LEON COUNTY COURTHOUSE
ELEVATORS #1 AND #2 UPGRADES

301 SOUTH MONROE STREEET

TALLAHASSEE, FLORIDA

by

TLC Engineering For Architecture

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FOR ARCHITECTURE

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EB #0000015

LEON COUNTY COURTHOUSE
ELEVATORS #1 AND #2 UPGRADES
TALLAHASSEE, FLORIDA

OWNER

DIVISION OF REAL ESTATE DEVELOPMENT AND MANAGEMENT
4050 ESPLANADE WAY - SUITE 315
TALLAHASSEE, FL
PH: (850) 487.9923

PROJECT INFORMATION

APPLICABLE CODES

-FLORIDA BUILDING CODE, BUILDING (FBC, B) - 2010 EDITION
-FLORIDA BUILDING CODE, MECHANICAL (FBC, B) - 2010 EDITION
-FLORIDA FIRE PREVENTION CODE (FFPC) - 2010 EDITION
-NFPA 101
-NATIONAL ELECTRICAL CODE (NEC) - 2008 EDITION
-NFPA 72 NATIONAL FIRE ALARM CODE - 2005 EDITION

EXISTING INFORMATION

PRINCIPAL OCCUPANCY:
BUSINESS

501 South Calhoun Street
Tallahassee, Florida

PROJECT VICINITY MAP

TLC ENGINEERING FOR ARCHITECTURE INC.
1650 PRUDENTIAL DRIVE SUITE 200
JACKSONVILLE, FL 32207
PH: (904) 306-9111

ELECTRICAL/MECHANICAL

VERTICAL TRANSPORTATION CONSULTANTS

DIETER CONSULTING SERVICES, INC.
20 AVENUE D, SUITE 201 P.O. BOX 806
APALACHICOLA, FLORIDA 32320
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DRAWING INDEX

SHEET NUMBER	SHEET NAME	ISSUE DATE
C0.1	COVER SHEET	03/28/2013
E0.1	LEGEND, NOTES, SCHEDULE AND SPECIFICATIONS - ELECTRICAL	03/28/2013
E1.1	PARTIAL FLOOR PLANS - ELECTRICAL	03/28/2013
E2.1	RISER DIAGRAM AND PANEL SCHEDULE - ELECTRICAL	03/28/2013
M0.1	GENERAL NOTES, LEGENDS, DETAILS AND SPECS - HVAC	03/28/2013
M1.1	FLOOR PLAN - HVAC	03/28/2013

THIS DRAWING IS BEING RELEASED FOR THE PURPOSE OF **100% OWNER REVIEW.**

Revisions:

No.	Date	Description

Seal

Ryan D. Fryman, P.E.
Florida License #55472

Project No.: 813004
Issue Date: FEFRUARY 28, 2013
Drawn By: MRC
Approved By: RDF
Scale: NTS
Drawing Title: COVER SHEET

Drawing No.: C0.1
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DIVISION 16 - ELECTRICAL SPECIFICATIONS

16010 BASIC ELECTRICAL REQUIREMENTS

A. WORK AND EQUIPMENT UNDER THIS DIVISION SHALL BE IN STRICT COMPLIANCE WITH THE CODES, STANDARDS AND PRACTICES LISTED HEREIN, AND THEIR RESPECTIVE DATES ARE FURNISHED AS THE MINIMUM LATEST REQUIREMENTS.

1. STATE OF FLORIDA
2. LEON COUNTY
3. CITY OF TALLAHASSEE
4. LIFE SAFETY CODE – NFPA 101 (2009)
5. UNDERWRITERS LABORATORIES, INC. PUBLICATIONS
6. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
7. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
8. NATIONAL ELECTRICAL CODE – NFPA 70 (2008)
9. NATIONAL FIRE PROTECTION ASSOCIATION 72 (2007)
10. BUILDING CODE: FLORIDA BUILDING CODE 2010.

