

COMMISSIONING PLAN

SUMMARY:

- A. COMMISSIONING IS A REQUIREMENT OF THE SPECIFICATIONS AND INTENDED TO ACHIEVE THE FOLLOWING SPECIFIC OBJECTIVES; THIS SECTION SPECIFIES THE CONTRACTOR'S RESPONSIBILITIES FOR COMMISSIONING:
1. VERIFY THAT THE WORK IS INSTALLED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND THE MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS, AND THAT IT RECEIVES ADEQUATE OPERATIONAL CHECKOUT PRIOR TO STARTUP.
2. VERIFY AND DOCUMENT THAT FUNCTIONAL PERFORMANCE IS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS; FUNCTIONAL TESTS EXECUTED BY CONTRACTOR, WRITTEN AND WITNESSED BY A CERTIFIED COMMISSIONING PROFESSIONAL ARE UTILIZED TO ACHIEVE THIS.
3. VERIFY THAT OPERATION AND MAINTENANCE MANUALS SUBMITTED TO OWNER ARE COMPLETE; DETAILED OPERATION AND MAINTENANCE (O&M) DATA SUBMITTALS BY CONTRACTOR ARE UTILIZED TO ACHIEVE THIS.
4. VERIFY THAT THE OWNER'S OPERATING PERSONNEL ARE ADEQUATELY TRAINED; FORMAL TRAINING CONDUCTED BY CONTRACTOR IS UTILIZED TO ACHIEVE THIS.
- B. COMMISSIONING, INCLUDING FUNCTIONAL TESTS, O&M DOCUMENTATION REVIEW, AND TRAINING, IS TO OCCUR AFTER STARTUP AND MUST BE COMPLETED BEFORE THE CERTIFICATE OF OCCUPANCY IS ISSUED.
- C. THE COMMISSIONING PROFESSIONAL DIRECTS AND COORDINATES ALL COMMISSIONING ACTIVITIES; THIS SECTION DESCRIBES SOME BUT NOT ALL OF THE COMMISSIONING PROFESSIONALS RESPONSIBILITIES.
- D. THE COMMISSIONING COMPLIANCE CHECKLIST, MUST BE COMPLETED AT THE COMPLETION OF COMMISSIONING AND SIGNED BY THE OWNER OR OWNER'S AGENT.
- E. SEE SPECIFICATION SECTION 26 08 00 - ELECTRICAL SYSTEMS COMMISSIONING FOR ADDITIONAL INFORMATION

SCOPE OF COMMISSIONING:

- A. THE FOLLOWING ARE TO BE COMMISSIONED:
1. ELECTRICAL POWER AND LIGHTING SYSTEMS AND CONTROLS
2. OCCUPANCY SENSORS
3. TIME SWITCH CONTROLS
4. DAYLIGHTING CONTROLS.
5. RECEPTACLES (SENSOR CONTROLLED)

