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conditions on site and immediately notify  
the engineer of all discrepancies.

1.	ISSUED FOR REVIEW	16.06.09
revisions	description	date

A	A detail no. no. du detail	A
C	B location drawing no. sur dessin no.	B C
	C drawing no. dessin no.	

project projet

INSTALLATION OF NEW  
POWER DOOR  
OPERATORS  
OTTAWA, ONTARIO

drawing dessin

PARTIAL GROUND  
FLOOR – ELECTRICAL,  
GENERAL NOTES, AND  
ELECTRICAL LEGEND

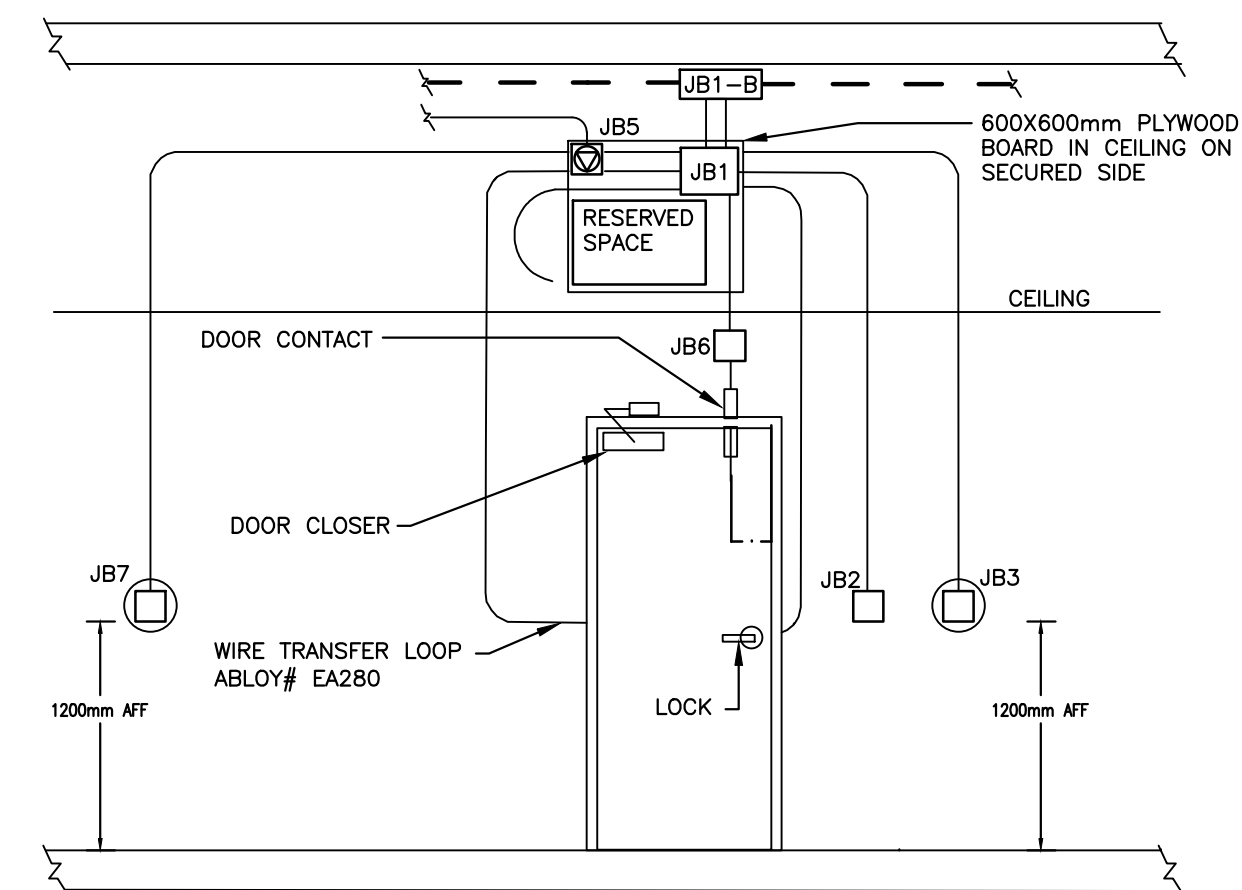
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Date	2016.06	(yyyy/mm/dd)
Tender		Soumission
DEPARTMENTAL REPRESENTATIVE		
Project Manager		Administrateur de projets
Project no.		No. du projet
PTS 4364		
Drawing no.		No. du dessin
E1 OF 2		

## ELECTRICAL LEGEND

ITEM	DESCRIPTION
⊗⊗	EXIT SIGN SUSPENDED / SURFACE MOUNTED
—	ELECTRICAL PANEL
J	JUNCTION BOX (12"x12"x6")
■	FIRE ALARM PULL STATION
S	FIRE ALARM SMOKE DETECTOR CEILING MOUNTED
CR	CARD READER
PB	PUSH BUTTON
⊙	DIRECT CONNECTION
□	DISCONNECT SWITCH
NOT ALL SYMBOLS SHOWN IN LEGEND SET ARE NECESSARILY USED IN DRAWING SET.	

