# DENISON CHILD CARE

900 MULOCK DRIVE / 605 FERNBANK ROAD NEWMARKET, ONTARIO

SYMOL DESCRIPTION  SYMOL DESCRIP				ELECTRICAL LEGE	ND			
De Livings du Sancia Harris  De Livings du Sancia Constitute Harris de Mandard Desc Constitute Harris de Sancia Co	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBO	DESCRIPTION
→ POTENIAL TRANSFORMER  GROUND  GROUND		LED LUMINAIRES. SIZE AS SHOWN ON PLANS.  POLE MOUNTED LUMINAIRE.  LED LUMINAIRE - WALL MOUNTED  LED LUMINAIRE - CEILING MOUNTED OR FLOOR MOUNTED  BOLLARDS  SWITCHING  SINGLE POLE, SINGLE THROW TOGGLE SWITCH ('3' DENOTES 3-WAY, '4' DENOTES 4-WAY, 'PL' DENOTES PILOT LIGHT, 'LV' DENOTES LOUTAGE, 'K' DENOTES KEY OPERATED).  DIMMER SWITCH. DIMMER LIGHT SWITCH (600WATT UNLESS OTHER WISE NOTED: 10=1000W, 15=1500W)  OCCUPANCY SENSOR - CEILING MOUNTED  PHOTOCELL  DIMMING CONTROLLER  POWER DEVICES  CIRCUIT BREAKER  FUSED DISCONNECT SWITCH  UNFUSED DISCONNECT SWITCH  FEEDER  POWER TRANSFORMER  DIGITAL METERING SYSTEM  GROUND FAULT INTERRUPTER  UTILITY METERING.  PANELBOARD  POTENIAL TRANSFORMER		15A-125V 1PH-3W GROUNDED QUAD RECEPTACLE IN COMMON BOX, WALL MOUNTED.  15A-15OV-3W GROUNDED DUPLEX RECEPTACLE.MOUNTED ABOVE COUNTER FOR GENERAL POWER CONNECTION.  20A-125V 1PH-3W GROUNDED QUAD RECEPTACLE IN COMMON BOX, WALL MOUNTED.  15A-125V 2P-3W GROUNDED DUPLEX RECEPTACLE, WALL MOUNTED SPLIT WIRED.  15A-125V 2P-3W GROUNDED DUPLEX RECEPTACLE, COUNTER HEIGHT SPLIT WIRED.  15A-125V 1PH-3W ISOLATED GROUNDED DUPLEX RECEPTACLE, WALL MOUNTED.  SINGLE RECEPTACLE, WALL MOUNTED.  15A-125V 1PH-3W GROUNDED DUPLEX RECEPTACLE MOUNTED IN FLUSH FLOOR BOX.  15A-125V 1PH-3W GROUNDED QUAD RECEPTACLE MOUNTED IN FLUSH FLOOR BOX.  15A-125V 1PH-3W GROUNDED DUPLEX RECEPTACLE CEILING MOUNTED  15A/20A-125V 1PH-3W GROUNDED DUPLEX RECEPTACLE MOUNTED IN FLUSH FLOOR BOX.  20A-125V 1PH-3W GROUNDED DUPLEX RECEPTACLE  30A-125V 1PH-3W GROUNDED SINGLE RECEPTACLE  50A-125V 1PH-3W GROUNDED SINGLE RECEPTACLE  50A-125V 1PH-3W GROUNDED SINGLE RECEPTACLE  50A-250V 1PH-3		FIRE ALARM MANUAL PULL STATION.  CEILING/WALL MOUNTED FIRE ALARM HORN/STROBE COMBINATION  THERMAL DETECTOR (RATE OF RISE) — CEILING OR WALL MOUNTED  SMOKE DETECTOR — CEILING OR WALL MOUNTED  FIRE ALARM CONTROL PANEL  FIRE ALARM ANNUNCIATOR PANEL C/W GRAPHIC  EMERGENCY LIGHTING BATTERY UNIT C/W UNIT MOUNTED LED HEADS.  EMERGENCY LED DOUBLE HEAD REMOTE  PICTOGRAM SIGN C/W TWO EMERGENCY BATTERY LED HEADS AND BATTERY UNIT  CEILING OR WALL MOUNTED PICTOGRAM LIGHT, ARROW(S) INDICATE DIRECTION  FIRE ALARM CONNECTION TO PRESSURE SWITCH C/W ADDRESSABLE INTERFACE MODULE.  FIRE ALARM CONNECTION TO SUPERVISED VALVE C/W ADDRESSABLE INTERFACE MODULE.  FIRE ALARM CONNECTION TO SUPERVISED VALVE C/W ADDRESSABLE INTERFACE MODULE.  120V SMOKE/STROBE/CO COMBINATION C/W RELAY.  COMMUNICATION SYSTEMS  (DIV.16 TO PROVIDE EMPTY CONDUITS, PULL WIRES AND OUTLET BACK BOXES ONLY.CABLING AND DEVICES BY TELECOMMUNICATION CONTRACTOR)  TELEPHONE WALL OUTLET C/W 3/4°C HOME RUN TO NEAREST TELECOM ROOM  DATA OUTLET — WALL, ROOF OR CEILING MOUNTED C/W 3/4°C HOME RUN TO NEAREST CABLE TRAY. MAXIMUM 4 DROPS PER WALLBOX — IF MORE THAN CONTRACTOR TO PROVIDE MULTI-GANG BOX AND FACEPLATE TO ACCOMMODATE AS REQUIRED.  COMBINATION DATA & TELEPHONE OUTLET — WALL MOUNTED C/W 3/4°C HOME RUN TO NEAREST CABLE TRAY. MAXIMUM 4 DROPS PER WALLBOX — IF MORE THAN CONTRACTOR TO PROVIDE MULTI-GANG BOX AND FACEPLATE TO ACCOMMODATE AS REQUIRED.  COMBINATION DATA & TELEPHONE OUTLET — FLOOR MOUNTED C/W 3/4°C HOME RUN TO NEAREST CABLE TRAY. MAXIMUM 4 DROPS PER WALLBOX — IF MORE THAN CONTRACTOR TO PROVIDE MULTI-GANG BOX AND FACEPLATE TO ACCOMMODATE AS REQUIRED.  COMBINATION DATA AND TELEPHONE OUTLET — FLOOR MOUNTED C/W 3/4°C HOME RUN TO NEAREST TELECOM ROOM	SM KP CAM	(DIV.16 TO PROVIDE EMPTY CONDUITS, PULL WIRES AND OUTLET BACK BOXES ONLY.CABLING AND DEVICES BY SECURITY CONTRACTOR)  CARD READER & MOTION SENSOR DOOR RELEASE INTERCOM STATION ('M' DENOTES MASTER, 'S' DENOTES SLAVE) SECURITY SYSTEM KEY PAD SECURITY CAMERA  HANDICAPPED DOOR OPENER HANDICAPPED OPERATOR PUSHBUTTON SECURITY DOOR CONTACT LOCATION SECURITY ELECTRIC STRIKE LOCATION WIRELESS ACCESS POINT  MISCELLANEOUS LEGEND  DENOTES REFER TO NOTE  DENOTES REFER TO DETAIL AND DRAWING NUMBER.  DENOTES WATERTIGHT (CSA ENCLOSURE 4) DENOTES WEATHER PROOF (NEMA TYPE 3R) DENOTES WEATHER PROOF (NEMA TYPE 3R) DENOTES WIRE GUARD ABOVE FINISHED FLOOR TAMPERPROOF T-SLOT 15/20A RECEPTACLE, 120V FRIDGE WASHER

		LUMINAIRE SCHEDULE		
TYPE	LAMP	DESCRIPTION	MANUFACTURER	EQUAL MANUFACTURER
B1	31W LED, 2335 LUMENS, 4000K, 70+CRI,	42' HEIGHT BOLLARD C/W ALL MOUNTING ACCESSORIES. NIGHT SKY COMPLIANT. TO OPERATE AT 120V. ASYMMETRICAL DISTRIBUTION. COORDINATE WITH ARCHITECT FOR FINISH OF FIXTURE.	LITHONIA LIGHTING: CAT# DSXB-LED-12C-700-40K-ASY	KIM LIGHTING: VRB2 STANPRO: BOH-L
D1	20W LED, 1500 LUMENS, 3500K,	4" DIA ROUND RECESSED LED DOWNLIGHT C/W ALL MOUNTING ACCESSORIES FOR DRYWALL CEILING. OPERATE AT 120V. COORDINATE WITH ARCHITECT FOR FIXTURE & TRIM FINISH. DIMMABLE.	PRESCOLITE: CAT# LTR-4RD-H-SL15L-DM1_LTR-4RD-T-SL35K8WD	LITHONIA LIGHTING: LDN4 STANPRO: REC4-L
FA1	40W LED, 5200 LUMENS, 3500K,	1'X4' RECESSED LED FLAT PANEL C/W ALL MOUNTING ACCESSORIES FOR DRYWALL CEILING. OPERATE AT 120V. DIMMABLE.	EVALUX: CAT# PNLP-14G-40W-35K-MV3	LITHONIA LIGHTING: CPANL LED STANPRO: L3PNL
FA2	45W LED, 6100 LUMENS, 3500K,	2'X4' RECESSED LED FLAT PANEL C/W ALL MOUNTING ACCESSORIES FOR DRYWALL CEILING. OPERATE AT 120V. DIMMABLE.	EVALUX: CAT# PNLP-24G-45W-35K-MV3	LITHONIA LIGHTING: CPANL LED STANPRO: L3PNL
FA3	50W LED, 6000 LUMENS, 3500K,	4' SURFACE MOUNTED LED STRIP LIGHT C/W LENS & ALL MOUNTING ACCESSORIES FOR DRYWALL CEILING. OPERATE AT 120V.	COLUMBIA LIGHTING: CAT# MPS-4-35-HL	LITHONIA LIGHTING: ZL1D STANPRO: L2STL
L1	50W LED, 6000 LUMENS, 4000K,	EXTERIOR WALL MOUNTED LED FIXTURE C/W ALL MOUNTING ACCESSORIES. TO BE MOUNTED AT 2.5M. COORDINATE WITH ELECTRICAL SITE PLAN & ARCHITECTURAL ELEVATION DRAWINGS FOR EXACT LOCATION OF FIXTURE. OPERATE AT 120V. FORWARD THROW DISTRIBUTION. FINISH BY ARCHITECT.	LITHONIA LIGHTING: CAT# WST LED-P3-40K-VF-120	AIMLITE: W162-L STANPRO: WP2-L
L2	50W LED, 6000 LUMENS, 4000K,	EXTERIOR WALL MOUNTED LED FIXTURE C/W ALL MOUNTING ACCESSORIES. TO BE MOUNTED AT 2.5M. COORDINATE WITH ELECTRICAL SITE PLAN & ARCHITECTURAL ELEVATION DRAWINGS FOR EXACT LOCATION OF FIXTURE. OPERATE AT 120V. WIDE DISTRIBUTION. FINISH BY ARCHITECT.	LITHONIA LIGHTING: CAT# WST LED-P3-40K-VW-120	AIMLITE: W162-L STANPRO: WP2-L
L3	13W LED, 1000 LUMENS, 4000K, 80CRI	4" DIA ROUND RECESSED LED DOWNLIGHT C/W ALL MOUNTING ACCESSORIES FOR CANOPY AND OPERATE AT 120V. WET LOCATION. COORDINATE WITH ARCHITECT FOR FIXTURE & TRIM FINISH.	LITHONIA LIGHTING: CAT# LDN4-40/-10-LO4120-WET	PRESCOLITE: LTR-4RD STANPRO: REC4-L
XT	ULTRA BRIGHT LED EXIT SIGN, ARROW(S) INDICATE DIRECTION OF EXIT (EGRESS)TRAVEL	GREEN PICTOGRAM EXIT SIGN, STEEL HOUSING, POWDER COAT FINISHES C860 APPROVED, DIRECTIONAL FACES AS PER DRAWINGS FLOOR PLAN, UNIVERSAL MOUNTING, TO OPERATE AT 120V/12VDC. SINGLE, DOUBLE & UNIVERSAL FACES	BEGHELLI CAT. #SL-RM-SERIES	AIMLITE LUMACELL STANPRO
хс	EMERGENCY BATTERY UNIT C/W DOUBLE LED 7W HEADS AND ULTRA BRIGHT LED PICTOGRAM SIGN	GREEN PICTOGRAM EXIT COMBO, 20 GAUGE STEEL WITH STANDARD WHITE BAKED POWDER COAT FINISH, TO OPERATE AT 120V.	BEGHELLI CAT. #SL-RM-12-72-SERIES UNIVERSAL MOUNTING	AIMLITE LUMACELL STANPRO
BU1	EMERGENCY BATTERY UNIT C/W LED DOUBLE 7W HEADS.	EMERGENCY LIGHTING BATTERY UNIT, 24 VOLT BATTERY WITH PULSE SWITCHING CHARGER, TOP MOUNTED HEADS, CONSTRUCTED WITH 20 GAUGE STEEL CABINET, WHITE FINISH 360W(BU1) TO OPERATE AT 120V.	BEGHELLI CAT. #NV-24-360/550 SERIES	AIMLITE LUMACELL STANPRO
R1	SINGLE 7W LED HEAD	SURFACE MOUNTED SINGLE 7W LED HEAD, TO OPERATE AT 24VDC OR 12VDC,	BEGHELLI CAT. #BTMR1 SERIES	AIMLITE LUMACELL STANPRO
R2	SINGLE 7W LED HEAD	SURFACE MOUNTED DOUBLE 7W LED HEADS, TO OPERATE AT 24VDC OR 12VDC,	BEGHELLI CAT. #BTMR2 SERIES	AIMLITE LUMACELL STANPRO