PROJECT GENERAL NOTES

1. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE PRIOR TO BID AND FIELD VERIFY EXISTING CONDITIONS WHICH WILL AFFECT THE WORK SHOWN ON THE DRAWINGS AND SPECIFICATIONS.
2. VERIFY PHASING OF THE PROJECT WITH ARCHITECTURAL DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL PROVIDE ADDITIONAL LABOR AND MATERIAL AS REQUIRED TO ENERGIZE AREAS OF PROJECT TO REMAIN IN OPERATION DURING CONSTRUCTION AND PROVIDE ALL TEMPORARY POWER AS REQUIRED
3. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC, REFERENCE ARCHITECTURAL FLOOR PLANS, ELEVATIONS AND DETAILS FOR DEVICE LOCATIONS AND MOUNTING HEIGHTS, INCLUDING BUT NOT LIMITED TO LUMINAIRES, RECEPTACLES AND FIRE ALARM DEVICES. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH CONSTRUCTION DRAWINGS SET, IF CONFLICTS ARISE CONTACT THE ARCHITECT AND/OR ENGINEER
4. REFERENCE ARCHITECTURAL SPECIFICATIONS AND DOOR SCHEDULES FOR ADDITIONAL ELECTRICAL CONNECTIONS REQUIRED. PROVIDE ALL LABOR AND MATERIAL INCLUDING BUT NOT BE LIMITED TO JUNCTION BOXES, CONDUCTORS, CONDUIT, LV CONTROL WIRING, 120 VOLT CIRCUIT FOR CONTROL TRANSFORMER AND SUPPORTS AS REQUIRED FOR A COMPLETE AND OPERATIONAL INSTALLATION WHETHER SPECIFICALLY SHOWN OR THE ELECTRICAL DRAWINGS.
5. MOUNT ELECTRICAL DEVICES PER CURRENT ADA REQUIREMENTS AND WITH AUTHORITY HAVING JURISDICTION (AHJ), HEIGHTS SHALL INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
- CONTROLS AND SWITCHES SHALL BE INSTALLED WITHIN THE MINIMUM AND MAXIMUM REACH RANGES SPECIFIED IN CURRENT I.B.C SEC 11B-308.1.1.
 - ELECTRICAL RECEPTACLES SHALL BE INSTALLED WITHIN THE MINIMUM AND MAXIMUM REACH RANGES SPECIFIED IN CURRENT I.B.C 11B-308.1.2.
 - THERMOSTATS, SWITCHES AND RECEPTACLES INSTALLED IN AREAS EQUIPPED FOR THE DISABLED SHALL BE LOCATED AT NOT MORE THAN 48" MEASURED FROM THE TOP OF BOX TO FINISH FLOOR. THE BOTTOM OF THE BOX FOR THERMOSTATS, SWITCHES AND RECEPTACLES SHALL BE NO LOWER THAN 15" TO FINISH FLOOR, PER CURRENT I.B.C 11B-308.
6. ELECTRICAL EQUIPMENT SHALL BE LISTED BY THE CITY OF HAVING JURISDICTION RECOGNIZED ELECTRICAL TESTING LABORATORY OR APPROVED BY THE DEPARTMENT. INSTALLATION WILL MEET CURRENT NEC INCLUDING ELECTRICAL CODE AMENDMENTS.
7. ELECTRICAL DEDICATED SPACES: NO PIPING, DUCTS, EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT SHALL BE PERMITTED WITHIN THE DEDICATED SPACE ABOVE THE ELECTRICAL EQUIPMENT.
8. DUPLEX, DOUBLE DUPLEX AND GFCI RECEPTACLES PER SECTION 26 27 26 WILL BE 20 AMPS.
9. EQUIPMENT WIRING TERMINAL WILL BE LISTED FOR 75 DEGREE C WIRING TERMINATION.
10. CONDUIT WILL BE EMT, MC CABLE MAY BE USED AS INSTALLED PER SECTION 26 05 33.12 - METAL CLAD CABLE.
11. CONDUCTORS WILL BE COPPER TYPE THHN/THWN UNLESS OTHERWISE NOTED
12. LIGHTING AND MECHANICAL FIXTURES MUST BE SUPPORTED BY ADDITIONAL INDEPENDENT NO. 12 GAGE WIRES ATTACHED TO EACH CORNER OF FIXTURE.
13. SEE MECHANICAL PLANS FOR ADDITIONAL ELECTRICAL CONNECTIONS.
14. CONTRACTOR SHALL FURNISH AND INSTALL A GROUND WIRE IN ALL PVC CONDUIT, GROUND WIRES MAY NOT BE SHOWN, BUT SHALL BE INCLUDED IN THE ELECTRICAL CONTRACTOR'S BASE BID AND SIZED PER CURRENT CODE.
15. CONTRACTOR TO TAG/IDENTIFY ALL CONDUCTORS FOR EQUIPMENT INSTALLATION.
16. FITTINGS: GALVANIZED STEEL TYPE ONLY, DIE CAST NOT PERMITTED.
17. SLEEVES: PROVIDE SLEEVES FOR ALL RACEWAYS AND/OR WIRING THROUGH ALL FIRE-RATED WALLS, CEILINGS AND CONCRETE STEEL FLOORS. SEAL SLEEVES, AFTER INSTALLING RACEWAYS, WITH APPROVED FIRE-RATING MATERIAL OF EQUAL RATING AS ORIGINAL FIRE-RATING.
18. ALL CONDUIT ONLY (C.O.) SHALL HAVE A PULL WIRE OR ROPE.
19. ALL CIRCUITS SHOWN ON THE ELECTRICAL PLANS MUST BE PROVIDED WITH A SEPARATE NEUTRAL FOR MULTI-BRANCH CIRCUIT REQUIREMENTS PER CURRENT CODE.
20. PROVIDE TAMPER RESISTANT RECEPTACLES IN ALL AREAS AS REQUIRED BY THE CURRENT APPROVED ADDITION OF THE NEC AND WASHINGTON AMENDMENTS
21. ELECTRICAL & TELECOMMUNICATIONS CONTRACTOR WILL PLAN FOR VARIES WALL THICKNESS, SEE ARCHITECTURAL PLANS

