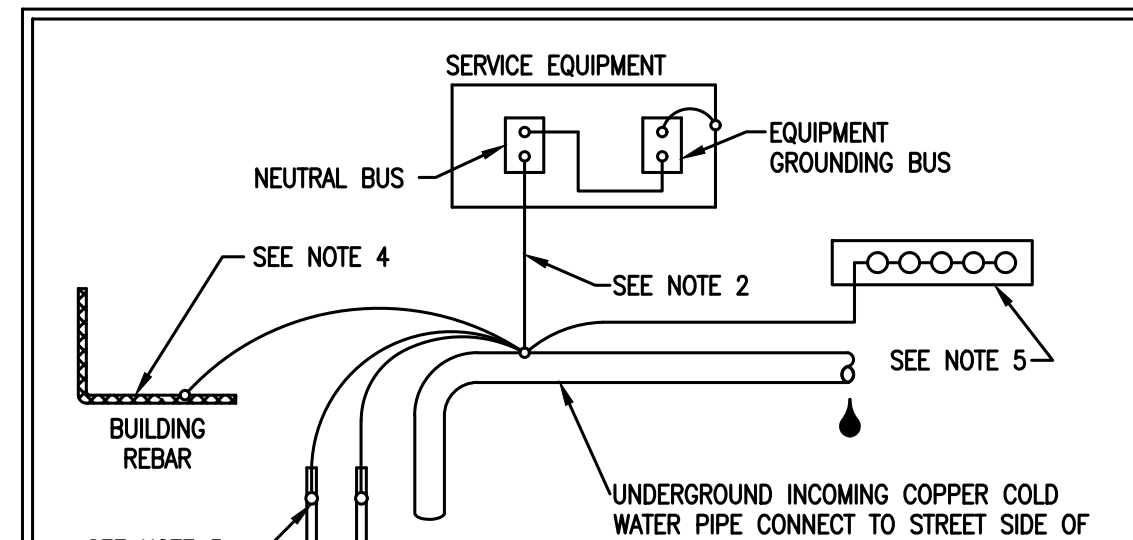


GENERAL ELECTRICAL NOTES & SPECIFICATIONS:

GENERAL	PANELS
1. THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH THE FLORIDA BUILDING CODE, 6TH EDITION (2023) AND LOCAL CODES AS MAY BE APPLICABLE.	1. NO "WAFFER" OR "PIGGYBACK" BREAKERS PERMITTED.
2. FURNISH PDF FILES OF SHOP DRAWINGS FOR ALL MAJOR ELECTRICAL EQUIPMENT. THEY SHALL BE PROVIDED PRIOR TO ORDERING EQUIPMENT.	2. PROVIDE SIGNAGE FOR ALL PANELS, CONTROL DEVICES AND MISCELLANEOUS ELECTRICAL APPARATUS THAT SHALL BE CLEARLY MARKED FOR EASY IDENTIFICATION AND SAFETY. SIGNAGE SHALL INDICATE DEVICE OR EQUIPMENT AND LOCATION OF WHERE THE POWER SUPPLY ORIGINATES. USE BLACK PLASTIC OR ALKALITE NAME PLATE ENGRAVED WITH WHITE LETTERS 1/4" HIGH. PUNCHED TAPE IS NOT ACCEPTABLE.
3. WORK SHALL INCLUDE ALL LABOR, MATERIALS, PERMITS AND COSTS FOR INSTALLATION OF A COMPLETE ELECTRICAL SYSTEM.	3. PANELS SHALL BE PROVIDED WITH A TYPED DIRECTORY AFFIXED TO INSIDE OF PANEL DOOR WITH A CLEAR PLASTIC SLEEVE.
4. ALL EQUIPMENT, FIXTURES, ETC., SHALL BE STARTED, TESTED, ADJUSTED AND PLACED IN SATISFACTORY OPERATING CONDITION BY THIS CONTRACTOR WHO SHALL GUARANTEE ALL WORKMANSHIP MATERIALS AND EQUIPMENT TO BE FREE OF DEFECTS FOR A PERIOD OF (1) ONE YEAR FROM DATE OF CERTIFICATE OF OCCUPANCY (C.O.); AND SHALL REPAIR SUCH DEFECTS WITHOUT COST TO THE OWNER. ALL EQUIPMENT SHALL BE COVERED FOR THE DURATION OF THE MANUFACTURER'S GUARANTEE OR WARRANTY, AND THIS CONTRACTOR SHALL FURNISH THE OWNER WITH ALL MANUFACTURER'S GUARANTEE AND WARRANTIES.	4. ALL ELECTRICAL PANELS AND EQUIPMENT TO COMPLY WITH THE ARC FLASH LABELING REQUIREMENTS OF THE NEC, ARTICLE 110.16.
5. REVISIONS TO THESE DRAWING AND CERTIFICATION THERETO WHICH MAY BE REQUIRED BY THE APPLICABLE INSPECTION AUTHORITY, DUE TO CONTRACTOR OPTED REVISIONS SHALL BE COMPENSATED TO THE ENGINEER BY THE REQUESTING CONTRACTOR, PAYMENT WILL BE REQUIRED AT TIME OF CERTIFICATION DELIVERY.	5. IN LIEU OF GFCI RATED RECEPTABLES, CONTRACTOR HAS THE OPTION TO PROVIDE GFCI RATED CIRCUIT BREAKERS WHERE RECEPTABLE IS NOT ACCEPTABLE.
6. DO NOT SCALE THE ELECTRICAL DRAWINGS, REFER TO THE ARCHITECTURAL PLANS FOR EQUIPMENT LOCATIONS, CABINETRY, CEILING GRIDS, DOOR SWINGS, ETC.	6. VERIFY CIRCUIT BREAKER INTERRUPT CAPACITY NEEDED FOR EACH PANEL WITH LOCAL UTILITY.
7. IT IS NOT THE INTENT OF THESE PLANS TO SHOW ALL DETAILS OF CONSTRUCTION. THE ELECTRICAL CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS SUCH AS HARDWARE, JUNCTION BOXES, CONDUIT FITTINGS, ETC., AS NECESSARY FOR A COMPLETE ELECTRICAL SYSTEM IN WORKING ORDER.	7. BALANCE THE POWER EQUALLY (+/- 10%) ON ALL PHASES.
8. MATERIALS EQUIPMENT AND SYSTEMS SHALL MEET ALL PERTINENT REQUIREMENTS OF THE FOLLOWING:	8. A POWER MONITORING SYSTEM SHALL BE INSTALLED THAT WILL PROVIDE CONTINUOUS INFORMATION REGARDING THE TOTAL GENERAL LIGHTING LOAD OF THE BUILDING. THE POWER MONITORING SYSTEM SHALL BE SET WITH ALARM VALUES TO ALERT THE BUILDING OWNER OR MANAGER IF THE LIGHTING LOAD EXCEEDS THE VALUES SET BY THE ENERGY CODE. AUTOMATIC MEANS TO TAKE ACTION TO REDUCE THE CONNECTED LOAD SHALL BE PERMITTED. PER NEC 220.12(D).
	MEANS & METHODS
a. AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM)	1. WHERE CIRCUIT HOME RUNS ARE INDICATED ON PLANS WITH MORE THAN ONE CIRCUIT, THE DEVICES OR FIXTURES CONNECTED SHALL ALTERNATE CIRCUITS AS THE RUN PROGRESSES. CARRY ALL CIRCUIT WIRING TO LAST DEVICE OF RUN.
b. UNDERWRITERS LABORATORY (UL)	2. A/C AIR HANDLER AND CONDENSING UNIT CIRCUIT BREAKERS MUST BE U.L. LISTED AS "HACR" RATED IN ORDER TO USE NON-AUTO DISCONNECTS AT HVAC EQUIPMENT. IF NOT LISTED, THEN A FUSED DISCONNECT IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS NAME PLATE REQUIREMENTS MUST BE INSTALLED AT THE EQUIPMENT. ALL GROUP MOUNTED DISCONNECTS (SUCH AS A/C CONDENSERS) ARE TO BE IDENTIFIED AS TO UNIT OR LOCATION THEY SERVE.
c. 2020 NATIONAL ELECTRICAL CODE (NEC)	3. EQUIPMENT DISCONNECT SWITCHES MUST BE INSTALLED AT THE SAME LEVEL OF THE EQUIPMENT AND WITHIN 3 FEET.
d. NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION (NEMA)	4. THE SERVICE RECEPTABLE SHALL BE INSTALLED WITHIN 3 FEET OF THE EQUIPMENT AT THE SAME LEVEL OF THE EQUIPMENT DISCONNECT SWITCH.
e. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)	5. THE ELECTRICAL CONTRACTOR, HVAC, PLUMBING, FIRE PROTECTION & GENERAL CONTRACTORS SHALL STRICTLY ADHERE TO THE FOLLOWING ITEMS WHEN DEALING WITH ELECTRICAL CLEARANCES:
f. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)	a. NO PIPING OF ANY KIND OR DUCTWORK, SHALL BE INSTALLED ABOVE AN ELECTRICAL SWITCHBOARD OR PANEL. THIS AREA TO REMAIN CLEAR FROM THE EQUIPMENT TO 25" ABOVE OR TO THE BOTTOM OF THE STRUCTURAL SLAB OR FLOOR.
g. OTHER NATIONALLY RECOGNIZED AGENCIES	b. A CLEARANCE OF 36" MINIMUM FOR 120/208/240 VOLT OR 48" MINIMUM FOR 277/480 VOLT SHALL BE MAINTAINED IN FRONT OF ELECTRICAL EQUIPMENT FOR THE GREATER OF EITHER THE ENTIRE WIDTH OF THE EQUIPMENT OR 30" AND FROM FLOOR TO SLAB ABOVE.
h. APPLICABLE LOCAL CODES	6. VERIFY FINAL LOCATIONS FOR ROUGH-INS WITH FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT TO BE CONNECTED. VERIFY ALL DIMENSIONS BY FIELD MEASUREMENTS.
9. BIDDERS SHALL BE LICENSED CONTRACTORS IN ACCORDANCE WITH LOCAL AND STATE LAWS.	7. ELECTRICAL CONTRACTOR TO COORDINATE WITH OTHER CONTRACTORS FOR THE INSTALLATION OF ELECTRICAL MATERIALS AND EQUIPMENT FOR THE EFFICIENT FLOW OF WORK. ONE PARTICULAR ATTENTION TO LARGE EQUIPMENT REQUIRING POSITIONING PRIOR TO CLOSING-IN THE BUILDING. COORDINATE THE CUTTING AND PATCHING OF BUILDING COMPONENTS TO ACCOMMODATE INSTALLATION OF ELECTRICAL EQUIPMENT AND MATERIALS.
10. BIDDERS SHALL THOROUGHLY ACQUAINT THEMSELVES WITH THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THEY SHALL EXAMINE ALL SERVICES, EQUIPMENT, SURFACES, ETC., WHICH THIS WORK IS IN ANY WAY DEPENDENT UPON AND BRING ANY DISCREPANCIES DETERMINED OR OMISSIONS FOUND IN THE DRAWINGS TO THE OWNER'S ATTENTION BEFORE PROCEEDING WITH THE ELECTRICAL WORK.	8. COORDINATE THE INSTALLATION OF ELECTRICAL MATERIALS AND EQUIPMENT ABOVE CEILINGS WITH SUSPENSION SYSTEM, MECHANICAL EQUIPMENT AND SYSTEMS, AND STRUCTURAL COMPONENTS. COORDINATE ELECTRICAL EQUIPMENT AND MATERIALS INSTALLATION WITH OTHER BUILDING COMPONENTS.
11. THE SYSTEMS SHOWN ON DRAWINGS SHALL BE PROVIDED TO SERVE ALL FIXTURES, EQUIPMENT AND AREAS WITHIN THE CONTRACT LIMITS AS SET FORTH BY THE ARCHITECTURAL SOLUTION FOR THE PROJECT. THE BIDDING AND CONTRACT REQUIREMENTS, GENERAL REQUIREMENTS AND GENERAL PROVISIONS SHALL APPLY TO THIS SECTION. SYSTEMS SHALL INCLUDE ALL EQUIPMENT, APPURTENANCES, SAFETY DEVICES AND CONTROLS NECESSARY FOR THE INTENDED SERVICE.	9. VERIFY MECHANICAL EQUIPMENT SWITCH AND CONNECTION REQUIREMENTS, ITEM BY ITEM, WITH THE MECHANICAL CONTRACTOR, BEFORE WIRING EQUIPMENT. RESOLVE ALL DISCREPANCIES WITHOUT FURTHER COST TO OWNER.
12. WHERE JOB CONDITIONS REQUIRE CHANGES FROM THE CONTRACT DOCUMENTS THAT DO NOT CHANGE THE SCOPE OF INSTALLATION OR NATURE OF WORK REQUIRED, THE CONTRACTOR SHALL MAKE SUCH CHANGES WITHOUT ADDITIONAL COST TO THE OWNER. NO OTHER CHANGES MAY BE MADE WITHOUT WRITTEN PERMISSION OF THE OWNER.	10. ALL LIGHTS SHALL BE SUPPORTED AND SECURED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. THE SUPPORT SHALL BE FROM A BUILDING SUPPORT MEMBER AND NOT THE FIRE PROTECTION SYSTEM OR OTHER PIPES.
13. THESE DOCUMENTS SHALL NOT BE CONSTRUED TO CONFLICT WITH ANY LOCAL, MUNICIPAL OR STATE LAW, REGULATION OR ORDINANCE WHICH GOVERNS THE INSTALLATION OF ANY ELECTRICAL OR RELATED WORK. ITEMS SHALL NOT BE INSTALLED IN CONFLICT WITH THE NATIONAL ELECTRICAL CODE. RESOLVE ANY AND ALL CONFLICTS BEFORE INSTALLATION AT NO ADDITIONAL COST TO THE OWNER.	11. EMERGENCY AND EXIT LIGHTS SHALL BE FED DIRECTLY FROM CIRCUIT BREAKER BEFORE SWITCHING IN THE ROOM IN WHICH IT IS INSTALLED, SUCH THAT POWER FAILURE OR TRIPPED CIRCUIT WILL NOT PREVENT THE EMERGENCY LIGHT FROM COMING ON.
14. ALL EQUIPMENT SHALL BE NEW AND UNUSED. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT CONFORMANCE TO MANUFACTURER'S RECOMMENDATIONS, EXCEPT WHERE THESE SPECIFICATIONS REQUIRE A HIGHER QUALITY INSTALLATION THAN RECOMMENDED BY THE MANUFACTURER.	DEVICES
15. ALL INSTALLED SYSTEMS, DEVICES AND RELATED ITEMS SHALL BE TESTED IN PLACE ON SITE. REPLACE ANY AND ALL CONTRACTOR-SUPPLIED DEFECTIVE DEVICES, ITEMS OR SYSTEMS AT CONTRACTOR'S OWN EXPENSE BEFORE COMPLETION OF THE PROJECT.	1. CONTRACTOR TO REFER TO SPECIFICATIONS FOR WIRING DEVICE REQUIREMENTS.
16. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND ARE FOR CIRCUIT ALLOCATION ONLY. DO NOT SCALE DRAWINGS.	2. ALL "WP" RECEPTABLES SHALL BE INSTALLED WITH LONG SIDE HORIZONTAL AND SWITCHES SHALL BE MOUNTED LONG SIDE VERTICAL WITH A WEATHER SHIELDING COVER. THE COVER SHALL BE INTERMATIC WP EXTRA-DUTY DIE-CAST ALUMINUM SERIES WPT010HWKD OR EQUAL. PLASTIC COVERS ARE NOT ACCEPTABLE.
17. ELECTRICAL CONTRACTOR SHALL FURNISH A RECORD SET OF DRAWINGS WITH ANY DEVIATIONS MARKED IN RED INK.	3. FURNISH & INSTALL SURGE PROTECTION DEVICE (SPD) AT SERVICE ENTRANCE AND FOR EACH SUB PANEL, USE ASKO 400 SERIES UNLESS OTHERWISE NOTED. COORDINATE VOLTAGE AND PHASE OF SPD AS REQUIRED.
18. WHERE MANUFACTURER AND CATALOG NUMBER HAS BEEN SPECIFIED, SUBSTITUTIONS OF EQUALS WILL ONLY BE CONSIDERED IF SUBMITTED 10 DAYS PRIOR TO BID. SUBSTITUTIONS ARE NOT GUARANTEED TO BE APPROVED.	4. DRINKING FOUNTAIN RECEPTABLES, WHERE REQUIRED, SHALL BE INSTALLED ADJACENT TO THE DRINKING FOUNTAIN SO THAT IT IS ACCESSIBLE. RECEPTABLE SHALL BE GFCI RATED.
CONDUIT & CABLES	5. ALL NON-LOOKING-TYPE 125-VOLT, 15- AND 20-AMPERE RECEPTABLES IN THE AREAS SPECIFIED IN NEC 406.12(1) THROUGH (7), INCLUDING ASSEMBLY OCCUPANCIES AS SPECIFIED IN NEC 518.2, SHALL BE LISTED TAMPER-RESISTANT RECEPTABLES. THE FOLLOWING OCCUPANCIES PERTAIN TO THIS PROJECT:
1. ALL WIRE SIZES SHOWN (UNLESS NOTED OTHERWISE) ARE BASED ON COPPER CONDUCTORS. ALUMINUM IS NOT PERMITTED (UNLESS NOTED OTHERWISE).	a. DWELLING UNITS, INCLUDING ATTACHED AND DETACHED GARAGES AND ACCESSORY BUILDINGS TO DWELLING UNITS, AND COMMON AREAS OF MULTIFAMILY DWELLINGS (BUNGKERS)
2. CONDUCTOR SIZE SHALL BE #12 AWG (UNLESS NOTED OTHERWISE) AND INSULATION TYPE TO BE WHAT IS AVAILABLE AT TIME OF INSTALLATION (TW, THW, THHN, THWN, XHHN OR XHHW). ALL CONDUCTOR AMPACITIES ARE TO BE BASED UPON USE OF 75° C RATED INSULATION. VERIFY COMPATIBILITY OF CABLE WITH TERMINAL TEMPERATURE RATINGS PRIOR TO INSTALLATION.	6. ALL BRANCH CIRCUITS THAT SUPPLY 120-VOLT, SINGLE-PHASE, 15- AND 20-AMPERE OUTLETS INSTALLED IN DWELLING UNIT (BUNGKERS) KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DEN'S, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A COMBINATION TYPE ARC-FAULT CIRCUIT INTERRUPTER INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT. PER NEC 210.12(A). THE CONTRACTOR MAY USE COMBINATION AFCI AND GFCI RECEPTABLES WHERE NECESSARY.
3. ELECTRICAL CONTRACTOR IS PERMITTED TO USE THE FOLLOWING METHODS AS AN ACCEPTABLE MEANS OF WIRING:	CONTROLS
a. CONDUIT AND CONDUCTORS	1. ALL LIGHTING CONTROLS SHALL COMPLY WITH FBC ENERGY CONSERVATION, SECTION C405.2.
b. ARMORED CABLE	2. WHERE AUTOMATIC LIGHTING CONTROLS ARE PROVIDED, PER FBC ENERGY CONSERVATION, SECTION C408.3, ELECTRICAL CONTRACTOR SHALL PROVIDE AN INDEPENDENT (NOT EMPLOYED BY THE SUBCONTRACTOR) FIRM THAT SPECIALIZES IN THE FUNCTIONAL TESTING OF LIGHTING CONTROLS SYSTEMS. THE PURPOSE OF THIS INDEPENDENT TESTING FIRM SHALL BE TO VERIFY THAT THE LIGHTING SYSTEM CONTROLS FUNCTION AS DESIGNED. THE TESTING SHALL COMPLY WITH THE FBC ENERGY CONSERVATION, SECTION C408.3. THE TESTING SHALL BE PERFORMED ON THE FOLLOWING:
c. METAL-CLAD CABLE	a. OCCUPANT SENSOR CONTROLS
4. ALL ELECTRICAL CONDUITS NOT CONTAINING SPECIFIED CONDUCTORS SHALL HAVE A PULL WIRE INSTALLED	b. TIME-SWITCH CONTROLS
5. LOW VOLTAGE SYSTEMS AND CABLE UNDER SEPARATE PERMIT.	c. DAYLIGHT RESPONSIVE CONTROLS
	THESE TESTS SHALL CONFIRM PROPER PLACEMENT, SENSITIVITY, PROGRAMMING, ETC. AS SPECIFIED IN SECTION C408.3. DOCUMENTS CERTIFYING THAT THE INSTALLED LIGHTING CONTROLS MEET THE DOCUMENTED PERFORMANCE CRITERIA OF SECTION C408.3 ARE TO BE PROVIDED TO THE BUILDING OWNER WITHIN 90 DAYS FROM THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