## GENERAL NOTES:

- ALL ELECTRICAL EQUIPMENT SHOWN IN THIN SOLID LINES IS EXISTING TO REMAIN.
- ALL ELECTRICAL EQUIPMENT SHOWN IN THICK SOLID LINES IS NEW TO BE PROVIDED UNDER THIS CONTRACT, TOGETHER WITH ALL ASSOCIATED CONDUITS AND WIRING.
- ALL ELECTRICAL EQUIPMENT SHOWN IN THICK DASHED LINES WITH LETTER 'R' IS EXISTING TO BE RELOCATED AS SHOWN. EXTEND ALL CONDUITS AND WIRING TO SUIT.
- ALL ELECTRICAL EQUIPMENT SHOWN IN THICK DASHED LINES WITH LETTER 'X' IS EXISTING TO BE REMOVED C/W ALL CONDUIT, WIRING AND ASSOCIATED HARDWARE BACK TO NEAREST J/B.
- FOR ANY REQUIRED SHUT DOWN, CONTRACTOR TO COORDINATE WITH SITE MANAGER AND OBTAIN APPROVAL BEFORE SHUT DOWN CAN BE PERFORMED.
- FIRE ALARM SYSTEM TO REMAIN OPERATIONAL FOR DURATION OF THIS PROJECT, PROVIDE DUST PROTECTION. PROVIDE FIRE WATCH IF REQUIRED.
- PROVIDE NEW BREAKERS AS REQUIRED IN EXISTING ELECTRICAL PANELS TO ACCOMMODATE NEW CONNECTIONS, ALSO PROVIDE BLANK PLATES WHERE CIRCUIT BREAKERS ARE NOT INSTALLED, PROVIDE NEW TYPED PANEL LEGEND TYPICAL FOR ALL PANELS TOUCHED BY THIS CONTRACT. TURN OVER TO THE OWNER ALL BREAKERS REMOVED UNDER THIS CONTRACT.
- ALL EXISTING AND NEW CONDUITS AND WIRING PASSING THRU FLOOR AND FIRE RATED WALLS TO BE FIRE STOP USING 3M FIRE RETARDANT MASTIC SEALANT NO EQUIVALENT.
- ALL WIRING TO BE R/RW90, MINIMUM SIZE #12AWG COPPER, IN EMT CONDUIT UNLESS OTHERWISE NOTED.
- COORDINATE ALL WORK WITH ARCHITECTURAL AND MECHANICAL CONTRACTORS.
- THIS DRAWING WAS BASED ON PARTIAL SITE REVIEW ONLY, ALL EQUIPMENT, ACCESSORIES, SIZES, LOCATIONS AND DETAILS OF INSTALLATIONS TO BE CONFIRMED ON SITE.

SECURITY DOOR 'G'  
HANDICAP DOOR WITH CARD ACCESSCONDUIT, FLEXIBLE, 1-1/2"  
CONDUIT 2"

- JB1 - 250x250x75mm PULL BOX
- JB2 - 50x100mm HC PUSH BUTTON OPERATOR (IN) - FACING OUTSIDE SECURE AREA
- JB3 - 50x100mm CARD READER - FACING OUTSIDE SECURE AREA
- JB5 - 50x100mm 110V/15A CIRCUIT FOR DOOR OPERATOR
- JB6 - 50x100mm BUZZER - FACING INSIDE SECURE AREA
- JB7 - 50x100mm HC PUSH BUTTON OPERATOR (OUT) - FACING INSIDE SECURE AREA

## NOTES:

- \* REFER TO DOOR LEGEND AND SCHEDULE ON ARCHITECTURAL DRAWINGS
- \*\* ALL CONDUIT IS 3/4" UNLESS OTHERWISE NOTED
- \*\*\* NOT NECESSARILY ALL DEVICES USED AT ALL LOCATIONS, REFER TO DRAWINGS.

