DEMOLITION NOTES:

- D1. CONTRACTOR SHALL VISIT SITE, AND DOCUMENT EXISTING CIRCUITS SERVING LIGHTING FIXTURES, RECEPTACLES, PLUG-IN STRIPS, MOTORS, AND SPECIAL POWER EQUIPMENT WITHIN LIMITS OF DEMOLITION, PRIOR TO SUBMITTING A PROPOSAL.
- D2. LIMITS OF DEMOLITION AREA SHALL BE AS INDICATED ON ARCHITECTURAL DRAWINGS.
- D3. CAREFULLY REVIEW THE ARCHITECTURAL, MECHANICAL, AND PLUMBING DRAWINGS FOR ADDITIONAL ITEMS TO BE REMOVED AND/OR RELOCATED. INCLUDE ALL COSTS IN BASE BID FOR REMOVAL, DISCONNECTING, OR RELOCATION OF FOURMENT AFFECTED BY DEMOLITION OF OTHER TRADES
- PRELOCATION OF EQUIPMENT AFFECTED BY DEMOLITION OF OTHER TRADES.

 D4. EXISTING ELECTRICAL EQUIPMENT NOT SHOWN ON THIS DRAWING; HOWEVER, REQUIRED TO BE REMOVED AND/OR RELOCATED BY DEMOLITION, SHALL BE

INCLUDED IN SCOPE OF WORK.

- D5. COORDINATE WITH OWNER'S REPRESENTATIVE, AT TIME OF BIDDING, THE LOCATION FOR STORING SALVAGEABLE EQUIPMENT.
- PROVIDE TEMPORARY LIGHTING/POWER, DURING AND AFTER DEMOLITION FOR ALL AREAS WITHIN LIMITS OF THIS CONTRACT. SUCH SERVICE SHALL BE TAKEN FROM EXISTING PANELBOARDS, AND EXISTING EQUIPMENT MAY BE UTILIZED WHERE FEASIBLE. UPON COMPLETION OF THE NEW INSTALLATION WORK, DISCONNECT, REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY LIGHTING, POWER AND WIRING.
- D7. SHUTDOWN OF ANY SERVICE TO EQUIPMENT REMAINING SHALL ONLY BE FOR THE TIME AGREED UPON BY OWNER'S REPRESENTATIVE. SUCH SHUTDOWN SHALL BE IN WRITING WITH COPY TO ARCHITECT.
- D8. ELECTRICALLY DISCONNECT ALL ELECTRICAL EQUIPMENT BEING REMOVED BY DEMOLITION BACK AT PANELBOARD. AFTER TESTING TO DETERMINE "POWER-OFF" TO EQUIPMENT, REMOVE AND DISPOSE OF EQUIPMENT, UNLESS SPECIFICALLY NOTED OTHERWISE.
- D9. ALL CONDUIT AND WIRE REMOVED SHALL BE REMOVED COMPLETELY BACK TO SOURCE, AND WHERE REQUIRED BRANCH OVER—CURRENT PROTECTION DEVICES PROPERLY LABELED "SPARE".
- D10. ALL CONDUIT AND WIRE FOR EQUIPMENT LOCATED OUTSIDE AREA OF DEMOLITION SHALL REMAIN IN SERVICE. THE EXACT METHOD OF RE—ROUTING NEW CONDUIT AND WIRE TO EQUIPMENT REMAINING SHALL BE COORDINATED WITH WORK OF OTHER TRADES, PRIOR TO ANY INSTALLATION.
- D11. ALL EXISTING CONDUIT AND WIRE INTERFERING WITH THE NEW WORK SHALL BE RE-ROUTED CONCEALED IN THE NEW CONSTRUCTION, UNLESS NOTED OTHERWISE.
- D12. EXISTING RECEPTACLES, LOCATED WITHIN THE LIMITS OF DEMOLITION, AND THEIR ASSOCIATED CONDUIT AND WIRING SHALL BE ELECTRICALLY DISCONNECTED AND REMOVED BY THE ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE. PROVIDE NEW CONDUIT AND WIRE (TO MATCH EXISTING), TO MAINTAIN CONTINUITY OF SERVICE FOR EQUIPMENT WHICH SHALL REMAIN BOTH INSIDE AND OUTSIDE THE AREA OF DEMOLITION.
- D13. EXISTING LIGHT FIXTURES AND SWITCHES, LOCATED WITHIN THE LIMITS OF DEMOLITION, AND THEIR ASSOCIATED CONDUIT AND WIRING SHALL BE ELECTRICALLY DISCONNECTED AND REMOVED BY THE ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE. PROVIDE NEW CONDUIT AND WIRE (TO MATCH EXISTING), TO MAINTAIN CONTINUITY OF SERVICE FOR LIGHTING WHICH SHALL REMAIN BOTH INSIDE AND OUTSIDE THE AREA OF DEMOLITION.
- D14. EXISTING TELEPHONE AND DATA OUTLETS, LOCATED WITHIN THE LIMITS OF DEMOLITION, AND THEIR ASSOCIATED CONDUIT AND WIRING SHALL BE ELECTRICALLY DISCONNECTED AND REMOVED BY THE ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE. PROVIDE NEW CONDUIT AND WIRE (TO MATCH EXISTING), TO MAINTAIN CONTINUITY OF SERVICE FOR EQUIPMENT WHICH SHALL REMAIN BOTH INSIDE AND OUTSIDE THE AREA OF DEMOLITION.
- D15. REFER TO ARCHITECTURAL PLANS FOR EXACT SCOPE OF DEMOLITION WORK.

GENERAL NOTES 1 COOPDINATE ALL WORK WITH THE CENERAL CONTRACT

1. COORDINATE ALL WORK WITH THE GENERAL CONTRACTOR TO LEAST INTERFERE WITH THE OWNER'S USE OF THE FACILITY. GENERAL CONTRACTOR MAY REQUIRE WORK INTERRUPTIONS DURING THE DAY AND MAY REQUIRE CERTAIN WORK TO BE PERFORMED ON PREMIUM TIME AT NIGHT OR ON WEEKENDS.

WHERE CORE DRILLING AND CUTTING OF FLOORS OR WALLS IS REQUIRED, CONTRACTOR SHALL USE XRAY EQUIPMENT, METAL DETECTORS OR OTHER APPROVED DEVICES TO DETERMINE AND AVOID INTERFERENCE WITH EXISTING CONCEALED FEEDERS AND PIPES.

USE TEMPORARY CABLES AND ELECTRICAL APPARATUS AS REQUIRED.

- 2. UNLESS NOTED OTHERWISE, MOUNTING HEIGHTS OF ALL ELECTRICAL EQUIPMENT SHALL BE AS SHOWN ON THE ARCHITECTURAL DRAWINGS.
- ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL ONLY. FOR EXACT LOCATION OF ALL LIGHTING FIXTURES, RECEPTACLES, ETC., REFER TO ARCHITECTURAL DRAWINGS OR QUESTION ARCHITECT.
- PROVIDE CUTTING AND PATCHING OF EXISTING WALLS AFFECTED BY THE NEW ELECTRICAL WORK. PATCHING SHALL MATCH EXISTING AND SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR.
- 5. REFER TO ARCHITECTURAL DRAWINGS FOR ALL FIRE RATED AND SMOKE RATED WALLS. SEAL ALL CONDUIT PENETRATIONS THROUGH SUCH WALLS IN ACCORDANCE WITH SPECIFICATIONS.
- 6. CONTRACTOR SHALL REFER TO THE MECHANICAL DRAWINGS FOR THE EXACT SIZE, NUMBER AND LOCATION OF ALL MECHANICAL EQUIPMENT. PROVIDE ELECTRICAL CONNECTIONS AS REQUIRED FOR A COMPLETE AND OPERABLE
- 7. THE BACKBOARDS USED FOR THE TELEPHONE AND OTHER SYSTEMS SHALL BE FIRE RATED. INSTALL THE BACKBOARDS TO THE RATING STAMP CAN BE SEEN FOR INSPECTION. DO NOT PAINT OVER STAMP.

SYSTEM.

- 8. CONTRACTOR SHALL VISIT THE SITE AND CAREFULLY EXAMINE THE BUILDING ELECTRICAL SYSTEMS SO AS TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THE WORK, BEFORE SUBMITTING PROPOSALS. SUBMISSION OF A PROPOSAL SHALL BE EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS BECAUSE OF DIFFICULTIES ENCOUNTERED, WILL NOT BE RECOGNIZED.
- ALL ELECTRICAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ALL OTHER DRAWINGS RELATED TO THE PERFORMANCE OF THE WORK.
- O. BECOME THOROUGHLY FAMILIAR WITH THE PROJECT SPECIFICATIONS BEFORE COMMENCING ANY WORK. THE PROJECT SPECIFICATIONS AND DRAWINGS FORM THE BASIS OF THIS CONTRACT REQUIREMENTS AND INCLUDE THE TYPE AND GRADE OF MATERIALS TO BE INSTALLED, EQUIPMENT TO BE FURNISHED, THE MANNER BY WHICH TO BE INSTALLED AND WHERE TO BE LOCATED. IN THE EVENT OF A CONFLICT BETWEEN THE PROJECT SPECIFICATIONS AND DRAWINGS, QUESTION THE ARCHITECT AND ENGINEER FOR CLARIFICATION.
- CHECK CAREFULLY ALL CONSTRUCTION DRAWINGS AND SPECIFICATIONS THAT ARE PART OF THIS PROJECT TO INSURE THAT NO FIXTURE, OUTLET, ALARM STATION OR CONTROL AND POWER WIRING IS OMITTED. CONTRACTOR SHALL CONSULT ALL TRADES FURNISHING EQUIPMENT AND OBTAIN FROM THEM ALL DATA. IN SOME CASES EQUIPMENT, FIXTURES AND DEVICES ARE SHOWN ONLY. ASCERTAIN AND PROVIDE THE WIRING AND CONTROL STATIONS REQUIRED FOR THE PROPER FUNCTION OF BUILDING EQUIPMENT. NO EXTRA CHARGES SHALL BE ACCEPTED BY OWNER, AFTER BIDDING FOR SUCH EQUIPMENT AND LABOR.

- 12. EQUIPMENT LABELS AND INSTRUCTIONS REGARDING THE APPLICATION AND INSTALLATION OF THE LISTED EQUIPMENT SHALL BE FOLLOWED TO INSURE THAT THE EQUIPMENT IS BEING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S LISTING INSTRUCTIONS. THE TEMPERATURE RATING OF THE EQUIPMENT TERMINATION MUST BE CORRELATED WITH THE CONDUCTOR AMPACITY TO PREVENT OVERHEATING AND PREMATURE FAILURE.
- 13. COORDINATE WORK WITH FIELD CONDITIONS AND OTHER TRADES AND INSTALL CONDUIT AND BOXES TO CLEAR EMBEDDED DUCTS, OPENINGS AND OTHER STRUCTURAL FEATURES.
- 14. ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF ALL APPLICABLE CODES AND REGULATIONS.
- 15. ALL LIGHTING FIXTURES ARE TO BE LOCATED AS REQUIRED ON THE JOB TO CLEAR DUCTS, PIPING, EQUIPMENT, AND/OR MECHANICAL UNITS.
- 16. ALL OF THE BOXES, CONDUITS, WIRES, CONTROL STATIONS, SLEEVES, INSERTS, FRAMES AND ANCHORS ARE NOT SHOWN ON THE DRAWINGS. ONLY MAJOR ITEMS ARE SHOWN. COORDINATE ALL WORK AS REQUIRED FOR PROPER DEMOLITION AND INSTALLATION.
- 17. NO WIRING SHALL BE DONE PRIOR TO THE CONTRACTOR'S REVIEW OF THE PROJECT EQUIPMENT SHOP DRAWINGS. COORDINATE FIELD CONDITIONS WITH THE DESIGN DOCUMENTS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ARCHITECT/ENGINEER'S ATTENTION FOR FINAL RESOLUTION. WORK THAT HAS TO BE REPLACED DUE TO LACK OF PROPER SHOP DRAWINGS COORDINATION SHALL BE DONE AT CONTRACTOR'S EXPENSE.
- 18. NEW PANELS SHALL NOT BE INSTALLED BELOW WATER PIPES OR VENTILATION DUCTS.
- 19. FURNISH AND INSTALL EQUIPMENT DISCONNECT SWITCHES IN STRICT COMPLIANCE WITH CODE REQUIREMENTS. (NOT ALL LOCAL DISCONNECT SWITCHES AREA SHOWN).
- 20. ALL OUTLETS BOXES SHALL BE PROVIDED WITH PROPER COVER PLATES.
- 21. SEAL ALL WALL AND FLOOR CONDUIT PENETRATIONS.
- 22. CIRCUITS ARE SIZED ASSUMING NO MORE THAN THREE CURRENT CARRYING CONDUCTORS IN A SINGLE CONDUIT. FOR CONDUITS CONTAINING MORE THAN THREE, PROVIDE APPROPRIATE DERATING OF CONDUCTORS PER PRESENT APPLICABLE CODES.