PA	NEL AND CIRCUIT NUMBER DESIGNATION
TYPICAL PANEL NOMEN	CLATURE DESCRIPTION ARE AS FOLLOWS:
PP -2 A 1.1	<ul> <li>CIRCUIT NUMBER</li> <li>LOCATION—FLOOR NUMBER</li> <li>DESIGNATION (A—Z=NORMAL POWER EXCEPT E,F,W,Z=EMERGENCY POWER</li> <li>VOLTAGE (2=208V OR 120/208V, 6=347/600V)</li> <li>PANELBOARD — 'PP' DENOTES POWER PANEL</li> <li>LP' DENOTES LIGHTING PANEL</li> </ul>
TYPICAL PANEL NOMENCLA	TURE DESCRIPTION ARE AS FOLLOWS:
MCC-2 A 1	FLOOR MOUNTED ELECTRICAL EQUIPMENT COMPLETE WITH 100MM HIGH HOUSEKEEPING PAD.
	—LOCATION (1=FIRST FLOOR, 2=SECOND FLOOR)
	—DESIGNATION (A-Z=NORMAL POWER)
	— VOLTAGE ( 2=208V OR 120/208V, 3=347V 1ø, 6=347/600V 3ø)
	— 'DP' DENOTES DISTRIBUTION PANEL , 'MCC' DENOTES MOTOR CONTROL CENTRE, 'MS' DENOTES MAIN SWITCHBOARD, 'TX' DENOTES TRANSFORMER
	— WALL MOUNTED ELECTRICAL DISTRIBUTION EQUIPMENT. 'SP' DENOTES SPLITTER 'DP' DENOTES DISTRIBUTION PANEL.

	ELECTRICAL DRAWING LIST
WG No.	DESCRIPTION
E0.0	ELECTRICAL LEGEND, LUMINAIRE SCHEDULE & DRAWING LIST
E0.1	ELECTRICAL SPECIFICATION
E1.0	ELECTRICAL SITE PLAN
E1.1	ELECTRICAL SITE PLAN DETAILS
E2.0	ELECTRICAL GROUND FLOOR PLAN
E2.1	ELECTRICAL ROOF PLAN
E3.0	ELECTRICAL DISTRIBUTION
E3.1	ELECTRICAL DETAILS
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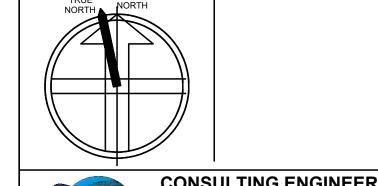


APPLICATION NUMBER:





REV	ISIONS		
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7.	ISSUED FOR PERMIT REVISIONS	2020.11.05	FC
6.	RE-ISSUED FOR PERMIT	2020.08.12	FC
5.	RE-ISSUED FOR PERMIT	2020.06.26	FC
4.	ISSUED TO ESA	2020.06.01	FC
3.	ISSUED FOR TENDER	2020.05.29	FC
2.	ISSUED FOR PERMIT	2020.04.17	FC
1.	ISSUED FOR COORDINATION	2020.04.09	FC
No.	Description	YYYY.MM.DI	Ву
NOF	RTH: STAMP:		





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219031 - DENISON DAYCARE CENTRE

900 MULOCK DRIVE / 605 FERNBANK ROAD, NEWMARKET, ONTARIO

**ELECTRICAL LEGEND** 

CODES & STANDARDS

1.1. COMPLETE THE INSTALLATION OF THE WORK IN ACCORDANCE WITH THE LATEST EDITIONS OF THE ONTARIO BUILDING CODE, ONTARIO ELECTRICAL SAFETY CODE, C.S.A. STANDARDS, U.L.C., N.F.P.A., O.H.S.A. AND OTHER CODES, AS REQUIRED. COMPLY WITH ELECTRICAL AND BUILDING CODE BULLETINS IN FORCE AT TIME OF BID SUBMISSION. WHILE NOT IDENTIFIED AND SPECIFIED BY NUMBER IN THIS DIVISION, THEY ARE TO BE CONSIDERED AS FORMING PART OF RELATED STANDARDS. ALSO, ALL ELECTRICAL WORK SHALL COMPLY WITH LANDLORD'S REQUIREMENTS AND BASE BUILDING STANDARDS.

2. EXISTING CONDITIONS

2.1. VISIT THE SITE AND EXAMINE THE EXISTING CONDITIONS AFFECTING THE WORK OF THIS DIVISION. NO CLAIM FOR EXTRA PAYMENT SHALL BE MADE FOR EXTRA WORK MADE NECESSARY BY CIRCUMSTANCES ENCOUNTERED DUE TO CONDITIONS WHICH WERE VISIBLE UPON, OR REASONABLY INFERABLE FROM AN EXAMINATION OF THE SITE PRIOR TO SUBMISSION OF THE BID. THIS INCLUDES THE EXISTING SERVICES

ABOVE CEILING. BE AWARE THAT THERE MAY BE ASBESTOS FIBRES PRESENT IN VARIOUS FINISHES OR ON VARIOUS SURFACES, IN CERTAIN AREAS OF THE BUILDING. ARRANGE WORK SO AS NOT TO DISRUPT THESE MATERIALS, OR TAKE FULL AND NECESSARY MEANS TO PROTECT ALL PERSONNEL FROM CONTACT WITH THEM, IN A WAY TO BE APPROVED BY THE LANDLORD. INCLUDE ALL COSTS ASSOCIATED WITH ANY REMEDIAL WORK, IN

3.1. WHEREVER THE WORDS "PROVIDE" OR "SUPPLY AND INSTALL", ARE USED, IT SHALL BE UNDERSTOOD TO MEAN "PROVIDE AND INSTALL, INCLUSIVE OF ALL LABOUR, MATERIALS, INSTALLATION, TESTING, AND CONNECTIONS" FOR THE ITEM TO WHICH IT REFERENCES. WHEREVER THE WORDS "EQUAL", "APPROVED", OR " APPROVED EQUAL" ARE USED, IT SHALL BE UNDERSTOOD TO MEAN "EQUAL", "APPROVED", OR "APPROVED EQUAL" IN THE OPINION OF THE CONSULTANT ONLY.

4.1. ALL MATERIALS AND EQUIPMENT SHALL BE NEW, C.S.A. CERTIFIED AND MANUFACTURED TO THE STANDARDS SPECIFIED. 4.2. WHERE THERE IS NO ALTERNATIVE TO SUPPLYING EQUIPMENT WHICH IS NOT C.S.A. CERTIFIED, OBTAIN SPECIAL APPROVAL FROM THE ELECTRICAL SAFETY AUTHORITY.

PERMITS AND FEES 5.1. THE ELECTRICAL CONTRACTOR SHALL ACT AS THE OWNER'S AGENT IN ACCORDANCE WITH SECTION 2 OF THE O.E.S.C. AND SHALL IMMEDIATELY UPON AWARD OF CONTRACT, SUBMIT TO THE LOCAL ELECTRICAL INSPECTION DEPARTMENT, THE NECESSARY NUMBER OF DOCUMENTS FOR EXAMINATION, SPECIAL INSPECTION AND APPROVAL, PRIOR TO THE COMMENCEMENT OF THE WORK, AND PAY ALL COSTS AND ASSOCIATED FEES. IF REQUIRED, PREPARE ANY ADDITIONAL DRAWINGS/DOCUMENTS REQUIRED BY THE AUTHORITY.

5.2. THE CONSULTANT WILL PROVIDE UPON REQUEST, AT THE CONTRACTOR'S COST, THE REQUIRED QUANTITY OF DRAWINGS. PROVIDE CERTIFICATE(S) OF ACCEPTANCE FROM THE AUTHORITIES INSPECTION DEPARTMENT, UPON COMPLETION OF WORK

PROVIDE AND MAINTAIN INSURANCE TO PROTECT THE LANDLORD, TENANT AND TRADES FROM ALL POSSIBLE CLAIMS. SUBMIT WITH BID FOR AN AMOUNT ACCEPTABLE TO LANDLORD AND TENANT.

CONTRACT DOCUMENTS
7.1. THE DRAWINGS FOR THE ELECTRICAL WORK ARE DIAGRAMMATIC PERFORMANCE DRAWINGS ONLY, INTENDED TO CONVEY THE SCOPE OF WORK AND INDICATE THE GENERAL ARRANGEMENT AND APPROXIMATE SIZE AND LOCATION OF ELECTRICAL EQUIPMENT. THE DRAWINGS DO NOT INTEND OF THE DRAWINGS DO NOT INTENDED TO SECONDA MECHANICAL STRUCTURAL OR BASE BUILDING DETAILS. BE RESPONSIBLE FOR A THOROUGH

TO SHOW ARCHITECTURAL, INTERIOR DESIGN, MECHANICAL, STRUCTURAL OR BASE BUILDING DETAILS. BE RESPONSIBLE FOR A THOROUGH KNOWLEDGE OF SAME BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE OR MEASURE DRAWINGS, BUT OBTAIN INFORMATION REGARDING ACCURATE DIMENSIONS FROM THE DIMENSIONS SHOWN ON THE

DESIGN CONSULTANT'S/ARCHITECT'S DRAWINGS, OR BY SITE REQUIREMENTS. ANY DISCREPANCIES BETWEEN DRAWINGS AND/OR SPECIFICATIONS AND EXISTING CONDITIONS, MUST BE REFERRED TO THE DESIGN CONSULTANT/ARCHITECT BEFORE ANY WORK AFFECTED IS BEGUN.

COOPERATE AND COORDINATE WITH OTHER CONTRACTORS IN LAYING OUT OF WORK SO AS NOT TO CONFLICT WITH THE WORK OF OTHER CONTRACTORS. CARRY OUT WORK PROMPTLY AS PER CONSTRUCTION SCHEDULE AND COORDINATE WITH WORK OF OTHER CONTRACTORS. 7.5. MAKE, AT NO ADDITIONAL COST, ANY CHANGES OR ADDITIONS TO MATERIALS AND EQUIPMENT NECESSARY TO ACCOMMODATE STRUCTURAL CONDITIONS (OFFSETS AROUND BEAMS, COLUMN, ETC.)

8.1. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS THAT THE CONTRACTOR PROVIDES COMPLETE AND OPERATIONAL SYSTEMS AS

REQUIRED, WHERE DIFFERENCES OCCUR, THE MAXIMUM CONDITION SHALL GOVERN. ANY MISCELLANEOUS ITEMS, HARDWARE, DEVICES, WIRING, ETC., NOT SPECIFICALLY DESCRIBED, BUT REQUIRED FOR THE OPERATION OF THE SYSTEM, MUST BE PROVIDED AND INCLUDED AS PART OF THE BID.

9.1. SUBMIT FOUR (4) COPIES OF SHOP DRAWINGS OF ALL SPECIFIED EQUIPMENT FOR REVIEW AND RECORDS BEFORE COMMENCEMENT OF WORK. CHANGES MADE TO THE SHOP DRAWINGS BY THE CONSULTANT WILL NOT AFFECT THE CONTRACT PRICE.