3  
E1  
TYPICAL DETAIL – SECURE DOOR, TYPE 'G'  
SCALE NTS

## DRAWING NOTES (EXISTING):

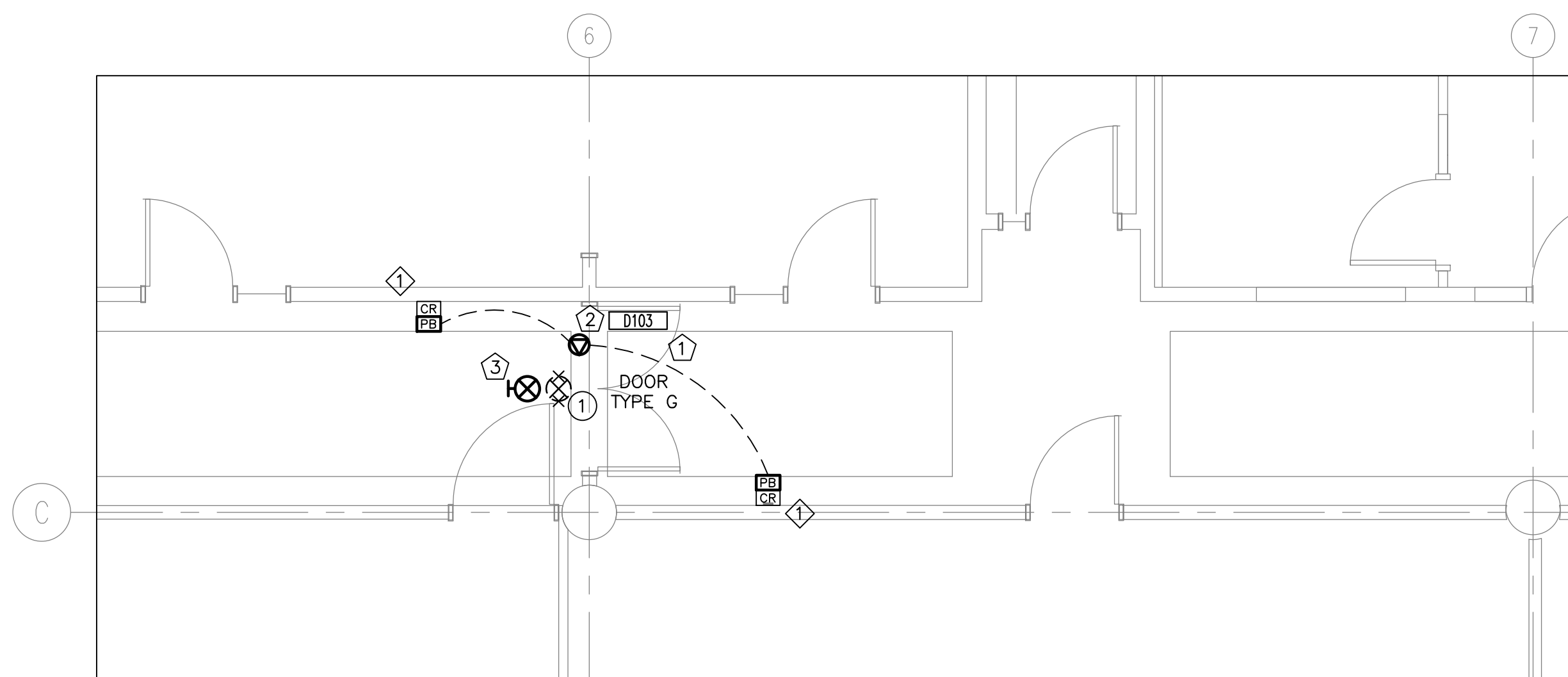
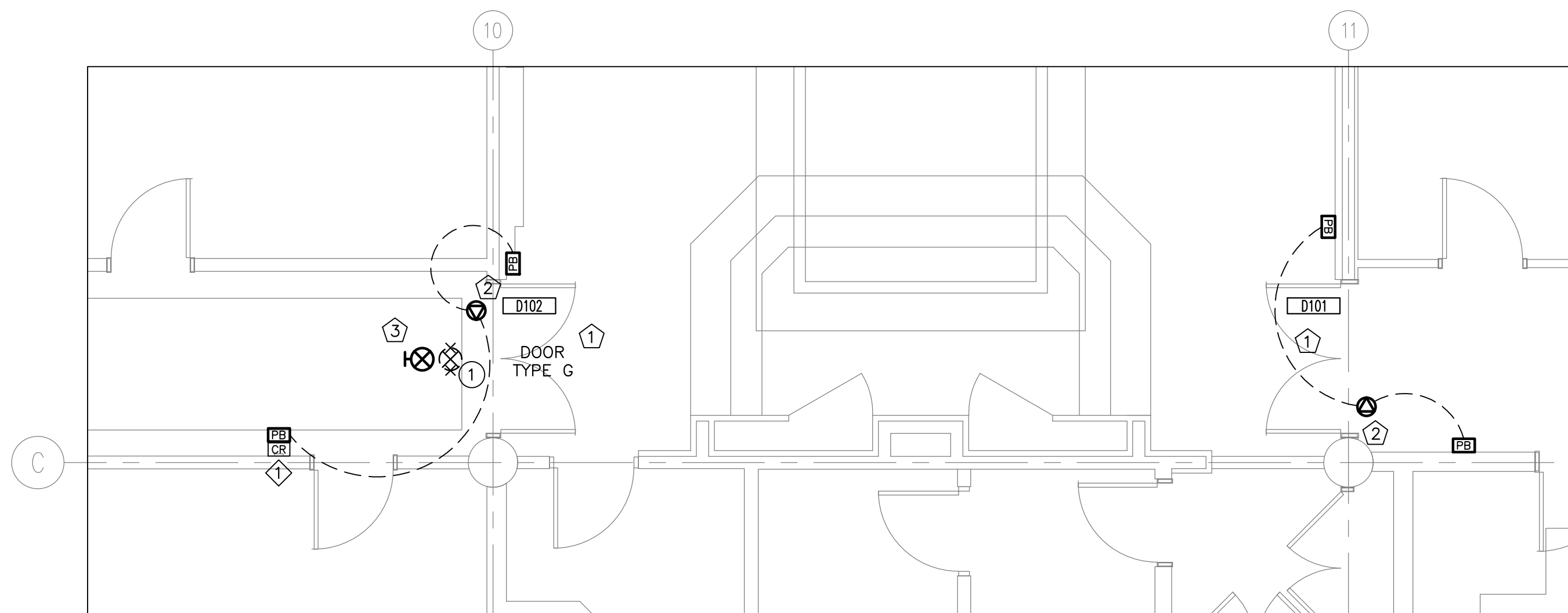
- TYPICAL: EXISTING CARD READER, FOR REFERENCE.

## DRAWING NOTES (DEMOLITION):

- TYPICAL OF TWO: EXISTING SURFACE MOUNTED EXIT SIGN TO BE DISCONNECTED AND REMOVED COMPLETE WITH ALL WIRING AND CONDUIT BACK TO NEAREST JUNCTION BOX. CIRCUIT TO BE RE-USED FOR NEW INSTALLATION.

## DRAWING NOTES (NEW):

- TYPICAL OF THREE: PROVIDE ROUGH-IN FOR SECURE DOORS. REFER TYPICAL DOOR DETAIL AND ARCHITECTURAL DRAWINGS FOR FURTHER DETAILS AND SECURE DOOR TYPE. CONDUIT TO BE SURFACE-MOUNTED BETWEEN DOOR OPERATOR AND PUSH-BUTTONS. PROVIDE POLYPROPYLENE PULL-STRINGS IN ALL EMPTY CONDUITS.
- TYPICAL OF THREE: PROVIDE DIRECT CONNECTION TO NEW DOOR OPERATOR. OPERATOR TO BE C/W BUILT IN DISCONNECT SWITCH (TOGGLE ON OPERATOR), ALL CONDUIT, WIRING AND ASSOCIATED HARDWARE. OPERATORS TO BE INTERFACED WITH FIRE ALARM SYSTEM. POWER TO OPERATORS TO BE DISCONNECTED WHEN FIRE ALARM SYSTEM GOES INTO ALARM. REFER TO TYPICAL DETAIL. SOURCE OF POWER TO BE DETERMINED ON SITE AT TIME OF TENDER.
- TYPICAL OF TWO: PROVIDE NEW SUSPENDED EXIT SIGN, TYPE TO MATCH EXISTING. RE-USE CIRCUIT FROM REMOVED EXIT SIGN, EXTEND ALL WIRING AND CONDUIT TO SUIT NEW INSTALLATION LOCATION.

