Series	Length	Lumen Output		CRI	Colour Temp	Voltage
BLSP	1' - 1' (ft)	1' 1.125L (1126 lm)	4' 10.5L (10430 lm)	8 - 80 CRI	27 - 2700K	UNV - 120-277V
	4' - 4' (ft)	1' 1.375L (1377 lm)	4' 11.5L (11291 lm)	9 - 90 CRI	30 - 3000K	UN3 - 120-347V
	8' - 8' (ft)	2' 1.75L (1755 lm)	8' 5L (5345 lm)	1 - 95+ CRI	35 - 3500K	347 - 347V
	* - Custom	2' 2.25L (2253 lm)	8' 7L (7541 lm)		40 - 4000K	480 - 480V
		2' 2.75L (2753 lm)	8' 9L (9683 lm)		50 - 5000K	
		4' 2.5L (2603 lm)	8' 11L (11772 lm)		65 - 6500K	
		4' 3.5L (3673 lm)	8' 13L (13807 lm)			
		4' 4.5L (4716 lm)	8' 15L (15789 lm)			
		4' 5.5L (5734 lm)	8' 17L (17717 lm)			
		4' 6.5L (6725 lm)	8' 19L (19591 lm)			
		4' 7.5L (7690 lm)	8' 21L (21412 lm)			
		4' 8.5L (8629 lm)	8' 23L (23191 lm)			
		4' 9.5L (9542 lm)	**L - Custom lumen package			

### Options

#### Lenses

L18 | Frosted Lens

#### Cords

- W3xx | White 16/3 (Specify Length)
- W4xx | Black 16/3 (Specify Length)
- W59xx | White 16/5 (Specify Length)
- W\*\*\* | Other Options Available\*

Key	Cord Length	Key	Cord Length
6	6FT	15	15FT
10	10FT	20	20FT

Ex. W406 would be 16/3 Black, 6FT

#### Motion Sensors

- W26 | Photocell Motion Sensor
- W57 | Dimming Motion Sensor (dims to 50% when unoccupied)
- W53\* | On/Off
- W8\* | High/Low
- WX16 | Microwave Dimmable Sensor
- W\*\* | Other Options Available\*

#### Wire Guard

- G1 | Heavy Duty White
- G5 | Heavy Duty Black

#### Finish

- BLANK | Standard Gloss White
- C5 | Matte Black
- CUSTOM\* | Custom Colour Choice

#### Dimming

- B11 | 0-10V Dimming Leads
- B12 | Line Voltage Dimming
- B27 | Dim-to-off Driver
- B\*\* | Other Options Available\*

#### Controls

- WC10\* | Encelium Wireless Controls
- WC18\* | NX Wireless Controls
- WC19\* | Avi-on Wireless Controls
- WC22\* | JDRF Wireless Controls

#### Emergency Driver

- B17 | UL924 6W Battery Back-up
- B24 | UL924 10W Battery Back-up
- F8 | UL924 Emergency Relay

#### Packaging

- BLANK | Individually Boxed on Pallets
- P0 | Bulk Packaging
- P\*\* | Other Options Available\*

#### Mounting

- M1 | V-Hangers
- M2xx | V-Hanger with Aircraft Loop Cables
- M3xx | Y-Toggle Aircraft Cables
- M24 | Single Pendant Mount(3/4 Hub)
- M\*\* | Other Options Available\*

Key	Aircraft Length	Key	Aircraft Length
5	5FT	15	15FT
10	10FT	20	20FT

Ex. M305 would be Y-Toggle, 5FT

#### Modular Wiring

- W27XYZC | Modular Power Cable
- W22XY | Molex Row Mounting Wiring

See page 7

#### Warranty

- CL7 | 10-Year Comprehensive Warranty Upgrade



### Documentation and Resources

All files and resources are available on our website for download. Files and resources are also embedded as links in this document, listed below. Additional files may be available upon request. Please contact your local sales agent [here](#) or contact [sales@bjtake.com](mailto:sales@bjtake.com) for more information.

- BLSP - Installation Instructions
- BLSP-1FT-1.125L
- BLSP-1FT-1.375L
- BLSP-2FT-1.75L
- BLSP-2FT-2.25L
- BLSP-2FT-2.75L
- BLSP-4FT-2.5L
- BLSP-4FT-3.5L
- BLSP-4FT-4.5L
- BLSP-4FT-5.5L
- BLSP-4FT-6.5L
- BLSP-4FT-7.5L
- BLSP-4FT-8.5L
- BLSP-4FT-9.5L
- BLSP-4FT-10.5L
- BLSP-4FT-11.5L
- BLSP-8FT-5L
- BLSP-8FT-7L
- BLSP-8FT-8L
- BLSP-8FT-9L
- BLSP-8FT-11L
- BLSP-8FT-13L
- BLSP-8FT-15L
- BLSP-8FT-17L
- BLSP-8FT-19L
- BLSP-8FT-21L
- BLSP-8FT-23L

### Certifications and Listings

Certifications that apply to this fixture and its possible configurations are listed here. More information available upon request.

Icon	Description
	DLC Listed
	ETL Listed
	90 and 95+ CRI Options Available
	120-347V(UN3) Available

### Usage Applications

This fixture can be used in a variety of applications, and is ideal for the following:

Usage Application
Manufacturing Facilities
Storage & Warehousing
Offices
Schools
Retail Stores
Distribution Facilities
Processing Plants
Aisle Lighting

### Warranty Statement

BJ Take products are tested and/or inspected prior to being packaged for shipment and are guaranteed from the day the product is shipped for a period of ten-year LED chip warranty and a five-year comprehensive component warranty. This can be upgraded to a ten-year comprehensive warranty on request.

### Important Information

Below you will find the available wattage charts for the BLSP. For any required specifications that are not listed here, please contact our sales team at [sales@bjtake.com](mailto:sales@bjtake.com) to request any additional information.

### BLSP, 1 Foot Wattage

Size	Lumen Output	Actual Lumen Output	Fixture Wattage	Lumens per Watt
1'	1.125	1126	7.3	153.6
1'	1.375	1377	9.2	148.9
2'	1.750	1755	11.1	158.3
2'	2.250	2253	14.7	153.6
2'	2.750	2753	18.5	148.5

### BLSP, 4 Foot Wattage

Size	Lumen Output	Actual Lumen Output	Fixture Wattage	Lumens per Watt
4'	2.5	2603	17.9	145.2
4'	3.5	3673	25.6	143.5
4'	4.5	4716	33.3	141.8
4'	5.5	5734	40.9	140.1
4'	6.5	6725	48.6	138.4
4'	7.5	7690	56.3	136.7
4'	8.5	8629	63.9	135.0
4'	9.5	9542	71.6	133.3
4'	10.5	10430	79.3	131.6
4'	11.5	11291	86.9	129.9

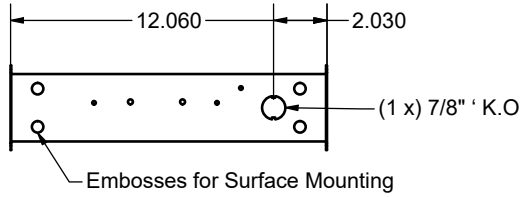
### BLSP, 8 Foot Wattage

Size	Lumen Output	Actual Lumen Output	Fixture Wattage	Lumens per Watt
8'	5	5345	35.7	149.6
8'	7	7541	51.0	147.9
8'	9	9683	66.3	146.1
8'	11	11772	81.5	144.4
8'	13	13807	96.8	142.6
8'	15	15789	112.1	140.9
8'	17	17717	127.4	139.1
8'	19	19591	142.6	137.4
8'	21	21412	157.9	135.6
8'	23	23191	173.3	133.9

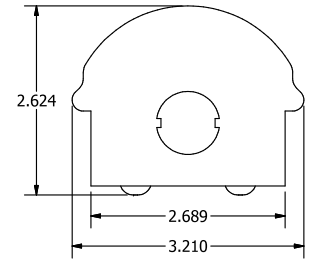
### BLSP, Light Loss Factor (LLF)

CCT	Output%
2700K	92.95
3000K	95.51
3500K	96.80
4000K	100.00
5000K	101.28
90CRI	84.72

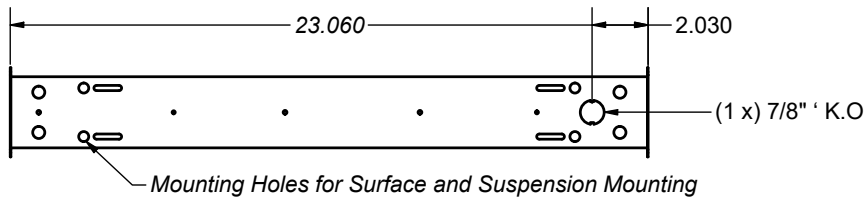
### BLSP, 1 Foot Side Dims



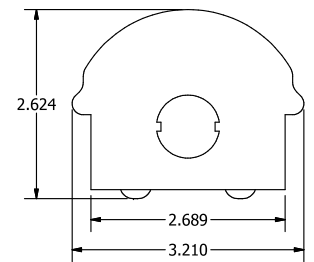
### 1FT End View



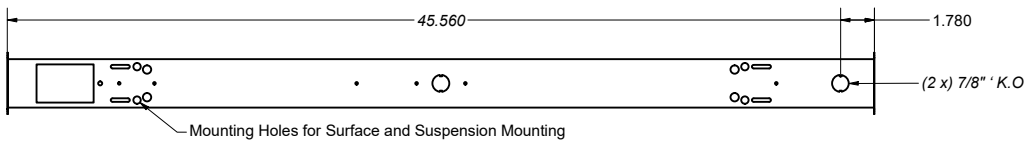
### BLSP, 2 Foot Side Dims



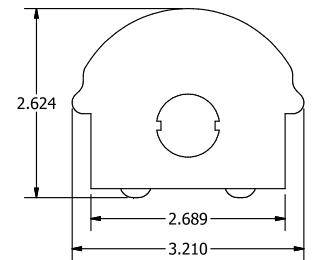
### 2FT End View



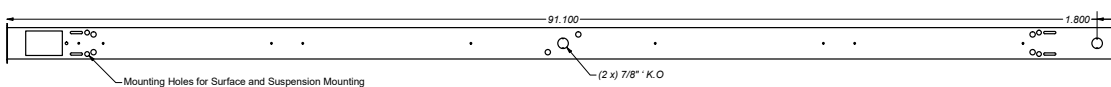
### BLSP, 4 Foot Side Dims



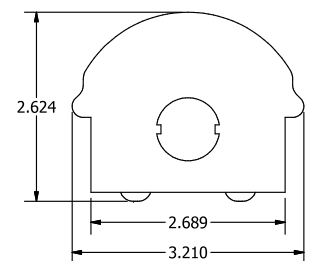
### 4FT End View



### BLSP, 8 Foot Side Dims



### 8FT End View

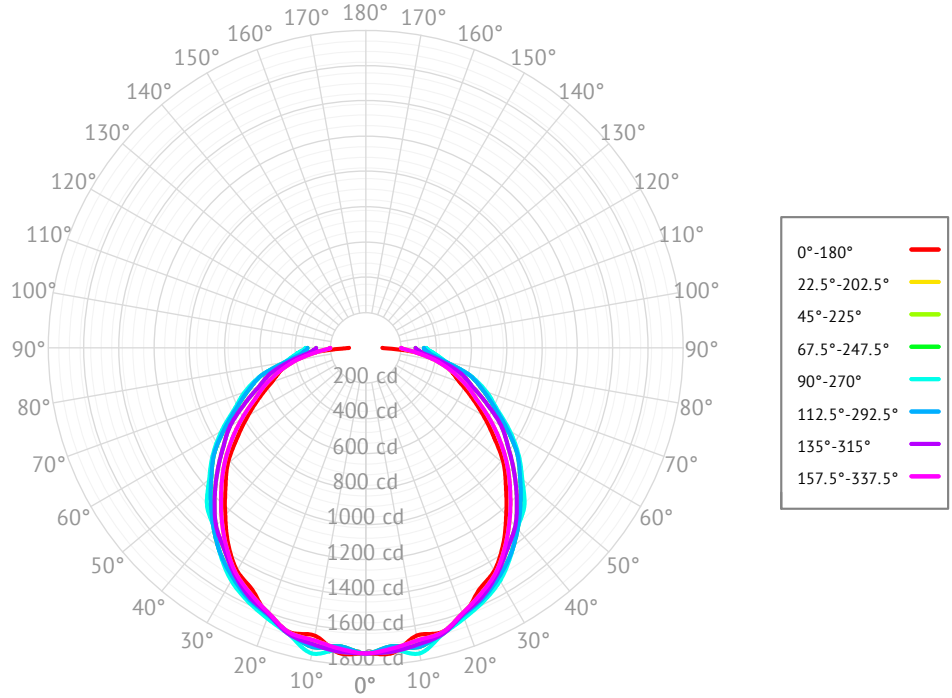


- \* Drawings aren't to scale
- \* Standard tolerances apply
- \* Specifications may change without notice

## BLSP-4FT-5.5L-840-L18

### Cone of Light

Mtg Height	Light Level	Beam Diameter
6.0	48.1	17.4
8.0	27.1	23.2
10.0	17.3	29.0
12.0	12.0	34.8
14.0	8.8	40.6
16.0	6.8	46.4

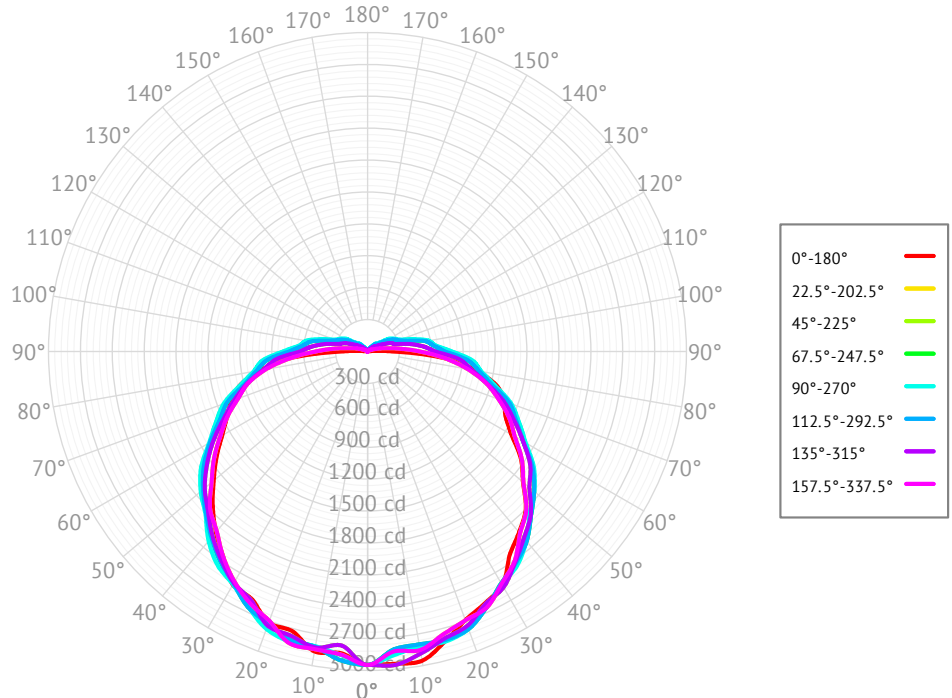


Based on 'BLSP-4FT-5.5L-840-L18', ie. (BLSP, 4 foot, 5500lm, 80 CRI, 4000K, w/ L18 Frosted Acrylic Lens)

## BLSP-8FT-11L-840-L18

### Cone of Light

Mtg Height	Light Level	Beam Diameter
6.0	81.9	24.2
8.0	46.1	32.2
10.0	29.5	40.3
12.0	20.5	48.4
14.0	15.0	56.4
16.0	11.5	64.5

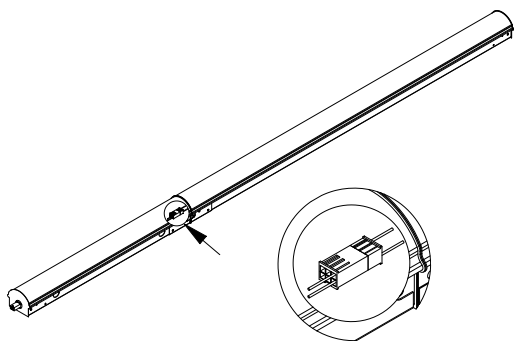


Based on 'BLSP-4FT-5.5L-840-L18', ie. (BLSP, 8 foot, 11000lm, 80 CRI, 4000K, w/ L18 Frosted Acrylic Lens)

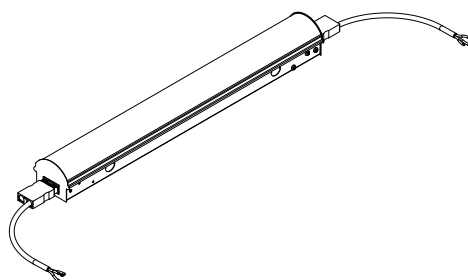
### Modular Wiring

The BLSP has options for modular wiring. Below you will find the diagrams for these wiring options, and the relevant option codes necessary for ordering them.

#### W22XY - Molex Row Mounting Wiring



#### W27XYZC - Modular Power Cable



#### W22XY - Molex Row Mounting Wiring

X - Style	Y - Poles
E - End	3 - 3 Pole
.	4 - 4 Pole
.	5 - 5 Pole
.	6 - 6 Pole

Example: **W22E6** (see image above)

#### W27XYZC - Modular Power Cable

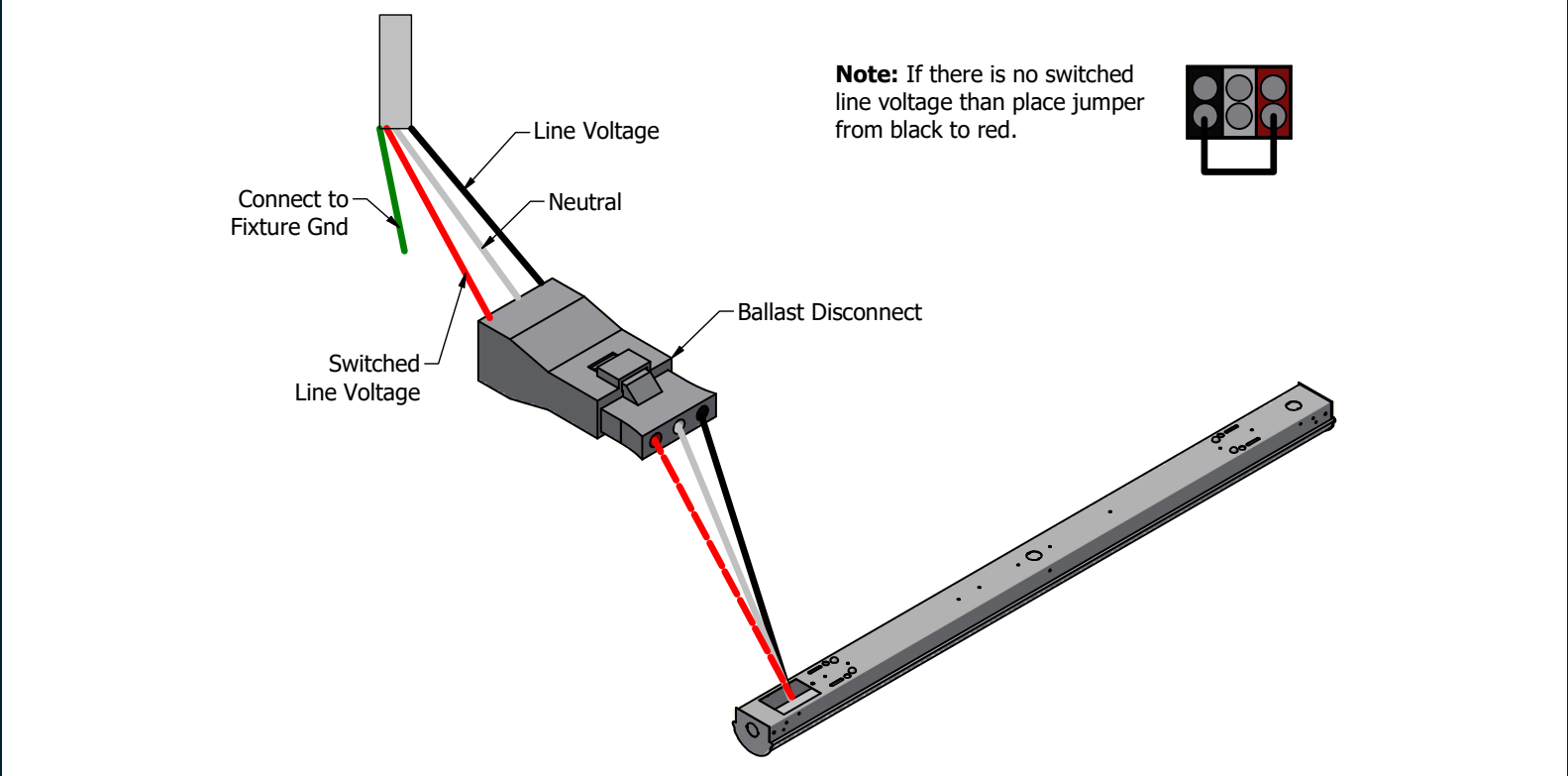
X - Style	Y - Poles	Z - Wiring	C - Colour
S - Side	3 - 3 Pole	Blank - Standard	Blank - White
E - End	4 - 4 Pole	E - End of Row	B - Black
T - Top	5 - 5 Pole	.	G - Grey
.	6 - 6 Pole	.	.

Example: **W27E3** (see image above)

### Emergency Battery Plan - 10W

Emergency Lighting	Solution System Components	System Operation
Option Code 'B17' - UL 924 listed components that are factory installed in the luminaire	UL 924 listed 10-watt battery integral to the luminaire	Loss of normal power is detected by the B17 emergency light solution and the power supply is switched automatically to the 10-watt integral battery pack which powers the emergency LED lighting driver.
	UL 924 listed LED emergency lighting driver integral to the luminaire	The battery pack and emergency LED driver are UL 924 certified to provide a minimum of 90-minutes of emergency lighting.
	Wiring options for both switched and unswitched emergency lighting	

### Emergency Lighting Wiring



### Important Information

More information on emergency lighting options and configurations available on request.

# LEDVANCE LUMINAIRES

## CCT SELECTABLE

## LINEAR SLOT

NLED-SCO80 - LEDVANCE / LNSLOT1A48UNHD8SC148DIWWH

### LEDVANCE LUMINAIRE SPECIFICATION DATA

Catalog #	Comments
Project	
Type	
Prepared by	

### VALUE CLASS™



### APPLICATION

The LEDVANCE CCT Selectable Linear Slot architectural luminaires offer a modern and sophisticated design for residential and commercial applications. Choose between surface, suspended or recessed mounting as well as direct only or direct plus indirect lighting to create the perfect ambient lighting.

### BENEFITS & FEATURES

- CCT Selectable to allow for customizable light (3000K, 3500K and 4000K in the same product)
- Offered in both Direct + Indirect Light\* or Direct Light only
- Accessories for suspended, surface or recessed mounting are available
- Linkable
- Sleek and modern design
- Up to 100 LPW
- CRI >80
- Offered in 2ft, 4ft and 8ft
- Energy savings up to 59%

\*The direct and indirect light on this product cannot be independently controlled



## ELECTRICAL

- 120-277 and 120-347Vac
- Power Factor >0.9
- THD <20%
- 0-10V dimmable

## RATED LIFE

- 50,000 hours (L<sub>70</sub>)

## OPERATING TEMPERATURE

- -4°F to +104°F (-20°C to +40°C)

## CERTIFICATIONS & LISTINGS

- cETLus
- RoHS
- FCC
- Damp Rated

## WARRANTY

- 5 year
- NLB Trusted Warranty Program

## INSTALLATION

- Suspended, surface, recessed or wall mounting
- Suspended accessories are included in the packaging (except for wall mounting version)
- Additional accessories are sold separately

## ORDERING GUIDE

LNSLOT	1A	XXX	UNX	D	8	SC1	XX	XX	X	XX
PRODUCT NAME	GENERATION	WATTAGE	VOLTAGE	DIMMING	CRI	COLOR TEMP	LENGTH	DISTRIBUTION	MOUNTING	COLOR/ FINISH
LNSLOT = Linear Slot	1A = Generation 1A	18 = 18W 24 = 24W 34 = 34W 48 = 48W 68 = 68W 98 = 98W	UNV = 120-277V UNH = 120-347V	D = 0-10V	8 = >80	SC1 = Selectable Color: 3000K, 3500K or 4000K	24 = 2ft 48 = 4ft 96 = 8ft	_ = Direct DI = Direct/ Indirect	W = Wall C = Ceiling P = Suspended	WH = White BL = Black

## ORDERING INFORMATION

ITEM #	ORDERING ABBREVIATION	POWER (W)	INPUT VOLTAGE (V)	DIM.	CRI	COLOR TEMP (CCT)	LIGHT DISTRIBUTION	TOTAL LUMENS @ 4000K	LENGTH	MOUNTING*	LPW	LINKABLE UP TO (IN UNITS)	FINISH
62449	LNSLOT1A18UNVD8SC124CWH	18	120-277	0-10V	>80	3000K/ 3500K/ 4000K	Direct	1800	24"/2'	Ceiling/ Suspended/ Recessed	100	40	White
63728	LNSLOT1A18UNVD8SC124CBL	18	120-277	0-10V	>80	3000K/ 3500K/ 4000K	Direct	1800	24"/2'	Ceiling/ Suspended/ Recessed	100	40	Black
62450	LNSLOT1A18UNHD8SC124PWH	18	120-347	0-10V	>80	3000K/ 3500K/ 4000K	Direct	1800	24"/2'	Suspended	100	40	White
63729	LNSLOT1A18UNHD8SC124PBL	18	120-347	0-10V	>80	3000K/ 3500K/ 4000K	Direct	1800	24"/2'	Suspended	100	40	Black
62451	LNSLOT1A24UNHD8SC124DIWWH	24	120-347	0-10V	>80	3000K/ 3500K/ 4000K	Direct/Indirect (70% down, 30% up)	2400	24"/2'	Wall	100	30	White
63730	LNSLOT1A24UNHD8SC124DIWBL	24	120-347	0-10V	>80	3000K/ 3500K/ 4000K	Direct/Indirect (70% down, 30% up)	2400	24"/2'	Wall	100	30	Black
62452	LNSLOT1A24UNHD8SC124DIPWH	24	120-347	0-10V	>80	3000K/ 3500K/ 4000K	Direct/Indirect (70% down, 30% up)	2400	24"/2'	Suspended	100	30	White
63731	LNSLOT1A24UNHD8SC124DIPBL	24	120-347	0-10V	>80	3000K/ 3500K/ 4000K	Direct/Indirect (70% down, 30% up)	2400	24"/2'	Suspended	100	30	Black
62453	LNSLOT1A34UNHD8SC148CWH	34	120-347	0-10V	>80	3000K/ 3500K/ 4000K	Direct	3400	48"/4'	Ceiling/ Suspended/ Recessed	100	20	White

