ST. CLAIR CATHOLIC
DISTRICT SCHOOL BOARD
Lighting the Way ~ Rejoicing in Our Journey

ADDENDUM # 001

St. Clair Catholic District School Board

Our Lady of Fatima
545 Baldoon Rd
Chatham, ON

General Renovations and Addition for Mechanical Equipment
Phase III

Project No. 619-CP1902

Prepared by:

Wilson Diaz Architects Inc.
280 Queens Ave, Suite 1Q
London, Ontario
N6B 1X3

April 6th. 2019

This addendum forms part of the Contract Bid Documents and amends the original drawings and specifications issued for Bid on February 19th. 2019.

TABLE OF CONTENTS

PART A – GENERAL

1.1 MANDATORY SITE VISIT REVIEW/QUESTIONS

At the beginning of the meeting, the SCCDSB and WDAI emphasized that the Site Visit is a MANDATORY visit. The Board therefore, will only receive offers from the contractors listed below:

Our Lady of Fatima Catholic School - Mandatory Site Visit List

Company	Name of Representative	Email
K&L Construction	Kevin Johnson	estimating@kandlconstruction.com
Elgin Contracting	Brad Rule	info@elgincontracting.com
D Grant Construction	Adam Wilken	swillis@dgrantconstruction.com
Vince Ferro Construction LTD.	Brian Miles	vferro@mnsi.net
Accuratus Design Build	Koohyar Tahnasebpour	justin@accuratusdesignbuild.com
Elmara	Colin Stass	colinst@elmira.com
Norlon Construction	Rick Fargnoli	norlon@norlon.ca
Elric Contractors	David Pollard	elriccontractor@gmail.com
Alliance	Don Dykeman	dond.alliance@gmail.com
Bill Hoekstra General Contracting	Bill Hoekstra	info@bh-gc.com
Aveiro Constructors	Christy Aveiro	estimating@aveiroconstructors.com
Intrepid Construction	Paul Kulin	paulk@intrepidgeneral.ca
TCI Construction	Naveenchander Arni	Estimator@tciwindsor.com

Project Scope Discussion:

-Renovation to select areas in school ceiling areas to install new mechanical equipment and sprinkler systems, new lighting and electrical in classrooms, hallways and school entrances.
-New mechanical room addition @ rear of school to house fluid cooler unit.
-New exterior wall assembly consisting of new membrane, spray foam insulation, Limestone base, brick masonry and corrugated metal siding finishes to the extent shown on drawings.
-New exit corridor through middle of the school, and close in of existing corridor.
-Parapets will be bumped up to new height.
-Site and utility works as shown on drawings
-Separate price for new exterior pole lighting.

Please consult drawings and specifications for full extent of work to be completed in this phase.

Questions, comments and discussion from General Contractors:

a. Question:
Who is responsible for submitting and paying for the building permit?
Answer:
The architect has submitted for building permit. Refer to bid documents for payment responsibility.

b. Question:
What will the working hours be once school resumes?
Answer:
This project is to be completed over 2-month period, mobilizing to the site June 28th. and ending August 28th. Refer to Instructions to Bidders Section 1.11 Timing of Project for further details. Any subsequent outstanding work will be done afterhours (evenings and weekends). Work in the mechanical room may continue during regular working hours provided that all activities are within the mechanical room area.

c. Question:
Please clarify the reuse of ceiling tile and track in the classrooms?
Answer:
The classrooms, upon completion of all above ceiling work will be completed with new track and new tile. During demolition, tile is to be carefully removed and stored to later be reinstalled in the corridor ceilings.

d. Question:
What areas will receive new finishes?
Answer:
New finishes are noted on drawings Room 142, 144, 144A and new corridor CR7.

e. Question:
There are, I believe, three new distribution panels required, but I do not see any panel schedules in the prints. Will they be issued?

Answer:
Refer to Mechanical and Electrical Addendum as part of this document.

f. Question:
Also, as a point of clarification, are the classroom modules supplied and populated by others, and installed and wired by division 16 (electrical contractor)?
Answer:
The classroom modules are supplied and installed by the contractor (millwork subcontractor). All devices and wiring is coordinated, supplied and installed by Division 16. Refer to cash allowances for additional information and instructions.

PART B – SPECIFICATIONS

1. Refer to Bid Form – Page 3
Add under Division 8 – Doors and Windows
Section 08 11 00 – Aluminum Doors and Frames 13 Pages

PART C – ARCHITECTURAL DRAWINGS

1. Refer to Drawing A402 – Details 11 and 12.
Revise notes to read "New door and frame"

2. Replace Drawing A010 with attached drawing A010 revised.

3. Replace Drawing A100 with attached drawing A100 revised.

4. Replace Drawing A150 with attached drawing A150 revised.

ARCHITECTURAL SKETCHES

RESERVED

PART D – STRUCTURAL DRAWINGS

RESERVED

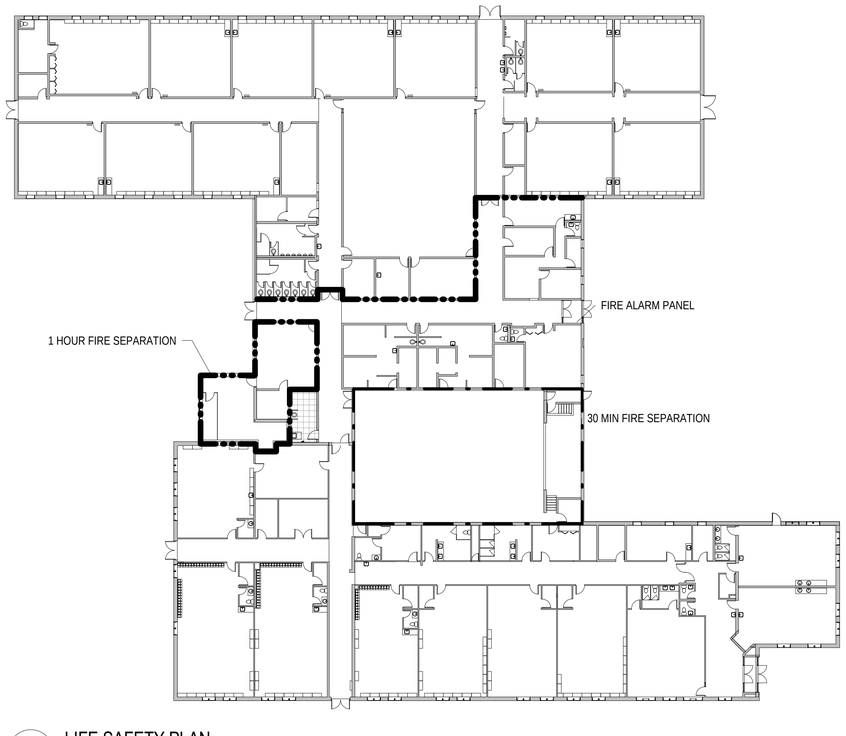
PART E – MECHANICAL / ELECTRICAL DRAWINGS

1. Refer to attached Addendum No. 1 issued by Chorley + Bisset
   Mechanical Specifications & Electrical Specifications **24 Page(s)**
   Reissued Drawings M710 and E100, 2 Page(s) included in above page count

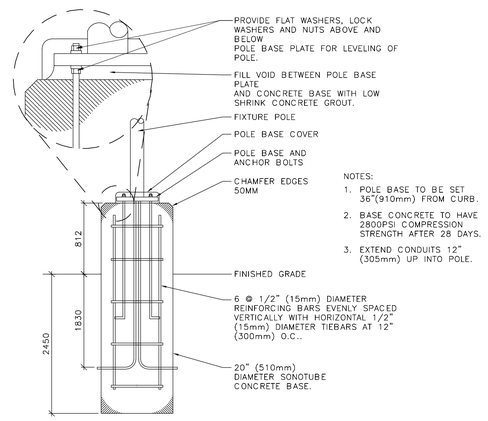
PART F – CIVIL AND SITE WORK DRAWINGS

RESERVED

END OF ADDENDUM # 001



1 A010 LIFE SAFETY PLAN
1 : 300

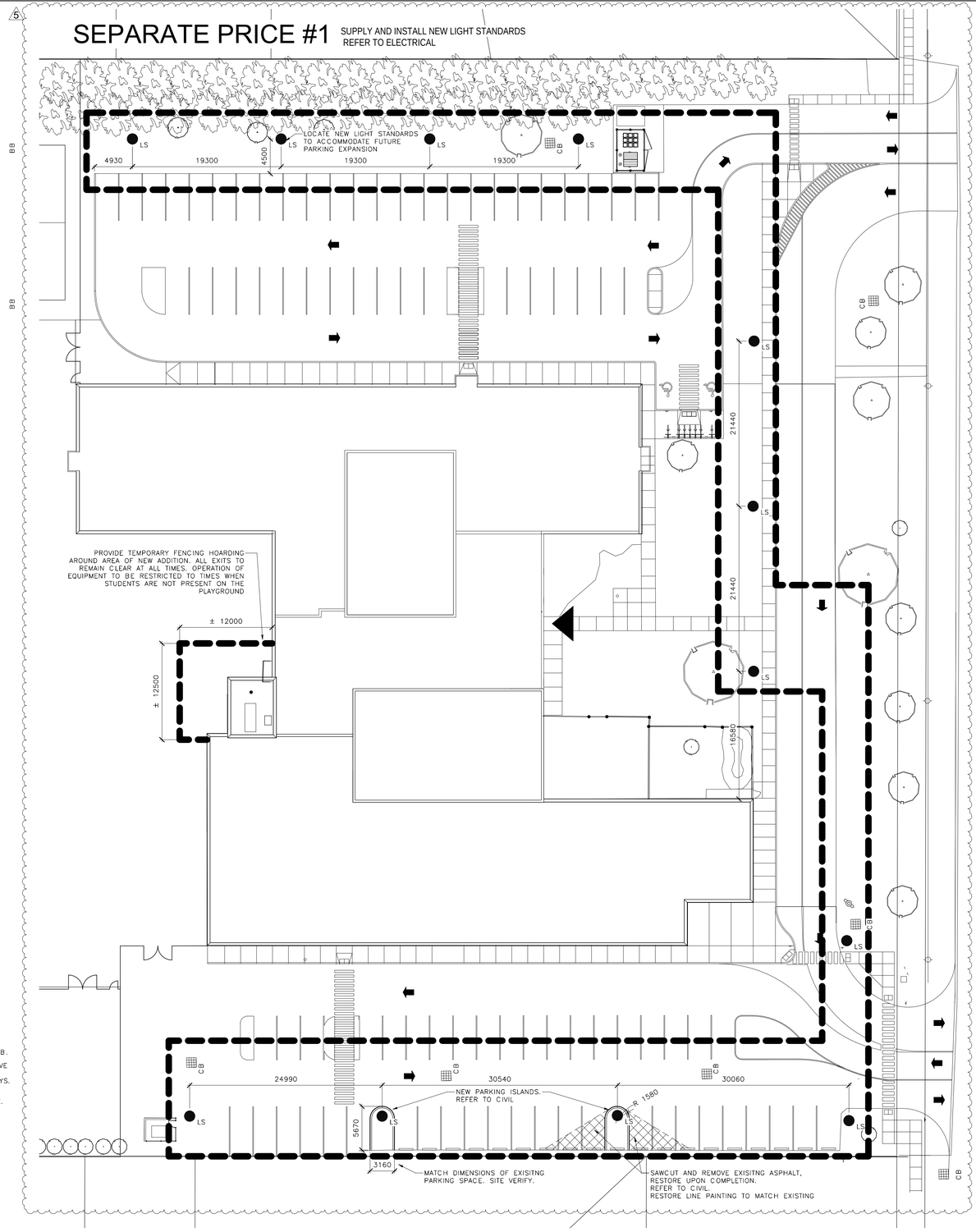


3 A010 TYPICAL LIGHT STANDARD DETAIL
1 : 20

5

SEPARATE PRICE #1

SUPPLY AND INSTALL NEW LIGHT STANDARDS
REFER TO ELECTRICAL



4 A010 SITE PLAN
1 : 300

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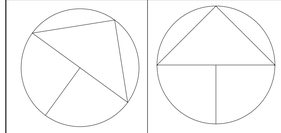
KEY PLAN



NOTES

LEGEND

- 30 MINUTE FIRE SEPARATION
- 45 MINUTE FIRE SEPARATION
- 1 HOUR FIRE SEPARATION

Date	Description	No.
03/06/2019	ADDENDUM 001	5
03/05/2019	ISSUED FOR ADDENDUM 001	5
02/25/2019	ISSUED FOR PERMIT	4
02/19/2019	ISSUED FOR TENDER	3
12/11/2018	ISSUED FOR REVIEW	2
10/18/2018	ISSUED FOR REVIEW	1

PROJECT TITLE
OUR LADY OF FATIMA PHASE 3 RENEWAL

DRAWING TITLE
LIFE SAFETY PLAN
SITE PLAN

DATE	DRAWN BY	DRAWING No.
10/18/2018	MFPU	A010
SCALE: As indicated	CHECKED BY: RW	
PROJECT No.: 1819		

1 AD100 DEMOLITION PLAN PH 3
1 : 150

DEMOLITION NOTES:

1 REMOVE EXISTING WALLS AS INDICATED ON THE DRAWINGS. CONSTRUCTION TYPE MAY VARY FROM EXTERIOR MASONRY ON CONCRETE BLOCK BACKUP TO INTERIOR CONCRETE BLOCK AND/OR DRYWALL PARTITIONS. REMOVE MECHANICAL AND ELECTRICAL COMPONENTS / DEVICES (BACK TO SOURCE) ANCHORED TO OR CONCEAL WITHIN WALLS. PROVIDE ALL SHORING AND TEMPORARY SUPPORT REQUIRED TO MAKE EXISTING STRUCTURE SAFE. REFER TO DRAWINGS & SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

2 EXISTING DOOR, AND FRAME IF INDICATED, TO BE REMOVED. BOX, LABEL AND TURN OVER HARDWARE TO OWNER FOR FUTURE USE. WHERE FRAME IS REMOVED PREPARE OPENING TO RECEIVE NEW INFILL OR DOOR AND FRAME. REFER TO NEW CONSTRUCTION PLANS AND ELEVATIONS.

3 EXISTING PLUMBING FIXTURES TO BE REMOVED. REMOVE ALL EQUIPMENT, CAP & REMOVE SINKS, DRAINS, AND HARDWARE. REFER TO MECHANICAL AND ELECTRICAL FOR ADDITIONAL REQUIREMENTS. ONLY RETAIN FIXTURES FOR OWNERS' USE OR REUSE IN NEW CONSTRUCTION WHERE SPECIFICALLY NOTED. REPAIR AND MAKE GOOD ALL EXPOSED SURFACES.

4 REMOVE ALL CEILING TREATMENTS. TAKE CARE TO NOT DAMAGE LAY-IN ACOUSTIC TILE. SAFELY STORE TILE FOR LATER REUSE IN NEW LAT GRID. REMOVE & DISCARD ALL OTHER CEILING TREATMENTS SUCH AS GYPSUM BOARD, METAL FRAMING, SUPPORT HANGERS AND OTHER FIXTURES UNLESS NOTED OTHERWISE.

5 REMOVE EXISTING L.E.D. LIGHT FIXTURES. TURN OVER EXISTING LED BULB TO OWNER.

6 EXISTING FLOOR FINISHES AND WALL BASE TO BE REMOVED INCLUDING ALL ADHESIVES AND MORTAR DOWN TO EXISTING CONCRETE SLAB AND WALL BACKING BY MEANS OF GRINDING. PREPARE FLOOR SURFACE LEVEL TO WITHIN SPECIFIED TOLERANCES AND MAKE READY FOR NEW FINISHES. PROVIDE ANY AND ALL REMEDIAL WORK TO WALL BACKING WHERE BASE HAS BEEN REMOVED. REFER TO NEW CONSTRUCTION PLANS AND ELEVATIONS.

7 REMOVE & DISPOSE OF EXISTING EXTERIOR BRICK AND RIGID INSULATION BACK TO EXISTING CONC. BLOCK. WALL CONC. BLOCK STRUCTURE TO REMAIN. MAKE READY FOR NEW MASONRY.

8 REMOVE AND DISPOSE OF EXISTING WINDOW. PREPARE OPENING TO BE INFILLED WITH WALL CONSTRUCTION TO MATCH EXISTING.

9 CUT OPENING IN EXISTING CMU WALL FOR NEW DOOR OPENING. COORDINATE ROUGH OPENING SIZE WITH ARCHITECTURAL DRAWINGS AND DOOR SCHEDULE.