SERVICE LOAD CALCULATIONS					
North Collier Fire Station #49					
ELECTRICAL LOADS					
DESCRIPTION	LOAD KW	% DEMAND FACTOR	DERATED KW	LOAD RATING	AMPS
GENERAL					
LIGHTING (Office Area 15,872 sq-ft x 0.56 W/sq-ft)	8.9	125	11.1 kW	G	30.84
OUTLETS (1ST 10KW)	10.0	100	10.0 kW	G	27.76
OUTLETS REMAINDER	10.0	50	5.0 kW	G	13.88
EQUIPMENT					
1-TRUCK BAY EXHAUST SYSTEM (AVC1-6)	8.1	100	8.1 kW	NC	22.52
2-UNICUS AIR COMPRESSOR	15.0	100	15.0 kW	NC	41.64
3-SHOP COMPRESSOR	3.7	100	3.7 kW	NC	10.27
4-GEAR DRYER	1.0	100	1.0 kW	NC	2.78
5-GEAR SOFT MOUNT EXTRACTOR	1.2	100	1.2 kW	NC	3.33
6-GEAR WASHER	8.3	100	8.3 kW	NC	23.09
7-ICE MACHINE	1.4	100	1.4 kW	C	3.96
8-KITCHEN ICE MAKER	0.5	100	0.5 kW	C	1.37
9-SAUNA	10.0	100	10.0 kW	NC	27.78
10-COLD PLUNGE	1.5	100	1.5 kW	NC	4.16
11-CLOTHES WASHER (3 @ 1.5KW)	4.5	100	4.5 kW	NC	12.49
12-CLOTHES DRYER (3 @ 5kW)	15.0	100	15.0 kW	NC	41.64
13-REFRIGERATOR (4 @ 0.78kW)	3.1	100	3.1 kW	C	8.66
14-RANGE & GRIDDLE (GAS)	0.5	100	0.5 kW	NC	1.33
15-DISHWASHER (2 @ 0.27kW)	0.5	100	0.5 kW	NC	1.50
16-MICROWAVE (3 @ 1.2kW)	3.6	100	3.6 kW	NC	9.99
17-KITCHEN HOOD	1.5	100	1.5 kW	NC	4.16
18-U.C. REFRIGERATOR	1.5	100	1.5 kW	C	4.16
ELECTRIC WATER COOLER	0.5	100	0.5 kW	C	1.33
BAF-1 (2 @ 1.1kW)	2.2	100	2.2 kW	C	6.12
GAS TANKLESS WATER HEATERS (4 @ 1.8kW)	7.2	100	7.2 kW	NC	19.99
FUEL POD PUMPS	3.0	100	3.0 kW	NC	8.33
MOTORS					
AHU-1	8.3	100	8.3 kW	C	22.93
AHU-2	8.3	100	8.3 kW	C	22.93
AHU-3	7.4	100	7.4 kW	C	20.42
AHU-4	8.3	100	8.3 kW	C	22.93
AHU-5	7.4	100	7.4 kW	C	20.42
AHU-6	8.3	100	8.3 kW	C	22.93
AHU-7	7.4	100	7.4 kW	C	20.42
AHU-8	8.3	100	8.3 kW	C	22.93
AHU-9	8.3	100	8.3 kW	C	22.93
AHU-10	7.4	100	7.4 kW	C	20.42
AHU-11	7.4	100	7.4 kW	C	20.42
AHU-12	7.4	100	7.4 kW	C	20.42
CU-1	4.8	0	0.0 kW	C	0.00
CU-2	5.8	0	0.0 kW	C	0.00
CU-3	3.1	0	0.0 kW	C	0.00
CU-4	5.8	0	0.0 kW	C	0.00
CU-5	3.1	0	0.0 kW	C	0.00
CU-6	5.8	0	0.0 kW	C	0.00
CU-7	3.1	0	0.0 kW	C	0.00
CU-8	4.4	0	0.0 kW	C	0.00
CU-9	5.8	0	0.0 kW	C	0.00
CU-10	3.7	0	0.0 kW	C	0.00
CU-11	3.1	0	0.0 kW	C	0.00
CU-12	3.7	0	0.0 kW	C	0.00
KEF-1	1.1	100	1.1 kW	C	2.96
EF-5	1.7	100	1.7 kW	C	4.62
EF-4	1.7	100	1.7 kW	NC	4.62
LIFT STATION	5.0	100	5.0 kW	NC	13.88
TOTAL NEW LOAD 278.3 kW					
TOTAL GENERAL LOAD 26.1 AMPS 72.5					
TOTAL CONTINUOUS LOAD X125 PERCENT 132.1 366.6					
TOTAL NON CONTINUOUS LOAD 91.3 253.5					
REQUIRED FEEDER FOR LOAD AT 120/208 VOLT 3-PHASE SERVICE ENTRANCE 249.5 692.5					
SERVICE ENTRANCE SIZE REQUIRED 249.5 692.5					
REQUIRED SERVICE SIZE 120/208 VOLT, 3 PHASE, 4 WIRE, 800 AMPS					

ELECTRICAL SYMBOL LEGEND	
	SURFACE, RECESSED, OR WALL MOUNTED LIGHTING FIXTURE CONNECTED TO NORMAL BRANCH CIRCUIT. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS.
	CEILING MOUNTED EXIT SIGN. SHADED AREA INDICATES FACE WITH DIRECTIONAL ARROWS AS SHOWN. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS. CONNECT UNSWITCHED TO INDICATED BRANCH CIRCUIT.
	WALL OR CEILING MOUNTED EMERGENCY BATTERY UNIT.
	SINGLE-POLE TOGGLE SWITCH IN FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX. MOUNT 46-INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED OR REQUIRED BY SITE CONDITIONS.
	THREE-WAY TOGGLE SWITCH IN FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX. MOUNT 46" ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED OR REQUIRED BY SITE CONDITIONS.
	DIMMER CONTROL SWITCH MOUNTED IN FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX. MOUNT 46" ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED OR REQUIRED BY SITE CONDITIONS. MATCH DIMMER ACCORDING TO LOAD TYPE.
	OCCUPANCY SENSOR FOR AUTOMATED LIGHTING CONTROL WITH MANUAL SWITCH, WALL MOUNTED IN FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX. MOUNT 46" ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED OR REQUIRED BY SITE CONDITIONS.
	OCCUPANCY SENSOR FOR AUTOMATED LIGHTING CONTROL. CEILING MOUNTED. (A MANUAL CONTROL SWITCH IS ALSO REQUIRED WITHIN THE SPACE, PER FBC C405.2.1.1.)
	TOILET EXHAUST FAN. (SEE MECHANICAL DRAWINGS.)
	TELEPHONE & DATA OUTLET 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED OR REQUIRED BY SITE CONDITIONS. TERMINATE CONDUIT ABOVE ACCESSIBLE CEILING & INSTALL PULL STRING. MOUNT FLUSH IN FINISHED SPACES OR SURFACE IN UNFINISHED SPACES.
	NON-FUSED SAFETY SWITCH, SIZE AND NUMBER OF POLES AS INDICATED BY SUBSCRIPTS. SUBSCRIPT WP INDICATES IN NEMA 3R ENCLOSURE.
	JUNCTION BOX MOUNTED ABOVE CEILING OR FLUSH IN FINISHED CEILING UNLESS INDICATED OTHERWISE. SIZE PER NEC.
	JUNCTION BOX WITH COVER FLUSH IN WALL OR FINISHED FLOOR. SIZE PER NEC.
	SPECIAL EQUIPMENT CONNECTION. SUBSCRIPT INDICATES DESIGNATION.
	125 VOLT, 3 WIRE DUPLEX RECEPTACLE IN FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX. MOUNT 18-INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED. SUBSCRIPT "C" INDICATES CEILING MOUNTED.
	125 VOLT, 3 WIRE GROUND FAULT TYPE DUPLEX RECEPTACLE. MOUNTING AS INDICATED. SUBSCRIPT "C" INDICATES CEILING MOUNTED, "WP" INDICATES FURNISH WITH WEATHERPROOF COVER.
	125 VOLT, 3 WIRE SIMPLEX TYPE RECEPTACLE IN FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX. MOUNT 18-INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED. SUBSCRIPT "C" INDICATES CEILING MOUNTED.
	125 VOLT, 3 WIRE DUPLEX RECEPTACLE IN FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX. MOUNT 46" ABOVE FINISHED FLOOR, 4" ABOVE DESK/COUNTERTOP, OR 2" ABOVE BACKSPASH UNLESS OTHERWISE INDICATED. SUBSCRIPT "WP" INDICATES FURNISH WITH WEATHERPROOF COVER.
	125 VOLT, 3 WIRE DUPLEX RECEPTACLE WITH ONE SIDE SWITCHED. INSTALL IN FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX, 18" ABOVE FINISHED UNLESS OTHERWISE INDICATED. SUBSCRIPT "WP" INDICATES FURNISH WITH WEATHERPROOF COVER.
	TWO 125 VOLT, 3 WIRE RECEPTABLES IN FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) 2-GANG OUTLET BOX. MOUNT 18-INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED. SUBSCRIPT "WP" INDICATES FURNISH WITH WEATHERPROOF COVER.
	DUPLEX RECEPTACLE IN FLUSH, FLOOR BOX. "FIT" SUBSCRIPT DENOTES FIRE RATED POKE-THROUGH ASSEMBLY. REFER TO DRAWINGS AND/OR SPECIFICATIONS FOR ACCESSORIES AND FURTHER DETAILS.
	EMERGENCY SHUT OFF SWITCH



GROUNDING DETAIL NOTES:	
1.	ELECTRICAL CONTRACTOR SHALL FIELD VERIFY THAT PROPER GROUNDING IS ACHIEVED USING METHODS ALLOWED PER NEC ARTICLE 250.
2.	FURNISH AND INSTALL (1) 1" CONDUIT WITH #3/0 AWG COPPER GROUNDING ELECTRODE CONDUCTOR, PER NEC ARTICLE 250.66 (A).
3.	FURNISH AND INSTALL A MINIMUM OF (2) 3/4" x 10'-0" COPPERCLAD DRIVEN GROUND RODS LOCATED NOT LESS THAN 10'-0" APART FROM EACH OTHER.
4.	REBAR MUST BE ENCASED IN MIN. OF 2" OF CONCRETE AND CONCRETE MUST BE IN CONTACT WITH THE EARTH. USE EXOTHERMIC WELD FOR GEC TERMINATION TO REBAR.
5.	PROVIDE INTERSYSTEM BONDING TERMINATION PER NEC ARTICLE 250.94.