\*Canopy accessories sold separately

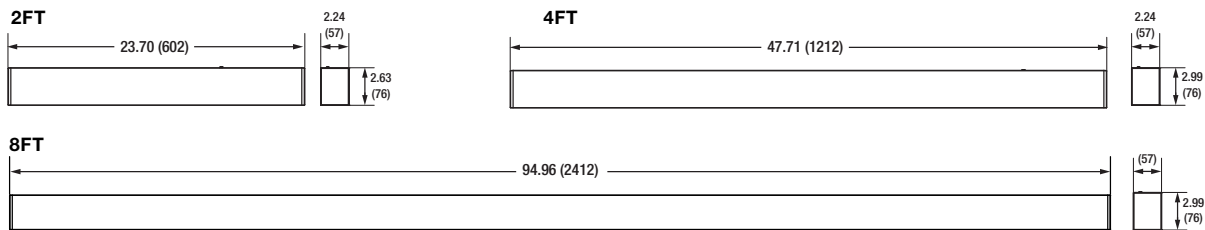


## ORDERING INFORMATION (CONTINUED)

ITEM #	ORDERING ABBREVIATION	POWER (W)	INPUT VOLTAGE (V)	DIM.	CRI	COLOR TEMP (CCT)	LIGHT DISTRIBUTION	TOTAL LUMENS @ 4000K	LENGTH	MOUNTING*	LPW	LINKABLE UP TO (IN UNITS)	FINISH
63732	LNSLOT1A34UNHD8SC148CBL	34	120-347	0-10V	>80	3000K/ 3500K/ 4000K	Direct	3400	48"/4'	Ceiling/ Suspended/ Recessed	100	20	Black
62454	LNSLOT1A48UNHD8SC148DIWWH	48	120-347	0-10V	>80	3000K/ 3500K/ 4000K	Direct/Indirect (70% down, 30% up)	4800	48"/4'	Wall	100	15	White
63733	LNSLOT1A48UNHD8SC148DIWBL	48	120-347	0-10V	>80	3000K/ 3500K/ 4000K	Direct/Indirect (70% down, 30% up)	4800	48"/4'	Wall	100	15	Black
62455	LNSLOT1A48UNHD8SC148DIPWH	48	120-347	0-10V	>80	3000K/ 3500K/ 4000K	Direct/Indirect (70% down, 30% up)	4800	48"/4'	Suspended	100	15	White
63734	LNSLOT1A48UNHD8SC148DIPBL	48	120-347	0-10V	>80	3000K/ 3500K/ 4000K	Direct/Indirect (70% down, 30% up)	4800	48"/4'	Suspended	100	15	Black
62456	LNSLOT1A68UNHD8SC196CWH	68	120-347	0-10V	>80	3000K/ 3500K/ 4000K	Direct	6800	96"/8'	Ceiling/ Suspended/ Recessed	100	10	White
63735	LNSLOT1A68UNHD8SC196CBL	68	120-347	0-10V	>80	3000K/ 3500K/ 4000K	Direct	6800	96"/8'	Ceiling/ Suspended/ Recessed	100	10	Black
62457	LNSLOT1A98UNHD8SC196DIPWH	98	120-347	0-10V	>80	3000K/ 3500K/ 4000K	Direct/Indirect (70% down, 30% up)	9800	96"/8'	Suspended	100	7	White
63736	LNSLOT1A98UNHD8SC196DIPBL	98	120-347	0-10V	>80	3000K/ 3500K/ 4000K	Direct/Indirect (70% down, 30% up)	9800	96"/8'	Suspended	100	7	Black

\*Canopy accessories sold separately

## PHYSICAL INFORMATION



Dimensions in inches (mm)

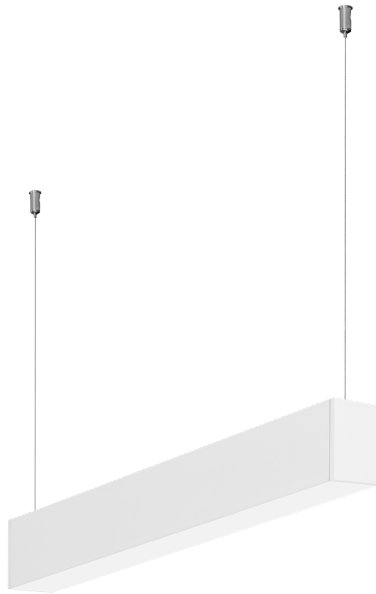
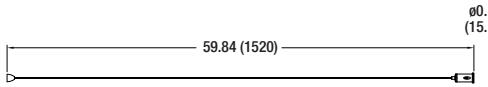
## ACCESSORIES (INCLUDED IN THE PACKAGING)

ORDERING ABBREVIATION	ITEM DESCRIPTION
LNSLOT1A18UNVD8SC124CXX	Ceiling (screws) + suspended accessories
LNSLOT1A18UNHD8SC124PXX	Suspended accessories
LNSLOT1A24UNHD8SC124DIWXX	Wall accessories
LNSLOT1A24UNHD8SC124DIPXX	Suspended accessories
LNSLOT1A34UNHD8SC148CXX	Ceiling (screws) + suspended accessories
LNSLOT1A48UNHD8SC148DIWXX	Wall accessories
LNSLOT1A48UNHD8SC148DIPXX	Suspended accessories
LNSLOT1A68UNHD8SC196CXX	Ceiling (screws) + suspended accessories
LNSLOT1A98UNHD8SC196DIPXX	Suspended accessories

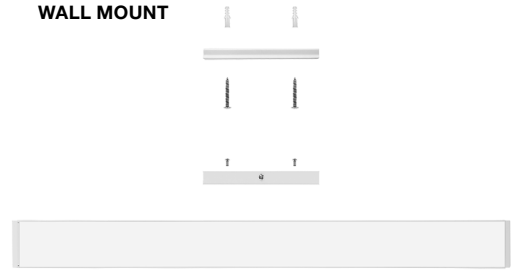
## INCLUDED ACCESSORIES

### SUSPENDED MOUNT

(Included with all SKUs aside Wall Mount Versions)



### WALL MOUNT



## ACCESSORIES (SOLD SEPARATELY)

ITEM #	ORDERING ABBREVIATION	ITEM DESCRIPTION	SKU QUANTITY
61185	LNSLOTMRKIT	Recessed Mounting Brackets	1
61186*	LNSLOTLNKKIT	Linking hardware	50
62459	LNSLOTCANOPYPMKIT	White Square Canopy Mount Kit for 2ft and 4ft	1
62461	LNSLOTCANOPY96PMKIT	White Square Canopy Mount Kit for 8FT	1
63622	LNSLOTLNKKIT	Linking hardware accessories	1
63624	LNSLOTPMKIT	Suspended mount accessories for 2 and 4ft versions	1
63625	LNSLOT96PMKIT	Suspended mount accessories for 8ft	1
63714	LNSLOT1AT-CONNECTORWH	T-Connector, White finish (100% downlight)	1
63715	LNSLOT1AT-CONNECTORBL	T-Connector, Black finish (100% downlight)	1
63716	LNSLOT1AX-CONNECTORWH	X-Connector, white finish (100% downlight)	1
63717	LNSLOT1AX-CONNECTORBL	X-Connector, black finish (100% downlight)	1
63718	LNSLOT1AL-CONNECTORWH	L-Connector White finish (100% downlight)	1
63719	LNSLOT1AL-CONNECTORBL	L-Connector, black finish (100% downlight)	1
65809	LNSLOTCANOPYPMKITBL	Black Square Canopy Kit for 2ft and 4ft	1
65810	LNSLOTCANOPY96PMKITBL	Black Square Canopy Kit for 8ft	1
65811	LNSLOTCANOPYPMKITCIRWH	White Circle Canopy Kit for 2ft and 4ft	1
65812	LNSLOTCANOPY96PMKITCIRWH	White Circle Canopy Kit for 8ft	1
65813	LNSLOTCANOPYPMKITCIRBL	Black Circle Canopy Kit for 2ft and 4ft	1
65814	LNSLOTCANOPY96PMKITCIRBL	Black Circle Canopy Kit for 8ft	1

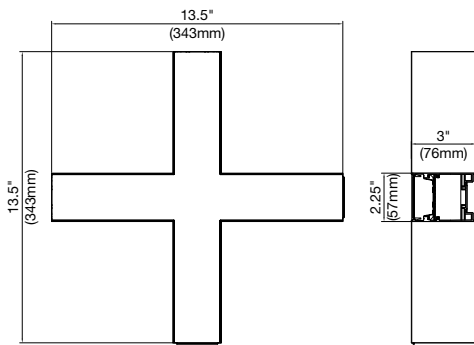
\*When inventory is exhausted, these will be obsolete and replaced with the SKU quantity of 1EA

# ACCESSORIES (CONTINUED)

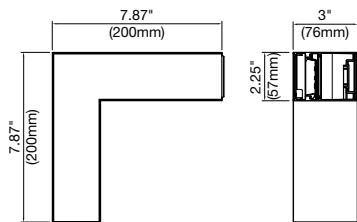
## CONNECTOR PIECES



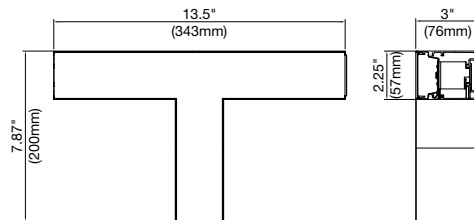
### X-CONNECTOR



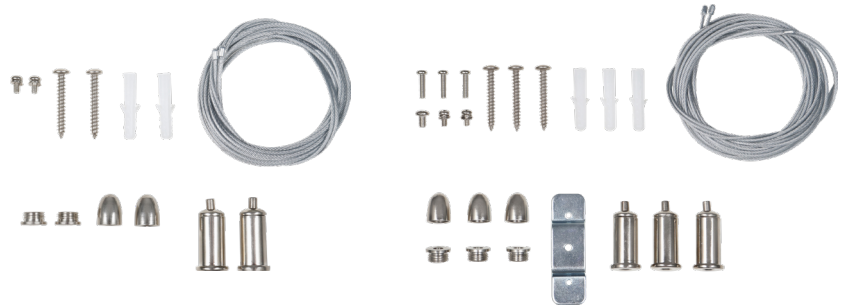
### L-CONNECTOR



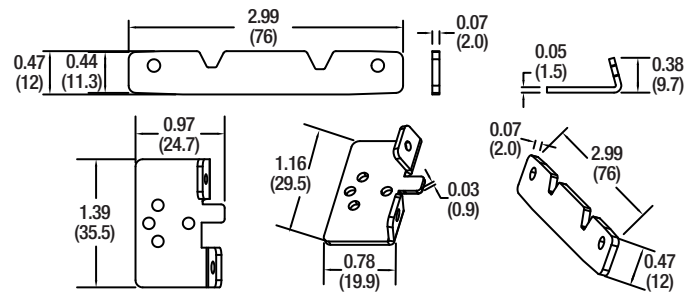
### T-CONNECTOR



## SUSPENSION KIT (63624 & 63625)



## LINKING HARDWARE (61186 & 63622)



Dimensions in inches (mm)

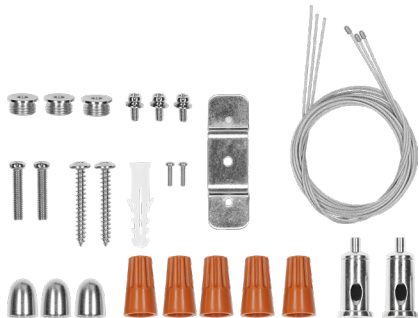
# ACCESSORIES (CONTINUED)

## SUSPENSION KIT WITH CANOPY

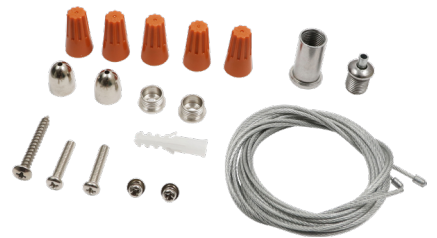
65809



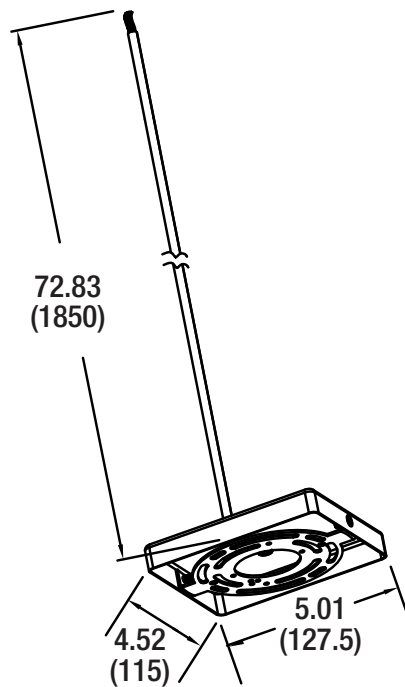
65810



62459



62461

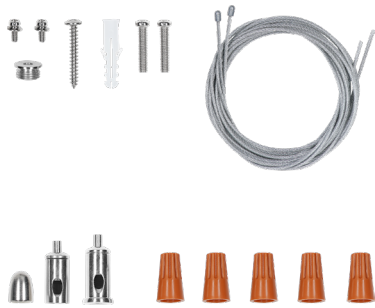


Dimensions in inches (mm)

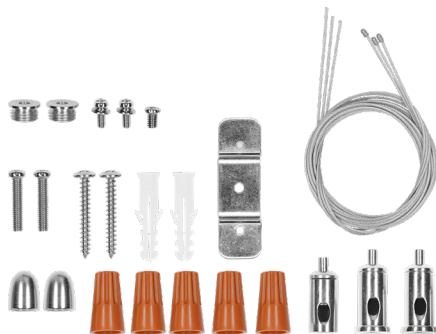
# ACCESSORIES (CONTINUED)

## CIRCLE BASE CANOPY

65813



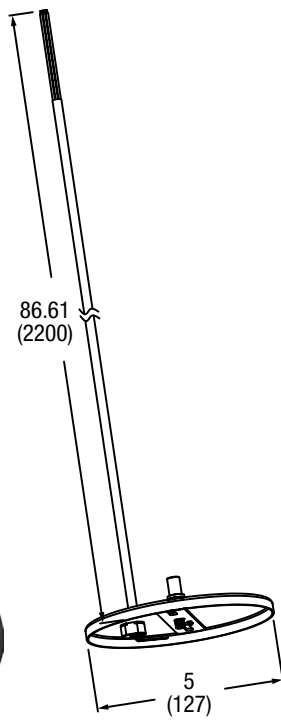
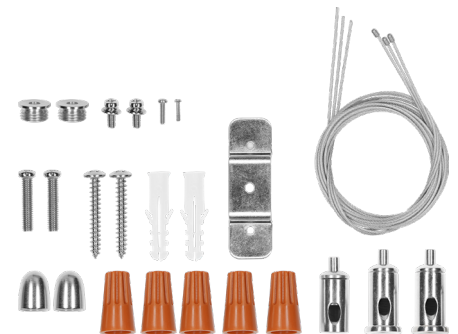
65814



65811



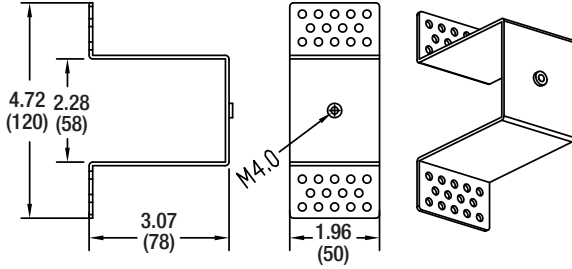
65812



Dimensions in inches (mm)

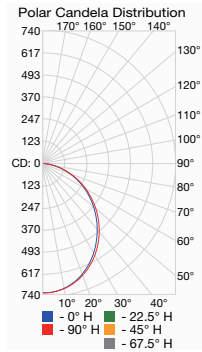
## ACCESSORIES (CONTINUED)

### RECESSED ACCESSORIES (61185)

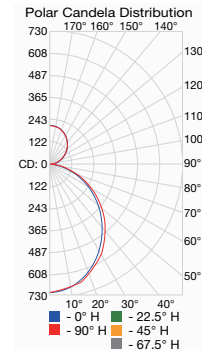


## PHOTOMETRIC INFORMATION\*

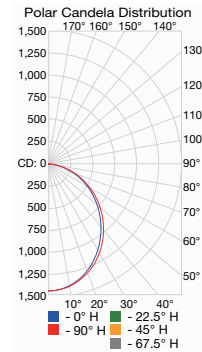
62449 & 62450



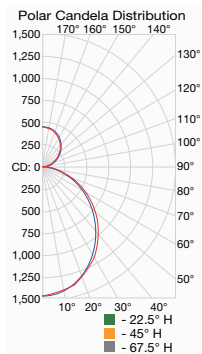
62451 & 62452



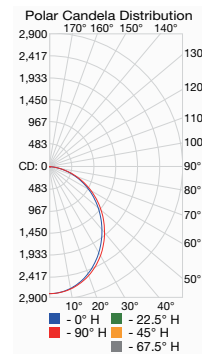
62453



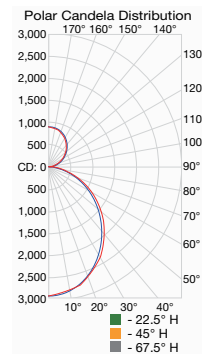
62454 & 62455



62456

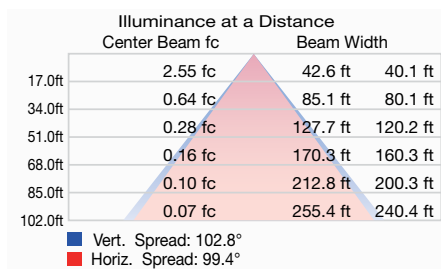


62457

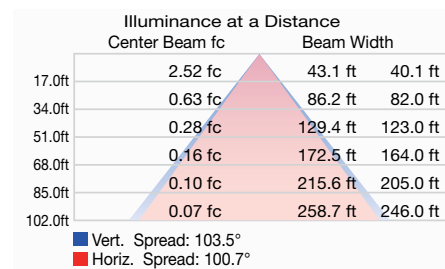


## ILLUMINANCE INFORMATION\*

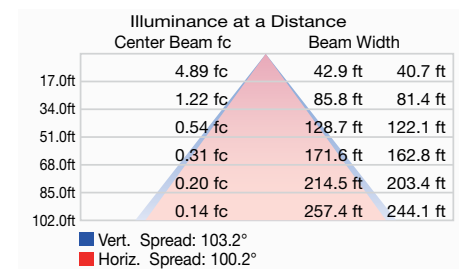
62449 & 62450



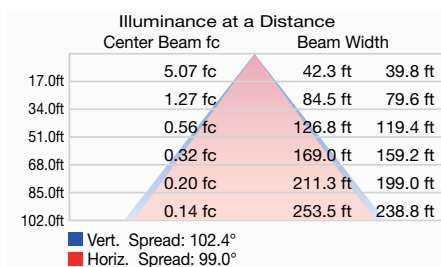
62451 & 62452



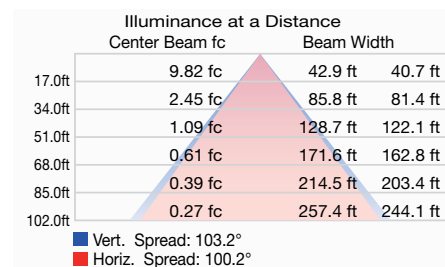
62453



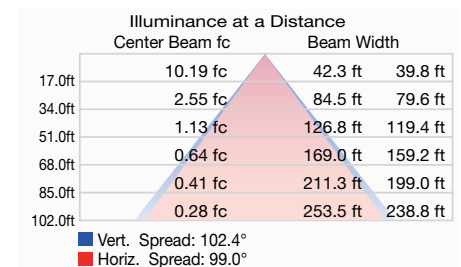
62454 & 62455



62456

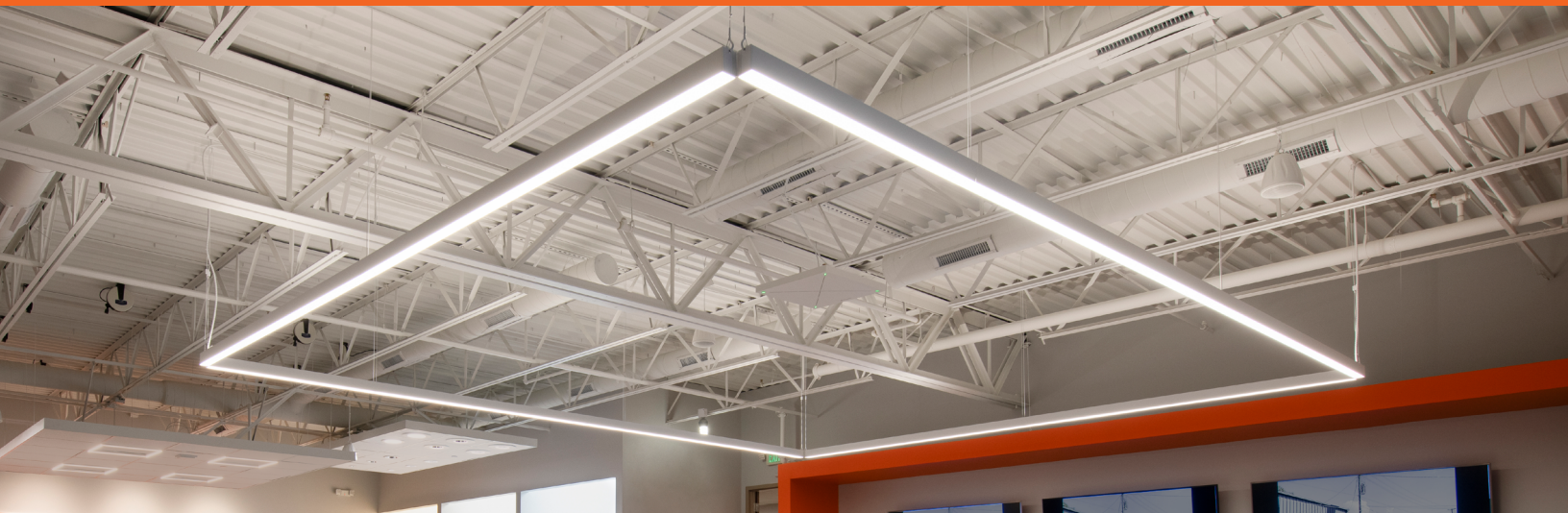


62457



\*White models are listed but illuminance information is the same for black models





LEDVANCE LLC  
181 Ballardvale Street, Suite 203  
Wilmington, MA 01887 USA  
Phone: 1-800-LIGHTBULB (1-800-544-4828)  
www.ledvanceUS.com

LEDVANCE is a registered trademark.  
All other trademarks are those of their respective owners.  
Specifications subject to change without notice.



SCAN TO FOLLOW US  
ON SOCIAL MEDIA



# SYLVANIA Luminaires

## Hi-PerformanceLED™ Puff Ceiling

### Application

The Hi-PerformanceLED Puff Ceiling luminaires are environmentally preferable LED alternatives to traditional CFL or Incandescent luminaires, offering up to 75% in energy savings. Ideal in place of traditional luminaires, or as new installations, the Slim Puff luminaires can be used in residential, educational, property management or hospitality applications. These luminaires offer soft, uniform illumination and a modern design for universal applications. SYLVANIA luminaires assure optimum light engine performance for extended service and rated life.

### Benefits and Features

- Modern, low profile form provides updates from traditional designs
- No warm up time, instant on with full light and consistent lamp to lamp color
- Up to 73 LPW
- 5 CCT Selectable
- CRI >90
- Sensor and integrated Emergency Back-up available
- Offered in 15 and 21 watts
- Uniform, glare-free illumination distribution
- Energy savings up to 86%
- Damp rated

### Electrical

- 120-277V<sub>AC</sub>/120V<sub>AC</sub>
- Power factor 90%
- 0-10V and phase cut dimmable versions

### Rated Life

- 50,000 hours (L<sub>70</sub>)

### Warranty

- 5-year
- NLB Trusted Warranty Program

### Ambient Operating Range

- -4°F to +104°F (-20°C to +40°C)

Item #

Type

Project

Notes

Date



### Wattage Comparison

Traditional Source	Traditional System Wattage	LED System Wattage	Energy Savings
Incandescent	100	15	85%
Incandescent	150	21	86%

### Certifications and Listings

- cETLus
- RoHS
- FCC
- ENERGY STAR®
- T24

### Installation

- Hardwire

### Sensor Functionality

- Height 3.2m
- Radius 3m
- Diameter 6m

### Battery Back-up Functionality

- Output Power 2 watts
- Recharge Time 24 hours
- Discharge Time 90 minutes

### LED Status Indicator

●	OFF: Battery disconnected or mains supply not disconnected
●	Red Stable: Battery charging or fully charged



## Ordering Guide

PUFF	1X	R	1XXX	XX	9	SC3	X
Lamp Type	Diameter	Shape	Lumens	ST = Single Triac UD = Universal 010V	CRI	Selectable Color Temperature	Options
Slim Puff	11 = 11in 15 = 15in	R = Round	1100, 1500lm		9 = >90	2700K/3000K/3500K/ 4000K/5000K	Blank = no option M = Sensor ME = Sensor + Emergency Back-up

## Ordering Information

Item Number	Ordering Abbreviation	Power (W)	Base Type	Replaces	Input Voltage (V)	Average Life (hrs)	CCT	Typical Lumens (lm)	CRI	Power Factor	Bulb Finish	Case Qty	ENERGY STAR®	T20	T24	Options
62040	PUFF11R1100ST9SC3	15	Hardwire	100W	120	50,000	2700K/3000K/ 3500K/4000K/ 5000K	1100	>90	>90	Frosted	4	Yes	No	Yes	-
62041	PUFF15R1500ST9SC3M	21	Hardwire	150W	120	50,000	2700K/3000K/ 3500K/4000K/ 5000K	1500	>90	>90	Frosted	4	Yes	No	Yes	Sensor
62042	PUFF15R1500UD9SC3M	21	Hardwire	150W	120-277	50,000	2700K/3000K/ 3500K/4000K/ 5000K	1500	>90	>90	Frosted	4	Yes	No	Yes	Sensor
62043	PUFF15R1500UD9SC3ME	21	Hardwire	150W	120-277	50,000	2700K/3000K/ 3500K/4000K/ 5000K	1500	>90	>90	Frosted	4	Yes	No	Yes	Sensor + Emergency Back-up

## Energy Savings

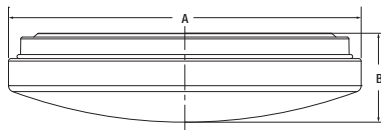
Basic Product Description	LED Life (hrs)	LED Lumens	Similar Incandescent (hrs)	Incandescent Lumens	Watts Saved	Energy Savings*	LED Life vs Incandescent
PUFF11R1100ST9SC3	50,000	1100	2000	1000	85	\$468	25x
PUFF15R15009SC3	50,000	1500	2000	1500	129	\$709	25x

\*Energy savings over life of lamp calculated at \$0.11/kWh

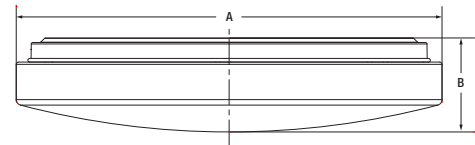
## Physical Information

Lamp Description	(A) Diameter (in)	(B) Height (in)
PUFF11R1100ST9SC3	11	2.8
PUFF15R15009SC3	14.8	2.8

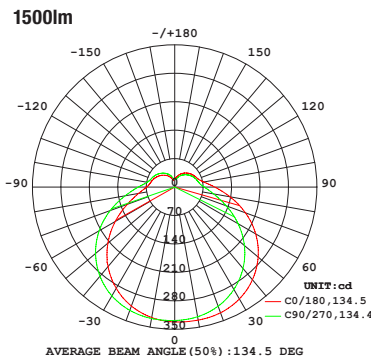
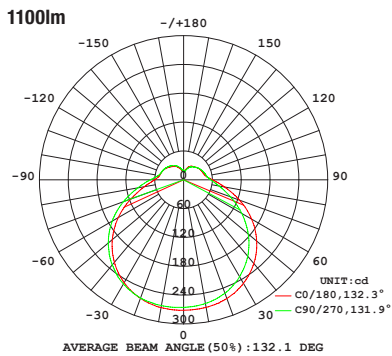
PUFF11R



PUFF15R



## Photometric Information



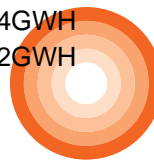
LEDVANCE LLC  
 200 Ballardvale Street  
 Wilmington, MA 01887 USA  
 Phone 1-800-LIGHTBULB (1-800-544-4828)  
 www.ledvanceUS.com

Name: \_\_\_\_\_  
 Email: \_\_\_\_\_  
 Phone: \_\_\_\_\_

SYLVANIA and LEDVANCE are registered trademarks.  
 All other trademarks are those of their respective owners.  
 Licensee of product trademark SYLVANIA in general lighting.  
 Specifications subject to change without notice.