B. SCOPE OF WORK: THE WORK PROVIDED UNDER THIS DIVISION SHALL INCLUDE LABOR, MATERIALS, PERMITS, INSPECTIONS AND REINSPECTION FEES, TOOLS, EQUIPMENT, TRANSPORTATION, INSURANCE, TEMPORARY PROTECTION, TEMPORARY LIGHTING, SUPERVISION AND INCIDENTAL ITEMS ESSENTIAL FOR PROPER INSTALLATION AND OPERATION, EVEN THOUGH NOT SPECIFICALLY MENTIONED OR INDICATED BUT WHICH ARE USUALLY PROVIDED OR ARE ESSENTIAL FOR PROPER INSTALLATION AND OPERATION OF ELECTRICAL SYSTEMS AS INDICATED IN CONTRACT DOCUMENTS.

C. NOTICES: GIVE NOTICES, FILE PLANS, PAY FEES, OBTAIN PERMITS AND APPROVALS FROM AUTHORITIES HAVING JURISDICTION. INCLUDE FEES IN THE BID PRICE.

D. INTERPRETATION OF DRAWINGS:

1. THE DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW EXACT LOCATIONS OF CONDUIT RUNS, OUTLET BOXES, JUNCTION BOXES, PULL BOXES, ETC. THE LOCATIONS OF EQUIPMENT, APPLIANCES, FIXTURES, CONDUITS, OUTLETS, BOXES AND SIMILAR DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE AS ACCEPTED BY THE ENGINEER DURING CONSTRUCTION. OBTAIN IN THE FIELD INFORMATION RELEVANT TO THE PLACING OF ELECTRICAL WORK AND IN CASE OF INTERFERENCE WITH OTHER WORK, PROCEED AS DIRECTED BY THE ENGINEER AND PROVIDE LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK IN AN ACCEPTABLE MANNER.

2. DISCREPANCIES: NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES FOUND DURING CONSTRUCTION OF THE PROJECT AND DO NOT PROCEED WITH THAT PORTION OF THE PROJECT, UNTIL A WRITTEN DEFINITIVE STATEMENT IS RECEIVED PROVIDING CLEAR DIRECTION. IF A CONFLICT EXISTS BETWEEN THE CONTRACT DOCUMENTS AND ANY APPLICABLE CODE OR STANDARD, THE MOST STRINGENT REQUIREMENT SHALL BE INCLUDED FOR THIS PROJECT. THE ENGINEER SHALL MAKE THE DECISION REGARDING QUESTIONABLE AREAS OF CONFLICT.

3. WIRING: EACH THREE-PHASE CIRCUIT SHALL BE RUN IN A SEPARATE CONDUIT UNLESS OTHERWISE SHOWN ON THE DRAWINGS. UNLESS OTHERWISE ACCEPTED BY THE ENGINEER, CONDUIT SHALL NOT BE INSTALLED EXPOSED UNLESS SPECIFICALLY DIRECTED TO BE CONCEALED. WHERE CIRCUITS ARE SHOWN AS "HOME-RUNS" ALL NECESSARY FITTINGS AND BOXES SHALL BE PROVIDED FOR A COMPLETE RACEWAY INSTALLATION.

E. INVESTIGATION ON SITE:

1. GENERAL: BEFORE COMMENCING THE WORK, VERIFY EXISTING CONDITIONS AT THE PREMISES INCLUDING, BUT NOT LIMITED TO, EXISTING STRUCTURAL FRAME, LOCATION AND DIMENSIONS; EXISTING OPENINGS AND CHARACTERISTICS; EXISTING WALL AND PARTITION LOCATIONS, CHARACTERISTICS AND RELATIONSHIP TO EACH OTHER; EXISTING MECHANICAL AND ELECTRICAL WORK, EQUIPMENT TYPE, AND SHALL EXAMINE ADJOINING WORK ON WHICH HIS WORK IF ANYWAY DEPENDENT FOR ITS PERFECT EFFICIENCY ACCORDING TO THE INTENT OF THE CONTRACT DOCUMENTS.

