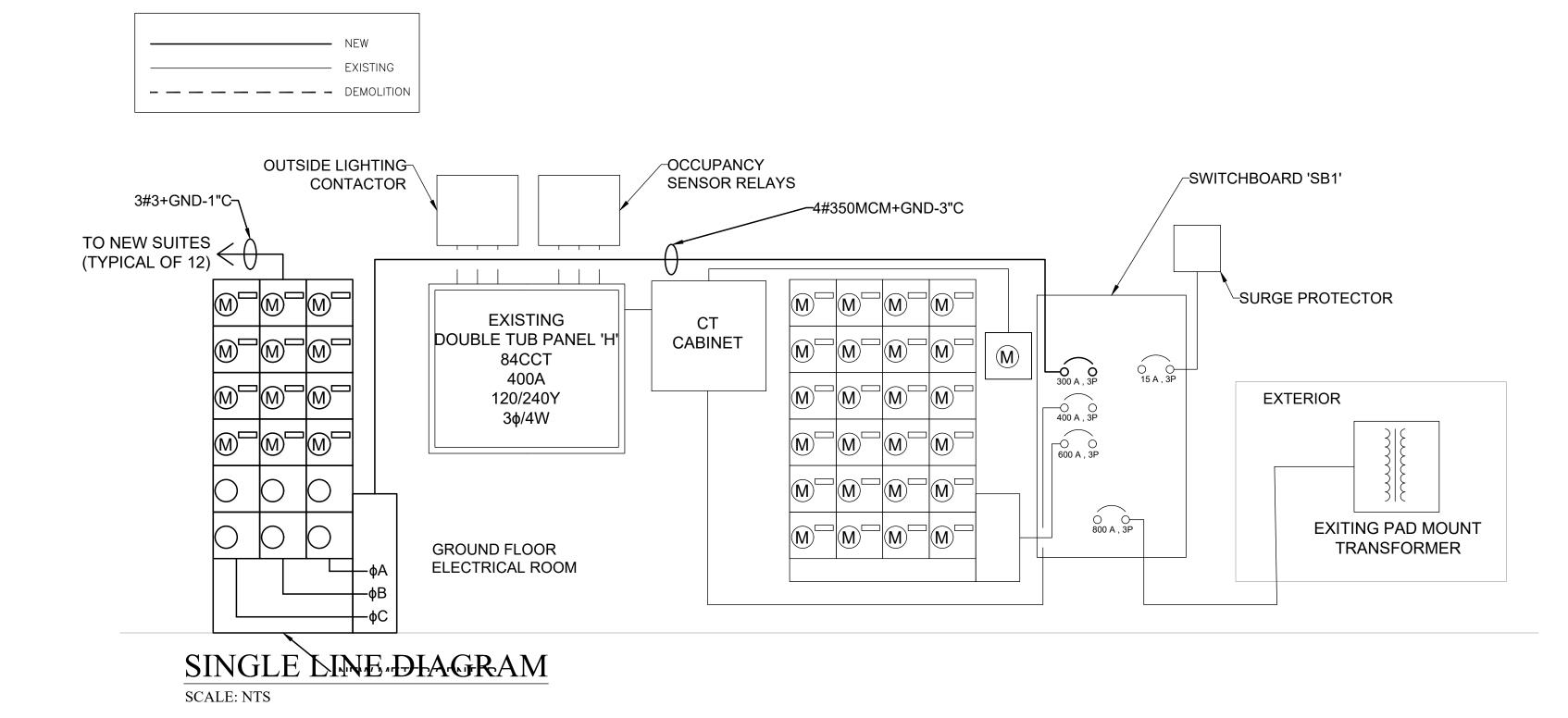
<u>DRAWING LIST:</u>

E-0	DRAWING LIST, LEGENDS, SINGLE LINE DIAGRAM, & PANEL SCHEDULES
E-1	GROUND FLOOR - DEMOLITION & NEW POWER DISTRIBUTION
E-2	ground floor – new power & data
E-3	ground floor – Lighting & Life Safety
E-4	SECOND FLOOR – POWER & DATA
E-5	SECOND FLOOR – LIFE SAFETY
E-6	SPECIFICATIONS

			L LEGEND
NEW/RELOCATED	EXISTING	DEMO	DESCRIPTION
Ф	Φ	\$	125VOLT DUPLEX RECEPTACLE 'GFI' INDICATES GROUND FAULT INTERRUPTE '5–20R' INDICATES 20AMP RECEPTACLE
\$	\oplus	÷	125VOLT ABOVE COUNTER DUPLEX RECEPTACLE
\bigtriangledown	\bigtriangledown	۲ ۲ ۷	TELECOMMUNICATIONS OUTLET C/W ¾" CONDUIT RISER TO ACCESSIBLE CEILING SPACE H – INDICATES 1" CONDUIT RISER FOR HDMI
$\overline{\Delta}$	$\overline{\forall}$	Σ _v Ζ	TELECOMMUNICATIONS OUTLET ABOVE COUNTER
\$	₽	ς. ³	TOGGLE SWITCH D – INDICATES DIMMER MS – INDICATES INTEGRAL MOTION SENSOR 3W – INDICATES 3 WAY SWITCH
	WP	WP	'WP' INDICATES WEATHERPROOF
		\$	15AMP 125VOLT QUADRUPLEX OUTLET
\bigcirc	\bigcirc	9	BASE-FEED TO PREWIRED EQUIPMENT
TV ⊕ ₹	$\overset{TV}{\oplus} \bigtriangledown$	حح ح∽ ل	POWER & DATA OUTLETS WITHIN RECESSED TV WALLBOX (DATA OUTLET WITH 1" CONDUIT RISER)
	MS	(M3)	MOTION DETECTOR (CEILING MOUNTED)
J	J	ר,־ ניים	JUNCTION BOX – 6"x6"x4" C/W HINGED COVER
₫₽F	₫⊽F	۲ ۲ ۲ ۲	POWER & DATA FLOOR OUTLETS
			POWERED DOOR OPERATOR C/W ½" EMT FROM OPERATOR TO PUSH PADDLE ON BOTH SIDES OF DOOR
ES	ES	ĿS	INTERCOM ENTRY SYSTEM
	\boxtimes	K 7 K 7	POWER POLE TO PREWIRED FURNITURE
^{##} _	##	<u>ت.</u> #	SINGLE PHASE MOTOR ##-INDICATES MOTOR LABEL
<i>""</i>	*** 	# <u></u>	3 PHASE MOTOR ##-indicates motor label
<u> </u>	4	:[]	ELECTRICAL DISCONNECT SWITCH
		X :	MANUAL MOTOR STARTER (POLES AS REQUIRED; VOLTAGE AS INDICATED)
		N:	COMBINATION MAGNETIC MOTOR STARTER AND DISCONNECT SWITCH
	<i>1112</i>	E E	ELECTRICAL PANEL
	D	[ɔ]	JUNCTION BOX – 8"x8"x6" C/W HINGED COVER



	LI	FE SAFET	'Y LEGEND		LIGHT FIXTURE LEGEND
NEW/RELOCATED	EXISTING	DEMO	DESCRIPTION	SYMBOL	TYPE
		Z	PULL STATION	4	LED WALL PACK MANUFACTURER: LITHONIA LIGHTING MODEL #: OLWX1LED 13 40K MVOLT
		23	FIRE ALARM MINI-HORN		INPUT WATTS: 13W
		2¢	FIRE ALARM MINI-HORN WITH STROBE		UNDER-COUNTER LIGHTING MANUFACTURER: LITHONIA LIGHTING
		20	FIRE ALARM BELL		MODEL #: UCEL 24IN 40K 90CRI WH INPUT WATTS: 5.8W
S	<u>(S)</u>	(S)	SMOKE DETECTOR	'S'	4' LINEAR STAIRWELL LED WRAP AROUND (WITH OCCUPANCY SENSOR) MANUFACTURER: LITHONIA
墩	হেঁ	ক্ষ	SMOKE DETECTOR STROBE UNIT		MODEL #: LBL4 4000LM 80 40K
\$	Ś	\$	SMOKE DETECTOR, CARBON MONOXIDE DETECTOR AND STROBE COMBO UNIT	، د.	INPUT WATTS : 32.4 LED LOW PROFILE FLUSH MOUNT
	\mathbf{a}	*	CARBON MONOXIDE DETECTOR UNIT		MANUFACTURER: LITHONIA MODEL #: FMLL 9 30835 INPUT WATTS: 36.5W
		3	HEAT DETECTOR		4' WALL LED LIGHTVENT
[CM]	CM	<u>ر</u> تی	FIRE ALARM ADDRESSABLE CONTROL MODULE		MANUFACTURER: PEERLESS, ACUITY Model #:crw4l Msl4 80cri 3500 l500lmf perf INPUT WATTS: 20W
FS	FS	[3]	FLOW SWITCH		8' WALL LED LIGHTVENT
TS	TS		TAMPER SWITCH		MANUFACTURER: PEERLESS, ACUITY Model #:crw4l MSL8 80cri 3500 l500lmf perf INPUT WATTS: 45W
181 🕺	181 🖗	10:1 <u>\$</u>	EXIT SIGN		P SERIES LED 6" DOWNLIGHT
42	44	۲ <u>۰</u> ۰	EMERGENCY LIGHTING REMOTE HEADS	\$B'	MANUFACTURER: LITHONIA MODEL #: 6BPMW LED 40K 90CRI INPUT WATTS: 11.2W
		< 本 1 本 1 本 5 - - - - - - - - - - - - -	EMERGENCY LIGHTING BATTERY UNIT		CEILING LIGHT-LED LOW PROFILE ROUND
		nin, ilua	MAGNETIC DOOR HOLD-OPEN DEVICE	`B1'	MANUFACTURER: LITHONIA LIGHTING MODEL #: FMLRL 11 148 35
CANN]	ANN		ANNUNCIATOR PANEL		INPUT WATTS : 16W LED LINEAR WALL LIGHT
FACP.	FACP	EACE	FIRE ALARM CONTROL PANEL	^{`C}	MANUFACTURER: LITHONIA LIGHTING MODEL #: FMVTRL 24IN MVOLT 35K 90CRI BN INPUT WATTS: 17.5W
<u></u> <u></u>		r ve L Fe	EMERGENCY CALL SYSTEM, C/W HORN AND STROBE LIGHT BOTH INSIDE AN OUTSIDE WASHROOM.	0	CANOPY LED DOWN LIGHT SUPPLIER: ACUITY BRANDS - JUNO