FAULT CURRENT NOTES:	
1.	CONTRACTOR SHALL VERIFY AVAILABLE FAULT CURRENT AT SERVICE ENTRANCE WITH THE UTILITY CO. AND PROVIDE "AFC" RATING AS REQUIRED.
2.	THE AVAILABLE FAULT AT ALL THE EQUIPMENT, FOR THE PURPOSES OF THIS INSTALLATION, IS THE SAME & THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL ELECTRICAL EQUIPMENT WITH A MINIMUM RATING OF 65KAC.
3.	PERMANENT PLAQUES SHALL BE INSTALLED ON ALL SERVICE EQUIPMENT LEGIBLY MARKING THE MAXIMUM AVAILABLE FAULT CURRENT AND DATE OF CALCULATION (PER NEC 110.24(A)). THE CALCULATION SHALL BE DOCUMENTED AND MADE AVAILABLE TO THOSE AUTHORIZED TO DESIGN, INSTALL, INSPECT, MAINTAIN, OR OPERATE THE SYSTEM.

PROJECT NAME:
North Collier Fire Control & Rescue Station #49
 Coochatchee Road
 Naples, FL 34110

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 239-948-5841 / 239-948-5990 FAX
 www.staffordengineeringinc.com
 Steven R. Stafford - PE - Florida License # 34664
 Certificate of Authorization No. 26464

#	REVISION / DATE

ISSUED FOR BID
 SEPTEMBER 30, 2025
 ISSUED FOR PERMIT
 AUGUST 11, 2025

STEVEN R. STAFFORD
 LICENSE
 No. 34664
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

DATE: 08/11/25
 DRAWN BY: R.A.M.
 CHECKED BY: S.R.S.
 JOB NUMBER: 24080

E0.1

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FAN SCHEDULE													
TAG	MANUFACTURER	MODEL	DIAMETER (FT)	# OF AIRFOILS	WEIGHT (LBS)	SOUND LEVEL (DBA)	MOTOR (HP)	RPM	CONTROL	VOLT/PH	FULL LOAD	CIRCUIT SIZE (AMPS)	NOTES
BAF-1	BIG ASS FANS	POWERFOIL D	12	6	227	---	1.5	145	BAFCON (SINGLE OR MULTI-FAN)	200-277V/1	5.3A	10	1-13
BAF-2	BIG ASS FANS	i6	6	6	35.7	---	EC	140	BLUETOOTH REMOTE	110-277V/1	41.6W	N/A	1,3,12-17

NOTES:

- VERIFY EXTENSION TUBE LENGTH AND MOUNTING METHODS WITH MANUFACTURER PRIOR TO ORDERING
- FAN(S) TO BE TIED INTO FIRE SUPPRESSION SYSTEM PER NFPA 13 REQUIREMENTS
- FAN(S) TO BE INSTALLED TO MEET ALL BAF FAN CLEARANCE GUIDELINES
- INDIVIDUAL OR GROUP CONTROL OF UP TO (8) FANS FROM SINGLE CONTROLLER, INTEGRATED BACNET TIE-IN WHILE MAINTAINING LOCAL CONTROL VIA BAFCON PLATFORM
- (8) REDUNDANT SAFETY FEATURES INCLUDING AFRS (AIRFOIL RESTRAINT SYSTEM) SAFETY FEATURE - COMPLETE REDUNDANCY FROM TIP OF AIRFOIL TO CENTER OF HUB
- SYSTEM DESIGN AND PERFORMANCE ANALYSIS TO BE DEPENDENT ON CFD MODELING, CONSISTENT WITH METHODS IN ASHRAE STANDARD 55, AND TAKING INTO ACCOUNT MAJOR OBSTRUCTIONS TO AIRFLOW AT GROUND LEVEL
- FACTORY WARRANTY EQUAL TO 10 YEARS MECHANICAL, 5 YEARS ELECTRICAL, 1 YEAR LABOR. SEE THE COMPLETE WARRANTY FOR MORE DETAILS.
- PERFORMANCE RATINGS (AIRFLOW AND POWER) SHALL CONFORM TO AMCA STANDARD 211. FANS MUST BE TESTED IN ACCORDANCE WITH ANSI/AMCA STANDARD 230-15 IN AN AMCA ACCREDITED LABORATORY. FANS SHALL BE CERTIFIED TO BEAR THE AMCA SEAL FOR CIRCULATING FAN PERFORMANCE: PERFORMANCE RATINGS (AIRFLOW AND POWER) SHALL CONFORM TO AMCA STANDARD 211. FANS MUST BE TESTED IN ACCORDANCE WITH ANSI/AMCA STANDARD 230-15 IN AN AMCA ACCREDITED LABORATORY. FANS SHALL BE CERTIFIED TO BEAR THE AMCA SEAL FOR CIRCULATING FAN PERFORMANCE.
https://www.amca.org/certified-listed/products.html?c=2380&t=24#large-diameter-ceiling-fan
- IP66 RATED FAN MOTOR; IP66 RATED VFD
- FAN SHALL BE CAPABLE OF CONTINUOUS OPERATION IN -4F - 131F AMBIENT CONDITIONS
- FAN GEARBOX SHALL BE EQUIPPED WITH A HOLLOW, STATIC SHAFT THROUGH WHICH ELECTRICAL WIRING CAN BE ROUTED BELOW THE FAN AND TO WHICH AN LED LIGHT OR OCCUPANCY SENSOR CAN BE ATTACHED.
- FAN ASSEMBLY SYSTEM INTERTEK/ETL-CERTIFIED AND BUILD PURSUANT TO CSA C22.2 NO. 113, UL 507, CE-COMPLIANT.
- AIRCRAFT-GRADE ALUMINUM AIRFOILS SUITABLE FOR INDOOR AND COVERED OUTDOOR (INLAND) SPACES
- SAFETY CABLE CONSTRUCTED OF AIRCRAFT STAINLESS STEEL PROVIDES ADDITIONAL MEANS OF SECURING FAN TO THE BUILDING STRUCTURE.
- INTEGRATED SENSING TECHNOLOGY INCLUDES TEMP, HUMIDITY, AND MOTION SENSORS; WIFI CAPABILITY PERMITS OVER-THE-AIR FIRMWARE UPDATES
- FACTORY WARRANTY EQUAL TO 5 YEARS RESIDENTIAL, 3 YEARS NON-RESIDENTIAL. SEE THE COMPLETE WARRANTY FOR MORE DETAILS.
- FAN SHALL BE CAPABLE OF CONTINUOUS OPERATING IN 32F - 122F AMBIENT CONDITIONS

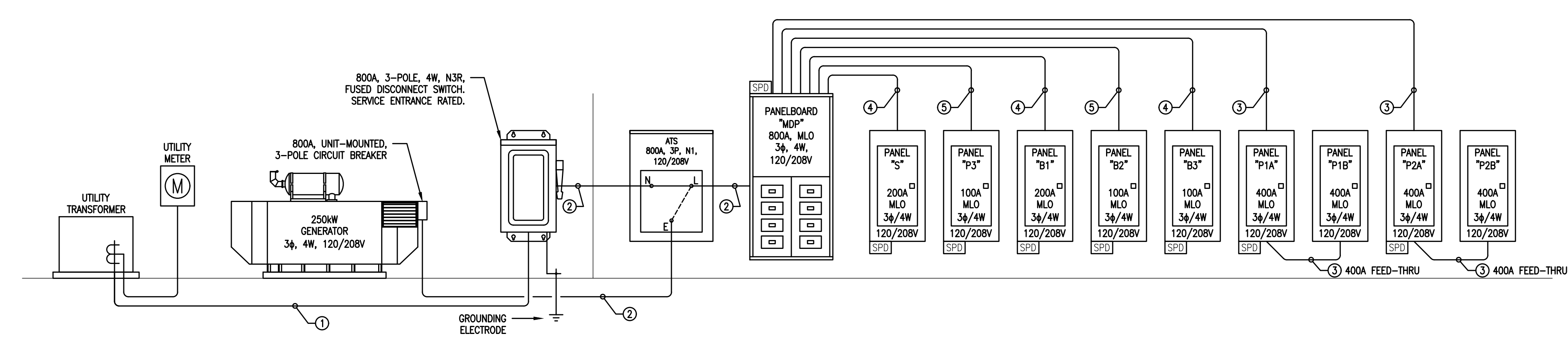
EQUIPMENT SCHEDULE												
TYPE MARK	DESCRIPTION	MANUFACTURER	MODEL	VOLTS	PHASE	MCCP	AMPS	KW	HP	NEMA	GAS	COUNT
1	APPARATUS BAY TRUCK EXHAUST SYSTEM	(SEE MECHANICAL DRAWINGS)		208	1							
2	UNICUS AIR COMPRESSOR	UNICUS 4	UN 4/25H-E3	208	3			15	20			1
3	SHOP COMPRESSOR	CALIFORNIA AIR TOOLS	CALAIR 60037BD	208-230	1	20			3.7	6-20P		1
4	GEAR DRYER	RAM AIR GEAR DRYER	6-MU	120	1	15			1			1
5	GEAR EXTRACTOR	CIRCUL-AIR-CORP	CACSM-22-PRO	120	1		10					1
6	GEAR WASHER	RESCUE INTELLITECH	29275A-RESCUEINTELL	208-240	1		40					1
7	ICE MACHINE	MANITOWOC	IDT0450A/D570	115	1	20	11.9					1
8	KITCHEN ICE MAKER	MANITOWOC	UCP0050A	115	1	15	4.1		1/6	5-15P		1
9	SAUNA	FINLANDIA	K10G-U3 / FX503 / F-2I	208	3	40	27.3	10				1
10	COLD PLUNGE	POLAR MONKEYS	CYBER BARREL COMMERCIAL	115	1	20			1	5-15P		1
11	CLOTHES WASHER	WHIRLPOOL	WFWS720RW	120	1	20				5-15P		3
12	CLOTHES DRYER	WHIRLPOOL	WEDS720RW	240	1	30						3
13	REFRIGERATOR	WHIRLPOOL	WRTS11S2DM	115	1		6.5			5-15P		4
14	GAS RANGE & GRIDDLE	VULCAN	60SC-4B36GN	115	1		4			5-15P	X	1
15	DISHWASHER	WHIRLPOOL	WDTA50SAKZ	120	1	20		0.27		5-15P		2
16	MICROWAVE	WHIRLPOOL	WMC50522HS	120	1			1.2		5-15P		3
17	KITCHEN HOOD	ECON-AIR	4224 EX-2	120	1	20					X	1
18	UNDER COUNTER REFRIGERATOR			120	1							1

- GENERATOR NOTES:**
- ELECTRICAL CONTRACTOR SHALL FURNISH & INSTALL A STANDBY ENGINE/GENERATOR, ACCORDING TO THE REQUIREMENTS OF THE CURRENT NATIONAL ELECTRICAL CODE.
 - THE UNIT SHALL BE COMPLETE WITH A NATURAL GAS FUEL SYSTEM.
 - FURNISH AND INSTALL STATIC REGULATOR, WATER HEATER OIL SUMP HEATER, BATTERY CHARGER AND ALL NECESSARY CONTROLS AND WIRING.
 - THE GENERATOR AND PRIME MOVER SHALL BE SUITABLE FOR 60HZ, 120/208 VOLT OPERATION AND SHALL HAVE A 250 KW MINIMUM STANDBY RATING.
 - THE GENERATOR IS DESIGNED TO OPERATE THE FULL SERVICE LOAD OF THE SPACE DURING THE EVENT OF POWER LOSS. SEE SERVICE LOAD CALCULATIONS.
 - INCLUDE SUITABLE STARTUP SUPPORT FROM AN AUTHORIZED MANUFACTURER'S REPRESENTATIVE AND A MINIMUM OF 4 HOURS TRAINING TO THE OWNER'S DESIGNATED MAINTENANCE STAFF.
 - SUITABLE MANUFACTURERS SHALL BE GENERAC, KOHLER, CUMMINS, OR CATERPILLAR, NO OTHER MANUFACTURER IS PERMITTED.
 - THE UNIT SHALL BE COMPLETE WITH A SOUND ATTENUATED WEATHER TIGHT ENCLOSURE WITH LOCKS ON DOORS
 - FURNISH 800 AMPERE, 120/208 VOLTS, 3-POLE AUTOMATIC TRANSFER SWITCH WITH ALL REQUIRED SENSING EQUIPMENT AND ENGINE/GENERATOR EXERCISER AND BE SUITABLE FOR OPERATION WITH THE ENGINE/GENERATOR IN THE PARAGRAPHS ABOVE.
 - EPSS CLASSIFICATION: STANDBY GENERATOR IS PROVIDED AS A CONVENIENCE FOR THE OWNER AND DOES NOT REQUIRE EPSS CLASSIFICATION.
 - PROVIDE EMERGENCY SHUT OFF LOCATION SIGNAGE AS REQUIRED BY NFPA 110 5.6.5.6.1
 - PROVIDE ALARMS IN ACCORDANCE WITH NFPA 110 5.6.6.1 AND 5.6.6.2
 - PROVIDE SIGNAGE AT THE SERVICE ENTRANCE INDICATING THE TYPE AND LOCATION OF THE ON-SITE OPTIONAL STANDBY GENERATOR, PER NEC 702.7(A).
 - GENERATOR SHALL BE UNDER SEPARATE PERMIT.