GENERAL NOTES:

A. REMOVE ALL WIRING FROM ELECTRICAL DEVICES THAT WILL BE REMOVED AND ALL REDUNDANT CONDUIT BACK TO NEAREST JUNCTION BOX THAT WILL REMAIN, AND MAKE SAFE. INSTALL METAL COVER PLATES OVER EXPOSED OPENINGS AND ELECTRICAL BOXES. REFER TO ELECTRICAL FOR ADDITIONAL REQUIREMENTS.

B. MAKE GOOD ALL AREAS AFFECTED BY REMOVALS – FLUSH TO ADJACENT SURFACE AND MATCH TO EXISTING FINISH.

C. DISPOSE OF ALL DESIGNATED SUBSTANCES TO THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION

D. ALL PIPING THAT IS TO BE REMOVED OR ABANDONED IS TO BE REMOVED BACK TO THE NEAREST JUNCTION AND CAPPED. REFER TO MECHANICAL FOR ADDITIONAL REQUIREMENTS.

E. NOTE ALL EXISTING ITEMS MAY NOT BE SHOWN ON THESE DRAWINGS. A CAREFUL REVIEW OF THE SITE IS REQUIRED TO DETERMINE THE FULL EXTENT OF THE WORK SHOWN, CONTACT ARCHITECT PRIOR TO BID CLOSE TO CONFIRM.

F. THE ARCHITECTURAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL PROJECT MANUALS, STRUCTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS. IN CASE OF DIFFERENCES BETWEEN CONSULTANTS' DOCUMENTS WITH RESPECT TO QUANTITY, SIZES OR SCOPE, THE GREATER SHALL APPLY.

G. PROVIDE PROTECTION FOR ALL FINISHES OR SERVICES TO REMAIN.

H. ALL WINDOWS FALLING WITHIN THE DEMOLITION AREA ARE TO HAVE THEIR COVERINGS, FITTINGS, AND MOUNTING HARDWARE REMOVED & RETURNED TO THE OWNER.

I. DEMOLITION NOTE REFERENCE NUMBERS, WHERE LOCATED ADJACENT TO A ROOM NAME/NUMBER APPLY TO THE ENTIRETY OF THE ROOM.

J. GENERAL CONTRACTOR IS TO ALLOW FOR THE SUPPLY AND INSTALLATION OF LOOSE LINTELS AS REQUIRED WHERE NEW OPENINGS ARE BEING CREATED OR WIDENED. REFER TO THE LOOSE LINTEL SCHEDULE PROVIDED ON THE DRAWINGS, OR PROVIDE ENGINEERING WHERE THERE ARE NO STRUCTURAL DRAWINGS OR SCHEDULE.

K. GENERAL CONTRACTOR IS REQUIRED TO REMOVE ALL REMAINING ADHESIVES ON WALLS WHERE COMMUNICATION BOARDS WERE REMOVED UNLESS BEING COVERED WITH NEW BOARDS. TYPICAL FOR ALL ROOMS AFFECTED BY WORK.

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KEY PLAN

TRUE NORTH

CONSTRUCTION NORTH

NOTES

LEGEND

SYMBOL	DESCRIPTION
1	DEMOLITION NOTE REFERENCE NUMBER
	AREA OF WORK N.I.C.
	ACT CEILING TILE TO BE REMOVED
	PORTION OF EXISTING WALLS TO BE REMOVED
	EXTERIOR MASONRY & INSULATION TO BE REMOVED
	EXISTING CONC. BLOCK TO REMAIN
	AREA OF CONCRETE FLOOR TO BE REMOVED FOR PLUMBING
	EXISTING DOOR & FRAME TO REMAIN
	EXISTING DOOR & FRAME TO BE REMOVED

Date	Description	No.
03/06/2019	ADDENDUM 001	5
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02/25/2019	ISSUED FOR PERMIT	4
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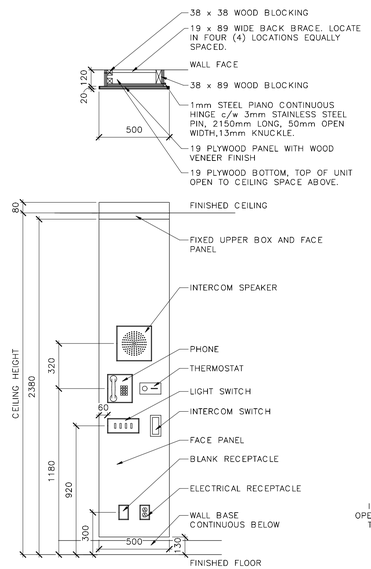
12/11/2018	ISSUED FOR REVIEW	2
10/18/2018	ISSUED FOR REVIEW	1

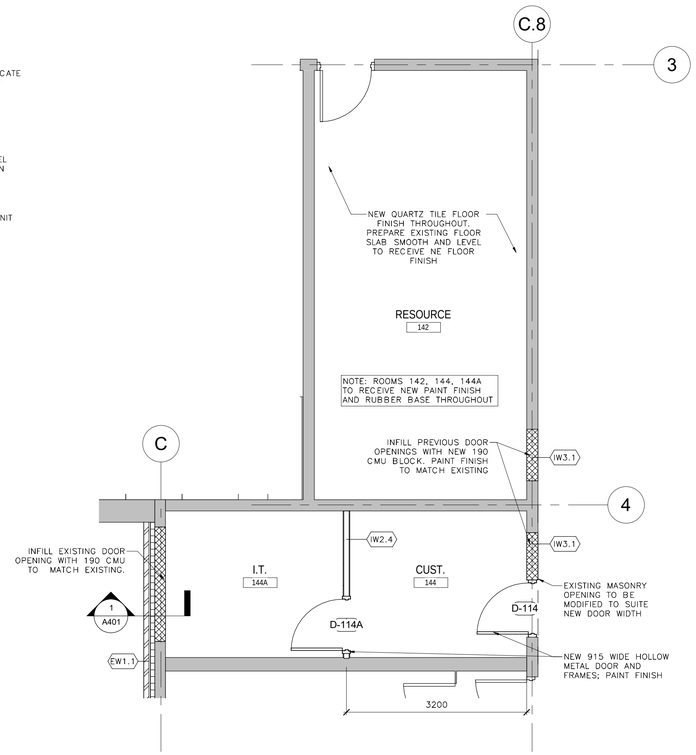
PROJECT TITLE
OUR LADY OF FATIMA PHASE 3 RENEWAL

DRAWING TITLE
DEMOLITION PLAN

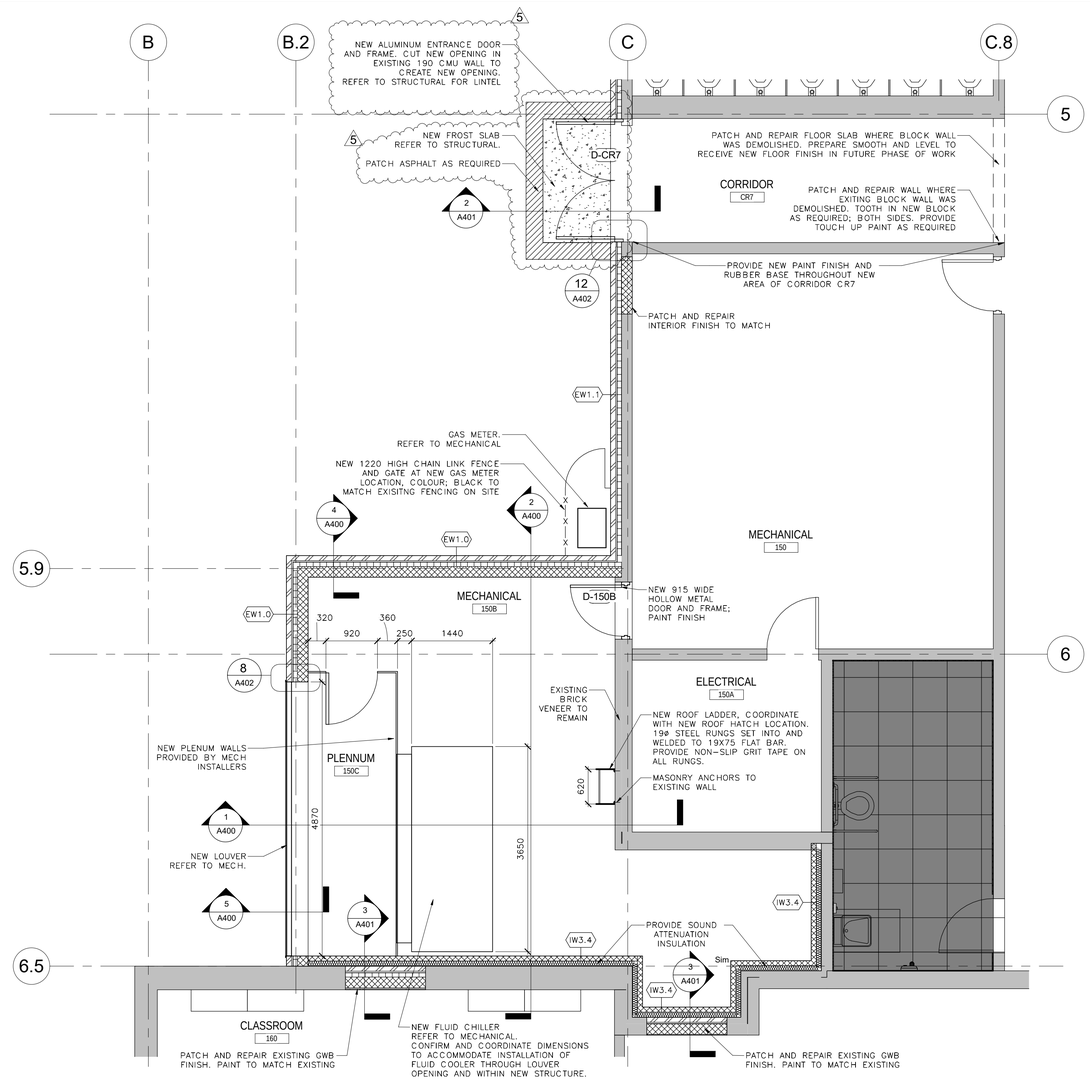
DATE	DRAWN BY	DRAWING No.
10/18/2018	MFPU	AD100
SCALE: As indicated	CHECKED BY: RW	
PROJECT No.: 1819		



3 / A150 TYPICAL CLASSROOM CONSOLE
1 : 20



2 / A150 ENLARGED I.T. CUSTODIAN AND RESOURCE ROOMS
1 : 50



1 / A150 ENLARGED MECHANICAL AND VESTIULE PLAN
1 : 50

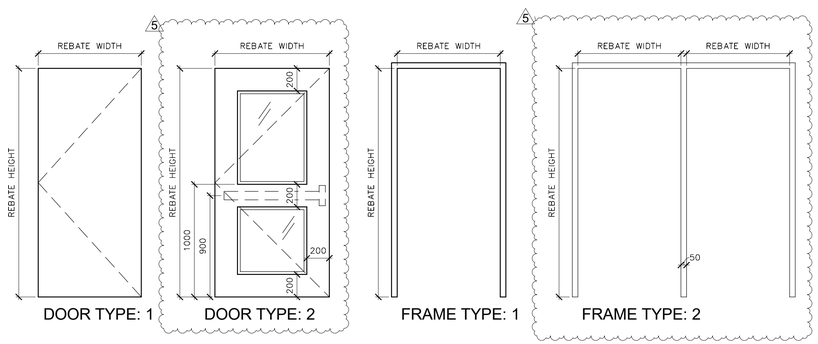
FINISH SCHEDULE

St. Clair Catholic District School Board

Our Lady of Fatima

Wilson Diaz Architects Incorporated — 2/20/2019

	TAG	MANUFACTURER	MATERIAL CODE	COLOUR	REMARKS
1a	QT	VERSA TILE	OPAL	Palm Spring	
2	P1	DULUX	50GY 83/010	White Wing A0128	Field colour, including bulkheads. Eggshell finish.
3	P2	DULUX	00NN 13/000	Obsidian Glass A2014	Door and window frames. Eggshell finish.
4	RB	ROPPE	PINNACLE	123-Charcoal	100mm high
5	ACT	ARMSTRONG	770 Cortega	White	24x48
6	SB	ADAIR	NSMU	Blue Grass Med. Dressed Vein	
7	BRK	ARRISCRAFT	CSBU	Blizzard	
8	SDING	VICWEST	18 Gauge 7/8" Corrugated Metal Siding	Charcoal	



4 / A150 DOOR AND FRAME TYPES
1 : 25

DOOR SCHEDULE - REV00 — **WDAI - 1819**

SCCDSB
Our Lady Of Fatima PH 3 Renewal
Wilson Diaz Architects Incorporated

CHANGES ARE HIGHLIGHTED, BOLD & ITALICIZED

Abbreviations

ALUM	Aluminum	**GL**	Glass	**PT**	Paint	**EX**	Existing	**STL**	Steel
HM	Hollow Metal	**TEMP**	1/4" Tempered	**STN**	Stain	**PL**	Lead Lined	**CRL**	C.R. Laurence
SS	Stainless Steel	**PGW**	Polished Georgian Wired	**ANOD**	Clear Anodized	**COMP**	Composite Assembly	**BES**	Besam
WD	Wood	**PHEN**	Phenolic	**N/A**	Not Applicable	**BP**	Bent Steel Plate	**WD**	Wood

Refer to Floor Plans for Door Swings
Refer to Interior Elevatiosn for Extent of Vinyl Film

Door No.	Room Number From	Room Number To	Rebate Width	Rebate Height	Door Type	Door System	Door Material	Door Finish	Glass	Film	Grille	Frame Type	Frame Material	Frame Finish	Frame Profile	Frame Glass	Rating	Hardware Groups	Remarks
D-150B	150	150B	915	2032	1	-	HM	PT	N	-	N	1	HM	PT	-	-	-	-	
D-CR7	***CR7***	***EXTERIOR***	***1016***	***2082***	***2***		***ALUM***	***BRONZE***	***Y***	***-***	***N***	***2***	***ALUM***	***BRONZE***	***-***	***-***	***-***	***-***	***NEW ALUMINUM ENTRANCE SYSTEM - COLOUR; DARK BRONZE TO MATCH EXISTING***
D-144	CR7	144	915	2032	1	-	HM	PT	N	-	N	1	HM	PT	-	-	-	-	
D-144A	144	144A	915	2032	1	-	HM	PT	N	-	N	1	HM	PT	-	-	-	-	

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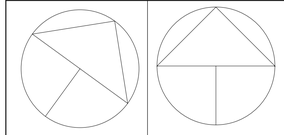
KEY PLAN



NOTES

LEGEND

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03/06/2019	ADDENDUM 001	5
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10/18/2018	ISSUED FOR REVIEW	1

PROJECT TITLE
OUR LADY OF FATIMA PHASE 3 RENEWAL

DRAWING TITLE
ENLARGED FLOOR PLANS

DATE	DRAWN BY	DRAWING No.
10/18/2018	MFPU	A150
SCALE: As indicated	CHECKED BY: RW	
PROJECT No.: 1819		

Our Lady of Fatima
Phase 3 Renewal
Chatham, Ontario
St. Clair Catholic District School Board

Chorley + Bisset Ltd.
Consulting Engineers
London, Ontario

6 March 2019

Plus Revision Drawing MR-1 to MR-4, ER-1 to ER-3
Reissued Drawing M701, E100
Panel Schedules
Section 16705 - Security and Access Control

ADDENDUM NO. 1

Make the following amendments and additions to the Drawings and Specifications, and include this cost in the Contract Price.

1. **MECHANICAL SPECIFICATIONS**

1. **Section 15600 - Liquid Heat Transfer**

1. Clause 2.22.15: Add "Greenheck" to the list of equals.

2. **Section 15900 - Controls**

1. Insert Clause 3.21 and revise subsequent numbering accordingly:

3.21 **EXTERIOR LIGHTING CONTROL AND MONITORING**

3.21.1 Provide an outdoor light level sensor and relays for control of lighting room controllers provided by Division 16. Implement a time of day schedule to override sensor operation and shut off lights during the day. Locate outdoor light level sensor on North side of building.

3.21.2 Exterior Building Mounted Lighting: To operate dusk-to-dawn with a time of day schedule override. Refer to electrical drawings for room controller location.

3.21.3 Parking Lot Lighting: To operate to operate from dusk to dawn, with a time of day schedule override with low/high step dimming control. Enable high output from dusk until 12:00 a.m. Enable low output from 12:00 a.m. to 6:00 a.m. and enable high output from 6:00 a.m. to dawn. Refer to electrical drawings for room controller locations.