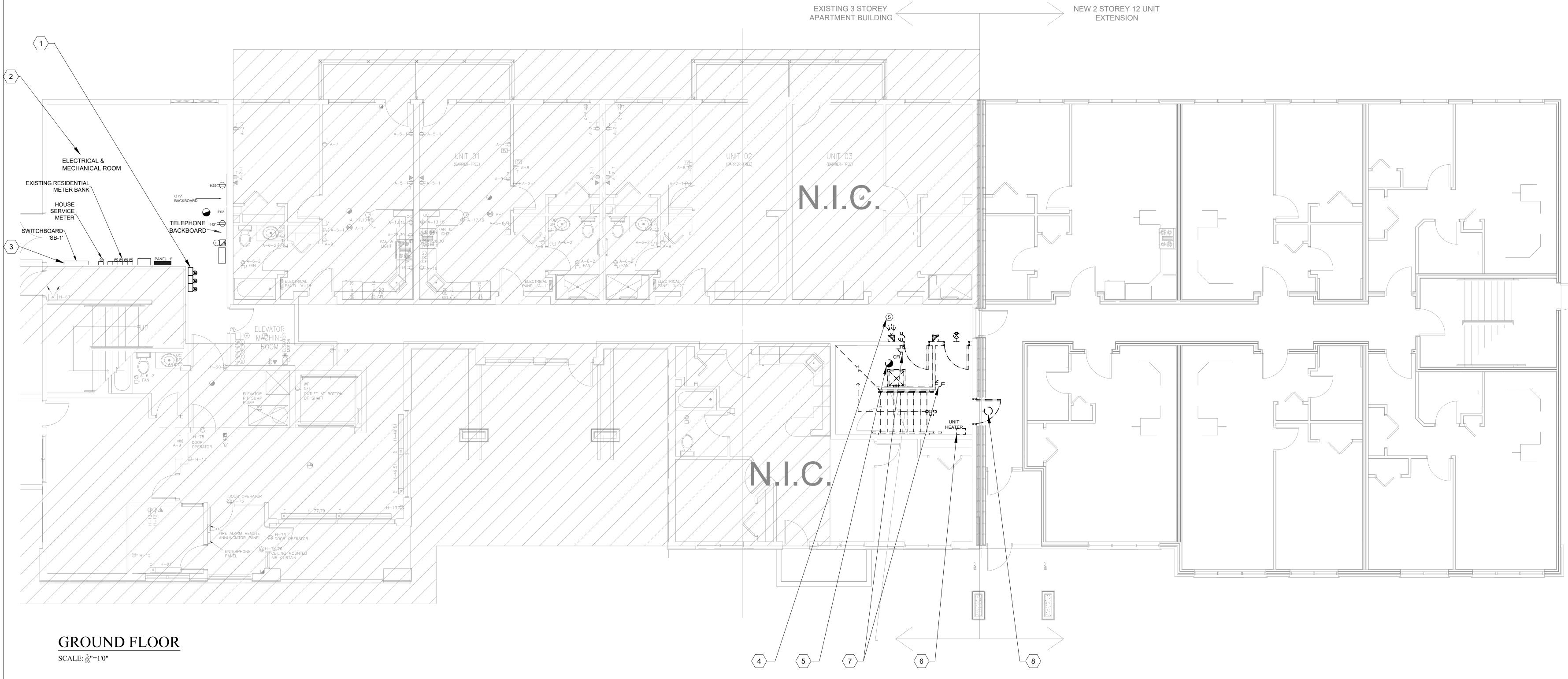
Project Number: Mills-12 unit										Date:	
Panel Identification: PANEL 'A'									Main I	Breaker:	-
Location: TYPICAL SUITE									Suppl	y Volts:	120/208V, 1PH, 3W
Main Bus Amps: 100									Inst	allation:	RECESSED
DESCRIPTION	WATTS	AMP.	CIR.		Α	В		CIR.	AMP.	WATTS	DESCRIPTION
WASHROOM FAN/LIGHTING		15	1		_*	_	<arc></arc>	2	15		WASHROOM GFI/HALLWAY OUTLET
LIGHTS/SMOKES		15	3		_ _	_*	_~_	4	15		KITCHEN SPLIT
		45	5		_*	_	_~_	6	15		RICHEN SPLIT
KITCHEN SPLIT		15	7		_ _	_*	_~_	8	20		KITCHEN GFI
PENINSULA RECEPTACLE		15	9		_*	_	_~_	10	20		KITCHEN GFI
LIVING ROOM RECEPTACLES		15	11	<arc></arc>	_	_*_	_~_	12	40		
BEDROOM RECEPTACLES		20	13	<arc></arc>	_*	_	_~_	14	40		OVEN
DTAC		20	15		_ _	*	_~_	16	15		KITCHEN HOOD
PTAC		20	17		_*	_	_~_	18	15		FRIDGE
			19		_ _	_*_	_~_	20			
			21		_*	_	_~_	22			
			23	·_	_ _	_*		24			
	•						<arc></arc>	=	Arc fa	ult break	(er
Total Phase A	0.00	kW					<gfi></gfi>	=	Grou	nd fault d	etector
Total Phase B	0.00	kW					<k></k>	=	Break	er lockin	ıg device
						٦	Total Panel L	oad :		0.00	kW