[/sylvania](#) [/sylvania](#)





## LEDVANCE Luminaires

### Backlit UNH Panel

VALUE CLASS

#### Application

LEDVANCE Backlit UNH Panel is a versatile and economical solution for general purpose lighting in offices, schools, hospitality, healthcare and commercial areas.

#### Benefits and Features

- Backlit technology that offers even lighting distribution without shadowing
- Available in 3500K, 4000K and 5000K light colors
- Up to 5000 lumen output
- Beam angle: 120°
- DLC Standard Listed to maximize rebate opportunities
- Up to 110 LPW
- CRI >80
- Available in 1x4, 2x2 and 2x4 dimensions
- Energy savings up to 60%
- Earthquake clips with suspension function

#### Electrical

- 120-347VAC
- Power factor >0.9
- THD <20%
- Dimmable 0-10V

#### Rated Life

- 50,000 hours (L<sub>70</sub>)

#### Warranty

- 5-year
- NLB Trusted Warranty Program

#### Ambient Operating Range

- -4°F to +113°F (-20°C to +45°C)



#### Wattage Comparison

Panel Size	Traditional Source	Traditional System Wattage	LED System Wattage	Energy Savings
1x4	2x 28W T8	49	35	29%
	2x 32W T8	56	35	38%
2x2	3x 17W T8	48	35	27%
	2x U31W T8	56	35	38%
2x4	3x 28W T8	64	35	45%
	3x 32W T8	75	35	53%
	4x 28W T8	97	45	54%
	4x 32W T8	112	45	60%

#### Certifications and Listings

- cULus
- RoHS
- FCC
- DLC Standard

#### Installation

- Recessed, surface or suspended mounting



Catalog #	Type
Project	
Comments	
Prepared by	

Ordering Guide

PANELF	4A	XX	UNH	D	8	XX	XX	G	WH
Product Name	Generation	Wattage	Voltage	Dimming	CRI	Color Temperature	Dimensions	Mounting	Color/Finish
PANELF =	4A	035 = 35 Watts 045 = 45 Watts	UNH = 120-347V	D = 0-10V	8 = >80	35 = 3500K 40 = 4000K 50 = 5000K	14 = 1x4 22 = 2x2 24 = 2x4	G = Grid	WH = White
LED Panel									

Ordering Information

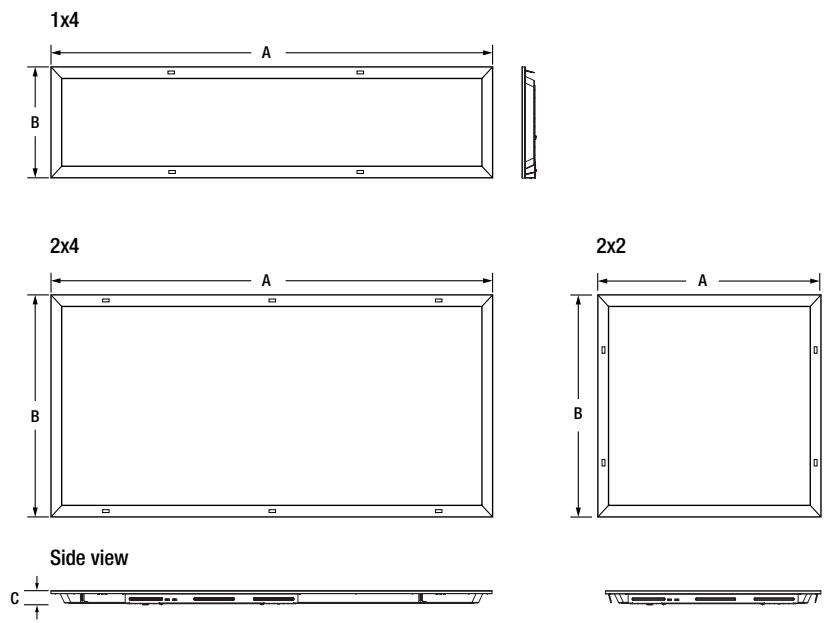
Item Number	Ordering Abbreviation	Power (W)	Input Voltage (V)	Dimming	CRI	Color Temp (CCT)	Total Lumens	DLC
62265	PANELF4A035UNHD83514GWH	35	120-347	0-10V	80	3500K	3850	Standard
62266	PANELF4A035UNHD84014GWH	35	120-347	0-10V	80	4000K	3850	Standard
62267	PANELF4A035UNHD85014GWH	35	120-347	0-10V	80	5000K	3850	Standard
62268	PANELF4A035UNHD83522GWH	35	120-347	0-10V	80	3500K	3850	Standard
62269	PANELF4A035UNHD84022GWH	35	120-347	0-10V	80	4000K	3850	Standard
62270	PANELF4A035UNHD85022GWH	35	120-347	0-10V	80	5000K	3850	Standard
62271	PANELF4A035UNHD83524GWH	35	120-347	0-10V	80	3500K	3850	Standard
62272	PANELF4A035UNHD84024GWH	35	120-347	0-10V	80	4000K	3850	Standard
62273	PANELF4A035UNHD85024GWH	35	120-347	0-10V	80	5000K	3850	Standard
62274	PANELF4A045UNHD83524GWH	45	120-347	0-10V	80	3500K	5000	Standard
62275	PANELF4A045UNHD84024GWH	45	120-347	0-10V	80	4000K	5000	Standard
62276	PANELF4A045UNHD85024GWH	45	120-347	0-10V	80	5000K	5000	Standard

Dimmer Compatibility

Brand	Type	Model
Leviton	0-10V	DS710
Leviton	0-10V	IP710
Lutron	0-10V	NTSTV-DV
Lutron	0-10V	NFTV
Lutron	0-10V	DVTV-WH
Legrand	0-10V	H4FBL3PW

Physical Information

Lamp Description	(A) Length (in)	(B) Width (in)	(C) Height (in)
1x4	47.7in (1212mm)	11.9in (302mm)	1.4in (35 mm)
2x2	23.7in (603mm)	23.7in (603mm)	1.4in (35 mm)
2x4	47.7in (1212mm)	23.7in (603mm)	1.4in (35 mm)

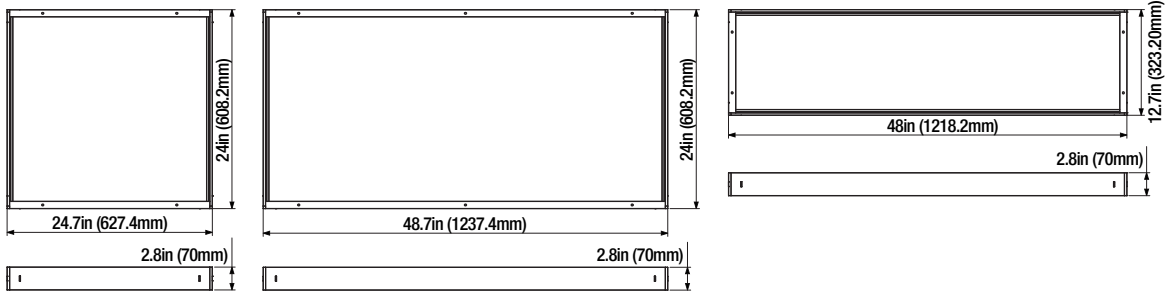


## Accessories and Replacement Parts

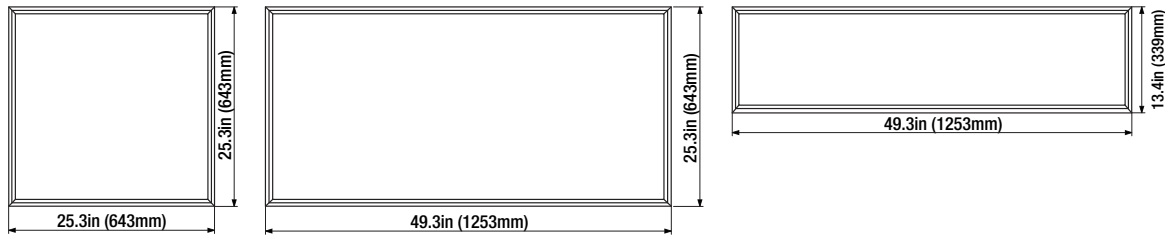
Item Number	Ordering Abbreviation	Item Description
<b>Mounting Accessories</b>		
62064	SMKIT3A/22/WH	Surface Mounting Kit for 2x2 Backlit Panel, extruded aluminum, white finish
62065	SMKIT3A/24/WH	Surface Mounting Kit for 2x4 Backlit Panel, extruded aluminum, white finish
62066	SMKIT3A/14/WH	Surface Mounting Kit for 1x4 Backlit Panel, extruded aluminum, white finish
62067*	SPKIT3A	Suspension Mounting Kit for Backlit Panel
60457	FK1A14GWH	Flange Kit for 1x4 Panel
60458	FK1A22GWH	Flange Kit for 2x2 Panel
60459	FK1A24GWH	Flange Kit for 2x4 Panel

\*Cable length is 3.28ft (1m)

### Surface Mount Kit



### Flange Kit



LEDVANCE LLC  
 181 Ballardvale Street, Suite 203  
 Wilmington, MA 01887 USA  
 Phone 1-800-LIGHTBULB (1-800-544-4828)  
[www.ledvanceUS.com](http://www.ledvanceUS.com)

LEDVANCE is a registered trademark.  
 All other trademarks are those of their respective owners.  
 Specifications subject to change without notice.



SCAN TO FOLLOW US  
 ON SOCIAL MEDIA

© 2024 LEDVANCE LLC



# LEDVANCE LUMINAIRES

## DUAL SELECTABLE

## UFO HIGH BAY

Type: NLED-HB150,  
NLED-HB150-347V  
LEDVANCE / UFO5A/S200UNHD8SC7/WH

### LEDVANCE LUMINAIRE SPECIFICATION DATA

Catalog #	Comments
Project	
Type	
Prepared by	

### VALUE CLASS™



### APPLICATION

An environmentally preferable alternative to traditional luminaires and offering up to 75% energy savings, the Value Class UFO High Bay 5A is ideal for illuminating warehouses, gymnasiums, and other industrial applications. The dual selectable feature facilitates inventory management and allows customers to customize lighting on site with ease. TAA listing also allows for additional potential on government projects.

### BENEFITS & FEATURES

- Lightweight luminaire is designed for easy and safe installation
- Multiple mounting options for a variety of applications: pendant, hook, surface mount
- 90° polycarbonate lens minimizes glare
- Variety of optics — polycarbonate refractor and aluminum reflector available
- Diecast aluminum body with molded heatsink fins ensures heat dissipation and longevity
- Up to 150 LPW
- Selectable CCT: 3500/4000/5000K
- CRI >80
- Selectable wattage: 100/150/200W | 240/280/320W
- Controls Ready: easily accepts LEDVANCE LINK™ DLC approved Networked Lighting Control or standalone controls via screw-in receptacle



## ELECTRICAL

- 120-347; 277-480 V<sub>AC</sub>
- Power Factor > 90%
- THD < 20%
- Dimmable 0-10V
- Constant current LED driver with 6kV surge suppression

## OPERATING TEMPERATURE

- -40°F to +122°F (-40°C to +50°C)

## RATED LIFE

- 125,000 hours (L<sub>70</sub>)

## CERTIFICATIONS & LISTINGS

- cULus
- RoHS
- FCC
- NSF
- DLC 5.1 Premium
- UL Wet rated
- IP65

## WARRANTY

- 5 year
- NLB Trusted Warranty Program

## INSTALLATION

- Luminaire can be hung via included hook, can be surface or pendant mounted using optional mounting brackets.
- Aluminum reflector, polycarbonate refractor, and polycarbonate bottom lens are available.
- Includes 6' power cable and 3' dimming cable.
- Polycarbonate refractor and polycarbonate bottom lens have an IK08 rating.
- Optional wire guards are available
- Unscrew plug in the center of the lens to screw in the optional motion/daylight sensor or LEDVANCE LINK™ components by hand — no wiring required.

## ORDERING GUIDE

UFOHIGHBAY	5A	/SXXX	XXX	D	8	SC7	/XX
PRODUCT NAME	GENERATION	SELECTABLE WATTAGE	VOLTAGE	DIMMING	CRI	SELECTABLE COLOR TEMP	COLOR/ FINISH
UFO = UFO High Bay	5A = Generation 5A	S200 = 100/150/200W S320 = 240/280/320W	UNH = 120-347V HUV = 277-480V	D = 0-10V Dimming	8 = >80 CRI	SC7= 3500/4000/5000K	WH= White BL = Black

## ORDERING INFORMATION

ITEM #	ORDERING ABBREVIATION	WATTAGE (W)	INPUT VOLTAGE (V)	DIM. CRI	COLOR TEMP (CCT)	TOTAL LUMENS (LM)	DLC	LPW	FINISH
62299	UFO5A/S200UNHD8SC7/WH	100/150/200	120-347	0-10V >80	3500/4000/5000K	15,000/22,500/30,000	5.1 Prem	Up to 150	White
62300	UFO5A/S320UNHD8SC7/WH	240/280/320	120-347	0-10V >80	3500/4000/5000K	36,000/42,000/48,000	5.1 Prem	Up to 150	White
62301	UFO5A/S200UNHD8SC7/BL	100/150/200	120-347	0-10V >80	3500/4000/5000K	15,000/22,500/30,000	5.1 Prem	Up to 150	Black
62302	UFO5A/S320UNHD8SC7/BL	240/280/320	120-347	0-10V >80	3500/4000/5000K	36,000/42,000/48,000	5.1 Prem	Up to 150	Black
66061**	UFO5A/S200HUV8SC7/WH	100/150/200	277-480	0-10V >80	3500/4000/5000K	15,000/22,500/30,000	5.1 Prem*	Up to 150	White
66062	UFO5A/S320HUV8SC7/WH	240/280/320	277-480	0-10V >80	3500/4000/5000K	36,000/42,000/48,000	5.1 Prem*	Up to 150	White
66063	UFO5A/S200HUV8SC7/BL	100/150/200	277-480	0-10V >80	3500/4000/5000K	15,000/22,500/30,000	5.1 Prem*	Up to 150	Black
66064**	UFO5A/S320HUV8SC7/BL	240/280/320	277-480	0-10V >80	3500/4000/5000K	36,000/42,000/48,000	5.1 Prem*	Up to 150	Black

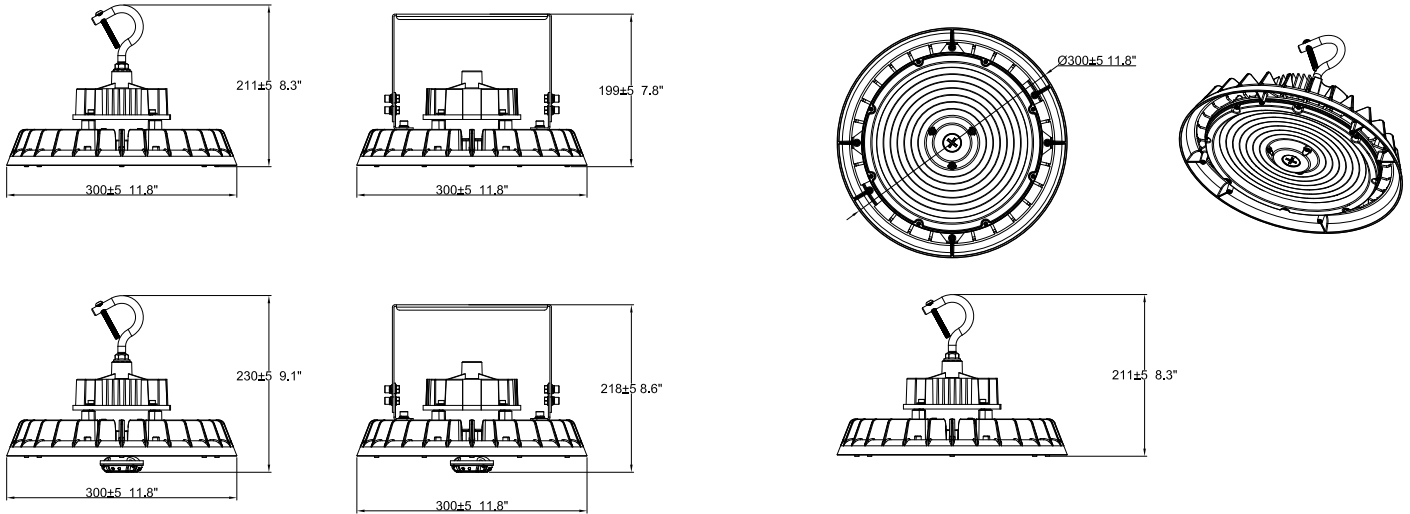
\*DLC 5.1 Premium pending

\*\*HUV available October 2024

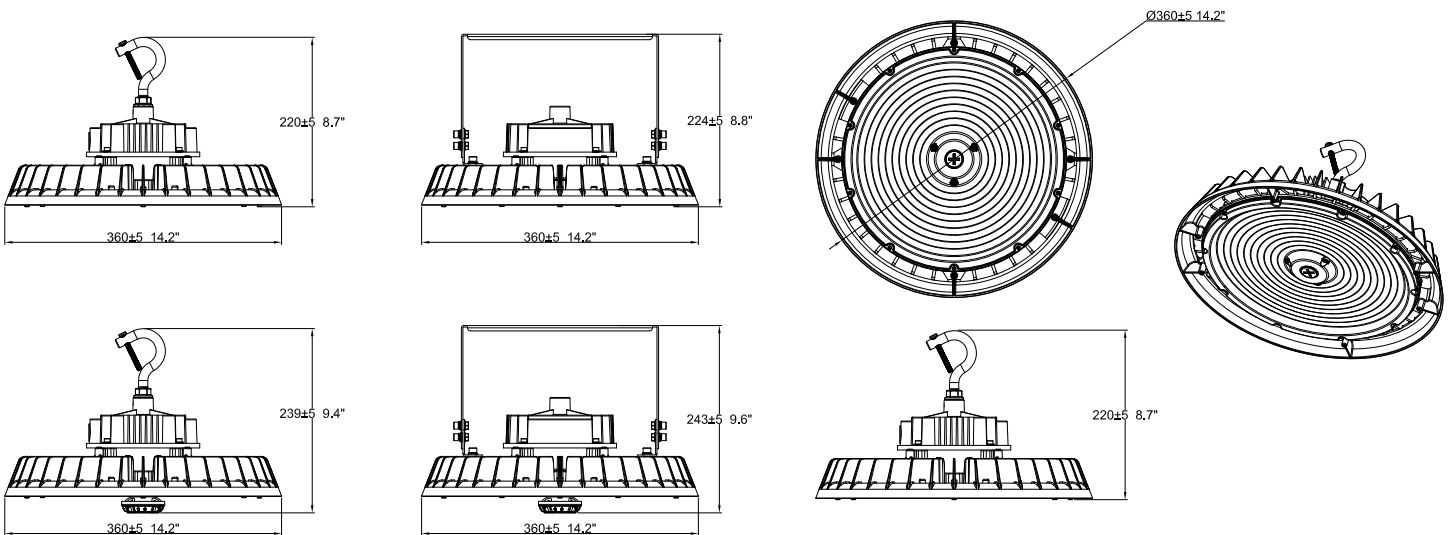
## PHYSICAL INFORMATION

DESCRIPTION	DIAMETER IN (MM)	HEIGHT IN (MM)	WEIGHT LB (KG)
200W	11.8 (300)	4.8 (121.92)	5.47 (2.48)
320W	14.2 (360.68)	5 (127)	8.42 (0.82)

### 200W



### 320W





## ACCESSORIES

ITEM #	ORDERING ABBREVIATION	ITEM DESCRIPTION
65613	UFOHIBA2A/SURFPENDMNT1/WH	White Surface/Pendant Mount Bracket for 200W products
65614	UFOHIBA2A/SURFPENDMNT2/WH	White Surface/Pendant Mount Bracket for 320W products
65702	UFOHIBA2A/SURFPENDMNT1/BL	Black Surface/Pendant Mount Bracket for 200W products
65703	UFOHIBA2A/SURFPENDMNT2/BL	Black Surface/Pendant Mount Bracket for 320W products
65620	UFOHIBA2A/WG1/WH	Wire Guard for 200W products
65621	UFOHIBA2A/WG2/WH	Wire Guard for 320W products
65622	HIGHBAY/MOTIONDAYSENSOR	Field installable Microwave DC Motion/Daylight Sensor, IP65, Max. mounting height 49 ft
62664	HIGHBAY/PIR/MOTIONDAYSENSOR2	Field installable PIR DC Motion/Daylight Sensor, IP65, Max. mounting height 39 ft
65623*	REMOTE/MOTIONDAY/001	Remote Control for Motion/Daylight Sensor — Remote is required to change default settings
65616	UFOHIBA2A/PC1/90	Polycarbonate Refractor for 200W products, 90° distribution
65617	UFOHIBA2A/PC2/90	Polycarbonate Refractor for 320W products, 90° distribution
61432	UFOHIBA1A/BOTTOMLENS	Polycarbonate bottom lens for use with 65616 or 65617
65618	UFOHIBA2A/AL1/90	Aluminum Reflector for 200W products, 90° distribution
65619	UFOHIBA2A/AL2/90	Aluminum Reflector for 320W products, 90° distribution
61062	EMBB/UFO/40WDC	Field installable 40W emergency battery back-up unit, with integral junction box, providing 5000 lumens of light output for 90 minutes in case of power failure. All units ship with a remote control facilitating the testing of the units**.
61089	EMBB/UFO/40WDC/HUV	Field installable 40W emergency battery back-up unit, with integral junction box, providing 5000 lumens of light output for 90 minutes in case of power failure. All units ship with a remote control facilitating the testing of the units. 277-480V.
63882	UFOJUNCTIONBOXGRAY	Junction Box for UFO high bays, Gray

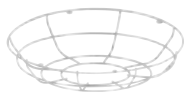
\*Required to change default settings

\*\*EMBB for UNH models only

**65613, 65614**  
**65702, 65703 (black)**



**65620, 65621**



**61432**



**65622, 62664**



**65623**



**61062**



**65618, 65619**



**65616, 65617**



**63882**



## OPTIONAL LEDVANCE LINK™ ACCESSORIES

Field Installable components compatible with DUAL SELECTABLE UFO HIGH BAY 5A



## BENEFITS & FEATURES

- The LEDVANCE LINK™ Bluetooth® Mesh Low Voltage components use Bluetooth® technology for easy and secure wireless communication
- Enables regular LEDVANCE luminaires to become Bluetooth® enabled and allows for luminaires to be turned on/off and dimmed (manual or auto)
- The LEDVANCE LINK™ Controller (62630) and Sensor (62634) require the simple adapter (63652) to screw into the UFO 5A
- Components can be used up to 40ft height
- Control using either the LEDVANCE LINK™ App or the wireless wall controller



## ORDERING INFORMATION

ITEM #	ORDERING ABBREVIATION	DESCRIPTION
63652	SENSORADAPTOR1A	Sensor adapter for integration of LEDVANCE LINK™ 3.5mm components to 3-pin sensor sockets
62630*	ADAPTER/AUX12V/BLE	Bluetooth® Mesh low voltage controller – BLE enabled fixture
62634*	SENSORHB/PIRAUX12V/BLE	Bluetooth® Mesh low voltage sensor & controller Bluetooth® – BLE enabled daylight/motion sensor
62636	WALLSWITCH5KEYBLE	Bluetooth® Mesh Low Voltage 5 Button Controller

\*Requires BLE adaptor 63652

Click or scan QR code for more information on LEDVANCE LINK™



COMMISSIONING GUIDE

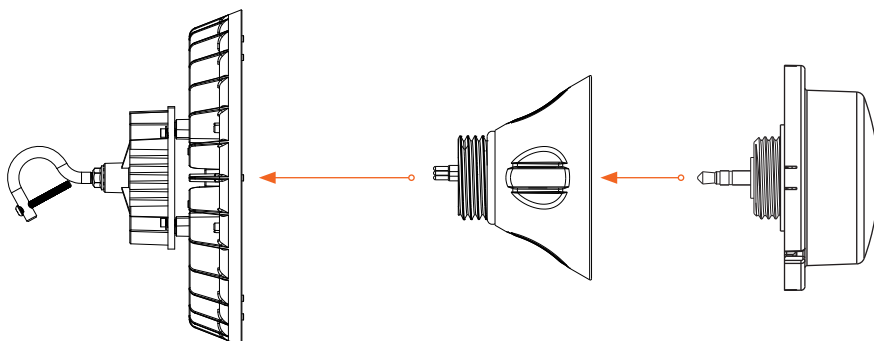


62630



62634

## PHYSICAL INFORMATION



## WATTAGE COMPARISON

TRADITIONAL SOURCE	TRADITIONAL SYSTEM WATATGE	LED SYSTEM WATTAGE	ENERGY SAVINGS
250W MH	290	100	66%
250W HPS	295	100	66%
250W MH	290	150	48%
250W HPS	295	150	49%
320W MH	370	200	46%
400W HPS	460	200	57%
320W MH	370	200	46%
400W HPS	460	240	48%
400W MH	450	240	47%
750W MH	820	280	66%
750W HPS	840	280	67%
1000W MH	1080	280	74%
1000W HPS	1100	280	75%
750W HPS	840	320	62%
1000W MH	1080	320	70%
1000W HPS	1100	320	71%

LEDVANCE LLC  
181 Ballardvale Street, Suite 203  
Wilmington, MA 01887 USA  
Phone: 1-800-LIGHTBULB (1-800-544-4828)  
www.ledvanceUS.com

LEDVANCE is a registered trademark.  
The Bluetooth® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by LEDVANCE LLC is under license. All other trademarks are those of their respective owners. Specifications subject to change without notice.



SCAN TO FOLLOW US  
ON SOCIAL MEDIA

# LEDVANCE LUMINAIRES

## DUAL SELECTABLE AREA LIGHT

TYPE: NLED-AL120,  
NLED AL-120-347V

### LEDVANCE LUMINAIRE SPECIFICATION DATA

Catalog #	Comments
Project	
Type	
Prepared by	

### PERFORMANCE CLASS™



### APPLICATION

The Performance Class Dual Selectable Area Flood offers 3 CCTs and 3 lumen outputs in the same product, an integrated 7-pin NEMA receptacle and field installable screw-in sensors. Available in multiple distribution options, it is ideal for parking lots, walkways and general outdoor area lighting.