		SYMBO	L LIS	T							
	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION							
	160-	SINGLE POLE SWITCH	-	CONDUIT RUN EXPOSED							
	₩ 3W	THREE WAY SWITCH - "4W" DENOTES 4-WAY SWITCH	×	X DENOTES GROUND WIRE							
	⊳ T	THERMAL OVERLOAD SWITCH - "P" DENOTES PILOT LIGHT	90	JUNCTION BOX WITH FINAL EQUIPMENT CONNECTION							
	₩ MS	WALL MOUNTED MOTION SENSOR SWITCH (SENSORSWITCH # WSD OR APPROVED EQUAL)	Q_	FINAL EQUIPMENT CONNECTION							
		CEILING MOUNTED 360° MOTION SENSOR SWITCH - LINE VOLTAGE	•	PUSH BUTTON FOR DOOR BELL.							
	(M1)	(SENSORSWITCH # CMR-10 OR APPROVED EQUAL)	~	CONDUIT STUBBED UP							
	Ħ	DUPLEX CONVENIENCE OUTLET (+ 18" ABOVE FINISHED FLOOR)	~	CONDUIT STUBBED DOWN							
	 	DOUBLE DUPLEX OUTLET (+ 18" ABOVE FINISHED FLOOR)	60	CIRCUIT BREAKER							
	 ⊜	DUPLEX CONVENIENCE OUTLET MOUNTED 6" ABOVE COUNTER TOP	~ □	SWITCH & FUSE	ြ						
		HUBBELL RECTANGULAR NONMETALLIC FLUSH FLOOR BOX WITH DUPLEX RECEPTACLES, FLANGE & ALUMINUM COVER — 1—GANG FLOOR BOX		PANELBOARD	616						
	©	# PFBRG1, RECTANGULAR FLANGE # SA3083W, ADAPTER COLLAR # PFBRAC, COVER & GASKET # SA3826, "CONTROLLED" RECEPTACLE		DISTRIBUTION PANELBOARD	# 1						
		DR20C2GRY (COORDINATE WITH ULTA FOR POSSIBLE PURCHASE THROUGH ULTA VENDOR)		TELEPHONE TERMINAL CABINET							
		HUBBELL RECTANGULAR NONMETALLIC FLUSH FLOOR BOX WITH QUAD RECEPTACLES, FLANGE & ALUMINUM COVER - 2-GANG FLOOR BOX	S	FIRE ALARM PULL STATION MOUNTED AT + 48" A.F.F. TO TOP OF DEVICE	ULTA						
	⊙ \$	# PFBRG2, RECTANGULAR FLANGE # SA3084W, (2) ADAPTER COLLAR # PFBRAC, (2) COVER & GASKET # SA3826, (2) "CONTROLLED"	(AV)	WALL MOUNTED FIRE ALARM AUDIBLE/ VISUAL DEVICE							
		RECEPTACLES DR20C2GRY (COORDINATE WITH ULTA FOR POSSIBLE PURCHASE THROUGH ULTA VENDOR)	SD	SMOKE DETECTOR							
		HUBBELL CIRCULAR NONMETALLIC FLUSH FLOOR BOX WITH DUPLEX RECEPTACLE, DATA OUTLET & ALUMINUM COVER —	DD	DUCT MOUNTED SMOKE DETECTOR	UTURE						
	••••	SYSTEMONE 4" FLOOR BOX # CFBS1R4PFB, MOUNTING CUP # CFBS1R4CUP, SUB PLATE # S1R4SP2X2STYLE, COVER # CFBS1R4CVRALU,	HRTI	REMOTE TEST/INDICATING STATION							
		"CONTROLLED" RECEPTACLE DR20C2GRY (FLOOR OUTLETS WILL BE PROVIDED BY OWNER, CONTRACTOR SHALL INDICATE QUANTITY ON BID SHEET.)	™ 	SPRINKLER VALVE SUPERVISORY (TAMPER) SWITCH	OR.						
		HUBBELL RECTANGULAR NONMETALLIC FLUSH FLOOR BOX WITH DUPLEX RECEPTACLE & CONDUIT CONNECTION WITH FLANGE & ALUMINUM COVER -	₩S	SPRINKLER WATERFLOW INDICATOR	ш						
	000	2-GANG FLOOR BOX # PFBRG2, RECTANGULAR FLANGE # SA3084W, (2) ADAPTER COLLAR # PFBRAC, (1) COVER & GASKET # SA3826, (1) COVER	A.	DENOTES AMPERES	WORK						
		& GASKET # SA2425 (2 1/8" & 3/4" OPENING), (1) "CONTROLLED" RECEPTACLES DR20C2GRY (COORDINATE WITH ULTA FOR POSSIBLE PURCHASE	A.F.F.	DENOTES ABOVE FINISHED FLOOR	8						
	Ю	THROUGH ULTA VENDOR) RECEPTACLE — RATING & VOLTAGE AS INDICATED ON DRAWINGS	C.	DENOTES CONDUIT							
	d	COMBINATION VOICE/DATA OUTLET	E	DENOTES EXISTING TO REMAIN	ORD						
		DOUBLE - COMBINATION VOICE/DATA OUTLET	R	DENOTES EXISTING TO BE REMOVED							
	P W	TELEPHONE OUTLET (+ 18" ABOVE FINISHED FLOOR) "W" DENOTES WALL	RR	DENOTES EXISTING TO BE REMOVED AND RELOCATED	ANDL						
	I ▼ w	MOUNTED (+54" ABOVE FINISHED FLOOR) "P" DENOTES PUBLIC PAY PHONE (+54" ABOVE FINISHED FLOOR)	RE	DENOTES NEW LOCATION OF RELOCATED DEVICE							
	Ю , ()	JUNCTION BOX — WALL OR CEILING MOUNTED	EN	DENOTES EXISTING DEVICE TO BE REMOVED AND REPLACED WITH NEW IN SAME LOCATION							
	ㅁ	NON - FUSED DISCONNECT SWITCH	ND	DENOTES NEW DEVICE IN EXISTING LOCATION OF REMOVED DEVICE	Įz						
	ď	FUSED DISCONNECT SWITCH	GFI	DENOTES GROUND FAULT INTERRUPTER	RUCTION						
	\boxtimes	MAGNETIC MOTOR STARTER	GRD.	DENOTES GROUND] []						
	\boxtimes	COMBINATION MAGNETIC MOTOR STARTER AND DISCONNECT SWITCH — DEVICE AS NOTED	M.L.O.	DENOTES MAIN LUGS ONLY	[교						
	\(\)	MOTOR CONNECTION - H.P. AS NOTED ON DRAWINGS	N.I.C.	DENOTES NOT IN CONTRACT	S						
	#	CONDUIT RUN CONCEALED IN CEILING OR WALLS	WP	DENOTES WEATHERPROOF	CONST						
	/ # \	CONDUIT RUN IN FLOOR SLAB	ELTR	DENOTES EXISTING LIGHTING TO REMAIN							
,]						

EXAMINATION OF EXISTING CONDITIONS:

THIS CONTRACTOR SHALL VISIT THE SITE AND CAREFULLY EXAMINE THE BUILDING ELECTRICAL SYSTEMS SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THE WORK, BEFORE SUBMITTING PROPOSALS. SUBMISSION OF A PROPOSAL WILL BE EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS BECAUSE OF DIFFICULTIES ENCOUNTERED, WILL NOT BE RECOGNIZED.

LIGHTING SCHEDULE NOTES:

- 1. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL LIGHT FIXTURES.
- 2. EMERGENCY BATTERY BACK-UP.
- 3. COORDINATE MOUNTING REQUIREMENTS WITH OWNER AND MANUFACTURER.
- 4. PROVIDE EXIT SIGNS AND EMERGENCY BATTERY PACKS PER LOCAL ORDINANCES.
- 5. COORDINATE EXACT MOUNTING HARDWARE REQUIRED WITH OWNER AND MANUFACTURER PRIOR TO BIDDING AND INCLUDE ALL COST IN BASE BID.
- 6. PROVIDE DIRECTIONAL ARROWS AS SHOWN ON PLAN DRAWINGS AND AS REQUIRED BY LOCAL CODE AUTHORITIES. PROVIDE LETTER SIZE, COLOR AND TYPE AS REQUIRED BY LOCAL CODE AUTHORITIES.

					E	QUI	PM	EN	TΑ	ND	M	OTO)R	SC	HE	DU	LE				
	CONTROL DEVICES														SIZE						
ITEM	EQUIPMENT DESIGNATION	HP, WATTS OR AMPS	VOLTAGE & PHASE	MAGNETIC STARTER	COMBINATION STARTER AND DISCONNECT	2-SPEED MAGNETIC STARTER	STOP START PUSHBUTTON IN COVER W/ PILOT LIGHT	HAND OFF AUTO SWITCH IN COVER W/ PILOT LIGHT	COMBINATION STARTER AND CIRCUIT BREAKER IN 'MCC'	2 N.O. & 2 N.C. AUXILIARY CONTACTS	SINGLE POLE THERMAL OVERLOAD SWITCH	120V.,HAND-OFF-AUTO SWICH W/ PILOT LIGHT IN COVER	THERMOSTAT	DUCT MOUNTED SMOKE DETECTOR IN SUPPLY (> 2,000 CFM)	DUCT MOUNTED SMOKE DETECTOR IN RETURN (> 15,000 CFM)	FAN SHUTDOWN RELAY & FIRE ALARM INTERCONNECT	PACKAGED CONTROLLER	CONDUIT WIRE AND POWER SOURCE	DISCONNECT SWITCH BY E.C.	STARTER SIZE (BY E.C.)	REMARKS
RTU 1	ROOF TOP UNIT RTU-1	50 MCA	208V., 3PH	_	_	_	-	_	-	-	_	-	ММ	EE	_	_	ММ	MDP-(1,3,5) 3/4"C3 # 6 & 1 # 10 GROUND	ME	-	SEE NOTES # M7 & M8
RTU 2	ROOF TOP UNIT RTU-2	50 MCA	208V., 3PH.	_	_	_	1	_	-	-	_	-	ММ	EE	_	_	ММ	MDP-(2,4,6) 3/4"C3 # 6 & 1 # 10 GROUND	ME	-	SEE NOTES # M7 & M8
RTU 3	ROOF TOP UNIT RTU-3	50 MCA	208V., 3PH	_	_	_	1	_	-	-	_	-	ММ	EE	_	_	ММ	MDP-(7,9,11) 3/4"C3 # 6 & 1 # 10 GROUND	ME	-	SEE NOTES # M7 & M8
RTU 4	ROOF TOP UNIT RTU-4	30 MCA	208V., 3PH	_	_	_	_	_	-	-	_	_	ММ	EE	_	_	ММ	MDP-(8,10,12) 3/4"C3 # 8 & 1 # 10 GROUND	ME	_	SEE NOTES # M7 & M8
EF 1	EXHAUST FAN	3/4 HP	120V., 1PH	_	_	_	-	_	-	-	EE	-	-	_	_	_	-	B-42 3/4"C2 # 12 & 1 # 12 GROUND	20A -1P WP	-	

MOTOR SCHEDULE NOTES:

- M1. REFER TO MECHANICAL DRAWINGS FOR EXACT SIZE, LOCATION, AND ELECTRICAL REQUIREMENTS FOR ALL MOTORS AND MECHANICAL EQUIPMENT. COORDINATE WITH MECHANICAL CONTRACTOR AND PROVIDE ELECTRICAL CONNECTIONS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
- M2. 'EE' DENOTES EQUIPMENT FURNISHED, INSTALLED AND WIRED UNDER DIVISION 16.
- M3. VERIFY CONTROL REQUIREMENTS OF ALL 3 PHASE MOTORS WITH MECHANICAL AND CONTROL CONTRACTORS. ALL MOTORS STARTED BY AUTOMATIC DEVICES OR INTERLOCKED TO START WITH OTHER MOTORS SHALL BE PROVIDED WITH HAND-OFF-AUTO SELECTOR SWITCHES. ALL MOTORS WITH MANUAL CONTROL ONLY SHALL BE PROVIDED WITH STOP-START PUSHBUTTONS.
- M4. CONTROL PANEL (INCLUDING STARTERS, ALARMS, ETC.) AND INTERLOCK CONTROL WRING SHALL BE EXISTING TO REMAIN AND REWIRED BY MECHANICAL
- M5. CONTRACTOR SHALL COORDINATE ALL WORK WITH OWNER, GENERAL CONTRACTOR, ETC. AND WORK OF ALL OTHER TRADES.
- M6. 'MM' DENOTES EQUIPMENT FURNISHED, INSTALLED AND WIRED BY DIVISION 15.
- M7. CONTROL PANEL (INCLUDING STARTERS, ALARMS, ETC.) AND INTERLOCK CONTROL WRING SHALL BE FURNISHED AND INSTALLED BY EQUIPMENT SUPPLIER. POWER WRING SHALL BE PROVIDED BY THIS CONTRACTOR.
- M8. ELECTRICAL CONTRACTOR SHALL INSTALL NEW DUCT MOUNTED SMOKE DETECTORS (IN RETURN) IN EACH ROOF TOP UNIT. WIRE DUCT DETECTOR TO SHUTDOWN UNIT UPON ACTIVATION. INSTALL IN ACCORDANCE WITH NFPA 72 AND 90A. PROVIDE A REMOTE TEST/INDICATING STATION (RTI) WITH AUDIBLE/VISUAL ANNUNCIATION DEVICE FOR EACH DETECTOR. MOUNT RTI AS DIRECTED BY OWNER. THIS CONTRACTOR SHALL CONDUCT A SMOKE TEST ON THE HVAC UNITS WITNESSED BY THE BUILDING INSPECTOR TO VERIFY FAN SHUT—DOWN AND SIGNAL ACTIVATION UPON SMOKE DETECTION. SMOKE DETECTOR SHALL BE INTERFACED WITH RELOCATED FIRE PROTECTION/ALARM PANEL.
- M9. 'ME' DENOTES EQUIPMENT FURNISHED UNDER DIVISION 23; INSTALLED AND WIRED UNDER DIVISION 26.