Project Number: Panel Identification: Location: Main Bus Amps	PANEL'H							Supp	-	er: s: 1	20/208V, 3PH, 4W URFACE											
DESCRIPTION	WATTS	AMP.	CIR.	A B	С		CIR.	AMP	. WAT	TS	DESCRIPTION	DESCRIPTION	WATTS	AMP.	CIR.		А/ В	C	CIR.	AMP.	NATTS	DESCRIPTION
EXISTING LOAD			1	 _*			2				EXISTING LOAD	EXISTING LOAD		15	43	*	·/		F 44	15		MAGLOCKS 1ST & 2ND FLI
EXISTING LOAD			3	 _ *_		[4				EXISTING LOAD	EXISTING LOAD		15	45	l/	*	_L <u>L</u>	46	20		EXISTING SPARE
EXISTING LOAD			5	 _ _	*	_·[6				EXISTING LOAD	EXISTING LOAD		15	47	<i> </i> .		_*	_48	15		EXISTING SPARE
EXISTING LOAD			7	 _*		[8				EXISTING LOAD	EXISTING LOAD		15	49	/*			50	- 30 -		EXISTING SPARE
EXISTING LOAD			9	 *_		[10				EXISTING LOAD	EXISTING LOAD		15	51	/_ <u> </u>	*		52	7 30 [EXISTING SPARE
EXISTING LOAD			11	 _ _	*	[12				EXISTING LOAD	EXISTING LOAD		15	53	<u>/</u>		_*	54	- 30 -		EXISTING SPARE
EXISTING LOAD			13	 *		[14				EXISTING LOAD	EXISTING LOAD		15	55	/*	·		56			EAISTING SPARE
EXISTING LOAD			15	 *_		[16				EXISTING LOAD	GROUND FLOOR WASHER		15	57	/ l	*		58	15		EXISTING SPARE
EXISTING LOAD			17	 _	*	[18				EXISTING LOAD	GROUND FLOOR WASHER		15	59	_/l		_*	60	20		EXISTING SPARE
EXISTING LOAD			19	 *		[20				EXISTING LOAD	GROUND FLOOR DRYER		15	61	<u>_</u> *	·		62	20		EXISTING SPARE
EXISTING LOAD			21	 *_		[22				EXISTING LOAD	GROUND FLOOR DRYER		15	63	[<u> </u>	*		64	15		EXISTING SPARE
EXISTING LOAD			23	 _	*	[24				EXISTING LOAD	GROUND FLOOR LIGHTS		15	65	- 		_*	66	15		EXISTING SPARE
EXISTING LOAD			25	 *		[26				EXISTING LOAD	EXISTING SPARE		15	67	*	·		68	15		EXISTING SPARE
EXISTING LOAD			27	 *_		[28				EXISTING LOAD	JANITOR/CORRIDOR RECEPTACLE		20	69		*		70	15		EXISTING SPARE
EXISTING LOAD			29	 _ _	*	[30				EXISTING LOAD	CORRIDOR/STAIRWELL RECEPTACLE		20	71			_*	72	15		EXISTING SPARE
EXISTING LOAD			31	 _*		[32				EXISTING LOAD	LAUNDRY ROOM/GFI RECEPTACLE		15	73	*	·		74	15		EXISTING SPARE
EXISTING LOAD			33	 *_		[34				EXISTING LOAD	ADDITION EXIT LIGHTS		15	75				76	15		EXISTING SPARE
EXISTING LOAD			35	 _ _	*	[36				EXISTING LOAD			30	77	<u> </u>		_*	78	15		EXISTING SPARE
EXISTING LOAD			37	 _*			38				EXISTING LOAD	- EXISTING SPARE		30	79	*			80	15		EXISTING SPARE
EXISTING LOAD				*_			40				EXISTING LOAD			30	81				82	15		EXISTING SPARE
EXISTING LOAD			41		*		42				EXISTING LOAD	EXISTING SPARE		J J	83			_*	84			
						L				-		Total Phase A Total Phase B Total Phase C	0.00 0.00 0.00	kW kW kW			То	<gfi> <k> tal Pane</k></gfi>	=	Break		detector ing device kW

PANEL SCHEDULES SCALE: NTS

BREAKERS WILL NOT NEED TO BE PROVIDED FOR PANEL 'H': EXISTING PANEL CONTAINS SPARE BREAKERS FOR ALL NEW LOADS

IN CONSIDERATION OF THE RE THE RECIPIENT AGREES NOT T OR TRANSMIT THIS DOCUMEN INFORMATION THERIN CONTA PART, OR TO SUFFER SUCH AC PURPOSE, EXCEPT WITH THE V ENGINEERING AND FURTHER A SAME TO TTF ENGINEERING U	O REPRODUCE, COPY, USE T AND/OR THE INED, IN WHOLE OR IN TION BY OTHERS, FOR ANY VRITTEN PERMISSION OF TTF AGREES TO SURRENDER
1 FEB 26/18 ISSUED FO	OR PERMIT TV REVISIONS BY
T. W. VVYURKA	
330 TINCE OF ONTRA	
TF Engineering Unit 205 - 1600 N	
Dttawa, ON K2G 5J8 PROJECT PROPOSED 12 UN 411 COUNTRY STREET ALMONTE, ONTARIO, KO	Merivale Road Tel. 613-592-1677
PROJECT PROPOSED 12 UN 411 COUNTRY STREET	IT EXTENSION 0A 1A0
PROJECT PROPOSED 12 UN 411 COUNTRY STREET ALMONTE, ONTARIO, KO DRAWING ELECTRICAL	Merivale Road Tel. 613-592-1677 NIT EXTENSION OA 1A0 L DRAWING E LINE EGENDS &



<u>GENERAL NOTES:</u>

- 1 SEE UNIT 05 FOR TYPICAL CIRCUITING OF ONE BEDROOM UNITS. UNIT 04 TO HAVE ONE LESS CIRCUIT.
- 2 CIRCUIT NUMBERING IN SUITES CORRESPOND TO PANEL WITHIN SUITE. ALL HALLWAY AND COMMON AREA CIRCUITING TO BE FROM PANEL 'H' IN MAIN ELECTRICAL ROOM. SEE PANEL SCHEDULES ON DRAWING E-0.

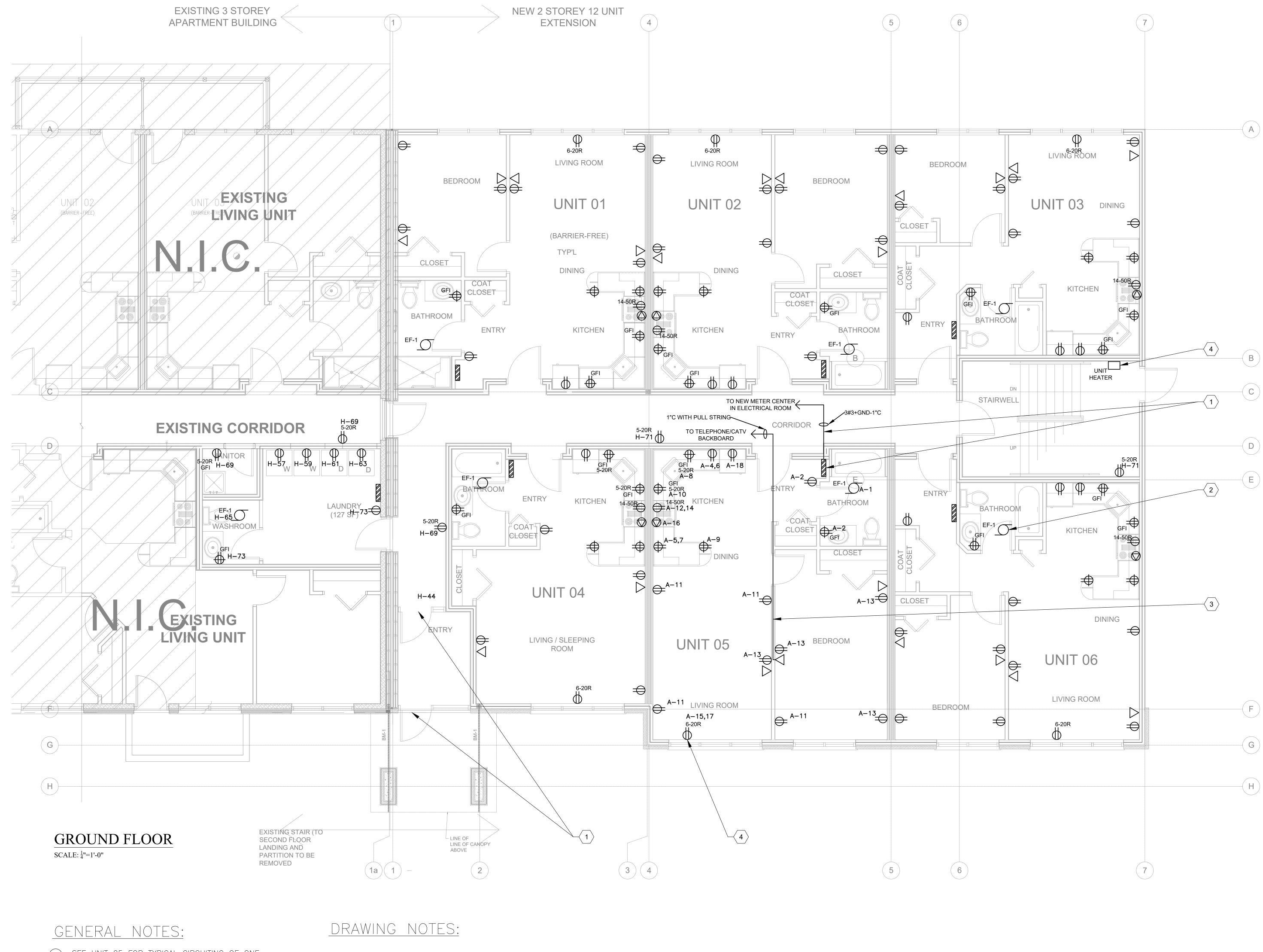
DRAWING NOTES:

- PROVIDE NEW 3 BANK METER CENTER FOR NEW APARTMENTS. COORDINATE WITH HYDRO ONE TO PROVIDE 12 NEW METERS. SEE SINGLE LINE DIAGRAM ON DRAWING E-1.
- 2 ALL EXISTING ELECTRICAL EQUIPMENT IN MAIN ELECTRICAL ROOM TO REMAIN.
- PROVIDE NEW 300AMP, 3¢, 120/208V MOLDED CIRCUIT
 BREAKER IN SWITCHBOARD 'SB1' AS OVERCURRENT PROTECTION FOR NEW 3 BANK METER CENTER. SEE SINGLE LINE DIAGRAM ON DRAWING E-0.
- $\langle 4 \rangle$ EXISTING SMOKE DETECTOR IN CORRIDOR TO REMAIN.
- 5 EXISTING HEAT DETECTOR IN JANITOR ROOM, MINIHORN-STROB, & EXIT SIGN TO BE RELOCATED. SEE DRAWING E-3 FOR NEW LOCATIONS.
- 6 EXISTING RECEPTACLES IN FIRST FLOOR STAIRWELL AND JANITOR'S CLOSET TO BE REMOVED.
- $\left< \frac{7}{7} \right>$ REMOVE UNIT HEATER AND RELOCATE TO NEW STAIRWELL. SEE DRAWING E-2 FOR NEW LOCATION.
- $\langle 8 \rangle$ existing exterior wall pack to be removed.