2. **MECHANICAL DRAWINGS**

1. **Drawing M101**

1. Refer to revision drawing MR-1, attached.

2. **Drawing M102**

1. Revise section 1 marker to indicate from drawing M601 and drawn on drawing M102.

3. **Drawing M201**

1. Refer to revision drawing MR-2, attached.

4. **Drawing M301**

1. Refer to revision drawing MR-3, attached.

2. Refer to revision drawing MR-4, attached.

5. **Drawing M501**

1. Delete all fire dampers in transfer ducts between corridors and adjacent rooms, excluding fire dampers between room 144 and corridor.

2. Revise return duct size for of heat pump serving room 128 to 550x250.

3. Revise return duct size for of heat pump serving room 114 to 450x250.

4. Revise diffuser tag of diffuser in room 144A to SD-1 and size of ductwork to 250x150.

5. Revise diffuser tag of diffuser in room 144 to SD-2.

6. **Drawing M701**

1. Refer to reissued drawing, attached.

7. **Drawing M703**

1. Add note 2, "Generally, all supply air ductwork and diffusers from the existing rooftop unit is to be removed."

3. **ELECTRICAL SPECIFICATIONS**

1. **Section 16400**

1. Add Panel Schedules attached in their entirety.

2. **Section 16705**

1. Add Section 16705 - Security and Access Control attached in its entirety.

4. **ELECTRICAL DRAWINGS**

1. **Drawing E100**

1. Reissue Drawing E100 attached in its entirety.

2. **Drawing E200**

1. Add emergency light remote head to IT (Room 144A). Connect to emergency battery pack in Cust (Room 144).

2. Connect Luminaire Type B2 in IT (Room 144A) to circuit A-2.

3. Provide Room Controller with dimming and input module above Panel A for control of site lighting fixtures connected to circuit A-53. Site lighting to be controlled by the BAS.

4. Provide Room Controller with dimming and input module above Panel E for control of site lighting fixtures connect to circuit E-55. Site lighting to be controlled by the BAS.

5. Complete electrical revisions as indicated on Revision Drawing ER-1 and ER-2 attached.

3. **Drawing E300**

1. Add Ground Bar at data rack in IT (Room 144A). Refer to Grounding Bonding Arrangement detail on Drawing E500.

2. Connect door operator in Corridor CR-7 to circuit C-53.

3. Revise Note 2 and Note 4 on **Mechanical Room Detail** to read: “Provide relay and contactor for existing building mounted site lighting. Relay to be controlled by the BAS. Rework wiring and conduit serving building mounted site lighting to new Panel ‘C’”.

4. **Drawing E400**

1. Revise Note 4 to read: “...Unless otherwise noted, completely remove and reinstall all ceiling mounted lighting and fire alarm devices within the outlined area as required for sprinkler piping installation. Coordinate with sprinkler contractor.”

2. Remove site lighting relays, contactors and time clocks made redundant by this phase. Remove all associated wiring and conduit back to source.

3. Complete electrical revisions as indicated on Revision Drawing ER-3 attached.

5. **Drawing E401**

    1. Revise Note 1 to read: "...purposes only. Unless otherwise noted, completely remove and reinstall all ceiling mounted power and systems devices within the outlined area as required for sprinkler piping installation. Coordinate with sprinkler contractor."

END OF ADDENDUM NO. 1

VIBRATION ISOLATORS

DRAWING REFERENCE	MANUFACTURER	MODEL	STATIC DEFLECTION (MM)	REMARKS
FC-502	VIBRO	SCSR-2AH	50	MINIMUM SIX UNITS - HOT DIPPED GALVANIZED 150mm THICK CONCRETE INERTIA BASE (USE VIBRO ENJN2 FLEX CONNECTORS WITH CONTROL RODS)
CP-302A/B	VIBRO	CIB/SIPS/SFS	25	
PIPING	VIBRO	SHB	-	USE FOR PIPING SERVICE CP-302A/B - MINIMUM FIRST 3 HANGER RODS

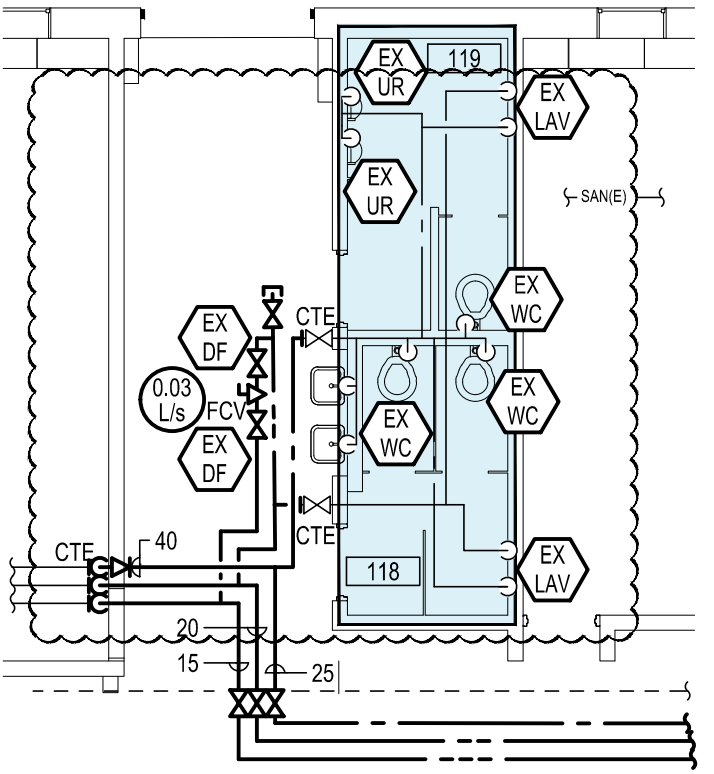
REVISION TO DRAWING M101

Chorley + Bisset
CONSULTING ENGINEERS
chorley.com
369 YORK ST., SUITE 2B
LONDON ON, N6B 3R4
250 CITY CENTRE AVE., SUITE 403
OTTAWA ON, K1R 6K7

Title: VIBRATION ISOLATORS SHCEDULES REVISION	Drawn: BMD	Date: 03/01/2019
	Checked: JDF	Project No.: 8586
Project: OUR LADY OF FATIMA PHASE 3 RENEWAL THAMES VALLEY DISTRICT SCHOOL BOARD	Approved: JDF	Drawing No.: MR-1
	Scale: 1:100	

FILE NAME: 8586DMR1.DWG
DATE SAVED: 04-Mar-2019 1:37 PM
DATE PLOTTED: 05-Mar-2019 10:39 AM

8.5x11



GROUND FLOOR PLAN PLUMBING

SCALE: 1:100

REVISION TO DRAWING M201

Chorley + Bisset
CONSULTING ENGINEERS
chorley.com
369 YORK ST., SUITE 2B
LONDON ON, N6B 3R4
250 CITY CENTRE AVE., SUITE 403
OTTAWA ON, K1R 6K7

Title: GROUND FLOOR PLAN PLUMBING REVISION		Drawn: BMD	Date: 03/01/2019
		Checked: JDF	Project No.: 8586
Project: OUR LADY OF FATIMA PHASE 3 RENEWAL THAMES VALLEY DISTRICT SCHOOL BOARD		Approved: JDF	Drawing No.: MR-2
		Scale:	

FILE NAME: 8586DMR-2.DWG
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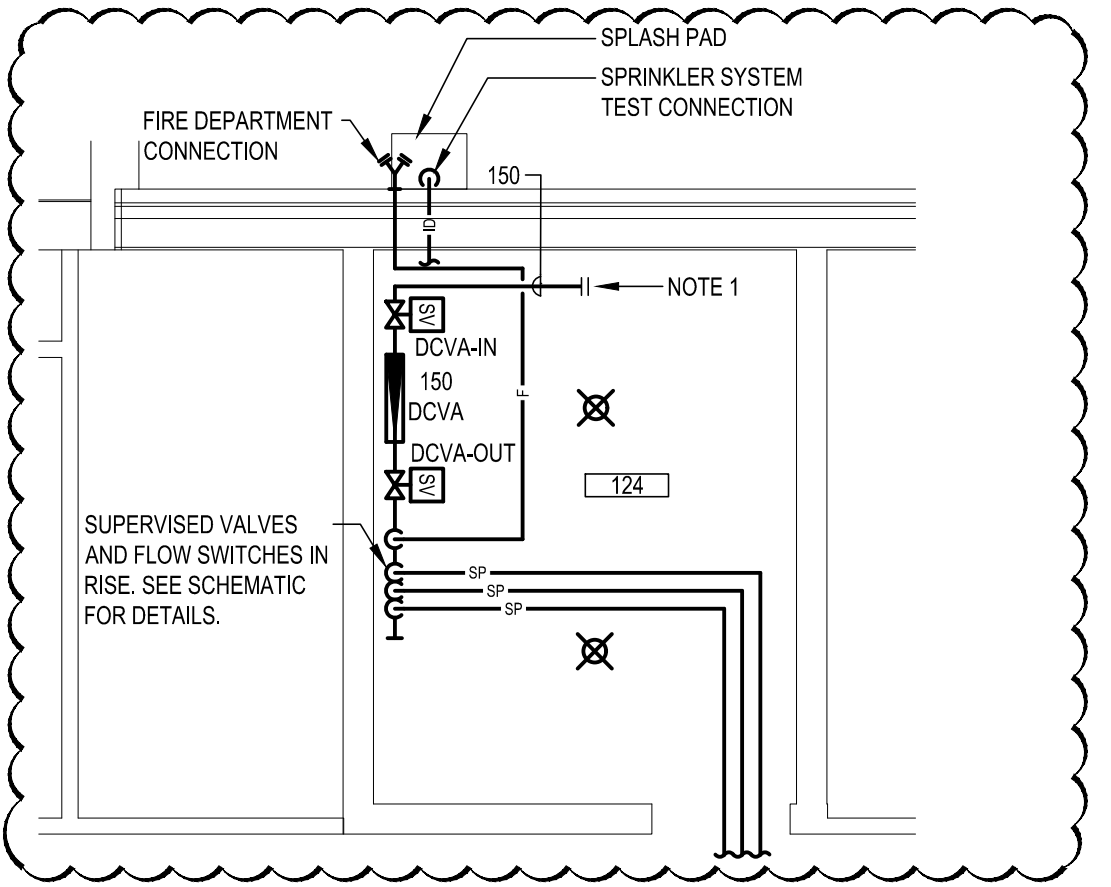

DETAIL A
SCALE: 1:50 M301 M301

NOTES:

1. CONNECT TO EXISTING FLANGE.

REVISION TO DRAWING M301

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250 CITY CENTRE AVE., SUITE 403
OTTAWA ON, K1R 6K7

Title: FIRE PROTECTION DETAIL REVISION		Drawn: BMD	Date: 03/01/2019
		Checked: JDF	Project No.: 8586
Project: OUR LADY OF FATIMA PHASE 3 RENEWAL THAMES VALLEY DISTRICT SCHOOL BOARD		Approved: JDF	Drawing No.: MR-3
		Scale:	

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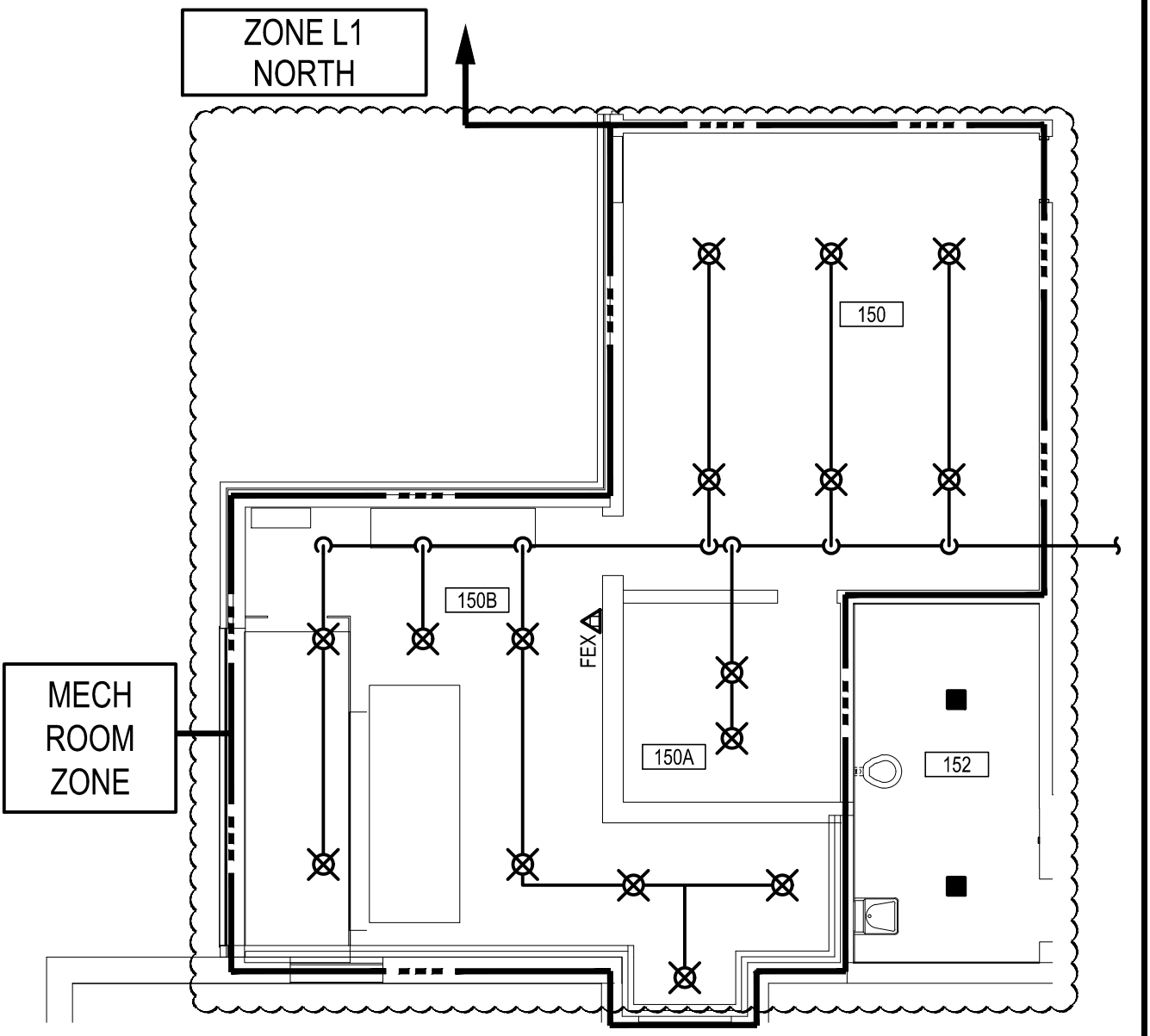

GROUND FLOOR PLAN
FIRE PROTECTION

SCALE: 1:100

REVISION TO DRAWING M301

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DATE PLOTTED: 05-Mar-2019 11:26 AM

8.5x11

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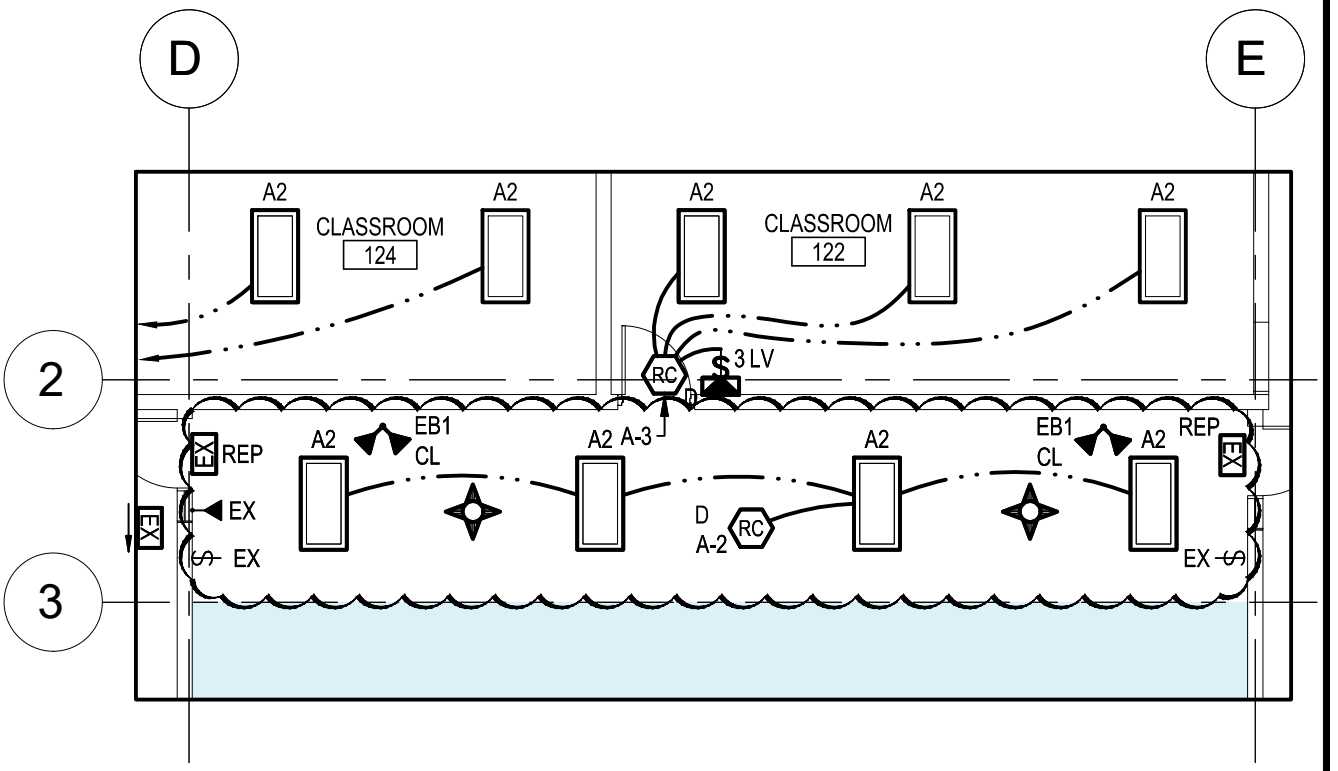
OTTAWA ON, K1R 6K7