	LIGHTING FIXTURE SCHEDULE													
				LAMPS			MANUFACTURE &							
TYPE	SYMBOL	DESCRIPTION	VOLTS	WATTAGE	TYPE	TOTAL WATTAGE	CATALOG #	REMARKS						
F1	⊫ a	4' PENDANT MOUNTED FLUORESCENT STRIP FIXTURE	120/ 277	2-32W	F032/ TL841 ALTO	55W	METALUX # SSF-2-32-UNV-EB81-AYC LITHONIA # C-2-32-MVOLT-GEB10ISHC36							
EX1	፟ 🏖 😣	EMERGENCY LED EXIT LIGHT WITH BATTERY BACK-UP	120/ 277	LED	LED	5W	SURE-LITES # LPX-7 LITHONIA # LQM-S-W-R-120/277-ELN	SEE NOTES #2, 4, 6						
EX3	4	SURFACE MOUNTED 2-HEAD EMERGENCY LIGHT WITH BATTERY BACKUP	120/ 277	2-12W	FURNISHED WITH UNIT	20W	SURE-LITES # ELM2-SD LITHONIA # CU-1-SD	SEE NOTES #2, 4						
EX5	4	OUTDOOR SURFACE MOUNTED 2-HEAD EMERGENCY LIGHT WITH BATTERY BACKUP	120/ 277	2-1.4W	LED	3W	LITHONIA # AFN-B-EXT	SEE NOTES #2, 4						

DRAWING INDEX

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E0-3	PANEL SCHEDULES
E1-0	FLOOR PLAN - LIGHTING
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OREGON

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SIGNATURE

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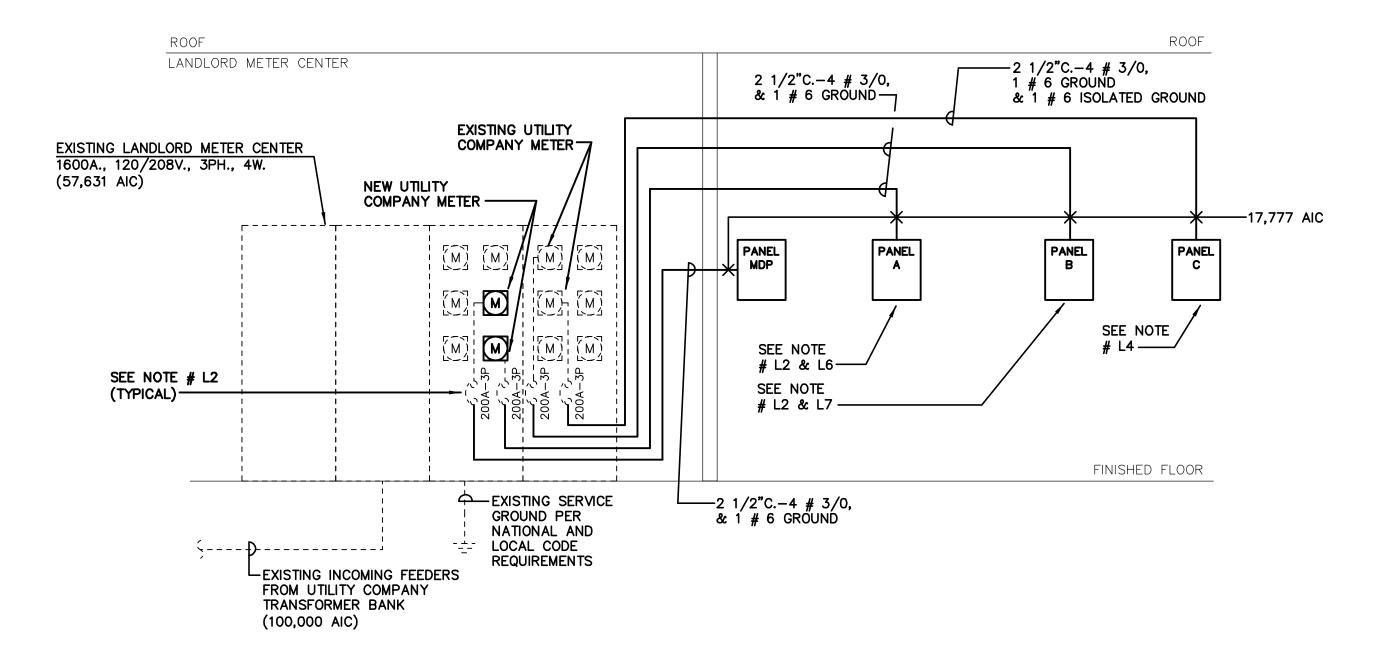
Revisions

└\08/15/19

A ISSUE FOR TENANT REVIEW

A ISSUE FOR PERMIT

No. E0-1



ELECTRICAL ONE-LINE DIAGRAM NO SCALE

LEGEND: DENOTES NEW FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR ----- DENOTES WORK EXISTING TO REMAIN

- L1. ALL WORK SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE AND ALL LOCAL CODES. COORDINATE EXACT CODE REQUIREMENTS AND LOCAL AMENDMENTS WITH LOCAL INSPECTOR PRIOR TO ANY INSTALLATION.
- L2. RE-USE EXISTING 200A-3P CIRCUIT BREAKER.
- L3. PROVIDE GROUNDING IN ACCORDANCE WITH N.E.C. AND ALL LOCAL CODES.
- L4. PANELS C SHALL HAVE AN ISOLATED GROUND BUS AND ISOLATED GROUND CONDUCTOR TO POINT OF SERVICE GROUND.
- L5. OBTAIN AVAILABLE FAULT CURRENT RATING FROM LOCAL UTILITY COMPANY AND PROVIDE PROPER PROTECTION FOR MAIN CIRCUIT BREAKER AND ALL BRANCH DEVICES. PER PACIFIC CORP, AVAILABLE FAULT CURRENT AT TRANSFORMER BANK
- L6. PROVIDE A SQUARE D POWERLINK G3 PANELBOARD, NEMA 1 ENCLOSURE, GROUND BAR, 208Y/120V, MAIN LUGS ONLY, 225 AMPS, 48 CIRCUIT INTERIOR (42 AVAILABLE), LEFT AND RIGHT 21 CIRCUIT CONTROL BUSSES, 3500 LEVEL MASTER CONTROLLER WITH LCD DISPLAY (NF3500G4), 16 PHYSICAL INPUTS, MODBUS ASCII/RTU, ASTROLOGICAL TIMECLOCK AND POWER SUPPLY. PROVIDE ECB-G3 CONTROLLABLE CIRCUIT BREAKER AND ECB-G3EL CONTROLLABLE EMERGENCY CIRCUIT BREAKER AS INDICATED IN PANEL SCHEDULE.
- L7. PROVIDE A SQUARE D POWERLINK G3 PANELBOARD, NEMA 1 ENCLOSURE, GROUND BAR, 208Y/120V, MAIN LUGS ONLY, 225 AMPS, 48 CIRCUIT INTERIOR (42 AVAILABLE), LEFT AND RIGHT 21 CIRCUIT CONTROL BUSSES AND SLAVE ID SELECTOR. PROVIDE ECB-G3 CONTROLLABLE CIRCUIT BREAKER AS INDICATED IN PANEL SCHEDULE.
- L8. FIELD VERIFY AND COORDINATE ALL EXISTING EQUIPMENT AND CONDITIONS.
- L9. ULTA AND SQUARE D HAVE A NATIONAL AGREEMENT FOR PANELBOARDS. THIS INCLUDES PANELBOARDS, POWERLINK PANELS, TRANSFORMERS AND CIRCUIT BREAKERS. THE ELECTRICAL CONTRACTOR SHALL CALL GRAYBAR AT 1-800-784-6059 TO REQUEST THE ULTA NATIONAL ACCOUNT PRICING.
- L10. ALL WIRE SHALL BE THW OR THWN COPPER.
- L11. CONTRACTOR SHALL INSTALLED POWERLINK CONTROL PANELS WITH 'COMMUNICATION CABLE' (4-WIRE 18 AWG, CLASS 1 CABLE, SUBNET CABLE (GENERAL CABLE 236100, BELDEN CABLE 27326 OR EQUIVALENT)) BETWEEN 'MASTER' AND 'SLAVE' PANEL AND INSTALLED 'SLAVE BUS INTERCONNECT CABLE' BETWEEN CONTROL BUSSES FOR EACH PANEL.
- L12. CONTRACTOR SHALL COORDINATE ALL SHUT DOWNS WITH THE MALL REPRESENTATIVE, ANY SHUT DOWN TO MALL COMMON SPACE OR ADJACENT TENANTS ELECTRICAL SERVICE SHALL BE DONE ON NON-BUISNIESS HOURS ON PREMIUM TIME.
- L13. COORDINATE ALL UTILITY REQUIREMENTS WITH UTILITY COMPANY (PACIFIC CORP) AND INCLUDE ALL COSTS.



CONSTRUCTION DICKERHOOF (P.O. BOX 1800 CORVALLIS, OR 9733

1619

LANDLORD WORK FOR FUTURE ULTA # 2870S. 6TH ST. KLAMATH FALLS, OR 97603

DIAGRAMS

ONE LINE

ELECTRICAL

Revisions ISSUE FOR TENANT REVIEW
08/15/19
ISSUE FOR PERMIT
08/15/19



08/15/2019 DATE 12/31/2019 Drawn By Checked By MB/KP DD/AH

Date Scale AS NOTED 08/15/19 Job No.

Sheet No. E0-2

FN:E0.2-1L_KLAMATH FALLS LAND LORD WOR

PANEL DATA SC	HEDU	LE	P/	NEI	NAME:	MDP			DI	EMAND LC	OAD FLUSH
LOCATION STAGING			• •					KEY: L:	LIGHTING		0.00 KVA SURFACE
SERVICE 120/208V.,3PH.,4	N.		CON	NECTE	D LOAD	DEMAND LOAD			RECEPTA(0.00 KVA
		 PI	HASE A _	21.62	<u>2</u> KVA	21.62 K		M:	MOTORS		64.85 KVA
MAIN LUGS ONLY			HASE B _		<u> </u>	21.62 K	VΑ	P:	PANELS		<u>0.00</u> KVA
NEUTRAL BUS		PI	HASE C _	21.62	<u> </u>	21.62 K	VΑ	T:	TRANSFOR	RMERS	<u>0.00</u> KVA
GROUND BUS YES		TO	TAL _	64.85	<u>5</u> KVA	64.85 _K \		E:	EXTRA		<u>0.00</u> KVA
SHORT CIRCUIT RATING 22,0	000	RMS SYM	AMPS _	180.0	AMPS	180.0 At	MPS	S & X:	SPARE &	SPACE	<u>0.00</u> KVA
NOTES:											
* DENOTES LOCK-OUT CLIP:	** DENO	TES GFI BR	EAKER: **	* DENC	TES VIA TIMECL	OCK: **** DEN	OTES V	/IA CONTA	CTOR		
CIRCUIT USE	CC	ONNECTED I	LOAD	CCT.	CIRCUIT	CIRCUIT	CCT.	CO	NNECTED	_OAD	CIRCUIT USE
SINCOTT OSE	А	В	С	NO.	BREAKER	BREAKER	NO.	Α	В	С	
: RTU-1	6,004		•	1	60A-3P	60A-3P	2	6,004		•	M: RTU-2
:		6,004		3	HACR	HACR	4		6,004		M:
:		•	6,004	5	RATED	RATED	6			6,004	M:
: RTU-3	6,004			7	60A-3P	40A-3P	8	3,603			M: RTU-4
:		6,004		9	HACR	HACR	10		3,603		M:
:			6,004	11	RATED	RATED	12			3,603	M:
SPARE	0			13	15A-3P		14	0			X: SPACE
		0		15			16		0		X: SPACE
			0	17			18			0	X: SPACE
SPACE	0			19			20	0			X: SPACE
SPACE		0		21			22		0		X: SPACE
SPACE		•	0	23			24		,	0	X: SPACE
SPACE	0		•	25			26	0			X: SPACE
SPACE		0		27			28		0		X: SPACE
: SPACE		_	0	29			30			0	X: SPACE
SPACE	0			31			32	0			X: SPACE
SPACE		0		33			34		0		X: SPACE
SPACE		_	0	35			36		_	0	X: SPACE
SPACE	0			37			38	0			X: SPACE
: SPACE		0		39			40		0		X: SPACE
: SPACE			0	41			42			0	X: SPACE
SUB TOTAL	12,008	12,008	12,008			<u> </u>		9,607	9,607	9,607	SUB TOTAL

