



Revisions:

1 County Permit Review 1 11/20/20

Proj. No.: 80703
Date: 10/09/2020

Sheet Name:
PROJECT NOTES & LEGEND

ELECTRICAL SYMBOL LEGEND

LIGHTING		POWER CONT.		ABBREVIATIONS	
	2x4 LIGHT FIXTURE SHADING DENOTES EMERGENCY OPERATION		CIRCUIT BREAKER PANEL	1P	1 POLE (2P, 3P, 4P, ETC.)
	RECESSED DOWNLIGHT SHADING DENOTES EMERGENCY OPERATION		POWER OR DISTRIBUTION PANEL	A	AMPERE
	EXTERIOR WALL SCONCE		TRANSFORMER (TYPE DENOTED)	AC	AIR CONDITIONER
	STRIP LIGHT		POWER POLE (OPEN OFFICE STYLE)	AF	AMP FRAME
	EXIT SIGN		MULTIOUTLET ASSEMBLY (TYPE DENOTED)	AFG	ABOVE FINISHED FLOOR
	EXTERIOR REMOTE HEAD		HOME RUN TO PANEL GROUND NEUTRAL HOT PARTIAL CIRCUIT	AFI	ARC FAULT CIRCUIT INTERRUPTER
	EMERGENCY FIXTURE		GROUNDING PLATE	AHU	AIR HANDLING UNIT
	LIGHT FIXTURE CALLOUT DENOTES SWITCH LEG DENOTES CIRCUIT NUMBER DENOTES FIXTURE TYPE		LIGHTNING PROTECTION AIR TERMINAL	AL	ALUMINUM
	SINGLE POLE SW.		GROUND ROD	APFX	APPROXIMATELY
	3-WAY SW.		GROUND BAR	ARCH	ARCHITECT, ARCHITECTURAL
	4-WAY SW.		GROUND	AT	AMP TRIP
	KEYED SW.		TELEPHONE OUTLET (TYPE DENOTED)	ATS	AUTOMATIC TRANSFER SWITCH
	DIMMER SWITCH		WALL TELEPHONE OUTLET (TYPE DENOTED)	AUX	AUXILIARY
	TIMER SWITCH		TELEPHONEDATA OUTLET	AV	AUDIO VISUAL
	OCCUPANCY SENSOR SWITCH		WIRELESS ACCESS POINT	AWG	AMERICAN WIRE GAUGE
	PHOTOCELL		FIBER OUTLET (# DENOTES QUANTITY OF PORTS)	BLDG	BUILDING
	POLE MOUNTED LIGHT (TYPE DENOTED)		TELEVISION OUTLET	BMS	BUILDING MANAGEMENT SYSTEM
	POLE MOUNTED AREA LIGHT (TYPE DENOTED)		CLOCK (TYPE DENOTED)	C	CONDUIT
			P.A. SPEAKER	CATV	CABLE TELEVISION
			END OF LINE RESISTOR	CB	CIRCUIT BREAKER
			ELECTRIC STRIKE	CCCTV	CLOSED CIRCUIT TELEVISION
			MAGNETIC LOCK	CKT	CIRCUIT
			DOOR CONTACTS	CLG	CEILING
			CARD READER	CLP	CIRCULATING PUMP
			KEYPAD	CT	CURRENT TRANSFORMER
			CCTV CAMERA	CTR	CENTER
			CCTV CAMERA WITH PAN/TILT/DRIVE	CU	COPPER
			KEYED NOTE (SEE SCHEDULE)	DET	DETAIL
			UTILITY COMPANY OVERHEAD POWER LINE	DISC	DISCONNECT
			TELEPHONEDATA BACKBOARD	DIST	DISTRIBUTION
				DS	DISCONNECT SWITCH
				DT	DOUBLE THROW
				EC	ELECTRICAL CONTRACTOR
				ELEV	ELEVATOR
				EM	EMERGENCY
				EMT	ELECTRICAL METALLIC TUBING
				EWC	ELECTRIC WATER COOLER
				FA	FIRE ALARM
				FACP	FIRE ALARM CONTROL PANEL
				FCU	FAN COIL UNIT
				FLR	FLOOR
				GA	GAUGE
				GALV	GALVANIZED
				GC	GENERAL CONTRACTOR
				GEN	GENERATOR