ELECTRICAL LEGEND

LIGHTING

- □ CEILING LUMINAIRE: SURFACE, RECESSED
- ⊕ □ WALL LUMINAIRE: SURFACE, RECESSED
- → □ WALL WASHER: SURFACE, RECESSED
- □ LUMINAIRE: SURFACE, RECESSED
- □ LUMINAIRE: WALL MOUNTED
- □ LUMINAIRE: STRIP
- ⊕ ⊕ EXIT LIGHT: CEILING, WALLS (ARROWS AS SHOWN)
- ⬅ ➡ DESIGNATES LIGHT ON EMERGENCY
- ⬅ ➡ EMERGENCY BATTERY LIGHT
- \$ 2 WALL SWITCH: SINGLE POLE, 2 POLE
- \$ 3 WALL SWITCH: 3 WAY, 4 WAY
- \$ K WALL SWITCH: KEYED
- \$ T WALL SWITCH: TIMER
- \$ OS WALL SWITCH: OCCUPANCY SENSOR
SEE DETAILS FOR TYPE
- \$ OS-2 WALL SWITCH: OCCUPANCY SENSOR 2 POLE
SEE DETAILS FOR TYPE
- ⊕ ⊕ SENSOR: OCCUPANCY SENSOR, CEILING (WIRELESS)
- ⊕ ⊕ PHOTO DAYLIGHTING SENSOR (WIRELESS)
SEE DETAILS FOR TYPES
- \$ D DIMMER, AS NOTED
- \$ ND DIMMER, nLIGHT LV
- ⊕ PUSHBUTTON: AS NOTED
- ⊕ PHOTOELECTRIC CELL
- B DESIGNATES LUMINAIRE TYPE
- NL DESIGNATES NIGHT LIGHT CIRCUIT
- (E) EXISTING TO REMAIN
- (R) EXISTING TO BE RELOCATED
- (X) EXISTING TO BE REMOVED
- (5) ELECTRICAL SHEET NOTE LABEL DESIGNATOR

POWER

- ⊕ RECEPTACLE: SINGLE
- ⊕ C RECEPTACLE: SINGLE, CLOCK
- ⊕ RECEPTACLE: DUPLEX
- ⊕ CEILING RECESSED RECEPTACLE: DUPLEX
- ⊕ SPECIAL PURPOSE OUTLET AS NOTED
- ⊕ FLUSH IN FLOOR OUTLET: DUPLEX, TELECOMMUNICATIONS
- ⊕ SURFACE OUTLET STRIP: DIMENSIONS AS SHOWN
- ⊕ JUNCTION BOX
- ⊕ DISCONNECT SWITCH: FUSED, NON FUSED
- ⊕ MOTOR CONNECTION
- ⊕ MOTOR STARTER: MANUAL, MAGNETIC, COMBINATION
- ⊕ CONTACTOR, RELAY, SOLENOID
- ⊕ TRANSFORMER
- ⊕ CONDUIT ELL
- ⊕ PANELBOARD: SURFACE, RECESSED
- ⊕ CABINET: SURFACE, RECESSED
- LIGHTING CONTROLS:
- \$ ND WALL SWITCH: nLIGHT DIMMING
- \$ N WALL SWITCH: nLIGHT ON - OFF
OR AS NOTED ON DRAWINGS.
- H DATA HUB
- N P POWER PACK: nLIGHT
- N PW POWER PACK: nLIGHT (WIRELESS)
- N PE POWER PACK: nLIGHT WITH UL924
- N PEW POWER PACK: nLIGHT WITH UL924 (WIRELESS)
- R RELAY