1  
E1  
PARTIAL GROUND FLOOR – EXISTING, DEMOLITION, AND NEW  
DOOR 103  
SCALE 1:502  
E1  
PARTIAL GROUND FLOOR – EXISTING, DEMOLITION, AND NEW  
DOORS 101 AND 102  
SCALE 1:50

GENERAL INSTRUCTIONS

CONDITIONS OF CONTRACT

1. THE OWNERS INSTRUCTIONS TO BIDDERS AND THE GENERAL CONDITIONS OF THE DESIGNERS SPECIFICATIONS ARE AN INTEGRAL PART OF THIS CONTRACT AND SHALL BE READ IN CONJUNCTION HERewith. THESE INSTRUCTIONS TO BIDDERS AND GENERAL CONDITIONS SHALL BE FULLY BINDING ON THE GENERAL CONTRACTOR AND HIS SUB-CONTRACTORS TO THE FULL SATISFACTION OF THE DESIGNER, ENGINEER AND OWNER.
2. THE RESPONSIBILITY AND SCOPE OF EACH SUB-TRADE RESTS SOLELY WITH THE CONTRACTOR. EXTRAS WILL NOT BE CONSIDERED BASED ON THE GROUNDS OF DIFFERENCE IN INTERPRETATION OF SPECIFICATIONS AND DRAWINGS AS TO WHICH TRADE INVOLVED SHALL PROVIDE CERTAIN SPECIALTIES OR MATERIALS.
3. IT IS A CONDITION OF THIS CONTRACT, THAT THE CONTRACTOR WILL, IN THE PERFORMANCE OF THE SERVICES FOR THE OWNER AS DESCRIBED IN THIS CONTRACT, PERFORM WORK IN ACCORDANCE WITH ONTARIO BUILDING CODE LATEST EDITION, THE ONTARIO HYDRO ELECTRICAL SAFETY CODE, THE SEWAGE SYSTEMS ENVIRONMENTAL PROTECTION ACT ONTARIO, WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS), O.REG 644/88, THE ONTARIO GAS UTILIZATION CODE, AND ANY OTHER CODE OF PROVINIOR OR LOCAL APPLICATION, INCLUDING HOURS OF WORK, RATES OF PAY, JOB SAFETY AND ALL OTHER MATTERS IN WHICH THE MUNICIPAL OR FEDERAL AUTHORITIES HAVE JURISDICTION, PROVIDED THAT IN ANY CASE OF CONFLICT OR DISCREPANCY, THE MORE STRINGENT REQUIREMENTS SHALL APPLY.
4. COMPLY WITH STANDARD FOR BUILDING CONSTRUCTION OPERATIONS, ISSUED BY THE ONTARIO FIRE MARSHALL'S OFFICE AND ALL APPLICABLE FIRE SAFETY CODES, LAWS, AND REGULATIONS.
5. IT IS INCUMBENT UPON THE CONTRACTOR TO INFORM ITSELF OF ANY SUCH LEGISLATION AND THE CONTRACTOR AGREES THAT IN THE EVENT OF NON-COMPLIANCE WITH THIS LEGISLATION, IT WILL INDEMNIFY AND HOLD HARMLESS THE OWNER FROM ANY COSTS AND DAMAGES RESULTING FROM SUCH NON-COMPLIANCE.
6. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH STANDARDS OF GOOD PRACTICE SUCH AS, BUT NOT LIMITED TO, SMACNA AND ASHRAE, MEET OR EXCEED REQUIREMENTS OF CONTRACT DOCUMENTS, SPECIFIED STANDARDS, CODES AND REFERENCED DOCUMENTS DESCRIBED IN THESE INSTRUCTIONS.

EXAMINATION OF WORK

1. THIS PROJECT INVOLVES RENOVATIONS TO EXISTING BUILDING, THEREFORE EXAMINE THE SITE AND LOCAL CONDITIONS TO DETERMINE THE DIFFICULTIES IN CARRYING OUT THE WORK INDICATED AND SPECIFIED PRIOR TO SUBMITTING FINAL PRICE.

INTENT

1. IT IS THE INTENT OF THIS SPECIFICATION AND DRAWINGS TO PROVIDE FOR A COMPLETE AND FULLY OPERATING SYSTEM IN COMPLETE ACCORD WITH ALL APPLICABLE CODES. THESE DOCUMENTS MAY NOT SHOW OR DESCRIBE EACH AND EVERY ITEM REQUIRED FOR THE COMPLETE INSTALLATION; THEREFORE, THE CONTRACTOR SHALL MAKE PROVISIONS FOR ALL LABOUR, MATERIAL AND EQUIPMENT DEEMED NECESSARY TO COMPLETE THE WORK INDICATED OR REASONABLY IMPLIED ON ALL DRAWINGS.

LIABILITY

1. THIS CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR LAYING OUT HIS WORK AND/OR ANY DAMAGE OR EXTRA COSTS CAUSED TO THE OWNER OR OTHER CONTRACTORS BY IMPROPER LOCATION OR CARRYING OUT OF HIS WORK. CARRY ALL NECESSARY INSURANCE COVERAGE.

PERMITS, CERTIFICATES, FEES, ETC.

1. GIVE ALL NOTICES, OBTAIN ALL PERMITS AND PAY ALL FEES SO THAT THE WORK SPECIFIED HEREIN MAY BE CARRIED OUT, EXCEPT FOR OCCUPANCY PERMIT WHICH WILL BE OBTAINED BY THE OWNER. AT THE ENGINEER'S REQUEST, FURNISH ANY CERTIFICATES AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH THE LAWS AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION.

GUARANTEE

1. THE CONTRACTOR, AS A CONDITION PRECEDENT TO FINAL PAYMENT AFTER COMPLETION OF THIS WORK, SHALL GIVE THE OWNER A WRITTEN GUARANTEE WARRANTING ALL APPARATUS FURNISHED UNDER THE CONTRACT TO REMAIN IN PERFECT SERVICEABLE CONDITION FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL PERFORMANCE OF HIS WORK AS ESTABLISHED BY THE PROJECT MANAGER AND ENGINEER.