### BENEFITS & FEATURES

- Up to 160 LPW
- Selectable color temperature: 3000K, 4000K, 5000K
- CRI>80
- Selectable wattage and lumens:
  - 40/60/80W | 6,400/9,600/12,800 lm
  - 90/120/150W | 14,400/19,200/24,000 lm
  - 180/240/300W | 28,800/38,400/48,000 lm
- FLEXMOUNT: Universal bracket for slip fitter, wall, round and square pole mounting
- DLC 5.1 Premium Listing assures high energy efficiency and qualifies this product for utility rebates
- Types II, III, IV, V and Front Row distribution options
- Ready for field-installable standalone controls, no wiring required
- Compatible with LEDVANCE LINK™ Bluetooth® controls and sensors
- 7-pin NEMA receptacle + shorting cap (optional photocell available as an accessory)



## ELECTRICAL

- 120-347 V<sub>AC</sub>  
(optional 277-480 V<sub>AC</sub>)
- Power Factor > 0.9
- THD < 20%
- Dimmable 0-10V
- 10kV Surge protection

## RATED LIFE

- 100,000 hours (L<sub>70</sub>) @ 25°C

## OPERATING TEMPERATURE

- -40°F to +122°F (-40°C to +50°C)

## CERTIFICATIONS & LISTINGS

- cULus listed to UL1598 standards
- RoHs
- FCC
- IP65, wet location
- 3G vibration rated, ANSI C136.31
- DLC 5.1 Premium

## WARRANTY

- 5 year
- NLB Trusted Warranty Program

## INSTALLATION

- Universal mounting bracket included for square and round pole mounting as well as slip fitter mount

### Installation Guide



## WATTAGE COMPARISON

LED SOURCE WATTAGE/LUMENS	REPLACES TRADITIONAL SOURCE	ENERGY SAVINGS
90W/12,900lm	HPS/MH	up to 250W
150W/24,000lm		up to 400W
300W/49,000lm		up to 1000W

## ORDERING GUIDE

AREAFLD	6A	SXXX	XXX	D	SCX	X	X
PRODUCT NAME	GENERATION	WATTAGE	VOLTAGE	DIMMING	COLOR TEMPERATURE	DISTRIBUTION	COLOR/ FINISH
AREAFLD = Area Flood	6A = Generation 6A	S080 = 40/60/80W S150 = 90/120/150W S300 = 180/240/300W	UNH = 120-347V HUV = 277-480V	D = 0-10V Dimming	SC2 = 3000/4000/5000K SC15 = 1800/2200/2700K	T2 = T2 Distribution T3 = T3 Distribution T4 = T4 Distribution T5 = T5 Distribution FR = Front Row Distribution	BZ = Bronze

## ORDERING INFORMATION

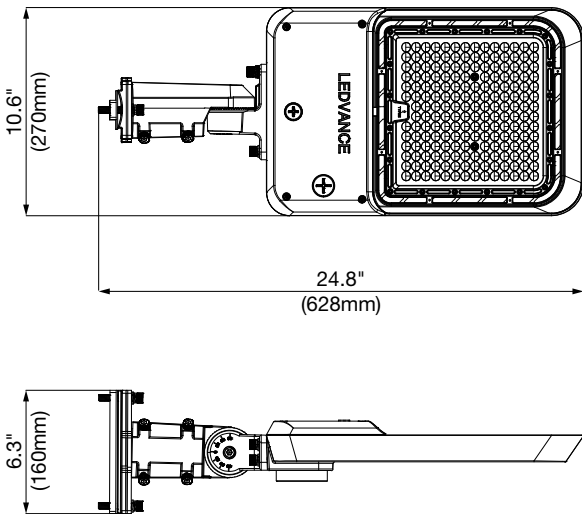
ITEM #	ORDERING ABBREVIATION	WATTAGE (W)	INPUT VOLTAGE (V)	DIM. (V)	CRI	COLOR TEMP (CCT)	DISTRIBUTION	TOTAL LUMENS (LM)	DLC	LPW	BUG RATING	MTO*
63845	AREAFLD6AS080UNHDSC2T2BZ	40/60/80	120-347	0-10	>80	3000/4000 /5000K	T2 Distribution	6400/9600 /12,800	5.1 Prem	Up to 160	B3-U0-G3	✓
63846	AREAFLD6AS080UNHDSC2T3BZ	40/60/80	120-347	0-10	>80	3000/4000 /5000K	T3 Distribution	6400/9600 /12,800	5.1 Prem	Up to 160	B3-U0-G3	-
63847	AREAFLD6AS080UNHDSC2T4BZ	40/60/80	120-347	0-10	>80	3000/4000 /5000K	T4 Distribution	6400/9600 /12,800	5.1 Prem	Up to 160	B3-U0-G3	-
63848	AREAFLD6AS080UNHDSC2T5BZ	40/60/80	120-347	0-10	>80	3000/4000 /5000K	T5 Distribution	6400/9600 /12,800	5.1 Prem	Up to 160	B3-U0-G1	-
63849	AREAFLD6AS080UNHDSC2FRBZ	40/60/80	120-347	0-10	>80	3000/4000 /5000K	FR Distribution	6400/9600 /12,800	5.1 Prem	Up to 160	B3-U0-G3	✓
63963	AREAFLD6AS080HUVDC2T2BZ	40/60/80	277-480	0-10	>80	3000/4000 /5000K	T2 Distribution	6400/9600 /12,800	5.1 Prem	Up to 160	B3-U0-G3	✓
63964	AREAFLD6AS080HUVDC2T3BZ	40/60/80	277-480	0-10	>80	3000/4000 /5000K	T3 Distribution	6400/9600 /12,800	5.1 Prem	Up to 160	B3-U0-G3	✓
63965	AREAFLD6AS080HUVDC2T4BZ	40/60/80	277-480	0-10	>80	3000/4000 /5000K	T4 Distribution	6400/9600 /12,800	5.1 Prem	Up to 160	B3-U0-G3	✓
63966	AREAFLD6AS080HUVDC2T5BZ	40/60/80	277-480	0-10	>80	3000/4000 /5000K	T5 Distribution	6400/9600 /12800	5.1 Prem	Up to 160	B3-U0-G1	✓
63967	AREAFLD6AS080HUVDC2FRBZ	40/60/80	277-480	0-10	>80	3000/4000 /5000K	FR Distribution	6400/9600 /12,800	5.1 Prem	Up to 160	B3-U0-G3	✓
63850	AREAFLD6AS150UNHDSC2T2BZ	90/120/150	120-347	0-10	>80	3000/4000 /5000K	T2 Distribution	14,400/19,200 /24,000	5.1 Prem	Up to 160	B4-U0-G4	✓
63851	AREAFLD6AS150UNHDSC2T3BZ	90/120/150	120-347	0-10	>80	3000/4000 /5000K	T3 Distribution	14,400/19,200 /24,000	5.1 Prem	Up to 160	B4-U0-G4	-
63852	AREAFLD6AS150UNHDSC2T4BZ	90/120/150	120-347	0-10	>80	3000/4000 /5000K	T4 Distribution	14,400/19,200 /24,000	5.1 Prem	Up to 160	B3-U0-G3	-
63853	AREAFLD6AS150UNHDSC2T5BZ	90/120/150	120-347	0-10	>80	3000/4000 /5000K	T5 Distribution	14,400/19,200 /24,000	5.1 Prem	Up to 160	B4-U0-G2	-
63854	AREAFLD6AS150UNHDSC2FRBZ	90/120/150	120-347	0-10	>80	3000/4000 /5000K	FR Distribution	14,400/19,200 /24,000	5.1 Prem	Up to 160	B4-U0-G4	✓
63968	AREAFLD6AS150HUVDC2T2BZ	90/120/150	277-480	0-10	>80	3000/4000 /5000K	T2 Distribution	14,400/19,200 /24,000	5.1 Prem	Up to 160	B4-U0-G4	✓
63969	AREAFLD6AS150HUVDC2T3BZ	90/120/150	277-480	0-10	>80	3000/4000 /5000K	T3 Distribution	14,400/19,200 /24,000	5.1 Prem	Up to 160	B4-U0-G4	✓
63970	AREAFLD6AS150HUVDC2T4BZ	90/120/150	277-480	0-10	>80	3000/4000 /5000K	T4 Distribution	14,400/19,200 /24,000	5.1 Prem	Up to 160	B3-U0-G3	✓
63971	AREAFLD6AS150HUVDC2T5BZ	90/120/150	277-480	0-10	>80	3000/4000 /5000K	T5 Distribution	14,400/19,200 /24,000	5.1 Prem	Up to 160	B4-U0-G2	✓
63972	AREAFLD6AS150HUVDC2FRBZ	90/120/150	277-480	0-10	>80	3000/4000 /5000K	FR Distribution	14,400/19,200 /24,000	5.1 Prem	Up to 160	B4-U0-G4	✓
63855	AREAFLD6AS300UNHDSC2T2BZ	180/240/300	120-347	0-10	>80	3000/4000 /5000K	T2 Distribution	28,800/38,400 /48,000	5.1 Prem	Up to 160	B5-U0-G5	✓
63856	AREAFLD6AS300UNHDSC2T3BZ	180/240/300	120-347	0-10	>80	3000/4000 /5000K	T3 Distribution	28,800/38,400 /48,000	5.1 Prem	Up to 160	B5-U0-G5	-
63857	AREAFLD6AS300UNHDSC2T4BZ	180/240/300	120-347	0-10	>80	3000/4000 /5000K	T4 Distribution	28,800/38,400 /48,000	5.1 Prem	Up to 160	B5-U0-G5	-
63858	AREAFLD6AS300UNHDSC2T5BZ	180/240/300	120-347	0-10	>80	3000/4000 /5000K	T5 Distribution	28,800/38,400 /48,000	5.1 Prem	Up to 160	B5-U0-G3	-
63859	AREAFLD6AS300UNHDSC2FRBZ	180/240/300	120-347	0-10	>80	3000/4000 /5000K	FR Distribution	28,800/38,400 /48,000	5.1 Prem	Up to 160	B5-U0-G5	✓
63973	AREAFLD6AS300HUVDC2T2BZ	180/240/300	277-480	0-10	>80	3000/4000 /5000K	T2 Distribution	28,800/38,400 /48,000	5.1 Prem	Up to 160	B5-U0-G5	✓
63974	AREAFLD6AS300HUVDC2T3BZ	180/240/300	277-480	0-10	>80	3000/4000 /5000K	T3 Distribution	28,800/38,400 /48,000	5.1 Prem	Up to 160	B5-U0-G5	✓
63975	AREAFLD6AS300HUVDC2T4BZ	180/240/300	277-480	0-10	>80	3000/4000 /5000K	T4 Distribution	28,800/38,400 /48,000	5.1 Prem	Up to 160	B5-U0-G5	✓
63976	AREAFLD6AS300HUVDC2T5BZ	180/240/300	277-480	0-10	>80	3000/4000 /5000K	T5 Distribution	28800/38,400 /48,000	5.1 Prem	Up to 160	B5-U0-G3	✓
63977	AREAFLD6AS300HUVDC2FRBZ	180/240/300	277-480	0-10	>80	3000/4000 /5000K	FR Distribution	28,800/38,400 /48,000	5.1 Prem	Up to 160	B5-U0-G5	✓

\*Made to Order

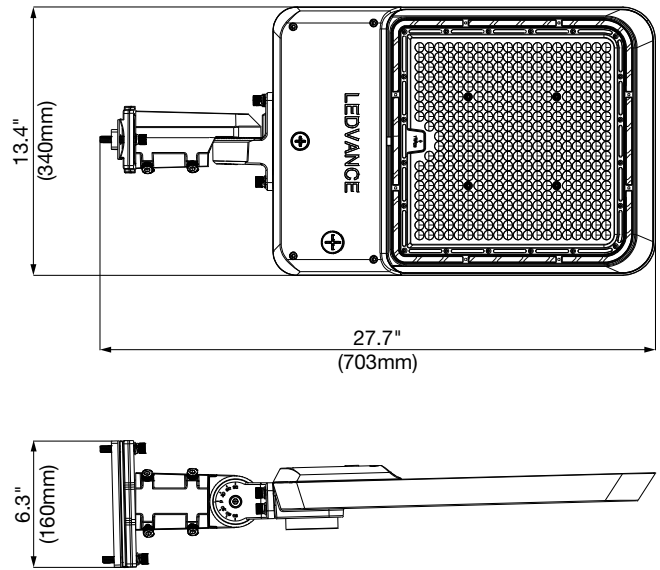
## PHYSICAL INFORMATION

LUMINAIRE DESCRIPTION	LENGTH IN (MM)	WIDTH IN (MM)	HEIGHT IN (MM)	WEIGHT LB (KG)	EPA
80W/150W	24.8 (628)	10.6 (270)	6.3 (160)	13 (5.9)	1.65 ft <sup>2</sup>
300W	27.7 (703)	13.4 (340)	6.3 (160)	16 (7.26)	2.15 ft <sup>2</sup>

80W-150W

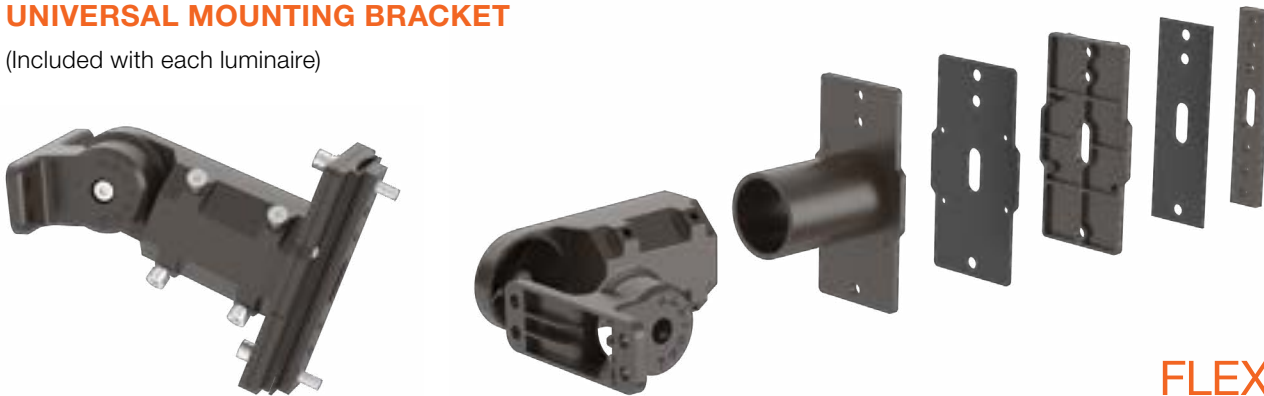


300W



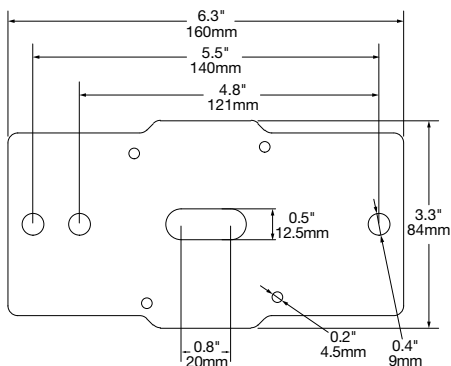
## UNIVERSAL MOUNTING BRACKET

(Included with each luminaire)



**FLEXMOUNT**

## POLE DRILL PATTERN



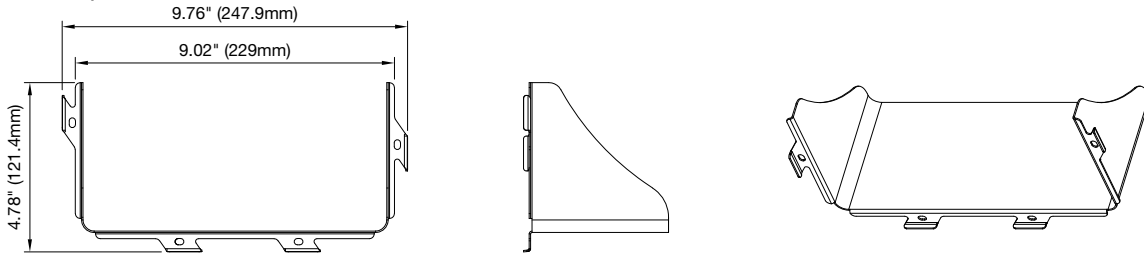
## ACCESSORIES

ITEM #	ORDERING ABBREVIATION	ITEM DESCRIPTION
<b>Visors</b>		
63959	AREAFLD6ASMVISORLRBZ	Small Visor, left and right, Bronze (80-150W)
63978	AREAFLD6ASMVISORFBBZ	Small Visor, front and back, Bronze (80-150W)
63960	AREAFLD6ALRGVISORLRBZ	Large Visor, left and right, Bronze (300W)
63979	AREAFLD6ALRGVISORFBBZ	Large Visor, front and back, Bronze (300W)
<b>Bird Spikes</b>		
63961	AREAFLD6ASMBIRDSPIKE	Small Birdspike Kit (80-150W) – one kit for one luminaire
63962	AREAFLD6ALRGBIRDSPIKE	Large Birdspike Kit (300W) – one kit for one luminaire
<b>Sensors</b>		
63748	AREA/PIRMOTIONDAYSENSOR/BZ	Field installable PIR Motion/Daylight Sensor, IP65, Max. mounting height 39ft, Bronze
65732	AREA/MWMOTIONDAYSENSOR/BZ	Field installable Microwave Motion/Daylight Sensor, IP65, Max. mounting height 49ft, Bronze
62664	HIGHBAYPIRMOTIONDAYSENSOR2	Field installable PIR Motion/Daylight Sensor, IP65, Max. mounting height 39ft, White
65622	HIGHBAYMOTIONDAYSENSOR	Field installable Microwave Motion/Daylight Sensor, IP65, Max. mounting height 49ft, White
65623	REMOTE/MOTIONDAY/001	Remote control for Motion/Daylight Sensors – Remote is required to change default settings
<b>Photocells</b>		
61393	AREAFLDXANEMAPHOTOCELLUNV	Area/Flood NEMA photocell 120-277V
64258	AREAFLDXANEMAPHOTOCELLHUV	Area/Flood NEMA photocell 347-480V
63197	NEMASHORTINGCAP	NEMA Shorting cap (base unit already ships with shorting cap)
<b>LEDVANCE LINK™ Accessories</b>		
63652	SENSORADAPTER1A	Sensor adapter for LEDVANCE LINK™ sensors
62634	SENSORHB/PIRAUX12V/BLE	Bluetooth® mesh wireless controller and sensor, LEDVANCE LINK™
62630	ADAPTER/AUX12V/BLE	Bluetooth® Mesh low voltage controller-BLE enabled fixture

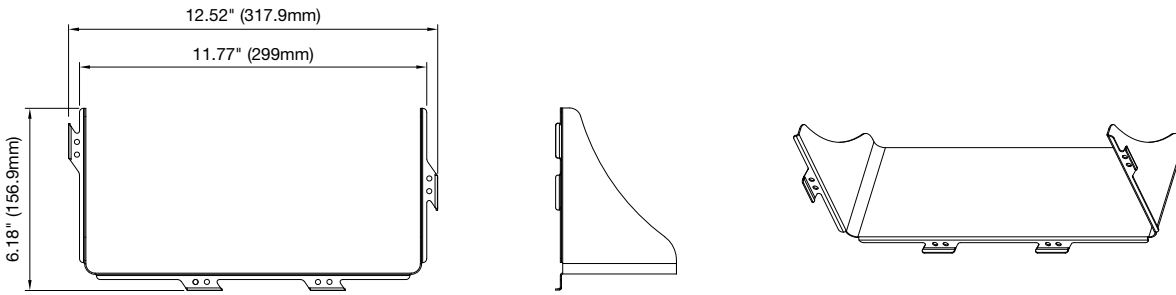


## ACCESSORIES: PHYSICAL INFORMATION

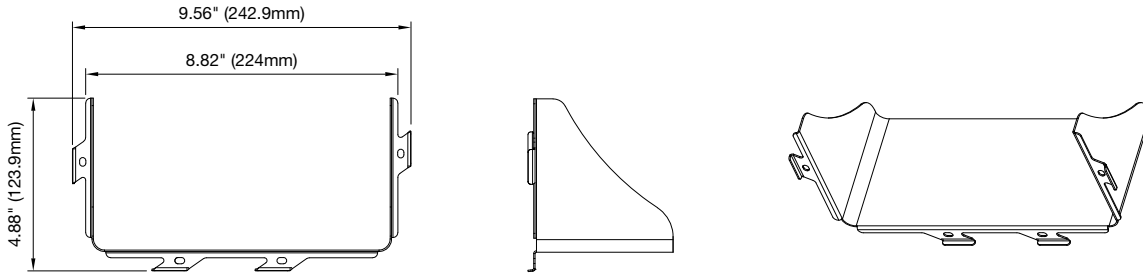
### FRONT AND BACK VISOR (80W-150W)



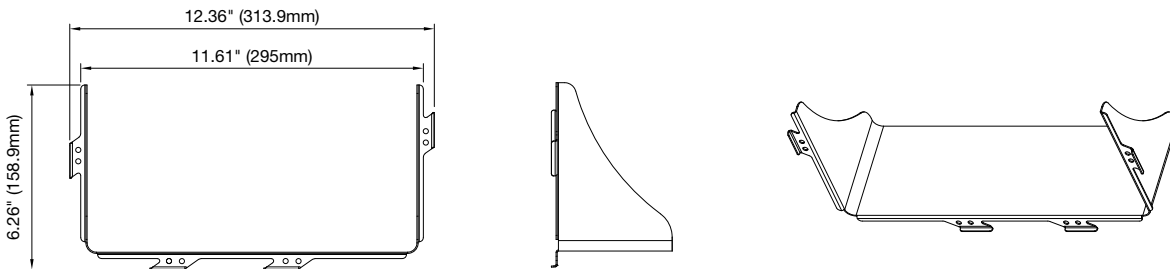
### FRONT AND BACK VISOR (300W)



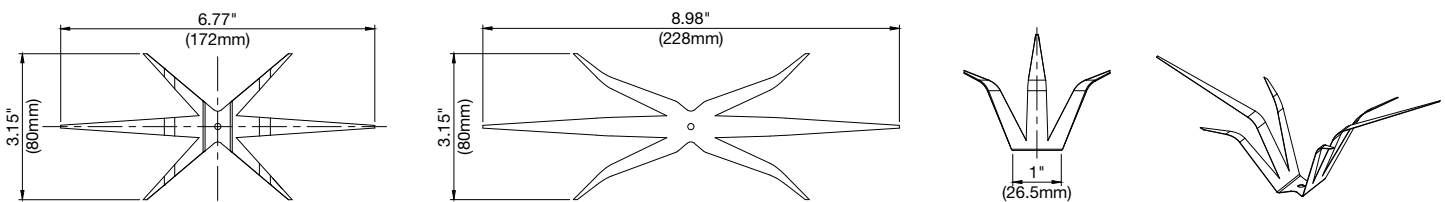
### RIGHT AND LEFT VISOR (80W-150W)



### RIGHT AND LEFT VISOR (300W)



### BIRD SPIKE



## OPTIONAL MOTION/DAYLIGHT SENSOR DEFAULT SETTINGS

Detection Area	100%
Hold time – Time fixtures stays at 100% after last motion before dimming	10 minutes
Daylight threshold – Light level above which lights will remain off	50 Lux
Stand-by period – Time light remains dimmed before shutting off	60 minutes
Stand-by Dimming – dimming level of light during the stand-by period	30%



**MOTION SENSOR**  
**Bronze: 63748/65732**  
**White: 62664/65662**



**REMOTE**  
**(65623)**

## OPTIONAL LEDVANCE LINK ACCESSORIES



**BLUETOOTH® MESH WIRELESS CONTROLLER & SENSOR, LEDVANCE LINK (62634)**



**SENSOR ADAPTER FOR LEDVANCE LINK SENSORS (63652)**

## BENEFITS & FEATURES

- The LEDVANCE LINK Bluetooth® Mesh Low Voltage components use Bluetooth technology for easy and secure wireless communication
- Enables regular LEDVANCE luminaires to become Bluetooth® enabled and allows for luminaires to be turned on/off and dimmed (manual or auto)
- Components can be used up to 40ft fixture mounting height
- Control using either the LEDVANCE LINK™ App or the wireless wall controller

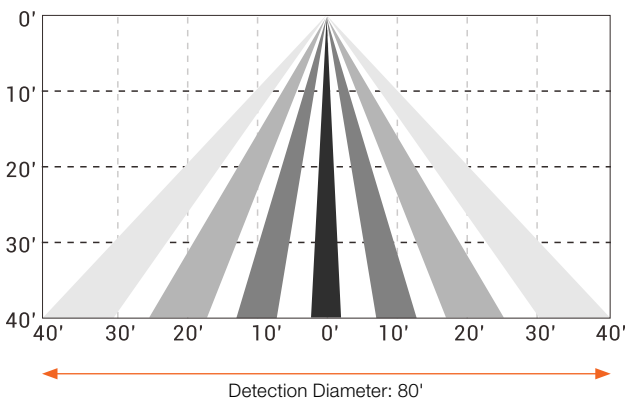
## SENSOR INFORMATION

- Input voltage: 12Vdc
- Bluetooth® transmit line distance: 100ft
- Detection range: 48-80ft
- Rated current: 55mA
- Dimming: 0-10V
- Infrared sensor: Omni-directional quad element pyroelectric
- Mounting height: 15-40ft
- Detectable speed: 1~10 ft/sec (0.3~3 m/sec)
- Operating temperature: -40°F~131°F (-40°C~55°C)
- Operating humidity: IP66
- Protocol: Bluetooth® Mesh BLE Proprietary

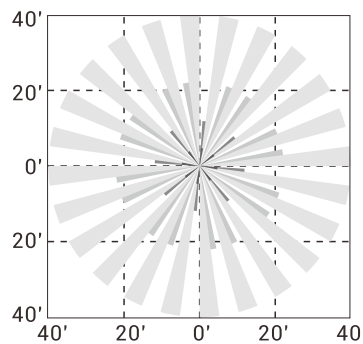


### MOUNTING HEIGHT: UP TO 40'

#### Detection Coverage Side View



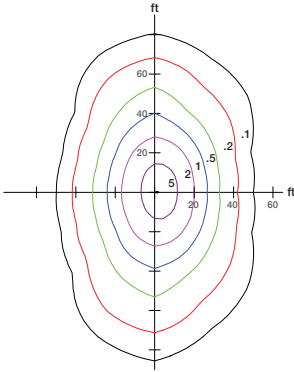
#### Detection Coverage Top View



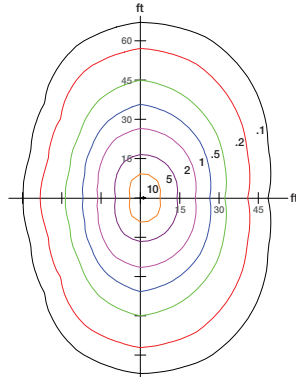
# PHOTOMETRIC INFORMATION

## HORIZONTAL ISO FOOT-CANDLE PLOT

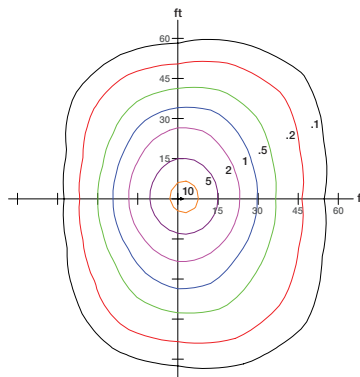
**80W Fixture, Type II Distribution, Mounted at 20' mounting height**