IN CONSIDERATION OF THE R THE RECIPIENT AGREES NOT OR TRANSMIT THIS DOCUMEI INFORMATION THERIN CONT PART, OR TO SUFFER SUCH A	TO REPRODUCE, COPY, USE NT AND/OR THE AINED, IN WHOLE OR IN
PURPOSE, EXCEPT WITH THE ENGINEERING AND FURTHER SAME TO TTF ENGINEERING U	WRITTEN PERMISSION OF TTF AGREES TO SURRENDER
1 FEB 26/18 ISSUED F	FOR PERMIT TV
TAMP	REVISIONS BY PROJECT NORTH
T. W. VIVYURKA	
FAL 26/1BO	
TROUNCE OF ONTAGE	
	NEERING
	NEERING Merivale Road
Dttawa, ON K2G 5J8	Merivale Road Tel. 613-592-1677
Ottawa, ON K2G 5J8	Merivale Road Tel. 613-592-1677
411 COUNTRY STREET	Merivale Road Tel. 613-592-1677
Dttawa, ON K2G 5J8 PROJECT PROPOSED 12 UI 411 COUNTRY STREET	Merivale Road Tel. 613-592-1677
DITTATION K2G 5J8 PROJECT PROPOSED 12 UN 411 COUNTRY STREET ALMONTE, ONTARIO, K DRAWING GROUND FLO DEMOLITION	Merivale Road Tel. 613-592-1677 NIT EXTENSION KOA 1A0 OOR - N & POWER
DITTATION K2G 5J8 PROJECT PROPOSED 12 UN 411 COUNTRY STREET ALMONTE, ONTARIO, K DRAWING GROUND FL	Merivale Road Tel. 613-592-1677 NIT EXTENSION KOA 1A0 OOR - N & POWER
DITTATION K2G 5J8 PROJECT PROPOSED 12 UN 411 COUNTRY STREET ALMONTE, ONTARIO, M DRAWING GROUND FLO DEMOLITION DISTRIBUTI	Merivale Road Tel. 613-592-1677 NIT EXTENSION KOA 1A0 OOR - N & POWER
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- 1 SEE UNIT 05 FOR TYPICAL CIRCUITING OF ONE BEDROOM UNITS. UNIT 04 TO HAVE ONE LESS CIRCUIT.
- 2 CIRCUIT NUMBERING IN SUITES CORRESPOND TO PANEL WITHIN SUITE. ALL HALLWAY AND COMMON AREA CIRCUITING TO BE FROM PANEL 'H' IN MAIN ELECTRICAL ROOM. SEE PANEL SCHEDULES ON DRAWING E-0.

PROVIDE NEW 100AMP, 24 CIRCUIT 1¢, 3W, 120/208VPANEL. EACH PANEL TO BE FED BY 3#3+GND-1"C FROM NEW METER CENTER. (TYPICAL IN EVERY SUITE)

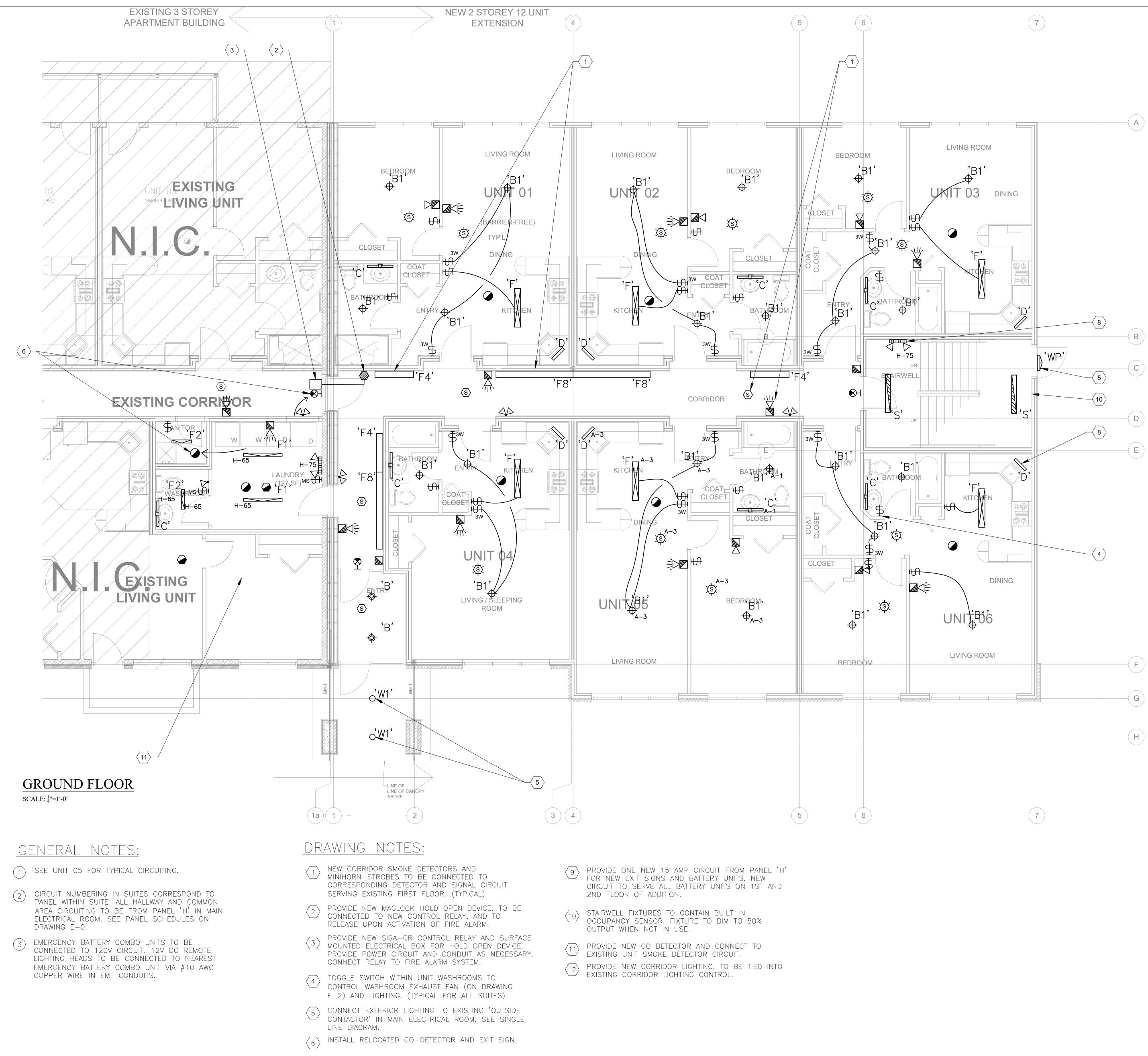
2 PROVIDE A SINGLE TOGGLE SWITCH WITHIN WASHROOMS TO CONTROL WASHROOM EXHAUST FAN AND LIGHTING. SEE DRAWING E-3 for Switch LOCATION. (TYPICAL IN EVERY SUITES)

3 PROVIDE 1" CONDUIT TO TELEPHONE BACKBOARD FROM NEAREST DATA OUTLET IN EACH SUITE. (TYPICAL IN EVERY SUITE)

(4) INSTALL AND PROVIDE DEDICATED 20AMP, 1¢ CIRCUIT FROM PANEL 'H' TO RELOCATED UNIT HEATER. REUSE BREAKER.