Title: GROUND FLOOR PLAN FIRE PROTECTION REVISION		Drawn: BMD	Date: 03/01/2019
		Checked: JDF	Project No.: 8586
Project: OUR LADY OF FATIMA PHASE 3 RENEWAL THAMES VALLEY DISTRICT SCHOOL BOARD		Approved: JDF	Drawing No.: MR-4
		Scale:	



GROUND FLOOR PLAN - LIGHTING AND FIRE ALARM

SCALE: 1:100

REVISIONS TO DRAWING E200

Chorley + Bisset CONSULTING ENGINEERS chorley.com 369 YORK ST., SUITE 2B LONDON ON, N6B 3R4 250 CITY CENTRE AVE., SUITE 403 OTTAWA ON, K1R 6K7	Title: GROUND FLOOR PLAN - LIGHTING AND FIRE ALARM REVISIONS	Drawn: ZJRL	Date: MAR 2019
		Checked: ZJRL	Project No.: 8586
	Project: OUR LADY OF FATIMAT PHASE 3 RENEWAL ST. CLAIR CATHOLIC DISTRICT SCHOOL BOARD CHATHAM, ONTARIO	Approved: RDZ	Drawing No.: ER-1
		Scale: AS NOTED	

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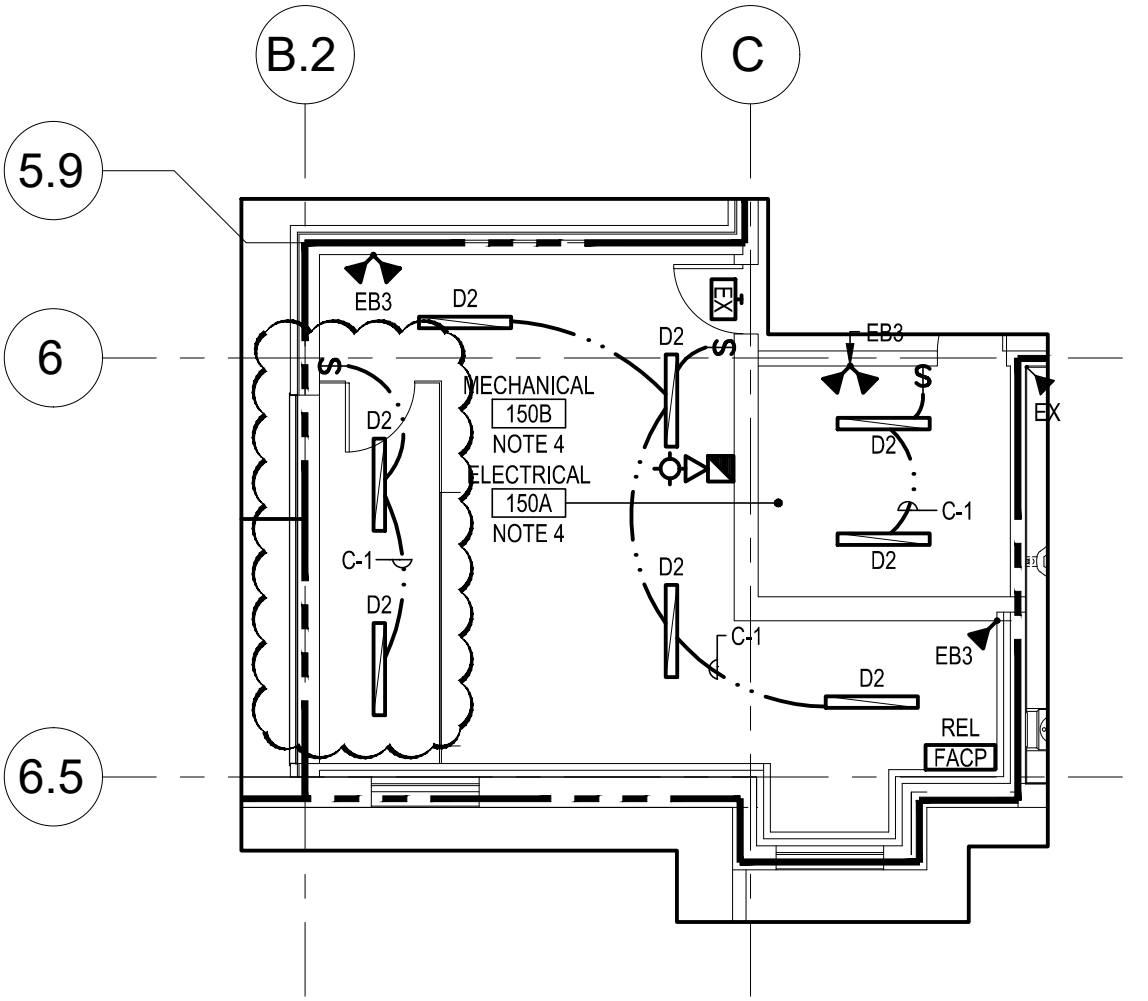

GROUND FLOOR PLAN - LIGHTING AND FIRE ALARM

SCALE: 1:100

REVISIONS TO DRAWING E200

FILE NAME: 8586RE002.DWG
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DATE PLOTTED: 06-Mar-2019 10:53 AM

8.5x11

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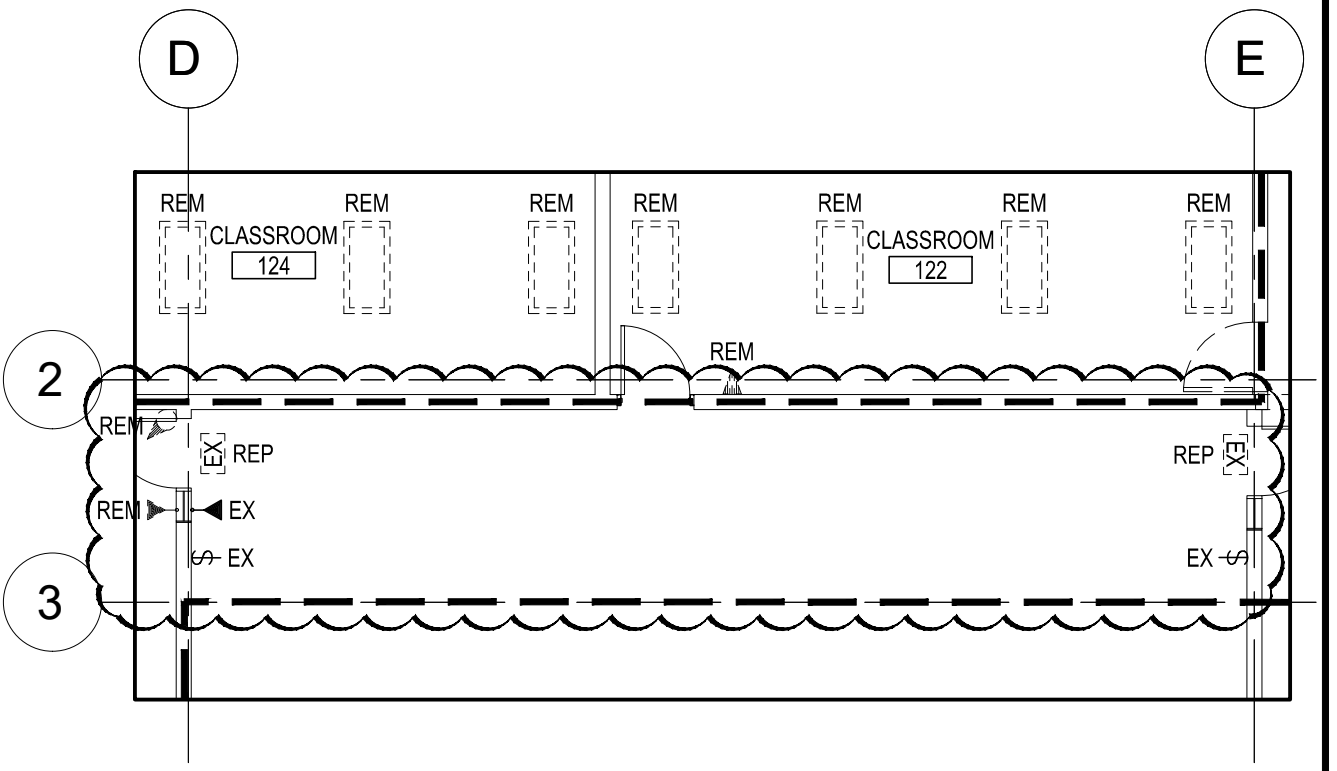
OTTAWA ON, K1R 6K7

Title: GROUND FLOOR PLAN - LIGHTING AND FIRE ALARM REVISIONS	Drawn: ZJRL	Date: MAR 2019
	Checked: ZJRL	Project No.: 8586
Project: OUR LADY OF FATIMAT PHASE 3 RENEWAL ST. CLAIR CATHOLIC DISTRICT SCHOOL BOARD CHATHAM, ONTARIO	Approved: RDZ	Drawing No.: ER-2
	Scale: AS NOTED	



GROUND FLOOR PLAN - LIGHTING AND FIRE ALARM DEMOLITION

SCALE: 1:100

REVISIONS TO DRAWING E400

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Title: GROUND FLOOR PLAN - LIGHTING AND FIRE ALARM DEMOLITION REVISIONS		Drawn: ZJRL	Date: MAR 2019
		Checked: ZJRL	Project No.: 8586
Project: OUR LADY OF FATIMAT PHASE 3 RENEWAL ST. CLAIR CATHOLIC DISTRICT SCHOOL BOARD CHATHAM, ONTARIO		Approved: RDZ	Drawing No.: ER-3
		Scale: AS NOTED	

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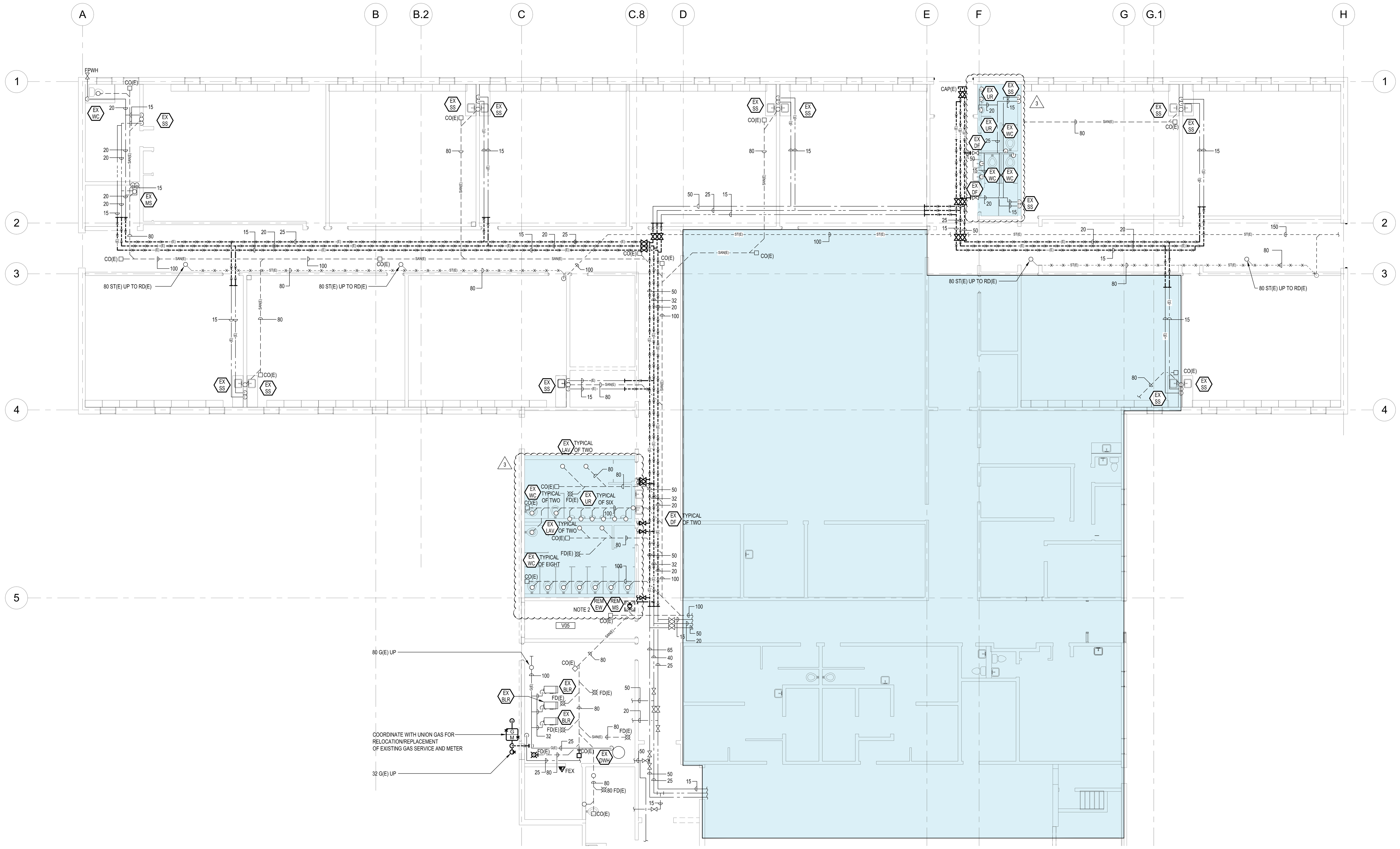
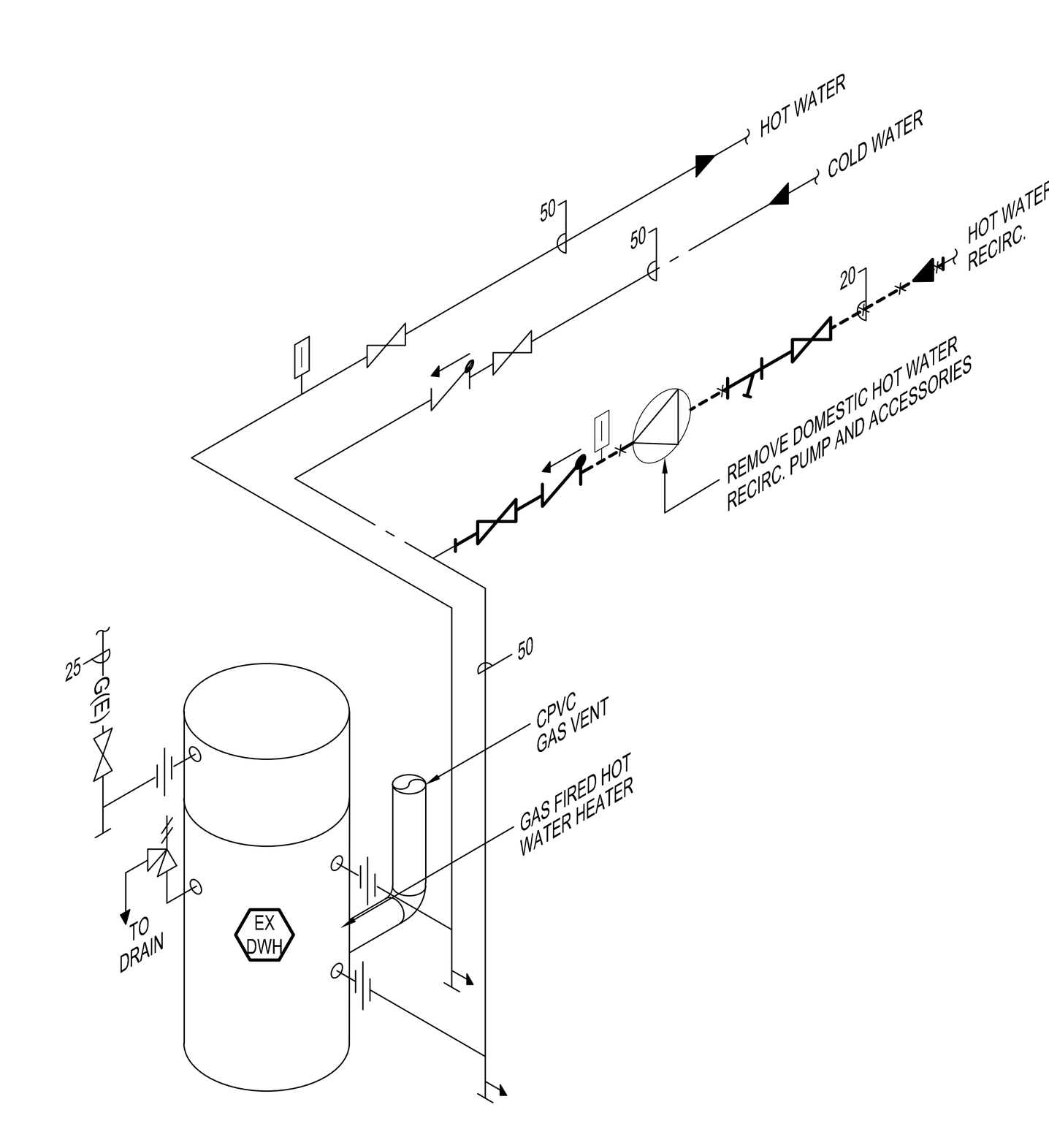


PART GROUND FLOOR PLAN
PLUMBING DEMOLITION

SCALE: 1:100

NOTES:

1. SEE PLUMBING DEMOLITION SCHEMATIC FOR MECHANICAL ROOM DEMOLITION.
2. REMOVE DOMESTIC WATER AND SANITARY PIPING. CAP IN WALL AND BELOW FLOOR. (3)



DOMESTIC HOT WATER SYSTEM SCHEMATIC - DEMOLITION

N.T.S.