2. POWER OUTAGE: SPECIAL ATTENTION IS CALLED TO THE FACT THAT WORK INVOLVED IS IN CONNECTION WITH EXISTING BUILDINGS WHICH REMAIN IN OPERATION WHILE WORK IS BEING PERFORMED. WORK MUST BE DONE IN ACCORDANCE WITH THE PRIORITY SCHEDULE. SCHEDULE WORK FOR A MINIMUM OUTAGE TO OWNER. REQUEST WRITTEN PERMISSION AND RECEIVE WRITTEN ACCEPTANCE FROM THE OWNER NO LATER THAN 24 HOURS IN ADVANCE OF ALL POWER AND COMMUNICATION SHUT-DOWNS. PERFORM WORK REQUIRED AT OTHER THAN STANDARD WORKING HOURS WHERE OUTAGES CANNOT BE ACCEPTED BY OWNER DURING REGULAR WORKING HOURS. PROTECT EXISTING BUILDINGS AND EQUIPMENT DURING CONSTRUCTION.

3. SPECIAL CONSIDERATIONS: SPECIAL ATTENTION IS CALLED TO THE FACT THAT THERE WILL BE PIPING, FIXTURES OR OTHER ITEMS IN THE EXISTING BUILDING WHICH MUST BE REMOVED OR RELOCATED IN ORDER TO PERFORM THE ALTERATION WORK. BID SHALL INCLUDE REMOVAL AND RELOCATION REQUIRED FOR COMPLETION OF THE ALTERATIONS AND THE NEW CONSTRUCTION.

4. DEMOLITION – GENERAL: DURING THE EXECUTION OF WORK, REQUIRED RELOCATION, REROUTING, ETC., OF EXISTING EQUIPMENT AND SYSTEMS IN THE EXISTING BUILDING AREAS WHERE THE WORK IS REQUIRED, SHALL BE PERFORMED BY THE CONTRACTOR, AS INDICATED ON THE DRAWINGS, OR AS REQUIRED BY JOB CONDITIONS AND AS DETERMINED BY THE ARCHITECT IN THE FIELD, TO FACILITATE THE INSTALLATION OF THE NEW SYSTEMS. THE OWNER SHALL REQUIRE CONTINUOUS OPERATION OF THE EXISTING SYSTEMS, WHILE DEMOLITION, RELOCATION WORK OR NEW TIE-INS ARE PERFORMED.

5. OWNER'S SALVAGE: THE OWNER RESERVES THE RIGHT TO INSPECT THE MATERIAL SCHEDULED FOR REMOVAL AND SALVAGE ANY ITEMS HE DEEMS USABLE AS SPARE PARTS.

F. EXISTING CONDITIONS:

1. SUPPORT: EXISTING CONDUIT AND CABLES WITHIN THE AREA OF RENOVATION SHALL BE PROVIDED WITH PROPER SUPPORTS AS SPECIFIED FOR NEW WORK IN OTHER SECTIONS OF THIS SPECIFICATION.

2. INSTALLATION: EXISTING ELECTRICAL WHICH IS DESIGNATED FOR REWORKING OR REQUIRES RELOCATION, REPAIR OR ADJUSTMENT SHALL CONFORM TO APPLICABLE CODES AND SHALL BE TREATED AS NEW WORK COMPLYING TO ALL SECTIONS OF THIS SPECIFICATION.

3. VIOLATIONS: WHERE EXISTING CONDITIONS ARE DISCOVERED WHICH ARE NOT IN COMPLIANCE WITH THE CODES AND STANDARDS, THE CONTRACTOR SHALL SUBMIT PROPER DOCUMENTATION TO THE ARCHITECT FOR CLARIFICATION AND CORRECTIVE WORK DIRECTION. EXISTING CONDITIONS SHALL NOT REMAIN WHICH WILL CREATE A DISAPPROVAL OF THE RENOVATED AREA.