5 PROVIDE 6-20R WITHIN EACH SUITE FOR PTAC UNIT. (TYPICAL)

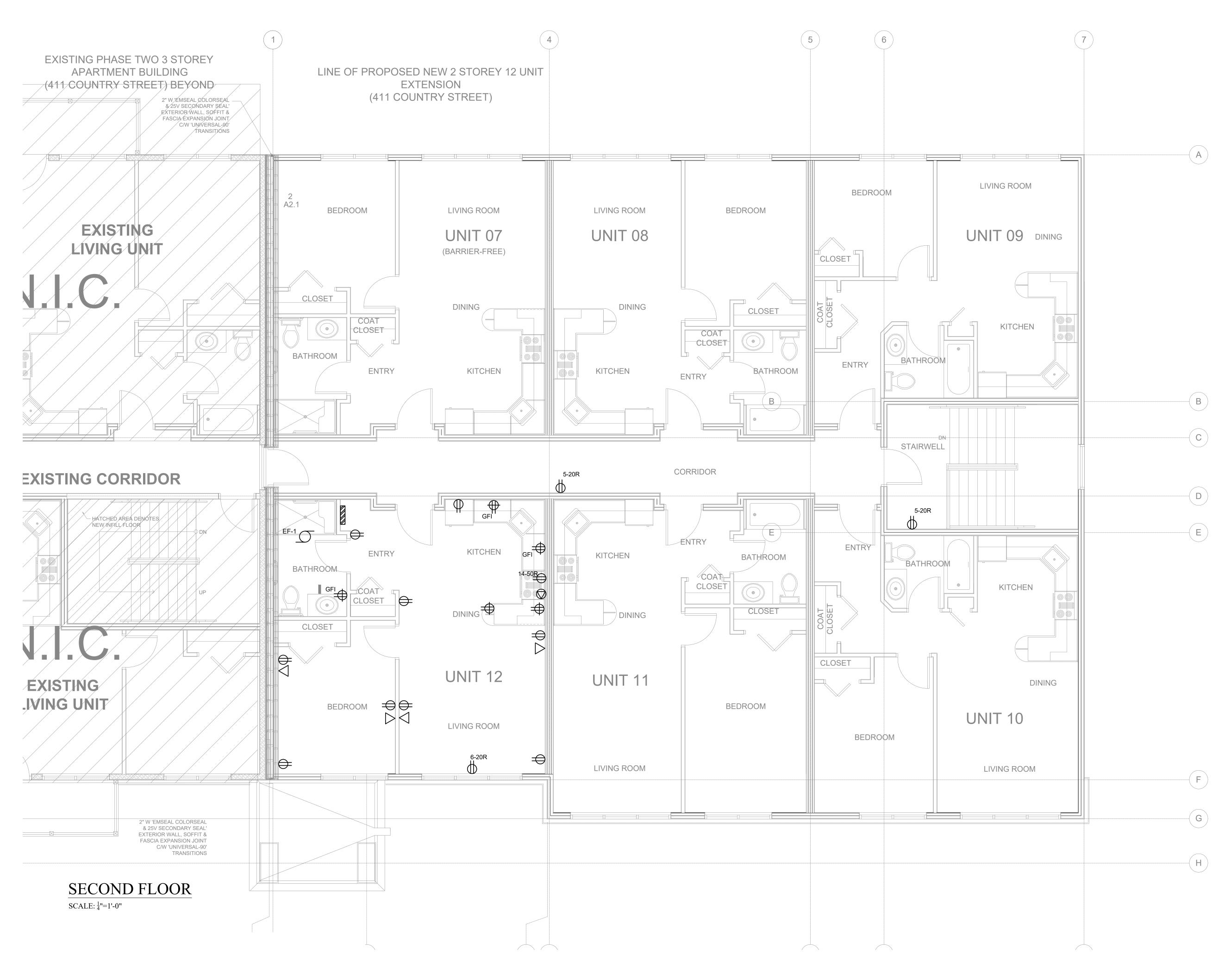
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PURPOSE, EXCEPT WITH THE ENGINEERING AND FURTHER SAME TO TTF ENGINEERING U	WRITTEN PERMISSION OF TTF AGREES TO SURRENDER
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IO. DATE TAMP T. W. VIVYURKA T. W. VIVYUKA T. W. VIVYUKA T. W. VIVYUKA T. W. VIVYUKA T.	REVISIONS BY PROJECT NORTH Werivale Road Merivale Road Tel. 613-592-1677 NIT EXTENSION KOA 1A0



8 PROVIDE UNDER COUNTER FIXTURE WITH BUILT IN TOGGLE SWITCH.

- 7 PROVIDE LINE VOLTAGE MOTION SENSOR SWITCH FOR LAUNDRY ROOM LIGHT AND EXHAUST FAN.

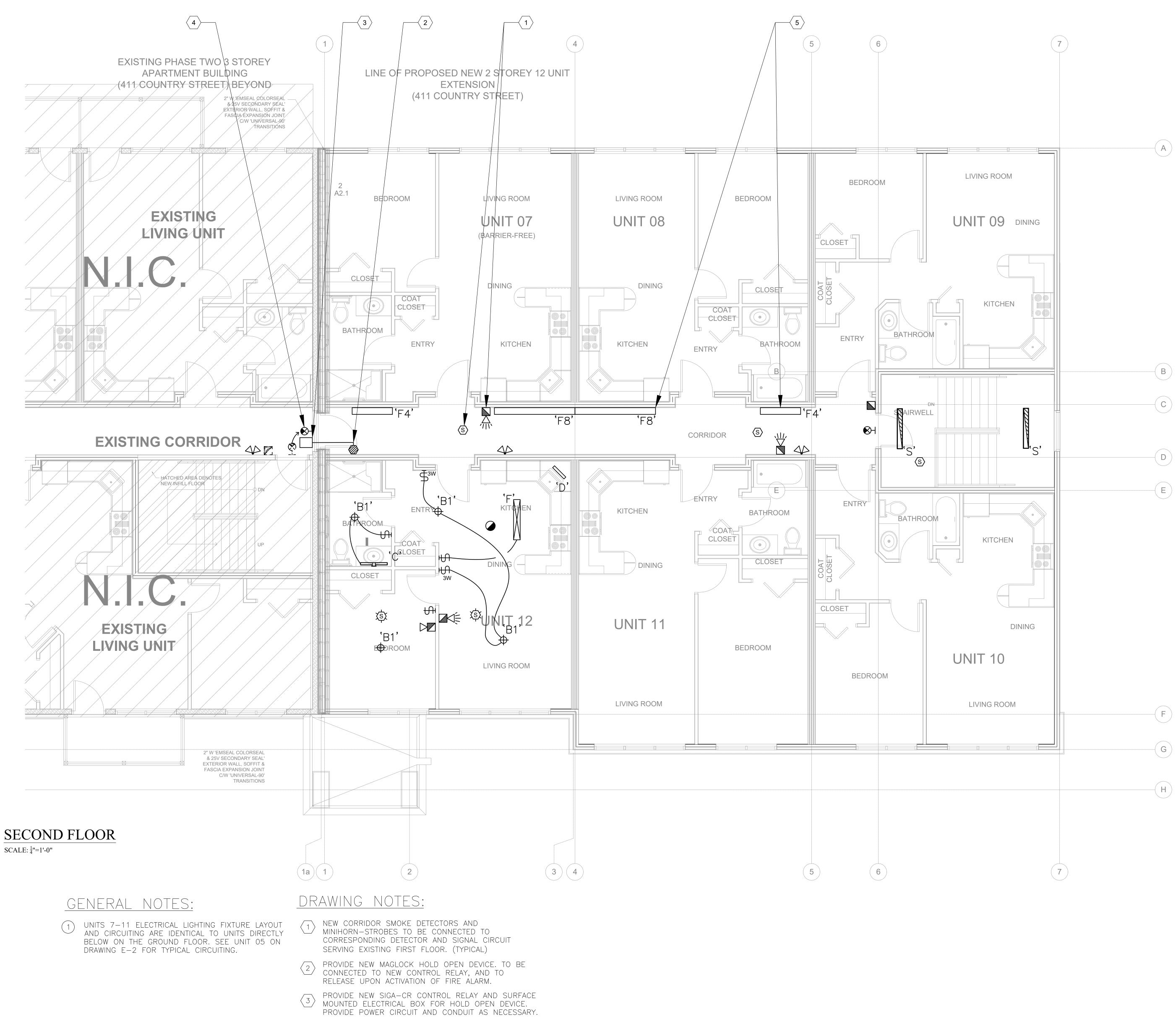
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1 FEB 26/18 ISSUED F No. DATE	FOR PERMIT TV REVISIONS BY PROJECT NORTH
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TTF ENGI	NEERING
TTF Engineering Unit 205 - 1600 Ottawa, ON K2G 5J8 PROJECT	
PROPOSED 12 UN 411 COUNTRY STREET ALMONTE, ONTARIO, K	-
DRAWING GROUND FLO POWER & DA	
DRAWN: G.D. & M.E. APPROVED: T.V. DATE: FEB 15/18	DRAWING No.
	— E-3



<u>GENERAL NOTES:</u>

1 UNITS 7–11 ELECTRICAL LAYOUTS AND CIRCUITING ARE IDENTICAL TO UNITS ON GROUND FLOOR. SEE UNIT 05 ON DRAWING E-2 FOR TYPICAL CIRCUITING.

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PUR ENG	POSE, E INEERIN E TO TT	XCEPT NG ANI		LING U	JPON D		J.		
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CONNECT RELAY TO FIRE ALARM SYSTEM.