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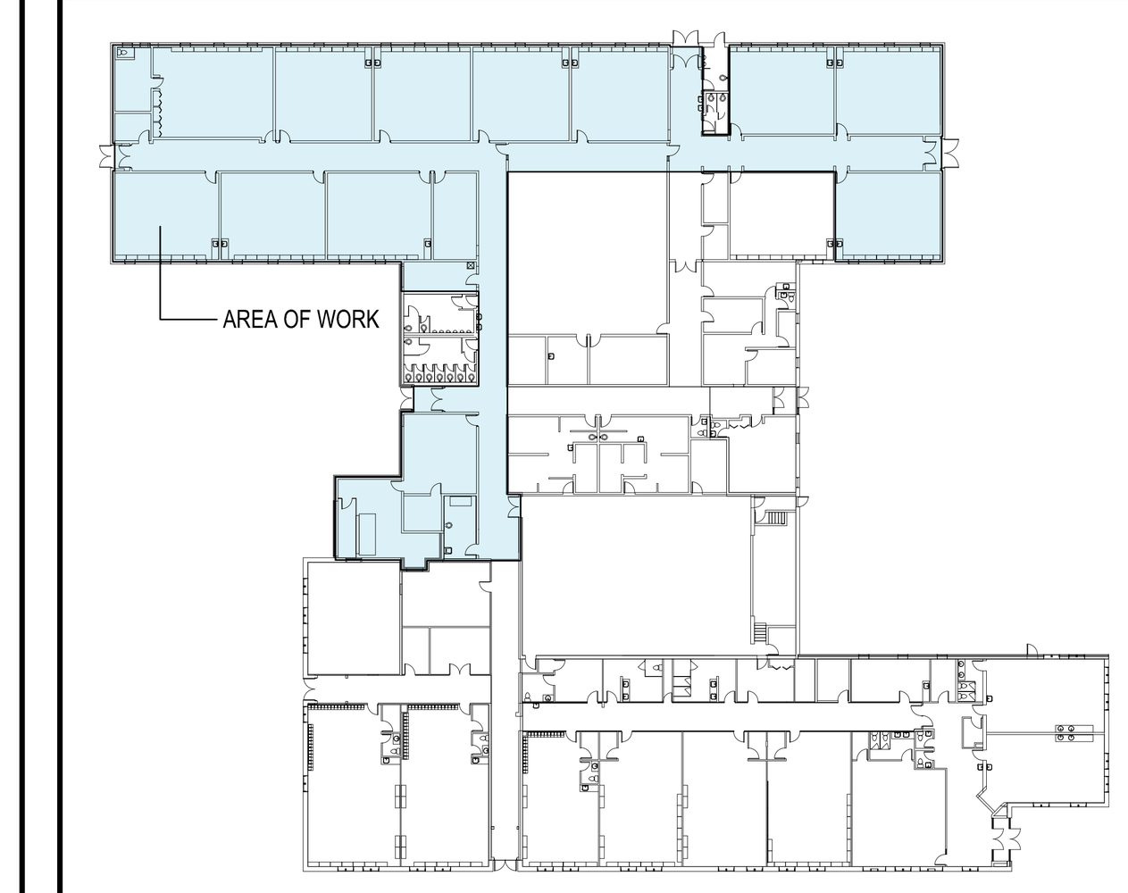
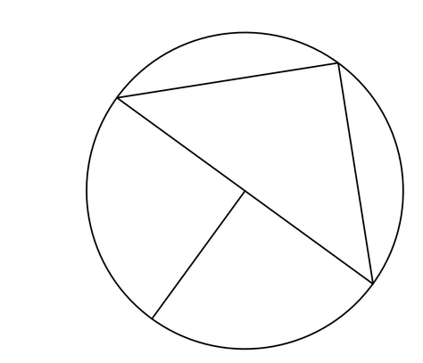
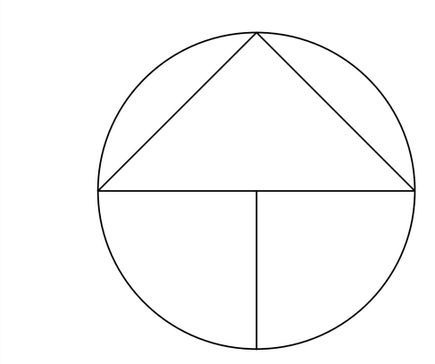
DO NOT SCALE THE DRAWINGS. ALL MEASUREMENTS ARE TO BE CHECKED AND VERIFIED ON SITE BY THE CONTRACTOR. ANY DISCREPANCIES ARE TO BE REPORTED TO THE CONSULTANT BEFORE PROCEEDING WITH THE WORK.



KEY PLAN



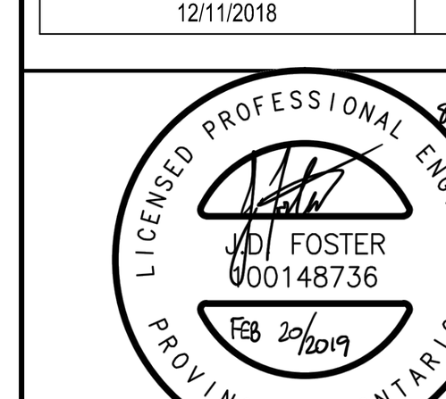
TRUE NORTH



CONSTRUCTION NORTH

NOTES

Date	Description	No.
03/01/2019	REISSUED PER ADDENDUM	3
02/20/2019	ISSUED FOR TENDER/PERMIT	2
12/11/2018	ISSUED FOR REVIEW	1



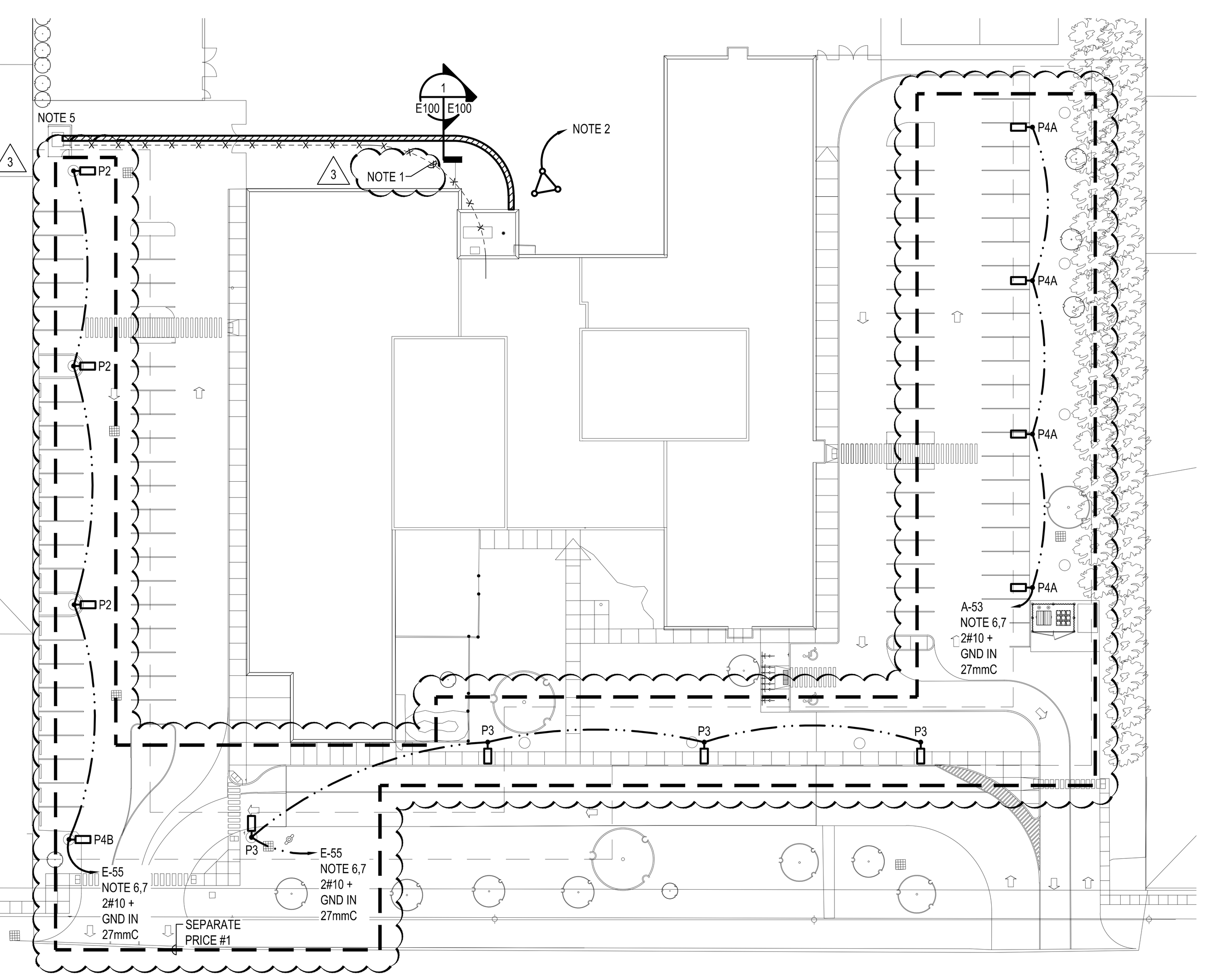
PROJECT TITLE

OUR LADY OF FATIMA PHASE 3 RENEWAL

DRAWING TITLE

GROUND FLOOR PLAN
DEMOLITION PLUMBING

DATE	DRAWN BY	DRAWING No.
02/20/2019	BMD	M701
SCALE: AS NOTED	CHECKED BY: JDF	
PROJECT No.: 8586		

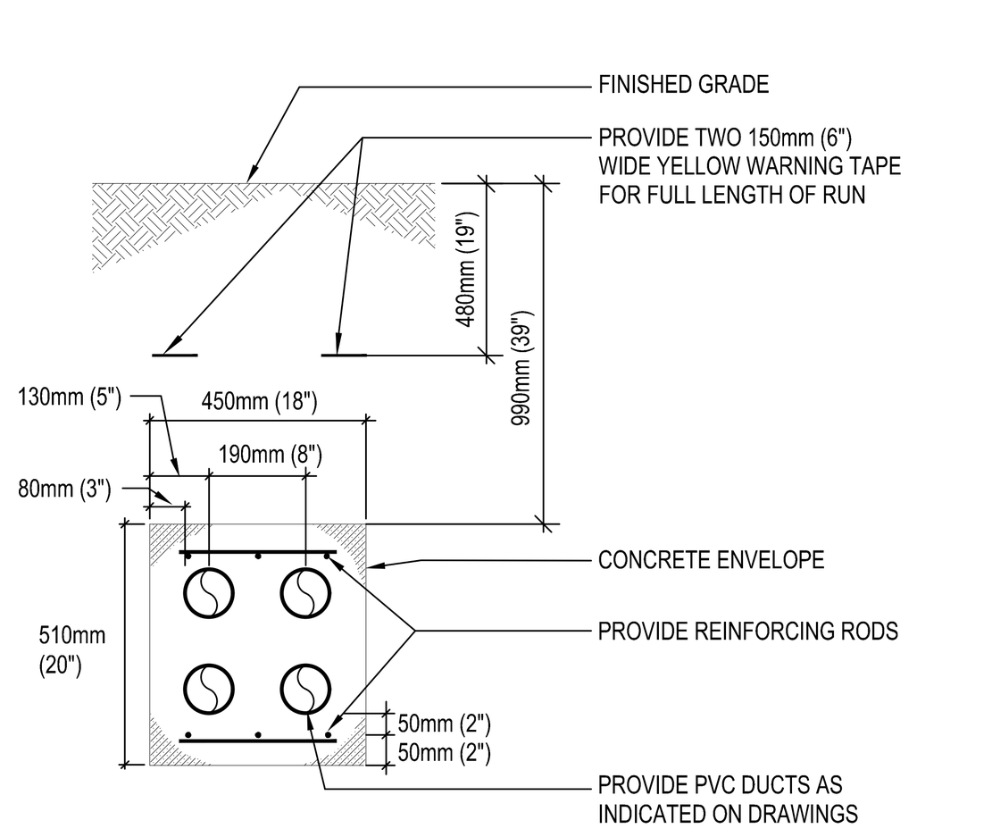


ELECTRICAL SITE PLAN

SCALE: 1:500

NOTES:

1. REMOVE EXISTING UNDERGROUND CABLE AS PRACTICABLE.
2. PROVIDE THREE 100mm (3/4") x 3048mm (10') COPPER CLAD BUILDING GROUND RODS 4300mm (14') APART COMPLETE WITH 3/0 BARE WIRE TO ELECTRICAL ROOM GROUND BUS.
3. ENTEGRUS POWERLINES WORK TO INCLUDE SUPPLY AND INSTALLATION OF THE FOLLOWING:
   - 3.1. SUPPLY OF PTS AND CTS
   - 3.2. LIFTING AND SETTING OF TRANSFORMER
   - 3.3. SECONDARY TRANSFORMER TERMINATIONS
   - 3.4. PROVIDE METER BASE, WIRE METERING CABINET
4. CONTRACTOR WORK TO INCLUDE SUPPLY AND INSTALLATION OF THE FOLLOWING:
   - 4.1. TREE TRIMMING AROUND EXISTING ENCLOSURE
   - 4.2. REMOVAL OF EXISTING WALL AND BOLLARDS AROUND TRANSFORMER
   - 4.3. SECONDARY CONDUCTORS AND DUCT BANK
   - 4.4. ALLOW FOR 3m OF SECONDARY CABLE TO BE COILED IN TRANSFORMER VAULT
   - 4.5. LUGS ON TRANSFORMER SECONDARY CONDUCTORS
   - 4.6. NEW BOLLARDS, REFER TO BOLLARD DETAIL AND TRANSFORMER DETAIL 'A' ON THIS SHEET.
   - 4.7. INSTALL METERING CABINET, PT'S, CT'S AND CONDUIT
5. REFER TO TRANSFORMER DETAIL 'A' ON THIS SHEET FOR BOLLARD INSTALLATION REQUIREMENTS.
6. SAW CUT EXISTING ASPHALT AND/OR CONCRETE TO ALLOW FOR INSTALLATION OF WIRING AND CONDUIT FOR NEW POLE MOUNTED LUMINAIRES. PATCH AND REPAIR ALL SURFACES TO MATCH EXISTING. ALLOW FOR ONE ADDITIONAL SITE VISIT AT LEAST ONE MONTH AFTER REPAIRING TO FILL AREAS OF ASPHALT THAT HAVE SETTLED. 3
7. SITE LIGHTING WIRING SIZED FOR WORST CASE RUN LENGTH. SIZE FOR MAXIMUM 2% VOLTAGE DROP.