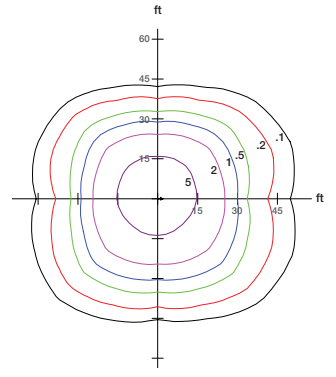
**80W Fixture, Type III Distribution, Mounted at 15' mounting height**



**80W Fixture, Type IV Distribution, Mounted at 15' mounting height**

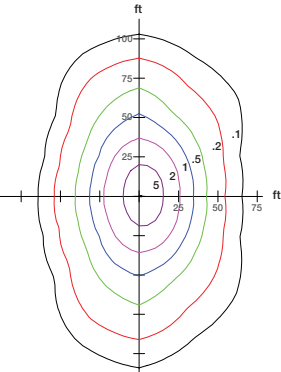


**80W Fixture, Type V Distribution, Mounted at 15' mounting height**

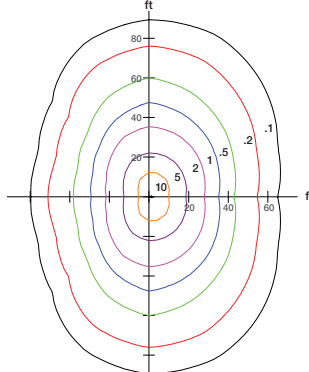


<b>MOUNTING HEIGHT (FT)</b>	10	12	15	18	20	22
<b>MULTIPLIER</b>	2.25	1.56	1.00	0.69	0.56	0.46

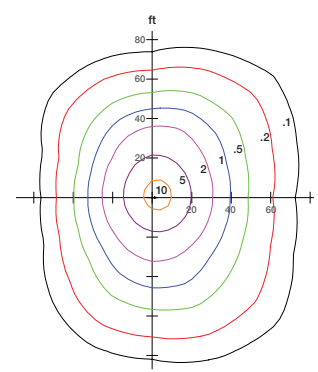
**150W Fixture, Type II Distribution, Mounted at 25' mounting height**



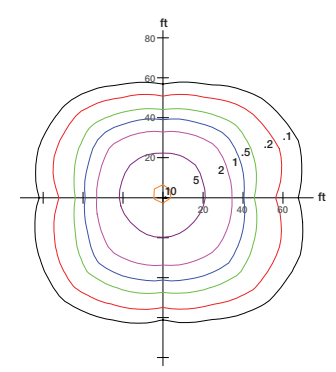
**150W Fixture, Type III Distribution, Mounted at 20' mounting height**



**150W Fixture, Type IV Distribution, Mounted at 20' mounting height**

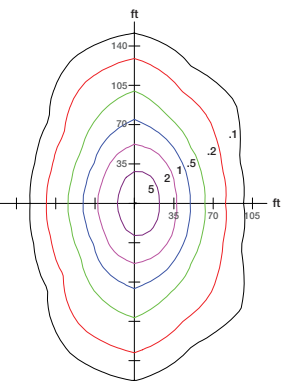


**150W Fixture, Type V Distribution, Mounted at 20' mounting height**

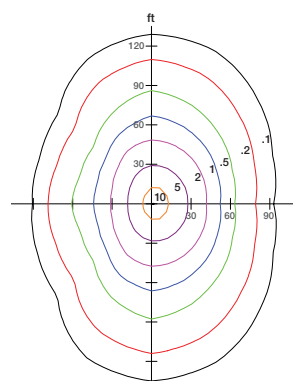


<b>MOUNTING HEIGHT (FT)</b>	12	15	18	20	22	25
<b>MULTIPLIER</b>	2.78	1.78	1.23	1	0.83	0.64

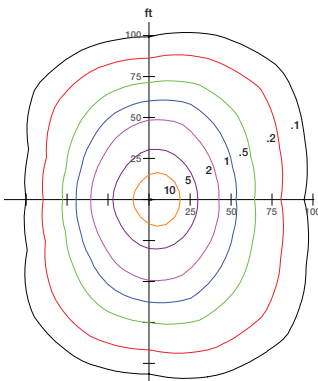
**300W Fixture, Type II Distribution, Mounted at 35' mounting height**



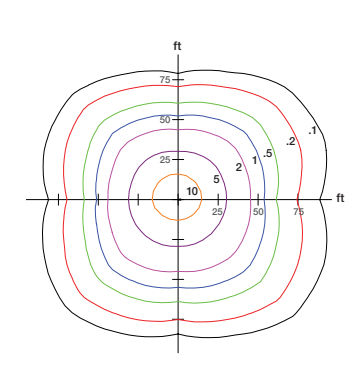
**300W Fixture, Type III Distribution, Mounted at 30' mounting height**



**300W Fixture, Type IV Distribution, Mounted at 25' mounting height**



**300W Fixture, Type V Distribution, Mounted at 25' mounting height**



<b>MOUNTING HEIGHT (FT)</b>	15	20	22	25	30	35
<b>MULTIPLIER</b>	2.78	1.56	1.29	1	0.69	0.51

- Multiply the footcandle levels in the diagram according to the desired installation height
- Each tick on the diagram represents a multiple of the mounting height from the fixture



LEDVANCE LLC  
181 Ballardvale Street, Suite 203  
Wilmington, MA 01887 USA  
Phone: 1-800-LIGHTBULB (1-800-544-4828)  
www.ledvanceUS.com

LEDVANCE is a registered trademark.  
The Bluetooth® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by LEDVANCE LLC is under license. All other trademarks are those of their respective owners. Specifications subject to change without notice.



SCAN TO FOLLOW US  
ON SOCIAL MEDIA



# LEDVANCE LUMINAIRES

## DUAL SELECTABLE

## AREA LIGHT

### LEDVANCE LUMINAIRE SPECIFICATION DATA

Catalog #	Comments
Project	
Type	
Prepared by	

### PERFORMANCE CLASS™



### APPLICATION

The Performance Class Dual Selectable Area Flood offers 3 CCTs and 3 lumen outputs in the same product, an integrated 7-pin NEMA receptacle and field installable screw-in sensors. Available in multiple distribution options, it is ideal for parking lots, walkways and general outdoor area lighting.

### BENEFITS & FEATURES

- Up to 160 LPW
- Selectable color temperature: 3000K, 4000K, 5000K
- CRI>80
- Selectable wattage and lumens:
  - 40/60/80W | 6,400/9,600/12,800 lm
  - 90/120/150W | 14,400/19,200/24,000 lm
  - 180/240/300W | 28,800/38,400/48,000 lm
- FLEXMOUNT: Universal bracket for slip fitter, wall, round and square pole mounting
- DLC 5.1 Premium Listing assures high energy efficiency and qualifies this product for utility rebates
- Types II, III, IV, V and Front Row distribution options
- Ready for field-installable standalone controls, no wiring required
- Compatible with LEDVANCE LINK™ Bluetooth® controls and sensors
- 7-pin NEMA receptacle + shorting cap (optional photocell available as an accessory)



## ELECTRICAL

- 120-347 V<sub>AC</sub>  
(optional 277-480 V<sub>AC</sub>)
- Power Factor > 0.9
- THD < 20%
- Dimmable 0-10V
- 10kV Surge protection

## RATED LIFE

- 100,000 hours (L<sub>70</sub>) @ 25°C

## OPERATING TEMPERATURE

- -40°F to +122°F (-40°C to +50°C)

## CERTIFICATIONS & LISTINGS

- cULus listed to UL1598 standards
- RoHs
- FCC
- IP65, wet location
- 3G vibration rated, ANSI C136.31
- DLC 5.1 Premium

## WARRANTY

- 5 year
- NLB Trusted Warranty Program

## INSTALLATION

- Universal mounting bracket included for square and round pole mounting as well as slip fitter mount

### Installation Guide



## WATTAGE COMPARISON

LED SOURCE WATTAGE/LUMENS	REPLACES TRADITIONAL SOURCE	ENERGY SAVINGS
90W/12,900lm	HPS/MH	up to 250W
150W/24,000lm		up to 400W
300W/49,000lm		up to 1000W

## ORDERING GUIDE

AREAFLD	6A	SXXX	XXX	D	SCX	X	X
PRODUCT NAME	GENERATION	WATTAGE	VOLTAGE	DIMMING	COLOR TEMPERATURE	DISTRIBUTION	COLOR/ FINISH
AREAFLD = Area Flood	6A = Generation 6A	S080 = 40/60/80W S150 = 90/120/150W S300 = 180/240/300W	UNH = 120-347V HUV = 277-480V	D = 0-10V Dimming	SC2 = 3000/4000/5000K SC15 = 1800/2200/2700K	T2 = T2 Distribution T3 = T3 Distribution T4 = T4 Distribution T5 = T5 Distribution FR = Front Row Distribution	BZ = Bronze

## ORDERING INFORMATION

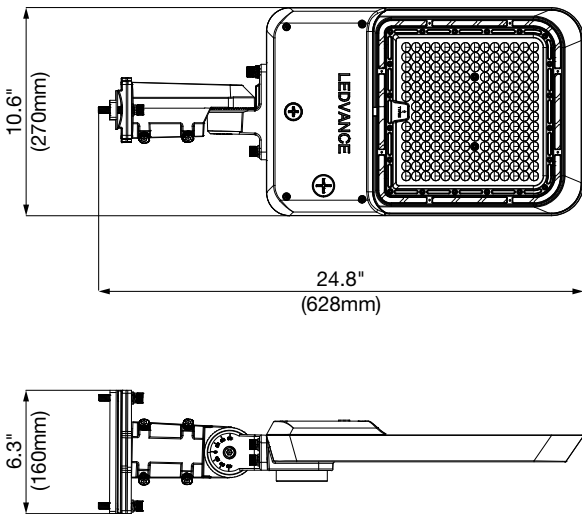
ITEM #	ORDERING ABBREVIATION	WATTAGE (W)	INPUT VOLTAGE (V)	DIM. (V)	CRI	COLOR TEMP (CCT)	DISTRIBUTION	TOTAL LUMENS (LM)	DLC	LPW	BUG RATING	MTO*
63845	AREAFLD6AS080UNHDSC2T2BZ	40/60/80	120-347	0-10	>80	3000/4000/5000K	T2 Distribution	6400/9600/12,800	5.1 Prem	Up to 160	B3-U0-G3	✓
63846	AREAFLD6AS080UNHDSC2T3BZ	40/60/80	120-347	0-10	>80	3000/4000/5000K	T3 Distribution	6400/9600/12,800	5.1 Prem	Up to 160	B3-U0-G3	-
63847	AREAFLD6AS080UNHDSC2T4BZ	40/60/80	120-347	0-10	>80	3000/4000/5000K	T4 Distribution	6400/9600/12,800	5.1 Prem	Up to 160	B3-U0-G3	-
63848	AREAFLD6AS080UNHDSC2T5BZ	40/60/80	120-347	0-10	>80	3000/4000/5000K	T5 Distribution	6400/9600/12,800	5.1 Prem	Up to 160	B3-U0-G1	-
63849	AREAFLD6AS080UNHDSC2FRBZ	40/60/80	120-347	0-10	>80	3000/4000/5000K	FR Distribution	6400/9600/12,800	5.1 Prem	Up to 160	B3-U0-G3	✓
63963	AREAFLD6AS080HUVDC2T2BZ	40/60/80	277-480	0-10	>80	3000/4000/5000K	T2 Distribution	6400/9600/12,800	5.1 Prem	Up to 160	B3-U0-G3	✓
63964	AREAFLD6AS080HUVDC2T3BZ	40/60/80	277-480	0-10	>80	3000/4000/5000K	T3 Distribution	6400/9600/12,800	5.1 Prem	Up to 160	B3-U0-G3	✓
63965	AREAFLD6AS080HUVDC2T4BZ	40/60/80	277-480	0-10	>80	3000/4000/5000K	T4 Distribution	6400/9600/12,800	5.1 Prem	Up to 160	B3-U0-G3	✓
63966	AREAFLD6AS080HUVDC2T5BZ	40/60/80	277-480	0-10	>80	3000/4000/5000K	T5 Distribution	6400/9600/12800	5.1 Prem	Up to 160	B3-U0-G1	✓
63967	AREAFLD6AS080HUVDC2FRBZ	40/60/80	277-480	0-10	>80	3000/4000/5000K	FR Distribution	6400/9600/12,800	5.1 Prem	Up to 160	B3-U0-G3	✓
63850	AREAFLD6AS150UNHDSC2T2BZ	90/120/150	120-347	0-10	>80	3000/4000/5000K	T2 Distribution	14,400/19,200/24,000	5.1 Prem	Up to 160	B4-U0-G4	✓
63851	AREAFLD6AS150UNHDSC2T3BZ	90/120/150	120-347	0-10	>80	3000/4000/5000K	T3 Distribution	14,400/19,200/24,000	5.1 Prem	Up to 160	B4-U0-G4	-
63852	AREAFLD6AS150UNHDSC2T4BZ	90/120/150	120-347	0-10	>80	3000/4000/5000K	T4 Distribution	14,400/19,200/24,000	5.1 Prem	Up to 160	B3-U0-G3	-
63853	AREAFLD6AS150UNHDSC2T5BZ	90/120/150	120-347	0-10	>80	3000/4000/5000K	T5 Distribution	14,400/19,200/24,000	5.1 Prem	Up to 160	B4-U0-G2	-
63854	AREAFLD6AS150UNHDSC2FRBZ	90/120/150	120-347	0-10	>80	3000/4000/5000K	FR Distribution	14,400/19,200/24,000	5.1 Prem	Up to 160	B4-U0-G4	✓
63968	AREAFLD6AS150HUVDC2T2BZ	90/120/150	277-480	0-10	>80	3000/4000/5000K	T2 Distribution	14,400/19,200/24,000	5.1 Prem	Up to 160	B4-U0-G4	✓
63969	AREAFLD6AS150HUVDC2T3BZ	90/120/150	277-480	0-10	>80	3000/4000/5000K	T3 Distribution	14,400/19,200/24,000	5.1 Prem	Up to 160	B4-U0-G4	✓
63970	AREAFLD6AS150HUVDC2T4BZ	90/120/150	277-480	0-10	>80	3000/4000/5000K	T4 Distribution	14,400/19,200/24,000	5.1 Prem	Up to 160	B3-U0-G3	✓
63971	AREAFLD6AS150HUVDC2T5BZ	90/120/150	277-480	0-10	>80	3000/4000/5000K	T5 Distribution	14,400/19,200/24,000	5.1 Prem	Up to 160	B4-U0-G2	✓
63972	AREAFLD6AS150HUVDC2FRBZ	90/120/150	277-480	0-10	>80	3000/4000/5000K	FR Distribution	14,400/19,200/24,000	5.1 Prem	Up to 160	B4-U0-G4	✓
63855	AREAFLD6AS300UNHDSC2T2BZ	180/240/300	120-347	0-10	>80	3000/4000/5000K	T2 Distribution	28,800/38,400/48,000	5.1 Prem	Up to 160	B5-U0-G5	✓
63856	AREAFLD6AS300UNHDSC2T3BZ	180/240/300	120-347	0-10	>80	3000/4000/5000K	T3 Distribution	28,800/38,400/48,000	5.1 Prem	Up to 160	B5-U0-G5	-
63857	AREAFLD6AS300UNHDSC2T4BZ	180/240/300	120-347	0-10	>80	3000/4000/5000K	T4 Distribution	28,800/38,400/48,000	5.1 Prem	Up to 160	B5-U0-G5	-
63858	AREAFLD6AS300UNHDSC2T5BZ	180/240/300	120-347	0-10	>80	3000/4000/5000K	T5 Distribution	28,800/38,400/48,000	5.1 Prem	Up to 160	B5-U0-G3	-
63859	AREAFLD6AS300UNHDSC2FRBZ	180/240/300	120-347	0-10	>80	3000/4000/5000K	FR Distribution	28,800/38,400/48,000	5.1 Prem	Up to 160	B5-U0-G5	✓
63973	AREAFLD6AS300HUVDC2T2BZ	180/240/300	277-480	0-10	>80	3000/4000/5000K	T2 Distribution	28,800/38,400/48,000	5.1 Prem	Up to 160	B5-U0-G5	✓
63974	AREAFLD6AS300HUVDC2T3BZ	180/240/300	277-480	0-10	>80	3000/4000/5000K	T3 Distribution	28,800/38,400/48,000	5.1 Prem	Up to 160	B5-U0-G5	✓
63975	AREAFLD6AS300HUVDC2T4BZ	180/240/300	277-480	0-10	>80	3000/4000/5000K	T4 Distribution	28,800/38,400/48,000	5.1 Prem	Up to 160	B5-U0-G5	✓
63976	AREAFLD6AS300HUVDC2T5BZ	180/240/300	277-480	0-10	>80	3000/4000/5000K	T5 Distribution	28800/38,400/48,000	5.1 Prem	Up to 160	B5-U0-G3	✓
63977	AREAFLD6AS300HUVDC2FRBZ	180/240/300	277-480	0-10	>80	3000/4000/5000K	FR Distribution	28,800/38,400/48,000	5.1 Prem	Up to 160	B5-U0-G5	✓

\*Made to Order

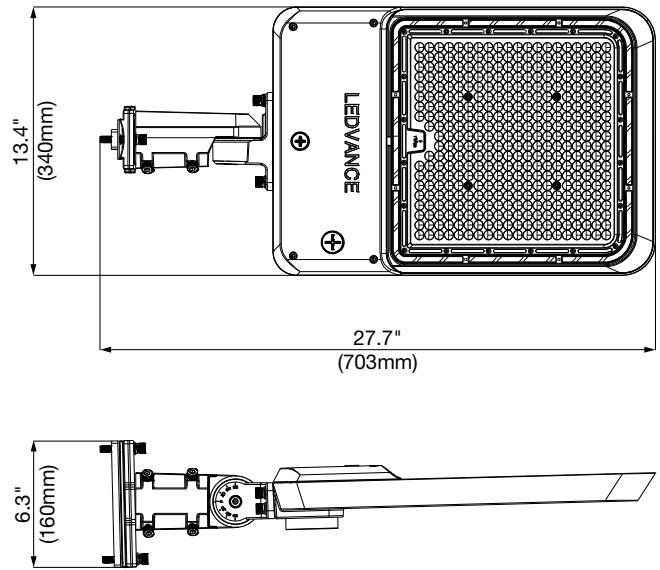
## PHYSICAL INFORMATION

LUMINAIRE DESCRIPTION	LENGTH IN (MM)	WIDTH IN (MM)	HEIGHT IN (MM)	WEIGHT LB (KG)	EPA
80W/150W	24.8 (628)	10.6 (270)	6.3 (160)	13 (5.9)	1.65 ft <sup>2</sup>
300W	27.7 (703)	13.4 (340)	6.3 (160)	16 (7.26)	2.15 ft <sup>2</sup>

80W-150W

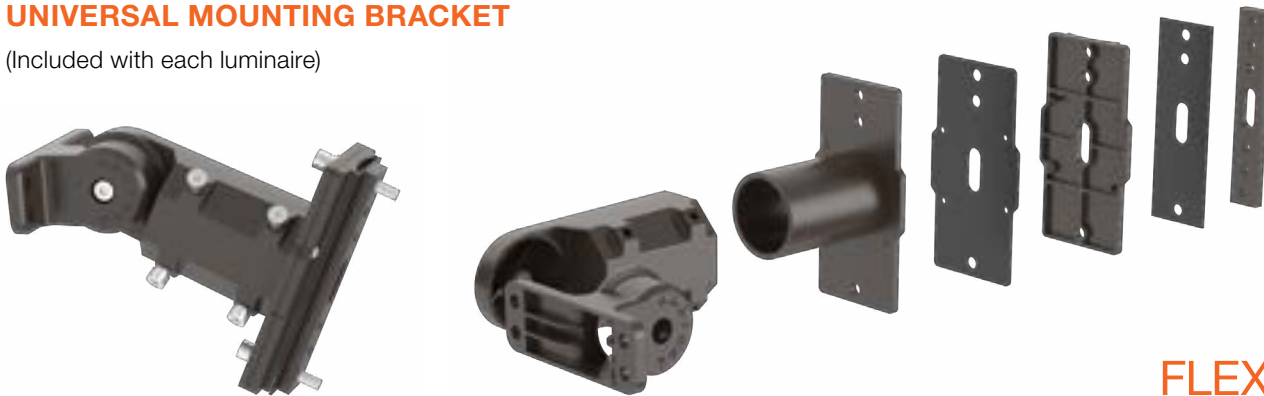


300W



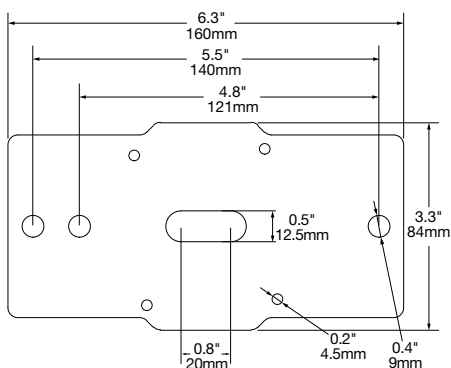
## UNIVERSAL MOUNTING BRACKET

(Included with each luminaire)



**FLEXMOUNT**

## POLE DRILL PATTERN



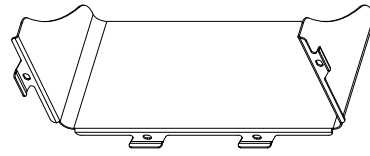
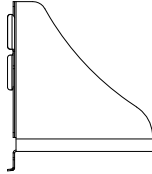
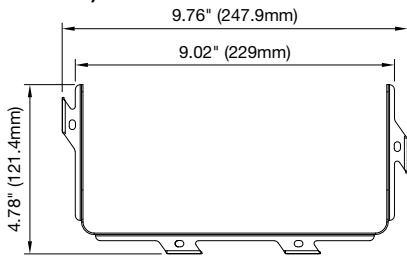


## ACCESSORIES

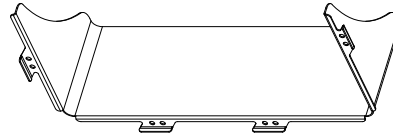
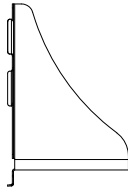
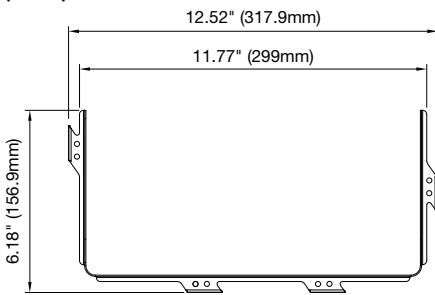
ITEM #	ORDERING ABBREVIATION	ITEM DESCRIPTION
<b>Visors</b>		
63959	AREAFLD6ASMVISORLRBZ	Small Visor, left and right, Bronze (80-150W)
63978	AREAFLD6ASMVISORFBBZ	Small Visor, front and back, Bronze (80-150W)
63960	AREAFLD6ALRGVISORLRBZ	Large Visor, left and right, Bronze (300W)
63979	AREAFLD6ALRGVISORFBBZ	Large Visor, front and back, Bronze (300W)
<b>Bird Spikes</b>		
63961	AREAFLD6ASMBIRDSPIKE	Small Birdspike Kit (80-150W) – one kit for one luminaire
63962	AREAFLD6ALRGBIRDSPIKE	Large Birdspike Kit (300W) – one kit for one luminaire
<b>Sensors</b>		
63748	AREA/PIRMOTIONDAYSENSOR/BZ	Field installable PIR Motion/Daylight Sensor, IP65, Max. mounting height 39ft, Bronze
65732	AREA/MWMOTIONDAYSENSOR/BZ	Field installable Microwave Motion/Daylight Sensor, IP65, Max. mounting height 49ft, Bronze
62664	HIGHBAYPIRMOTIONDAYSENSOR2	Field installable PIR Motion/Daylight Sensor, IP65, Max. mounting height 39ft, White
65622	HIGHBAYMOTIONDAYSENSOR	Field installable Microwave Motion/Daylight Sensor, IP65, Max. mounting height 49ft, White
65623	REMOTE/MOTIONDAY/001	Remote control for Motion/Daylight Sensors – Remote is required to change default settings
<b>Photocells</b>		
61393	AREAFLDXANEMAPHOTOCELLUNV	Area/Flood NEMA photocell 120-277V
64258	AREAFLDXANEMAPHOTOCELLHUV	Area/Flood NEMA photocell 347-480V
63197	NEMASHORTINGCAP	NEMA Shorting cap (base unit already ships with shorting cap)
<b>LEDVANCE LINK™ Accessories</b>		
63652	SENSORADAPTER1A	Sensor adapter for LEDVANCE LINK™ sensors
62634	SENSORHB/PIRAUX12V/BLE	Bluetooth® mesh wireless controller and sensor, LEDVANCE LINK™
62630	ADAPTER/AUX12V/BLE	Bluetooth® Mesh low voltage controller-BLE enabled fixture

## ACCESSORIES: PHYSICAL INFORMATION

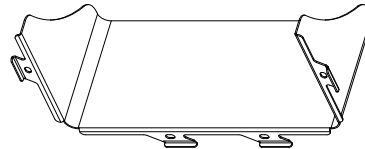
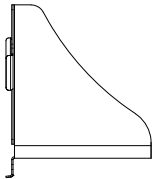
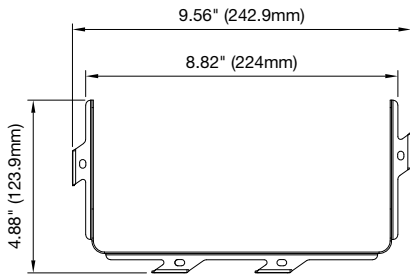
### FRONT AND BACK VISOR (80W-150W)



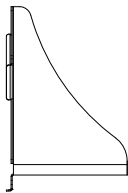
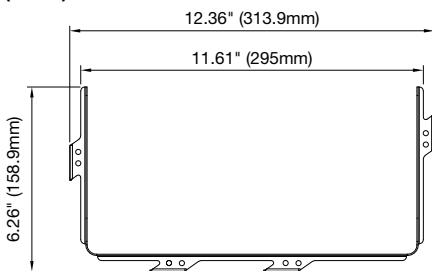
### FRONT AND BACK VISOR (300W)



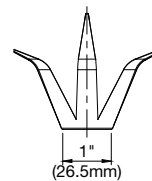
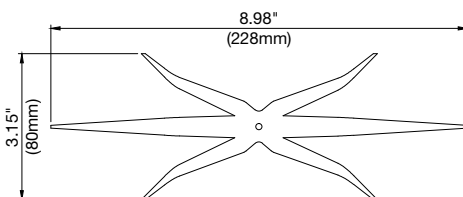
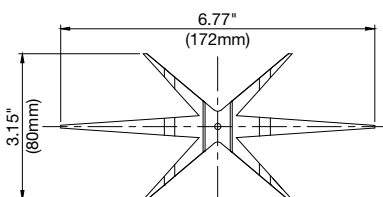
### RIGHT AND LEFT VISOR (80W-150W)



### RIGHT AND LEFT VISOR (300W)



### BIRD SPIKE



## OPTIONAL MOTION/DAYLIGHT SENSOR DEFAULT SETTINGS

Detection Area	100%
Hold time – Time fixtures stays at 100% after last motion before dimming	10 minutes
Daylight threshold – Light level above which lights will remain off	50 Lux
Stand-by period – Time light remains dimmed before shutting off	60 minutes
Stand-by Dimming – dimming level of light during the stand-by period	30%