10.1. PROVIDE HANGERS, INSERTS, SLEEVES AND SUPPORTS AS REQUIRED.

10.2. INSERTS ARE TO BE OF A LEAD SHIELD TYPE 10.3. HANGERS MUST NOT BE WELDED TO STRUCTURAL STEEL MEMBERS AND BURNING OF HOLES IN STRUCTURAL STEEL IS PROHIBITED. 10.4. SLEEVES ARE TO BE OF A TYPE SUITABLE FOR THE APPLICATION AND BE SEALED AND MADE WATERTIGHT. SLEEVES THROUGH CONCRETE SHALL BE SCHEDULE 40 STEEL PIPES, SIZED FOR FREE PASSAGE OF CONDUIT AND INSTALLED FLUSH WITH UNDERSIZE OF CONCRETE SLAB

12.3 ALL OUTLETS TO BE MARKED ON JOB SITE FOR APPROVAL BY DESIGN CONSULTANT/ARCHITECT PRIOR TO INSTALLATION.

AND EXTEND 100MM (4") ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. 10.5. DO NOT USE ANY BASE BUILDING SUPPORTS OR EQUIPMENT, INCLUDING CEILING SUPPORT SYSTEM.

11.1 ALL CUTTING AND PATCHING REQUIRED TO THE EXISTING BUILDING STRUCTURE FOR THE WORK SHALL BE INCLUDED UNDER THIS CONTRACT AND BE ACCEPTABLE TO THE LANDLORD. OBTAIN WRITTEN APPROVAL FROM LANDLORD BEFORE ANY CUTTING IS CARRIED OUT. 11.2 WHERE CONDUITS PASS THROUGH FIRE RATED WALLS OR FLOORS, PROVIDE FIRE STOPPING MATERIAL LISTED WITH, AND BEAR LABEL OF CSA AND ULC, AND MAINTAIN SAME FIRE RATING OF BUILDING COMPONENT PENETRATION.

12. LOCATION OF OUTLETS

12.1 REFER TO DESIGN CONSULTANT'S/ARCHITECT'S DRAWINGS FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND WIRING DEVICES. 12.2 CHANGE LOCATION OF OUTLETS AT NO COST OR CREDIT, PROVIDING DISTANCE DOES NOT EXCEED 3M (10'-0") AND INFORMATION IS GIVEN PRIOR TO INSTALLATION.

13.1 PROVIDE ALL PLYWOOD BACKBOARDS REQUIRED FOR THE WORK OF THIS DIVISION. PLYWOOD BACKBOARDS SHALL BE 21MM (3/4") THICK, OF HIGHEST QUALITY FIRE RETARDANT FIR. REFER TO DRAWINGS FOR SIZE. PRIME AND PAINT BACKBOARDS WITH FIRE RETARDÀNT PAINT EQUAL TO CGSB SPEC. #1-GP-151M, OF A COLOUR AS SELECTED BY THE DESIGN CONSULTANT/ARCHITECT.

14.1 WHEREVER ANY BASE BUILDING EQUIPMENT REQUIRES ACCESSIBILITY, MAINTENANCE OR ADJUSTMENT, PROVIDE ACCESS DOORS APPROVED BY DESIGN CONSULTANT/ARCHITECT AND LANDLORD. ARRANGE FOR ITS INSTALLATION BY THE DIVISION IN WHOSE WORK IT OCCURS.

15.1 BEFORE CORE DRILLING FLOOR SLAB OR STRUCTURAL WALLS, X-RAY SLAB OR WALLS AND HAVE THE LOCATIONS ACCEPTED BY THE LANDLORD

ANY EXISTING BUILDING SERVICE DAMAGED BY CORE DRILLING MUST BE REPAIRED IMMEDIATELY AT NO COST TO LANDLORD OR TENANT. 15.3 FLOOR DRILLING TO BE CARRIED OUT AFTER NORMAL WORKING HOURS AND AT A TIME ACCEPTABLE TO LANDLORD AND ALLOWANCES FOR THIS WORK SHALL BE INCLUDED IN BID PRICE SUBMITTED.

16.1 ELECTRICAL EQUIPMENT IS TO OPERATE WITHOUT OBJECTIONABLE NOISE OR VIBRATION. IF, IN THE OPINION OF THE CONSULTANT, THE EQUIPMENT OPERATES WITH EXCESSIVE NOISE OR VIBRATION, THEN THE EQUIPMENT MUST BE REPLACED OR NOISE OR VIBRATION ELIMINATED. 16.2 CONNECTIONS TO NOISE-PRODUCING AND VIBRATING EQUIPMENT MUST BE MADE WITH FLEXIBLE CONDUIT. THIS INCLUDES TRANSFORMERS,

DIMMING EQUIPMENT RACKS, AND MOTORS. USE A MINIMUM OF 1M (3 FT) OF FLEXIBLE CABLE WITH SLACK AT EACH DEVICE. 16.3 VIBRATION ISOLATORS ARE TO BE PROVIDED WHERE INDICATED OR REQUIRED. TRANSFORMERS TO BE ISOLATED FROM THE STRUCTURE, WITH SPRING AND RUBBER ISOLATORS WHEN WALL MOUNTED OR SUSPENDED AND 12MM (1/2") HIGH DENSITY NEOPRENE SANDWICH PADS (TYPE MWP) WHEN FLOOR MOUNTED.

WHERE SPECIFIED, INSTALL ALL EQUIPMENT PROVIDED BY THE TENANT. RECEIVE, STORE AND INSTALL EQUIPMENT AND ACCEPT FULL RESPONSIBILITY FOR ITS CORRECT OPERATION. PROVIDE CONDUIT, WIRE, BOXES, SWITCHES, OUTLETS, DEVICES, FLEX CONNECTIONS, ETC., AS

18. WORK IN NEW AND RENOVATED AREAS 18.1 NOT USED

19.<u>INTERRUPTION OF SERVICES</u>
19.1 INTERRUPTION OF ELECTRICAL SERVICE TO ANY PART OF THE BUILDING SHALL OCCUR ONLY BY PER-ARRANGEMENT WITH AND AT TIMES SUITABLE TO THE LANDLORD. INTERRUPTIONS SHALL ONLY OCCUR DURING PREMIUM TIME PERIODS; ALL ALLOWANCES FOR THIS SHALL BE INCLUDED IN THE PRICE SUBMITTED.

PROVIDE LAMACOID NAMEPLATES ON ALL PANELS; DISCONNECT SWITCHES, SPLITTERS, ETC., TO MATCH BASE BUILDING. NAMEPLATES SHALL BE MECHANICALLY ATTACHED TO EQUIPMENT BY MEANS OF RIVETS OR SELF TAPPING SCREWS. PROVIDE TYPEWRITTEN DIRECTORIES FOR NEW AND EXISTING PANELS. CONFIRM EXISTING IDENTIFICATION AND CORRECT WHERE CLEARLY MARK ALL EXPOSED CONDUIT, PULLBOXES, JUNCTION BOXES, ETC., TO INDICATE THE NATURE OF THE SERVICE TO

MATCH BASE BUILDING STANDARDS.

21.<u>VALUATION OF CHANGES</u>
21.1 PROVIDE COMPLETE BREAKDOWN OF MATERIAL, LABOUR, OVERHEAD, PROFIT, ETC., WHEN SUBMITTING QUOTATIONS FOR CHANGE NOTICES ON THIS PROJECT. THE HOURLY LABOUR RATE SHALL BE INCLUSIVE OF ALL CHARGES FOR SUPERVISION, VARIABLE LABOUR FACTORS, HAND TOOLS, PAYROLL BURDENS, HEIGHT FACTORS, WARRANTIES, STORAGE, RENTALS, ADDITIONAL BONDING, PARKING, CLEAN-UP, AS-BUILT DRAWINGS, HOISTING, FREIGHT AND DELIVERY, BUT EXCLUSIVE OF OVERHEAD AND PROFIT.

THE LABOUR HOURS SHALL BE BASED ON THE LATEST ISSUE OF THE NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION (NECA) LABOUR UNITS, COLUMN ONE NORMAL FOR THE DURATION OF THIS CONTRACT. THE MATERIAL PRICES SHALL BE BASED ON THE CURRENT NATIONAL PRICES SYSTEM (NPS) CATALOGUE LESS APPLICABLE TRADE

22.<u>ENGINEERS FINAL INSPECTION</u>
22.1 FINAL INSPECTION IS IMPERATIVE. PRIOR TO CLOSING OF CEILINGS, THIS CONTRACTOR SHALL CONTACT E-LUMEN INTERNATIONAL INC. (905) 265-8900 AND THE LANDLORD'S REPRESENTATIVE TO PERFORM A FINAL INSPECTION WHEN CEILING TILES HAVE BEEN INSTALLED IT WILL BE NECESSARY FOR THE CONTRACTOR TO REMOVE PORTIONS FOR INSPECTION.

23. COMPLETION OF CONTRACT

ALL EQUIPMENT MUST BE CLEANED AND TESTED BEFORE FINAL ACCEPTANCE BY CONSULTANT. FROM THE DATE OF ISSUANCE OF A "CERTIFICATE OF SUBSTANTIAL PERFORMANCE", PROVIDE A WRITTEN GUARANTEE FOR ONE YEAR COVERING ALL EQUIPMENT, MATERIALS AND WORKMANSHIP, OTHER THAN LAMPS. INSERT IN OPERATIONS AND MAINTENANCE

DEFECTS AND DEFICIENCIES WHICH ORIGINATE OR BECOME EVIDENT DURING THE WARRANTY PERIOD MUST BE REPAIRED OR REPLACE, AT NO COST, ALL INCANDESCENT LAMPS BURNED-OUT DURING A THIRTY (30) DAY PERIOD AND ALL BURNED-OUT FLUORESCENT AND HID LAMPS FOR A PERIOD OF NINETY (90) DAYS AFTER DATE OF ISSUANCE OF CERTIFICATE OF "SUBSTANTIAL

PERFORMANCE" FOR THE CONTRACT FOR THE WORK. IF, DURING THE WARRANTY PERIOD, TRANSFORMERS, BALLASTS OR OTHER NOISE AND VIBRATION PRODUCING EQUIPMENT ARE CONSIDERED BY THE CONSULTANT TO EXCEED ACCEPTABLE STANDARDS, THEN THESE MUST BE REPLACED WITHOUT DELAY OR ADDITIONAL COST TO THE TENANT. ALL WORK RELATING TO THE REPLACEMENT OF DEFECTIVE ITEMS, MUST BE CARRIED OUT AFTER NORMAL WORKING HOURS AND AT A TIME WHICH IS ACCEPTABLE TO THE TENANT.

24.1 AT THE COMPLETION OF WORK AND BEFORE FINAL ACCEPTANCE, PROVIDE AS-BUILT DRAWINGS OF THE INSTALLATION IN AUTOCAD RELEASE 2000 FORMAT. AN ELECTRONIC COPY (AUTOCAD FORMAT) OF ALL DRAWINGS WILL BE PROVIDED TO THE ELECTRICAL CONTRACTOR BY THE CONSULTANT AT NO COST. THE DRAWINGS WILL REFLECT THE TENDER AND/OR CONSTRUCTION SET OF DRAWINGS. SHOULD THE CONTRACTOR REQUIRE ADDITIONAL ELECTRONIC COPIES DURING CONSTRUCTION, A COST OF \$100.00

PER DRAWING (PLUS GST) WILL BE CHARGED BY THE CONSULTANT. INCORPORATE ALL CHANGES AND DEVIATIONS FROM TENDER DRAWINGS, UTILIZING NORMAL RECOGNIZED DRAFTING PROCEDURES THAT MATCH THE ORIGINAL DRAFTING METHODOLOGY. ALL MAIN BRANCH CONDUIT RUNS, JUNCTION BOX LOCATIONS, CONDUIT RUNS FOR ALL FLOOR OUTLETS, ETC., MUST BE

REFLECTED ON THE DRAWINGS. REMOVE THE ELECTRICAL ENGINEER'S STAMP AND COMPANY NAME FROM ALL DRAWINGS.

CLEARLY INDICATE THE WORDS "AS-BUILT" IN THE TITLE BLOCK COLUMN OF THE DRAWINGS AS WELL AS THE ELECTRICAL CONTRACTOR'S NAME AND ADDRESS

SUBMIT A PRINT TO CONSULTANT FOR REVIEW. WHEN FOUND ACCEPTABLE BY THE CONSULTANT, SUBMIT THREE (3) SETS OF PRINTS TOGETHER WITH THE CAD-DISK FOR PRESENTATION TO THE LANDLORD AND TENANT.

PROVIDE 2 (TWO) SETS OF OPERATION AND MAINTENANCE MANUALS SUBMITTED IN HARD COVER 3-RING BINDERS. INCLUDE THE FOLLOWING INFORMATION IN THE OPERATIONS AND MAINTENANCE MANUALS: NAMES AND ADDRESS OF LOCAL SUPPLIERS FOR THE ITEMS INCLUDED. 'ECHNICAL DATA, PRODUCT DATA, SUPPLEMENTED BY BULLETINS, COMPONENT ILLUSTRATIONS, EXPLODED VIEWS, TECHNICAL DESCRIPTIONS

OF ITEMS, AND PARTS LISTS. ADVERTISING OR SALES LITERATURE IS NOT ACCEPTABLE. 3. THE CONSULTANT'S REVIEWED SHOP DRAWINGS.