PANEL DATA 80	CHEDU	ILE	P/	NEI	NAME:	_A_			DE	EMAND LO	CLIDEACE
LOCATION STAGING			00	NINICATE	D LOAD	DEMAND LOAD			: LIGHTING		
SERVICE 120/208V.,3PH.,	4W.								: RECEPTAC	CLES	0.00 KVA
MAIN BREAKER <u>200A-3P</u>			PHASE A _		KVA	K\			: MOTORS		0.00 KVA
MAIN LUGS ONLY			PHASE B _		\\ \^	K\		•	: PANELS		0.00 KVA
neutral bus <u>200A</u>			PHASE C _		N V A	K\	/A		: TRANSFOR	RMERS	0.00 KVA
GROUND BUS YES			TOTAL _	1.34		1.34 K\			: EXTRA		0.00 KVA
SHORT CIRCUIT RATING 22				3.7	AMPS		ИPS	S & X	: SPARE &	SPACE	<u>1.34</u> KVA
NOTES: SQUARE D POWERLI										DEMO:	TEC CMART RREALIER
* DENOTES LOCK-OUT CLIP	: ** DENO	TES GFI B	REAKER: *:	** DENC	TES VIA TIMECLO	OCK: **** DENC	DTES \	/IA CONTA	ACTOR 2R	- DENO	IES SMART BREAKER
CIRCUIT USE	C	ONNECTED	LOAD	CCT.	CIRCUIT	CIRCUIT	CCT.	C	ONNECTED I	_OAD	CIRCUIT USE
	A	В	С	NO.	BREAKER	BREAKER	NO.	Α	В	С	
X: SQUARE D					[CONTROLS]	[CONTROLS]					X: SQUARE D
X: POWERLINK G3					[CONTROLS]	[CONTROLS]					X: POWERLINK G3
X: POWER PACK					[CONTROLS]	[CONTROLS]					X: CONTROL PACK
S: SPARE	0			1	20A-1P-SB	20A-1P-SB	2	0		_	S: SPARE
S: SPARE		0		3	20A-1P-SB	20A-1P-SB	4		0		S: SPARE
S: SPARE			0	5	20A-1P-SB	20A-1P-SB	6			0	S: SPARE
S: SPARE	0			7	20A-1P-SB	20A-1P-SB	8	0		_	S: SPARE
S: SPARE		0		9	20A-1P-SB	20A-1P	10		0		S: SPARE
S: SPARE			0	11	20A-1P-SB	20A-1P-SB	12			0	S: SPARE
S: SPARE	0			13	20A-1P-SB	20A-1P-SB	14	0			S: SPARE
S: (SEE NOTE # P2)		0		15	(EM)	20A-1P-SB	16		935		S: SHELL LIGHTING
S: SPARE		_	0	17	20A-1P-SB	20A-1P-SB	18			0	S: SPARE
S: (SEE NOTE # P2)	0			19	(EM)	20A-1P-SB	20	0			S: SPARE
S: SPARE		0		21	20A-1P-SB	20A-1P-SB	22		0		S: SPARE
S: SPARE		_	0	23	20A-1P-SB	20A-1P-SB	24		_	0	S: SPARE
S: SPARE	0			25	20A-1P-SB	20A-1P-SB	26	0		_	S: SPARE
S: SPARE		0		27	20A-1P-SB	20A-1P-SB	28		0		S: SPARE
S: SPARE			0	29	20A-1P-SB	20A-1P-SB	30			0	S: SPARE
S: SPARE	0			31	20A-1P-SB	20A-1P-SB	32	0			S: SPARE
S: SPARE		0		33	20A-1P-SB	20A-1P-SB	34		0		S: SPARE
S: SPARE		_	0	35	20A-1P-SB	20A-1P-SB	36			0	S: SPARE
S: SPARE	0			37	20A-1P-SB	20A-1P-SB	38	0		_	S: SPARE
S: SPARE		0		39	20A-1P-SB	20A-1P-SB	40		0		S: SPARE
S: ROOF TOP LIGHTING			400	41	20A-1P	20A-1P-SB	42			0	S: SPARE
SUB TOTA	0	0	400					0	935	0	SUB TOTAL

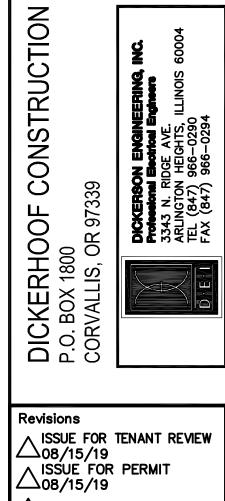
SERVICE (CALCULATION - 1,600A METER	CENTER	
	120/208V., 3PH., 4W.		
LOAD DESCRIPTION	ACTUAL (NEC) CONNECTED KW		NEC DEMAND KW
METER CENTER	192.0	@125%	240.0
ULTA (FUTURE LOAD - PANEL MDP)	71.9	PER SERVICE CAL	66.6
ULTA (FUTURE LOAD - PANEL A)	28.3	PER SERVICE CAL	30.2
ULTA (FUTURE LOAD - PANEL B)	25.2	PER SERVICE CAL	18.0
ULTA (FUTURE LOAD - PANEL C)	51.1	PER SERVICE CAL	41.9
	368.5	TOTAL KW	396.7
		·	
		TOTAL AMPS	1103

PANEL DATA SC	HEDU	LE	P	ANEI	L NAME:	В			D	EMAND LO	DAD FLUSH
LOCATION STAGING			• •					KFY: I:	LIGHTING		0.00 KVA
SERVICE 120/208V.,3PH.,4W			CO	ONNECTE	D LOAD	DEMAND LOAD			RECEPTA		0.00 KVA
MAIN BREAKER 200A-3P			PHASE A	0.00	KVA	ERR KV	Α		MOTORS		1.60 KVA
MAIN LUGS ONLY			PHASE B			ERR KV			PANELS		0.00 KVA
NEUTRAL BUS 200A			PHASE C		KVA	1.60 KV			TRANSFO	RMERS	0.00 KVA
GROUND BUS YES				1.00		ERR KV			EXTRA		0.00 KVA
SHORT CIRCUIT RATING 22,00	00	RMS SYM		2.8	AMPS	ERR AM		S & X:	SPARE &	SPACE	0.00 KVA
NOTES: SQUARE D POWERLING * DENOTES LOCK—OUT CLIP:	G3 PAN	EL – LIGH	TING CON	TROL PA	NEL - REFER TO						
CIRCUIT USE	C	ONNECTED	LOAD	ССТ.	CIRCUIT	CIRCUIT	ССТ.	СО	NNECTED	LOAD	CIRCUIT USE
CINCOTT OSE	А	В	С	NO.	BREAKER		NO.	А	В	С	
SQUARE D					[CONTROLS]	[CONTROLS]					X: SQUARE D
: POWERLINK G3	1				[CONTROLS]	[CONTROLS]		1			X: POWERLINK G3
: POWER PACK	1				[CONTROLS]	[CONTROLS]		1			X: CONTROL PACK
S: SPARE	0			1	20A-1P-SB	20A-1P	2	0			S: SPARE
S: SPARE		0		3	20A-1P-SB	20A-1P-SB	4		0		S: SPARE
S: SPARE	1		0	5	20A-1P-SB	20A-1P-SB	6	1		0	S: SPARE
: SPARE	0			7	20A-1P-SB	20A-1P-SB	8	0]		S: SPARE
S: SPARE		0		9	20A-1P-SB	20A-1P-SB	10		0		S: SPARE
S: SPARE			0	11	20A-1P-SB	20A-1P-SB	12			0	S: SPARE
S: SPARE	0			13	20A-1P-SB	20A-1P-SB	14	0			S: SPARE
S: SPARE		0		15	20A-1P-SB	20A-1P-SB	16		0		S: SPARE
S: SPARE]		0	17	20A-1P-SB	20A-1P-SB	18	1		0	S: SPARE
: SPARE	0			19	20A-1P-SB	20A-1P-SB	20	0]		S: SPARE
S: SPARE		0		21	20A-1P-SB	20A-1P-SB	22		0		S: SPARE
: SPARE	1		0	23	20A-1P-SB	20A-1P-SB	24	1		0	S: SPARE
S: SPARE	0			25	20A-1P-SB	20A-1P-SB	26	0	7		S: SPARE
S: SPARE		0		27	20A-1P-SB	20A-1P-SB	28		0		S: SPARE
S: SPARE			0	29	20A-1P-SB	20A-1P-SB	30			0	S: SPARE
S: SPARE	0			31	20A-1P-SB	20A-1P-SB	32	0	7		S: SPARE
S: SPARE		0		33	20A-1P-SB	20A-1P-SB	34		0		S: SPARE
S: SPARE			0	35	20A-1P-SB	20A-1P-SB	36]		0	S: SPARE
: SPARE	0			37	20A-1P-SB	20A-1P-SB	38	0	7		S: SPARE
: SPARE		0		39	20A-1P-SB	20A-1P-SB	40		0		S: SPARE
S: SPARE	1		0	41	20A-1P-SB	20A-1P-SB	42	1		1,000	M: EXHAUST FAN EF-1
	0	0	0				•	0	0	1.000	SUB TOTAL

PANEL DATA S	CHEM	II F	P	ANEI	NAME:	C			D	EMAND L	OAD FLUSH 🗌
	OFIEDU			WIEL.							SUREACE
LOCATION STAGING			0	ONNECTED	1010	DEMAND LOAD	\		LIGHTING		0.70
SERVICE <u>120/208V.,3PH.</u>	,4W.								RECEPTA	CLES	0.79 KVA
MAIN BREAKER <u>200A-3P</u>			PHASE A		KVA	0.00 K		M:	MOTORS		0.00 KVA
MAIN LUGS ONLY			PHASE B	0.20	KVA		(VA	P:	PANELS		<u>0.00</u> KVA
NEUTRAL BUS <u>200A</u>			PHASE C	0.72	KVA		(VA	T:	TRANSFO	RMERS	<u>0.00</u> KVA
GROUND BUS YES			TOTAL	0.92	KVA	0.79 K	(VA	E:	EXTRA		<u>0.00</u> KVA
SHORT CIRCUIT RATING 22	2,000	_RMS_SYM	1 AMPS	2.6	AMPS	2.2	MPS	S & X:	SPARE &	SPACE	<u>0.00</u> KVA
NOTES: PROVIDE WITH ISOL		ND BUS A	ND GROUN	D BUS							
* DENOTES LOCK-OUT CLIF	P: ** DENO	TES GFI E	BREAKER: '	*** DENO	TES VIA TIMECL	OCK: **** DEN	IOTES '	VIA CONTA	CTOR		
CIRCUIT USE	С	ONNECTED	LOAD	ССТ.	CIRCUIT	CIRCUIT	CCT.	CO	NNECTED	LOAD	CIRCUIT USE
CIRCUIT USE	A	В	ГС	NO.	BREAKER	BREAKER	NO.	A	В	ТС	CIRCUIT USE
: SPARE	0	+ -		1	20A-1P	20A-1P	2	0	+		S: SPARE
: SPARE		0	\neg	3	20A-1P	20A-1P	4	+ -	0	7	S: SPARE
: SPARE			0	5	20A-1P	20A-1P	6	-		0	S: SPARE
: SPARE	0			7	20A-1P	20A-1P	8	0	٦		S: SPARE
		10		<u> </u>	20A-1P 20A-1P	20A-1P 20A-1P		0	10		S: SPARE
S: SPARE		0	1	9			10	4	0	+	
S SPARE		_	0	11	20A-1P	20A-1P	12	1	7	0	S: SPARE
SPARE	0		_	13	20A-1P	20A-1P	14	0			S: SPARE
S: SPARE		0		15	20A-1P	20A-1P	16	_	0	1	S: SPARE
S: SPARE		_	0	17	20A-1P	20A-1P	18		7	0	S: SPARE
S: SPARE	0			19	20A-1P	20A-1P	20	0		_	S: SPARE
S: SPARE		0		21	20A-1P	20A-1P	22		0		S: SPARE
S: SPARE			0	23	20A-1P	20A-1P	24			0	S: SPARE
S: SPARE	0			25	30A-2P	20A-1P	26	0			S: SPARE
S: SPARE		0		27		20A-1P	28		0		S: SPARE
S: SPARE			0	29	20A-1P	20A-1P	30	1		0	S: SPARE
S: SPARE	0			31	20A-1P	20A-1P	32	0	7		S: SPARE
S: SPARE		0		33	20A-1P	20A-1P	34		0		S: SPARE
S: SPARE			0	35	20A-1P	20A-1P	36	1		0	S: SPARE
S: SPARE	0	\neg		37	20A-1P	20A-1P	38		٦		S: SPARE
S: SPARE		0	\neg	39	20A-1P	20A-1P	40	-	200		R: DUCT DETECTORS
S: SPARE			0	41	20A-1P	20A-1P	42	-	200	720	R: ROOF TOP UNIT RECP (BY LL
S: SPARE	0	_			20A-1P	20A-1P	_	0	٦	/20	S: SPARE
	- 0		_	43			44	0	-	_	
S: SPARE		0		45	20A-1P	20A-2P	46	4	0		S: SPARE
S: SPARE		_	0	47	20A-1P	004 45	48		٦	0	S: SPARE
S: SPARE	0		_	49	20A-1P	20A-1P	50	0		_	S: SPARE
S: SPARE		0		51	20A-1P	20A-1P	52		0	1	S: SPARE
S: SPARE		_	0	53	20A-1P	20A-1P	54	_	7	0	S: SPARE
S: SPARE	0		_	55	20A-1P	20A-1P	56			_	S: SPARE
S: SPARE		0		57	20A-1P	20A-1P	58		0		S: SPARE
S: SPARE			0	59	20A-1P	20A-1P	60		_	0	S: SPARE
S: SPARE	0			61	20A-1P	20A-1P	62	0			S: SPARE
S: SPARE		0		63	20A-1P	20A-1P	64		0		S: SPARE
S: SPARE			0	65	20A-1P	20A-1P	66	_		0	S: SPARE
S: SPARE	0			67	20A-1P	20A-1P	68		7		S: SPARE
S: SPARE		0		69	20A-1P	20A-1P	70		0		S: SPARE
S: SPARE		<u> </u>	0	71	20A-1P	20A-1P	72	1	<u> </u>	0	S: SPARE
S: SPARE	0			73	20A-1P	20A-1P	74		7		S: SPARE
S: SPARE		0		75	20A-1P	20A-1P	76	+	0		S: SPARE
S: SPARE			10				_	-		10	
		\neg	0	77	20A-1P	20A-1P	78	+	٦	0	S: SPARE
S: SPARE	0	1	_	79	20A-1P	20A-1P	80	0	1		S: SPARE
S: SPARE		0		81	20A-1P	20A-1P	82	_	0	<u> </u>	S: SPARE
S: SPARE			0	83	20A-1P	20A-1P	84			0	S: SPARE
	4L 0	0	0	1				0	200	720	SUB TOTAL

- P1. OBTAIN AVAILABLE FAULT CURRENT RATING FROM LOCAL UTILITY COMPANY (PACIFIC CORP) AND PROVIDE PROPER PROTECTION FOR MAIN CIRCUIT BREAKER AND ALL BRANCH DEVICES. PER PACIFIC CORP, AVAILABLE FAULT CURRENT AT TRANSFORMER BANK IS 100KAIC.
- P2. PROVIDE SQUARE D ECB-G3EL CIRCUIT BREAKERS FOR CONTROL OF EMERGENCY LIGHTING FIXTURES, REFER TO SHEET # E1-1 FOR ADDITIONAL INFORMATION.