4. PATCHING: ALL EXISTING CONDUIT AND CABLE PENETRATIONS SHALL BE PROPERLY FIRE TREATED PER CODE AND SPECIFICATION REQUIREMENTS. THE CONTRACTOR SHALL THOROUGHLY INSPECT EXISTING LOCATIONS AND INCLUDE THE COST OF PATCHING AND REPAIR IN HIS PROPOSED CONSTRUCTION COST.

G. MATERIALS SHALL BE NEW, FREE FROM DEFECTS AND SHALL BE EITHER U.L. LABELED, U.L. LISTED OR BEAR THE SEAL OF A NATIONALLY RECOGNIZED ELECTRICAL TESTING LABORATORY.

H. SHOP DRAWINGS ARE REQUIRED FOR MATERIALS AND EQUIPMENT.

I. ALL EQUIPMENT SHALL BE FIRMLY MOUNTED USING APPROVED HANGERS ATTACHED TO STRUCTURAL PORTIONS OF THE BUILDING. SUPPORTING WITH TIE WIRE IS PROHIBITED.

J. SYSTEMS GUARANTEE: PROVIDE A ONE-YEAR GUARANTEE. THIS GUARANTEE SHALL BE BY THE CONTRACTOR TO THE OWNER FOR ANY DEFECTIVE WORKMANSHIP OR MATERIAL WHICH HAS BEEN PROVIDED UNDER THIS CONTRACT AT NO COST TO THE OWNER FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE SYSTEM. THE GUARANTEE SHALL INCLUDE ALL LAMPS, FOR NINETY DAYS AFTER DATE OF SUBSTANTIAL COMPLETION OF THE SYSTEM. EXPLAIN THE PROVISIONS OF GUARANTEE TO THE OWNER AT THE "DEMONSTRATION OF COMPLETED SYSTEM".

16030 ELECTRICAL IDENTIFICATION

A. IDENTIFICATION SHALL BE IN ENGLISH.

B. CONDUITS SYSTEM MARKERS SHALL BE ENGRAVED PLASTIC, LAMINATE NAMEPLATES AND SHALL BE ADHESIVE OR PRE-TENSIONED SNAP ON COLOR CODED, SYSTEM MARKING MATERIALS.

C. IDENTIFICATION: IDENTIFY RACEWAYS PROVIDED OR UTILIZED AS PART OF THIS PROJECT AS FOLLOWS;

1. APPLY BANDS 10 FEET ON CENTER ALONG THE RACEWAY SYSTEM AND AT EACH SIDE OF WALLS OR FLOORS, AND AT BRANCHES FROM MAINS.

2. IDENTIFY THE FOLLOWING SERVICES;

SYSTEM	COLOR
NORMAL 120/208 VOLTAGE	BLUE
FIRE ALARM	RED

16060 GROUNDING

A. GROUNDING SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODES AND REQUIREMENTS.

B. FEEDERS AND BRANCH CIRCUITS SHALL HAVE INSTALLED IN THE SAME RACEWAY AS THE CIRCUIT CONDUCTORS, AN INSULATED COPPER GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH NEC TABLE 250-95.

16110 BASIC MATERIALS AND METHODS

A. RACEWAYS AND FITTINGS:

1. WIRING SHALL BE INSTALLED IN APPROPRIATE RACEWAY SYSTEMS OF RIGID GALVANIZED CONDUIT, ELECTRIC METALLIC TUBING, FLEXIBLE STEEL CONDUIT AND LIQUID-TIGHT FLEXIBLE CONDUIT AS CONDITIONS AND CODES DICTATE. EMT SHALL BE JOINED WITH STEEL COMPRESSION TYPE FITTINGS. RACEWAYS SHALL TERMINATE AT BOXES WITH INSULATED THROAT FITTINGS.