4. CERTIFICATE(S) OF ACCEPTANCE FROM THE AUTHORITIES INSPECTION DEPARTMENT.

5. VERIFICATION REPORTS AND CERTIFICATE(S) FOR ANY NEW FIRE ALARM COMPONENTS OR TIE-INS AND ANY BASE BUILDING TIE-INS FOR MISCELLANEOUS SYSTEMS (I.E. SECURITY, LIGHTING CONTROL, DIGITAL METERING). 6. LOAD BALANCE REPORT. 7. WRITTEN GUARANTEE.

25.2 REVIEW INFORMATION PROVIDED IN THE MAINTENANCE INSTRUCTIONS AND MANUALS WITH THE TENANT'S OPERATING PERSONNEL AND LANDLORD'S OPERATING PERSONNEL WHERE BASE BUILDING SYSTEMS ARE REVISED, TO ENSURE A COMPLETE UNDERSTANDING OF THE ELECTRICAL EQUIPMENT AND SYSTEMS AND THEIR OPERATION.

MATERIALS AND METHODS

1. CONDUITS AND CONDUIT FITTINGS 1.1 PROVIDE ALL CONDUIT UP TO AND INCLUDING 103MM (4") SIZE, AS EMT THIN WALL WITH STEEL SET SCREW TYPE FITTINGS AND WEATHERPROOF CONNECTORS WITH "O" RINGS IN SPRINKLERED BUILDINGS. BUSHINGS AND CONNECTORS TO BE C/W INSULATED

PROVIDE FLEXIBLE METAL CONDUIT FOR CONNECTION TO MOTORS. 1.3 INSTALL CONDUITS TO CONSERVE HEADROOM, PARALLEL AND PERPENDICULAR TO BUILDING LINES. DO NOT CADDIE CLIP CONDUITS TO CEILING HANGERS.

1.4 ALL EMPTY CONDUITS SHALL BE COMPLETE WITH NYLON FISH WIRE. 1.5 RUN TWO (2) 27MM (1") SPARE CONDUITS UP TO CEILING SPACE FOR EACH RECESSED PANELBOARD. TERMINATE THESE CONDUITS IN A

155MMX155MMX103MM (6"X6"X4") COVERED JUNCTION BOX IN CEILING SPACE. 1.6 ALL COMMUNICATIONS CONDUIT SHALL BE REAMED AND INSTALLED COMPLETE WITH INSULATED BUSHINGS AT EACH END. THE CONTRACTOR SHALL INFORM THE CONSULTANT OF ANY COMMUNICATIONS CONDUIT LENGTHS IN EXCESS OF 70M (230 FT.) PRIOR TO

INSTALLATION. 1.7 ALL COMMUNICATIONS CONDUIT SHALL BE REAMED AND INSTALLED COMPLETE WITH INSULATED BUSHINGS AT EACH END. THE CONTRACTOR SHALL INFORM THE CONSULTANT OF ANY COMMUNICATIONS CONDUIT LENGTHS IN EXCESS OF 70M (230 FT.) PRIOR TO

2. SPLITTERS, JUNCTION BOXES AND PULL BOXES
2.1 SPLITTERS SHALL HAVE SHEET STEEL ENCLOSURE, WITH WELDED CORNERS AND FORMED HINGED COVER SUITABLE FOR LOCKING IN CLOSED POSITION. CONNECTION BARS ARE TO MATCH REQUIRED SIZE AND NUMBER OF INCOMING AND OUTGOING CONDUCTORS AS

2.2 JUNCTION BOXES AND PULLBOXES SHALL BE SUITABLE FOR SURFACE MOUNTING AND BE OF WELDED STEEL CONSTRUCTION WITH SCREW-ON FLAT COVERS. 2.3 FOR FLUSH-MOUNTED PULL AND JUNCTION BOXES, PROVIDE COVERS WITH 27MM (1") MINIMUM EXTENSION ALL AROUND.

2.4 INSTALL JUNCTION AND PULL BOXES IN INCONSPICUOUS BUT ACCESSIBLE LOCATIONS. 2.5 A MINIMUM OF ONE PULL BOX SHALL BE INSTALLED FOR EVERY 100 FT. (30M) OF CONDUIT. (NOTE: EACH 90 DEG. BEND SHALL

EQUATE TO A 30 FT. (9M) LENGTH OF CONDUIT). 2.6 NO MORE THAN TWO (2) - 90 DEG. BENDS SHALL BE INSTALLED BETWEEN ANY TWO ADJACENT PULL BOXES.

3. <u>OUTLET BOXES</u>
3.1 OUTLET BOXES SHALL BE ELECTRO-GALVANIZED STEEL, SIZED AS REQUIRED BY CODE. PROVIDE EACH LIGHT SWITCH, RECEPTACLE, COMMUNICATION AND OTHER OUTLET WITH AN OUTLET BOX. INSTALL PLUMB AND TRUE.

PROVIDE 78MM (3") DEEP 1004 BOXES FOR DIMMING SWITCHES. 3.3 ADAPT ALL OUTLET BOXES TO THEIR RESPECTIVE LOCATIONS AND SUPPORT INDEPENDENTLY OF THE CONDUIT. DO NOT CADDLE CLIP TO CEILING HANGERS.

PROVIDE BLANK COVERPLATES FOR BOXES WITHOUT WIRING DEVICES. 3.5 DO NOT INSTALL OUTLET BOXES BACK TO BACK IN PARTITIONS. STAGGER TO PREVENT SOUND TRANSFER.

3.6 TWO OR MORE OUTLET BOXES THAT OCCUR AT THE SAME LOCATION SHALL BE GANGED TOGETHER IN THE SAME COVERPLATE UNLESS

4.1 GROUND ALL EQUIPMENT IN ACCORDANCE WITH LATEST EDITION OF THE ELECTRICAL SAFETY CODE. PROVIDE SEPARATE GREEN INSULATED GROUND CONDUCTOR IN EVERY CONDUIT TO ALL DEVICES, LUMINAIRES AND FEEDERS (PANELBOARDS, SPLITTERS, DISCONNECT SWITCHES,

5.1 ALL WIRE AND CABLE SHALL BE COPPER, MINIMUM 12 GAUGE, NO. 12 AND NO. 10 SOLID, NO. 8 AND LARGER STRANDED, WITH RW90 INSULATION. 600VOLT RATING.

5.2 BX#12 MAY BE USED IN CEILING SPACE FROM CEILING DISTRIBUTION BOX DOWN TO RECEPTACLES IN PARTITIONS. BX RUNS IN CEILING SPACE NOT TO EXCEED 3048MM(10'-0") IN LENGTH. DO NOT RUN BX CABLES INTO PANELBOARDS. 5.3 SIZE ALL WIRE FOR MAXIMUM 2% VOLTAGE DROP.

5.4 ALL HOME RUNS TO BE IN CONDUIT.

6. LOCAL SWITCHES
6.1 PROVIDE SPECIFICATION GRADE LOCAL 20A. 120 VOLT SWITCHES, DECORA TYPE WHITE WITH WHITE MATCHING COVERPLATES: - P&S #DECORA SERIES C/W SCREWLESS FACEPLATES

6.2 REFER TO LEGEND FOR OTHER TYPES.

15.2 REFER TO FIRE ALARM DETAILS.

7.1 PROVIDE SPECIFICATION AND HOSPITAL GRADE (AS NOTED) 15A. 120 VOLT, "U" GROUND RECEPTACLES, DUPLEX TYPE WHITE WITH WHITE MATCHING COVERPLATES: OR COLOR AS PER CLIENT - P&S DECORA SERIES P&S DECORA COVERPLATE

7.2 REFER TO LEGEND AND GENERAL NOTES FOR OTHER TYPES REQUIRED. 7.3 RECEPTACLES ON SEPARATE CIRCUITS ARE TO HAVE CIRCUIT NUMBER IDENTIFIED ON THE WALL PLATE AND FURTHER IDENTIFIED WITH THE

EXACT LOCATION LISTED IN THE PANEL DIRECTORY. 8. LIGHTING CONTROL DIMMING SYSTEM

8.1 SYSTEM SHALL CONSIST OF FACTORY PRE-ASSEMBLED DIMMING AND SWITCHING PANELS, CENTRALIZED PRESET LIGHTING CONTROL(S), LOW VOLTAGE WALLSTATIONS AND/OR CONTROL INTERFACES, AND SOLID-STATE HIGH FREQUENCY FLUORESCENT DIMMING BALLAST (WHERE APPLICABLE). THE MANUFACTURER SHALL BE LUTRON ELECTRONICS CO., INC. THE LIGHTING CONTROL SYSTEM SHALL PROVIDE SHADE CONTROL CAPABILITY (WHERE APPLICABLE). ADDITIONAL ITEMS MAY ALSO BE REQUIRED AND ARE DESCRIBED HEREIN AND/OR SHOWN ON

9.<u>MECHANICAL TRADE WIRING</u>
9.1 UNLESS OTHERWISE NOTED, ALL STARTERS AND CONTROL WIRING TO BE PROVIDED BY DIVISION 15. DIVISION 16 TO RECEIVE, INSTALL STARTERS AND PROVIDE ALL POWER WIRING AND REQUIRED ISOLATING DISCONNECT SWITCHES.

9.2 CONFIRM ELECTRICAL REQUIREMENTS AND EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT WITH DIVISION 15 PRIOR TO INSTALLATION.

10.1 PROVIDE ALL LUMINAIRES AS SHOWN ON THE DRAWINGS AND AS SPECIFIED IN THE LUMINAIRE SCHEDULE.

10.2 ALL LUMINAIRES SHALL BE COMPLETE WITH NEW LAMPS, BALLASTS, ACCESSORIES AND MOUNTING APPURTENANCES. 10.3 ALL LUMINAIRES TO BE CSA APPROVED.

10.4 AIM AND ADJUST ALL LUMINAIRES IN PRESENCE OF CONSULTANT. 10.5 ALL NEW DOWNLIGHT AND SURFACE MOUNTED LUMINAIRES INSTALLED IN OR ON THE BASE BUILDING CEILINGS SHALL BE INDEPENDENTLY SUPPORTED FROM BUILDING STRUCTURE WITH TENSO CHAINS UNLESS OTHERWISE NOTED.

10.6 COOPERATE WITH ALL OTHER TRADES FOR THE PROPER INSTALLATION OF ALL LUMINAIRES. 11. <u>SWITCHBOARDS AND PANEL BOARDS</u> 11.1 PROVIDE ALL THE NECESSARY BREAKERS C/W ACCESSORIES IN THE EXISTING PANEL TO SERVE ALL THE FEEDERS MODIFY OR

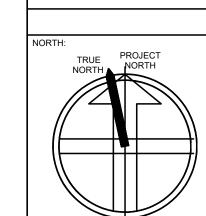
ADD/EXTEND ENCLOSURES IF REQUIRED CONTRACTOR TO REVIEW SITE CONDITION AND INCLUDE ALL NECESSARY ACCESSORIES TO RELOCATE THE EXISTING PANEL IF REQUIRED. 12. <u>MEGGERING AND BALANCING</u>
12.1 <u>MEGGER ALL POWER CIRCUIT FEEDERS.</u> IF GROUND RESISTANCE ON ANY CIRCUIT IS LESS THAN THAT REQUIRED BY CSA OR OTHER

GOVERNING REGULATIONS, SUCH CIRCUITS ARE TO BE CONSIDERED DEFECTIVE AND MUST BE REPLACED. 12.2 MEASURE PHASE CURRENT TO PANELBOARDS WITH NORMAL LOADS OPERATING AT TIME OF ACCEPTANCE. ADJUST BRANCH CIRCUIT CONNECTIONS AS REQUIRED TO OBTAIN BEST BALANCE OF CURRENT BETWEEN PHASES AND SUBMIT A REPORT FOR INSERTION INTO

13. <u>SERVICE EQUIPMENT</u> 13.1 ALL NEW PANELBOARDS, DISCONNECT SWITCHES, METERS, ETC., TO BE ONE OF THE FOLLOWING MANUFACTURER'S PROVIDED: SCHNEIDER, CUTLER-HAMMER AND SIEMENS.