				GFI	GROUND FAULT CIRCUIT INTERRUPTER
				GND	GROUND
				GPR	GENERAL PURPOSE RECEPTACLE
				GRS	GALVANIZED RIGID STEEL (CONDUIT)
				HP	HORSEPOWER
				HT	HEIGHT
				HWB	HOT WATER BOILER
				HWP	HOT WATER PUMP
				IG	ISOLATED GROUND
				LTG	LIGHTING
				LV	LOW VOLTAGE
				MC	MECHANICAL CONTRACTOR
				MCA	MINIMUM CIRCUIT AMPACITY
				MCB	MAIN CIRCUIT BREAKER
				MDP	MAIN DISTRIBUTION PANEL
				MH	MANHOLE
				MISC	MISCELLANEOUS
				MLO	MAIN LUGS ONLY
				MSB	MAIN SWITCHBOARD
				MTS	MANUAL TRANSFER SWITCH
				N.C.	NORMALLY CLOSED
				NIC	NOT IN CONTRACT
				NL	NIGHT LIGHT
				N.O.	NORMALLY OPEN
				NTS	NOT TO SCALE
				PH	PULL BOX OR PUSHBUTTON
				PC	PLUMBING CONTRACTOR
				PH	PHASE
				PP	POWER POLE
				PR	PRIMARY
				PT	POTENTIAL TRANSFORMER
				PVC	POLYVINYLCHLORIDE (CONDUIT)
				RCP	RECEPTACLE
				RSC	RIGID STEEL CONDUIT
				RT	RECEPTACLE UNIT
				SEC	SECONDARY
				SP	SPECIFICATION
				SS	STAINLESS STEEL
				STD	STANDARD
				SW	SWITCH
				SWBD	SWITCHBOARD
				SYS	SYSTEM
				TEL	TELEPHONE
				TB	TELEPHONE TERMINAL BOARD
				TV	TELEVISION
				TYP	TYPICAL
				UC	UNDER COUNTER
				UE	UNDERGROUND ELECTRICAL
				UG	UNDERGROUND
				UH	UNIT HEATER
				UT	UNDERGROUND TELEPHONE
				UTIL	UTILITY
				V	VOLT
				VFD	VARIABLE FREQUENCY DRIVE
				W	WATT
				W	WITH
				WG	WIRE GUARD
				WH	WATER HEATER
				WO	WITHOUT
				WP	WEATHERPROOF
				XFMR	TRANSFORMER
				Ø	PHASE

Order Plans

- DEMOLITION NOTES:**
- THE DEMOLITION DRAWINGS ARE DERIVED FROM FIELD OBSERVATIONS AND EXISTING DRAWINGS. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL DEMOLITION WORK REQUIRED FOR THE INSTALLATION OF NEW ELECTRICAL WORK AND WORK REQUIRED BY OTHER TRADES.
 - THE ELECTRICAL CONTRACTOR SHALL NOTE ANY EXISTING DAMAGE ON CEILING TILES, LIGHT FIXTURES, WALLS, FLOORS, FURNITURE, PAVING, ETC. PRIOR TO THE START OF ANY WORK. THE CONTRACTOR SHALL PHOTOGRAPH THESE ITEMS AND SUBMIT THEM TO THE ENGINEER BEFORE BEGINNING WORK.
 - ALL EXISTING CEILING TILES TO REMAIN WHICH ARE DAMAGED BY THIS CONTRACTOR DURING CONSTRUCTION SHALL BE REPLACED WITH NEW CEILING TILES (MATCHING EXISTING) AT THIS CONTRACTOR'S EXPENSE.
 - ALL LIGHT FIXTURES, RECEPTACLES, FIRE ALARM DEVICES, ETC. TO BE REMOVED SHALL HAVE OPENINGS PATCHED TO MATCH EXISTING CONDITIONS. ALL CUTTING AND PATCHING OF ELECTRICAL WORK SHALL BE BY THE ELECTRICAL CONTRACTOR.