LANDLORD WORK FOR FUTURE ULTA # 1619
2870S. 6TH ST.
KLAMATH FALLS, OR 97603
PANEL SCHEDULES





Drawn By MB/KP Checked By DD/AH

Scale Date
AS NOTED 08/15/19 Job No.

Sheet No.

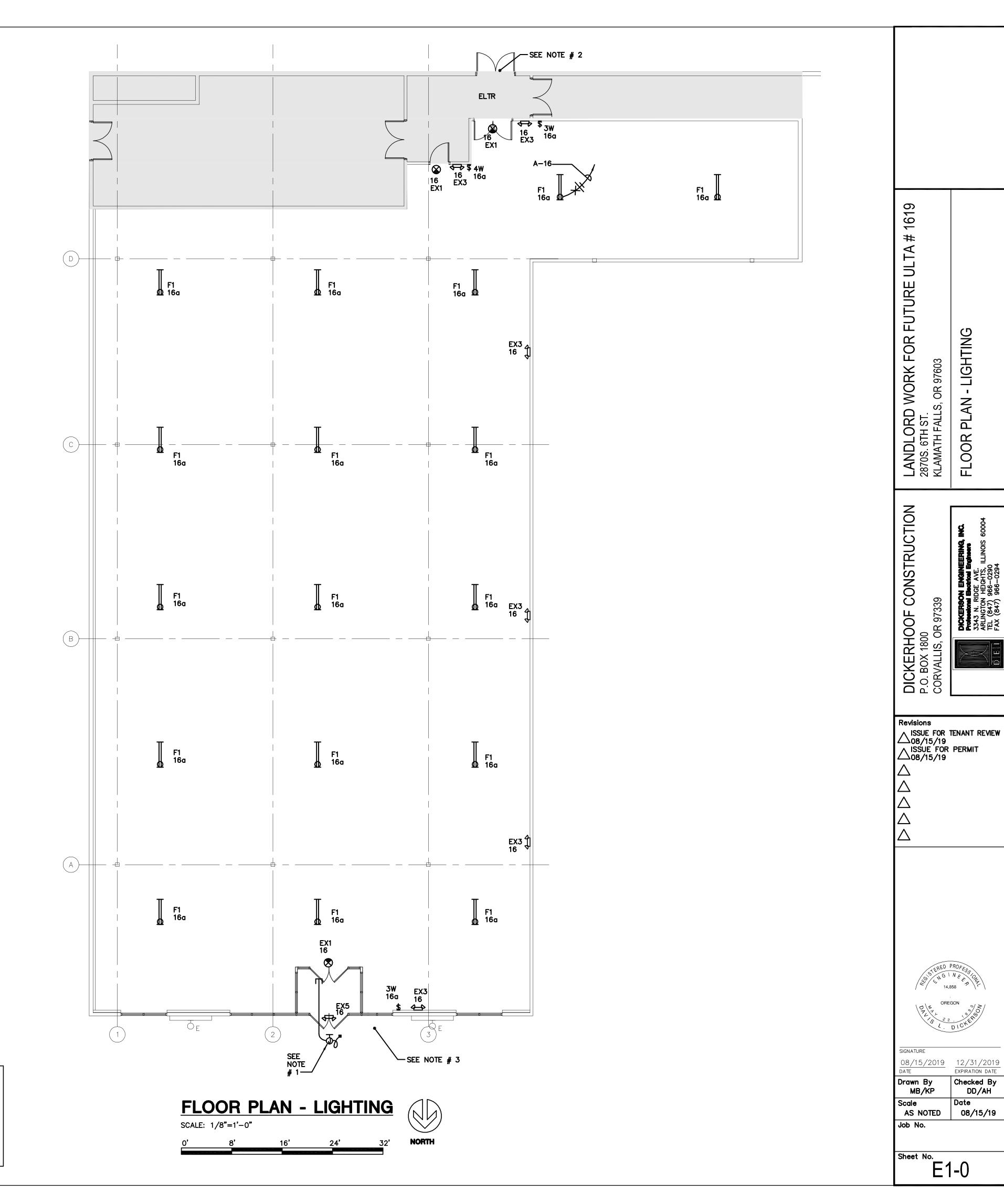
E0-3

GENERAL LIGHTING NOTES:

- A. EXISTING CONDITIONS SHOWN ARE BASED ON AS—BUILT DRAWINGS PROVIDED BY THE OWNER. CONTRACTOR SHALL ADJUST FOR ACTUAL FIELD CONDITIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.
- B. ALL CONDUIT AND JUNCTION BOXES SHALL BE SUPPORTED INDEPENDENTLY FROM THE BUILDING STRUCTURE.
- C. CONTRACTOR SHALL LAYOUT BRANCH CIRCUIT WIRING AND ARRANGEMENT OF HOME RUNS FOR MAXIMUM EFFICIENCY. INCREASE WIRE SIZE IF VOLTAGE DROP EXCEEDS 2%. OR 100 FEET IN LENGTH.
- D. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL LIGHTING FIXTURES.
- E. BRANCH CIRCUIT WIRING IS SHOWN AS A GUIDE ONLY, EXACT QUANTITIES OF CONDUITS AND CONDUCTORS ARE NOT INDICATED. CONTRACTOR SHALL PROVIDE BRANCH CIRCUIT WIRING AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
- E. ALL CONDUIT AND JUNCTION BOXES SHALL BE SUPPORTED INDEPENDENTLY FROM ACOUSTICAL CEILING.
- F. MAINTAIN CONTINUITY OF CIRCUITS SERVING FIXTURES, DEVICES, OR EQUIPMENT NOT BEING REMOVED.

LIGHTING PLAN NOTES:

- PROVIDE JUNCTION BOX AND CONDUIT STUB INTO TENANT CEILING SPACE FOR FUTURE SIGNAGE POWER CONNECTION. COORDINATE LOCATION WITH ARCHITECTURAL ELEVATIONS. PROVIDE LOCAL DISCONNECT SWITCH MOUNTED IN AN INCONSPICUOUS LOCATION.
- 2. EXISTING EXTERIOR NORMAL AND EMERGENCY LIGHTING TO REMAIN, WIRED TO BUILDING/HOUSE ELECTRICAL PANEL AND CONTROLS.
- 3. EXISTING EXTERIOR NORMAL LIGHTING TO REMAIN, WIRED TO BUILDING/HOUSE ELECTRICAL PANEL AND CONTROLS.



LIGHTING

Checked By

08/15/19

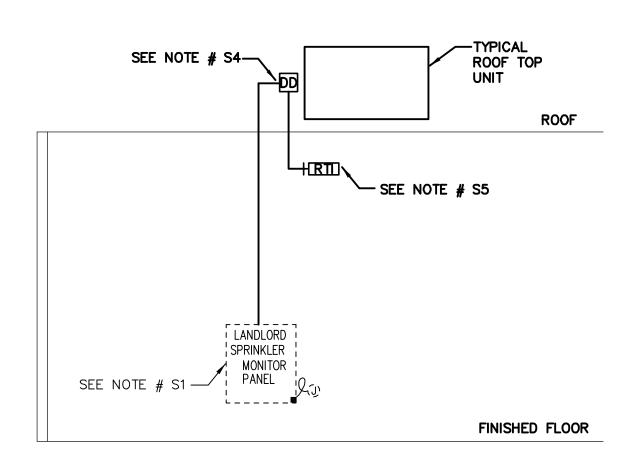
E1-0



DENOTES EXISTING WALL/PARTITION TO REMAIN

DENOTES NEW WALL/PARTITION

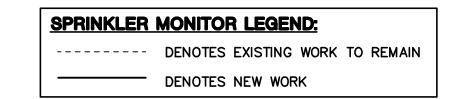
DENOTES EXISTING AREA NOT IN CONTRACT UNLESS SPECIFICALLY NOTED

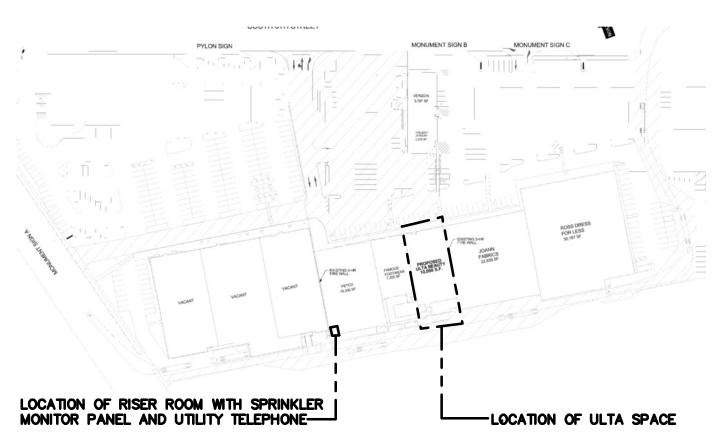


SPRINKLER MONITOR PANEL RISER

SPINKLER MONITOR PANEL NOTES:

- S1. EXISTING SPRINKLER MONITOR PANEL
- S2. PROVIDE A COMPLETE EXTENSION TO LANDLORD'S SPRINKLER MONITOR SYSTEM AS REQUIRED.
- S3. CONTRACTOR/VENDOR SHALL BE FULLY RESPONSIBLE FOR PROVIDING A COMPLETE AND OPERABLE EXTENSION OF SPRINKLER MONITOR SYSTEM AS REQUIRED BY LANDLORD REQUIREMENTS. MODIFY EXISTING LANDLORD SPRINKLER MONITOR PANEL AND ASSOCIATED CIRCUIT AS REQUIRED FOR TIE IN OF SYSTEM. COORDINATE ALL SHUTDOWNS SPRINKLER MONITOR SYSTEM AS NECESSARY WITH LANDLORD.
- S4. DUCT MOUNTED SMOKE DETECTORS SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR. FIELD VERIFY EXACT TYPE OF DUCT DETECTOR TO BE COMPATIBLE WITH EXISTING SPRINKLER MONITOR
- S5. LOCATE REMOTE INDICATING DEVICES TO NEAREST COLUMN/WALL.