DOCUMENTS REQUIRED

1. MAINTAIN AT JOB SITE ONE COPY OF EACH OF THE FOLLOWING DOCUMENTS:
- .1 DRAWINGS.
  - .2 SPECIFICATIONS.
  - .3 ADDENDA.
  - .4 CHANGE ORDERS.
  - .5 OTHER MODIFICATIONS TO CONTRACT.
  - .6 FIELD TEST REPORTS.
  - .7 MANUFACTURERS' INSTALLATION AND APPLICATION INSTRUCTIONS.

EXTRA WORK

1. NO EXTRA WORK IS TO BE CARRIED OUT WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER OR THE OWNER'S REPRESENTATIVE.
2. CONTRACTOR SHALL PROVIDE QUOTATIONS FOR EXTRA WORK AS DIRECTED UNDER CONTEMPLATED CHANGE NOTICES (CCN'S) ISSUED IN WRITING BY THE ENGINEER OR THE OWNER'S REPRESENTATIVE.
3. CONTRACTOR TO SUBMIT ITEMIZED BREAKDOWN FOR BOTH MATERIAL AND LABOUR FOR ALL CONTEMPLATED CHANGE NOTICES. CONTRACTOR WILL USE THE CCN FORMS PROVIDED WITH THE TENDER DOCUMENTS. ALL COLUMNS TO BE USED WHERE APPLICABLE AND EXTENSIONS MADE.
4. AT THE START OF THE PROJECT THE CONTRACTOR SHALL SUBMIT FOR REVIEW THE HOURLY LABOUR RATE THAT IS PROPOSED FOR PRICING ON ALL EXTRA WORK THAT MAY ARISE ON THE PROJECT.
5. LABOUR RATE TO INCLUDE ONLY:
- .1 PAY AND VACATION PAY.
  - .2 WELFARE AS PER UNION COLLECTIVE AGREEMENT (ACCEPTED ONLY IF CONTRACTOR IS A UNION CONTRACTOR).
  - .3 E.I. OR G.P.P. AS PER FEDERAL GOVERNMENT REQUIREMENTS.
  - .4 W.C.B. PAYMENTS AS PER ONTARIO REGULATIONS.
  - .5 INSURANCE AS PER REQUIREMENTS OR REGULATING BODY.
6. MATERIAL WILL BE PRICES AT THE CONTRACTOR'S COST. COPIES OF SUPPLIER'S INVOICES MAY BE REQUIRED TO SUBSTANTIATE MATERIAL COSTS WHEN REQUESTED.
7. THE AMOUNT OF MARK-UP ALLOWED FOR PROFIT AND OVERHEAD WILL BE IN ACCORDANCE WITH THOSE IN THE CONTRACT DOCUMENTS WITH THE TENDER. TO BE MODIFIED TO REFLECT THE ALLOWED PROFIT AND OVERHEAD STATED IN THE CONTRACT DOCUMENTS.
8. THE MARK-UPS APPLY TO THE NET WHERE A CHANGE INCLUDES BOTH EXTRAS AND CREDITS.
9. COST OF WORK BY A SUB-TRADE TO THE DIVISION 26 CONTRACTOR WILL BE DETERMINED BY THE SUB-TRADE USING THE SAME ITEMIZED BREAKDOWN FORMAT AND THE SAME CCN FORM.
10. A MARK-UP OF 5% WILL BE PERMITTED BY THE DIVISION 26 CONTRACTOR FOR SUB-TRADE WORK.

PROGRESS BILLING

1. CONTRACTOR TO SUBMIT ITEMIZED BREAKDOWN FOR THE PROJECT BASED ON THE CONTRACT PRICE AGREED TO FOR THIS PROJECT. CONTEMPLATED CHANGE NOTICES ONCE AUTHORIZED BY THE OWNER WILL BE ADDED TO THE MONTHLY PROGRESS CLAIM.
2. CLAIMS FOR PAYMENT SHALL BE SUBMITTED FOR REVIEW PRIOR TO THE END OF THE PAY PERIOD TO ALLOW FOR A TIMELY REVIEW BY THE ENGINEER.
3. CONTRACTOR SHALL SUBMIT PROGRESS CLAIMS FOR REVIEW AND PAYMENT AUTHORIZATION IN ACCORDANCE WITH THE TERMS OF THE CONTRACT.

AS-BUILT AND RECORD DRAWINGS

1. OWNERS REPRESENTATIVE WILL PROVIDE TWO(2) SETS OF DRAWINGS AT THE START OF CONSTRUCTION TO ALLOW THE CONTRACTOR TO KEEP AND MAINTAIN ACCURATE AS-BUILT DRAWINGS.
2. ONE SET SHALL BE KEPT ON SITE TO RECORD THE INFORMATION REFLECTING CHANGES AND INSTALLATION ON A DAILY BASIS DURING CONSTRUCTION. AT THE END OF THE PROJECT ALL INFORMATION FROM THE CONSTRUCTION SET SHALL BE TRANSFERRED ONTO THE CLEAN SET AND SENT TO THE ENGINEER FOR THE FINAL REVIEW.
3. FAILURE TO KEEP UP TO DATE AS-BUILT DRAWING MAY JEOPARDIZE MONTHLY PROGRESS PAYMENTS. AS-BUILT DRAWING WILL BE REVIEWED AT THE SAME TIME AS MONTHLY PROGRESS PAYMENT INSPECTIONS ARE CONDUCTED.

SHOP DRAWINGS

1. BEFORE FABRICATION OR DELIVERY OF ANY MATERIALS OR EQUIPMENT, SUBMIT ELECTRONIC COPIES OF SHOP DRAWINGS AND DATA SHEETS COVERING ALL ITEMS OF EQUIPMENT FURNISHED AND INTENDED FOR INSTALLATION UNDER THIS CONTRACT FOR APPROVAL BY THE ENGINEER.