 - ALL DEMO'D CIRCUITS WITH NO REMAINING LOAD SHALL BE RE-LABELLED "SPARE" IN EXISTING PANELS.
 - THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR MOVING AND PROTECTING ALL OWNER OWNED FURNITURE, EQUIPMENT ETC. AS REQUIRED TO PERFORM THE WORK OF THIS PROJECT.
 - THE ELECTRICAL CONTRACTOR SHALL DISPOSE OF ALL DEMOLISHED EQUIPMENT EXCEPT WHERE NOTED OTHERWISE.
 - WHEN A DEVICE IS REMOVED THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED CIRCUITRY TO MAINTAIN CONTINUITY OF ALL DOWNSTREAM DEVICES TO REMAIN.
 - ALL ITEMS TO BE REMOVED SHALL BE DISPOSED OF PROPERLY OFFSITE OR TURNED OVER TO THE OWNER AT THE OWNER'S DISCRETION.
- GENERAL NOTES:**
- INSTALL ELECTRICAL SYSTEM IN ACCORDANCE WITH ALL STATE CODES, LOCAL CODES AND THE LATEST LOCALLY ADOPTED N.E.C. AND ITS APPENDICES, UNLESS OTHERWISE DIRECTED SPECIFICALLY BY THESE PLANS.
 - FOR CLARITY, ONLY EXISTING LIGHT FIXTURES, SWITCHES, RECEPTACLES, ETC. ARE SHOWN WHICH ARE PERTINENT TO THIS WORK.
 - FOR CLARITY, THE QUANTITY OF BRANCH CIRCUIT CONDUCTORS ARE NOT SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL BRANCH CIRCUITRY. RECORD AS BUILT CIRCUIT PATHS AND PRESENT DRAWINGS FOR ENGINEER VERIFICATION WHEN REQUESTED BY ENGINEER.
 - EXISTING CIRCUITS WITH NEW OR REVISED LOADS SHALL HAVE THE CIRCUIT DIRECTORY UPDATED TO REFLECT NEW LOAD.
 - REFER TO ARCHITECTURAL SHEETS FOR ALL FIRE-RATED PARTITION LOCATIONS AND RATINGS.
 - CONTRACTOR SHALL PROVIDE ALL FIRESTOPPING FOR PENETRATIONS OF CONDUITS AND RATED PENETRATIONS THAT PENETRATE ACOUSTIC RATED CEILING AND FIRE RATED ASSEMBLIES. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF ALL RATED ASSEMBLIES. ALL RATED PENETRATIONS SHALL BE FIRESTOPPED TO ORIGINAL LISTED RATING. ALL NON-RATED FLOOR PENETRATIONS SHALL BE SEALED WATER TIGHT WITH A FLEXIBLE SEALANT.
 - OPENINGS IN NEW WALLS AND FLOORS SHALL BE PLANNED AND COORDINATED WITH GENERAL CONTRACTOR FOR THE INSTALLATION OF APPROPRIATE SLEEVES. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT RIGID REQUIREMENTS FOR INSTALLATION OF ELECTRICAL WORK.
 - PRIOR TO CORE DRILLING OR DESTRUCTIVE REMOVAL OF EXISTING FLOOR AREAS, THE ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION WITH OWNER AND ELECTRICALLY SCAN FLOOR FOR EXISTING CIRCUITRY, PIPING, ETC. WHICH MAY BE ENCOUNTERED AND BRING POTENTIAL CONFLICTS TO THE ATTENTION OF THE ENGINEER WHEN IN CONFLICT WITH ELECTRICAL INSTALLATION.
 - VERIFY AND COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF ALL DEVICES MOUNTED IN CASEWORK OR ABOVE COUNTERS WITH SPECIFIC EQUIPMENT FURNISHED. CONTRACTOR SHALL COORDINATE EXACT HEIGHT OF DEVICES DESIGNED AS OVER COUNTER WITH CASEWORK AND FURNITURE DRAWINGS. ROUTING OF CIRCUITRY INSTALLED IN CASEWORK OR CABINETS, ETC. SHALL BE COORDINATED FOR PROPER CONCEALMENT AND FUNCTION OF CASEWORK, CABINETS, ETC.
 - VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO EXCAVATION, TRENCHING OR DRILLING.
 - ON ALL ELECTRICAL TRENCHING THE ELECTRICAL CONTRACTOR SHALL REVISIT SITE IN 6 MONTHS AND CHECK TRENCHES FOR SETTLEMENT. ADDITIONAL BACKFILL AND RE-SEEDING SHALL BE DONE FOR PROPER GRADE LEVELING. THE ELECTRICAL CONTRACTOR SHALL BEAR ALL COSTS.
 - IN THE SPACE ABOVE THE CEILING USED AS A RETURN AIR PLENUM, THE ELECTRICAL CONTRACTOR SHALL INSURE THAT ALL ELECTRICAL WIRING, CABLES, BUSHINGS AND CABLE TIES ARE PLENUM RATED.
 - THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL ACCESS PANELS REQUIRED FOR ELECTRICAL WORK.
 - CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING AS REQUIRED FOR HIS WORK. OPENINGS IN WALLS, FLOORS AND CEILINGS SHALL BE FILLED IN, PATCHED, PAINTED AND FINISHED IN A MANNER TO MATCH THE QUALITY OF THE EXISTING AREA.
 - ALL EXPOSED METAL CONDUITS ARE TO BE PAINTED TO MATCH THE ADJACENT SURFACE. PAINTING OF CONDUIT IS TO BE BY THE ELECTRICAL CONTRACTOR.
 - ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL REQUIRED JUNCTION BOXES, PULL BOXES, ETC. FOR A COMPLETE INSTALLATION PER THE N.E.C. AND LOCAL CODES.
 - ALL CONDUCTORS AND EQUIPMENT LUGS SHALL BE RATED FOR 75 DEGREE CELSIUS MINIMUM.
 - ALL ITEMS INCLUDED ON THESE DRAWINGS AND THE SPECIFICATIONS SHALL BE INCLUDED IN THE CONTRACTORS BID. ANY ITEMS THAT ARE UNCLEAR OR FOUND TO BE INCORRECT BY THE CONTRACTOR SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER AT LEAST 7 CALENDAR DAYS PRIOR TO THE BID DUE DATE.
 - COORDINATE WORK WITH OTHER TRADES. COORDINATION OR SCHEDULING SHALL BE THE RESPONSIBILITY OF THE INVOLVED CONTRACTORS.
 - ALL CIRCUIT DIRECTORIES SHALL BE COORDINATED WITH OWNER FOR CORRECT CALL-OUT OF ROOM NUMBERS/ROOM NAMES.
 - IN AREAS WHERE SYSTEM CABLING GOES THROUGH CMU WALLS THE ELECTRICAL CONTRACTOR SHALL PROVIDE 3/4" CONDUIT STUB (MINIMUM) FOR ROUTING OF CABLES. ELECTRICAL CONTRACTOR TO SEAL AROUND CONDUIT OPENING.

- LIGHTING & POWER NOTES:**
- LIGHT FIXTURES DESIGNATED AS "NIGHT LIGHTS" SHALL BE ON UNSWITCHED CIRCUIT, UNLESS NOTED.
 - LIGHT FIXTURES DESIGNATED AS "EMERGENCY LIGHTS" SHALL BE SWITCHED AND PROVIDED WITH EMERGENCY BALLAST ON UNSWITCHED CIRCUIT (SAME CIRCUIT AS SWITCH LEG), UNLESS NOTED.
 - EXIT LIGHTS SHALL BE ON UNSWITCHED CIRCUIT, UNLESS NOTED.
 - ALL RECESSED DOWNLIGHTS MOUNTED IN GRID CEILING SHALL BE CENTERED IN CEILING TILE, UNLESS NOTED.
 - VERIFY CEILING TYPES PER THE ARCHITECTURAL REFLECTED CEILING PLAN. PROVIDE APPROPRIATE TYPE FIXTURE, LAY-IN FOR GRID, FLANGE FOR DRYWALL, ETC.