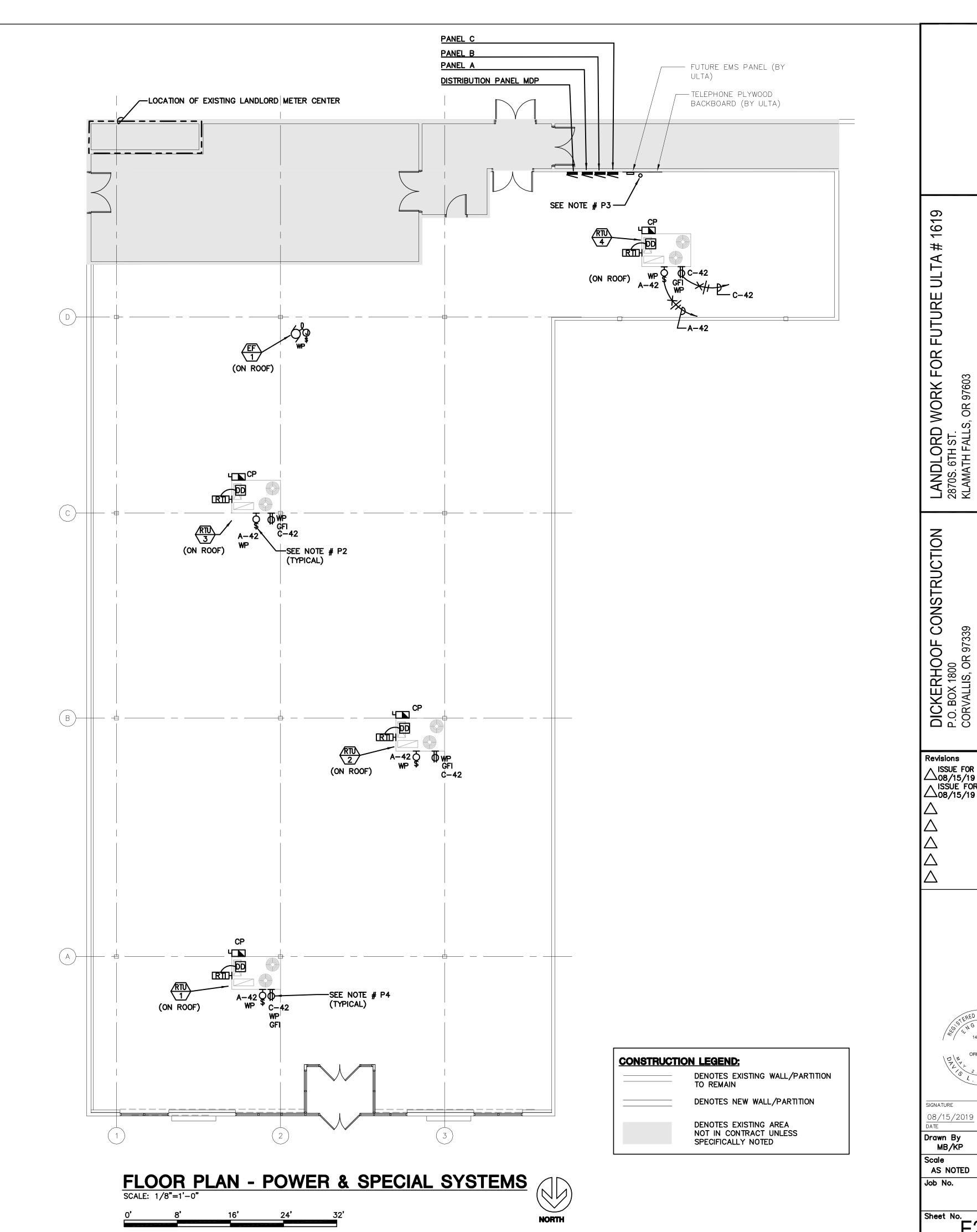




PART PLAN - RISER ROOM

POWER PLAN NOTES:

- P1. REFER TO MECHANICAL DRAWINGS FOR EXACT SIZE, LOCATION, AND ELECTRICAL REQUIREMENTS FOR ALL MOTORS AND MECHANICAL EQUIPMENT. COORDINATE WITH MECHANICAL CONTRACTOR AND PROVIDE ELECTRICAL CONNECTIONS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
- P2. PROVIDE LIGHT SWITCH IN WEATHERPROOF HOUSING AND WEATHERPROOF JELLY JAR LIGHT FIXTURE WITH METAL CAGE (MCGILLE # 606 W/ 1435-6 AND 13W MEDIUM BASE LED LAMP OR APPROVED EQUAL) AT EACH UNIT.
- P3. PROVIDE NEW 2" CONDUIT WITH PULL STRING TO BUILDING TELEPHONE BOARD/ UTILITY COMPANY POINT OF SERVICE, REFER TO PART PLAN. COORDINATE EXACT REQUIREMENT WITH UTILITY COMPANY AND LANDLORD.
- P4. ROOF TOP UNIT SHALL BE FURNISHED WITH UN-POWERED FACTORY INSTALLED GFI, WEATHERPROOF RECEPTACLE, CONTRACTOR SHALL WIRE TO SEPARATE CIRCUIT AS INDICATED.
- P5. ALL CONDUIT RUNS ON THE ROOF SHALL BE RUN BELOW THE CEILING SPACE WHERE AMBIENT TEMPERATURE WILL BE BELOW 30° C. FINAL CONNECTIONS TO THE ROOF EQUIPMENT IS LIMITED TO 5'-0' OF DIRECT SOLAR EXPOSURE.



1619

#

FUTURE

CONSTRUCTION

90F

∧ ISSUE FOR TENANT REVIEW

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designated by the Electric Utility Company as point of fixtures, devices, apparatus or pieces of equipment, unless modified by Drawings or these Specifications. The Electrical Drawings and Specifications shall be Drawings and Specifications are to be taken together. Work specified and not shown, or Work shown and not specified shall be performed or furnished as though Minor items and accessories reasonably inferred as necessary to the complete and proper operation of any

ocontractor for such systems. Description of Systems: Complete power wiring from existing panelboards to motorized equipment, motors, equipment cabinets, and miscellaneous outlets. General wiring for power, lighting, and miscellaneous

systems.

Materials and equipment for electrical work. Motor and equipment wiring.

General and emergency lighting and power systems.

Wiring of equipment furnished by others.

Motor and equipment, including Starters if required.

Empty conduit stubs and backboxes for telephone system. Reconnection of all relocated electrical equipment (where applicable).

10. Power and empty conduit system and backboxes for Owners security system.

11. Power and empty conduit system and backboxes for Owners computer system.

12. All other equipment, material, devices, accessories

section. Backfill shall be compacted to 95% of

emperature controls and thermostat wiring

The term "Contractor" shall be understood to mean the

"Circuitry" shall mean any electric work (not limited

to light and power distribution) which consists of

wires, cables, raceways, and/or specialty wiring

joints, couplings, splices and connections, except where limited to a lesser meaning by specific

"Wiring" shall mean the same as Circuitry.

method assemblies taken all together complete with associated junction boxes, pull boxes, outlet boxes,

"Package Unit" shall mean an item of equipment having

elements integrally factory mounted on a single base

vithin building confines which are neither damp, wet,

system) which is used to contain wires, and which is

interconnecting wiring.
"Normal Electric Work Conditions" means locations

nor hazardous, and which are not used for air

enclosed, or conduit (as specified for a particular

of such nature as to require that the wires be

"Concealed" (as applied to circuitry) means covered completely by building materials, except for

penetrations(by boxes or fittings) to a level flush

with the surface as necessitated by functional or

Obtain all permits and pay all inspection fees

required for the complete electrical system.

specified accessibility requirements. Unless directed

Only new products will be acceptable unless otherwise

2. The Electrical Contractor and his Subcontractors shall

All equipment, material, fixtures, devices, articles,

National Electrical Code (N.E.C.), (check with local

inspector for edition), and other governing bodies which have jurisdiction over this project.

Underwriters Laboratories, Inc. (UL) National Electrical Manufacturers Association

Drawings for all dimensions, locations, partitions and walls, structural details, and location of mechanical

equipment furnished by other trades and wired by this Contractor shall be obtained from the Drawings of the

pipes and ducts so that the electrical installation

shall be in harmony with that of the other trades Exact size, location, and electrical requirements of

Americans with Disabilities Act (ADA)

accessories or products included in the Contract shall be of the exact make, model or catalog number, size, form and of the characteristics specified.

only employ workmen who are skilled in their

Requirements of Regulatory Agencies:

1. All electrical work shall be in accordance with the

2. Where applicable, all fixtures, equipment and materials shall be as approved or listed by the

following agencies:
a. Factory Mutual Laboratories.
b. National Fire Protection Association

Allowable Tolerances:
1. Review Architectural, Structural and Mechanical

A. Shop drawings for all fixtures, equipment, materials, etc., shall be submitted as specified in Division 1.

instructions for all equipment shall be provided as

such additional electrical drawings, diagrams, and

3. Local Utility Company Metering Department

specifications as are required by:

Prepare and submit for approval to local code authorities

Local Fire Prevention Bureau

Local Building Department — Electrical Inspection

6. "Raceway" shall mean any pipe, duct, extended

installed by a "pulling in" procedure.

concealed.
G. Fees and Permits:

1.03 QUALITY ASSURANCE

1.04 SUBMITTALS

1.05 APPROVAL DRAWINGS

patched or replaced to "Like New"

Fire alarm system by owner vendor.

E. Related work to be completed by others:

Telephone system wiring. Computer system wiring.

rapidly and amicably between the affected trades, with required and/or shown on the Drawings. work proceeding in a workmanlike manner, then the 13. Arrange for sources of temporary construction Architect/Engineer shall decide which work is to be relocated and his judgement shall be final and binding services. Such services shall be nominally 120/208 volt, 1 phase, 3 wire from which a complete system of on this Contractor. temporary power and lighting shall be installed for all construction needs and as required by the No measurements of a Drawing by scale shall be used as a dimension to work by. The Drawings are not intended to show complete or accurate details of the building occupational safety and health departments. (OSHA) in every respect. Exact locations and relations are to be defined in the field and shall be satisfactory remporary services shall be removed upon completion 14. Cutting, patching, excavation and backfill and concrete work required to complete the work of this

to the Architect/Engineer. This Contractor shall take all field measurements and shall be responsible 3. Compare Drawings and Specifications, checking all measurements and determine intent of Contract ocuments. Discrepancies shall be brought to the Architect/Engineer's attention for interpretation prior to any installation.
4. The right is reserved to make any reasonable change in

location of outlets and equipment prior to roughing—in without involving additional expense. Any change from the Electrical Drawings as is necessary to make the work of this Contractor conform to the building as constructed and to fit the work of other trades shall be included in Contractor's Contract and installed

1.06 EXAMINATION OF THE SITE

1.08 GUARANTEE

2.01 MATERIALS

PART 2 - PRODUCTS

PART 3 - EXECUTION

1.07 PRODUCT DELIVERY, STORAGE, AND HANDLING

from deleterious conditions.

A. Refer to individual Sections of Division 16.

3.01 INSTALLATION/APPLICATION/PERFORMANCE/ERECTION

o fixtures, equipment and materials.

All Contractors submitting proposals for this work are

from the necessity of furnishing any materials or

Store materials on the site so as to prevent damage

requested to visit the existing site. Failure to visit the

existing site will in no way relieve the successful bidde

n accordance with Drawings and Specifications without

Exercise care in transporting and handling to avoid damage

Keep fixtures, equipment and materials clean, dry and fre

Where items of electrical equipment and/or materials are furnished by others for installation by Electrical

Contractor, Electrical Contractor will be held responsible

the delivery truck. He shall check equipment and/or

for the unloading of such equipment and/or materials from

materials upon receipt and notify party furnishing item of any damaged or missing equipment. He shall coordinate installation with Contractor providing equipment.

Provide one year guarantee for all fixtures, equipment,

A. Excavating and Backfilling:

1. The Electrical Contractor shall do all excavating and

materials and workmanship, upon final acceptance by Owner.

packfilling required for the installation of any and

all parts of his work requiring excavation. He shall also do all sheathing and bracing required for the

installation of his work. He shall provide and operate pumping equipment, if required, to keep the trenches free of standing water. All work shall comply with

character, including rock, if encountered. Contractor shall visit the premises and determine for himself, by

actual observations, boring, or other means, the nature of the soil conditions. The cost of all such

inspections, boring, etc., shall be borne by the

Contractor.

3. All excavations are to be so conducted that no walls

or footings shall be disturbed or injured in any way.

4. Remove all surplus earth not needed for filling and dispose of same as specified under Section 02200 of

All backfilling shall be thoroughly tamped and settler in a manner as is proper for the particular type of

6. Where it is necessary to install work in or across

Application, installation:
1. In the event that conflicts, if any, cannot be settled

roads, pavements, curbs, sidewalks, etc., this Contractor shall restore the present construction to its original or better condition if disturbed by his

requirements given in Section 02200.

The above shall include all excavation of every

3.02 FIELD QUALITY CONTROL After wires are in place and connected to devices and equipment, the system shall be tested for shorts and grounds. All hot wires, if shorted or grounded, shall be removed and replaced.

A voltage test shall be made at the last outlet on

each circuit. If drop in potential is excessive, Contractor will be required to correct the conditi by locating partly grounded conductor or high 4. All grounds, shorts and high resistance splices shall

5. Any wiring device, electrical apparatus or lighting fixture furnished under this Contract, if grounded or shorted on any integral "live" part, shall be removed and the trouble rectified by replacing all defective parts or materials as directed.
6. Service ground to be tested per National Electrical Code requirement. Grounding pole of all receptacles

All motors shall be tested under load with ammeter readings taken in each phase, and the RPM of motors recorded at the time. All motors shall be tested for correct direction or rotation. Electrical Contractor shall be responsible for testing running of all motors and shall verify that proper overload devices have been installed.

8. All meters, instruments, cable connections, equipment or apparatus necessary for making all tests, shall be furnished by this Contractor at his own expense. Contractor shall submit proof of all tests to the Architect before final acceptance of the work.

A. Cleaning Equipment, Completed Work and Premises: After the completion of all installations, each system shall be thoroughly cleaned to remove all paint, oil and other foreign material. Contractor shall also clean all foreign paint, grease, oil, dirt, labels and stickers, etc., from all fixtures, equipment, etc. The Contractor shall remove all rubbish, debris, etc., accumulated from his operations from the premises.