LIGHT FIXTURE SCHEDULE							
TYPE:	DESCRIPTION:	MANUFACTURER:	CATALOG NUMBER:	VOLT	LAMPS:	MOUNTING:	NOTES
A	4" ROUND RECESSED LED LIGHT FIXTURE	DMF	M4NCRS / DRD2M12927GAO / M4TRSWH	UNV	14.3W LED	RECESSED	-
B	4" ROUND RECESSED LED LIGHT FIXTURE	DMF	M4NCRS / DRD2M12927GAO / M4TRSCW	UNV	14.3W LED	RECESSED	-
C	48" STRIP LED LIGHT FIXTURE	WILLIAMS	76R-4-L52/835-DIM-UNV	UNV	35.8W LED	SURFACE	-
D	LOW BAY LED LIGHT FIXTURE	VISIONAIRE	BLB-2-SW-64LC-5-4K-UNV-CBM-YH5	UNV	109W LED	SURFACE	4
EB	EMERGENCY BATTERY UNIT	BEGHELLI	EPE	UNV	3W LED	SURFACE	-
EBR	EMERGENCY BATTERY UNIT, RECESSED	BEGHELLI	PL-R-SE-UNV	UNV	10W LED	RECESSED	-
EX	EMERGENCY EXIT LIGHT, GREEN LETTERS	BEGHELLI	EPXSA	UNV	3W LED	SURFACE	-
EXC	COMBINATION EXIT SIGN & EMERGENCY BATTERY UNIT, GREEN LETTERS	BEGHELLI	EPC	UNV	1.2W LED	SURFACE	-
F	DECORATIVE PENDANT LED LIGHT FIXTURE	BY OWNER	SELECTED BY OWNER, INSTALLED BY CONTRACTOR	UNV	20W LED	PENDANT	-
G	EXTERIOR LED WALL SCONCE	LITON	WD261R-19B-T35-C80	UNV	18W LED	WALL	-
H	LED TAPE LIGHT FIXTURE	CONTECH	TLT24V235K12R / TLP24WHW96-ENC	120	3.8W/FT LED	SURFACE	-

NOTES:

- ANY PROPOSED SUBSTITUTION TO THE ABOVE LIGHT FIXTURE SCHEDULE MUST BE OF EQUAL OR GREATER QUALITY WITH REGARD TO PHYSICAL APPEARANCE, CONSTRUCTION, GRADE, DIMENSIONS, FINISHES, LENSING, ACCESSORIES AND PHOTOMETRY. ANY SUBSTITUTIONS TO THE ABOVE MUST HAVE ALL THE REQUIRED INFORMATION CONFIRMING THE ABOVE INCLUDING WITH THE SHOP DRAWING SUBMITTAL IN A COMPARISON FORMAT FOR PROPER REVIEW BY THE ENGINEER. ANY PROPOSED "EQUAL" SUBMITTAL THAT DOES NOT MEET THIS CRITERIA WILL BE REJECTED.
- VERIFY CEILING TYPE AND OPERATING VOLTAGE BEFORE ORDERING LIGHT FIXTURES. COORDINATE COMPATIBILITY OF FIXTURES WITH BUILDING CONSTRUCTION FOR AVAILABLE SPACE, CLEARANCE, ACCESSIBILITY, ETC.
- COORDINATE THE EXACT LOCATION OF SUSPENDED AND/OR SURFACE MOUNTED LIGHT FIXTURES IN MECHANICAL & STORAGE AREAS WITH OTHER TRADES PRIOR TO ROUGH-IN AND INSTALLATION.
- LOW BAY FIXTURES SHALL BE MOUNTED AT 18'-0" AFF.



ELECTRICAL RISER DIAGRAM

SCALE: NOT TO SCALE

RISER NOTES:

- PROVIDE SIGNAGE FOR ALL SWITCHBOARDS, SWITCHGEAR, AND PANELBOARDS INDICATING EACH DEVICE OR EQUIPMENT WHERE THE POWER ORIGINATES, INCLUDING CIRCUIT BREAKER AND/OR METER DESIGNATION WHERE NECESSARY. PER NEC 408.4(B).

FEEDER SCHEDULE				
DESIGNATION	NUMBER OF SETS	CONDUIT SIZE	WIRE SIZE	GROUND SIZE
①	2	4"	(4) 600KCMIL	-
②	2	4"	(4) 600KCMIL	(1) #1/0 AWG
③	1	3 1/2"	(4) 600KCMIL	(1) #3 AWG
④	1	2"	(4) #3/0 AWG	(1) #6 AWG
⑤	1	1-1/4"	(4) #3 AWG	(1) #8 AWG

NOTE: ALL CONDUCTORS SHALL BE COPPER

PROJECT NAME:
North Collier Fire Control & Rescue Station #49
Cocohatchee Road
Naples, FL 34110

STAFFORD ENGINEERING, INC.
3625 Bonita Beach Rd., Suite 111, Bonita Springs, FL 34134
239-948-5841 / 239-948-5990 FAX
www.staffordengineeringinc.com
Steven R. Stafford - PE - Florida License # 34664
Certificate of Authorization No. 26464

ISSUED FOR BID	SEPTEMBER 30, 2025
ISSUED FOR PERMIT	AUGUST 11, 2025
#	REVISION / DATE

DATE: 08/11/25
DRAWN BY: R.A.M.
CHECKED BY: S.R.S.
JOB NUMBER: 24080

Professional Engineer Seal: STEVEN R. STAFFORD, LICENSE No. 34664, STATE OF FLORIDA, PROFESSIONAL ENGINEER

E0.2

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PANEL P1A														
NEMA RATING: N1			AMPERE RATING: 400A			VOLTAGE (L-L): 208			PHASE: 3					
SERVED FROM: MDP			MAIN TYPE: MAIN LUGS ONLY			VOLTAGE (L-N): 120			WIRE: 4					
MOUNTING: SURFACE			LUG OPTIONS: FEED THROUGH LUGS			MIN. KAIC: 65								
REMARKS:														
CKT NO.	CIRCUIT BRKR TRIP	LOAD DESCRIPTION	C O D E	LOAD KVA	BRANCH CIRCUIT PHASE/NEUT. S NO. SIZE	CIRCUIT GND MIN CND SIZE	P H A S E	BRANCH CIRCUIT PHASE/NEUT. S NO. SIZE	CIRCUIT GND MIN CND SIZE	LOAD KVA	C O D E	LOAD DESCRIPTION	CIRCUIT BRKR TRIP	CKT NO.
1	40 3	AHU-4	H	4.13	1 3 8 10	3/4	A	1 3 8 10	3/4	2.91	C	CU-4	50 2	2
3				4.13			B			2.91	C			4
5	40 3	AHU-5	H	3.68	1 3 8 10	3/4	C	1 3 10 10	1/2	1.56	C	CU-5	25 2	6
7				3.68			A			1.56	C			8
9	40 3	AHU-6	H	4.13	1 3 8 10	3/4	B	1 3 8 10	3/4	2.91	C	CU-6	50 2	10
11				4.13			C			2.91	C			12
13				3.33			A	1 2 12 12	1/2	1.50	M	13-REFRIGERATOR	20 1	14
15	40 3	9-SAUNA	N	3.33	1 4 8 10	3/4	B	1 2 12 12	1/2	1.50	M	13-REFRIGERATOR	20 1	16
17				3.33			C	1 2 12 12	1/2	1.50	M	13-REFRIGERATOR	20 1	18
19	30 2	12-CLOTHES DRYER	N	2.50	1 3 10 10	1/2	A	1 2 12 12	1/2	1.50	M	13-REFRIGERATOR	20 1	20
21				2.50			B	1 2 12 12	1/2	1.50	M	8-U.C. ICE MAKER	20 1	22
23	20 1	11-CLOTHES WASHER, GFI	N	1.50	1 2 12 12	1/2	C	1 2 12 12	1/2	1.20	N	15-DISHWASHER	20 1	24
25	20 1	ELEC WATER COOLER, GFI	M	1.50	1 2 12 12	1/2	A	1 2 12 12	1/2	1.20	N	15-DISHWASHER	20 1	26
27	20 1	10-COLD PLUNGE, GFI	N	1.50	1 2 12 12	1/2	B	1 2 12 12	1/2	1.10	N	16-MICROWAVE	20 1	28
29	20 1	GW, GFI	N	1.80	1 2 12 12	1/2	C	1 2 12 12	1/2	0.18	R	REC. ROOF GFI	20 1	30
31	20 1	GW, GFI	N	1.80	1 2 12 12	1/2	A	1 2 12 12	1/2	1.50	N	KEF-1	20 1	32
33	20 1	GW, GFI	N	1.80	1 2 12 12	1/2	B	1 2 12 12	1/2	1.50	N	HOOD CONTROLLER	20 1	34
35	20 1	RCF-1, GFI	N	1.00	1 2 12 12	1/2	C	1 2 12 12	1/2	0.50	N	14-OVEN/RANGE (GAS)	20 1	36
37							A					SHUNT TRIP		38
39	40 3	SPD	X	---	1 4 8 10	3/4	B	1 2 12 12	1/2	1.10	N	16-MICROWAVE	20 1	40
41							C					SPARE	20 1	42

NEC ART. 220 LOAD CATEGORY	TOTAL CONNECTED LOAD (KVA)	X	NEC ART. 220 FEEDER SIZING FACTOR	=	NEC ART. 220 FEEDER SIZING LOAD (KVA)		
C - SPACE COOLING*	14.76		0.00		0.00		
H - SPACE HEATING*	23.88		1.00		23.88	PANEL P1A LOAD	194.1 A
M - MISC. CONTINUOUS	9.00		1.25		11.25	PANEL P1B LOAD	56.8 A
N - MISC. NONCONTINUOUS	32.49		1.00		32.49		
R - RECEPTACLES	0.18		1.00		0.18		
LARGEST MOTOR**	8.26		0.25		2.06	+ RESERVED FUTURE CAPACITY:	0.0 A
	80.31				69.86		
						TOTAL UNBALANCED 3-PHASE	250.9 A
						NEC ART. 220 FEEDER SIZING LOAD:	250.9 A

* NON-COINCIDENTAL LOADS. LARGEST LOAD INCLUDED IN TOTAL. ** LARGEST MOTOR LOAD INCLUDED IN CATEGORIZED LOADS.

PANEL P1B														
NEMA RATING: N1			AMPERE RATING: 400A			VOLTAGE (L-L): 208			PHASE: 3					
SERVED FROM: P1A			MAIN TYPE: MAIN LUGS ONLY			VOLTAGE (L-N): 120			WIRE: 4					
MOUNTING: SURFACE			LUG OPTIONS:			MIN. KAIC: 65								
REMARKS:														
1	20 1	REC. EXERCISE RM	R	0.72	1 2 12 12	1/2	A	1 2 12 12	1/2	0.18	R	REC. JANITORIAL	20 1	2
3	20 1	REC. EXERCISE RM	R	0.72	1 2 12 12	1/2	B	1 2 12 12	1/2	0.36	R	REC. RR RM	20 1	4
5	20 1	REC. EXERCISE RM	R	0.18	1 2 12 12	1/2	C	1 2 12 12	1/2	0.90	R	REC. DAY ROOM	20 1	6
7	20 1	REC. EXERCISE RM	R	0.18	1 2 12 12	1/2	A	1 2 12 12	1/2	0.36	R	REC. TRANSITION RM	20 1	8
9	20 1	REC. EXERCISE RM	R	0.18	1 2 12 12	1/2	B	1 2 12 12	1/2	0.18	R	REC. TREATMENT RM	20 1	10
11	20 1	LIGHTS, DAY ROOM/EM	L	0.65	1 2 12 12	1/2	C	1 2 12 12	1/2	0.18	R	REC. COVERED PATIO	20 1	12
13	20 1	LIGHTS, KITCHEN/EM	L	0.36	1 2 12 12	1/2	A	1 2 12 12	1/2	0.72	R	REC. REFG COUNTERS	20 1	14
15	20 1	LIGHTS, TRANSITION/EM	L	0.45	1 2 12 12	1/2	B	1 2 12 12	1/2	0.72	R	REC. KITCHEN ISLAND	20 1	16
17	40 2	AHU-10	H	3.68	1 3 8 10	3/4	C	1 2 12 12	1/2	0.54	R	REC. KITCHEN COUNTERS	20 1	18
19				3.68			A	1 2 12 12	1/2	0.54	R	REC. KITCHEN COUNTERS	20 1	20
21	25 2	CU-10	C	2.39	1 3 10 10	1/2	B	1 2 12 12	1/2	0.72	R	REC. KITCHEN COUNTERS	20 1	22
23				2.39			C	1 2 12 12	1/2	0.54	R	REC. KITCHEN PENINSULA	20 1	24
25	20 1	BUNK SELECTORS	N	1.50	1 2 12 12	1/2	A					SPARE	20 1	26
27							B					SPACE ONLY		28
29							C					SPACE ONLY		30
31							A					SPACE ONLY		32
33							B					SPACE ONLY		34
35							C					SPACE ONLY		36
37							A					SPACE ONLY		38
39	40 3	SPD	X	---	1 4 8 10	3/4	B					SPACE ONLY		40
41							C					SPACE ONLY		42

NEC ART. 220 LOAD CATEGORY	TOTAL CONNECTED LOAD (KVA)	X	NEC ART. 220 FEEDER SIZING FACTOR	=	NEC ART. 220 FEEDER SIZING LOAD (KVA)		
C - SPACE COOLING*	4.78		0.00		0.00		
H - SPACE HEATING*	7.36		1.00		7.36	PANEL P1A LOAD	194.1 A
L - GENERAL LIGHTING	1.46		1.25		1.83	PANEL P1B LOAD	56.8 A
M - MISC. CONTINUOUS	1.50		1.00		1.50		
R - RECEPTACLES	7.92		1.00		7.92		
LARGEST MOTOR**	7.36		0.25		1.84	+ RESERVED FUTURE CAPACITY:	0.0 A
	23.02				20.45		
						TOTAL UNBALANCED 3-PHASE	250.9 A
						NEC ART. 220 FEEDER SIZING LOAD:	250.9 A

* NON-COINCIDENTAL LOADS. LARGEST LOAD INCLUDED IN TOTAL. ** LARGEST MOTOR LOAD INCLUDED IN CATEGORIZED LOADS.