2. CONDUIT SHALL HAVE AN INSULATED COPPER EQUIPMENT GROUNDING CONDUCTOR THROUGHOUT THE ENTIRE LENGTH OF THE CIRCUIT WITHIN THE CONDUIT.

16120 WIRES AND CABLES

A. BRANCH CIRCUITS AND FEEDERS SHALL BE COPPER WITH THHN OR THWN INSULATION. MINIMUM SIZE #12 AWG.

B. COLOR CODING SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE, 1990 EDITION SPECIFICALLY. PHASE CONDUCTORS OF EACH VOLTAGE SYSTEM MUST BE OF A DIFFERENT COLOR.

120/208V-3ø-4W
PHASE A: BLACK
PHASE B: RED
PHASE C: BLUE
NEUTRAL: WHITE
GROUND: GREEN

16130 OUTLET BOXES

A. OUTLET BOXES: OUTLET BOXES SHALL BE ONE PIECE OR PROJECTION WELDED, GALVANIZED STAMPED STEEL FOR GANG SIZES REQUIRED. SECTIONAL BOXES ARE NOT ACCEPTABLE. BOXES SHALL BE 4" SQUARE AND 1-1/2" DEEP GENERALLY. LARGER BOXES SHALL BE USED AS REQUIRED BY CODE.

16140 WIRING DEVICES

A. RECEPTACLES SHALL BE 20 AMP, 125 VOLT GROUNDING TYPE, HOSPITAL GRADE, AND MOUNTED AT 18" AFF TO CENTER LINE.

1. RECEPTACLES – HUBBELL #8300 OR EQUAL
2. GFCI RECEPTACLES – HUBBELL #GF8300 OR EQUAL

B. RECEPTACLES LOCATED WHERE WATER OR WET CONDITIONS EXIST SHALL BE ON GROUND FAULT CIRCUITS OR DEVICE SHALL BE GROUND FAULT TYPE.

C. SWITCHES SHALL BE 20 AMP, 125V SILENT TYPE, COMMERCIAL SPECIFICATION GRADE, AND MOUNTED AT 48" AFF TO CENTER LINE.

1. SINGLE-POLE – HUBBELL #1221 OR EQUAL
2. 3-WAY – HUBBELL #1223 OR EQUAL
3. 4-WAY – HUBBELL #1224 OR EQUAL

D. DEVICES SHALL BE: NORMAL DEVICES – GREY, STAINLESS STEEL COVERPLATES

E. APPROVED MANUFACTURERS: HUBBELL, PASS & SEYMOR, LEVITON.

16410 CIRCUIT BREAKERS

A. CIRCUIT BREAKERS SHALL BE BOLT-ON QUICK-MAKE, QUICK-BREAK THERMAL MAGNETIC TYPE, FOR ALTERNATING CURRENT. BREAKERS SHALL TRIP FREE OF THE HANDLE AND TRIPPING SHALL BE INDICATED BY THE HANDLE ASSUMING A POSITION BETWEEN OFF AND ON.

B. MULTI POLE BREAKERS SHALL BE INTERNAL, COMMON TRIP WITH SINGLE OPERATING HANDLE; EXTERNAL HANDLE TIES ARE NOT ACCEPTABLE.

C. APPROVED MANUFACTURERS: SQUARE D, GE, SIEMENS.

16480 SAFETY SWITCHES AND MOTOR CONTROLS

A. MOTOR STARTERS SHALL BE ACROSS-THE-LINE MAGNETIC TYPE SIZED FOR MOTOR HORSEPOWER. OVERLOADS SHALL BE PROVIDED IN EACH PHASE. HAND-OFF-AUTO SELECTOR SWITCHES, RUN PILOT LIGHTS AND AUXILIARY CONTACTS SHALL BE INCLUDED. CONTROL SHALL BE 120V.