TEMPORARY AND TRIAL USAGE

1. TEMPORARY OR TRIAL USAGE BY THE OWNER OF ANY MACHINERY, APPARATUS, EQUIPMENT OR ANY OTHER WORK OR MATERIALS SUPPLIED UNDER THE CONTRACT BEFORE FINAL WRITTEN ACCEPTANCE BY THE ENGINEER IS NOT TO BE CONSTRUED AS EVIDENCE OF THE ACCEPTANCE OF SAME BY THE OWNER. THE OWNER SHALL HAVE THE PRIVILEGE OF SUCH TEMPORARY AND TRIAL USAGE AS SOON AS THIS CONTRACTOR CLAIMS THAT SAID WORK IS COMPLETED. ANY DAMAGE CAUSED BY DEFECTIVE MATERIAL OR WORKMANSHIP THROUGH TEMPORARY OR TRIAL USAGE BY THE OWNER SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR.
2. ANY PERMANENT EQUIPMENT USED TEMPORARILY FOR TEMPORARY HEAT OR OTHERWISE WILL BE COMPLETELY REPAIRED, REPLACED, AND CLEANED TO THE FULL SATISFACTION OF THE OWNER.

EXPLOSIVES ACTUATED FASTENING DEVICES

1. DO NOT EMPLOY POWER GUNS USING EXPLOSIVES, UNLESS EXPRESSLY PERMITTED BY THE PROJECT MANAGER; COMPLY WITH REQUIREMENTS OF CSA Z-166 (SAFETY CODE FOR EXPLOSIVE ACTUATED TOOLS).

STORAGE

1. THE SECURITY OF THE CONTRACTOR'S EQUIPMENT AND MATERIALS SHALL BE HIS RESPONSIBILITY. CONTRACTOR SHALL LIAISE WITH THE BUILDING OPERATOR AS NECESSARY.

SIGNS

1. PROVIDE WARNING SIGNS IN LOCATIONS WHERE RENOVATIONS AND ALTERATION WORK IS ADJACENT TO AREAS AFFECTING THE PUBLIC.

EQUIPMENT AND SITE CLEANLINESS

1. DUCTS AND EQUIPMENT SHALL BE THOROUGHLY CLEANED OF DIRT, CUTTINGS AND OTHER FOREIGN SUBSTANCES. DISCONNECT, CLEAN AND RECONNECT WHENEVER NECESSARY FOR THE PURPOSE OF LOCATING AND REMOVING OBSTRUCTIONS. REPAIR WORK DAMAGED IN THE COURSE OF REMOVING OBSTRUCTIONS.
2. THE CONTRACTOR SHALL AT ALL TIMES KEEP THE PREMISES FREE FROM THE ACCUMULATION OF WASTE MATERIAL TO THE SATISFACTION OF THE PROJECT MANAGER. PLACE DUST PROTECTION IN THE FORM OF COVER SHEETS OVER EQUIPMENT AND FURNITURE TO ENSURE NO DUST INFILTRATION. CLEANING TO BE COMPLETED AT THE END OF EACH SHIFT TO THE SATISFACTION OF THE PROJECT MANAGER.

OPERATING AND MAINTENANCE DATA

1. FURNISH THREE (3) SETS OF OPERATING AND MAINTENANCE DATA FOR ALL NEW EQUIPMENT AND SYSTEMS. DATA SHALL BE ASSEMBLED IN BOOKLET FORM WITH HARD COVER AND INDEX. IDENTIFY FRONT COVER WITH NAME AND LOCATION OF THE PROJECT, CONSULTING ENGINEER AND CONTRACTOR. SUBMIT ONE COPY TO THE ENGINEER FOR APPROVAL.

MATERIALS

1. MATERIALS AND EQUIPMENT INSTALLED SHALL BE NEW, FULL WEIGHT AND OF BEST QUALITY SPECIFIED. USE SAME BRAND OF MANUFACTURER FOR EACH SPECIFIC APPLICATION. STATICALLY AND DYNAMICALLY BALANCE ROTATING EQUIPMENT FOR MINIMUM VIBRATION AND LOW OPERATING NOISE LEVEL. REPLACE MATERIAL OR WORKMANSHIP BELOW SPECIFIED QUALITY AND RELOCATE WORK WRONGLY PLACED TO THE SATISFACTION OF THE ENGINEER.

APPROVALS

1. THE PRICE SUBMITTED FOR THIS CONTRACT SHALL BE BASED ON THE USE OF MATERIALS AND EQUIPMENT AS SPECIFIED. IF THIS CONTRACTOR WISHES TO QUOTE ON EQUIVALENT MATERIALS AND EQUIPMENT, HE MUST QUOTE ON PRODUCTS APPROVED BY THE ENGINEER, IN WRITING, AS AN EQUIVALENT TO THE PRODUCT SPECIFIED. THIS CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY ADDITIONAL WORK OR MATERIALS REQUIRED BY ALL OTHER CONTRACTORS TO ACCOMMODATE APPROVED EQUIVALENT MATERIALS OR EQUIPMENT. EXTRAS WILL NOT BE APPROVED TO COVER SUCH WORK.

CUTTING AND PATCHING

1. THE CONTRACTOR IS RESPONSIBLE FOR THIS WORK AND SHALL CO-ORDINATE LOCATIONS FOR ALL HOLES FOR PIPES, DUCTS THROUGH FLOORS AND ROOF, ETC., AND PROVIDE SLEEVES REQUIRED TO EXECUTE THE INSTALLATION. X-RAY FLOORS AND STRUCTURAL WALLS BEFORE CUTTING TO LOCATE EXISTING REBAR AND CONDUITS, AND MUST OBTAIN PROJECT MANAGER'S APPROVAL FOR PROPOSED CUTTING BEFORE PROCEEDING. PROVIDE ULC APPROVED FIRE STOPPING SYSTEM FOR ALL PENETRATIONS THROUGH RATED ASSEMBLIES.

SHUTDOWNS

1. ANY SHUTDOWN THAT MAY BE REQUIRED OF EXISTING EQUIPMENT MUST HAVE PRIOR APPROVAL FROM THE PROJECT MANAGER AND ENGINEER. PROVIDE A MINIMUM OF 48 HOURS NOTICE.