 $\left< \frac{4}{4} \right>$ Relocate exit sign as shown.

5 PROVIDE NEW CORRIDOR LIGHTING. TO BE TIED INTO EXISTING SECOND FLOOR CORRIDOR LIGHTING CONTROL.

IN CONSIDERATION OF THE R THE RECIPIENT AGREES NOT OR TRANSMIT THIS DOCUMEI	TO REPRODUCE, COPY, USE
INFORMATION THERIN CONT. PART, OR TO SUFFER SUCH A	AINED, IN WHOLE OR IN
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GENERAL INSTRUCTIONS

CONDITIONS AND CONTRACT

- 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
- 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.
- 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 PROVINCIAL 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.
- 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

THIS PROJECT INVOLVES ELECTRICAL INSTALLATION OF NEW BUILDING, EXAMINE THE SITE AND LOCAL CONDITIONS TO DETERMINE THE DIFFICULTIES IN CARRYING OUT THE WORK INDICATED AND SPECIFIED PRIOR TO SUBMITTING FINAL PRICE.

INTENT

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 FOR 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. REVIEW ALL DRAWINGS AND SPECIFICATIONS, ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL AND ELECTRICAL. COORDINATE WITH OTHER TRADES IN THE PERFORMANCE OF THE ELECTRICAL WORK AND ALL CONDITIONS THAT WILL EFFECT THAT WORK.

PERMITS, CERTIFICATES, FEES, ETC

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 3E 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

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

MAINTAIN AT JOB SITE ONE COPY OF EACH OF THE FOLLOWING DOCUMENTS .1 DRAWINGS

.7 MANUFACTURERS' INSTALLATION AND APPLICATION INSTRUCTIONS.

- .2 SPECIFICATION .3 ADDENDA
- .4 CHANGE ORDERS
- .5 OTHER MODIFICATION TO CONTRACT .6 FIELD TEST REPORTS

PROGRESS BILLING

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

PERIOD TO ALLOW FOR A TIMELY REVIEW BY THE ENGINEER.

AS-BUILT AND RECORD DRAWINGS

- A DRAWING 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 A CLEAN SET AND SENT TO THE ENGINEER FOR THE FINAL REVIEW.
- 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

BEFORE FABRICATION OR DELIVERY OF ANY MATERIALS OR EQUIPMENT, SUBMIT A MINIMUM OF FOUR (4) COMPLETE SETS 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

- TEMPORARY OR TRIAL USAGE BY THE OWNER OF ANY MACHINERY, APPARATUS EQUIPMENT OR ANY OTHER WORK OR MATERIALS SUPPLIED UNDER THE CONTRACT 3EFORE 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.
- 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

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

- THE SECURITY OF THE CONTRACTOR'S EQUIPMENT AND MATERIALS SHALL BE HIS RESPONSIBILITY. CONTRACTOR SHALL LIAISE WITH THE BUILDING OPERATOR AS NECESSARY.
- SIGNS
- PROVIDE WARNING SIGNS IN LOCATIONS WHERE RENOVATIONS AND ALTERATION WORK IS ADJACENT TO AREAS AFFECTING THE PUBLIC. EQUIPMENT AND SITE CLEANLINESS
 - DUCTS AND EQUIPMENT SHALL BE THOROUGHLY CLEANED OF DIRT. CUTTINGS AND DTHER 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.

SATISFACTION OF THE PROJECT MANAGER.

OPERATING AND MAINTENANCE DATA

APPROVAL

MATERIALS

THE SATISFACTION OF THE ENGINEER.

APPROVALS

REQUIRED BY ALL OTHER CONTRACTORS TO ACCOMMODATE APPROVED EQUIVALENT MATERIALS OR EQUIPMENT. EXTRAS WILL NOT BE APPROVED TO COVER SUCH WORK.

CUTTING AND PATCHING

RATED ASSEMBLIES.

ACCESS DOORS

LIFTING OPERATIONS

THE PROJECT MANAGER.

SHUTDOWNS

- MATERIALS REMOVED

ELECTRICAL SPECIFICATIONS

MINIMUM STANDARDS

MOUNTING HEIGHTS

- OTHERWISE:
- .1 LOCAL SWITCHES: 1200mm .2 WALL RECEPTACLES:
- .1 GENERAL: 400mm
- .1 ABOVE COUNTERS: 175mm PANEL BOARDS: 1800mm FROM TOP

IDENTIFICATION

- UNLESS OTHERWISE SPECIFIED. NAMEPLATES SHALL BE RIGID LAMACOID. MINIMUM 1.5mm REVIEWED BY ENGINEER.
- INDICATING SOURCE PANEL AND CIRCUIT NUMBERS

LOCATION OF OUTLETS

- POSSIBLE

- ELECTRIC MOTORS AND WIRING

INTEGRITY OF FIRE SEPARATIONS

- ELECTRICAL EQUIPMENT, FASTENERS, ETC.
- 2. DEFINITIONS: SPREAD OF FIRE.
- PENETRATIONS IN FIRE RATED ASSEMBLIES.

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 TO ENSURE NO DUST INFILTRATION. CLEANING TO BE COMPLETED AT THE END OF EACH SHIFT TO THE

1. FURNISH THREE (3) SETS OF OPERATING AND MAINTENANCE DATA FOR ALL NEW FOUIPMENT 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

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

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

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

SUPPLY TO THE INSTALLING TRADES, ACCESS DOORS FOR SERVICING EQUIPMENT AND ACCESSORIES OR FOR INSPECTION OF LIFE SAFETY OR OPERATING DEVICES. MATERIAL SHALL BE OF 3mm CORE THICKNESS BONDERIZED STEEL COMPLETE WITH HEAVY DUTY RUST RESISTANT CONCEALED HINGES, POSITIVE LOCKING AND SELF-OPENING SCREW DRIVER LOCK. FRAME SHALL BE 300 X 300mm MINIMUM AND 600 X 600 MAXIMUM AS REQUIRED FOR THE TYPE OF ASSOCIATED WALL OR CEILING CONSTRUCTION. ALL DOORS ARE TO BE ACCURATELY LOCATED TO PROVIDE ACCESSIBILITY FOR NEW EQUIPMENT

1. ALL CRANE OR LIFTING OPERATIONS WILL BE CO-ORDINATED WITH, AND APPROVED BY,

 ANY SHUTDOWN THAT MAY BE REQUIRED OF EQUIPMENT AFTER IT HAS BEEN ACCEPTED AS OPERATIONAL. MUST HAVE PRIOR APPROVAL FROM THE PROJECT MANAGER AND ENGINEER. PROVIDE A MINIMUM OF 48 HOURS NOTICE.

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.

TO CSA C22.1-12. A C22.2 No. 9-96 (2006) C22.2 No. 74-96 (R2005)

TY CODE-2012

INSTALL ELECTRICAL EQUIPMENT AT FOLLOWING HEIGHTS UNLESS INDICATED

.4 TELECOMMUNICATION OUTLETS: 400mm

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.

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

3. PROVIDE NEATLY TYPED UPDATED CIRCUIT DIRECTORIES IN A PLASTIC HOLDER ON THE INSIDE DOOR OF NEW PANEL BOARDS, WITH COPY IN MANUAL.

IDENTIFY ALL PULL AND JUNCTION BOXES, WITH P-TOUCH LABEL IDENTIFICATION, 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

LOCATE OUTLETS AS SHOWN ON DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR OCATION OF OUTLETS POSITIONED FOR COUNTER LAYOUTS.

2. DO NOT INSTALL OUTLETS BACK-TO-BACK IN WALL; ALLOW MINIMUM 150mm HORIZONTAL CLEARANCE BETWEEN BOXES, AND LOCATE IN SEPARATE STUD CAVITIES WHEREVER

3. CHANGE LOCATION OF OUTLETS AT NO EXTRA COST OR CREDIT, PROVIDING DISTANCE DOES NOT EXCEED 3 METERS AND INFORMATION IS GIVEN BEFORE INSTALLATION.

THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY ALL MOTOR STARTERS, EXCEPT ON PRE-WIRED PACKAGED EQUIPMENT, DISCONNECT SWITCHES FOR ALL MOTORS FOR THE PROJECT, AND ALL WIRING TO STARTERS AND MOTORS EXCEPT WHERE SHOWN OR NOTED OTHERSWISE. EQUIPMENT REQUIRING CONNECTION TO AN ELECTRICAL POWER SOURCE SHALL BE CSA OR HYDRO APPROVED FOR USE AT LOCATION OF INSTALLATION. THE MECHANICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL LOW VOLTAGE CONTROL WIRING WITHIN 'EMT' CONDUIT FOR A COMPLETE AND OPERATING INSTALLATION UNLESS OTHERWISE SPECIFIED.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY AND FIRE RATING OF ANY FIRE SEPARATION PENETRATED DURING THE COURSE OF THE SCOPE OF WORK DEFINED HEREIN. THIS INCLUDES, BUT IS NOT LIMITED TO, CONDUIT, RACEWAYS, OTHER

.1 FIRE SEPARATION - CONSTRUCTED ASSEMBLY THAT ACTS AS A BARRIER AGAINST THE 2 FIRESTOPPING - MATERIAL OR COMBINATION OF MATERIALS USED TO RETAIN INTEGRITY OF FIRE-RATED CONSTRUCTION BY MAINTAINING AN EFFECTIVE BARRIER AGAINST THE SPREAD OF FLAME, SMOKE, WATER, AND HOT GASES THROUGH

3. FIRESTOP TESTED SYSTEMS SHALL BE USED WHEN A FIRE SEPARATION IS PENETRATED BY A COMPONENT OF A MECHANICAL OR ELECTRICAL SYSTEM. FIRESTOPPING PRODUCTS SHALL BE CERTIFIED TO CAN/ULC-S115 AND INSTALLED AS PER THE MANUFACTURER'S INSTRUCTIONS, FIRESTOPPING PRODUCTS SHALL MATCH THE FIRE RATING OF THE SEPARATION BEING PENETRATED, AND SHALL BE RATED FOR USE IN THE CONDITIONS

AND WITH THE MATERIALS SPECIFIC TO EACH CIRCUMSTANCE.

DEMOLITION

- EXISTING EQUIPMENT SHOWN AS RELOCATED TO BE CLEANED AND MADE OPERA BY THIS CONTRACTOR PRIOR TO ITS RELOCATION.
- 2. ALL ELECTRICAL EQUIPMENT REMOVED AND NOT SLATED FOR REUSE TO BE TURN OVER TO THE BUILDING OWNER AT A DESIGNATED STORAGE SPACE ON SITE. ALL EQUIPMENT NOT WANTED BY THE OWNER TO BE REMOVED FROM SITE BY THIS CONTRACTOR.
- 3. ALL ELECTRICAL EQUIPMENT, ELECTRICAL PANEL, BOXES CONDUIT AND WIRING INDICATED FOR REMOVAL THAT WHEN REMOVED INTERRUPTS POWER TO EQUIPM INDICATED AS EXISTING TO REMAIN, TO HAVE HOME RUNS REINSTATED TO SUCH EQUIPMENT.

WIRING

- ALL WIRING TO BE COPPER. RW90 XLPE. STRANDED FOR CONDUCTORS #8 AND LA INSTALL 'BRADY LABEL' MAKING SLEEVES AT EACH END, UNLESS OTHERWISE NOT DRAWINGS. WIRING TO BE COLOUR CODED AS PER CODE. MINIMUM WIRE SIZE T No.12 AWG FOR POWER AND LIGHTING.
- 2. LEAVE ADEQUATE LENGTHS OF WIRE IN JUNCTION BOXES FOR CONNECTIONS TO EQUIPMENT.
- 3. AC90 WIRING IN HOLLOW WALLS AND CEILING SPACE ONLY.
- 4. RUN A GREEN INSULATED GROUND WIRE SIZED AS PER CODE IN ALL CONDUIT RU 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. RUN CONDUITS IN STRAIGHT HORIZONTAL AND VERTICAL LINES FOR ALL EXPOSED CONDUIT INSTALLATIONS.
- EXPOSED CONDUITS IN SPRINKLERED AREAS TO USE WATERTIGHT CONNECTORS COUPLING STANDARD SET SCREW. CONNECTORS AND COUPLING CAN BE USED I NOT EXPOSED TO SPRINKLERS SUCH AS ABOVE SUSPENDED CEILINGS.
- CONDUITS RUN IN CONCRETE ON SLAB ON GRADE MUST BE APPROVED BY STRUC ENGINEER. CONDUITS WITH OUTSIDE DIAMETERS LARGER THAN 25% OF SLAB MU INSTALLED BELOW SLAB. FOR SLABS 6" OR LESS, ALL CONDUITS SHOULD BE INST BELOW.

OUTLET BOXES

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

PULL BOXES

PROVIDE PULL BOXES WHERE RUNS EXCEED 30 METERS IN LENGTH AND HAVE MO THAN 2-90° BENDS.

WIRING DEVICES

- RECEPTACLES .1 DUPLEX RECEPTACLES, CSA TYPE 5-15R 125 VOLT, 15A 'U' GROUND WITH FOLL WITH THE FOLLOWING FEATURES:
- 2 RECEPTACLES OF SPECIFICATION GRADE. RECEPTACLES OF ONE MANUFACTURER THROUGHOUT PROJECT.
- IVORY UREA MOULDED HOUSING. SUITABLE FOR No. 10 AWG FOR BACK AND SIDE WIRING. SIDE WIRING.
- BREAK-OFF LINKS FOR USE AS SPLIT RECEPTACLES. EIGHT (8) BACK WIRED ENTRANCES, FOUR(4) SIDE WIRING SCREWS B DOUBLE WIPE CONTACTS AND RIVETED GROUNDING CONTACTS.

2. SWITCHES:

- TO CSA C22.2 NO. 111-00 (R2005) 15A, 347 VOLT SINGLE POLE, 3 WAY SWITCHES, AS INDICATED. MANUALLY OPERATED GENERAL PURPOSE AC SWITCHES WITH THE FOLLOW FEATURES: TERMINAL HOLES APPROVED FOR NO. 10 AWG WIRE
- SILVER ALLOY CONTACTS. UREA OR MELAMINE MOULDING FOR PARTS SUBJECT TO CARBON TRACKI SUITABLE FOR BACK AND SIDE WIRING.
- IVORY TOGGLE. TOGGLE OPERATED LOCKING FULLY RATED FOR TUNGSTEN FILAMENT AND FLUORESCENT LAMPS, AND UP TO 80% OF RATED CAPACITY OF MOTOR LOADS
- SWITCHES OF ONE MANUFACTURER THROUGH OUT 3. ISOLATED GROUND RECEPTACLES:
 - DUPLEX RECEPTACLES, CSA TYPE 5-15R 125 VOLT, 15A, ISOLATED GROUND, W FOLLOWING FEATURES:
 - ORANGE UREA MOULDED HOUSING SUITABLE FOR No. 10 AWG FOR BACK AND SIDE WIRING BREAK-OFF LINKS FOR USE AS SPLIT RECEPTACLES.
 - EIGHT BACK WIRED ENTRANCES, FOUR(4) SIDE WIRING SCREWS
- DOUBLE WIPE CONTACTS AND RIVETTED GROUNDING CONTACTS. RECEPTACLES OF SPECIFICATION GRADE. 8 RUN ADDITIONAL GREEN ISOLATED GROUND WIRE PER CIRCUIT FROM PANEL WIRING
- 4. SERVICE POLES: 1 75mm SQUARE STEEL SERVICE POLES FINISHED IN SATIN ALUMINIUM C/W TWC
- VOLT DUPLEX RECEPTACLES PREWIRED TO A WIRING COMPARTMENT AT HEAD SERVICE POLE AND ADJUSTABLE FOOT FOR FASTENING TO FLOOR SLAB.
- .2 DUAL CHANNEL POLES FOR COMMUNICATION CABLING AND POWER. LENGTH METERS FOR T-BAR CEILING APPLICATION. .3 CONTRACTOR MAYBE REQUIRED TO CUT AND MODIFY POLE HEIGHTS TO ENAM
- APPLICATIONS WHERE MECHANICAL DUCTWORK DOES NOT PERMIT STANDAR HEIGHTS TO BE USED.

PANEL BOARDS

- 1. TO CSA C22.2 No. 29-M1989 (R2004)
- TO CSA C22.2 No. 5.1-M91(R2001)
- 3. 347/600 VOLT, 3Ø, 4W PANELS RATED 22,000A SYMMETRICAL INTERUPPTING CAPA AMPERAGE RATING AS INDICATED.
- 4. 120/208 VOLT, 3 PHASE, 4 WIRE PANEL BOARD RATED 10,000A (SYMMETRICAL) INTERRUPTING CAPACITY. AMPERAGE RATING AS INDICATED
- ALUMINUM BUS WITH ALUMINUM NEUTRAL OF SAME AMPERE RATING AS MAINS. MAINS: SUITABLE FOR BOLT ON BREAKERS
- 7. TRIM AND DOOR FINISH: BAKED GREY ENAMEL WITH TWO(2) KEYS FOR DOOR LOCK
- 8. PANEL BOARD MAINS, NUMBER OF CIRCUITS AND NUMBER OF BRANCH BREAKERS AS INDICATED.
- 9. PANEL BOARD TO BE RATED AS SPRINKLER-PROOF

CIRCUIT BREAKERS

- 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.