B. CONTROLS, ALARM AND INTERLOCK WIRING SHALL BE IN CONDUIT AND SHALL BE COLOR CODED.

C. DISCONNECT SWITCHES SHALL BE HEAVY DUTY AND SHALL USE A QUICK-MAKE, QUICK-BREAK MECHANISM WITH AN ENCLOSURE OF A NEMA TYPE CONFORMING TO AREA IN WHICH IT IS INSTALLED. DISCONNECTS FOR MOTORS SHALL BE HORSEPOWER RATED.

D. APPROVED MANUFACTURERS: SQUARE D

16720 FIRE ALARM SYSTEM EXTENSION

A. COMPONENTS SHALL BE INSTALLED IN COMPLIANCE WITH NFPA 72.

B. A COMPLETE UL LISTED AND APPROVED EXTENSION TO THE EXISTING FIRE ALARM SYSTEM SHALL BE PROVIDED AS INDICATED ON THE DRAWINGS.

C. INSTALLATION SHALL BE IN CONDUIT AND SHALL MEET THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.

D. TEST SYSTEM AS REQUIRED BY NFPA 72 AND AS DIRECTED BY SYSTEM MANUFACTURER.

ELECTRICAL SYMBOL LEGEND

BASIC MATERIALS

SYMBOL	DESCRIPTION
	FLUORESCENT STRIP FIXTURE (CRITICAL)
	FLUORESCENT FIXTURE
S	SINGLE POLE SWITCH 48" AFF U.N.O.
	NORMAL DUPLEX RECEPTACLE 18" AFF U.N.O.
	NORMAL GFI DUPLEX RECEPTACLE 18" AFF U.N.O.
3P/30A F30	FUSED DISCONNECT SWITCH, 3 POLE, 30 AMP, FUSED AT 30 AMPS INDICATED
	NORMAL POWER EQUIPMENT CONNECTION
	VOICE/DATA OUTLET BACK BOX C = ABOVE THE COUNTER W = WALL MOUNTED
	CEILING SMOKE DETECTOR, PHOTO-ELECTRIC TYPE UNLESS OTHERWISE NOTED E = ELEVATOR WITH RECALL CONTACTS
F	AUDIBLE/VISUAL NOTIFICATION DEVICE
F	VISUAL SIGNALING UNIT, WALL MOUNTED (NO AUDIO DEVICE) 80" AFF UNLESS OTHERWISE NOTED
SM	MANUAL MOTOR STARTER WITH OVERLOAD HEATERS
	BRANCH CIRCUIT PANELBOARD, UNDER 250 VOLTS, SURFACE MOUNTED
	BRANCH CIRCUIT PANELBOARD, UNDER 250 VOLTS, FLUSH MOUNTED
	BRANCH CIRCUIT CONDUIT CONCEALED ABOVE CEILING OR IN WALL. CONDUIT SHALL INCLUDE PHASE, NEUTRAL AND GROUND CONDUCTORS AS REQUIRED FOR CIRCUITS (UNLESS OTHERWISE NOTED). BRANCH CIRCUIT CONDUIT CONCEALED IN SLAB, UNDERGROUND OR UNDER FLOOR.
	GROUND OR GROUND ROD AS NOTED
	CONDUIT STUB
	CONDUIT CONTINUED
	HOMERUN TO PANEL, NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. PROVIDE DEDICATED NEUTRALS FOR EACH CIRCUIT, DERATE CONDUCTORS PER NEC.