Demonstration: At the conclusion of the work and before

the Using Agency's personnel, the function, operation and maintenance of all equipment and systems installed by this Division of the work and provide a copy of all tests performed.
Protect all equipment and systems against harmful exposures to, or accumulations of dust and moisture, flooding, corrosion or other forms of damage and clean and restore damaged finishes as may be required to place installations in a "like-new" condition before acceptance by the

final contract payment is made demonstrate and explain to

3.04 SCHEDULES Equipment Schedules: See Drawings for schedules of lighting fixtures, switchboard, panelboards, distribution equipment, and related items.

3.05 APPROVALS A. Obtain all permits and approvals from the governing bodies which have jurisdiction over this project. 3.06 IDENTIFICATION AND TAGGING

A. Provide all distribution switches and/or circuit breakers, starters, etc. whether individually mounted in panelboards, switchboards, etc., with suitable identification. The designation, using proper nomenclature, shall indicate the load served. Provide all feeders with suitable identification as to their designation in all junction boxes, pullboxes, gutter spaces through which they pass and at their terminal points of connection. Identification distribution switches or circuit breakers in panelboards shall be by means of panelboard directories.

Identification of distribution switches or circuit breakers and starters individually mounted or in switchboards shall be by means of engraved lamacoid nameplates permanently fastened on the front face of the housing, showing 1/4" high white lettering on a black background. Identification of feed cables shall be by means of engraved fiber tags

3.07 SLEEVES Provide coring in walls and floor slabs for the passage of all conduits, pipes and ducts installed.

B. Cored holes in floor shall be provided with sleeves extended one inch above finished floor level and made

3.08 PAINTING A. All equipment, panelboards, switchboards, etc., shall be factory finished in baked enamel or lacquer, or as specified. Standard factory finishes shall be approved All metal work installed by this Contractor exposed to the

weather and not factory finished shall be painted with two coats of oil paint of color selected by Architect.
All finish painting shall comply with the Painting Section of the Specifications.

3.09 CUTTING AND PATCHING A. Perform all cutting and patching required to complete the Work, except where specifically shown on the Architectural or Structural Drawings.

B. Refer to Section 01070 for additional requirements.

BASIC MATERIALS AND METHODS PART 1 - GENERAL 1.01 DESCRIPTION This section defines the Basic Material and Methods which are common to all Sections of Division 16.

PART 2 - PRODUCTS 2.01 MATERIALS Electrical Metallic Tubing: EMT, "Thinwall" conduit
 shall in general be utilized where permitted by Code except where described herein. Minimum size conduit shall be 3/4", unless otherwise specifically noted Heavy—wall steel conduit and I.M.C shall be either hot dipped galvanized or sherardized. Flexible conduit shall be heavy duty steal Greenfield type except, where exposed to oil, grease, or water—then conduit shall be Sealtite.

Plastic conduit shall be PVC Schedule 40.

Conduit Fittings:
a. Rigid & IMC: Threaded.
b. Thin—Wall: Compression 1 Flexible: Connectors shall be compatible with flexible conduit used. Conduit shall be as manufactured by Allied, National Electric, Republic or Triangle. Flexible liquid tight conduit as manufactured by Anaconda, Simplex, or International Metal Hose Provide an insulating bushing for all conduits containing #4 and larger wire as well as all conduits 1" and larger regardless of the size wire they All wire shall be type THW or THWN copper. Aluminum is

unacceptable. Wiring shall be a minimum of # 12 AWG. Wire smaller than #8 shall be solid; #8 and larger, stranded.

Where light fixtures are wired in continuous rows. wire pulled through fixtures shall be type SF2. Final connections to heating equipment where shown type SF2. Cable and wire shall be as manufactured by Alcoa, Anaconda, General Cable, Triangle, Simplex, Hatfield, Bell, Alpha, and Coleman Cable and Wire. Unless specifically noted otherwise, all wiring shall be installed in conduit. Layout branch circuit wiring and arrangement of home

runs for maximum economy efficiency. Increase wire size if voltage drop exceeds 2% or 100 ft in length. Color Coding: Color coding shall be used throughout entire electrical system: "A" Phase — Black — all gauges "B" Phase — Red — through #8. Larger black with phase "C" Phase - Blue - through #8. Larger black with phase markers. Neutral — White — through #8. Larger black with phase

markers. Grounding Wire — Green, insulated. Wire Pulling Lubricant: Use of wire pulling lubricant is optional; but, if needed to prevent damage to the conductors, it must be listed by Underwriters Laboratories and be of such consistency that it will leave no obstruction or tackiness that will prevent pulling out old wires or pulling in new wires or additional wires. Electrical Connections, Terminals and Splicing shall be in accordance with Section 110—14 of the NEC. Connection

materials and equipment must be given special attention when using dissimilar metal conductors, etc.
Outlet, Pull and Junction Boxes: Boxes shall be 12 gauge or heavier steel, sherardized or gaivanizea to prevent rusting and readily removable knockouts.
Pullboxes and pull fittings shall be accessible with removable covers secured with brass machine screws. Junction boxes shall be minimum 4" square or octagon, not less than 2" deep, deeper if required by the number of wires or construction, with appropriate covers. Provide with 3/8" stud where lighting fixture

is suspended from box.

4. All switch and receptacle outlets shall be equipped with minimum 4" box. Gang boxes shall be provided where groups of switches occur. All boxes shall be equipped with proper raised covers, mounted at heights shown on Drawings, or as directed. The approximate location of outlet boxes is shown on the Drawings, but occur shall be taken to install all outlets with proper. care shall be taken to install all outlets with proper relation to equipment or material to be installed by other trades. Special outlets shall have proper boxes to accommodate special equipment. Outlet boxes in masonry shall be or proper depth to allow conduit to be installed without cutting of shell of blocks, etc. Outlet boxes shall be as manufactured by Appleton, Steel City, Raco or Crouse—Hinds.

Boxes for all exterior conduit, or conduit mounted in

exterior walls, shall be cast iron boxes, type "FS" or "FD", as manufactured by Crouse-Hinds, Appleton, Pyle National, Or Killark and provided with gasketed watertight covers. Fittings shall be pull type with gasketed covers. Disconnect Switches:

Switches shall meet NEMA enclosed switch standards KS1, current edition. Switches shall be quick—make quick—break so that operation of the contacts shall quick—break so that operation of the contacts shall not be capable, during normal operation of the switch, of being restrained by the operating handle after the opening or closing of the contacts has started.

2. All safety switches shall be heavy duty of voltage matching equipment served, NEMA 1 for indoor use and NEMA 3R for outdoor use. Switches shall be as manufactured by Westinghouse, Square D, or Siemens.

Fuses: Furnish and install all fuses. Fuses shall be Bussman "Fusetron", dual element, current limiting type, unless specifically noted otherwise.

Except where otherwise specified, wall switches shall be mounted in suitable outlet boxes in the walls, partitions, or as shown on Drawings. Wall switches shall be located as indicated on the Drawings, arranged singly or in gangs and at the height specified or indicated and shall have proper covers with finishes specified herein. Switches shall pe as follows unless otherwise called for on Drawing or hereinafter specified. (Contractor shall check architectural drawings for additional information.) Light switches shall be toggle 20amp, 120/277

Volt Specification grade.

SPST Hubbell #1221; P & S #20AC1; Leviton #1221
3-way Hubbell #1223; P & S #20AC3; Leviton #1223 30A-SPST (Motor Disconnect): Hubbell #3031; P & S #30AC1; Leviton #3031. Coordinate location e. Key switch Hubbell #1221L. Verify door swings before installing switchboxes and nstall the boxes on the latch side of the door unless otherwise directed by the Architect.

selection shall be by the Architect Process:

Receptacle shall be located as shown on the Drawings and at the heights specified or indicated. Receptacle and power outlets shall be of the grounding type and as manufactured by Hubbell, Pass & Seymour, or Duplex Convenience Receptacles: 20A.,2 Pole, 3 Wire,

platforms, etc. required for suspension or support of conduit and equipment. Straps, clamps, threaded rods, turnbuckles, anchors, etc., and all miscellaneous specialties for the attachment of hangers and supports to the 125 Volt, (NEMA designation 5-20R) Specification a. Pass & Seymour #5362 b. Leviton # 5362 c. Hubbell # 5362

3. Special Receptacles and Floor Boxes: As indicated on 10. Unless otherwise noted on the Drawings, the following shall apply:

a. Convenience outlets shall be placed on separate Color of receptacles to match switches (white), unless circuits from motor and lighting outlets. Motors shall be placed on separate circuits from noted otherwise. Color of Isolated Ground receptacle shall be orange.

Ground fault circuit interrupter to be provided for

receptacles outdoors, in toilet rooms, and within 6'

Plates in finished areas for switches and receptacles

on the drawings.

Provide multigang or combination plates for devices

grouped in gang or combination.

Provide cadmium plated steel plates in unfinished

identify all dedicated circuits with a laser printed adhesive label indicating panel and circuit number

Westinghouse, Square D, General Electric or Siemen or of type and manufacturer to match existing for

Check the Drawings and Specifications covering all branches of the work to ascertain what equipment is

terials to receive and wire said equipment. Check

the Plumbing and Mechanical Drawings and Division 15 of the Specifications carefully for wiring by the Electrical Contractor.

accordance per local codes:

a. Conduit to be run exposed in unfinished areas

All other conduit shall be concealed.

or power poles will be acceptable, unless specifically indicated on the drawings.
c. Run parallel or perpendicular to exterior walls

of building. Locate to avoid equipment, fixtures, ductwork,

piping, etc.
e. Layout and install work in advance of the laying

of floors, walls, etc., and furnish and install

all sleeves that may be required for opening

Where conduit is to be run exposed, furnish and

nstall all inserts and clamps for the supporting

necessary cutting and patching later at his own expense, and to the satisfaction of the

Where conduit passes through floors or through smoke and fire walls, space between conduit and floor or wall shall be filled with cement grout.

Radius of bends shall be not less than six(6

Providé expansion fittings for all conduits at

b. Conduit shall be cut square and butted solidly

into fittings.
c. On rigid conduit, cut conduit full and clean with

Ream thin-wall conduit (EMT) after it is cut

b. All runs of flexible conduit shall be as short as

before assembly to remove burrs.

Liquid Tight and Flexible Conduit:

a. Liquid tight flexible conduit shall be installed

times internal diameter. Any run of conduit shall not include more than the equivalent o

Measure and cut conduit from job site conditions

sharp dies. Ream ends of pipe after cutting an

in such a manner that liquids tend to run off the surfaces and not drain toward the fittings.

practicle (maximum of 6"), of the same size as the conduit it extends and with enough slack to reduce the effects of vibration. A minimum of 2

inches of flexible conduit shall be installed. Where the fittings are brought into an enclosure with a knockout, an insulated throat type fitting

inal equipment connections to transformers,

devices where so required. (Maximum of 6')

Exposed outdoors (Provide watertight

Within building confines run in concrete

Couplings for conduit run in poured concrete shall be concrete tight.

Conduit run in dry areas within building confines shall be EMT. Dry areas are inside partitions, ceiling cavities and areas not subject to damage. Outside walls are not considered dry areas.

size 3/4" only.
Where permitted by local codes run conduits under

loor slabs and in contact with earth may be

All conduits must be independently supported from

structure. No conduits shall be supported

b. All surface run conduit one inch(1") and smaller shall be supported every five feet with one hole straps with clamp backs. Perforated strap

Hangers shall be proportioned for the weight of

and/or hangers shall be galvanized, bonderized,

plated or painted. Where factory supplied, with one of the above rust resistant finishes, all

ield cuts and threads are to be painted and

d. Trapeze type hangers may be used where severa

spacing of such trapeze hangers shall be determined by the electrical code spacing

conduits occur at the same elevation. The

or concrete construction.

Approved type steel beam clamps in the case of

apparatus, conduit or other work of this Contractor, he must have it done by a competent mechanic in a neat

and workmanlike manner. The portions cut must be restored to their original condition at the expense of this Contractor. This Contractor shall provide for

all of his own cutting and patching.
All conduits run in or below any grade slab shall be

heavy wall conduit and entirely encased in 2" of

concrete. In no case shall conduit be laid in fill

below slab. Conduit shown as plastic shall be

3/4"D. minimum conduit shall be provided in all non-accessible construction such as floor slabs,

a. Supplementary angles, channels, plates, etc.,

welding, bolting or with concrete anchors.
b. All rods, angles, rails, struts, brace plates,

where supports are required between building's

structural members, spanning the space and attached to building structural members, by

schedule 40.

requirements for the smallest conduit in the run.

the conduit(s) supported. All rods, clamps

the ventilating ducts, ceiling hangers, mechanical piping or their hangers.

nangers will not be permitted.

covered with a grey finishing paint

steel construction.
6. Where holes or recesses must be cut in walls, floors,

ceilings, or any part of the building to admit

IMC may be used in above grade floor slabs of

with liquid sealing "0" ring shall be used.
Flexible metal conduit shall be installed for all

light fixtures (lay—in type) and all other

b. All conduit and wiring shall be concealed

anitors' closets used as electrical closets

wherever possible. Where conduit and wire cannot be concealed, obtain direction from the Architect. No surface mounted conduit, wiremold

furnished by others. It will be this Contractor's

responsibility to furnish the necessary labor and

Circuit breakers shall be as manufactured by

exiting panels.

Motors, Control Panels, Etc., Furnished by Others:

Installation — All conduit shall be sized in

through floors, walls, etc.

our(4) quarter bends.

expansion joints.
2. Cutting Conduit:

4. Type of Conduit:

heavy wall conduit:

schedule 40 PVC.