SWITCHBOARD SCHEDULE													
MDP													
NEMA RATING: N1			AMPERE RATING: 800A			VOLTAGE (L-L): 208			PHASE: 3				
SERVED FROM: N/A			MAIN TYPE: MAIN LUGS ONLY			VOLTAGE (L-N): 120			WIRE: 4				
REMARKS:			LUG OPTIONS:			MIN. KAIC: 65							
MARK	LOAD DESCRIPTION	C O D E	LOAD KVA	BRANCH CIRCUIT PHASE/NEUT. S NO. SIZE	CIRCUIT GND MIN CND SIZE	P H A S E	CIRCUIT BREAKER FRAME OR FUSED SWITCH SIZE	CIRCUIT BREAKER TRIP OR FUSE SIZE	P D F S	DEVICE TYPE	FEEDER PHASE/NEUT. S NO. SIZE	MIN CND SIZE	REMARKS
1	PANEL P1A	X	90.31	400	400	3	CIRCUIT BRKR	SEE RISER DIAGRAM					
2	PANEL P2A	X	84.16	400	400	3	CIRCUIT BRKR	SEE RISER DIAGRAM					
3	PANEL P3	X	18.87	100	100	3	CIRCUIT BRKR	SEE RISER DIAGRAM					
4	PANEL B1	X	33.27	250	200	3	CIRCUIT BRKR	SEE RISER DIAGRAM					
5	PANEL B2	X	27.25	100	100	3	CIRCUIT BRKR	SEE RISER DIAGRAM					
6	PANEL B3	X	22.53	100	100	3	CIRCUIT BRKR	SEE RISER DIAGRAM					
7	PANEL S	X	22.12	250	200	3	CIRCUIT BRKR	SEE RISER DIAGRAM					
8	SPD	X	---	100	40	3	CIRCUIT BRKR	1 4 8 10 3/4					

SEE SERVICE LOAD CALCULATIONS

PANEL P2A														
NEMA RATING: N1			AMPERE RATING: 400A			VOLTAGE (L-L): 208			PHASE: 3					
SERVED FROM: MDP			MAIN TYPE: MAIN LUGS ONLY			VOLTAGE (L-N): 120			WIRE: 4					
MOUNTING: SURFACE			LUG OPTIONS: FEED THROUGH LUGS			MIN. KAIC: 65								
REMARKS:														
1	40 2	AHU-11	H	3.68	1 3 8 10	3/4	A	1 3 10 10	1/2	1.56	C	CU-11	25 2	2
3				3.68			B			1.56	C			4
5	40 2	AHU-12	H	3.68	1 3 8 10	3/4	C	1 3 10 10	1/2	1.87	C	CU-12	30 2	6
7				3.68			A			1.87	C			8
9	20 2	BAF-1	N	0.55	1 3 12 12	1/2	B	1 2 12 12	1/2	1.80	N	GW	20 1	10
11				0.55			C	1 3 8 10	3/4	4.16	N	6-GEAR WASHER	40 2	12
13	20 2	BAF-1	N	0.55	1 3 12 12	1/2	A	1 2 12 12	1/2	4.16	N	5-GEAR EXTRACTOR	20 1	14
15				0.55			B	1 2 12 12	1/2	1.20	N	7-ICE MACHINE	20 1	16
17	20 2	J-SHOP COMPRESSOR	N	1.85	1 3 12 12	1/2	C	1 2 12 12	1/2	1.50	M	4-GEAR DRYER	20 1	18
19				1.85			A	1 2 12 12	1/2	1.00	N	OVERHEAD DOOR	20 1	20
21	20 1	OVERHEAD DOOR	N	1.50	1 2 12 12	1/2	B	1 2 12 12	1/2	1.50	N	OVERHEAD DOOR	20 1	22
23	20 1	OVERHEAD DOOR	N	1.50	1 2 12 12	1/2	C	1 2 12 12	1/2	1.50	N	OVERHEAD DOOR	20 1	24
25	20 1	OVERHEAD DOOR	N	1.50	1 2 12 12	1/2	A	1 2 12 12	1/2	1.50	N	OVERHEAD DOOR	20 1	26
27	20 1	SPARE					B					SPARE	20 1	28
29	20 1	SPARE					C					SPARE	20 1	30
31							A					SPACE ONLY		32
33							B					SPACE ONLY		34
35							C					SPACE ONLY		36
37							A			5.00				38
39	40 3	SPD	X	---	1 4 8 10	3/4	B	1 4 8 10	3/4	5.00	N	2-UNICUS COMPRESSOR	50 3	40
41							C			5.00				42

NEC ART. 220 LOAD CATEGORY	TOTAL CONNECTED LOAD (KVA)	X	NEC ART. 220 FEEDER SIZING FACTOR	=	NEC ART. 220 FEEDER SIZING LOAD (KVA)		
C - SPACE COOLING*	6.86		0.00		0.00		
H - SPACE HEATING*	14.72		1.00		14.72	PANEL P2A LOAD	168.5 A
M - MISC. CONTINUOUS	1.50		1.25		1.87	PANEL P2B LOAD	65.3 A
N - MISC. NONCONTINUOUS	42.22		1.00		42.22		
R - RECEPTACLES	7.36		0.25		1.84	+ RESERVED FUTURE CAPACITY:	0.0 A
	65.30				60.65		
						TOTAL UNBALANCED 3-PHASE	233.8 A
						NEC ART. 220 FEEDER SIZING LOAD:	233.8 A

* NON-COINCIDENTAL LOADS. LARGEST LOAD INCLUDED IN TOTAL. ** LARGEST MOTOR LOAD INCLUDED IN CATEGORIZED LOADS.

PANEL P2B														
NEMA RATING: N1			AMPERE RATING: 400A			VOLTAGE (L-L): 208			PHASE: 3					
SERVED FROM: P2A			MAIN TYPE: MAIN LUGS ONLY			VOLTAGE (L-N): 120			WIRE: 4					
MOUNTING: SURFACE			LUG OPTIONS:			MIN. KAIC: 65								
REMARKS:														
1	20 1	REC. APPARATUS BAY	R	0.54	1 2 12 12	1/2	A	1 2 12 12	1/2	1.60	L	LIGHTS, APPARATUS BAY/EM	20 1	2
3	20 1	REC. APPARATUS BAY	R	0.90	1 2 12 12	1/2	B	1 2 12 12	1/2	1.53	L	LIGHTS, APPARATUS BAY/EM	20 1	4
5	20 1	SPARE					C	1 2 12 12	1/2	0.57	L	LIGHTS, MECH/WORK/EM	2	

PANEL B1																			
NEMA RATING: N1					AMPERE RATING: 200A					VOLTAGE (L-L): 208					PHASE: 3				
SERVED FROM: MDP					MAIN TYPE: MAIN LUGS ONLY					VOLTAGE (L-N): 120					WIRE: 4				
MOUNTING: RECESS					LUG OPTIONS:					MIN. KAIC: 65									
REMARKS:																			
CKT NO.	CIRCUIT BRKR TRIP	LOAD DESCRIPTION	C O D E	LOAD KVA	PHASE/NEUT/NO	BRANCH SIZE	CIRCUIT GND SIZE	MIN CND SIZE	P H A S E	BRANCH SIZE	CIRCUIT GND SIZE	MIN CND SIZE	LOAD KVA	C O D E	LOAD DESCRIPTION	CIRCUIT BRKR TRIP	CKT NO.		
1	40 2	AHU-8	H	4.13	1 3	8	10	3/4	A	1 3	10	10	1/2	2.18	C	CU-8	30 2 2	4	
3				4.13					B					2.18					
5	40 2	AHU-9	H	4.13	1 3	8	10	3/4	C	1 3	8	10	3/4	2.91	C	CU-9	50 2 6	8	
7				4.13					A					2.91					
9	20 1	ATTIC LIGHT & REC	R	0.36	1 2	12	12	1/2	B	1 2	12	12	1/2	1.00	N	FACP	20 1 10		
11	20 1	SPARE							C								20 1 12		
13	20 1	REC, BUNKER 1A	R	0.72	1 2	12	12	1/2	A	1 2	12	12	1/2	0.72	R	REC, BUNKER 1B	20 1 14		
15	20 1	REC, BUNK 1C	R	0.72	1 2	12	12	1/2	B	1 2	12	12	1/2	0.72	R	REC, BUNKER 1D	20 1 16		
17	20 1	SPARE	R	0.72	1 2	12	12	1/2	C	1 2	12	12	1/2	0.36	R	REC, BATHROOM #1	20 1 18		
19	20 1	REC, BATT. BUNK	R	0.72	1 2	12	12	1/2	A	1 2	12	12	1/2	0.72	R	REC, BATT. OFFICE	20 1 20		
21	20 1	REC, BATT. BATH RM	R	0.18	1 2	12	12	1/2	B	1 2	12	12	1/2	0.18	R	REC, RR	20 1 22		
23	20 1	REC, CONFERENCE RM	R	1.44	1 2	12	12	1/2	C	1 2	12	12	1/2	0.90	R	REC, EMS	20 1 24		
25	20 1	REC, FOYER/ENTRY	R	0.36	1 2	12	12	1/2	A	1 2	12	12	1/2	0.18	R	REC, REPORTING RM	20 1 26		
27	20 1	REC, HALLWAY	R	1.44	1 2	12	12	1/2	B	1 2	12	12	1/2	0.18	R	REC, MECH	20 1 28		
29	20 1	REC, QUAD, IT ROOM	R	0.36	1 2	12	12	1/2	C	1 2	12	12	1/2	0.79	L	LIGHTS, BUNKER/EM	20 1 30		
31	20 1	REC, QUAD, IT ROOM	R	0.36	1 2	12	12	1/2	A	1 2	12	12	1/2	0.51	L	LIGHTS, OFFICES/EM	20 1 32		
33	20 1	REC, QUAD, IT ROOM	R	0.36	1 2	12	12	1/2	B							SPARE	20 1 34		
35	20 1	REC, QUAD, IT ROOM	R	0.36	1 2	12	12	1/2	C							SPARE	20 1 36		
37									A							SPARE	20 1 38		
39	40 3	SPD	X	---	1 4	8	10	3/4	B							SPARE	20 1 40		
41									C							SPARE	20 1 42		

NEC ART. 220 LOAD CATEGORY	TOTAL CONNECTED LOAD (KVA)	NEC ART. 220 FEEDER SIZING FACTOR	=	NEC ART. 220 FEEDER SIZING LOAD (KVA)
C - SPACE COOLING*	10.18	0.00		0.00
H - SPACE HEATING*	16.52	1.00		16.52
L - GENERAL LIGHTING	1.30	1.25		1.63
N - MISC. NONCONTINUOUS	1.00	1.00		1.00
R - RECEPTACLES	12.06	1.00		12.06
LARGEST MOTOR**	8.26	0.25		2.06
	41.06			33.27

PANEL LOAD 92.4 A
+ RESERVED FUTURE CAPACITY: 0.0 A
TOTAL UNBALANCED 3-PHASE NEC ART. 220 FEEDER SIZING LOAD: 92.4 A

* NON-COINCIDENTAL LOADS. LARGEST LOAD INCLUDED IN TOTAL. ** LARGEST MOTOR LOAD INCLUDED IN CATEGORIZED LOADS.

PANEL S																			
NEMA RATING: N1					AMPERE RATING: 100A					VOLTAGE (L-L): 208					PHASE: 3				
SERVED FROM: MDP					MAIN TYPE: MAIN LUGS ONLY					VOLTAGE (L-N): 120					WIRE: 4				
MOUNTING: SURFACE					LUG OPTIONS:					MIN. KAIC: 65									
REMARKS:																			
CKT NO.	CIRCUIT BRKR TRIP	LOAD DESCRIPTION	C O D E	LOAD KVA	PHASE/NEUT/NO	BRANCH SIZE	CIRCUIT GND SIZE	MIN CND SIZE	P H A S E	BRANCH SIZE	CIRCUIT GND SIZE	MIN CND SIZE	LOAD KVA	C O D E	LOAD DESCRIPTION	CIRCUIT BRKR TRIP	CKT NO.		
1	20 2	FUEL POD PUMP #1	N	0.75	1 3	12	12	1/2	A	1 2	12	12	1/2	0.54	R	REC, MECH PADS	20 1 2		
3				0.75					B	1 2	12	12	1/2	0.36	R	REC, EXTERIOR	20 1 4		
5	20 2	FUEL POD PUMP #2	N	0.75	1 3	12	12	1/2	C	1 2	12	12	1/2	0.36	R	REC, EXTERIOR	20 1 6		
7				0.75					A	1 2	12	12	1/2	1.50	M	SIGNAGE	20 1 8		
9	20 1	LIGHTS, BUILDING EXTERIOR	L	0.58	1 2	12	12	1/2	B	1 2	12	12	1/2	1.50	M	SIGNAGE	20 1 10		
11	20 1	SITE LIGHTING (BY OTHERS)	L	1.50	1 2	12	12	1/2	C	1 2	12	12	1/2	1.50	M	SIGNAGE	20 1 12		
13	20 1	SITE LIGHTING (BY OTHERS)	L	1.50	1 2	12	12	1/2	A	1 2	12	12	1/2	1.50	N	IRRIGATION	20 1 14		
15				1.67					B							SPACE ONLY	1 16		
17	60 3	LIFT STATION	N	1.67	1 4	6	10	1	C							SPACE ONLY	1 18		
19				1.67					A							SPACE ONLY	1 20		
21									B							SPACE ONLY	1 22		
23									C							SPACE ONLY	1 24		
25									A							SPACE ONLY	1 26		
27									B							SPACE ONLY	1 28		
29									C							SPACE ONLY	1 30		
31									A							SPACE ONLY	1 32		
33									B							SPACE ONLY	1 34		
35									C							SPACE ONLY	1 36		
37									A							SPACE ONLY	1 38		
39	40 3	SPD	X	---	1 4	8	10	3/4	B							SPACE ONLY	1 40		
41									C							SPACE ONLY	1 42		

NEC ART. 220 LOAD CATEGORY	TOTAL CONNECTED LOAD (KVA)	NEC ART. 220 FEEDER SIZING FACTOR	=	NEC ART. 220 FEEDER SIZING LOAD (KVA)
L - GENERAL LIGHTING	3.58	1.25		4.48
M - MISC. CONTINUOUS	4.50	1.25		5.63
N - MISC. NONCONTINUOUS	9.50	1.00		9.50
R - RECEPTACLES	1.26	1.00		1.26
LARGEST MOTOR**	5.00	0.25		1.25
	18.84			22.12

PANEL LOAD 61.4 A
+ RESERVED FUTURE CAPACITY: 0.0 A
TOTAL UNBALANCED 3-PHASE NEC ART. 220 FEEDER SIZING LOAD: 61.4 A

* NON-COINCIDENTAL LOADS. LARGEST LOAD INCLUDED IN TOTAL. ** LARGEST MOTOR LOAD INCLUDED IN CATEGORIZED LOADS.