**MOTION SENSOR**  
**Bronze: 63748/65732**  
**White: 62664/65662**



**REMOTE**  
**(65623)**

## OPTIONAL LEDVANCE LINK ACCESSORIES



**BLUETOOTH® MESH WIRELESS CONTROLLER & SENSOR, LEDVANCE LINK (62634)**



**SENSOR ADAPTER FOR LEDVANCE LINK SENSORS (63652)**

## BENEFITS & FEATURES

- The LEDVANCE LINK Bluetooth® Mesh Low Voltage components use Bluetooth technology for easy and secure wireless communication
- Enables regular LEDVANCE luminaires to become Bluetooth® enabled and allows for luminaires to be turned on/off and dimmed (manual or auto)
- Components can be used up to 40ft fixture mounting height
- Control using either the LEDVANCE LINK™ App or the wireless wall controller

## SENSOR INFORMATION

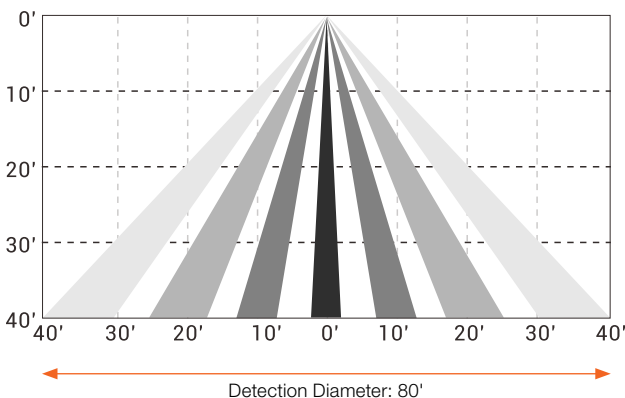
- Input voltage: 12Vdc
- Bluetooth® transmit line distance: 100ft
- Detection range: 48-80ft
- Rated current: 55mA
- Dimming: 0-10V
- Infrared sensor: Omni-directional quad element pyroelectric
- Mounting height: 15-40ft
- Detectable speed: 1~10 ft/sec (0.3~3 m/sec)
- Operating temperature: -40°F~131°F (-40°C~55°C)
- Operating humidity: IP66
- Protocol: Bluetooth® Mesh BLE Proprietary



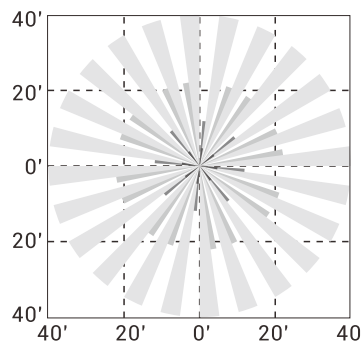
COMMISSIONING GUIDE

### MOUNTING HEIGHT: UP TO 40'

#### Detection Coverage Side View



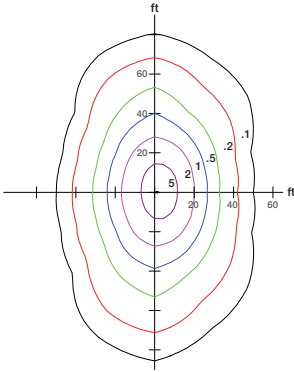
#### Detection Coverage Top View



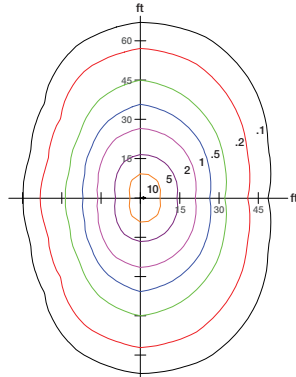
# PHOTOMETRIC INFORMATION

## HORIZONTAL ISO FOOT-CANDLE PLOT

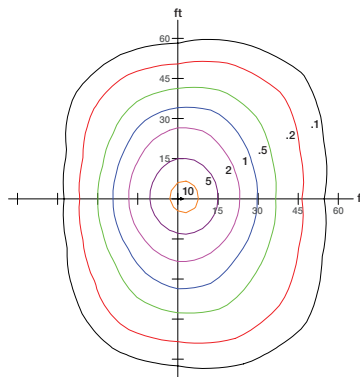
**80W Fixture, Type II Distribution, Mounted at 20' mounting height**



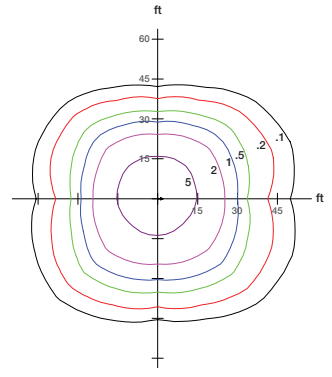
**80W Fixture, Type III Distribution, Mounted at 15' mounting height**



**80W Fixture, Type IV Distribution, Mounted at 15' mounting height**

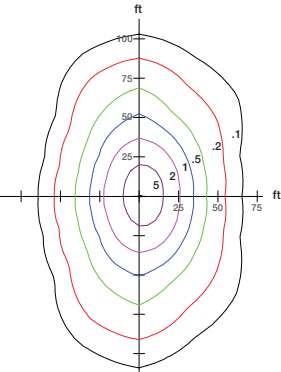


**80W Fixture, Type V Distribution, Mounted at 15' mounting height**

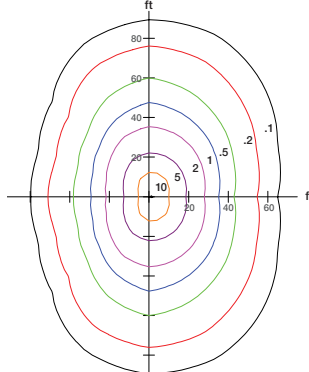


<b>MOUNTING HEIGHT (FT)</b>	10	12	15	18	20	22
<b>MULTIPLIER</b>	2.25	1.56	1.00	0.69	0.56	0.46

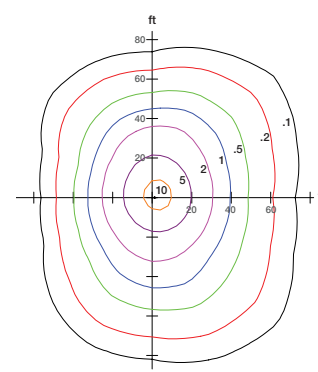
**150W Fixture, Type II Distribution, Mounted at 25' mounting height**



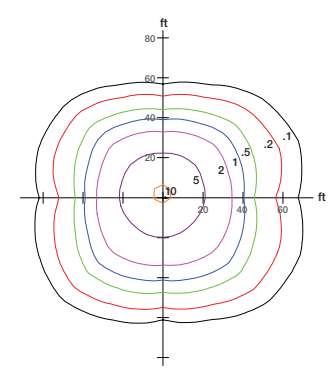
**150W Fixture, Type III Distribution, Mounted at 20' mounting height**



**150W Fixture, Type IV Distribution, Mounted at 20' mounting height**

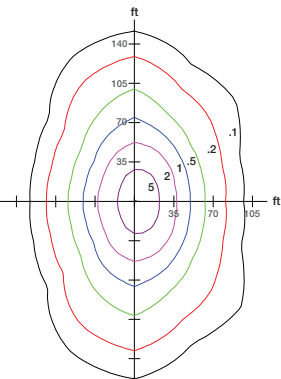


**150W Fixture, Type V Distribution, Mounted at 20' mounting height**

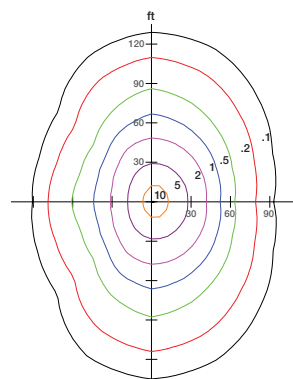


<b>MOUNTING HEIGHT (FT)</b>	12	15	18	20	22	25
<b>MULTIPLIER</b>	2.78	1.78	1.23	1	0.83	0.64

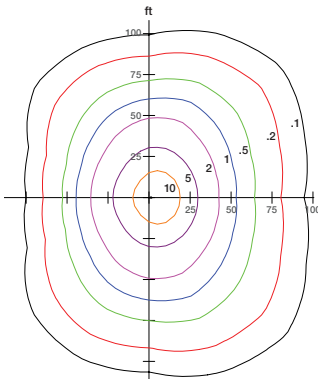
**300W Fixture, Type II Distribution, Mounted at 35' mounting height**



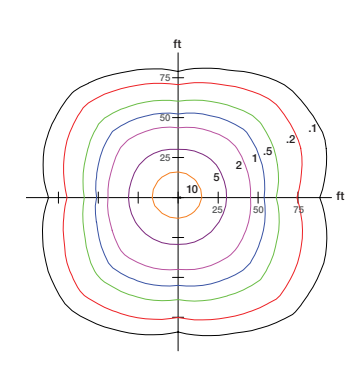
**300W Fixture, Type III Distribution, Mounted at 30' mounting height**



**300W Fixture, Type IV Distribution, Mounted at 25' mounting height**



**300W Fixture, Type V Distribution, Mounted at 25' mounting height**



<b>MOUNTING HEIGHT (FT)</b>	15	20	22	25	30	35
<b>MULTIPLIER</b>	2.78	1.56	1.29	1	0.69	0.51

- Multiply the footcandle levels in the diagram according to the desired installation height
- Each tick on the diagram represents a multiple of the mounting height from the fixture



LEDVANCE LLC  
181 Ballardvale Street, Suite 203  
Wilmington, MA 01887 USA  
Phone: 1-800-LIGHTBULB (1-800-544-4828)  
www.ledvanceUS.com

LEDVANCE is a registered trademark.  
The Bluetooth® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by LEDVANCE LLC is under license. All other trademarks are those of their respective owners. Specifications subject to change without notice.



SCAN TO FOLLOW US  
ON SOCIAL MEDIA

# LEDVANCE Luminaires

## DUAL SELECTABLE SLIM WALL PACK

PERFORMANCE CLASS

TYPE: NLED-WP30

### Application

The Slim Wall Pack is a versatile fixture which can be used as a full cutoff wall pack as well as adjustable up to 90 degrees. The Slim Wall Pack has two different selectable wattages as well as CCT selectable in 3000K, 4000K, or 5000K. Applications include schools, warehouses, municipal buildings, and commercial buildings.

### Benefits and Features

- DLC 5.1 Premium Listing provides high energy efficiency and optimizes this product for utility rebates
- Offered in selectable wattage, 30 and 60W maximum – set to max at factory
- Adjustable up to 90 degrees
- Up to 140 LPW
- 3000K, 4000K, 5000K selectable color temperature, set to 4000K at factory
- CRI >80

### Electrical

- 120-277V<sub>AC</sub> and 120-347V<sub>AC</sub>
- Power Factor >90%
- THD <20%
- 0-10V dimmable
- Surge protection: 4kV

### Rated Life

- 150,000 hours (L<sub>70</sub>)

### Warranty

- 5-year
- NLB Trusted Warranty Program

### Operating Temperature

- -40°F to +104°F (-40°C to +40°C)

### Certifications and Listings

- cULus wet location rated
- RoHS
- FCC
- DLC 5.1 Premium
- IP65



### Wattage Comparison

Traditional Source	Traditional System Wattage	LED System Wattage	Energy Savings
23W CFL	23	10	57%
100W Incandescent	100	10	90%
150W Incandescent	150	20	87%
50W HPS	62	20	68%
70W HPS	91	20	67%
150W Incandescent	150	30	80%
50W HPS	62	30	52%
70W HPS	91	30	67%
70W HPS	91	45	56%
100W HPS	120	45	67%
100W MH	130	45	69%
150W HPS	170	60	65%
150W MH	188	60	68%
175W MH	210	60	71%

### Installation

- Luminaires mount to exterior wall
- Fully adjustable up to 90 degrees

### Physical Information

Lamp Description	Length (in)	Width (in)	Height (in)	Weight (lbs)
SLIM WALL PACK	7.3	4.9	7.8	6.5



Catalog #	Type
Project	
Comments	
Prepared by	

**Ordering Guide**

<b>SLMWPKC</b>	<b>3A</b>	<b>/</b>	<b>XOXX</b>	<b>UNX</b>	<b>D</b>	<b>8</b>	<b>SC2</b>	<b>/</b>	<b>BZ</b>	<b>X</b>
Product Name	Generation	Wattage	Voltage	Dimming	CRI	Selectable Color Temp	Color/Finish	Option		
SLMWPKC = SLIM WALL PACK	3A = Generation 3A	030 = 30W S030 = 10W/20W/30W S060 = 30W/45W/60W	UNH = 120-347V UNV = 120-277V	D = 0-10V dimming	8 = >80	SC2 = 3000K/4000K/5000K	BZ = Bronze Finish BL = Black Finish WH = White Finish	P = Photocell D = Daylight/Motion Sensor		

**Ordering Information**

Item Number	Ordering Abbreviation	Power (W)	Input Voltage (V)	Dimming	CRI	Color Temp.	Distribution	BUG Rating	Total Fixture Lumens	LPW	DLC	Options	MTO*
62878	SLMWPKC3A/S030UNHD8SC2/BZP	10/20/30W	120-347	0-10V	>80	3000K/4000K/5000K	Full Cutoff/Adjustable	B1U0G1	1400/2800/4200	140	5.1 Premium	Photocell	-
62879	SLMWPKC3A/S060UNHD8SC2/BZP	30/45/60W	120-347	0-10V	>80	3000K/4000K/5000K	Full Cutoff/Adjustable	B2U0G1	4200/6300/8400	140	5.1 Premium	Photocell	-
62880	SLMWPKC3A/030UNVD8SC2/BZP	30W	120-277	0-10V	>80	3000K/4000K/5000K	Full Cutoff/Adjustable	B1U0G1	3750	125	5.1 Premium	Photocell	-
63071	SLMWPKC3A/S030UNHD8SC2/BZD	10/20/30W	120-347	0-10V	>80	3000K/4000K/5000K	Full Cutoff/Adjustable	B1U0G1	1400/2800/4200	140	5.1 Premium	Daylight/Motion Sensor	MTO
63072	SLMWPKC3A/S060UNHD8SC2/BZD	30/45/60W	120-347	0-10V	>80	3000K/4000K/5000K	Full Cutoff/Adjustable	B2U0G1	4200/6300/8400	140	5.1 Premium	Daylight/Motion Sensor	MTO
63839	SLMWPKC3A/S030UNHD8SC2/BLP	10/20/30W	120-347	0-10v	>80	3000K, 4000K, 5000K	Full Cutoff/Adjustable	B1U0G1	1400/2800/4200	140	5.1 Premium	Photocell	PTO
63840	SLMWPKC3A/S030UNHD8SC2/WHP	10/20/30W	120-347	0-10v	>80	3000K, 4000K, 5000K	Full Cutoff/Adjustable	B1U0G1	1400/2800/4200	140	5.1 Premium	Photocell	PTO
63841	SLMWPKC3A/S060UNHD8SC2/BLP	30/45/60W	120-347	0-10v	>80	3000K, 4000K, 5000K	Full Cutoff/Adjustable	B2U0G1	4200/6300/8400	140	5.1 Premium	Photocell	-
63842	SLMWPKC3A/S060UNHD8SC2/WHP	30/45/60W	120-347	0-10v	>80	3000K, 4000K, 5000K	Full Cutoff/Adjustable	B2U0G1	4200/6300/8400	140	5.1 Premium	Photocell	-

\*Made To Order

**Optional Microwave Sensor Information**

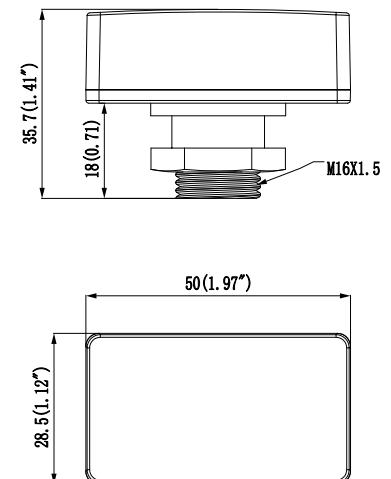
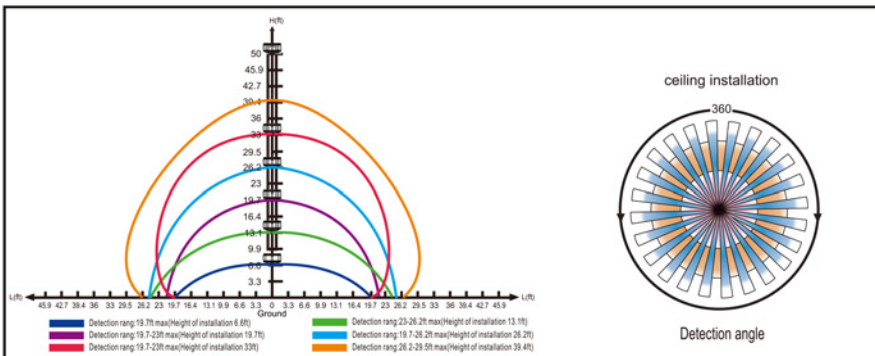
The natural light threshold, hold time and stand by dimming level can be adjusted with the remote control. If motion is detected and the natural light level is lower than the threshold, the light will turn on. Light will turn off after the stand by period is completed.



**SPECIFICATIONS**

Power supply	12V-24V DC
HF S stem	5.8GHz±75MHz
Dim control output	0-10V, max. 25mA sinkin current
Detection radius/an le	Max 26ft. 8m /360 0
Mounting height	Max 40ft
Remote range	50ft. (15m) indoor, no backlight
Humidity	Max. 95% RH
Temperature	-40 0 F - 158 0 F (-40 0 C - 70 0 C)

**SENSOR COVERAGE**

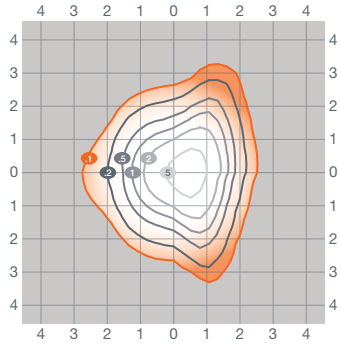


## Accessories

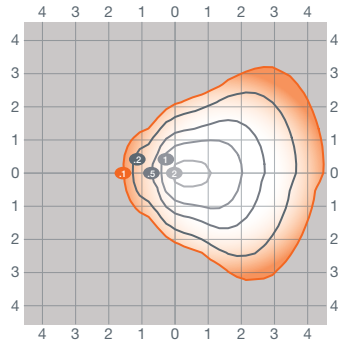
Item Number	Ordering Abbreviation	Description
62298	SMWLPK2AREMOTE	Daylight sensor remote

## Photometric Information

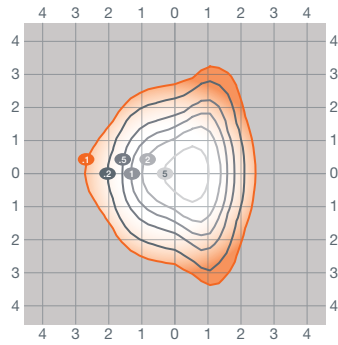
**SLIMWP2AS30UNH-15FT**



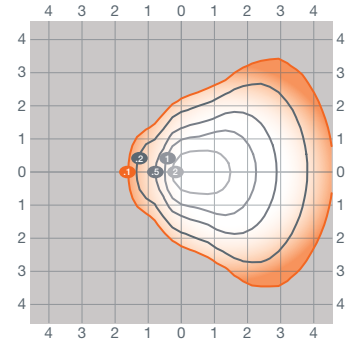
**SLIMWP2AS30UNH-20FT with 30° tilt**



**SLIMWP2AS60UNH-20FT**



**SLIMWP2AS60UNH-25FT with 30° tilt**



LEDVANCE LLC  
 181 Ballardvale Street, Suite 203  
 Wilmington, MA 01887 USA  
 Phone 1-800-LIGHTBULB (1-800-544-4828)  
[www.ledvanceUS.com](http://www.ledvanceUS.com)

LEDVANCE is a registered trademark. All other trademarks are those of their respective owners. Specifications subject to change without notice.



SCAN TO FOLLOW US  
ON SOCIAL MEDIA





# LEDVANCE LUMINAIRES

## DUAL SELECTABLE WALL PACK

TYPE: NLED-WP120

LEDVANCE LUMINAIRE SPECIFICATION DATA

Catalog #	Comments
Project	
Type	
Prepared by	

PERFORMANCE CLASS™



### APPLICATION

The LEDVANCE PERFORMANCE CLASS DUAL SELECTABLE WALL PACK features both wattage and CCT selectability in a modern and exclusive LEDVANCE design. Using the same size/form factor footprint in an LED version; no patching, painting or repair work is needed as it covers the older existing fixture foot print perfectly. With 15 different lumen packages in only 5 SKUs, this Wall Pack 9A has all your lighting projects covered. In addition to its integrated photocell, it offers a field installable plug & play motion/daylight sensor.

### BENEFITS & FEATURES

- Up to 150 LPW
- Selectable color temperature: 3000K, 4000K, or 5000K
- CRI>80
- Selectable wattage and lumens:
  - 15/25/29W | 2,250/3,000/4,350 lm
  - 20/30/40W | 3,000/4,500/6,000 lm
  - 35/45/60W | 5,250/6,750/9,000 lm
  - 50/65/80W | 7,500/9,750/12,000 lm
  - 85/100/120W | 12,750/15,000/18,000 lm
- DLC 5.1 Premium Listing assures high energy efficiency and qualifies this product for utility rebates
- Field installable motion/daylight sensor
- Integrated photocell
- Glass Lens



LEDLUM193R3 5-24

## ELECTRICAL

- 120-347 VAC
- Power Factor > 0.9
- THD < 20%
- Dimmable 0-10V
- Surge protection 6kV

## RATED LIFE

- 100,000 hours (L<sub>70</sub>)  
@ 25°C ambient

## OPERATING TEMPERATURE

- -40°F to +122°F (-40°C to +50°C)

## CERTIFICATIONS & LISTINGS

- cULus listed to UL1598 standards
- RoHs
- FCC
- IP65, wet location rated
- DLC 5.1 Premium

## WARRANTY

- 5 year
- NLB Trusted Warranty Program

## INSTALLATION

- Wall mount

## ORDERING GUIDE

WALPAKN	9A	SXXX	XXX	D	8	SCX	BZ	X
PRODUCT NAME	GENERATION	WATTAGE	VOLTAGE	DIMMING	CRI	COLOR TEMPERATURE	COLOR/FINISH	OPTIONS
WALPAKN = WALL PACK NON-CUTOFF	9A = GENERATION 9A	S029 = 15/20/29W S040 = 20/30/40W S060 = 35/45/60W S080 = 50/65/80W S120 = 85/100/120W	UNH = 120-347V HUV = 277-480V	D = 0-10V Dimming	80 = >80 CRI	SC2 = 3000/4000/5000K	BZ = Bronze	P = Photocell E = Emergency

## ORDERING INFORMATION

ITEM #	ORDERING ABBREVIATION	WATTAGE (W)	INPUT VOLTAGE (V)	DIM. (V)	CRI	COLOR TEMP (CCT)	TOTAL FIXTURE (LM)	DLC	LPW	OPTIONS	BUG RATING
63763	WALPAKN9AS029UNHD8SC2BZP	15/20/29	120-347	0-10V	>80	3000/4000/5000	2250/3000/4350	5.1 Prem	Up to 150	Photocell	B1-U3-G3
63929	WALPAKN9AS029UNHD8SC2BZPE	15/20/29	120-347	0-10V	>80	3000/4000/5000	2250/3000/4350	5.1 Prem	Up to 150	Photocell/ Emergency	B1-U3-G3
63764	WALPAKN9AS040UNHD8SC2BZP	20/30/40	120-347	0-10V	>80	3000/4000/5000	3000/4500/6000	5.1 Prem	Up to 150	Photocell	B1-U3-G3
63930	WALPAKN9AS040UNHD8SC2BZPE	20/30/40	120-347	0-10V	>80	3000/4000/5000	3000/4500/6000	5.1 Prem	Up to 150	Photocell/ Emergency	B1-U3-G3
63765	WALPAKN9AS060UNHD8SC2BZP	35/45/60	120-347	0-10V	>80	3000/4000/5000	5250/6750/9000	5.1 Prem	Up to 150	Photocell	B1-U4-G4
65864	WALPAKN9AS060HUV8SC2BZP	35/45/60	277-480	0-10V	>80	3000/4000/5000	5250/6750/9000	5.1 Prem	Up to 150	Photocell	B1-U4-G4
63931	WALPAKN9AS060UNHD8SC2BZPE	35/45/60	120-347	0-10V	>80	3000/4000/5000	5250/6750/9000	5.1 Prem	Up to 150	Photocell/ Emergency	B1-U4-G4
63766	WALPAKN9AS080UNHD8SC2BZP	50/65/80	120-347	0-10V	>80	3000/4000/5000	7500/9750/12000	5.1 Prem	Up to 150	Photocell	B1-U4-G5
65865	WALPAKN9AS080HUV8SC2BZP	50/65/80	277-480	0-10V	>80	3000/4000/5000	7500/9750/12000	5.1 Prem	Up to 150	Photocell	B1-U4-G5
63932	WALPAKN9AS080UNHD8SC2BZPE	50/65/80	120-347	0-10V	>80	3000/4000/5000	7500/9750/12000	5.1 Prem	Up to 150	Photocell/ Emergency	B1-U4-G5
63767	WALPAKN9AS120UNHD8SC2BZP	85/100/120	120-347	0-10V	>80	3000/4000/5000	12750/15000/18000	5.1 Prem	Up to 150	Photocell	B2-U5-G5
63928	WALPAKN9AS120HUV8SC2BZP	85/100/120	277-480	0-10V	>80	3000/4000/5000	12750/15000/18000	5.1 Prem	Up to 150	Photocell	B2-U5-G5
63933	WALPAKN9AS120UNHD8SC2BZPE	85/100/120	120-347	0-10V	>80	3000/4000/5000	12750/15000/18000	5.1 Prem	Up to 150	Photocell/ Emergency	B2-U5-G5

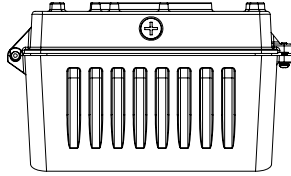
## PHYSICAL INFORMATION

LUMINAIRE DESCRIPTION	LENGTH IN (MM)	WIDTH IN (MM)	HEIGHT IN (MM)	WEIGHT LB (KG)
29W	10.7 (271.4)	8.3 (211)	6.3 (160)	5.7 (2.6)
40W/60W/80W	14.4 (365.4)	9.3 (237)	6.3 (160)	7.5 (3.4)
120W	17.9 (454.4)	9 (229)	6.3 (160)	11 (5.0)

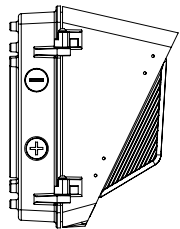
## PHYSICAL INFORMATION (continued)

29W

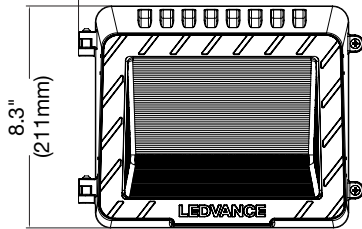
Top View



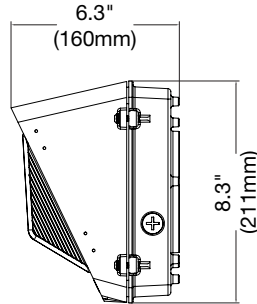
10.7"  
(271.4mm)



Side View



Front View

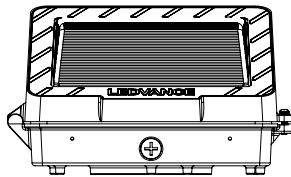


6.3"  
(160mm)