Supporting of Conduit:

In earth fill.

Exposed in wet areas.

Outside masonry walls.

Exposed in mechanical rooms

Feeder conduit for panelboards

fittings & boxes).

of conduit.
g. If contractor does not properly install all

Do not obstruct openings or passageways.

Switch and Receptacle Plates:

Circuit Breakers:

3.01 PREPARATION/INSTALLATION/APPLICATION

PART 3 - EXECUTION

lighting outlets.
Convenience outlets shall not be installed back I1. Provide full size ground wire in all conduits, PVC or Metallic. Where the drawings do not identify the size of the equipment ground wire, it shall be the same

B. Motor and Equipment Wiring:

1. Unless indicated or specified elsewhere perform the following:

a. Connect and wire to each motor and piece of electrically operated equipment shown on the Drawings or as specified in these Specifications Furnish, install and connect all starters, controller selector switches, pilot lights, pushbuttons' stations for each motor and piece of

electrically operated equipment shown on Drawings, or as specified in the Specifications unless otherwise indicated.
Furnish and install all wiring from the current source to all starters and from starters to wiring packaged equipment. Wire to the line side of all prewired equipment.

Furnish and install a disconnect switch ahead o all prewired package equipment. Coordinate with Mechanical Trades Contractor. Install all roughing—in pertaining to each item of equipment furnished under other Sections of the Specifications or by the Owner. Locations of electrical outlets for this equipment are indicated on the Drawings in their approximate locations. The supplier furnishing the equipment will furnish dimensional drawings accurately ocating all roughing—in required for h

Receive, set and align motors which are shipped oose if local union or trade jurisdiction practice requires doing so.

Provide all control circuit and interlock wiring and connections for all mechanical equipment indicated and scheduled on the Drawings.

2. If a disconnect switch is required by the enforcing

code and not indicated on the Drawings or in the Specifications, it shall be furnished and installed.
Where specific locations of switches and starters are not shown on the Drawings, these shall be placed near C. Conductors, Cables:
1. Except where otherwise shown on the drawings all

wiring shall be installed in conduit.
Conductors and cables shall not be installed in conduit or raceways until same are free from moisture 3. Leave a minimum of six inch(6") length of cable and conductor slack at each outlet.

All wire shall be type THW or THWN copper. Expansion Fittings:

1. Expansion fittings shall be installed in all conduits

crossing expansion joints. Refer to Architectural drawings for locations.

Fire and Smoke Partition Penetrations: The Contractor shall familiarize himself with all fire rated construction and install his work so as to maintain the integrity of the fire code rating.

Maintain rating of fire rated and smoke rated
construction. Sleeves shall be steel or pre—manufactured sleeves similar to Pipe Shields, Inc., for bare pipe through fire walls and floors, model WFB, DFB or QDFB. For plastic pipe, use type WFB with one inch thick calcium silicate insulation encased i metal sleeve extension two feet either side of fir rated walls or floor. Seal annular space around conduits. For fire and smoke rated floors, walls and

partitions, use UL listed material that maintains fire rated wall and floor integrity, similar to RTV foam, Dow Corning "Fire Stop" or Pipe Shields, Inc. , model WFB, DFB, or QDFB. For non—rated walls and partitions, use mineral or glass fiber insulation.
END OF SECTION

SERVICE AND DISTRIBUTION PART 1 - GENERAL 1.01 RELATED DOCUMENTS The General Conditions, Supplementary Conditions, and General Requirements apply to the Work specified in this

Section 16010, "General Provisions — Electrical", applies to the work specified in this Section 1.02 DESCRIPTION A. Work Included: Complete electrical service and secondary distribution 2. All charges by the Local Utility Company for

onstruction related work. Owner charges will be paid by the Owner. System Grounding per the local Utility Company and Main switchboard distribution panelboards and lighting panelboards as scheduled.
 Utility approved current transformers and meter 6. Utility Company transformer support pad and primary

Complete secondary 120/208 volt. 3 phase. 4 wire. 60 hertz service from the secondary side of pad mounted transformer into the building main service overcurrent protective device.

Tenant metering where shown and required.

PART 2 - PRODUCTS 2.01 EQUIPMENT Main Distribution Panelboards:

Shall be as scheduled on the drawings.
Panelboard shall be enclosed in steel cabinet of rigidity and gauge of steel per UL Standard #50 for Acceptable manufacturers are Cutler-Hammer, Siemens. Acceptable manufacturers are cutter—nammer, Siemens, Square D and General Electric.
Bus structure shall be copper not exceeding density of 1000 amps per square inch of cross section. Buss supports shall be adequate to withstand 50,000 amperes

contact surfaces shall be silver plated. Panelboard shall be braced for short circuit capacities as scheduled by the local Utility Company, however, the minimum bracing shall be 50,000 A.I.C. 6. Each circuit breaker shall be equipped with an approved nameplate which indicates the name of the

quipment (motor, panelboard, etc.) to which the feeder conductors are connected.

7. Main distribution panel shall have a ground bus. The ground bus shall be fastened and bonded to the framing member in an approved manner. The ground bus shall be grounded in a manner meeting all code requirements. Building Metering: For metering furnish and install on the C/T compartment or on the exterior wall a mounting panel

associated Utility Company's meter requirements. Lighting and Appliance Panelboards: 1. Panels shall be type indicated on the Drawings, with main lugs, main breakers, bolt—on branch breakers, spares and spaces as scheduled. Ground fault interrupter (GFI) circuit breakers shall be provided

 Panels shall comply with U.S. Federal Specification
WP115a, Type I, Class I. Where applicable, provide
with copper bus of density not exceeding 1000 amps per square inch.
3. The Electrical Contractor shall balance all circuits. All conductors shall be continuous without splicing from last outlet to their terminals in cabinet. All circuit conductors in cabinet shall be installed with

breaker connection from its point of entrance.

sufficient amount of length to reach the most remote

Panelboard fronts shall be fabricated from a flat piece of full finished code gauge sheet steel with door cut out leaving a trim of proper width around the door. Provide a latching mechanism controlled by a chrome plated vault—handle on doors twenty—four inches(24") or over in height. All Locks to be keyed alike to the panel manufactures's standard key.
Two(2) Keys shall be furnished with each cabinet 5. Contractor shall provide a directory of circuits for cabinet. Directory shall be typewritten designating room or equipment and circuit numbers. Directory frame, lock, hinges, etc., are to be secured to inside

of door and trim in such a manner that screws, holes or welds, etc., are not visible on the door panel or

6. The width and height of cabinets shall be sufficient to provide a wiring gutter at the two sides and at the or height shall be provided, if required for entering conduits. Additional wiring gutter space shall be provided, if required for main or sub-feeder cables

passing through to feed other cabinets. Where 2 or 3 pole breaker units are called for, they shall be one unit with common trip and not single pole units with handle ties. Capacity of main busses shall

be as shown on the Drawings.

8. Acceptable manufacturers are Cutler—Hammer, Siemens, Square D and General Electric.

9. Panelboards shall be braced for short circuit capacities as scheduled by the local Utility Company.

10. All breakers utilized for switching lighting shall be

PART 3 - EXECUTION 3.01 INSTALLATION

A. Grounding:
1. Provide an electrically continuous ground system from existing service ground to all points of utilization. In general, all pieces of electrical equipment shall be grounded as required by Federal, State and Loca s and regulations, but special attention is called to the following items to be grounded as indicated: Conduit and other metallic raceways. 2. In general where grounding wire is shown use green END OF SECTION

SECTION 16500 LIGHTING SYSTEMS AND CONTROLS

PART 1 - GENERAL 1.01 DESCRIPTION Installing and wiring lighting fixtures as shown on Drawings, Lighting Fixture Schedule, and as furnished by the Electrical Contractor. Refer to the Architectural Room Finish Schedules and

Architectural and Structural details to determine conditions and finishes affecting the installation of the work. Include, to the full intent and meaning o these Specifications, all items of labor and materials necessary for design, detailing or adjustment of fixtures due to surrounding finishes and construction PART 2 - PRODUCTS

2.01 MATERIALS All lighting fixtures shall be furnished by Electrical Contractor.
All lamps shall be furnished by Electrical Contractor. PART 3 - EXECUTION 3.01 INSTALLATION

All fixtures shall be located to suit the Architectural details of the areas involved. Unpack, assemble, wire and nstall all fixtures at the proper locations indicated on the Drawings.

Recessed Fixture Installation: Recessed fixtures shall be of type suitable for mounting in the type of ceiling as scheduled on the Drawings. Variations to catalog number indicated shall be made to assure proper mounting and

Fixtures: An outlet is to be provided for each fixture.

fitting arrangements, prior to fabrication. Changes to be made by this Division Contractor must have prior written Each lighting fixture shall be rigidly supported from the building construction. Provide suspension hangers, stems and extra steel work for fixture support where required.
2. Confer with Ceiling Contractor to determine nodifications required to make fixtures suitable (

ceiling as installed.

Where recessed fixtures are called for, each shall be provided with the proper plaster frame or suitable adapter to receive the finished ceiling construction. Where suspended acoustic tile ceilings on steel channels occur, outlets and fixtures shall be supported on members resting on the channel framework. In no case shall fixtures be supported from plaster or

acoustic material. Suspended fixtures shall be hung on suspension hangers furnished by the fixture manufacturer and shall be adjusted as necessary during installation to insure that all fixtures in the same room or area are at a uniform height from the floor. Mounting height shall be as specified, detailed or noted on the Drawings. Any electrical lighting fixture which weighs more than 50 pounds shall be supported independently of the

Fixture Wiring:
1. Fixtures shall be wired with white wire for the neutral and colored wire for phase wires, see Section Housing of all fixtures must be grounded to conduit

system.

Each fixture to be complete with holders, screws, sockets, wires, lamps, etc., as is necessary for a complete installation. Operation and Controls Local switches as shown and wired. Exit and directional signs shall be constantly on, and

wired as shown.

END OF SECTION EMERGENCY LIGHT AND POWER

PART 1 - GENERAL 1.01 DESCRIPTION Install all exit signs and battery emergency lights as shown on the Drawings and required by all governing authorities having jurisdiction.

Requirements of Regulatory Agency: Obtain any and all plan approvals as required by the authorities which have jurisdiction over this Project, prior to start of work. 2.01 MATERIALS AND FIXTURES

Conduits, fittings, wire, etc., shall be in accordance with applicable Section of this Specification.

Exit and Direction Signs: Shall be U.L. approved. 2. Colored letters on white background. (Color per the local Code Authority).
Directional arrows as required by local Fire

Protection Bureau. 4. Color of trim as selected by Architect. PART 3 - EXECUTION 3.01 INSTALLATION

Furnish and install all panels, conduits, feeders, branch circuit wiring, etc., with green ground wire required by Code and as shown on the Drawings.

All emergency system branches shall be installed in separate conduits.

END OF SECTION

SECTION 16720
ALARM AND DETECTION SYSTEMS PART 1 - GENERAL 1.01 DESCRIPTION Work Included:

1. Provide necessary conduit and power for alarm and

detection systems. This shall only include the following: a. Dedicated 20 Amp., 120 Volt circuit (s). b. 3/4" conduit (empty) to each door contact, silent luress alarm, camera and keypad

PART 2 - PRODUCTS (REFER TO OTHER SECTIONS OF THE SPECIFICATION) PART 3 - EXECUTION 3.01 RELATED DOCUMENTS A. All conduit and wiring requirements shall conform with Section 16100, "Basic Materials and Methods" of this Specification.

END OF SECTION

SECTION 16700 COMUNICATIONS PART 1 - GENERAL 1.01 DESCRIPTION

Empty conduit and boxes for wiring installed by electrical contractor's vendor. B. Work by Telephone Utility:
1. All wiring for telephone instruments.
2. All telephone instruments.

A. Conduits, fittings, and outlet boxes shall be as hereinbefore specified in Section 16100. Wall boxes to be flush, 4" square, with extension ring. Telephone System Grounding Conductors: Furnish a #6 AWG, copper grounding conductor from each telephone service equipment to respective electrical service grounding electrode system.

D. Telephone/Computer Conduit System: Furnish as indicated or

e Drawings, including the following:

Telephone service conduits for underground service. Other conduits as indicated on the Drawings. Furnish #14 AWG soft iron pull wire or heavy nylon cord in ach conduit for pulling the telephone cable to each 3. Outlet boxes with a 3/4" conduit stubbed into accessible ceiling space with pullwire for cabling by others. Provide separate dedicated conduits for P. O.

lines. (Do not share with other telephone or data 4. No electrical conduits or power wiring shall pass over the telecommunications closet and panels, except for telecommunications room light fixtures.
Contact CrossCom National Green team Project Coordinator at (800) 933-9203 to fully coordinate

entire Tele/Data low voltage installation.

3.01 INSTALLATION

A. Furnish and install conduit system as shown. Cabling and final connection to be by the electrical contractors subcontractor The system shall consist of telephone/data outlets in locations by the telephone company for complete installation. END OF SECTION

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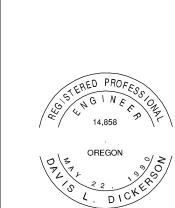
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SIGNATURE 12/31/201 EXPIRATION DATE Checked By Drawn By MB/KP DD/AH Date Scale AS NOTED 08/15/19

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