SERVICE CONCRETE DUCT BANK

1 E100 | E100

N.T.S.

DUCT BANK NOTES (ALL SECTIONS):

1. USE PVC, SHOP MANUFACTURED DUCT SPACERS AT 36" INTERVALS TO MAINTAIN DUCT ALIGNMENT.
2. PROVIDE 3/8" REINFORCING RODS IN ALL CONCRETE DUCT BANKS. HORIZONTAL CROSS TIES TO BE SPACED 36" APART.
3. SLOPE DUCTS MIN. 3" PER 100'-0" AND AWAY FROM BUILDINGS.
4. BACKFILL WITH MATERIAL AS SPECIFIED.
5. REFER TO SPECIFICATIONS FOR METHOD OF COMPACTION.
6. USE ONLY LONG SWEEP BENDS.
7. PROVIDE 1/4" PULL ROPES IN EACH EMPTY DUCT.
8. BOND REINFORCING RODS EVERY 10'-0" TO GROUND WIRE.
9. CONCRETE ENVELOPE TO CONTAIN MAXIMUM 1/2" DIA. AGGREGATE WITH A MINIMUM 3000 PSI COMPRESSION RATING AFTER 28 DAYS.
10. ALL DUCT JOINTS ARE TO BE WATERTIGHT AND STAGGERED BY AT LEAST 8".

LUMINAIRE SCHEDULE

TYPE	MANUFACTURER	MOUNTING TYPE	MOUNTING HEIGHT	LAMPS	VOLTS	SYSTEM WATTS	EQUAL MANUFACTURERS	NOTES
A1	LITHONIA CAT # 2GTL4-30L-FW-EZ1-LP835 610mm x 1220mm RECESSED TROFFER, 3500K, A12 PATTERN ACRYLIC LENS, 0-10V DIMMING	RECESSED	CEILING	3000 LU LED	120	26.9W	CFI, COLUMBIA, METALUX, WILLIAMS, PINNACLE, PHILLIPS	
A2	LITHONIA CAT # 2GTL4-40L-FW-EZ1-LP835 610mm x 1220mm RECESSED TROFFER, 3500K, A12 PATTERN ACRYLIC LENS, 0-10V DIMMING	RECESSED	CEILING	4000 LU LED	120	30.8W	CFI, COLUMBIA, METALUX, WILLIAMS, PINNACLE, PHILLIPS	
A3	LITHONIA CAT # 2GTL4-48L-FW-EZ1-LP835 610mm x 1220mm RECESSED TROFFER, 3500K, A12 PATTERN ACRYLIC LENS, 0-10V DIMMING	RECESSED	CEILING	4800 LU LED	120	37.9W	CFI, COLUMBIA, METALUX, WILLIAMS, PINNACLE, PHILLIPS	
B2	LITHONIA CAT # GTL4-48L-FW-EZ1-LP835 305mm x 1220mm RECESSED TROFFER, 3500K, A12 PATTERN ACRYLIC LENS, 0-10V DIMMING	RECESSED	CEILING	4800 LU LED	120	42W	CFI, COLUMBIA, METALUX, WILLIAMS, PINNACLE, PHILLIPS	
D2	LITHONIA CAT # ZL1N-L48-5000LM-FST-MVOLT-35K 1220mm LONG LED STRIP LIGHT, 3500K, 0-10V DIMMING	SURFACE	CEILING	5000 LU LED	120	34W	AXIS, CFI, COLUMBIA, METALUX, PHILLIPS, THOMAS, WILLIAMS	
P2	LITHONIA CAT # DSX0-P2-40K-T2M-MVOLT-SPA-HS LED POLE MOUNT, 4000K, 0-10V DIMMING, TYPE II DISTRIBUTION, HOUSE SIDE SHIELD, PROVIDE 5m HIGH ALUMINUM SQUARE POLE AND BASE COVER	POLE MOUNTED	5m POLE	6000 LU LED	120	49W	COOPER, GARDCO	CONFIRM COLOUR AT SHOP DRAWING STAGE 3
P3	LITHONIA CAT # DSX0-P2-40K-T3M-MVOLT-SPA LED POLE MOUNT, 4000K, 0-10V DIMMING, TYPE III DISTRIBUTION, PROVIDE 5m HIGH ALUMINUM SQUARE POLE AND BASE COVER	POLE MOUNTED	5m POLE	6000 LU LED	120	49W	COOPER, GARDCO	CONFIRM COLOUR AT SHOP DRAWING STAGE
P4A	LITHONIA CAT # DSX0-P2-40K-T4M-MVOLT-SPA-HS LED POLE MOUNT, 4000K, 0-10V DIMMING, TYPE IV DISTRIBUTION, HOUSE SIDE SHIELD, PROVIDE 6m HIGH ALUMINUM SQUARE POLE AND BASE COVER	POLE MOUNTED	6m POLE	5900 LU LED	120	49W	COOPER, GARDCO	CONFIRM COLOUR AT SHOP DRAWING STAGE
P4B	LITHONIA CAT # DSX0-P2-40K-T4M-MVOLT-SPA-HS LED POLE MOUNT, 4000K, 0-10V DIMMING, TYPE IV DISTRIBUTION. HOUSE SIDE SHIELD, PROVIDE 5m HIGH ALUMINUM SQUARE POLE AND BASE COVER	POLE MOUNTED	5m POLE	5900 LU LED	120	49W	COOPER, GARDCO	CONFIRM COLOUR AT SHOP DRAWING STAGE

NOTES:
1. REFER TO ARCHITECTURAL REFLECTED CEILING DRAWINGS TO CONFIRM LUMINAIRE MOUNTING PRIOR TO ORDERING. SUPPLY APPROPRIATE MOUNTING CLIPS AND/OR TRIMS AS REQUIRED.

MECHANICAL EQUIPMENT SCHEDULE

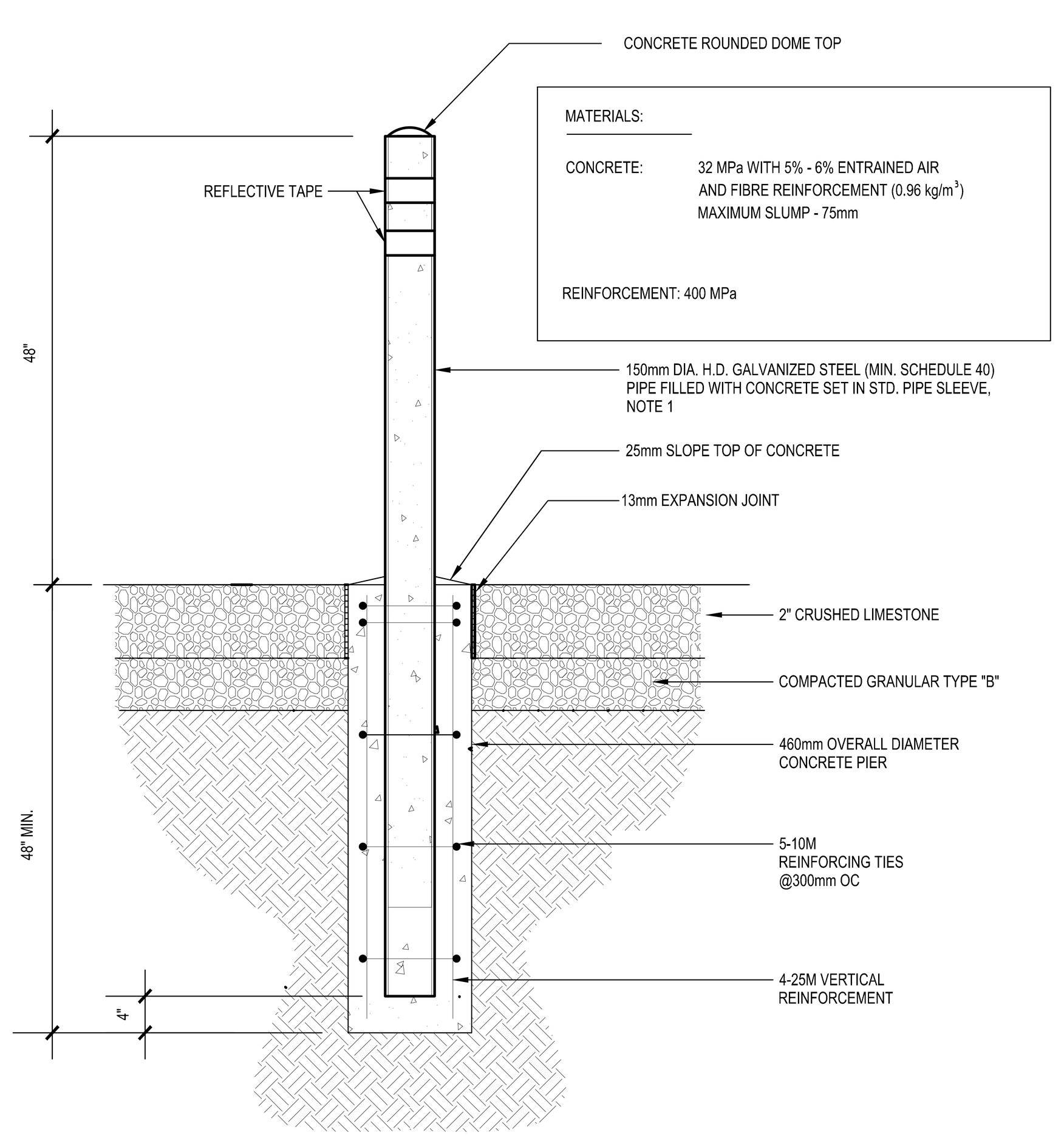
EQUIPMENT SUPPLIED AND INSTALLED BY DIVISION 15, WIRED BY DIVISION 16							CONTROL EQUIPMENT SUPPLED AND INSTALLED BY DIVISION 16						
ITEM	DESCRIPTION	LOCATION	hp	MCA	PHASE	VOLTS	STARTER/CONTROL TYPE	FED FROM	BREAKER SIZE	POLES	CONDUCTOR SIZE	CONDUIT SIZE	NOTES
PUMPS													
CP-302A	CIRCULATING PUMP	ELECTRICAL 150A	7.5		3	208	DS, VFD	PANEL 'MA'	40	3	3#8	27mm	
CP-302B	CIRCULATING PUMP	ELECTRICAL 150A	7.5		3	208	DS, VFD	PANEL 'MA'	40	3	3#8	27mm	
CP-303A	CIRCULATING PUMP	ELECTRICAL 150A	3/4		3	208	DS, FVNR	PANEL 'MA'	15	3	3#12	21mm	
CP-303B	CIRCULATING PUMP	ELECTRICAL 150A	3/4		3	208	DS, FVNR	PANEL 'MA'	15	3	3#12	21mm	
CP-304A	CIRCULATING PUMP	ELECTRICAL 150A	3/4		3	208	DS, FVNR	PANEL 'MA'	15	3	3#12	21mm	
CP-304B	CIRCULATING PUMP	ELECTRICAL 150A	3/4		3	208	DS, FVNR	PANEL 'MA'	15	3	3#12	21mm	
CP-305A	CIRCULATING PUMP	MECHANICAL 150	1 1/2		3	208	DS, FVNR	PANEL 'MA'	15	3	3#12	21mm	
CP-305B	CIRCULATING PUMP	MECHANICAL 150	1 1/2		3	208	DS, FVNR	PANEL 'MA'	15	3	3#12	21mm	
CP-306	CIRCULATING PUMP	MECHANICAL 150	FHP		1	120	DS, FVNR	PANEL 'MA'	15	1	2#12	21mm	
EXHAUST FANS													
EF-2	EXHAUST FAN	MECHANICAL 150B	FHP		1	120	DS, CON	PANEL 'MA'	15	1	2#12	21mm	
HEATING UNITS													
UH-420	UNIT HEATER	MECHANICAL 150B	FHP		1	120	DS, CON	PANEL 'MA'	15	1	2#12	21mm	
FF-421	FORCE FLOW HEATER	VARIOUS	FHP		1	120	DS, CON	VARIOUS	15	1	2#12	21mm	
ROOFTOP UNIT													
RTU-101	ROOFTOP UNIT	ROOF		110	3	208	DS, WP	PANEL 'DP1'	125	3	3#1	41mm	
FLUID COOLER													
FC-502	FC-502F: FLUID COOLER FAN	MECHANICAL 150B	25		3	208	DS, VFD	PANEL 'DP1'	100	3	3#3	35mm	
	FC-502P: FLUID COOLER SPRAY PUMP	MECHANICAL 150B	1.5		3	208	DS, FVNR	PANEL 'DP1'	15	3	3#12	21mm	
HEAT PUMPS													
HP-401	HEAT PUMP	VARIOUS		5.6	1	208	DS	VARIOUS	15	2	2 #12	21mm	
HP-403	HEAT PUMP	VARIOUS		11.3	1	208	DS	VARIOUS	15	2	2 #12	21mm	
HP-405	HEAT PUMP	VARIOUS		15.9	3	208	DS	VARIOUS	20	3	3 #12	21mm	
HP-406	HEAT PUMP	VARIOUS		19.5	3	208	DS	VARIOUS	20	3	3 #12	21mm	

NOTES:

1. DIVISION 16 TO OBTAIN COPIES OF MECHANICAL EQUIPMENT SHOP DRAWINGS AND COORDINATE ELECTRICAL SERVICES.
2. PROVIDE LOCAL NON-FUSED DISCONNECT SWITCHES AT MOTORS IN ACCORDANCE WITH SECTION 28-604 OF THE ONTARIO ELECTRICAL SAFETY CODE.
3. UNLESS INDICATED OTHERWISE ALL CONTROL WIRING IS BY DIVISION 15.

MOTOR CONTROL ABBREVIATIONS

DC	DIRECT CONNECTION	H.O.A.	HAND OFF AUTO SELECTOR SWITCH
DS	UN-FUSED DISCONNECT SWITCH	MCA	MINIMUM CIRCUIT AMPACITY
FDS	FUSED DISCONNECT SWITCH	REC	DUPLEX RECEPTACLE
FHP	FRACTIONAL HORSE POWER	VFD	VARIABLE FREQUENCY DRIVE
FVNR	FULL VOLTAGE NON REVERSING STARTER c/w H.O.A. SWITCH	WP	WEATHER PROOF



TYPICAL BOLLARD DETAIL

N.T.S.