Side View

8.3"  
(211mm)

8.3"  
(211mm)



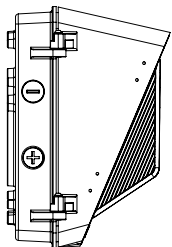
Bottom View

40-80W

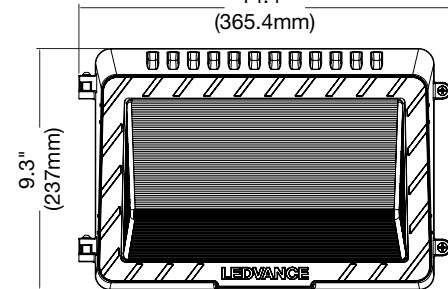
Top View



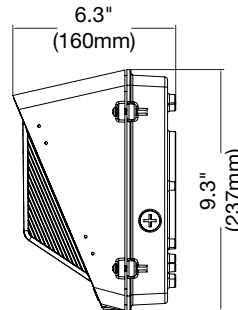
14.4"  
(365.4mm)



Side View



Front View

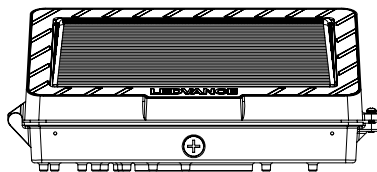


6.3"  
(160mm)

Side View

9.3"  
(237mm)

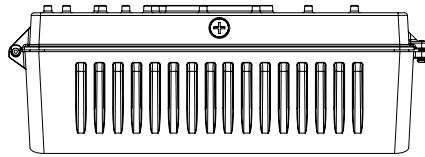
9.3"  
(237mm)



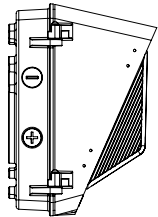
Bottom View

## PHYSICAL INFORMATION (continued)

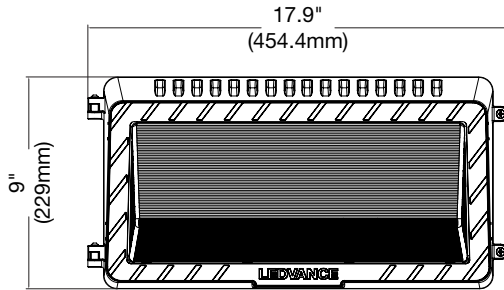
120W



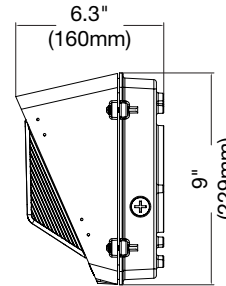
Top View



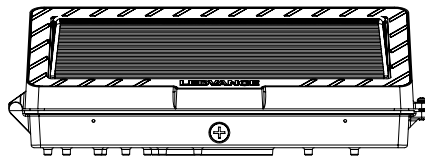
Side View



Front View



Side View



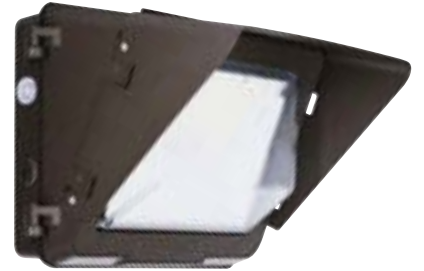
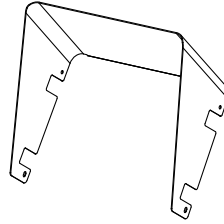
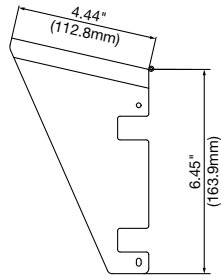
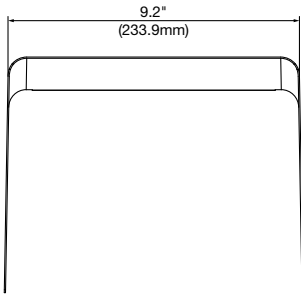
Bottom View

## ACCESSORIES

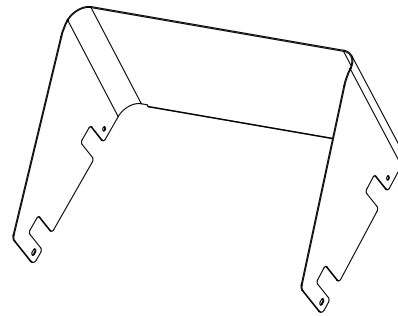
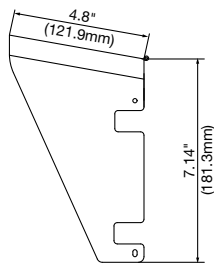
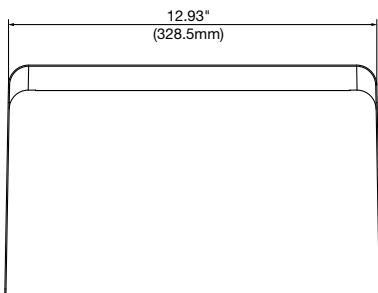
ITEM #	ORDERING ABBREVIATION	ITEM DESCRIPTION
<b>Visors</b>		
63922	WALPAKN9ASMVISORBZ	Small Visor, Bronze (29W)
63923	WALPAKN9AMEDVISORBZ	Medium Visor, Bronze (40/60/80W)
63924	WALPAKN9ALRGVISORBZ	Large Visor, Bronze (120W)
<b>Wire Guards</b>		
63925	WALPAKN9ASMALLWGAL	Small Wire Guard, Aluminum (29W)
63926	WALPAKN9AMEDWGAL	Medium Wire Guard, Aluminum (40/60/80W)
63927	WALPAKN9ALRGWGAL	Large Wire Guard, Aluminum (120W)
<b>Sensors</b>		
63958	WALPAKN9ASENSORADAPTOR	Daylight/Motion Sensor Adaptor
63748	AREA/PIRMOTIONDAYSENSOR/BZ	Field installable PIR Motion/Daylight Sensor, IP65, Max. mounting height 39ft, Bronze
65732	AREA/MWMOTIONDAYSENSOR/BZ	Field installable Microwave Motion/Daylight Sensor, IP65, Max. mounting height 49ft, Bronze
62664	HIGHBAYPIRMOTIONDAYSENSOR2	Field installable PIR Motion/Daylight Sensor, IP65, Max. mounting height 39ft, White
65622	HIGHBAYMOTIONDAYSENSOR	Field installable Microwave Motion/Daylight Sensor, IP65, Max. mounting height 49ft, White
65623	REMOTE/MOTIONDAY/001	Remote control for Motion/Daylight Sensors – Remote is required to change default settings

## VISOR ACCESSORIES: PHYSICAL INFORMATION

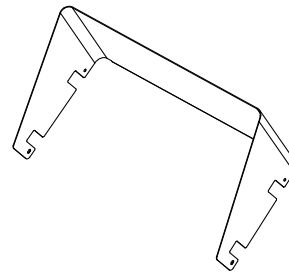
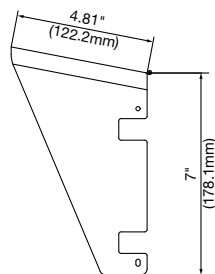
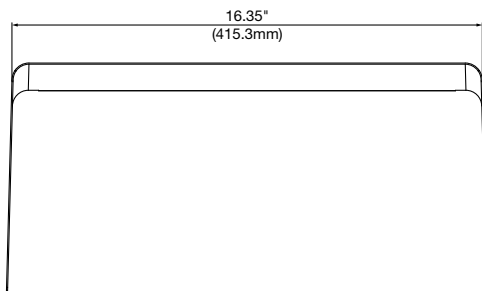
### SMALL VISOR



### MEDIUM VISOR

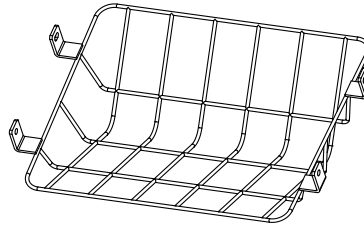
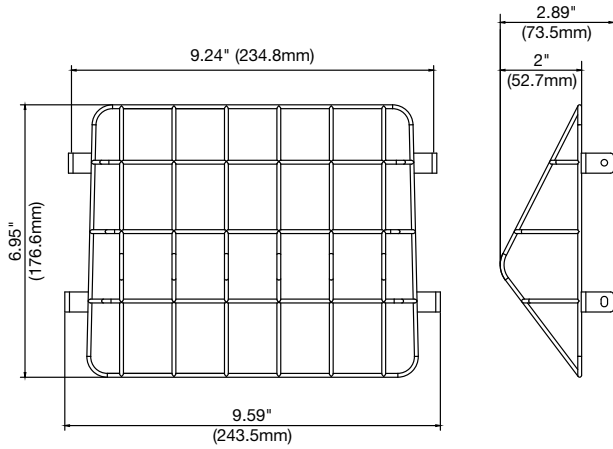


### LARGE VISOR

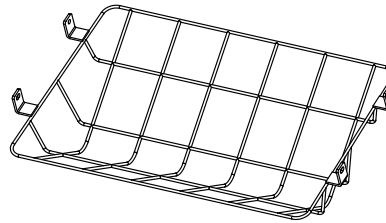
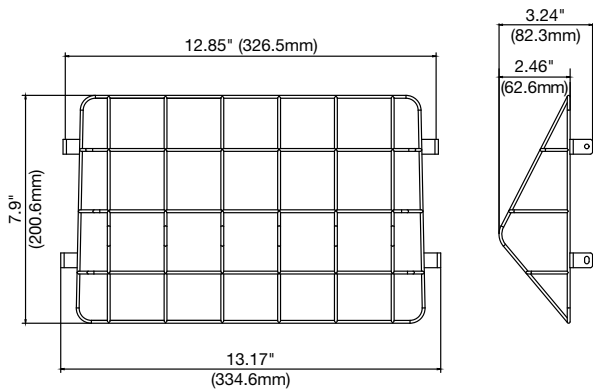


## WIRE GUARD ACCESSORIES: PHYSICAL INFORMATION

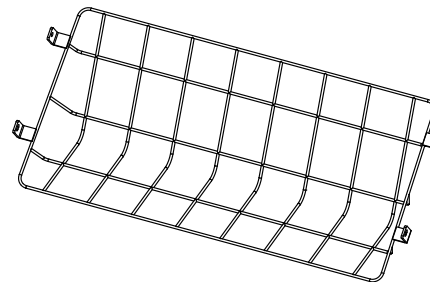
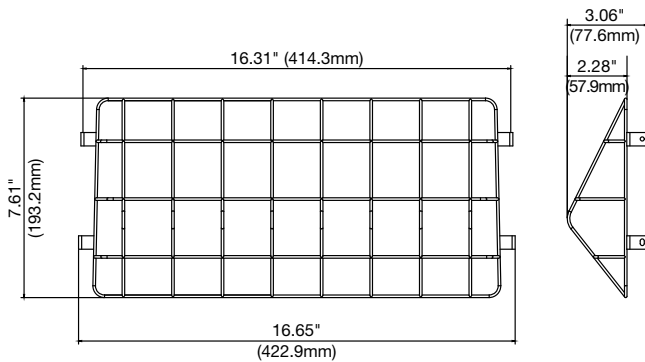
### SMALL WIRE GUARD



### MEDIUM WIRE GUARD

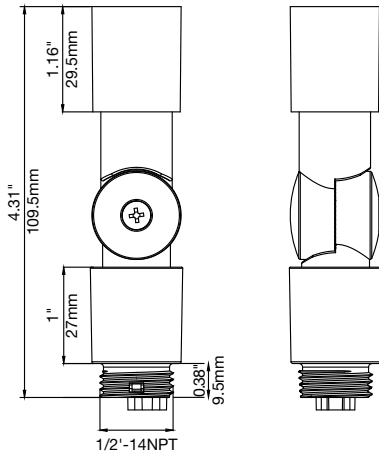
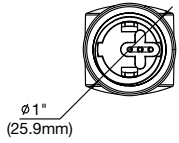


### LARGE WIRE GUARD



## SENSOR ADAPTOR

63958



### OPTIONAL MOTION/DAYLIGHT SENSOR DEFAULT SETTINGS:

- Detection Area: 100%
- Hold time – Time fixtures stays at 100% after last motion before dimming: 10 minutes
- Daylight threshold – Light level above which lights will remain off: 50 Lux
- Stand-by period – Time light remains dimmed before shutting off: 60 minutes
- Stand-by Dimming – dimming level of light during the stand-by period: 30%



**MOTION SENSOR**  
Bronze: 63748/65732  
White: 62664/65622



**REMOTE**  
(65623)

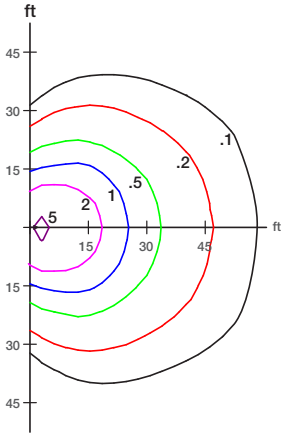
### BATTERY INFORMATION:

- Type: LiFePO4
- Standby power: 1.5W max.
- Charging time: 24h min.
- Charging power: 4W max.
- Power in Emergency Mode: 8W

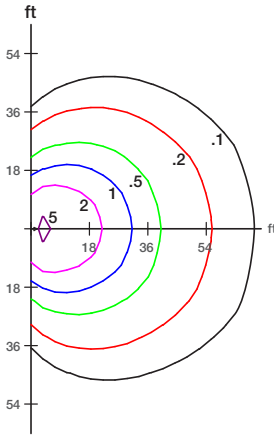
# PHOTOMETRIC INFORMATION

## HORIZONTAL ISO FOOT-CANDLE PLOT

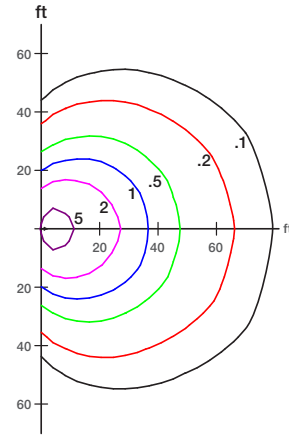
29W luminaire mounted at 15ft



40W luminaire mounted at 18ft



60W luminaire mounted at 20ft

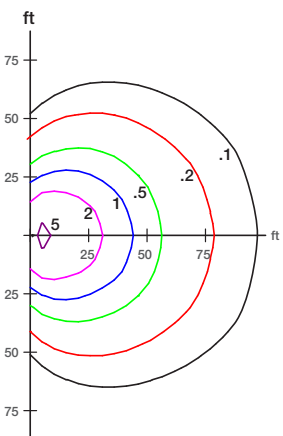


<b>MOUNTING HEIGHT (FT)</b>	8	10	12	15	18	20
<b>MULTIPLIER</b>	3.52	2.25	1.56	1.00	0.69	0.56

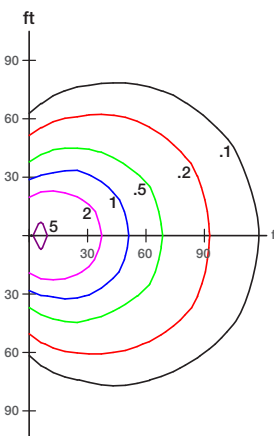
<b>MOUNTING HEIGHT (FT)</b>	12	15	18	20	22	25
<b>MULTIPLIER</b>	2.25	1.44	1.00	0.81	0.67	0.52

<b>MOUNTING HEIGHT (FT)</b>	15	18	20	22	25	30
<b>MULTIPLIER</b>	1.78	1.23	1.00	0.83	0.64	0.44

80W luminaire mounted at 25ft



120W luminaire mounted at 30ft



<b>MOUNTING HEIGHT (FT)</b>	18	20	22	25	30	35
<b>MULTIPLIER</b>	1.93	1.56	1.29	1	0.69	0.51

<b>MOUNTING HEIGHT (FT)</b>	20	22	25	30	35	40
<b>MULTIPLIER</b>	2.25	1.86	1.44	1	0.73	0.56

- Multiply the footcandle levels in the diagram according to the desired installation height
- Each tick on the diagram represents a multiple of the mounting height from the fixture





LEDVANCE LLC  
181 Ballardvale Street, Suite 203  
Wilmington, MA 01887 USA  
Phone 1-800-LIGHTBULB (1-800-544-4828)  
www.ledvanceUS.com

LEDVANCE is a registered trademark.  
All other trademarks are those of their respective owners.  
Specifications subject to change without notice.



SCAN TO FOLLOW US  
ON SOCIAL MEDIA

# PASSIVE INFRARED WALL SWITCH OCCUPANCY SENSOR

WS-301

Defaults to Manual-ON operation for maximum energy savings

180° coverage, maximum of 900 ft<sup>2</sup>

Shallow (1") back housing and flying leads for easy installation

Built-in light level sensor



Optional neutral connection with break off tab to expose neutral terminals

120/240/277 VAC and 347 VAC models

Button provides positive tactile feedback

## DESCRIPTION

The WS-301 Passive Infrared (PIR) Wall Switch Sensor turns lighting or fan loads on and off based on occupancy and ambient light level. The sensor replaces existing wall switches and fits behind a standard decorator wall plate.

## OPERATION

The WS-301 senses the difference between infrared energy from a human body in motion and the background space to turn on lighting automatically when occupancy is detected. After a user-specified length of time when no occupancy is detected, lighting automatically switches off. The sensor can also be used with line voltage switches for multi-level lighting.

## APPLICATIONS

The WS-301 is great for retrofit projects and has the flexibility to work in a variety of applications including offices, conference rooms, break rooms and utility rooms. Energy savings for these areas can be as high as 60% since lighting will no longer remain on once the room is vacant. With a competitive price, low installation cost, and high energy savings, paybacks are usually well under two years.

The WS-301 120/240/277v model uses a blue and white signal wire to connect to neutral or, in cases of retrofit or replacement when no neutral is present, can be connected to ground. The WS-301-347 model has a plastic tab that covers neutral screw terminals; once the sensor is connected to neutral it complies with all codes that restrict current leakage to ground.

## FEATURES

- Complies with 2017 NEC requirements (WS-301)
- Zero crossing circuitry reduces stress on the relay and results in increased sensor life
- Adjustable time delay and sensitivity
- Custom two-tier Fresnel lens enhances detection at the desktop level
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Light level sensor holds lights off when ambient lighting is above the preset level
- Patented voltage drop protection
- For safety, there is no leakage to load in the off mode and sensor is safety grounded
- LED indicates occupancy detection
- BAA/TAA-compliant models available

PROJECT

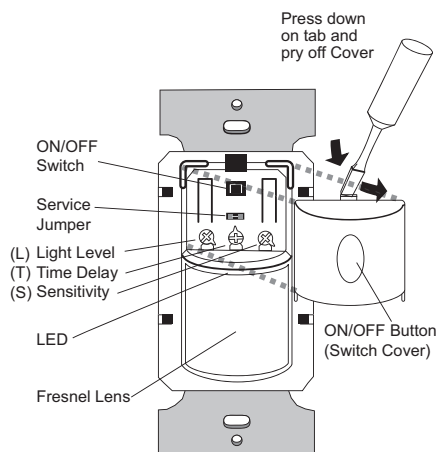
LOCATION/  
TYPE

## SPECIFICATIONS

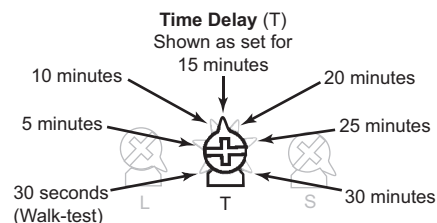
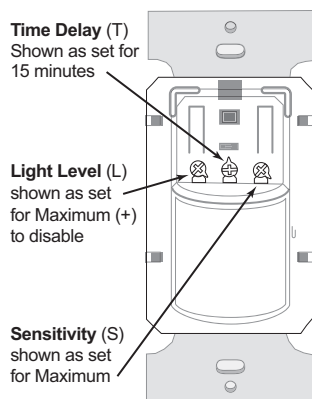
- WS-301: 120/240/277VAC; 50/60Hz, 1/4 hp
  - @ 120VAC, 0-1000W ballast, LED, and tungsten
  - @ 240/277VAC, 0-1200W ballast and LED
- WS-301-347: 347VAC; 50/60Hz, 1/4 hp; 0-1500W ballast and LED
- Time delay adjustable from 30 seconds up to 30 minutes
- Adjustable light level setting of 10 to 200 footcandles (107.6 to 2,153 lux)
- Adjustable sensitivity from 20% to 100%
- Coverage: Major motion 35' x 30'  
Minor motion 20' x 15'
- Dimensions (L x W x D): 2.68" x 1.75" x 1.04" (68mm x 44mm x 27mm)
- UL and cUL listed
- Five year warranty

## CONTROLS & SETTINGS

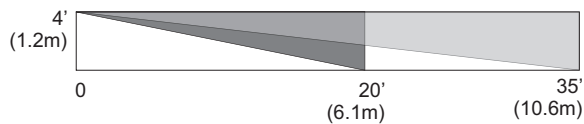
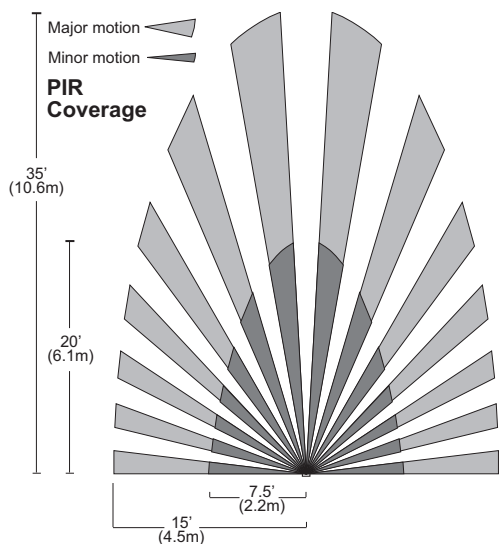
### Product Controls



### Settings



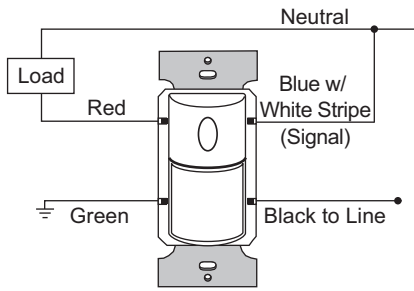
## COVERAGE PATTERNS



For best performance, Legrand recommends using this sensor in spaces no larger than 15' x 12'.

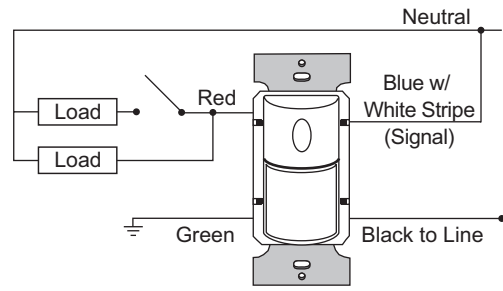
WIRING

WS-301



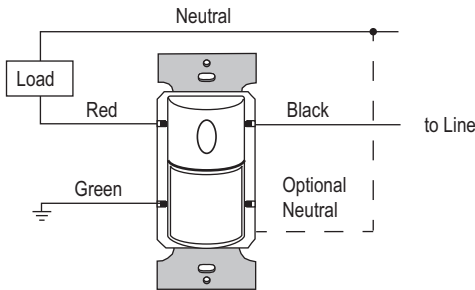
Single-level wiring

Signal wire connects to neutral. Signal wire can connect to ground in replacement or retrofit application

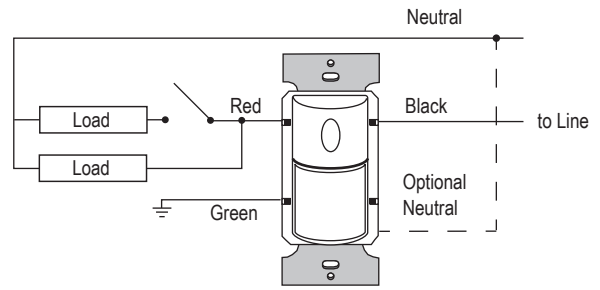


Manual bi-level lighting wiring

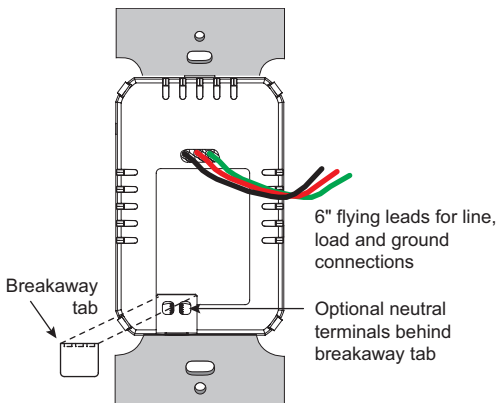
WS-301-347



Single-level wiring



Manual bi-level lighting wiring



Simple optional neutral connection allows installation in any 2-wire or 3-wire application. When used in a multi-way application, all devices in that space must be wired using the same method of either with neutral or without neutral.

**ORDERING INFORMATION**

Catalog #		Color		Voltage	Load Rating
<input type="checkbox"/>	WS-301-W	White	PIR Wall Switch Occupancy Sensor	120VAC; 50/60Hz  or  240/277VAC; 50/60Hz	@ 120VAC: 0-1000W ballast, LED, tungsten; 1/4 hp motor  or  @ 240/277VAC: 0-1200W ballast, LED; 1/4 hp motor
<input type="checkbox"/>	WS-301-LA	Light Almond			
<input type="checkbox"/>	WS-301-I	Ivory			
<input type="checkbox"/>	WS-301-G	Gray			
<input type="checkbox"/>	WS-301-B	Black			
<input type="checkbox"/>	WS-301-R	Red			
<input type="checkbox"/>	WS-301-W-U	White	PIR Wall Switch Occupancy Sensor, BAA/TAA compliant*		
<input type="checkbox"/>	WS-301-I-U	Ivory			
<input type="checkbox"/>	WS-301-347-W	White	PIR Wall Switch Occupancy Sensor	347VAC; 50/60Hz	0-1500W ballast, LED; 1/4 hp motor
<input type="checkbox"/>	WS-301-347-LA	Light Almond			
<input type="checkbox"/>	WS-301-347-I	Ivory			
<input type="checkbox"/>	WS-301-347-G	Gray			
<input type="checkbox"/>	WS-301-347-B	Black			
<input type="checkbox"/>	WS-301-347-R	Red			

\* BAA/TAA compliant. Product is compliant with Buy American Act and Trade Agreement Act  
Order wall plate separately.

# DUAL TECHNOLOGY WALL SWITCH OCCUPANCY SENSOR

DSW-301

High sensitivity and dense coverage for exceptional performance

Allows multi-way control from one of up to four control locations

Color-matched lens and low profile for appealing design



120/240/277 VAC and 347 VAC models

Defaults to Manual-ON operation for maximum energy savings

## DESCRIPTION

The DSW-301 dual technology wall switch sensor turns lights OFF and ON based on occupancy. It combines the benefits of passive infrared (PIR) and ultrasonic detection technologies. The DSW-301 replaces existing wall switches and fits behind a standard decorator wall plate.

## OPERATION

Once the lights are ON, detection by either technology holds lights ON until occupancy is no longer detected and the time delay elapses. Factory default operation is for Manual-ON, so that users must turn lights on. DIP switch settings allow for a variety of control options including Auto-ON operation, walkthrough and test mode. In Auto-ON mode, the DSW-301 can be programmed to turn lighting on when both the PIR and Ultrasonic technologies detect occupancy or when the PIR sensor detects occupancy. Additional DIP switch settings allow the user to choose which sensing technologies hold ON or retrigger the lighting. Multiple sensors may be used for control of one or more loads from up to four locations.