MATERIALS REMOVED

1. ALL MATERIALS REMOVED DURING DEMOLITION SHALL BECOME THE PROPERTY OF THE OWNER AND STOCKPILED AS DIRECTED ON SITE. MATERIAL REJECTED BY THE OWNER SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.

ELECTRICAL SPECIFICATIONS

MINIMUM STANDARDS

1. ELECTRICAL INSTALLATION: TO CSA C22.1-2009
2. LIGHTING FIXTURES: TO CSA C22.2 No. 9-1989
3. FIXTURE BALLAST: TO CSA C22.2 No. 74-1996
4. ONTARIO BUILDING CODE-2006
5. ONTARIO ELECTRICAL SAFETY CODE-2009.

MOUNTING HEIGHTS

1. INSTALL ELECTRICAL EQUIPMENT AT FOLLOWING HEIGHTS UNLESS INDICATED OTHERWISE:
- .1 LOCAL SWITCHES: 1200mm
  - .2 WALL RECEPTACLES:
    - .1 GENERAL: 400mm
    - .2 ABOVE COUNTERS: 175mm
  - .3 PANEL BOARDS: 1800mm FROM TOP
  - .4 TELECOMMUNICATION OUTLETS: 400mm

DEMOLITION

1. CONTRACTOR TO CO-ORDINATE WITH OTHER TRADES TO ENSURE THAT ELECTRICAL EQUIPMENT AND FEEDERS ASSOCIATED WITH MECHANICAL EQUIPMENT AND/OR IS LOCATED IN WALLS BEING DEMOLISHED IS ALSO BEING REMOVED.
2. EXISTING EQUIPMENT SHOWN AS RELOCATED TO BE CLEANED AND MADE OPERATIONAL BY THIS CONTRACTOR PRIOR TO ITS RELOCATION.
3. CONTRACTOR TO REPLACE BROKEN AND DISCOLOURED LIGHT FIXTURE ACRYLIC LENSES AS INDICATED BY THE ENGINEER.

EQUIPMENT SHUT-DOWN

1. ANY SHUTDOWN THAT MAY BE REQUIRED OF EXISTING EQUIPMENT, MUST HAVE PRIOR APPROVAL FROM THE ENGINEER.

IDENTIFICATION

1. IDENTIFY WITH LAMACOID NAMEPLATES ALL ELECTRICAL EQUIPMENT SHOWN ON THE DRAWINGS AND/OR MENTIONED IN THE SPECIFICATION SUCH AS MOTORS, SWITCHES, STARTERS, PANEL BOARDS, TRANSFORMERS, CONTROLS AND SPECIAL RECEPTACLES, REGARDLESS OF WHETHER OR NOT THE ELECTRICAL EQUIPMENT WAS FURNISHED UNDER THIS SECTION OF THE SPECIFICATION. IDENTIFICATION REVIEWED BY ENGINEER.
2. UNLESS OTHERWISE SPECIFIED, NAMEPLATES SHALL BE RIGID LAMACOID, MINIMUM 1.5mm THICK WITH BLACK LETTERS ENGRAVED ON A WHITE BACKGROUND. NAMEPLATES TO BE NEATLY PLACED, AND SQUARE TO SURROUNDING BUILDING OR EQUIPMENT LINES, AND FASTENED IN PLACE WITH MECHANICAL FASTENERS (SCREWS OR POP RIVETS) AS REVIEWED BY ENGINEER.
3. PROVIDE NEATLY TYPED UPDATED CIRCUIT DIRECTORIES IN A PLASTIC HOLDER ON THE INSIDE DOOR OF NEW PANEL BOARDS, WITH COPY IN MANUAL.
4. IDENTIFY ALL PULL AND JUNCTION BOXES, WITH P-TOUCH LABEL IDENTIFICATION, INDICATING SOURCE PANEL AND CIRCUIT NUMBERS.
5. IDENTIFY ALL RECEPTACLES AND SWITCHES WITH P-TOUCH LABELS, BLACK LETTERING ON TRANSPARENT TAPE, INDICATING SOURCE PANEL AND CIRCUIT NUMBER. LABELS TO BE LOCATED ON FRONT OF COVERPLATE.

SCOPE OF WORK

1. MODIFICATION AND ADDITION TO RACEWAY SYSTEM FOR TELECOMMUNICATION/SECURITY SYSTEM.

WIRING

1. ALL WIRING TO BE COPPER, R90 XLPE, STRANDED WITH 'BRADY LABEL' MAKING SLEEVES AT EACH END, UNLESS OTHERWISE NOTED ON DRAWINGS. WIRING TO BE COLOUR CODED AS PER CODE. MINIMUM WIRE SIZE TO BE No.12 AWG FOR POWER AND LIGHTING.
2. LEAVE ADEQUATE LENGTHS OF WIRE IN JUNCTION BOXES FOR CONNECTIONS TO EQUIPMENT.
3. 'Bx' WIRING IN WALLS ONLY.
4. RUN A GREEN INSULATED GROUND WIRE SIZED AS PER CODE IN ALL CONDUIT RUNS. DO NOT RELY ON CONDUIT AS GROUND.
- CONDUITS
1. EACH LENGTH OF CONDUIT TO BE NEW AND BEAR CSA STAMP OF APPROVAL.
2. ALL CONDUITS RUN ABOVE THE SUSPENDED CEILING TO BE 'EMT'.
3. PROVIDE NYLON PULLROPES IN ALL EMPTY CONDUIT RUNS.
4. MODULAR TO MATCH EXISTING; NOCOM MODULAR WIRING CABLES SYSTEM FOR CONNECTION OF FLUORESCENT TROFFER LIGHT FIXTURES, CONSISTENT WITH BASE BUILDING
5. SMART-CONNECT CABLES: START, JOINER, DROP, SWITCH DROP CABLES AS REQUIRED.
6. CONNECTORS: MOULDED PVC RECEPTACLES AND ADAPTERS.
7. REMOVE AND RECONNECT AS REQUIRED TO OBTAIN LIGHTING CIRCUITS INDICATED AND ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
8. TERMINATE STARTER AND DROP CABLES AT LIGHT SWITCHES AND LIGHT FIXTURES NOT OUTFITTED WITH NOCOM RECEPTACLES.
9. TURN OVER UNUSED CABLES TO BUILDING OWNER.