 - IN ALL MECHANICAL ROOMS COORDINATE EXACT LOCATION OF LIGHT FIXTURES WITH HVAC AND PLUMBING EQUIPMENT AND HVAC DUCTWORK.
 - CONDUCTORS FOR BRANCH CIRCUITRY ARE #12 AWG MINIMUM, UNLESS NOTED.
 - ALL HOMERUN CONDUCTORS BACK TO PANEL SHALL BE #10 AWG MINIMUM, UNLESS NOTED.
 - ALL WIRING SHALL BE INSTALLED IN 3/4" CONDUIT, MINIMUM, UNLESS NOTED OTHERWISE. CONDUIT SHALL BE CONCEALED IN CEILING OR WALLS WHEREVER POSSIBLE.
 - ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC, UNLESS NOTED OTHERWISE. UNDERGROUND PVC CONDUITS SHALL HAVE RIGID GALVANIZED STEEL EMBLEM.
 - ALL SWITCHES AND RECEPTACLES DESIGNATED TO BE RELOCATED SHALL BE PROVIDED WITH NEW DEVICE AND COVER PLATE.
 - PROVIDE A GREEN GROUND CONDUCTOR IN ALL BRANCH CIRCUITS. REFER TO PLANS FOR OTHER GROUNDING CONDUCTOR TYPES. GROUNDING MEANS RACEWAY SHALL NOT BE PERMITTED.
 - PROVIDE A DEDICATED NEUTRAL CONDUIT FOR ALL SINGLE POLE CIRCUITS. SHARING OF NEUTRALS SHALL NOT BE PERMITTED.
 - ALL CONDUIT DROPPED FOR PLENUM RATED CABLES SHALL BE PROVIDED WITH A CONDUIT BUSHING ABOVE THE CEILING.
 - WHERE TERMINATED IN A J-BOX ALL BRANCH CIRCUITRY SHALL BE LABELED WITH PANEL AND CIRCUIT NUMBER.
 - COORDINATE ELECTRICAL REQUIREMENTS FOR NEW OR RENOVATED WORK WITH THE PLUMBING AND MECHANICAL CONTRACTORS. VERIFY VOLTAGE, PHASE AND ACCESSORY REQUIREMENTS, SUCH AS MOTOR STARTERS AND DISCONNECTS. PROVIDE ALL NECESSARY AUXILIARY CONTACTS, RELAY, ETC. IN MOTOR STARTERS FOR REQUIRED CONTROL OF MECHANICAL EQUIPMENT.
 - WHEN A DEVICE IS REMOVED AND RE-INSTALLED, DEVICE SHALL BE CLEANED BEFORE RE-INSTALLATION.
 - ALL LIGHT FIXTURES ARE TO BE SUPPORTED BY SUPPORT WIRES DIRECTLY FROM STRUCTURE ABOVE AND NOT FROM CEILING GRID SUPPORTS. CONDUIT AND CIRCUITRY TO BE SUPPORTED INDEPENDANTLY AND NOT FROM LIGHT FIXTURE SUPPORT WIRES.
 - DO NOT SUPPORT CONDUIT OFF OF CEILING GRID, CEILING GRID SUPPORTS, MECHANICAL SUPPORTS, OR ANY OTHER TRADES' SUPPORTS. INSTALL CONDUITS AND BOXES ON SEPARATE SUPPORTS FROM BAR JOIST OR STRUCTURE.
 - DO NOT SUPPORT ELECTRICAL EQUIPMENT AND DEVICES FROM METAL ROOF DECK. PROVIDE SUPPORT FROM CONCRETE BEAMS, BAR JOISTS, STRUCTURAL BEAMS, COLUMNS OR UNISTRUT BETWEEN STRUCTURAL ELEMENTS.
 - ALL GFI TYPE RECEPTACLES TO BE INSTALLED AS SEPARATELY CONNECTED RECEPTACLES. FEED-THROUGH OR GFI TYPE BREAKERS NOT ALLOWED UNLESS NOTED OTHERWISE.