ABBREVIATION

A	AMPS	G OR GND	GROUND
AWG	AMERICAN WIRE GAUGE	NTS	NOT TO SCALE
BRKR	BREAKER	PH OR ø	PHASE
C	CONDUIT	U.N.O.	UNLESS NOTED OTHERWISE
EM	EMERGENCY	V	VOLTS
EX	EXISTING TO REMAIN	W	WATTS
F	FLUORESCENT	WP	WEATHERPROOF

GENERAL NOTES

1. EQUIPMENT SHALL BE OF MATERIALS SUITABLE FOR AND RATED FOR THE ENVIRONMENT IN WHICH THEY ARE TO BE INSTALLED.
2. WORKING CLEARANCES FOR ELECTRICAL EQUIPMENT SHALL BE IN COMPLIANCE WITH NEC 110.
3. THE NUMBER OF ARROWHEADS ON THE HOMERUNS DENOTES THE NUMBER OF CIRCUITS.
4. ALL NEW AND EXISTING PANELS AFFECTED BY THIS PROJECT SHALL BE PROVIDED WITH AN UPDATED TYPE WRITTEN DIRECTORY.
5. THIS IS AN OPERATING FACILITY AND THE CONTRACTOR SHALL PROVIDE TEMPORARY WIRING AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE EXISTING FIRE ALARM SYSTEM IN AREAS NOT AFFECTED BY THIS WORK.

DEMOLITION NOTES

1. REMOVE INDICATED LIGHT FIXTURES, AND ELECTRICAL DEVICES. RELOCATE EXISTING WIRE AND CONDUIT OR PROVIDE NEW AS NECESSARY TO RESTORE SERVICE TO THE ORIGINAL CONDITION FOR ANY DEVICE THAT REMAINS IN SERVICE.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE AND DISPOSE OF DEMOLISHED MATERIALS.
3. THE OWNER RESERVES THE RIGHT TO INSPECT THE MATERIAL SCHEDULED FOR DEMOLITION AND SALVAGE ANY ITEM HE DEEMS USEABLE AS SPARE PARTS.
4. IN GENERAL ITEMS SHOWN DASHED SHALL BE REMOVED INCLUDING CONNECTING WIRE, CONDUIT AND CONTROLLING DEVICES. ITEMS SHOWN NOT DASHED SHALL REMAIN.
5. ELECTRICAL PANELS ARE TO REMAIN UNLESS OTHERWISE NOTED.
6. PATCH WALL WHERE BOXES AND DEVICES HAVE BEEN REMOVED.
7. REMOVE UNUSED AND ABANDONED CONDUITS IN THEIR ENTIRETY. CONDUITS EMBEDDED IN SLABS & WALLS SHALL BE CUT OF FLUSH TO POINT OF STUB OUT & CAPPED OR FILLED.

ELECTRICAL DRAWING INDEX

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER AND CATALOG NO.	MOUNTING	QUANTITY (LAMPS)	LAMP(S)	ACCEPTABLE ALTERNATES
A	4' INDUSTRIAL STRIP WITH WIRE GUARD CHAIN HUNG	DAYBRITE #FT232-PP-UNV-FL-173	CEILING	2	F32/T8	LITHONIA COLUMBIA
B	WALL MOUNTED COMPACT FLUORESCENT WITH GLASS GLOBE AND GUARD	DAYBRITE #VFN42CUW-LP-PG	AS HIGH AS POSSIBLE	1	CF32	LITHONIA COLUMBIA

NOTES:

1. CONTRACTOR SHALL VERIFY ALL FIXTURE/CIRCUIT VOLTAGES PRIOR TO ORDERING FIXTURES.
2. CONTRACTOR SHALL VERIFY ALL CEILING FINISHES AND PROVIDE TRIMS/SUPPORTING MEANS APPROPRIATE TO EACH TYPE CEILING.