- HA-3.5.
- LCP1-24.26.
- CONDUIT HOMERUN TO PANELBOARD "HA" WITH CIRCUIT 3.5.
- CONDUIT HOMERUN TO LIGHTING CONTROL PANEL "LCP1" WITH RELAYS 24.26. SEE SCHEDULE FOR HOMERUN TO PANELBOARDS
- DENOTES NEUTRAL
- DENOTES HOT OR SWITCH LEG
- DENOTES ISOLATE GREEN GROUND WIRE
- DENOTES GROUND CONNECTION
- PER LIGHTING PLANS:
- 1/2" CONDUIT WITH 2 #12 WIRES
- 1/2" CONDUIT WITH 3 #12 WIRES
- 1/2" CONDUIT WITH 4 #12 WIRES
- 3/4" CONDUIT WITH 5#12 WIRES
- 3/4" CONDUIT WITH 6#12 WIRES
- PER POWER & EQUIPMENT PLANS:
- 3/4" CONDUIT WITH 2#12 WIRES, 1 #12 GREEN INSULATED GROUND WIRE
- 3/4" CONDUIT WITH 3#12 WIRES, 1 #12 GREEN INSULATED GROUND WIRE
- DUPLEX RECEPTACLE OUTLET, 20 AMPS, 125 VOLTS, FLUSH WALL MOUNTED, +18" AFF OR AS NOTED ON DRAWINGS.
- DUPLEX RECEPTACLE OUTLET, 20 AMPS, 125 VOLTS, FLUSH WALL MOUNTED, +18" AFF OR AS NOTED ON DRAWINGS.
- D DENOTES DEDICATED CIRCUIT
- E DENOTES RECEPTACLE ON EMERGENCY
- U DENOTES RECEPTACLE WITH (2) USB PORTS
- GFCI DUPLEX RECEPTACLE OUTLET, 20 AMPS, 125 VOLTS, FLUSH WALL MOUNTED, +18" AFF OR AS NOTED ON DRAWINGS.
- DOUBLE DUPLEX RECEPTACLE OUTLET, 20 AMPS, 125 VOLTS, FLUSH WALL MOUNTED, +18" AFF OR AS NOTED ON DRAWINGS.
- MOTION SENSOR CONTROLLED DOUBLE DUPLEX OR DUPLEX RECEPTACLE, 20 AMPS, 125 VOLTS, FLUSH WALL MOUNTED, +18" AFF OR AS NOTED ON DRAWINGS. PROVIDE POWER PACK, WITH CONTROL FROM ROOM OCCUPANCY SENSOR.
- DUPLEX WILL HAVE ONE (1) RECEPTACLE UNSWITCHED & ONE (1) CONTROLLED BY MOTION SENSOR.
 - DOUBLE DUPLEX WILL HAVE ONE (1) DUPLEX RECEPTACLE UNSWITCHED & ONE (1) DUPLEX RECEPTACLE CONTROLLED BY MOTION SENSOR.
 - RECEPTACLES WILL BE IMPRINTED, PERMANENTLY MARKED ON DEVICE. SIMILAR TO LEVITON 5362-2PW OR APPROVED EQUIVALENT.

SIGNAL

- ⊕ DETECTOR: IONIZATION, RATE OF RISE
- ⊕ DETECTOR: HEAT, PHOTOELECTRIC
- ⊕ DUCT DETECTOR, TYPE AS NOTED
- ⊕ FIRE ALARM: HORN, HORN WITH VISUAL
- ⊕ WIRELESS ACCESS POINT
- ⊕ WALL OUTLET: TELECOMMUNICATIONS
- ⊕ WALL OUTLET: TELEPHONE ONLY
- ⊕ WALL OUTLET: TELEPHONE ONLY @ ADA HT
- ⊕ WALL OUTLET: TELEVISION
- ⊕ WALL OUTLET: CCTV CAMERA
- ⊕ WALL CLOCK (PROVIDE DUPLEX RECEPTACLE)
- ⊕ PENDANT CLOCK (PROVIDE DUPLEX RECEPTACLE)
- ⊕ THERMOSTAT
- P FIRE ALARM PULL STATION
- DS DOOR STRIKE, 3/4" C TO SECURITY PANEL
- D MAG HOLD OPEN, 3/4" C TO SECURITY PANEL
- ⊕ FIRE ALARM: VISUAL STROBE ONLY
- ⊕ SP FIRE ALARM: SPEAKER / STROBE
- ⊕ FIRE ALARM: HORN / STROBE
- ⊕ FIRE ALARM: DETECTOR SMOKE
- ⊕ FIRE ALARM: DETECTOR SMOKE WITH CO BASE
- ⊕ FIRE ALARM: DETECTOR THERMAL
- P FIRE ALARM: PULL STATION
- S ADDRESSABLE PHOTO SMOKE DETECTOR WITH LOW FREQUENCY SOUNDER BASES
- S CO ADDRESSABLE PHOTO SMOKE / CARBON MONOXIDE DETECTOR WITH LOW FREQUENCY SOUNDER BASES
- KP SECURITY: KEYPAD, 3/4" C TO SECURITY PANEL
- C SECURITY: CAMERA
- M SECURITY: MOTION SENSOR, CEILING
- MS SECURITY: MOTION SENSOR, WALL