13.3 CEILING MOUNT TRANSFORMERS UP TO 45 KVA WITH SUSPENSION RODS AND SPRING ISOLATORS, TRANSFORMERS 75 KVA AND LARGER TO BE FLOOR MOUNTED ON KORFUND ISOLATION PADS UNLESS OTHERWISE NOTED. 15. LIFE SAFETY SYSTEM
15.1 PROVIDE COST VERIFICATION AND TESTING OF THE FIRE ALARM LIFE SYSTEM. PROVIDE VERIFICATION CERTIFICATE TO OWNER.

13.2 DRY TYPE TRANSFORMERS SHALL BE ONE OF THE FOLLOWING MANUFACTURER'S PROVIDED: SCHNEIDER DELTA HAMMOND ATLAS



2020.02.19

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219031 - DENISON DAYCARE CENTRE

900 MULOCK DRIVE / 605 FERNBANK ROAD, NEWMARKET, ONTARIO **ELECTRICAL SPECIFICATIONS** 

FC FC

2020.11.05 FC

2020.08.12 FC

2020.06.26 FG

2020.06.01 FG

2020.05.29 FC

2020.04.17 FC

2020.04.09 FG

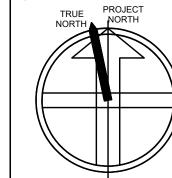


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**CONSULTING ENGINEERS** LIGHTING - ELECTRICAL 595 CITYVIEW BLVD, SUITE 204/205 VAUGHAN, ONTARIO, CANADA L4H 3M7 Tel:(905)417-6881 Fax:(905)417-6882 www.e-lumen.ca

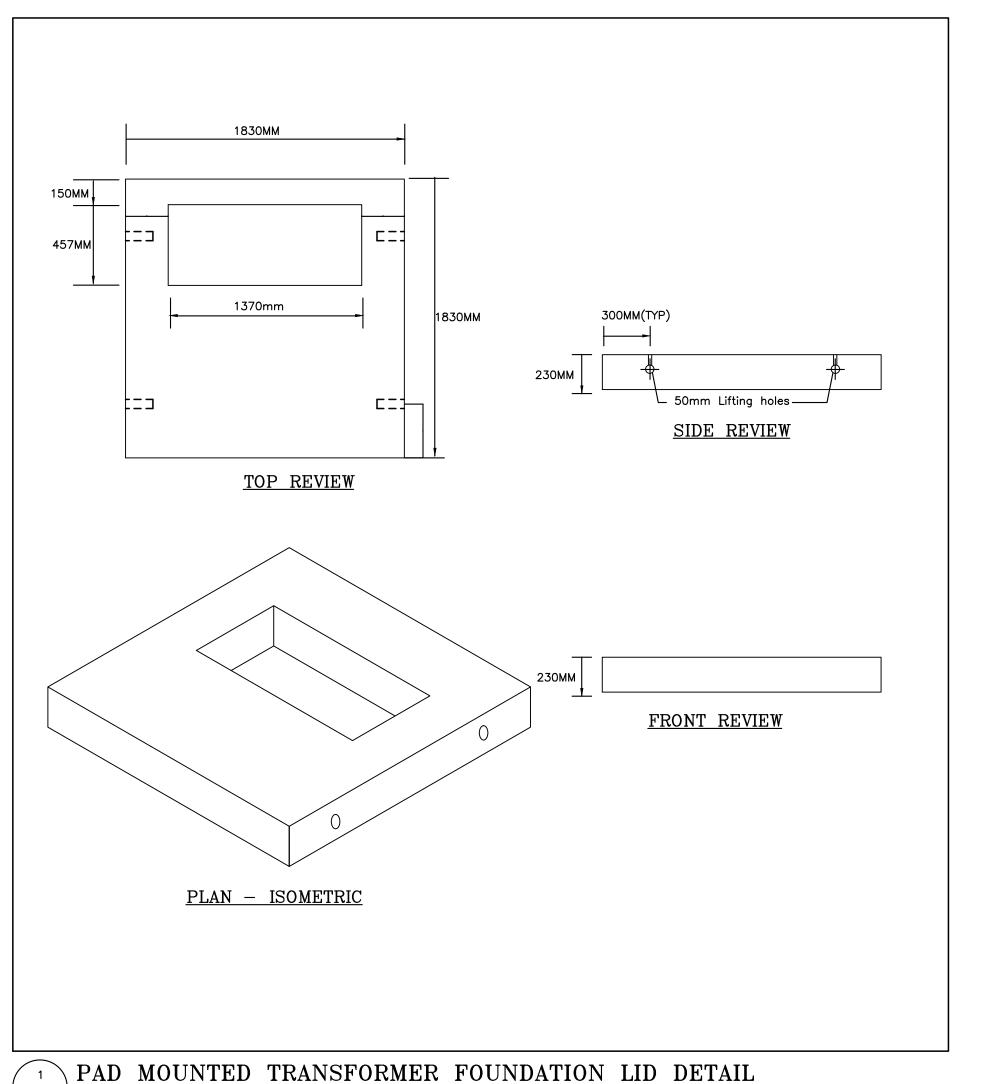
219031 - DENISON DAYCARE CENTRE

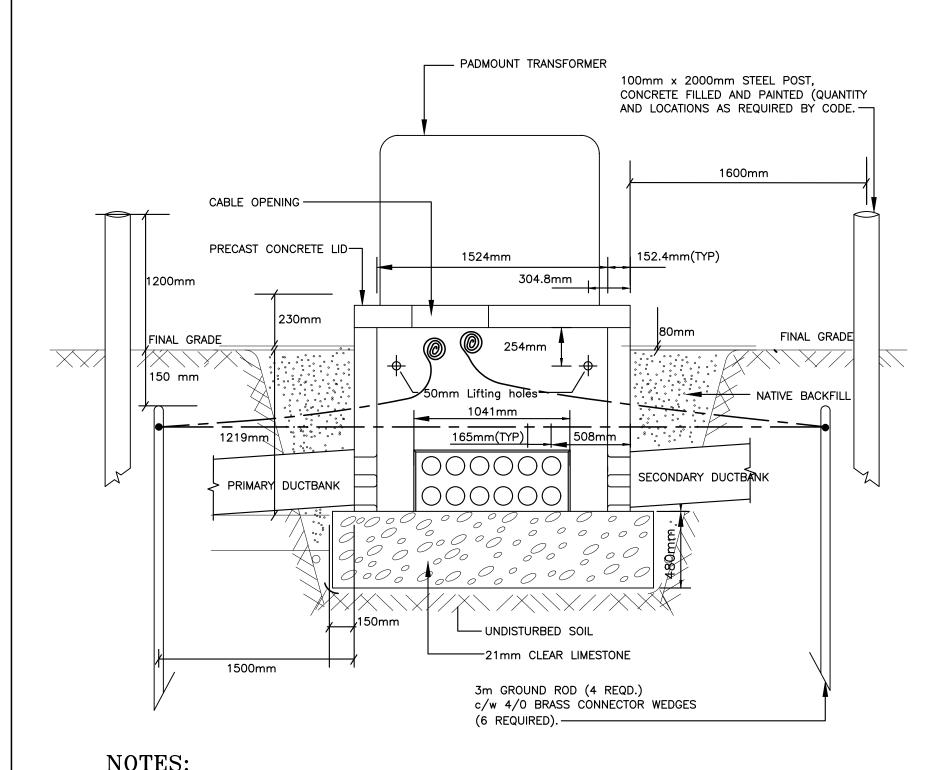
900 MULOCK DRIVE / 605 FERNBANK ROAD, NEWMARKET, ONTARIO

**ELECTRICAL SITE PLAN** 

Drawn By Checked By

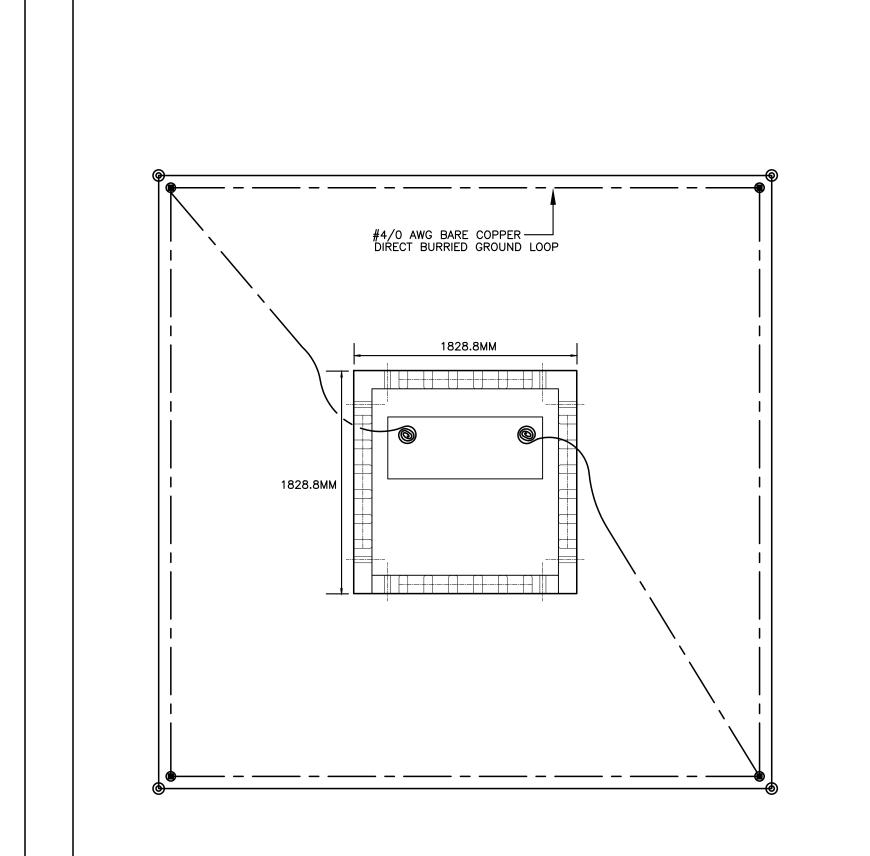
2020.04.09 FC





# NOTES:

- 1. FOUNDATION MUST BE PRECAST, REINFORCED POURED CONCRETE. 2. 9" PRECAST LID REQUIRED ON ALL FOUNDATIONS - LIDS MUST HAVE
- 4-2" LIFTING HOLES. 3. INSTALL 1/16" POLY (BLACK) OVER ALL 4 - CABLE OPENINGS.
- 4. CONCRETE TO BE 4500 P.S.I. AIR ENTRAINED, LOW SLUMP.
- 5. REINFORCED WITH No. 6 (21mm) HI-BOND REINFORCING STEEL BARS AT 12".
- 6. MANUFACTURES AND SUPPLIERS OF FOUNDATION FOR THREE PHASE TRANSFORMER PAD RATING OF 1500KVA APPROVED BY HYDRO: INDUSTRIAL CAST STONE DWG. No. ICS-130-3 C/W ICS-130D-1 AND BROOKLIN CONCRETE DWG. No. BCP-114P C/W BCP-114T9M.
- 7. SUBMIT TRANSFORMER FOUNDATION AND LID SHOP DRAWINGS TO CONSULTANT FOR REVIEW PRIOR TO INSTALLATION.



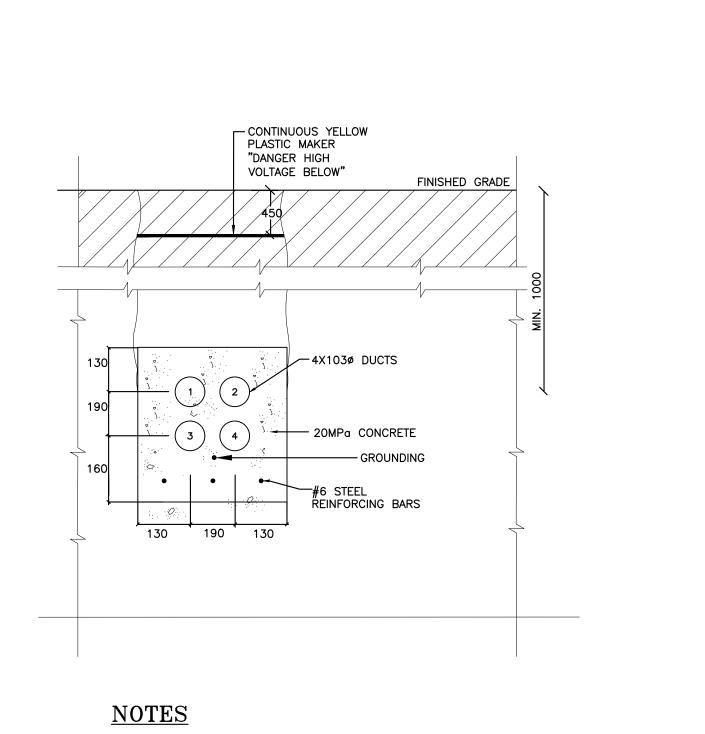
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3 PAD MOUNTED TRANSFORMER GROUNDING DETAIL E1.1 SCALE: N.T.S.