PANEL B2																			
NEMA RATING: N1					AMPERE RATING: 100A					VOLTAGE (L-L): 208					PHASE: 3				
SERVED FROM: MDP					MAIN TYPE: MAIN LUGS ONLY					VOLTAGE (L-N): 120					WIRE: 4				
MOUNTING: RECESS					LUG OPTIONS:					MIN. KAIC: 65									
REMARKS:																			
CKT NO.	CIRCUIT BRKR TRIP	LOAD DESCRIPTION	C O D E	LOAD KVA	PHASE/NEUT/NO	BRANCH SIZE	CIRCUIT GND SIZE	MIN CND SIZE	P H A S E	BRANCH SIZE	CIRCUIT GND SIZE	MIN CND SIZE	LOAD KVA	C O D E	LOAD DESCRIPTION	CIRCUIT BRKR TRIP	CKT NO.		
1	40 2	AHU-7	H	3.68	1 3	8	10	3/4	A	1 3	10	10	1/2	1.56	C	CU-7	25 2 2	4	
3				3.68					B					1.56					
5	20 1	SPARE							C	1 2	12	12	1/2	0.36	R	ATTIC LIGHT & REC	20 1 6		
7	30 2	12-CLOTHES DRYER	N	2.50	1 3	10	10	1/2	A	1 2	12	12	1/2	0.72	R	REC, BUNKER 2A	20 1 8		
9				2.50					B	1 2	12	12	1/2	0.72	R	REC, BUNKER 2B	20 1 10		
11	30 2	12-CLOTHES DRYER	N	2.50	1 3	10	10	1/2	C	1 2	12	12	1/2	0.72	R	REC, BUNKER 2C	20 1 12		
13				2.50					A	1 2	12	12	1/2	0.72	R	REC, BUNKER 2D	20 1 14		
15	20 1	11-CLOTHES WASHER	N	1.50	1 2	12	12	1/2	B	1 2	12	12	1/2	0.18	R	REC, BATHROOM #2	20 1 16		
17	20 1	11-CLOTHES WASHER	N	1.50	1 2	12	12	1/2	C	1 2	12	12	1/2	0.18	R	REC, MECH RM	20 1 18		
19	20 1	REC, LAUNDRY RM	R	0.36	1 2	12	12	1/2	A	1 2	12	12	1/2	0.18	R	HALLWAY	20 1 20		
21	20 1	REC, STORAGE	R	0.18	1 2	12	12	1/2	B	1 2	12	12	1/2	0.58	L	LIGHTS, BUNKER/EM	20 1 22		
23	20 1	SPARE							C							SPARE	20 1 24		
25									A							SPACE ONLY	1 26		
27	40 3	SPD	X	---	1 4	8	10	3/4	B							SPACE ONLY	1 28		
29									C							SPACE ONLY	1 30		

NEC ART. 220 LOAD CATEGORY	TOTAL CONNECTED LOAD (KVA)	NEC ART. 220 FEEDER SIZING FACTOR	=	NEC ART. 220 FEEDER SIZING LOAD (KVA)
C - SPACE COOLING*	3.12	0.00		0.00
H - SPACE HEATING*	7.36	1.00		7.36
L - GENERAL LIGHTING	0.58	1.25		0.73
N - MISC. NONCONTINUOUS	13.0	1.00		13.0
R - RECEPTACLES	4.32	1.00		4.32
LARGEST MOTOR**	7.36	0.25		1.84
	28.38			27.25

PANEL LOAD 75.7 A
+ RESERVED FUTURE CAPACITY: 0.0 A
TOTAL UNBALANCED 3-PHASE NEC ART. 220 FEEDER SIZING LOAD: 75.7 A

* NON-COINCIDENTAL LOADS. LARGEST LOAD INCLUDED IN TOTAL. ** LARGEST MOTOR LOAD INCLUDED IN CATEGORIZED LOADS.

PANEL B3																			
NEMA RATING: N1					AMPERE RATING: 100A					VOLTAGE (L-L): 208					PHASE: 3				
SERVED FROM: MDP					MAIN TYPE: MAIN LUGS ONLY					VOLTAGE (L-N): 120					WIRE: 4				
MOUNTING: RECESS					LUG OPTIONS:					MIN. KAIC: 65									
REMARKS:																			
CKT NO.	CIRCUIT BRKR TRIP	LOAD DESCRIPTION	C O D E	LOAD KVA	PHASE/NEUT/NO	BRANCH SIZE	CIRCUIT GND SIZE	MIN CND SIZE	P H A S E	BRANCH SIZE	CIRCUIT GND SIZE	MIN CND SIZE	LOAD KVA	C O D E	LOAD DESCRIPTION	CIRCUIT BRKR TRIP	CKT NO.		
1	40 2	AHU-2	H	4.13	1 3	8	10	3/4	A	1 3	8	10	3/4	2.91	C	CU-2	50 2 2	4	
3				4.13					B					2.91					
5	40 2	AHU-3	H	3.68	1 3	8	10	3/4	C	1 3	10	10	1/2	1.56	C	CU-3	25 2 6	8	
7				3.68					A					1.56					
9	20 1	REC, BUNKER 3B	R	0.72	1 2	12	12	1/2	B	1 2	12	12	1/2	0.72	R	REC, BUNKER 3A	20 1 10		
11	20 1	REC, BUNKER 3C	R	0.72	1 2	12	12	1/2	C	1 2	12	12	1/2	0.72	R	REC, BUNKER 3D	20 1 12		
13	20 1	REC, STORAGE	R	0.18	1 2	12	12	1/2	A	1 2	12	12	1/2	0.18	R	REC, BATHROOM #3	20 1 14		
15	20 1	REC, HALLWAY	R	0.18	1 2	12	12	1/2	B	1 2	12	12	1/2	0.36	R	REC, MECH/STORAGE	20 1 16		
17	20 1	LIGHTS, BUNKER/EM	L	0.57	1 2	12	12	1/2	C	1 2	12	12	1/2	0.36	R	ATTIC LIGHT & REC	20 1 18		
19	20 1	SPARE							A							SPARE	20 1 20		
21	20 1	SPARE							B							SPARE	20 1 22		
23	20 1	SPARE							C							SPARE	20 1 24		
25									A							SPACE ONLY	1 26		
27	40 3	SPD	X																

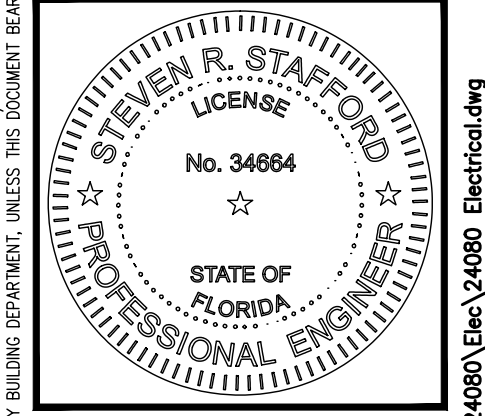


OVERALL ELECTRICAL PLAN
 SCALE: 1/8" = 1'-0"

PROJECT NAME:
**North Collier Fire Control
 & Rescue Station #49**
 Cocohatchee Road
 Naples, FL 34110

**STAFFORD
 ENGINEERING,
 INC.**
 3525 Bonita Beach Rd., Suite 111, Bonita Springs, FL 34134
 239-948-5841 / 239-948-5990 FAX
 www.staffordengineeringinc.com
 Steven R. Stafford - PE - Florida License # 34664
 Certificate Of Authorization No. 26464

ISSUED FOR BID	SEPTEMBER 30, 2025
ISSUED FOR PERMIT	AUGUST 11, 2025
#	REVISION / DATE



DATE:	08/11/25
DRAWN BY:	R.A.M.
CHECKED BY:	S.R.S.
JOB NUMBER:	24080

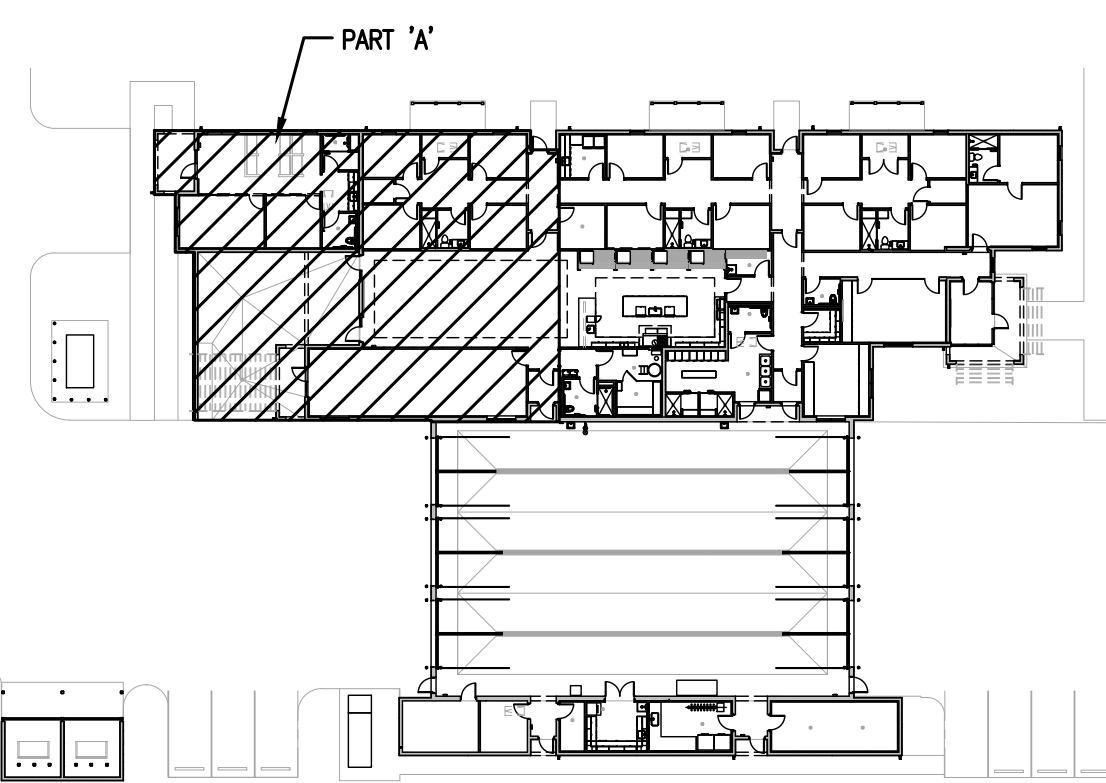
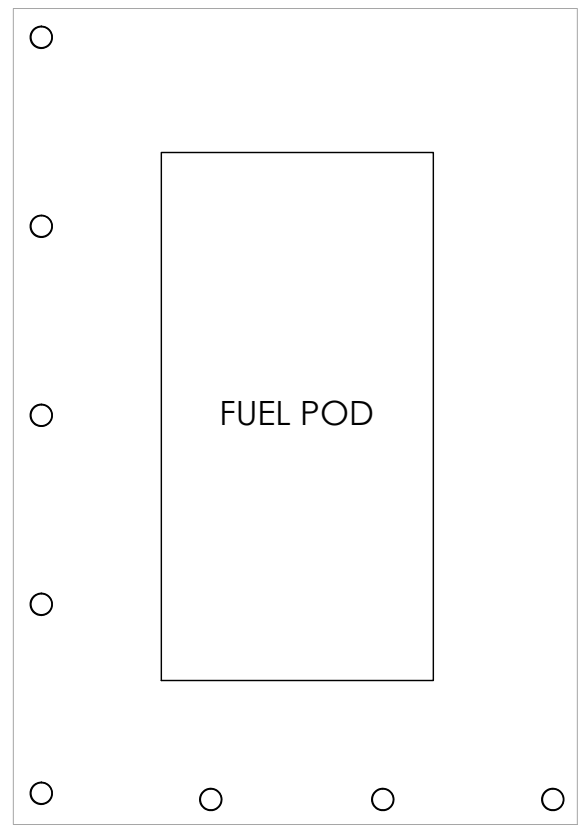
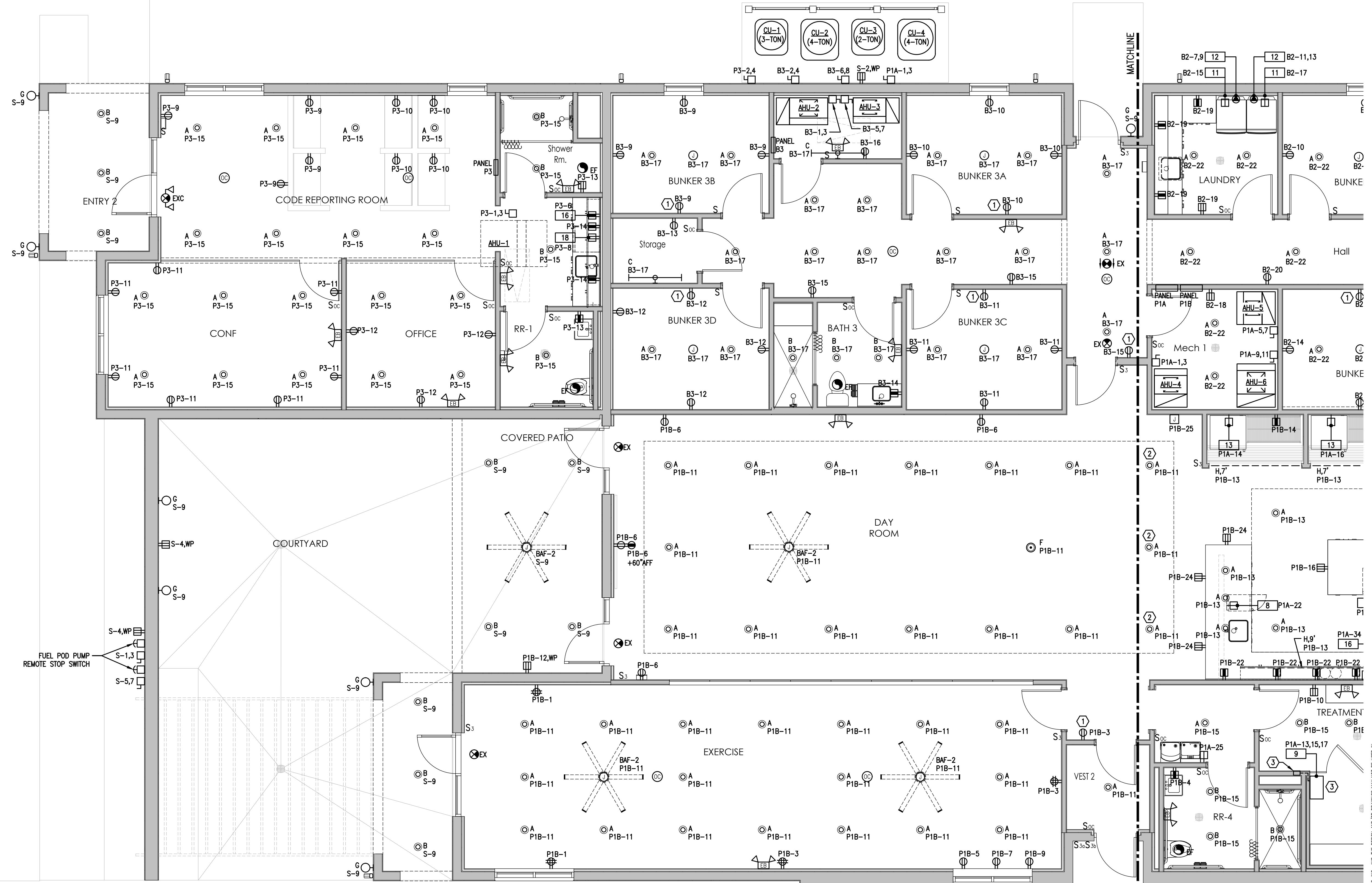
E1.1

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ELECTRICAL PLAN NOTES:

- EMERGENCY AND EXIT LIGHTS SHALL BE FED DIRECTLY FROM CIRCUIT BREAKER BEFORE SWITCHING IN THE ROOM IN WHICH IT IS INSTALLED, SUCH THAT POWER FAILURE OR TRIPPED CIRCUIT WILL NOT PREVENT THE EMERGENCY LIGHT FROM COMING ON, UNLESS NOTED OTHERWISE. SEE PANEL SCHEDULE FOR LIGHTING CIRCUITS WITH "EM" AS PART OF THE DESCRIPTION.
- FURNISH AND INSTALL TIMECLOCK AND PHOTOCCELL CONTROL FOR ALL EXTERIOR LIGHTING ON THE BUILDING AND ON THE SITE. TIMECLOCK SHALL INCLUDE GROUP SWITCHING.
- FURNISH & INSTALL TIMECLOCK CONTROL FOR ALL AREAS LISTED IN FBC ENERGY CONSERVATION SECTION C405.2.1 NOT PROVIDED WITH OCCUPANCY SENSOR CONTROLS PER THE PLANS. TIMECLOCK SHALL HAVE ALL FUNCTIONS AS LISTED PER SECTION C405.2.2.1.
- MECHANICAL & ELECTRICAL ROOMS SHALL NOT HAVE AUTOMATIC LIGHTING CONTROLS DUE TO THE POTENTIAL FOR AUTOMATIC SHUTOFF TO ENDANGER THE SAFETY OF THE OCCUPANT.
- SEE GENERAL NOTES, DEVICES SECTION, FOR TAMPER-RESISTANT RECEPTACLE REQUIREMENTS.
- SEE GENERAL NOTES, DEVICES SECTION, FOR AFCI PROTECTION REQUIREMENTS. THE CONTRACTOR MAY USE COMBINATION AFCI AND GFCI RECEPTACLES WHERE NECESSARY.
- BUNKER ROOMS ARE SLEEPING QUARTERS THAT SHALL HAVE MANUAL LIGHTING CONTROLS ONLY.
- ALL APPARATUS BAY LIGHTS SHALL AUTOMATICALLY TURN ON IN THE EVENT AN ALARM CALL IS RECEIVED. COORDINATE REQUIREMENTS WITH ALERTING SYSTEM.
- TOILET EXHAUST FANS ARE POWERED FROM THE LIGHTING CIRCUIT IN THE AREA UNLESS NOTED OTHERWISE.
- FURNISH & INSTALL LIGHT AND RECEPTACLE AT ALL ATTIC ACCESS LOCATIONS. SEE PANEL SCHEDULES FOR CIRCUITRY. COORDINATE LOCATIONS WITH ARCHITECTURAL DRAWINGS.
- LIGHT FIXTURES DENOTED WITH "NL" SHALL BE PROVIDED WITH A SEPARATE DEDICATED TIMECLOCK, SUCH THAT THE FIXTURES SHALL REMAIN ON AT NIGHT.
- CONDUITS FOR THE FUEL POD SHALL BE PROVIDED WITH SEALS.
- LOW BAY LIGHTING IN THE APPARATUS BAY SHALL BE PROVIDED WITH A DEDICATED TIMECLOCK.