NOTES:

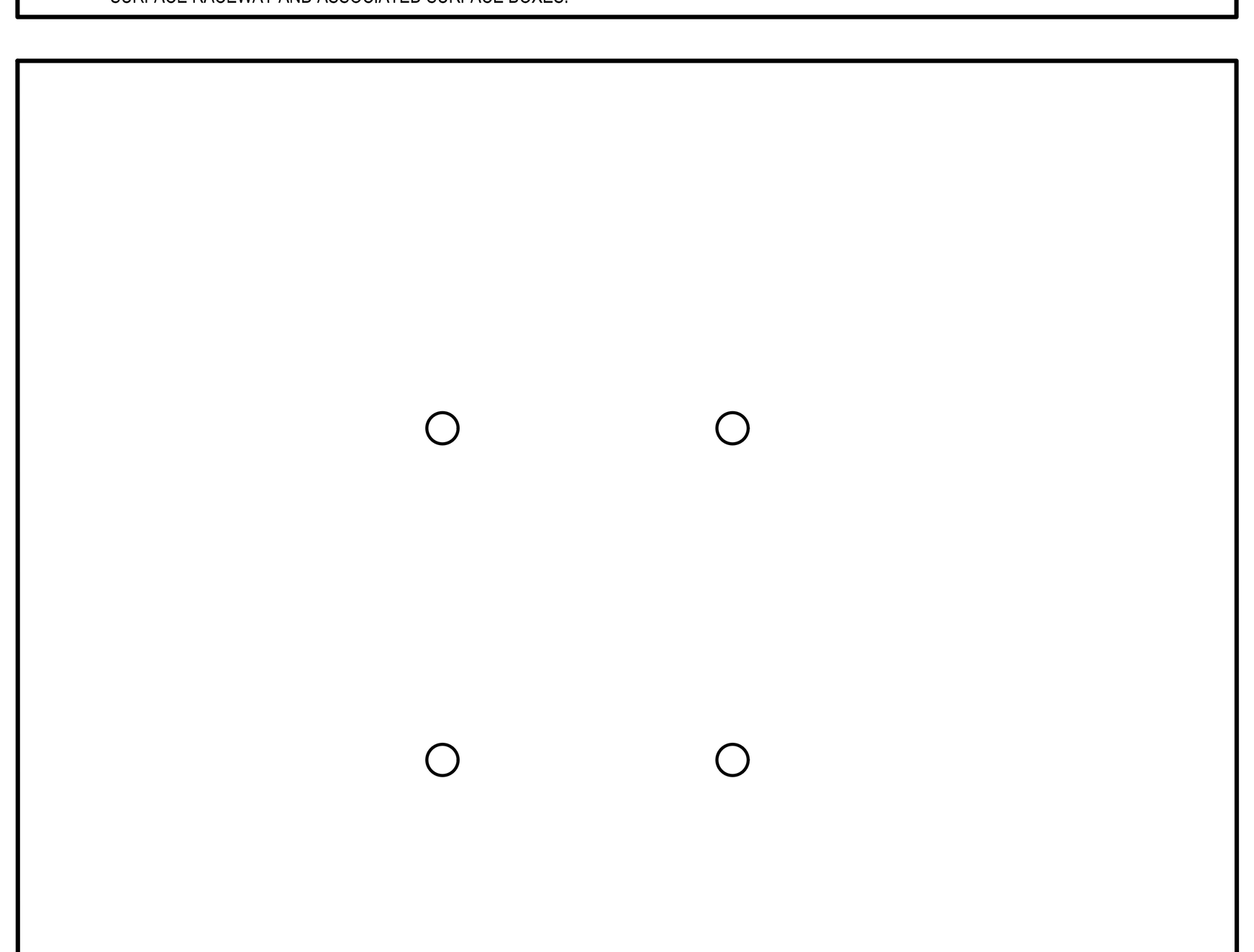
1. PROVIDE YELLOW PLASTIC SLEEVE FOR BOLLARDS. FULL HEIGHT c/w REFLECTIVE TAPE.

DRAWING LIST

E100	ELECTRICAL LEGEND, DRAWING LIST, SCHEDULES, ABBREVIATIONS, SITE PLAN, DETAILS AND ELECTRICAL GENERAL NOTES
E200	GROUND FLOOR PLAN - LIGHTING AND FIRE ALARM
E300	GROUND FLOOR PLAN - POWER AND SYSTEMS
E400	GROUND FLOOR PLAN - LIGHTING AND FIRE ALARM DEMOLITION
E401	GROUND FLOOR PLAN - POWER AND SYSTEMS DEMOLITION
E500	ELECTRICAL RISERS AND DETAILS

ELECTRICAL GENERAL NOTES

1. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS, VISIT THE SITE AND BECOME THOROUGHLY FAMILIAR WITH THE EXISTING BUILDING, EQUIPMENT AND SYSTEMS TO DETERMINE THE FULL EXTENT OF DEMOLITION AND RENOVATION WORK.
2. RENOVATIONS SHALL BE MADE ON THE EXISTING BUILDING AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN. REMOVE ALL REDUNDANT ELECTRICAL EQUIPMENT AND CONDUITS. ONLY CONDUITS AND DEVICE BOXES THAT ARE IN VERY GOOD CONDITION MAY REMAIN AND BE REUSED. ALL EQUIPMENT REMOVED AND NOT REUSED SHALL BE HANDED OVER TO THE OWNER AND/OR BE DISCARDED AT THE OWNER'S DISCRETION.
3. REMOVE, PROTECT AND REINSTALL IN THE SAME OR NEW LOCATION ON NEW SURFACES ALL EXISTING ELECTRICAL EQUIPMENT THAT WILL BE REUSED. EQUIPMENT IDENTIFIED FOR REUSE THAT IS LOST OR DAMAGED MUST BE REPLACED AT NO COST TO THE OWNER.
4. FISH FLEX CONDUIT THROUGH ALL EXISTING DRYWALL PARTITIONS, EXISTING FURRED WALLS, EXISTING DRYWALL CEILINGS AND EXISTING BLOCK WALLS FOR NEW LIGHTING, POWER AND COMMUNICATION DEVICES. IF WALLS CANNOT BE FISHED, PROVIDE V500/700 SURFACE RACEWAY AND ASSOCIATED SURFACE BOXES.



TRANSFORMER DETAIL

A E100 | E100

N.T.S.

NOTES:

1. REFER TO SPECIFICATION SECTION 16400 FOR ENTEGRUS BOLLARD REQUIREMENTS. BOLLARDS TO BE INSTALLED AS PER DETAIL ON THIS SHEET.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	MOUNTING
LIGHTING		
A	LED LUMINAIRE - NORMAL POWER	SEE LUMINAIRE SCHEDULE
A	LED LUMINAIRE - NORMAL POWER	SEE LUMINAIRE SCHEDULE
A	LED LUMINAIRE - NORMAL POWER	SEE LUMINAIRE SCHEDULE
EX	EXIT SIGN WITH OR WITHOUT DIRECTIONAL ARROWS	CEILING MOUNTED
EX	EXIT SIGN WITH OR WITHOUT DIRECTIONAL ARROWS	WALL MOUNTED AT CEILING
	EMERGENCY BATTERY PACK c/w DUAL HEADS	WALL MOUNTED
	EMERGENCY LIGHT REMOTE HEAD	SURFACE MOUNTED
	EMERGENCY LIGHT REMOTE DUAL HEAD	SURFACE MOUNTED
	OCCUPANCY SENSOR	WALL MOUNTED AT CEILING
	OCCUPANCY SENSOR	CEILING MOUNTED
$	SINGLE POLE SWITCH	1100mm (43") A.F.F.
$3	THREE-WAY SWITCH	1100mm (43") A.F.F.
	OCCUPANCY SENSOR SWITCH	1100mm (43") A.F.F.
$LV	LOW VOLTAGE SWITCH - SEE FLOOR PLANS FOR BUTTON CONFIGURATION	1100mm (43") A.F.F.
$#LV	LOW VOLTAGE SWITCH - # DENOTES QUANTITY OF SWITCHES	1100mm (43") A.F.F.
RC D	ROOM CONTROLLER - DIMMING	ABOVE CEILING
POWER		
	15/20 AMP 120 VOLT 3 WIRE GROUNDED DUPLEX RECEPTACLE CSA 5-20R	460mm (18") A.F.F.
	15/20 AMP 120 VOLT 3 WIRE GROUNDED DUPLEX RECEPTACLE CSA 5-20R	ABOVE COUNTER
	TWO 15/20 AMP 120 VOLT 3 WIRE GROUNDED DUPLEX RECEPTACLE CSA 5-20R	460mm (18") A.F.F.
	DIRECT POWER	460mm (18") A.F.F.
R	50 AMP 250 VOLT 4 WIRE GROUNDED RANGE RECEPTACLE	200mm (8") A.F.F.
T	TRANSFORMER	AS NOTED
H	BARRIER FREE PUSH BUTTON	
	MOTOR	
	FUSED DISCONNECT SWITCH	
	MANUAL STARTER	
	MAGNETIC STARTER	
DF	DRINKING FOUNTAIN	
VFD	VARIABLE FREQUENCY DRIVE	
R	RELAY	
	ELECTRICAL PANEL	SEE PANEL SCHEDULE
FIRE ALARM		
	SMOKE DETECTOR	CEILING MOUNTED
	135°F RATE-OF-RISE TEMPERATURE FIRE DETECTOR	CEILING MOUNTED
F	135°F FIXED TEMPERATURE FIRE DETECTOR	CEILING MOUNTED
	SMOKE ALARM	CEILING MOUNTED
S D	DUCT SMOKE DETECTOR	AS NOTED
	PULL STATION	1200mm (47-1/4") A.F.F.
ST	PULL STATION c/w STI STOPPER II COVER	1200mm (47-1/4") A.F.F.
	FIRE ALARM HORN	WALL 2235mm (88") A.F.F.
	FIRE ALARM HORN c/w VISUAL SIGNAL	WALL 2235mm (88") A.F.F.
	FIRE ALARM VISUAL SIGNAL	CEILING MOUNTED
	ADDRESSABLE CONTROL MODULE	
	ADDRESSABLE MONITOR MODULE	
	MAGNETIC DOOR HOLD OPEN DEVICE BY DIVISION 16	AS NOTED
FS	FLOW SWITCH	
SV	SUPERVISED VALVE	
EOLR	END OF LINE RESISTOR	1800mm (70") A.F.F.
FAA	FIRE ALARM ANNUNCIATOR PANEL	1800mm (70") A.F.F. TO TOP OF UNIT
FACP	FIRE ALARM CONTROL PANEL	1800mm (70") A.F.F. TO TOP OF UNIT
SECURITY		
SSCP	SECURITY SYSTEM CONTROL PANEL	1800mm (70") A.F.F. TO TOP OF UNIT
KP	SECURITY SYSTEM ARM/DISARM KEY PAD	1195mm (47") A.F.F.
D	DOOR POSITION SWITCH - CONCEALED	DOOR FRAME
M	MOTION DETECTOR	WALL AT CEILING
COMMUNICATIONS		
	SINGLE DEVICE BOX c/w BLANK COVERPLATE AND 21mm CONDUIT TO ACCESSIBLE CEILING SPACE	460mm (18") A.F.F.
	DATA OUTLET	460mm (18") A.F.F.
	DATA OUTLET - TWO JACKS	460mm (18") A.F.F.
	DATA AND TELEPHONE OUTLET	460mm (18") A.F.F.
W	TELEPHONE OUTLET - WALL	1372mm (54") A.F.F.
IC	INTERCOM SPEAKER WITH CALL SWITCH	1100mm (43") A.F.F.
PS	PAGING SPEAKER	CEILING MOUNTED
	CLOCK	WALL MOUNTED
P	PROJECTOR	SEE DETAIL
	CLASSROOM MODULE	SEE DETAIL
	DATA RACK - PLAN VIEW	
WIRING AND CONDUIT		
	COMMUNICATIONS CABLE HANGER	
	GENERAL CIRCUIT CONDUIT	
	CIRCUIT BREAKER	
SPD	SURGE PROTECTIVE DEVICE	
DMS	DIGITAL METERING SYSTEM	
M	METER	
	EMT SLEEVE 50mm c/w BUSHINGS AND NYLON FISH WIRE	
	TRANSFORMER - RISER DIAGRAM	
	ELECTRICAL PANEL - RISER DIAGRAM	

ABBREVIATIONS

+XX	LOCATE XX ABOVE FINISHED FLOOR	P	POLE
AFF	ABOVE FINISHED FLOOR	REL	IF DASHED - EXISTING TO BE RELOCATED
C	CONDUIT	REL	IF SOLID - EXISTING IN NEW LOCATION
EX	EXISTING TO REMAIN	REM	EXISTING TO BE REMOVED
NL	NIGHT LIGHT	REP	EXISTING TO BE REPLACED WITH NEW
OC	OVER COUNTER - 230mm (9")		

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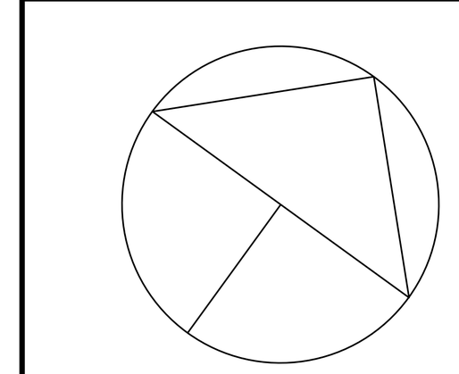
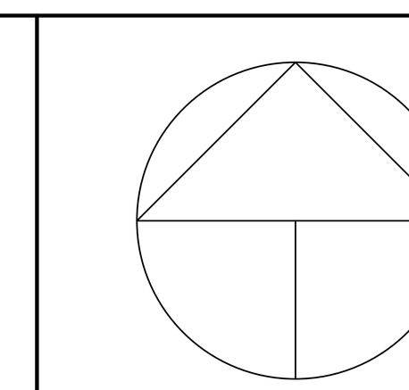
KEY PLAN



TRUE NORTH



CONSTRUCTION NORTH

NOTES

Date	Description	No.
03/06/2019	REISSUED FOR ADDENDUM #1	3
02/20/2019	ISSUED FOR TENDER/PERMIT	2
12/11/2018	ISSUED FOR REVIEW	1

LICENSED PROFESSIONAL ENGINEER
R. D. ZOLNIERCZYK
100186455
Mar 6, 2019
PROVINCE OF ONTARIO

PROJECT TITLE

OUR LADY OF FATIMA PHASE 3 RENEWAL

DRAWING TITLE

ELECTRICAL LEGEND, DRAWING LIST, SCHEDULES, ABBREVIATIONS, SITE PLAN, DETAILS, AND ELECTRICAL GENERAL NOTES

DATE	DRAWN BY	DRAWING No.
02/20/2019	ZJRL	E100
SCALE: AS NOTED	CHECKED BY: RDZ	
PROJECT No.: 8586		

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PROJ. NAME: OUR LADY OF FATIMA PHASE 2 RENEWAL
PROJ. NO : 8391

PANEL ID: HPA
MAINS: 225A
VOLTAGE: 208/120V, 3Ø, 4W
MOUNTING: FLUSH
NO OF CKT: 72

LOCATION: CORRIDOR
FED FROM: MAIN DISTRIBUTION BOARD 'DP1'
COMMENTS:
NEW HEAT PUMP PANEL

CKT	BRKR	DESCRIPTION	WATTS	CKT	BRKR	DESCRIPTION	WATTS
1	15	HP-403 IN CR1-5	2350	2	20	HP-405 IN CR1-5	5155
3	2P			4			
5	20	HP-405 IN CR1-5	5155	6	3P		
7				8	20	HP-405 IN CR1-5	5155
9	3P			10			
11	20	HP-406 IN CR1-5	6323	12	3P		
13				14	20	HP-405 IN CR1-5	5155
15	3P			16			
17	20	HP-405 IN CR1-5	5155	18	3P		
19				20	20	HP-405 IN CR1-5	5155
21	3P			22			
23	15	HP-401 IN CR1-7	1048	24	3P		
25	2P			26	20	HP-405 IN CR1-3	6323
27	15	HP-401 IN CR1-7	1048	28			
29	2P			30	3P		
31	20	HP-406 IN CR1-4	6323	32	20	HP-405 IN CR1-4	5155
33				34			
35	3P			36	3P		
37	20	HP-405 IN CR1-4	5155	38			
39				40			
41	3P			42			
43				44			
45				46			
47				48			
49				50			
51				52			
53				54			
55				56			
57				58			
59				60			
61	15	SPARE		62	15	SPARE	
63				64			
65	3P			66	3P		
67	20	SPARE		68	20	SPARE	
69				70			
71	3P			72	3P		

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PROJ. NAME: OUR LADY OF FATIMA PHASE 2 RENEWAL
PROJ. NO : 8391

PANEL ID: A
MAINS: 225A
VOLTAGE: 208/120V, 3Ø, 4W
MOUNTING: FLUSH
NO OF CKT: 72

LOCATION: CORRIDOR
FED FROM: MAIN DISTRIBUTION BOARD 'DP1'
COMMENTS:
NEW PANEL TO REPLACE EXISTING

CKT	BRKR	DESCRIPTION	WATTS	CKT	BRKR	DESCRIPTION	WATTS
1	20	RM 134, 136, 138 LTG		2	20	NORTH CORRIDOR LTG	
3	20	NORTH CLASSROOM LTG		4			
5				6			
7	20	EXISTING CIRCUIT		8	20	EXISTING CIRCUIT	
9	20	EXISTING CIRCUIT		10	20	EXISTING CIRCUIT	
11	20	EXISTING CIRCUIT		12	20	EXISTING CIRCUIT	
13	20	EXISTING CIRCUIT		14	20	EXISTING CIRCUIT	
15	20	EXISTING CIRCUIT		16	20	EXISTING CIRCUIT	
17	20	EXISTING CIRCUIT		18	20	EXISTING CIRCUIT	
19	20	EXISTING CIRCUIT		20	20	EXISTING CIRCUIT	
21	15	EXISTING CIRCUIT		22	15	EXISTING CIRCUIT	
23	15	EXISTING CIRCUIT		24	15	EXISTING CIRCUIT	
25	15	EXISTING CIRCUIT		26	15	EXISTING CIRCUIT	
27	15	EXISTING CIRCUIT		28	15	EXISTING CIRCUIT	
29	15	EXISTING CIRCUIT		30	15	EXISTING CIRCUIT	
31	15	EXISTING CIRCUIT		32	15	EXISTING CIRCUIT	
33	15	EXISTING CIRCUIT		34	15	EXISTING CIRCUIT	
35	15	EXISTING CIRCUIT		36	15	EXISTING CIRCUIT	
37				38	15	EXISTING CIRCUIT	
39				40	20	EXISTING CIRCUIT	
41	20	RTU-101 REC		42	20	EXISTING CIRCUIT	
43	20	RM 144,144A REC		44	15	EXISTING CIRCUIT	
45				46	20	RM 130 REC	
47				48	20	RM 128 REC	
49				50	20	RM 126 REC	
51				52	20	RM 124 REC	
53	20	WEST SITE LTG		54	20	RM 122 REC	
55				56	20	RM 134 REC	
57				58	20	RM 136 REC	
59				60	20	RM 138 REC	
61				62			
63				64			
65	15	SPARE		66	15	SPARE	
67	15	SPARE		68	15	SPARE	
69	20	SPARE		70	20	SPARE	
71	20	SPARE		72	20	SPARE	