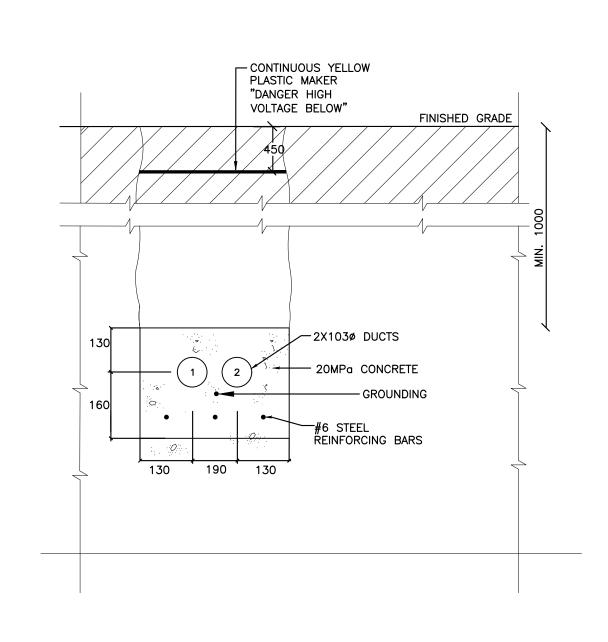
- THE DUCTS TO BE TYPE II. THESE DUCTS SHALL COMPLY WITH C.S.A. STANDARDS C22.2, NUMBER 134, 135, & B196.1
- THE DUCT RUN SHALL BE REINFORCED. REINFORCING STEEL BARS 16mm DIAMETER SHALL BE LAID LONGITUDINALLY ALONG THE TRENCH WITH 100mm LATERAL SPACING AND 50mm ABOVE THE BASE OF THE
- 3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH NEWMARKET HYDRO STANDARDS DRAWING.
- INCOMING SERVICE FEEDERS BY NEWMARKET HYDRO. DUCTBANK AND GROUNDING BY DIV.16.

PRIMARY DUCTBANK DETAIL

E1.1 SCALE: N.T.S.

E1.1 SCALE: N.T.S.

PAD MOUNTED TRANSFORMER FOUNDATION SEC. E1.1 SCALE: N.T.S.

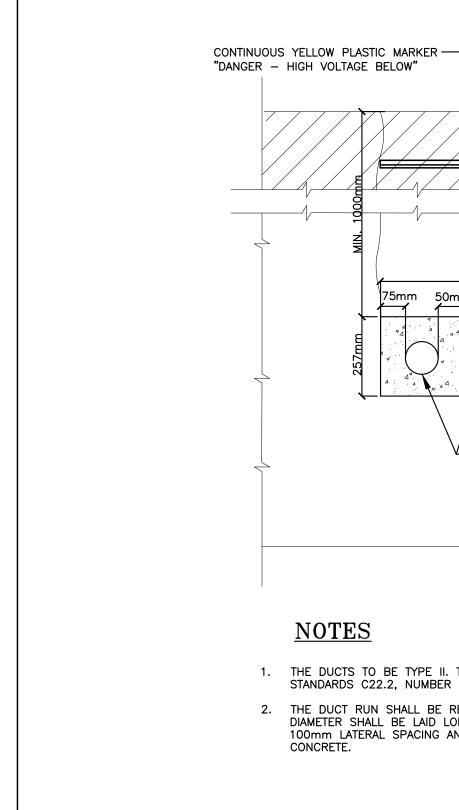


### **NOTES**

- 1. THE DUCTS TO BE TYPE II. THESE DUCTS SHALL COMPLY WITH C.S.A. STANDARDS C22.2, NUMBER 134, 135, & B196.1
- 2. THE DUCT RUN SHALL BE REINFORCED. REINFORCING STEEL BARS 16mm DIAMETER SHALL BE LAID LONGITUDINALLY ALONG THE TRENCH WITH 100mm LATERAL SPACING AND 50mm ABOVE THE BASE OF THE

SECONDARY DUCTBANK DETAIL

E1.1 SCALE: N.T.S.



√\_2-103mm RIGID PVC FOR COMMUNICATION

- 1. THE DUCTS TO BE TYPE II. THESE DUCTS SHALL COMPLY WITH C.S.A. STANDARDS C22.2, NUMBER 134, 135, & B196.1
- 2. THE DUCT RUN SHALL BE REINFORCED. REINFORCING STEEL BARS 16mm DIAMETER SHALL BE LAID LONGITUDINALLY ALONG THE TRENCH WITH 100mm LATERAL SPACING AND 50mm ABOVE THE BASE OF THE

6 COMMUNICATION DUCTBANK DETAIL

E1.1 SCALE: N.T.S.



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219031 - DENISON DAYCARE CENTRE

900 MULOCK DRIVE / 605 FERNBANK ROAD, NEWMARKET, ONTARIO **ELECTRICAL SITE PLAN DETAILS** 

2020.02.19

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2020.06.26 FC

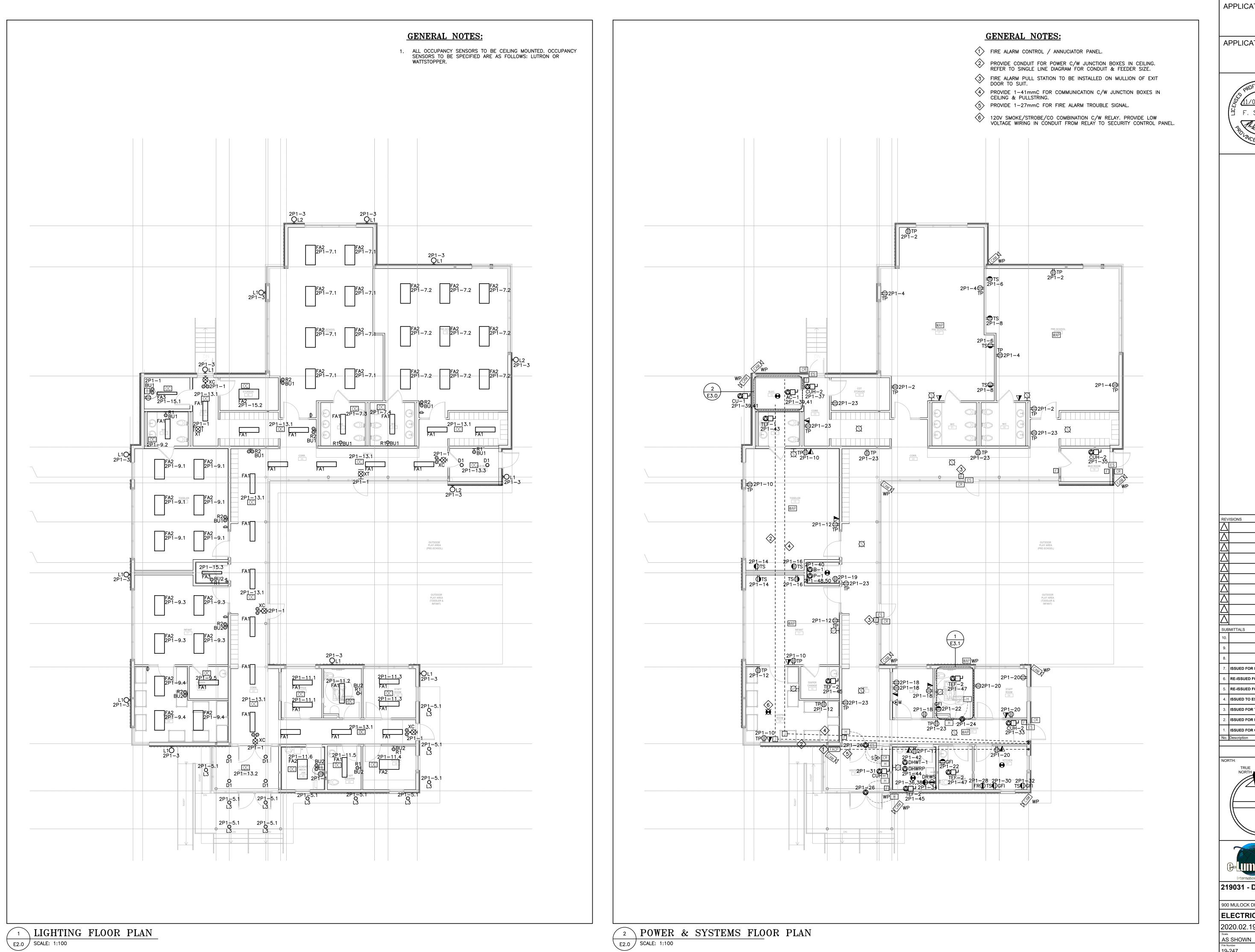
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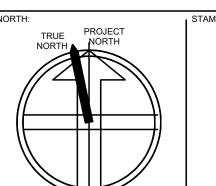


APPLICATION NUMBER:





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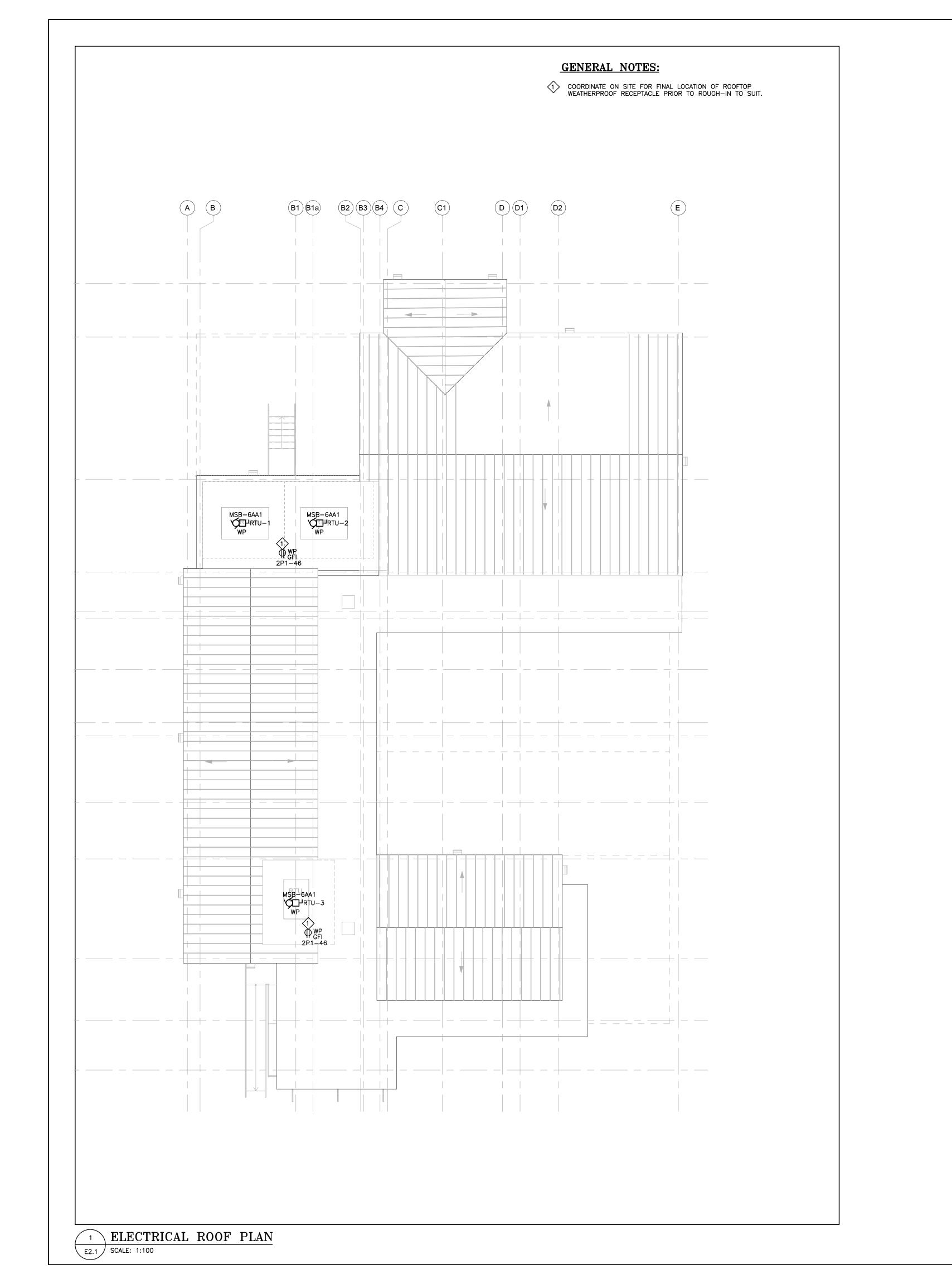