KEY PLAN
SCALE: NOT TO SCALE

ELECTRICAL PLAN - PART 'A'
SCALE: 1/4" = 1'-0"

KEYED NOTES:

- RECEPTACLE SHALL INCLUDE INTEGRAL NIGHT LIGHT.
- INDICATED LIGHT FIXTURES SHALL AUTOMATICALLY TURN ON IN THE EVENT AN ALARM CALL IS RECEIVED. COORDINATE REQUIREMENTS WITH ALERTING SYSTEM.
- SALUNA RECEIVES POWER FROM CONTACTOR BOX AND IS CONTROLLED VIA WALL MOUNTED CONTROLLER WITH INTEGRAL TIME CLOCK. INSTALL PER MANUFACTURER REQUIREMENTS. SEE EQUIPMENT SCHEDULE FOR MODEL NUMBERS OF SALUNA, CONTACTOR BOX, AND CONTROLLER.
- KITCHEN EXHAUST FAN DISCONNECT AND MAINTENANCE RECEPTACLE LOCATED ON ROOF.
- BUILDING SIGNAGE CIRCUIT. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS. COORDINATE ALL REQUIREMENTS WITH OWNER/SIGNAGE SUPPLIER.

PROJECT NAME:
North Collier Fire Control & Rescue Station #49
Cocohatchee Road
Naples, FL 34110

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3625 Bonita Beach Rd., Suite 111, Bonita Springs, FL 34134
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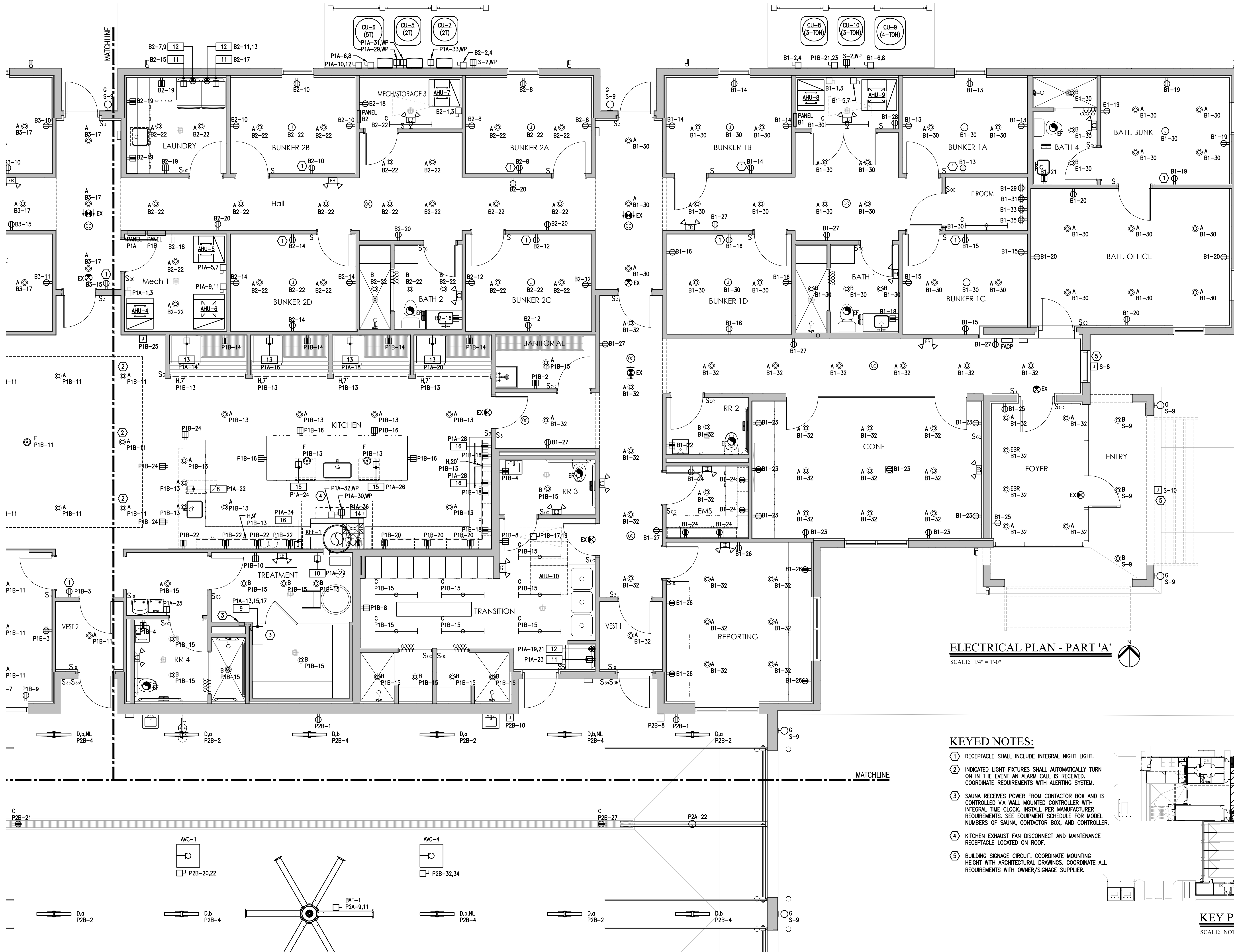
ISSUED FOR BID	SEPTEMBER 30, 2025
ISSUED FOR PERMIT	AUGUST 11, 2025
#	REVISION / DATE

STEVEN R. STAFFORD
LICENSE
No. 34664
STATE OF FLORIDA
PROFESSIONAL ENGINEER

DATE:	08/11/25
DRAWN BY:	R.A.M.
CHECKED BY:	S.R.S.
JOB NUMBER:	24080

E1.2

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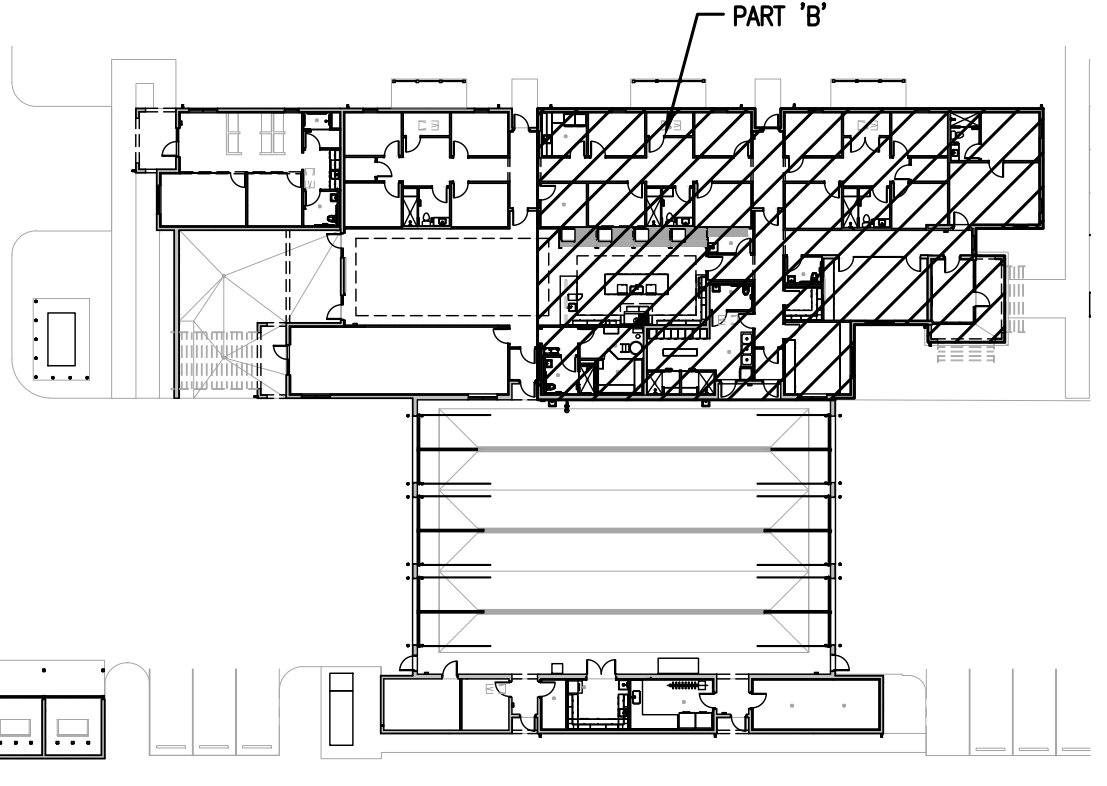


ELECTRICAL PLAN - PART 'A'

SCALE: 1/4" = 1'-0"

KEYED NOTES:

- ① RECEPTACLE SHALL INCLUDE INTEGRAL NIGHT LIGHT.
- ② INDICATED LIGHT FIXTURES SHALL AUTOMATICALLY TURN ON IN THE EVENT AN ALARM CALL IS RECEIVED. COORDINATE REQUIREMENTS WITH ALERTING SYSTEM.
- ③ SAUNA RECEIVES POWER FROM CONTACTOR BOX AND IS CONTROLLED VIA WALL MOUNTED CONTROLLER WITH INTEGRAL TIME CLOCK. INSTALL PER MANUFACTURER REQUIREMENTS. SEE EQUIPMENT SCHEDULE FOR MODEL NUMBERS OF SAUNA, CONTACTOR BOX, AND CONTROLLER.
- ④ KITCHEN EXHAUST FAN DISCONNECT AND MAINTENANCE RECEPTACLE LOCATED ON ROOF.
- ⑤ BUILDING SIGNAGE CIRCUIT. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS. COORDINATE ALL REQUIREMENTS WITH OWNER/SIGNAGE SUPPLIER.



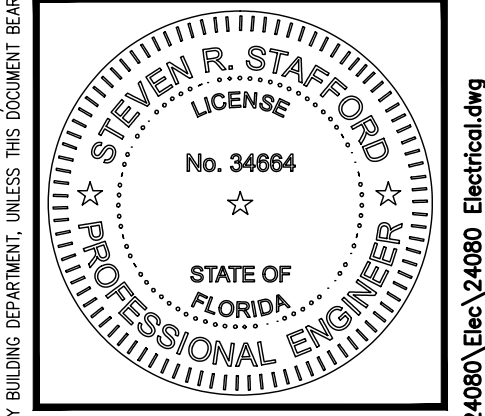
KEY PLAN
SCALE: NOT TO SCALE

PROJECT NAME:
**North Collier Fire Control
& Rescue Station #49**
Cochatchee Road
Naples, FL 34110

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Certificate Of Authorization No. 26464

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ISSUED FOR PERMIT	AUGUST 11, 2025
#	REVISION / DATE

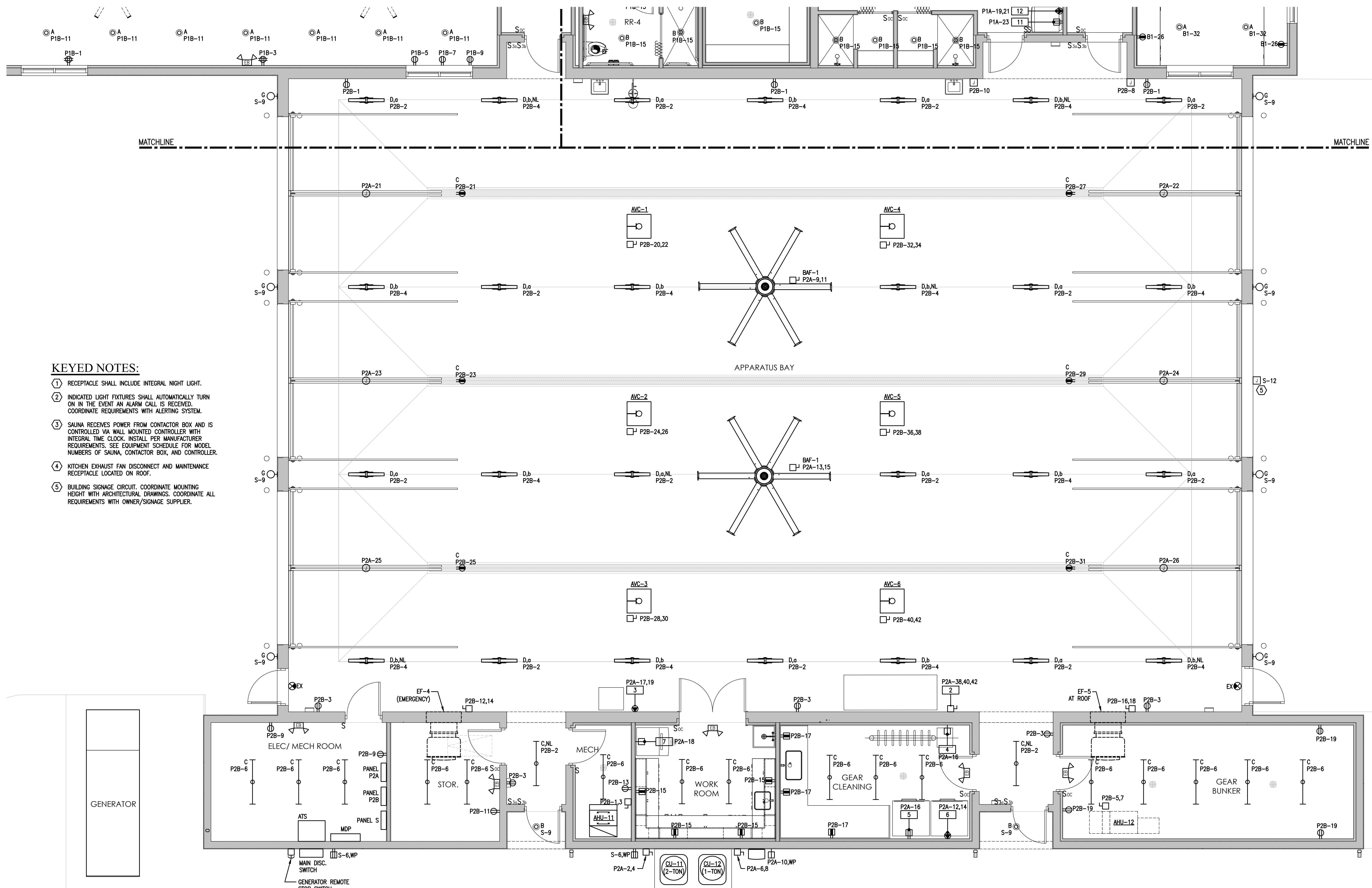


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DRAWN BY:	R.A.M.
CHECKED BY:	S.R.S.
JOB NUMBER:	24080