## COMPATIBLE WITH 2 WIRE OR 3 WIRE CONNECTIONS

Any DSW-301 sensor can be used for a two-wire or three wire application, either to work with existing wiring, or to meet local or national code requirements. DSW-301 120/240/277v model uses a blue and white signal wire to connect to neutral or, in cases of retrofit or replacement when no neutral is present, can be connected to ground. The DSW-301-347 model has a plastic tab that covers neutral screw terminals; once the sensor is connected to neutral it complies with all codes that restrict current leakage to ground.

## APPLICATIONS

The DSW-301 sensor is great for retrofit projects and Wattstopper's dual technology has the flexibility to work in a variety of applications where one technology alone may not be sufficient. Common applications include small and executive offices, small and medium conference rooms, small classrooms and lunch/break rooms. In addition, dual technology sensors are the perfect choice for ADA-compliant buildings due to lower mounting height requirements.

## FEATURES

- Complies with 2017 NEC requirements
- Zero-crossing for long relay life
- Vandal resistant lens combines precise coverage with durability
- Selectable walk-through mode turns lights off three minutes after initial occupancy if no motion is detected after the first 30 seconds
- Test mode allows quick and easy adjustments
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- Selectable audible alert for impending shutoff
- Four occupancy logic options to customize control to meet application needs
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- BAA/TAA-compliant models available

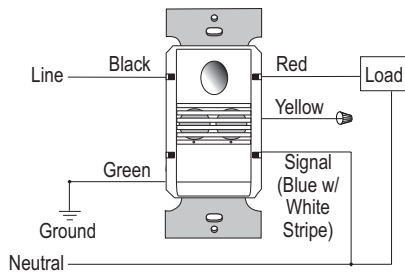
PROJECT

LOCATION/  
TYPE

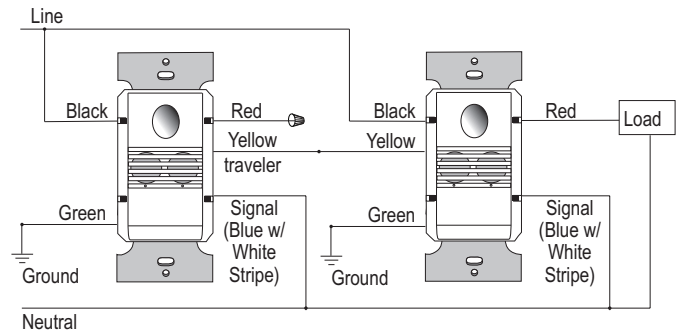


## WIRING

### DSW-301

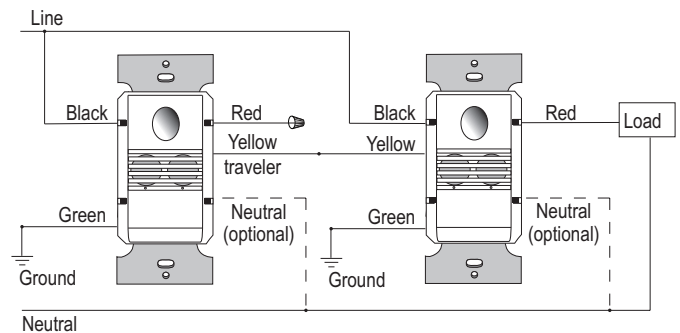
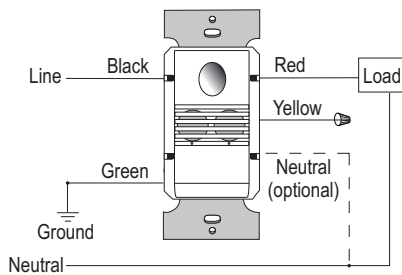


Signal wire connects to neutral. Signal wire can connect to ground in replacement or retrofit application



**Multi-way Wiring**  
(up to 4 sensors)

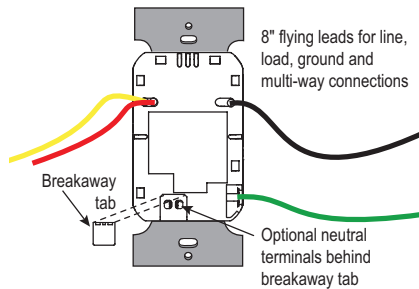
### DSW-301-347



**Multi-way Wiring**  
(up to 4 sensors)

Note: For multi-way wiring, All units should be on the same phase

Simple optional neutral connection allows installation in any 2-wire or 3-wire application. When used in a multi-way application, all devices in that space must be wired using the same method of either with neutral or without neutral.



## ORDERING INFORMATION

Catalog #		Color	Voltage	Load Rating
<input type="checkbox"/>	DSW-301-W	White	120VAC; 50/60Hz or 240/277VAC; 50/60Hz	@ 120VAC, 0-1000W ballast, LED, tungsten, 1/4 hp or @ 240/277VAC 0-1200W ballast, LED, 1/4 hp
<input type="checkbox"/>	DSW-301-W-U	White		
<input type="checkbox"/>	DSW-301-LA	Light Almond		
<input type="checkbox"/>	DSW-301-I	Ivory		
<input type="checkbox"/>	DSW-301-G	Gray		
<input type="checkbox"/>	DSW-301-B	Black		
<input type="checkbox"/>	DSW-301-R	Red		
<input type="checkbox"/>	DSW-301-347-W	White	347VAC; 50/60Hz	0-1500W ballast & LED, 1/4 hp

Order wall plate separately.

-U = BAA/TAA-compliant models available. Product is compliant with Buy American Act and Trade Agreement Act

25984r6 Rev 08/2024



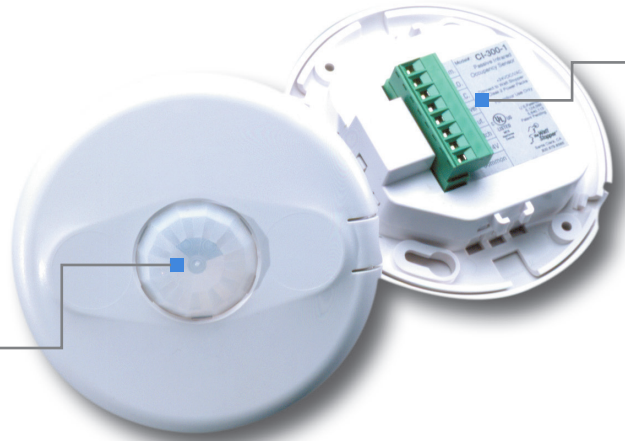
# PASSIVE INFRARED LOW VOLTAGE CEILING SENSORS

CI-300/CI-305

Architecturally appealing  
low-profile appearance

Automatic or manual-on  
operation when used with a  
BZ-150 Power Pack

360° coverage



Plug terminal wiring for  
quick and easy installation

Accepts low-voltage switch  
input for manual-on operation

Walk-through mode increases  
savings potential



## DESCRIPTION

Wattstopper's CI-300 Passive Infrared (PIR) Ceiling Sensors automatically turn lighting on and off based on occupancy. The sensor mounts on the ceiling with a flat, low-profile appearance and provides 360 degrees of coverage.

## OPERATION

CI-300 Series Sensors operate on 24 VDC, VAC or halfwave rectified. Utilizing the latest PIR technology, they automatically turn lighting on when a difference is detected between infrared energy from a human body in motion and the background space. When no occupancy is detected for the length of the time delay, lighting automatically turns off. For manual-on operation, the CI-300 will operate with a low-voltage momentary switch.

## TIME DELAY OPTIONS

The CI-300 is factory set for a 20 minute time delay, ideal for both energy savings and user satisfaction in most applications. Installers can quickly select other fixed time delays (5, 10, 15 or 30 minutes) via DIP switches. Fixed time delays eliminate the occupant dissatisfaction associated with an automatically adjusted time delay option, and reduce callbacks. Walk-through mode may be enabled for added energy savings in spaces with frequent transient traffic.

## APPLICATIONS

CI-300 Series Sensors have the flexibility to work in a variety of applications that include open office spaces, computer rooms, conference rooms, classrooms and warehouses. Areas with high ceilings or with two-level lighting can also be controlled. The convenient mounting system keeps installation costs down to speed up the product's payback.

## FEATURES

- Advanced control logic based on RISC micro-controller provides:
  - Detection Signature Processing to eliminate false triggers and provide immunity to RFI and EMI
  - Walk-through Mode turns lights off three minutes after the area is initially occupied — ideal for brief visits such as mail delivery
  - Built-in light level sensor featuring simple, one-step setup
- LED indicates occupancy detection
- DIP switch simplifies sensor adjustments
- CI-300 Series Sensors work with low-voltage momentary switches for manual control
- Clip-mounting system simplifies ceiling tile installation
- Plug terminal wiring system for quick and easy installation
- Available with isolated relay for integration with BAS or HVAC
- Sensor coverage tested to NEMA Guide Publication WD 7-2000

PROJECT

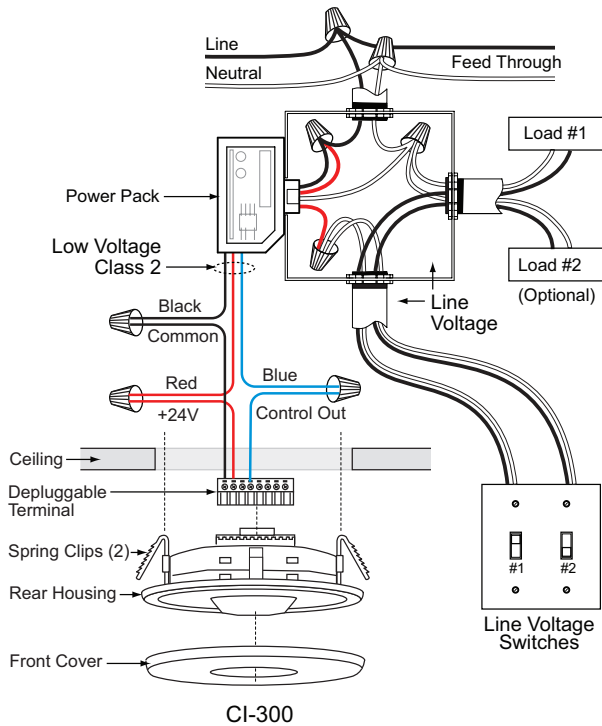
LOCATION/  
TYPE

## SPECIFICATIONS

- 24 VDC/VAC
- Time delays: 5, 10, 15, 20, or 30 minutes, walk-through, test mode
- Sensitivity adjustment: PIR (high/low)
- Multilevel Fresnel lens provides 360° coverage
- CI-300 contains isolated relay with N/O and N/C outputs; rated for 1 Amp at 30 VDC/VAC
- CI-300 built-in light level sensor: 10 to 300 footcandles (107.6 to 3,229.2 lux)

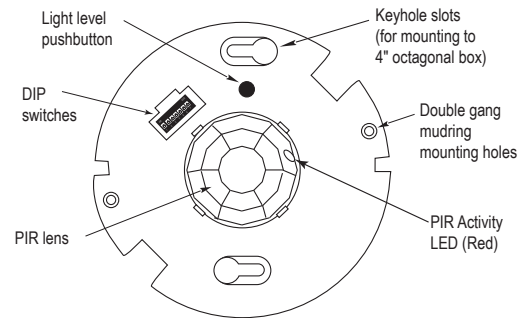
- Mounting options: ceiling tile; 4" square junction box with double-gang mud ring
- Max. CI-300s per BZ-xxx power pack: 8  
Max. CI-305s per BZ-xxx power pack: 14
- Dimensions: 4.5" x 1.02" (114.3mm x 25.9mm) diameter x depth
- UL and cUL listed
- Five year warranty

## WIRING & MOUNTING



## CONTROLS & SETTINGS

### Product Controls



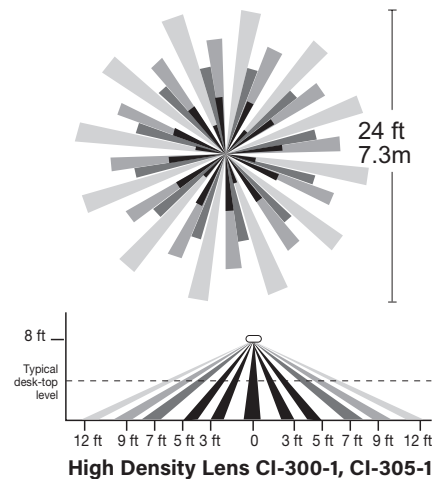
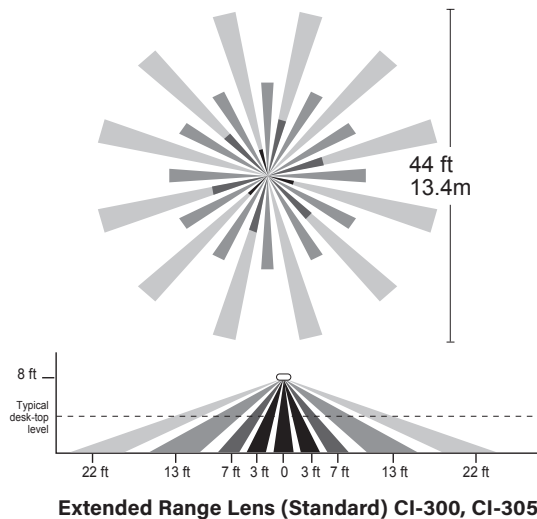
### DIP Switch Settings

	Switch#		
	1	2	3
Time Delay	1	2	3
Test Mode/20 min	↓ ↓ ↓		
30 seconds	↓ ↓	↑	
5 minutes	↑	↑	↑
10 minutes	↓ ↓	↑	↑
15 minutes	↑ ↓	↑	↑
20 minutes	↑	↑	↑
25 minutes	↑ ↑	↑	↑
30 minutes	↑ ↑	↑	↑
Walk-Through	4		
Enabled	↑		
Disabled	↓	◀	
PIR Sensitivity	5		
Minimum	↑		
Maximum	↓	◀	
Service		6	
Service		↑	
Normal		↓	◀
On Mode		7	
Manual On		↑	
Auto On		↓	

◀ = Factory Setting  
 ↑ = ON  
 ↓ = OFF

## COVERAGE

### Coverage Patterns



## ORDERING INFORMATION

Catalog #		Voltage	Current	Coverage	Features
<input type="checkbox"/>	CI-300	24 VDC	20 mA	360°; up to 1200 ft <sup>2</sup> (111.5 m <sup>2</sup> )	Isolated relay, light level
<input type="checkbox"/>	CI-300-1	24 VDC	20 mA	360°; up to 500 ft <sup>2</sup> (46.5 m <sup>2</sup> )	Isolated relay, light level
<input type="checkbox"/>	CI-305	24 VDC	9 mA	360°; up to 1200 ft <sup>2</sup> (111.5 m <sup>2</sup> )	
<input type="checkbox"/>	CI-305-1	24 VDC	9 mA	360°; up to 500 ft <sup>2</sup> (46.5 m <sup>2</sup> )	

Sensors are white.

# LOW VOLTAGE DUAL TECHNOLOGY CEILING SENSORS

## DT-300 SERIES

Architecturally appealing low-profile appearance

Walk-through mode increases savings potential

Ultrasonic diffusers give more comprehensive coverage



Plug terminal wiring for quick and easy installation

Accepts low-voltage switch input for manual-on operation

Supports automatic or manual-on operation



### DESCRIPTION

The DT-300 Series Dual Technology Ceiling Sensors combine the benefits of passive infrared (PIR) and ultrasonic technologies to detect occupancy. Sensors have a flat, unobtrusive appearance and provide 360 degrees of coverage.

### OPERATION

Low voltage DT-300 Series sensors utilize a Wattstopper power pack to turn lights on when both PIR and ultrasonic technologies detect occupancy. They can also work with a low voltage switch for manual-on operation. PIR technology senses motion via a change in infrared energy within the controlled area, whereas ultrasonic uses 40KHz high frequency ultrasound. Once lights are on, detection by either technology holds them on. When no occupancy is detected for the length of the time delay, lights turn off. DT-300 Series Sensors can also be set to trigger lights on when either technology or both detect occupancy, or to require both technologies to hold lighting on.

### TIME DELAY OPTIONS

The DT-300 is factory set for a 20 minute time delay, ideal for both energy savings and user satisfaction in most applications. Installers can quickly select other fixed time delays (5, 10, 15 or 30 minutes) via DIP switches. Fixed time delays eliminate the occupant dissatisfaction associated with an automatically adjusted time delay option, and reduce callbacks. Walk-through mode may be enabled for added energy savings in spaces with frequent transient traffic.

### APPLICATIONS

DT-300 Series Dual Technology Sensors have the flexibility to work in a variety of applications, where one technology alone could cause false triggers. Ideal applications include classrooms, open office spaces, large offices and computer rooms. The DT-300 Series mounting system makes them easy to install in ceiling tiles or to junction boxes, providing the flexibility to be used in a wide range of spaces.

### FEATURES

- Advanced control logic based on RISC micro-controller provides:
  - Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
  - Walk-through mode turns lights off three minutes after the area is initially occupied – ideal for brief visits such as mail delivery
- Available with built-in light level sensor featuring simple, one-step setup
- Patented ultrasonic diffusion technology spreads coverage to a wider area
- LEDs indicate occupancy detection
- Sensors work with low-voltage momentary switches to provide manual control
- Uses plug terminal wiring system for quick and easy installation
- Eight occupancy logic options provide the ability to customize control to meet application needs
- Available with isolated relay for integration with BAS or HVAC
- BAA/TAA-compliant models available
- Sensor coverage tested to NEMA Guide Publication WD 7-2000

PROJECT

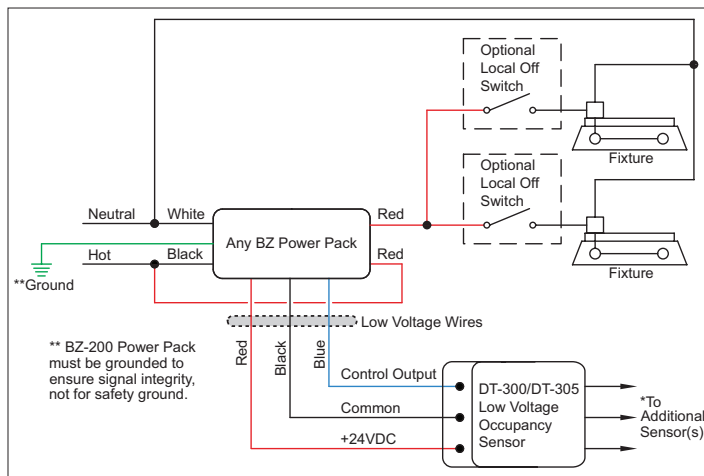
LOCATION/  
TYPE

## SPECIFICATIONS

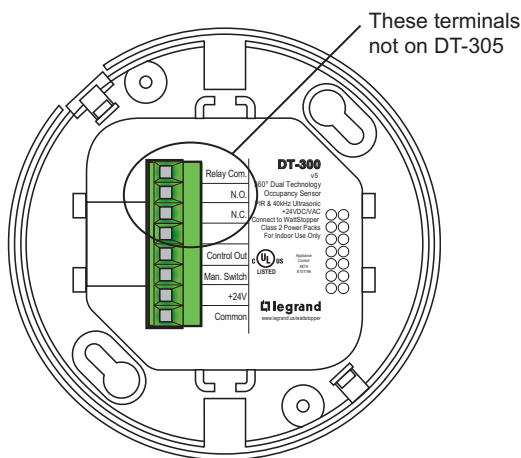
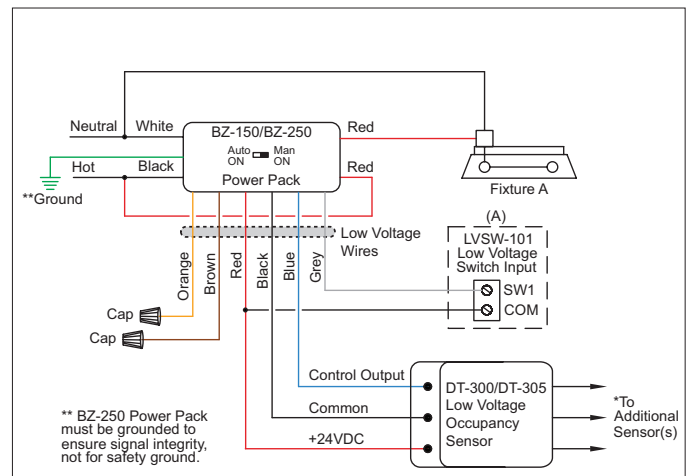
- 18–28 VDC/VAC
- Current Consumption @24VDC/VAC
  - DT-300: 25mA (DC)/74mA (AC)
  - DT-305: 16mA (DC)/69mA (AC)
- Ultrasonic frequency: 40kHz
- Time delays: 5, 10, 15, 20, or 30 minutes, Walk-through/Test Modes
- Sensitivity adjustment: High/low (PIR); variable with trim pot (ultrasonic)
- Built-in light level sensor: 10 to 300 footcandles (107.6 to 3,229.2 lux)
- Multi-level Fresnel lens provides 360° coverage
- Low-voltage, momentary switch input for manual on or off operation
- DT-300 contains an isolated relay with N/O and N/C outputs; rated for 1 Amp @ 30 VDC/VAC
- Mounting options: ceiling tile; 4" octagonal J-box, 1.5" deep
- Max DT-300s per BZ power pack: 6
- Max DT-305s per BZ power pack: 7
- Dimensions: 4.50" diameter x 1.02" deep (114.3mm x 25.9mm)
- UL and cUL listed
- Five year warranty

## WIRING

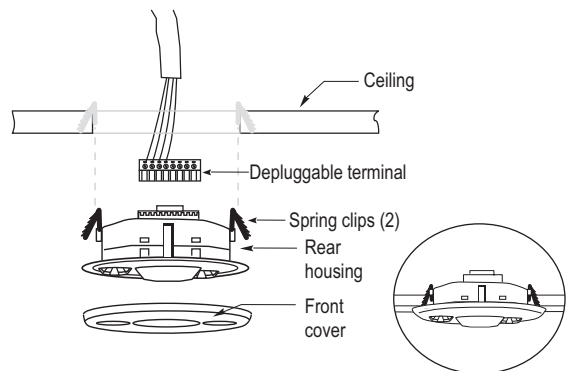
Standard wiring with two local off switches



Manual-On wiring with low voltage momentary switch

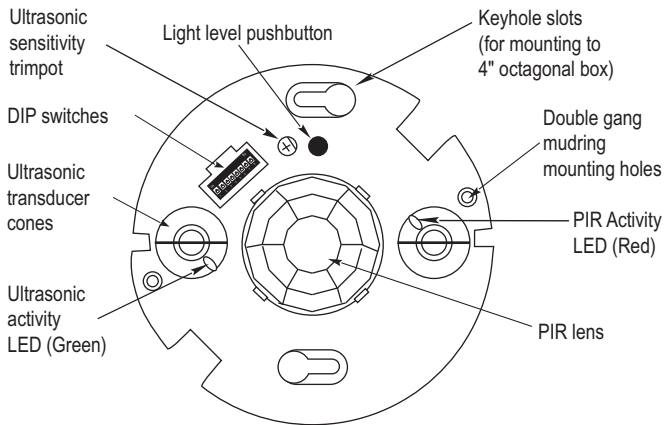


## MOUNTING



## CONTROLS & SETTINGS

### Product Controls



### DIP Switch Settings

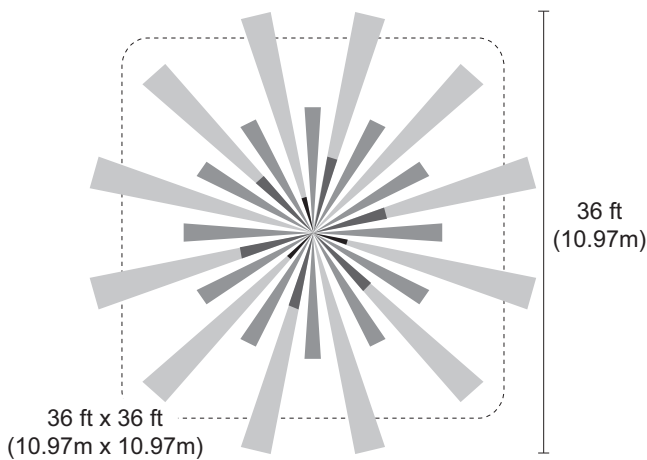
Feature	Switch#
Time Delay	1 2 3
Test Mode/20 min	↓ ↓ ↓
30 seconds	↓ ↓ ↑
5 minutes	↓ ↓ ↓
10 minutes	↓ ↑ ↑
15 minutes	↑ ↓ ↓
20 minutes	↑ ↓ ↓
25 minutes	↑ ↑ ↓
30 minutes	↑ ↑ ↑
Walk-Through	4
Enabled	↑
Disabled	↓ ◀
PIR Sensitivity	5
Minimum	↑
Maximum	↓ ◀

Occupancy Logic	Settings	6	7	8
Standard		↑	↓	↓
Option 1		↑	↓	↓
Option 2		↓	↑	↓
Option 3		↑	↑	↓
Option 4		↓	↑	↑
Option 5		↑	↑	↑
Option 6		↑	↑	↑
Option 7		↑	↑	↑

Occupancy Logic	Trigger	Initial Occupancy	Maintain Occupancy	Re-trigger (seconds duration)
Standard	Both	Either	Either	(5)
Option 1	Either	Either	Either	(5)
Option 2	PIR	Either	Either	(5)
Option 3	Both	PIR	Both	(5)
Option 4	PIR	PIR	PIR	(5)
Option 5	Either	PIR	Either	(5)
Option 6	Man.	Either	Either	(30)
Option 7	Man.	PIR	Both	(30)

◀ = Factory Setting  
 ↑ = ON  
 ↓ = OFF

## COVERAGE



Coverage shown is maximum and represents half-step walking motion. Under ideal conditions, coverage for half-step walking motion can reach up to 1000 ft<sup>2</sup>.

The control technology (occupancy logic) is selectable. The default setting requires both technologies to trigger on, either to hold on, and is recommended for most applications.

## ORDERING INFORMATION

Catalog #	Voltage	Current	Coverage	Features
<input type="checkbox"/> DT-300	24VDC/VAC	25mA (DC)/ 74mA (AC)	up to 1000 ft <sup>2</sup> (92.9 m <sup>2</sup> )	Isolated relay, light level
<input type="checkbox"/> DT-300-U				
<input type="checkbox"/> DT-305	24VDC/VAC	16mA (DC)/ 69mA (AC)	up to 1000 ft <sup>2</sup> (92.9 m <sup>2</sup> )	
<input type="checkbox"/> DT-300-5-U				

Sensors are white and use Wattstopper power packs. Current consumption can be slightly higher when only one sensor per power pack is used.

-U = BAA/TAA compliant; product is compliant with Buy American Act and Trade Agreement Act

# **C13-16-25 - Tender for General Contractor for the Supply and Installation of new Energy Efficient LED Lighting at various City Yards and Municipal Service Centres**

Opening Date: December 31, 9999 11:59 PM

Closing Date: March 27, 2025 3:00 PM

---

**\*\*\* IMPORTANT \*\*\***

**Bidders are advised to review and confirm their bids&tenders™ 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	
Subtotal:		

**Summary Table**

Bid Form	Amount
Cost of Work	
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.		