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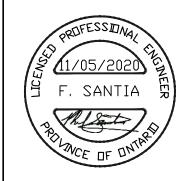
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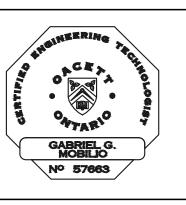
900 MULOCK DRIVE / 605 FERNBANK ROAD, NEWMARKET, ONTARIO ELECTRICAL GROUND FLOOR PLAN

2020.02.19 FC FC

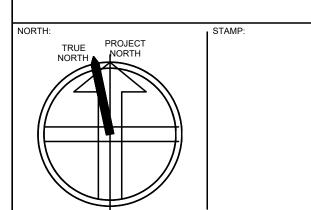


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3.	ISSUED FOR TENDER	2020.05.29	FC
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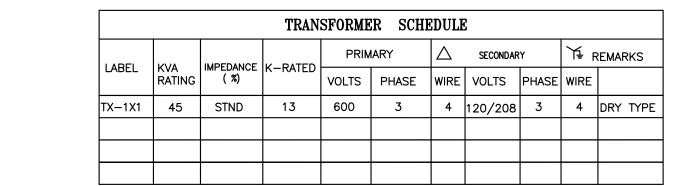


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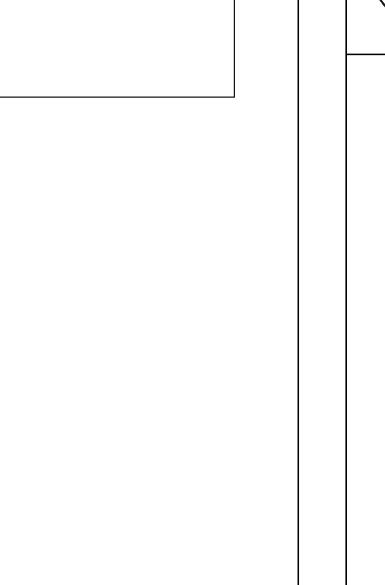
219031 - DENISON DAYCARE CENTRE

900 MULOCK DRIVE / 605 FERNBANK ROAD, NEWMARKET, ONTARIO **ELECTRICAL ROOF PLAN** 

2020.02.19 Drawn By Checked B AS SHOWN



ITEM	NOTES
1>	NEW PAD MOUNTED TRANSFORMER BY NEWMARKET HYDRO.
2>	HYDRO METERING CABINET.
3	CO-ORDINATE WITH NEWMARKET HYDRO AND RECEIVE ONE SET OF CT/PT'S AND INSTALL AT MAIN SWITCHBOARD.

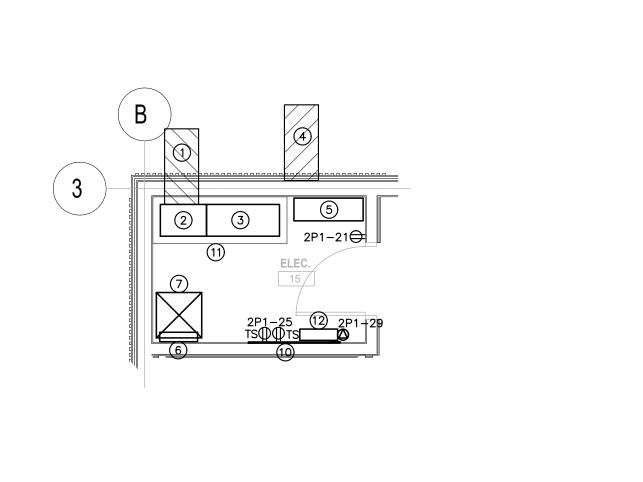


APPLICATION NUMBER:

3 #4+G(RWU75) IN 41mmC HYDRO METERING 30A-3P/15AT 3 #10+G IN 27mmC LOCATED IN HERITAGE HOME 3 #10+G IN 27mmC 2 RUNS OF (4 #3/0+G CU EACH IN 103mmC) 400A-3P/400AT LSIG 100% RATED 3 #10+G IN 27mmC PANEL 'PP-2P1' 225A, 120/208V, 3ø, 4W, 60 CIRCUITS 3 #6+G IN 35mmC TX-1X1 30A-3P/T —— SPARE SWITCHBOARD MSB-6AA1, 400A @600/347V, 3ø, 4W, 50KAIC

SINGLE LINE DIAGRAM
E3.0 SCALE: N.T.S.

	ELECTRICAL LEGEND
ITEM	DESCRIPTION
1	DUCTBANK 2-4"C.
2	WIREWAY.
3	MAIN DISTRIBUTION SECTION MSB-6AA1, 400A @347/600V, 3ø, 4W.
4	TELECOMM 2-4"C.
(5)	900MM X 900MM X 300MM METERING CABINET
6	HOUSE POWER PANEL PP-2P1, 225A @120/208V, 3ø, 4W.
7	CEILING MOUNTED 45KVA 600-120/208V TRANSFORMER.
8	NOT USED.
9	NOT USED.
10	FIRE RATED PLYWOOD BACKBOARD, 6'(H)X4'(L)X3/4"(D).
11)	4" HOUSEKEEPING PAD
12	SECURITY PANEL



800 700 315 925 685 370	20A* 20A 20A 20A 20A 20A 20A	1 3 5 7 9	A B C A	2 4 6 8	15A 15A 20A 20A	600 600 800	PRESCHOOL MISC. RECEPTACLES PRESCHOOL MISC. RECEPTACLES PRESCHOOL COUNTER RECEPTAC
315 925 685 370	20A 20A 20A	5 7	C	6	20A		
925 685 370	20A 20A	7	Α	+ -		800	PRESCHOOL COUNTER RECEPTAC
685 370	20A	<u> </u>		8	204		
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	204		В	10	15A	600	TOD/INF MISC. RECEPTACLES
	1 207	11	С	12	15A	600	TOD/INF MISC. RECEPTACLES
850	20A	13	Α	14	20A	800	TOD/INF COUNTER RECEPTACLES
200	20A	15	В	16	20A	800	TOD/INF COUNTER RECEPTACLES
400	20A	17	С	18	20A	600	OFFICE RECEPTACLES
400	20A	19	Α	20	15A	600	STAFF/KITCHEN MISC. RECEPTAC
400	20A	21	В	22	20A	800	WASHROOM GFI RECEPTACLES
800	20A	23	С	24	15A	300	UNV. WASHROOM DOOR OPERATO
600	20A	25	Α	26	15A	400	ENTRY DOOR OPERATORS
200	15A*	27	В	28	20A	500	FRIDGE
200	15A*	29	С	30	20A	800	KITCHEN COUNTER GFI RECEPTAGE
100	15A	31	Α	32	20A	800	KITCHEN COUNTER GFI RECEPTAG
100	15A	33	В	34	20A	500	WASHER
100	15A	35	С	36	40A /		DDVED
100	15A		Α	38	/		DRYER
	30A /	39	В	40	15A	550	B-1
3000	2P	41	С	42	15A	500	DHWT-1
900	15A	43	Α	44	15A	100	DHWRP
200	15A	45	В	46	20A	500	ROOFTOP GFI RECEPTACLES
200	15A	47	С	48	15A /	4000	P-1
	20A	49	Α	50		1000	r-1
	20A	51	В	52	15A		SPARE
	15A	53	С	54	15A		SPARE
		55	Α	56			SPACE
		57	В	58			SPACE
		59	С	60			SPACE
VOLTS:	120/20	 )8V	Тт	YPE:			□FLUSH
	•				′kW): 2	29.095	SURFACE
WIRE:	4W				,		SPRINKLERPROOF
					•	ELEC. ROOM	☐MAIN BREAKER
MAINS:	225A						□SPD
	400 400 400 800 600 200 100 100 100 3000 900 200 200 VOLTS: PHASE:	400 20A 400 20A 400 20A 800 20A 800 20A 600 20A 200 15A* 200 15A 100 15A 100 15A 100 15A 300 30A 2P 900 15A 200 15A 200 15A  VOLTS: 120/20 PHASE: 3ø	400 20A 17 400 20A 19 400 20A 21 800 20A 25 200 15A* 27 200 15A 31 100 15A 35 100 15A 35 100 15A 37 3000 2P 41 900 15A 43 200 15A 45 200 15A 45 200 15A 45 200 15A 45 200 15A 53  VOLTS: 120/208V PHASE: 3ø	400   20A   17   C   400   20A   19   A   400   20A   21   B   800   20A   25   A   200   15A*   29   C   100   15A   33   B   100   15A   37   A   3000   2P   41   C   900   15A   43   A   200   15A   45   B   200   15A   47   C   20A   49   A   20A   51   B   20A   51   B   57   B   C   VOLTS:   120/208V   T   PHASE:   3ø   U   T   C   120/208V   T   PHASE:   3ø   U   T   T   T   T   T   T   T   T   T	400   20A   17   C   18   400   20A   19   A   20   400   20A   21   B   22   800   20A   25   A   26   200   15A*   29   C   30   30   30   B   34   300   300   30   30   B   40   300   300   30A   39   B   40   300   30A   39   B   40   40   40   40   40   40   40	400       20A       17       C       18       20A         400       20A       19       A       20       15A         400       20A       21       B       22       20A         800       20A       25       A       26       15A         600       20A       25       A       26       15A         200       15A*       27       B       28       20A         200       15A*       29       C       30       20A         100       15A       31       A       32       20A         100       15A       33       B       34       20A         100       15A       35       C       36       40A       40A         100       15A       37       A       38       2P         3000       15A       37       A       38       2P         41       C       42       15A         900       15A       43       A       44       15A         200       15A       45       B       46       20A         200       15A       47       C       48       15A <td>400</td>	400

CONSULTING ENGINEERS
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2020.11.05 FC
2020.08.12 FC
2020.06.26 FC
2020.06.01 FC
2020.05.29 FC
2020.04.17 FC
2020.04.09 FC
YYYY.MM.DØ By