OUTLET BOXES

1. ELECTRO-GALVANIZED STEEL, COATING EQUAL TO THAT TO THE CONDUIT.
2. MINIMUM 37 mm DEEP 100 mm SQUARE OR OCTAGONAL AS REQUIRED.
3. EQUIP WITH PLASTER RINGS DEEP ENOUGH FOR WALL FINISH MATERIAL TO FIT OVER THE BOX AND WITHIN 6 mm OF THE COVER OPENING.

PULL BOXES

1. PROVIDE PULLBOXES WHERE RUNS EXCEED 30 METERS IN LENGTH AND HAVE MORE THAN 2-90° BENDS.

TELEPHONE, DATA AND CABLEVISION

1. COMPLETE EMPTY RACEWAYS SYSTEM CONSISTS OF OUTLET BOXES, CONDUITS, FISH WIRES.
2. CONDUITS:
- .1 21mm 'EMT' RISERS BETWEEN DOUBLE GANGED DEVICES BOXES AND CEILING PLENUM BY DIVISION 26. EXACT LOCATION TO BE DETERMINED ON SITE.
3. FISH WIRE: POLYPROPYLENE TYPE.
4. COVERPLATES INSTALLED BY OTHERS.

COVERPLATES

1. POLISHED STAINLESS STEEL COVER PLATES, THICKNESS 1.0mm FOR WIRING DEVICES MOUNTED IN A FLUSH MOUNTED BOX.
2. INSTALL COVER PLATES ONLY AFTER PAINTING AND OTHER WORK IS FINISHED.
3. INSTALL SUITABLE COMMON COVER PLATES WHERE WIRING DEVICES ARE GROUPED.
4. COVER PLATES FOR WIRING DEVICES. COMMUNICATION OUTLET COVERLETS PROVIDED BY SYSTEM CONTRACTOR.
5. COVER PLATES FROM ONE MANUFACTURER THROUGHOUT PROJECT.

CIRCUIT BREAKERS

1. PROVIDE CIRCUIT BREAKERS IN PANEL BOARD AS INDICATED.
2. BRANCH CIRCUIT BREAKERS QUICK MAKE, QUICK BREAK, AMBIENT COMPENSATED, COMMON TRIP ON ALL MULTIPOLE BREAKERS, TRIP INDICATING CLEARLY SHOWN BY BREAKER HANDLE TAKING POSITION MIDWAY BETWEEN ON AND OFF.
3. BREAKER INTERRUPTING CAPACITY:
- .1 250V PANELBOARDS AND CDP PANELBOARDS: 10kA SYMMETRICAL

EXIT LIGHTS

1. FACE AND BACK PLATES: SATIN ALUMINIUM OR GREY PAINTED STEEL.
2. LED TYPE, INPUT VOLTAGE 120 VOLTS. NO SECONDARY DC VOLTAGE REQUIRED.
3. LIFE EXPECTANCY OF THE LEDS TO BE 25 YEARS.
4. 150mm HIGH x 19mm WIDE LETTERS RED ON WHITE READING EXIT/SORTIE.
5. FACE PLATE TO REMAIN CAPTIVE FOR RELAMPING.
6. UNIVERSAL MOUNTING.
7. ARROW RIGHT, LEFT, BOTH DIRECTIONS AS SHOWN ON DRAWINGS.
8. IMPACT RESISTANT PROTECTIVE PANEL WITH EXTRUDED ALUMINIUM ENCLOSURE.
9. CEILING OR WALL MOUNTING CANOPY AND MOUNTING PLATE FOR INSTALLATION ON 100mm OCTAGONAL JUNCTION BOX.
10. INSTALL EXIT LIGHTS AS INDICATED, TO REQUIREMENTS OF OBC-1997
11. CONNECT FIXTURES TO EXISTING EXIT LIGHT CIRCUITS AS INDICATED.
12. REPLACE ALL EXISTING UNILINGUAL EXIT LIGHTS WITH NEW BILINGUAL UNITS AND EXTEND WIRING TO NEW LOCATIONS.

Canada



Public Works and  
Government Services  
Canada  
Real Property  
Branch

Travaux publics et  
services gouvernementaux  
Canada  
Direction générale  
des biens immobiliers

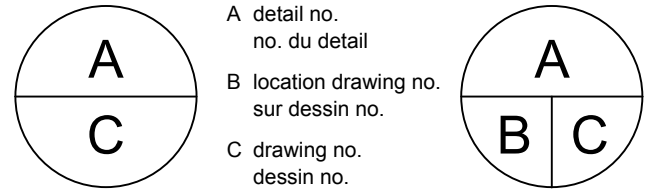
JRP ENGINEERING  
Professional Engineers

9 Holgate Ct., Ottawa, Ontario, K2K 1B4  
Tel: (613) 627-2462 Email: admin@jrpeng.com

Contractor to verify all dimensions &  
conditions on site and immediately notify  
the engineer of all discrepancies.

1.	ISSUED FOR REVIEW	16.06.09
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revisions	description	date
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project projet

INSTALLATION OF NEW  
POWER DOOR  
OPERATORS  
OTTAWA, ONTARIO

drawing dessin

ELECTRICAL  
SPECIFICATIONS

Designed By	M.G.	Conçu par
Date	2016.06	(yyyy/mm/dd)
Drawn By	M.G.	Dessiné par
Date	2016.06	(yyyy/mm/dd)
Reviewed By	M.G.	Examiné par
Date	2016.06	(yyyy/mm/dd)
Approved By	JRP	Approuvé par
Date	2016.06	(yyyy/mm/dd)
Tender	Soumission	
DEPARTMENTAL REPRESENTATIVE		
Project Manager	Administrateur de projets	
Project no.	No. du projet	
PTS 4364		
Drawing no.	No. du dessin	