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PROJ. NAME: OUR LADY OF FATIMA PHASE 2 RENEWAL
PROJ. NO : 8391

PANEL ID: C
MAINS: 225A
VOLTAGE: 208/120V, 3Ø, 4W
MOUNTING: SURFACE
NO OF CKT: 72

LOCATION: MECHANICAL ROOM 150B
FED FROM: MAIN DISTRIBUTION BOARD 'DP1'
COMMENTS:
NEW PANEL TO REPLACE PANEL 'C', PANEL 'PL' AND PANEL 'F'

CKT	BRKR	DESCRIPTION	WATTS	CKT	BRKR	DESCRIPTION	WATTS
1	20	ELEC/MECH ROOM LTG		2	20	EXISTING PANEL 'F' LOAD	
3	15	EXISTING PANEL 'F' LOAD		4	20	EXISTING PANEL 'F' LOAD	
5	15	EXISTING PANEL 'F' LOAD		6	15	EXISTING PANEL 'C' LOAD	
7	15	EXISTING PANEL 'F' LOAD		8	15	EXISTING PANEL 'C' LOAD	
9	15	EXISTING PANEL 'F' LOAD		10	15	EXISTING PANEL 'C' LOAD	
11	15	EXISTING PANEL 'F' LOAD		12	15	EXISTING PANEL 'C' LOAD	
13	15	EXISTING PANEL 'F' LOAD		14	15	EXISTING PANEL 'C' LOAD	
15	20	EXISTING PANEL 'C' LOAD		16	15	EXISTING PANEL 'C' LOAD	
17	20	EXISTING PANEL 'C' LOAD		18	15	EXISTING PANEL 'C' LOAD	
19	20	EXISTING PANEL 'C' LOAD		20	15	EXISTING PANEL 'C' LOAD	
21	20	EXISTING PANEL 'C' LOAD		22	15	EXISTING PANEL 'C' LOAD	
23	20	EXISTING PANEL 'C' LOAD		24	15	EXISTING PANEL 'C' LOAD	
25	20	EXISTING PANEL 'C' LOAD		26	15	EXISTING PANEL 'C' LOAD	
27	20	EXISTING PANEL 'C' LOAD		28	15	EXISTING PANEL 'C' LOAD	
29	20	EXISTING PANEL 'C' LOAD		30	15	EXISTING PANEL 'C' LOAD	
31	20	EXISTING PANEL 'C' LOAD		32	15	EXISTING PANEL 'C' LOAD	
33	20	EXISTING PANEL 'C' LOAD		34	15	EXISTING PANEL 'C' LOAD	
35	20	EXISTING PANEL 'C' LOAD		36			
37	20	EXISTING PANEL 'C' LOAD		38	3P		
39	20	EXISTING PANEL 'C' LOAD		40	50	EXISTING PANEL 'C' LOAD	
41	20	EXISTING PANEL 'C' LOAD		42	2P		
43	20	EXISTING PANEL 'C' LOAD		44	20	EXISTING PANEL 'PL' LOAD	
45	15	EXISTING PANEL 'PL' LOAD		46	20	EXISTING PANEL 'PL' LOAD	
47	15	EXISTING PANEL 'PL' LOAD		48	15	EXISTING PANEL 'C' LOAD	
49	15	CR-7 FORCE FLOW		50	20	EXISTING PANEL 'C' LOAD	
51				52			
53	15	CR-7 DOOR OPERATOR		54			
55				56			
57				58			
59				60			
61				62			
63				64			
65	15	SPARE		66	15	SPARE	
67	15	SPARE		68	15	SPARE	
69	20	SPARE		70	20	SPARE	
71	20	SPARE		72	20	SPARE	

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PROJ. NAME: OUR LADY OF FATIMA PHASE 2 RENEWAL
PROJ. NO : 8391

PANEL ID: MA
MAINS: 225A
VOLTAGE: 208/120V, 3Ø, 4W
MOUNTING: SURFACE
NO OF CKT: 72

LOCATION: MECHANICAL ROOM 150
FED FROM: MAIN DISTRIBUTION BOARD 'DP1'
COMMENTS:
NEW PANEL

CKT	BRKR	DESCRIPTION	WATTS	CKT	BRKR	DESCRIPTION	WATTS
1	15	EXISTING PANEL 'F' LOAD	600	2	15	EXISTING PANEL 'F' LOAD	1080
3	15	EXISTING PANEL 'F' LOAD	600	4	15	EXISTING PANEL 'F' LOAD	1000
5	15	EXISTING PANEL 'F' LOAD	600	6	15	EXISTING PANEL 'F' LOAD	1000
7	15	EXISTING PANEL 'F' LOAD	1080	8	20 GFCI	METERING CABINET REC	300
9	20	EXISTING PANEL 'F' LOAD	1080	10	20	BAS HEADEND REC	1000
11	20	MECHANICAL ROOM REC	300	12	15	UH-420 RM 150B	600
13	40	CP-302B	10000	14	40	CP-302A	10000
15				16			
17	3P			18	3P		
19	15	CP-304A	1419	20	15	CP-304B	1419
21				22			
23	3P			24	3P		
25	15	CP-303A	1419	26	15	CP-303B	1419
27				28			
29	3P			30	3P		
31	15	CP-305A	2675	32	15	CP-305B	2675
33				34			
35	3P			36	3P		
37	15	CP-306	675	38	15	EF-2	675
39	15	FLUID COOLER REC	1000	40			
41				42			
43				44			
45				46			
47				48			
49				50			
51				52			
53				54			
55				56			
57				58			
59				60			
61				62	15	SPARE	
63				64			
65	15	SPARE		66	3P		
67	15	SPARE		68	20	SPARE	
69	20	SPARE		70			
71	20	SPARE		72	3P		

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PROJ. NAME: OUR LADY OF FATIMA PHASE 2 RENEWAL
PROJ. NO : 8391

PANEL ID: E
MAINS: 225A
VOLTAGE: 208/120V, 3Ø, 4W
MOUNTING: SURFACE
NO OF CKT: 66

LOCATION: STORAGE ROOM
FED FROM: MAIN DISTRIBUTION BOARD 'DP1'
COMMENTS:
PROVIDE NEW BREAKERS TO SUIT EXISTING SIEMENS PANEL

CKT	BRKR	DESCRIPTION	WATTS	CKT	BRKR	DESCRIPTION	WATTS
1	15	EXISTING CIRCUIT		2	15	EXISTING CIRCUIT	
3	15	EXISTING CIRCUIT		4	15	EXISTING CIRCUIT	
5	15	EXISTING CIRCUIT		6	15	EXISTING CIRCUIT	
7	15	EXISTING CIRCUIT		8	15	EXISTING CIRCUIT	
9	15	EXISTING CIRCUIT		10	15	EXISTING CIRCUIT	
11	15	EXISTING CIRCUIT		12	15	EXISTING CIRCUIT	
13	15	EXISTING CIRCUIT		14	15	EXISTING CIRCUIT	
15	15	EXISTING CIRCUIT		16	15	EXISTING CIRCUIT	
17	15	EXISTING CIRCUIT		18	15	EXISTING CIRCUIT	
19	15	EXISTING CIRCUIT		20	15	EXISTING CIRCUIT	
21	15	EXISTING CIRCUIT		22	15	EXISTING CIRCUIT	
23	20	EXISTING CIRCUIT		24	20	EXISTING CIRCUIT	
25	15	EXISTING CIRCUIT		26	20	EXISTING CIRCUIT	
27	20	EXISTING CIRCUIT		28	15	EXISTING CIRCUIT	
29				30	20	EXISTING CIRCUIT	
31	3P			32	20	EXISTING CIRCUIT	
33	15	EXISTING CIRCUIT		34	15	EXISTING CIRCUIT	
35	15	EXISTING CIRCUIT		36	20	EXISTING CIRCUIT	
37	15	EXISTING CIRCUIT		38	20	EXISTING CIRCUIT	
39	15	EXISTING CIRCUIT		40	15	EXISTING CIRCUIT	
41	15	EXISTING CIRCUIT		42	15	EXISTING CIRCUIT	
43	15	EXISTING CIRCUIT		44	15	EXISTING CIRCUIT	
45	15	EXISTING CIRCUIT		46	15	EXISTING CIRCUIT	
47	15	EXISTING CIRCUIT		48	15	EXISTING CIRCUIT	
49	20	EXISTING CIRCUIT		50	15	EXISTING CIRCUIT	
51	20	EXISTING CIRCUIT		52			
53				54			
55	20	NORTH, EAST SITE LTG		56			
57				58			
59				60			
61				62			
63				64			
65				66			

INDEX - SECTION 16705

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1 General

1.1 **GENERAL REQUIREMENTS**

1.1.1 Conform to the requirements of Section 16001, “Electrical General Provisions”.

1.1.2 Products will comply with the latest edition of the following Standards:

CAN/ULC-S302-M91, Installation and Classification of Burglar Alarm Systems for Financial and Commercial Premises, Safes and Vaults
CAN/ULC-S303-M91, Local Burglar Alarm Units and Systems
CAN/ULC-S306-03, Intrusion Detection Units
CAN/ULC-S319-05, Electronic Access Control Systems
CAN/ULC-S525-99, Audible Signal Appliances

1.2 **DESCRIPTION OF SYSTEMS**

1.2.1 **Security System**

1.2.1.1 Extend existing hardwired DSC security system including conduits, devices and all necessary components, as recommended by manufacturer.

1.2.1.2 Provide door contacts and motion sensors.

1.3 **SUBMITTALS**

1.3.1 Submit Shop Drawings in accordance with the General Conditions of the Contract and as specified in this Section.

1.3.2 Provide a written description of the proposed system configuration augmented with block diagrams identifying the location of all system components and associated cable routings.

1.3.3 Provide lists of all off-the-shelf and custom equipment, including equipment quantities.

1.3.4 Provide the mechanical, electrical and environmental specifications for all listed equipment and cable.

1.3.5 Provide an overview of any equipment installation techniques which may deviate from the standards contained in this Section. Expose all such installation techniques for prior approval by the Consultant.

2 Products

2.1 **MATERIALS**

2.1.1 Use materials specified herein or approved equal.

.2.1.2 Conductors in inaccessible ceiling spaces and partitions are to be installed in electrical metallic tubing in accordance with Specification Section 16700.

2.1.3 Conceal all wiring above finished suspended ceilings, except where otherwise noted.

2.1.4 Outlet boxes are to be code gauge, galvanized steel, of a depth necessary to accommodate the number of wires and the device contained therein.

2.2 **SECURITY SYSTEM**

2.2.1 **Detection Devices**

2.2.1.1 Door contacts are to be sleeved to fit flush in door frame. Provide repulsion type magnet contacts, suitable for wide gap 2.22 cm (.875″), SPDT contacts, white finish, type similar to Sentrol 1078 CAQ series.

2.2.1.2 Overhead door contacts are to be mounted to side of the door and track. Provide repulsion type magnet contacts, suitable for wide gaps up to 7 mm (3″), SPST contacts, all aluminum housing, 900 mm (36″) stainless steel armoured cable, door and door track mounting hardware, Sentrol 2500 Series with 1092A brackets.

2.2.1.3 Quad element motion detector with digital motion detection (no analog detection) circuitry and shielded from EMI and RFI signals, 12 m x 12 m (40′ x 40′) range with 110° viewing angle, complete with form C relay and anti-tamper switch. Paradox DG65-C.

2.2.2 **Wiring**

2.2.3 All wiring to be a minimum 22 gauge four conductor, CMP rated, as per manufacturer's recommendations.

2.2.4 The following manufacturers of the above equipment will be considered equal subject to requirements of Clause “Material and Equipment”:

DSC NEO

3 Execution

3.1 **GENERAL INSTALLATION**

3.1.1 Provide all necessary wiring, conduits, outlet boxes and devices for a complete system. Conceal all wiring.

3.1.2 Install all wiring to manufacturer's recommendations. Conceal all conduit within ceiling spaces, walls or partitions, where possible.

3.1.3 Submit complete detailed wiring diagrams with description of system upon completion as per Section 16100. Provide all required instructional support to permit correct use of system by staff members.

3.1.4 Coordinate with door hardware supplier all requirements for system components, door strikes, concealed door contacts in particular. Coordinate power and electrical parameters with the door hardware supplier.

3.1.5 Included in Base Bid for manufacturers representative to spend four hours on site for training Owner’s Staff on the operations, maintenance and setup of the access control system. Notify Consultant seven days in advance of scheduled training.

3.2 SECURITY SYSTEM

3.2.1 Flush-mount door contacts in new doors/frames. Wire and connect each door contact to a separate system alarm zone as indicated.

3.2.2 Do not install detectors and door contacts until all room finishes, door trim and seals have been installed.

3.2.3 Mount entry delay horns in ceiling space above key pad.

3.2.4 Provide all necessary programming with documentation and backup. Provide one installation manual, two programming worksheets, 10 sets of User manuals, and 20 quick reference cards. Provide hardware means of convenient backing up and restoring the system program.

3.2.5 Wire all detection devices using form C contact and end of line resistor to provide full supervision against open circuits. Where provided, wire NC tamper switch in series with end of line resistor to provide trouble at panel if activated.

3.2.6 **Operation**

3.2.6.1 **System Disarming**

3.2.6.1.1 Opening a designated entry doors will activate door contacts.

3.2.6.1.2 Audible entry (delay horn) tone will advise the operator that the system is armed and the delay on entry has been activated. The operator has 15 seconds to enter their P.I.N. number to disarm the system.

3.2.6.2 **Motion Detectors**

3.2.6.2.1 On activation of a motion detector, the system panel will initiate an alarm signal.

3.2.6.2.2 On activation of a motion detector tamper switch, the system panel will initiate a trouble signal.

3.2.6.3 **Door Contacts**

3.2.6.3.1 Activation of a door contact defined as "instant", the system panel will initiate an alarm signal.

3.2.6.3.2 Activation of a door contact defined as "delay", the entry tone will sound and at the end of the programmed delay time period, the system panel will initiate an alarm signal if the system has not been disarmed.

3.3 VERIFICATION AND COMMISSIONING

3.3.1 Verify system and all connected components operation, and provide written Certificate of Verification.

3.3.2 Notify Owner and Consultant minimum seven days in advance of scheduled verification.

3.3.3 Provide all necessary tools, ladders and equipment.

3.3.4 Ensure appropriate subcontractors, and manufacturer's representatives and security specialists are present for verification.

3.3.5 Visual verification: Objective is to assess quality of installation and assembly and overall appearance to ensure compliance with Contract Documents. Visual inspection to include:

3.3.5.1 Sturdiness of equipment fastening.

3.3.5.2 Non-existence of installation related damages.

3.3.5.3 Compliance of device locations with drawings and reviewed shop drawings.

3.3.5.4 Compatibility of equipment installation with physical environment.

3.3.5.5 Inclusion of all accessories.

3.3.5.6 Device and cabling identification.

3.3.5.7 Application and location of ULC approval decals.

3.3.6 Technical verification: Purpose to ensure that all systems and devices are properly installed and free of defects and damage. Technical verification includes:

3.3.6.1 Measurements of coverage patterns

3.3.6.2 Connecting joints and equipment fastening.

3.3.6.3 Compliance with manufacturer's specification, product literature and installation instructions.

3.3.7 Operational verification: Purpose to ensure that devices and systems' performance meet or exceed established functional requirements. Operational verification includes:

3.3.7.1 Operation of each device individually and within its environment.

3.3.7.2 Operation of each device in relation with programmable schedule and or/specific functions.

3.4 ACCESSORIES

3.4.1 Turn accessories (reference cards, proximity cards, etc.) over to Owner at end of construction. Provide signed letter from Owner listing items and quantities of accessories confirming receipt, and include in electrical manuals.

END OF SECTION