TELEPHONE AND DATA

- 1. COMPLETE EMPTY RACEWAYS SYSTEM CONSISTS OF OUTLET BOXES, CONDUITS, PULL WIRES
- 2. CONDUITS: .1 21mm 'EMT' RISERS BETWEEN OUTLET BOXES AND CEILING PLENUM BY DIVISION 16. EXACT LOCATION TO BE DETERMINED ON SITE
- 3. BOXES: .1 DOUBLE GANG DEEP OUTLET BOX COMPLETE WITH SINGLE GANG PLASTER RING
- 4. PULL WIRE: POLYPROPYLENE TYPE.
- COVERPLATES INSTALLED BY OTHERS

	 PROVIDE SLEEVES AS INDICATED BETWEEN FLOORS AND WALLS. SEAL OPENINGS IN SLEEVES WITH FIRE STOP MATERIAL AFTER CABLES HAVE BEEN INSTALLED.
IONAL	7. CABLING, TERMINATIONS AND HEAD END EQUIPMENT BY SYSTEM CONTRACTOR, UNDER CONTRACT BY OWNER.
ED	COVER PLATES
	 WHITE POLYCARBONATE COVER PLATES, THICKNESS 1.0mm FOR WIRING DEVICES TO BE MOUNTED IN A FLUSH MOUNTED BOX.
	2. INSTALL COVER PLATES ONLY AFTER PAINTING AND OTHER WORK IS FINISHED.
ENT	3. INSTALL SUITABLE COMMON COVER PLATES WHERE WIRING DEVICES ARE GROUPED.
	 COVER PLATES FOR WIRING DEVICES. COMMUNICATION OUTLET COVERLETS PROVIDED BY SYSTEM CONTRACTOR.
	5. COVER PLATES FROM ONE MANUFACTURER THROUGHOUT PROJECT.
RGER. ED ON BE	MANUAL MOTOR STARTER
DE	1. SINGLE PHASE MANUAL MOTOR STARTER IN CSA 1 ENCLOSURE C/W SINGLE OVERLOAD HEATER ELEMENT AND PLOT LIGHT.
	2. MANUAL MOTOR STARTER RATINGS TO MATCH MOTOR CHARACTERISTICS.
S. DO	DISCONNECT SWITCH
	1. DISCONNECT SWITCH TO BE RATED HORSEPOWER AND BE EQUIPPED WITH PROVISIONS FOR THREE(3) LOCKING DEVICES AND TO BE CEMA 1 UNLESS OTHERWISE INDICATED, AMPERAGE AS INDICATED ON DRAWINGS AND MOUNTED 1500mm ABOVE FINISHED FLOOR
	TO CENTRELINE OF HANDLE. 2. UNFUSED OR FUSED AS INDICATED.
	3. PROVIDE RAIN-TIGHT CEMA 3R DISCONNECT SWITCHES WHERE INDICATED.
	4. DISCONNECT SWITCHES FOR MOTOR ISOLATION TO BE MOUNTED AT MOTOR.
	FUSES
ND AREAS	1. FUSE TYPE REFERENCE J1, HAS BEEN ADOPTED FOR USE IN THIS SPECIFICATION.
	2. FUSES: PRODUCT OF ONE MANUFACTURER.
JRAL T BE _LED	3. HRCI-J FUSES (FORMERLY CLASS J).
	 TYPE J1, TIME DELAY, CAPABLE OF CARRYING 500% OF ITS RATED CURRENT FOR 10 SECOND MINIMUM.
	5. INSTALL FUSES IN MOUNTING DEVICES IMMEDIATELY BEFORE ENERGIZING CIRCUIT.
	LIGHTING
R THE	 SUPPORTS: SUPPORT ALL NEW LUMINARIES MOUNTED IN CEILING GRID INDEPENDENTLY OF SUSPENDED CEILING GRID BY CHAINS IN ACCORDANCE WITH LOCAL INSPECTION REQUIREMENTS.
RE	EXIT LIGHTS AND EMERGENCY BATTERY UNITS
	1. EXIT LIGHTS
DWING	 1 EXIT SIGNAGE TO NRCAN/ CSA C860-01 REGULATIONS. 2 COMMERCIAL GRADE, THERMOPLASTIC EXIT SIGN. SNAP TOGETHER DESIGN. 3 LED TYPE AC INPUT 120 TO 347 VOLT WITH A 12 VDC SECONDARY. 4 LIFE EXPECTANCY OF THE LEDS TO BE 25 YEARS. 5 GREEN COLOURED PICTOGRAM 6 FACE PLATE TO REMAIN CAPTIVE FOR RELAMPING. 7 UNIVERSAL MOUNTING. 8 ARROW RIGHT, LEFT, BOTH DIRECTIONS AS SHOWN ON DRAWINGS. 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-2012 11 CONNECT FIXTURES TO DEDICATED EXIT LIGHT CIRCUITS AS INDICATED. 12 STANDARD OF ACCEPTANCE: LUMACELL LP3WU.
G	 COMBINATION SELF POWER EXIT AND EMERGENCY BATTERY UNIT INCANDESCENT EMERGENCY LIGHTING UNIT: SELF-CONTAINED EMERGENCY LIGHTING UNIT WITH .2RECHARGEABLE STORAGE BATTERIES, CHARGER, AND LAMPS. BATTERY: 12 VOLT, NICKEL CADMIUM [TYPE, WITH -HALF (1/2) HOUR CAPACITY TO SUPPLY THE
G	CONNECTED LAMP LOAD. .3 CHARGER: DUAL-RATE CHARGER, CAPABLE OF MAINTAINING THE BATTERY IN A FULL CHARGE STATE DURING NORMAL CONDITIONS, AND CAPABLE OF RECHARGING DISCHARGED BATTERY TO FULL CHARGED WITHIN TWELVE (12) HOURS.
	.4 LAMPS :LED 6 WATT MINIMUM, SEALED BEAM TYPE IN WHITÈ STEEL HOUSING. .5 REMOTE HEADS: MATCH LAMPS ON UNIT .6 INDICATORS: LAMPS INDICATE AC ON, RECHARGING. TEST SWITCH: TRANSFER UNIT
	FROM NORMAL SUPPLY TO BATTERY SUPPLY .7 ELECTRICAL CONNECTION: 6 FT CORD WITH TYPE 5-15P CAPACITY UNIT AC VOLTAGE:
TH THE	120 VOLTS 8 UNIVERSAL MOUNTING. 9 GREEN COLOURED PICTOGRAM 10 FACE PLATE TO REMAIN CAPTIVE FOR RELAMPING. 11 ARROW RIGHT, LEFT, BOTH DIRECTIONS AS SHOWN ON DRAWINGS. 12 INSTALL COMBINATION UNITS AT LOCATIONS SHOWN ON DRAWING. 13 CONNECT COMBINATION UNITS TO DEDICATED CIRCUITS AS INDICATED. 14 STANDARD OF ACCEPTANCE: LUMACELL LSC1250WMQ12
D EACH	 3. EMERGENCY BATTERY UNITS .1 STEEL CONSTRUCTION BATTERY UNIT WITH OR WITHOUT EMERGENCY LIGHTING HEADS. 120V AC INPUT - 12V DC OUTPUT. .2 10 YEAR LIFE EXPECTANCY
2) 125	.3 CORROSION RESISTANT UNDERCOATING. STANDARD COLOUR WHITE. .4 REMOVABLE FRONT PANEL ALLOWING UNITS TO BE MOUNTED AT CEILING HEIGHT.
ÓF	.5 SOLID STATE PULSE-TYPE CHARGER. CURRENT LIMITED, TEMPERATURE COMPENSATED
E	.6 SEALED DUST-PROOF AND REVERSE-POLARITY PROTECTED. .6 SEALED DUST-PROOF TRANSFER RELAY, TEST SWITCH AND LED INDICATOR LIGHTS. .7 LONG-LIFE, MAINTENANCE-FREE LEAD ACID BATTERY. .8 STANDARD 120/347 V AC INPUT VOLTAGE WITH LINE CORD KIT.
POLE	.9 CSA 22.2 No. 141 CERTIFIED. .10 REMOTE OR UNIT MOUNTED HEADS 6W LED. DOUBLE HEADS AT LOCATION SHOWN ON DRAWINGS.
	.11 STANDARD OF ACCEPTANCE: LUMACELL RGS 12 XX 12.
	DIMMERS AND SWITCHES
ITY.	LEVITON RENOIR II ARCHITECTURAL WALLBOX DIMMERS .1 RENOIR II 0-10V LED & FLUORESCENT 600W LEVITON # AWSMT-XAW

IN CONSIDERATION OF	
THE RECIPIENT AGREE OR TRANSMIT THIS DO	THE RECEIPT OF THIS DOCUMENT, S NOT TO REPRODUCE, COPY, USE CUMENT AND/OR THE CONTAINED, IN WHOLE OR IN
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