E1.3

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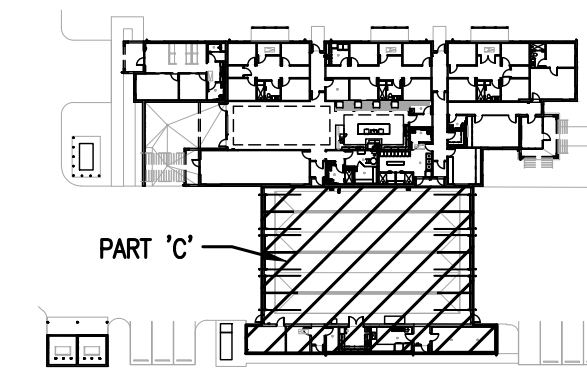


KEYED NOTES:

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ELECTRICAL PLAN - PART 'A'

SCALE: 1/4" = 1'-0"



KEY PLAN

SCALE: NOT TO SCALE

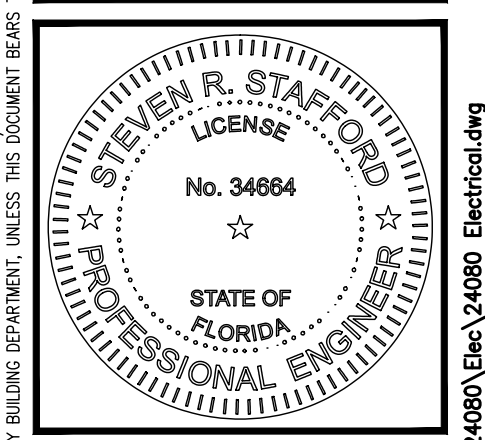
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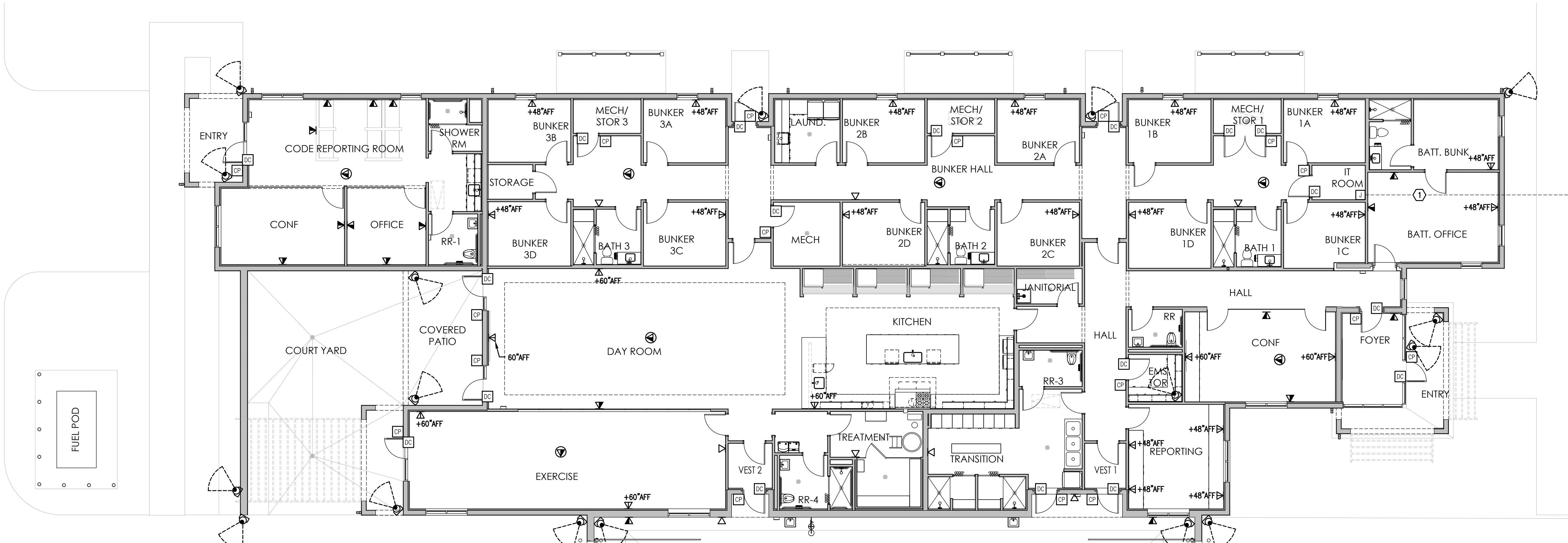


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E1.4

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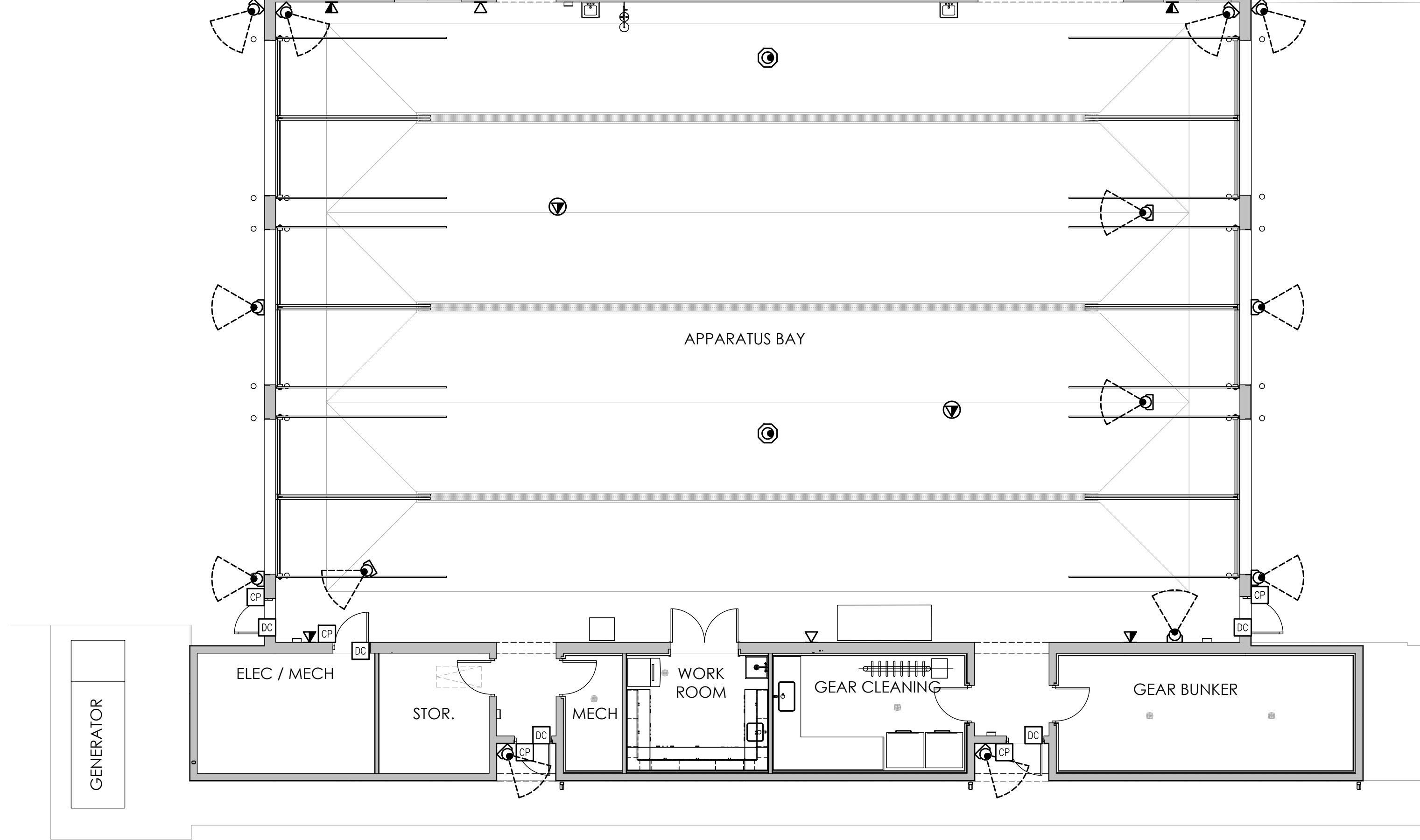
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LOW VOLTAGE SYMBOL LEGEND			
SYMBOL	DESCRIPTION	CABLE TYPE	TERMINATION
	CAMERA	(1) CAT6	IT ROOM
	PTZ CAMERA	(1) CAT6	IT ROOM
	DATA OUTLET, SINGLE	(1) CAT6	IT ROOM
	DATA OUTLET, DOUBLE	(2) CAT6	IT ROOM
	DATA OUTLET FOR TELEVISION	(2) CAT6, (1) USB, (1) RG6	IT ROOM
	DATA OUTLET, CEILING MOUNTED	(2) CAT6	IT ROOM
	ACCESS CONTROL, DOOR CONTACT	(1) GENESIS 21961002 RISER COMPOSITE ACCESS CONTROL CABLE	IT ROOM
	ACCESS CONTROL, DOOR CONTROL PANEL (KEYPAD, CARD READER, ETC.)	(1) GENESIS 21961002 RISER COMPOSITE ACCESS CONTROL CABLE	IT ROOM

LV CABLING NOTES:

- LINEAR ACCESS PANEL TO DOOR CONTROLLERS:
GENESIS 21961002 RISER COMPOSITE ACCESS CONTROL CABLE, SHIELDED, CL3R, FPLR, CMR, FT4, SUNLIGHT RESISTANT, 1000' (304.8M), REEL, GREEN
THIS GENESIS® CABLE INCLUDES ALL CABLES NEEDED TO WIRE A STANDARD ACCESS POINT UNDER AN OVERALL JACKET WITH A RISER RATING. COMPONENTS INCLUDE: 22/6 STRANDED SHIELDED, 22/4 STRANDED, 22/2 STRANDED, AND 18/4 STRANDED. STRANDED BARE COPPER CONDUCTORS RATED FOR RISER AND GENERAL PURPOSE INDOOR INSTALLATION RATED FOR SUNLIGHT (UV) RESISTANCE CONTROL THE COMPATIBLE DEVICE WITH EASE STRANDED FEATURE FOR BETTER USABILITY AND INCREASED EFFICIENCY FULLY COMPATIBLE WITH SECURITY DEVICES GENESIS 21961002 RISER COMPOSITE ACCESS CONTROL CABLE, SHIELDED, CL3R, FPLR, CMR, FT4, SUNLIGHT RESISTANT, 1000' (304.8M), REEL, YELLOW, GENESIS CABLE, GENESIS. CABLE LISTING: CL3R, CMR, FPLR, FT4, SUNLIGHT RESISTANT
- ALL OTHER DATA DROPS:
CAT6 CABLE 23/4 CMP/FT6 REEL IN BOX PHYSICAL CHARACTERISTICS APPLICATIONS CONDUCTOR: 23 AWG SOLID BARE ANNEALED COPPER INSULATION: FEP (FLUORINATED ETHYLENE PROPYLENE) CONDUCTOR COLOR CODE: PAIR 1: BLUE - WHITE/BLUE PAIR 2: ORANGE - WHITE/ORANGE PAIR 3: GREEN - WHITE/GREEN SPLINE: FR P RIP CORD: APPLIED LONGITUDINALLY UNDER JACKET. JACKET: PLENUM PVC (LOW-SMOKE, FLAME-RETARDANT AND ROHS COMPLIANT) JACKET LEGEND: 0000FT CAT 6 4 PR 23 AWG E507576 (UL) CMP C(UL)US FT6 75C (ROHS) UL VERIFIED TO TIA-568 CAT 6 ##### R# A B C D E F 1 2 3 4 5 6 7 8 9 NOMINAL CABLE DIAMETER (IN): 0.232 NOMINAL CABLE NET WEIGHT (LBS /1000FT): 33.10 MINIMUM BEND RADIUS (IN): 1.0 MAXIMUM PULLING FORCE (LBS): 25 TEMPERATURE RATING (°F): INSTALLATION: +32 TO +140 STORAGE & OPERATION : -4 TO +167 OPERATING VOLTAGE: 300V
- COORDINATE ALL OTHER REQUIREMENTS WITH OWNER PRIOR TO COMMENCING WORK.



LOW VOLTAGE SYSTEMS PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES:

- FURNISH & INSTALL (1) 2" EMPTY CONDUIT WITH PULL STRINGS FOR FIBER SERVICE INSTALLATION. TERMINATE CONDUIT IN IT ROOM AT JUNCTION BOX. FINAL LOCATION OF TERMINATION DETERMINED BY OWNER. FIELD COORDINATE AS REQUIRED.

DRAWING NOTES:

- VERIFY AND COORDINATE ALL REQUIREMENTS WITH OWNER/LOCATION SYSTEMS PRIOR TO COMMENCING WORK.
- THIS DRAWING IS DIAGRAMMATIC TO DEPICT DEVICE LOCATIONS AND CONDUIT RUNS FOR A LOW VOLTAGE SYSTEM. LOW VOLTAGE DRAWINGS WILL BE UNDER SEPARATE PERMIT.
- CONTRACTOR SHALL PROVIDE MINIMUM 3/4" CONDUITS WITH PULL STRINGS FOR DEVICE CABLING. CONTRACTOR MAY COMBINE LOW VOLTAGE CABLING IN CONDUITS WHERE NECESSARY.
- COORDINATE ALL MOUNTING HEIGHT REQUIREMENTS WITH OWNER/LOCATION SYSTEMS PRIOR TO COMMENCING WORK.

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STEVEN R. STAFFORD
LICENSE No. 34664
PROFESSIONAL ENGINEER
STATE OF FLORIDA

DATE:	08/11/25
DRAWN BY:	R.A.M.
CHECKED BY:	S.R.S.
JOB NUMBER:	24080

E2.1

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