 - ALL RECEPTACLES OR J-BOX LOCATIONS FOR POWER TO ELECTRIC WATER COOLERS SHALL BE COORDINATED WITH THE INSTALLATION LOCATIONS OF THE ELECTRIC WATER COOLERS, UNLESS NOTED. ALL CIRCUITS FOR WATER COOLERS ARE TO BE GFCI PROTECTED.
 - COORDINATE IN-FLOOR OUTLETS WITH SYSTEM PLANS. MANY FLOOR POWER OUTLETS TO HAVE TELEDATA OUTLETS ADJACENT TO THEM. USE DIVIDED MULTI-OUTLET ASSEMBLIES TO FACILITATE CLEANER INSTALLATION APPEARANCE.
 - ALL DASHED CIRCUITRY IS ROUTED BELOW FLOOR SLAB OR BELOW GRADE UNLESS NOTED OTHERWISE.
 - HEAT LOOPS (#18 GA. WITH GROUND) MAY BE USED FOR A FEED TO A SINGLE LIGHT FIXTURE OUTLET. HEAT LOOPS FEEDING MULTIPLE LIGHT FIXTURES MAY NOT BE USED.
 - ALL RECEPTACLES IN LOCATIONS ACCESSIBLE TO THE GENERAL PUBLIC SHALL BE TAMPER RESISTANT.

- EQUIPMENT NOTES:**
- PROVIDE 4" HIGH, SMOOTH FINISH CONCRETE HOUSEKEEPING PADS UNDER ALL TRANSFORMERS (45KVA AND LARGER) AND MAIN DISTRIBUTION SWITCHBOARDS. PAD SHALL BE 4" LARGER THAN TRANSFORMER AND SWITCHBOARD IN EACH DIRECTION. 3000 PSIG, 28 DAY COMPRESSIVE STRENGTH CONCRETE. CHAMFER ALL EDGES. USE 90° CORNERS OF CONCRETE PAD. TRANSFORMERS TO BE A MINIMUM OF 8" FROM ALL EDGES. VERIFY PLACEMENT REQUIREMENTS OF TRANSFORMER WITH MANUFACTURER PROVIDED.
 - PROVIDE A 6" THICK STRUCTURAL SUPPORT PAD UNDER EACH GRADE MOUNTED TRANSFORMER. PAD SHALL BE 6" LARGER THAN EQUIPMENT IN EACH DIRECTION. USE 3000 PSIG, 28 DAY COMPRESSIVE STRENGTH CONCRETE. CHAMFER ALL EDGES. USE 90° CORNERS OF CONCRETE PAD. SET PAVEN 4" OF CLEAN 3/4" RADIUS. PROVIDE FABRIC BARRIER BETWEEN SOIL AND FIXTURE. PROVIDE CONDUIT OPENINGS PER TRANSFORMER MANUFACTURER. TRANSFORMERS TO BE A MINIMUM OF 8'-0" FROM EXTERIOR WALLS. VERIFY PLACEMENT REQUIREMENTS OF TRANSFORMER WITH MANUFACTURER PROVIDED.
- DEVICE MOUNTING HEIGHTS (TO TOP OF DEVICE):**
- COORDINATE MOUNTING HEIGHTS WITH ARCHITECTURAL PLANS AND ELEVATIONS.
- RECEPTACLES MOUNTED AT 20" AFF, UNLESS NOTED.
 - SWITCHES MOUNTED AT 48" AFF, UNLESS NOTED.
 - TELEPHONE OUTLETS MOUNTED AT 20" AFF, UNLESS NOTED.
 - ALL TELEPHONE OUTLETS MOUNTED AT 48" AFF, UNLESS NOTED.
 - DATA OUTLETS MOUNTED AT 20" AFF, UNLESS NOTED.
 - HORN/STROBES MOUNTED AT 90" AFF, UNLESS NOTED.
 - "C" DEVICES TO BE MOUNTED ABOVE COUNTER AND BACKSPASH. COORDINATE WITH ARCHITECTURAL DRAWINGS AND APPROVES SHOP DRAWINGS FOR CASEWORK.