219031 - DENISON DAYCARE CENTRE

900 MULOCK DRIVE / 605 FERNBANK ROAD, NEWMARKET, ONTARIO **ELECTRICAL DISTRIBUTION** 

ISSUED FOR PERMIT REVISIONS

ISSUED FOR COORDINATION

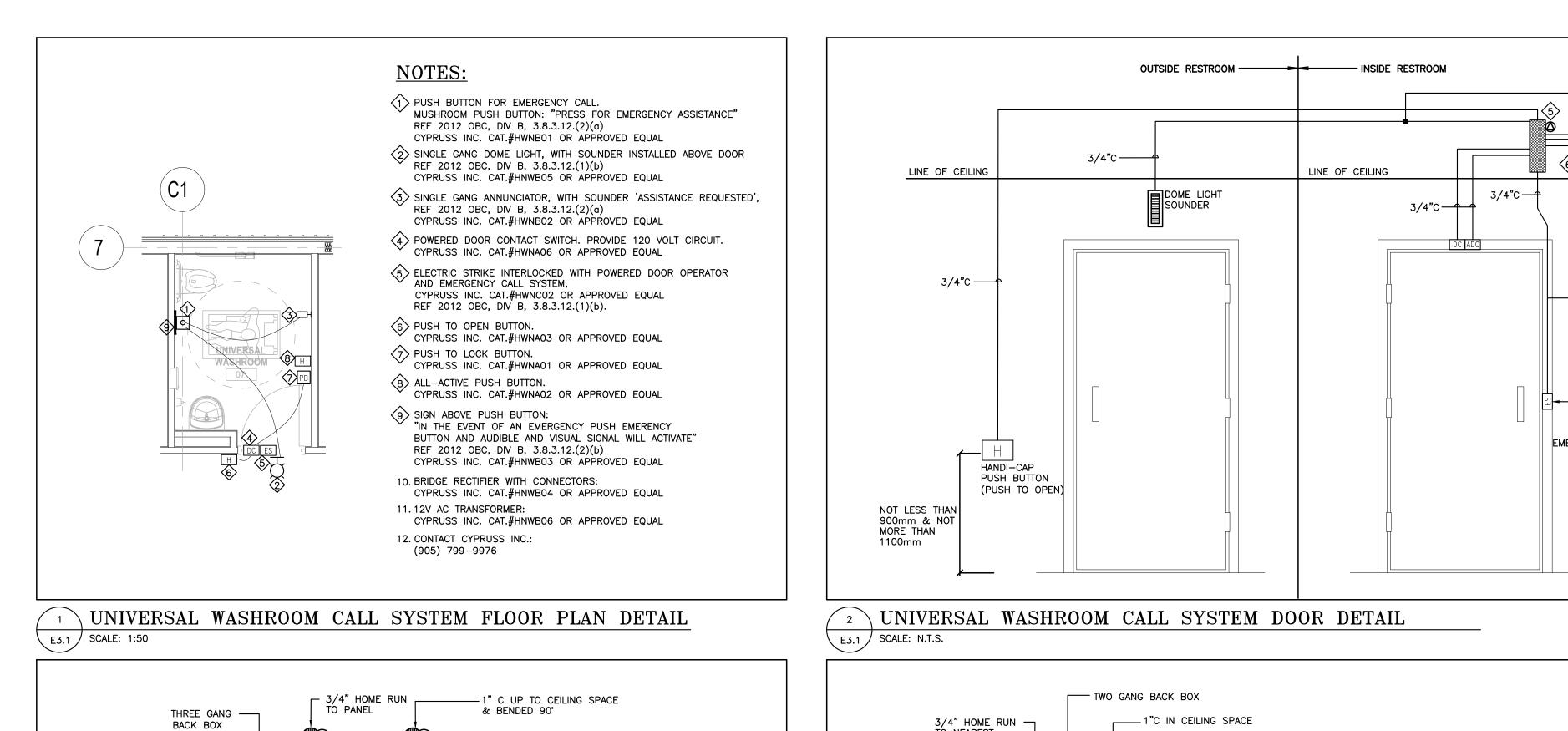
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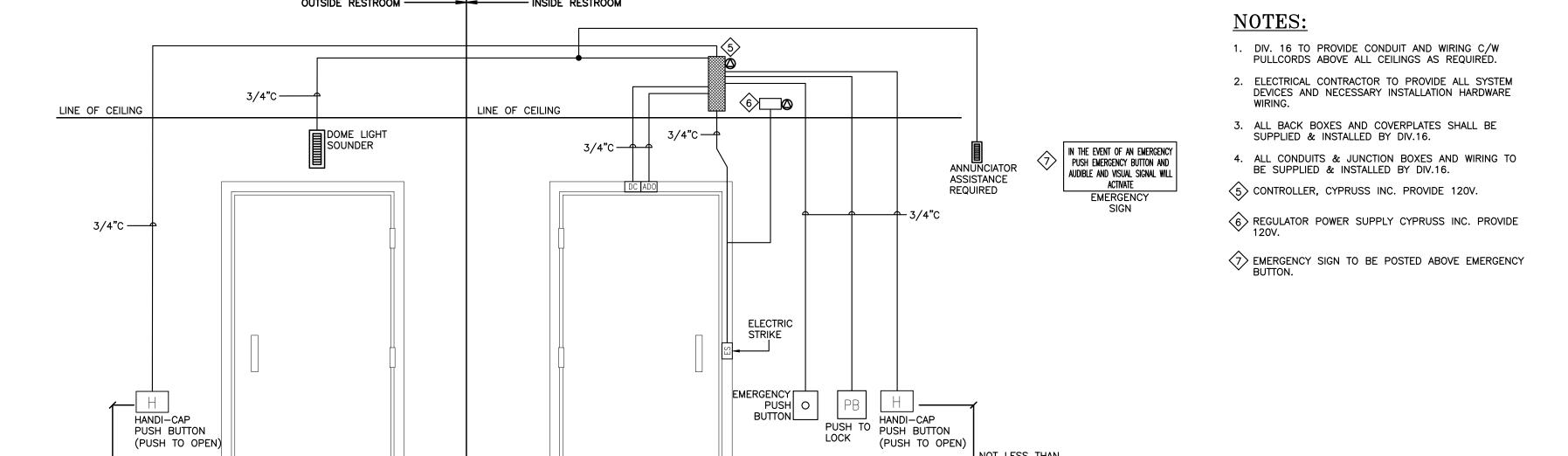
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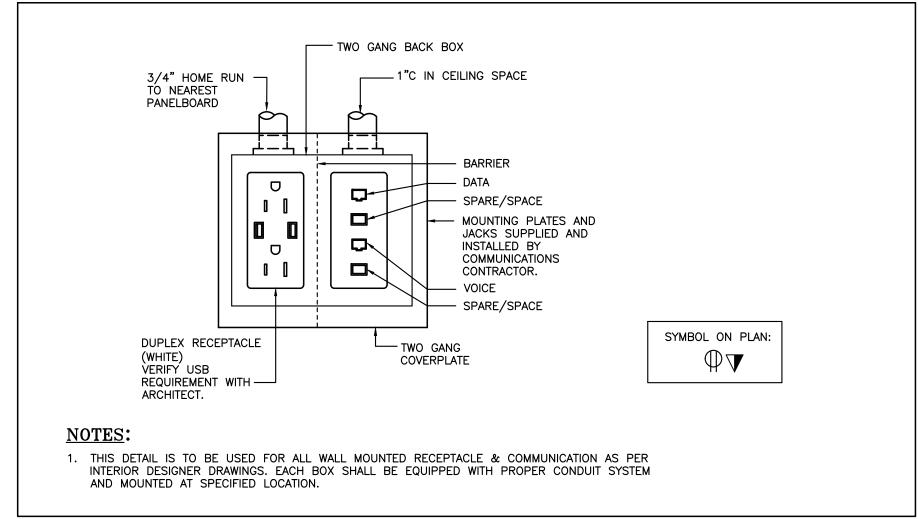
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Number		

3 HOUSE POWER PANEL - 'PP-2P1'
E3.0 SCALE: N.T.S.

E3.0 SCALE: 1:50







WALL MOUNTED OUTLET DETAIL E3.1 SCALE: N.T.S.

#### - SPARE/SPACE MOUNTING PLATES AND JACKS SUPPLIED AND INSTALLED BY COMMUNICATIONS CONTRACTOR. O - VOICE - SPARE/SPACE THREE GANG COVERPLATE DUPLEX RECEPTACLE— SYMBOL ON PLAN: DUPLEX RECEPTACLE ———— (WHITE) NOTES: 1. THIS DETAIL IS TO BE USED FOR ALL WALL MOUNTED RECEPTACLE & COMMUNICATION AS PER INTERIOR DESIGNER DRAWINGS. EACH BOX SHALL BE EQUIPPED WITH PROPER CONDUIT SYSTEM WALL MOUNTED OUTLET DETAIL E3.1 SCALE: N.T.S.

BARRIER

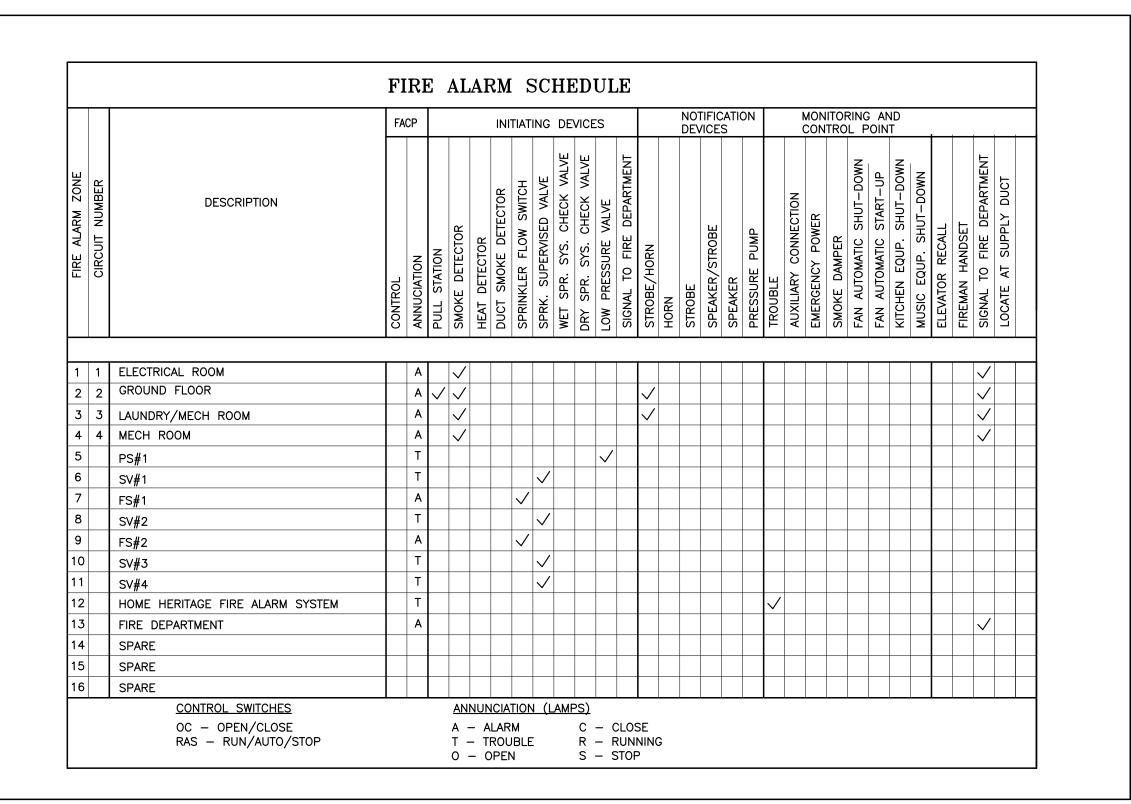
LOCATED IN MECH/JAN ROOM FIRE SV SV FS SV FS PS ALARM CONTROL/ ANNUNCIATOR PANEL C/W BATTERY UNIT GROUND FLOOR 15A, 120V, DEDICATED CIRCUIT ----

FIRE ALARM RISER DIAGRAM

E3.1 SCALE: N.T.S.

# **NOTES**

- 1. SINGLE STAGE ADDRESSABLE FIRE ALARM SYSTEM.
- 2. DRAWING ARE DIAGRAMATICALLY ONLY. REFER TO FLOOR PLANS FOR EXACT LOCATION & QUANTITY OF DEVICES.
- 3. PROVIDE LINE ISOLATOR WHEN PASSING FIRE RATED PARTITION.
- 4. DIV. 16 TO PROVIDE REQUIRED WIRING C/W CONDUIT AS PER MANUFACTURER RECOMMENDATION.
- 5. DIV. 16 TO REFER TO F.A. SCHEDULE FOR F.A CONNECTION & ZONING PROVIDE APPROPRIATE ZONES AS PER FIRE MARSHALL INSTRUCTION
- 6. PROVIDE SIGNAL TO FIRE DEPARTMENT
- 7. PROVIDE ADDRESSABLE FIRE ALARM SYSTEM C/W ALL REQUIRED WIRING, CONDUIT AND DEVICES FOR A COMPLETE INSTALLATION & OPERATION TO SUIT. SYSTEM TO BE C/W DGP PANELS. ANNUNCIATOR, GRAPHIC MAP & SHALL BE MICRO PROCESSOR BASED.
- 8. ELECTRICAL CONTRACTOR TO CARRY ONE OF THE FOLLOWING APPROVED FIRE ALARM MANUFACTURER: MIRCOM, GE, NOTIFIER & SIMPLEX.
- 9 PROVIDE 1-27mmC FOR FIRE ALARM TROUBLE SIGNAL BETWEEN DAYCARE FIRE ALARM PANEL AND HERITAGE HOME FIRE ALARM PANEL. COORDINATE ON SITE FOR EXACT LOCATION OF BOTH FIRE ALARM PANELS.
- (1) FIRE ALARM PANEL LOCATED IN HERITAGE HOME.



900mm & NOT

MORE THAN

FIRE ALARM SCHEDULE E3.1 SCALE: N.T.S.

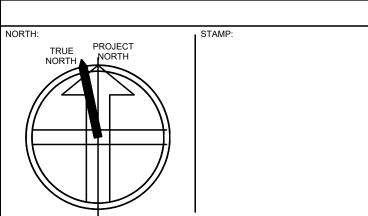
**APPLICATION NUMBER:** 

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ISSUED FOR PERMIT REVISIONS RE-ISSUED FOR PERMIT 2020.08.12 FC RE-ISSUED FOR PERMIT 2020.06.26 FC ISSUED TO ESA 2020.06.01 FC ISSUED FOR TENDER 2020.05.29 FC ISSUED FOR PERMIT 2020.04.17 FC ISSUED FOR COORDINATION 2020.04.09 FC





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219031 - DENISON DAYCARE CENTRE

900 MULOCK DRIVE / 605 FERNBANK ROAD, NEWMARKET, ONTARIO **ELECTRICAL DETAILS** 

2020.02.19 FC FC AS SHOWN