ABBREVIATIONS

- A AMPERE (AMP)
- ACT ABOVE COUNTER TOP
- ADA AMERICAN WITH DISABILITIES ACT
- AFF ABOVE FINISHED FLOOR
- ARCH ARCHITECT
- C CONDUIT
- C/B CIRCUIT BREAKER
- CKT CIRCUIT
- CLG CEILING
- CU COPPER
- CT CURRENT TRANSFORMER
- EMERG EMERGENCY
- EMT ELECTRIC METALLIC TUBING
- EXT EXTERIOR
- FA FIRE ALARM
- FACP FIRE ALARM CONTROL PANEL
- FLA FULL LOAD AMPS
- FLUOR FLUORESCENT
- FCIC FURNISHED BY CONTRACTOR
- FOIC FURNISHED BY OWNER
- FOIO FURNISHED BY OWNER
- GFCI GROUND FAULT CIRCUIT INTERRUPTER
- GFP GROUND FAULT PROTECTION
- GRC GALVANIZED RIGID CONDUIT
- GRD GROUND
- HLO HANDLE LOCK OFFS
- HP HORSEPOWER
- HPS HIGH PRESSURE SODIUM
- HZ HERTZ
- INC INCANDESCENT
- JB JUNCTION BOX
- KVA KILOVOLT AMP
- LV LOW VOLTAGE
- LTG LIGHTING
- MCB MAIN CIRCUIT BREAKER
- MDP MAIN DISTRIBUTION PANEL
- MECH MECHANICAL
- MH METAL HALIDE
- MLO MAIN LUGS ONLY
- MV MERCURY VAPOR
- NIC NOT IN CONTRACT
- PA PUBLIC ADDRESS
- PE PHOTOELECTRIC CELL
- PNL PANEL BOARD
- PVC POLYVINYL CHLORIDE CONDUIT
- PWR POWER
- SDP SUB-DISTRIBUTION PANEL
- SECP SECURITY CONTROL PANEL
- STR STARTER
- SV SOLENOID VALVE
- SW SWITCH
- TBF TO BOTTOM OF FIXTURE
- TD TIME DELAY
- TP TAMPERPROOF
- TTB TELEPHONE TERMINAL BOARD
- TTC TELEPHONE TERMINAL CABINET
- TV TELEVISION
- TYP TYPICAL
- UG UNDERGROUND
- V VOLTAGE
- W WATTS
- WP WEATHER PROOF
- XFMR TRANSFORMER

NOTE: NOT ALL SYMBOLS SHOWN ON LEGEND APPEAR ON DRAWINGS.



Tenant Improvement
ESD112
Mental Health Facility Phase II
2400 NE 65th Ave. Vancouver WA.

Revised:	DATE: AUG. 10, 2023	APPLICANT EDITS	DATE: AUG. 17, 2023	APPLICANT EDITS	DATE: SEPT. 22, 2023	APPLICANT EDITS	DATE: OCT. 03, 2023
PKR 01							

Job No: 2246

Date: February 18, 2023

File Size: 24x36

Progress set

DRAWN:

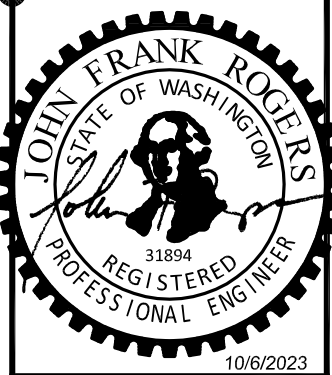
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REVISED
4:13 pm, Oct 06, 2023



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