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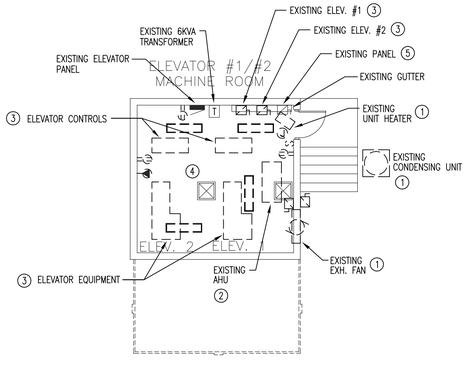
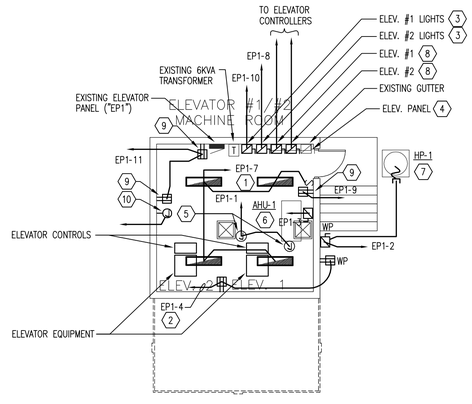


ELEV. MACHINE RM. - DEMO - ELECTRICAL

SCALE: 1/8" = 1'- 0"

PROJECT NORTH HUDSON



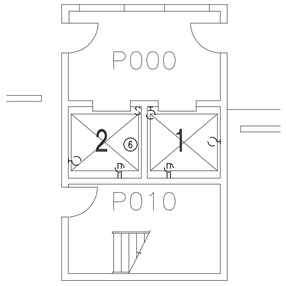
ELEV. MACHINE RM. - RENO - ELECTRICAL

SCALE: 1/8" = 1'- 0"

PROJECT NORTH HUDSON

RENOVATION KEY NOTES:

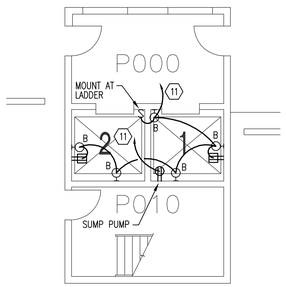
1. CONNECT TO THE EXISTING 20/1 CIRCUIT BREAKER FOR LIGHTING CIRCUIT.
2. PROVIDE 20/1 CIRCUIT BREAKER IN AVAILABLE SPACE.
3. PROVIDE 1P/30A FUSED DISCONNECT SWITCH, FUSED AT 20A AND CONNECT TO THE EXISTING 20/1 CIRCUIT BREAKER FOR ELEVATOR LIGHTS.
4. EXISTING DISCONNECT FOR ELEVATOR PANEL, PROVIDE ENGRAVED NAMEPLATE FOR IDENTIFICATION.
5. PROVIDE CONNECTION AS REQUIRED FOR MOTOR OPERATED DAMPERS, COORDINATE WITH HVAC CONTRACTOR.
6. AHU-1: 1/2HP, 208V, 1ø, PROVIDE 2P/30A FUSED DISCONNECT SWITCH, FUSED AT 15A. WITH 2#12, 1#12G - ½"C. TO PANEL INDICTAED, PROVIDE 20/2 CIRCUIT BREAKER IN SPACE MADE AVAILABLE BY DEMOLITION.
7. HP-1: 1HP, 208V, 1ø, PROVIDE 2P/30A WEATHERPROOF, FUSED DISCONNECT SWITCH, FUSED AT 30A. WITH 2#10, 1#10G - ½"C. TO PANEL INDICTAED. PROVIDE 30/2 CIRCUIT BREAKER IN AVAILABLE SPACE.
8. PROVIDE 3P/60A FUSED DISCONNECT SWICTH, FUSED AT 60A FOR ELEVATOR.
9. REPLACE THE EXISTING RECEPTACLE WITH NEW, REUSE EXISTING BOX, CONDUIT, WIRE AND CIRCUIT BREAKER.
10. 120V TO POWER SUPPLY FOR THE ELEVATOR EMERGENCY INTERCOMMUNICATION SYSTEM, COORDINATE EXACT LOCATION WITH ELEVATOR EQUIPMENT INSTALLER.
11. CONTRACTOR TO VERIFY AND REUSE EXISTING CIRCUITS FOR LIGHTING, GENERAL RECEPTACLES AND SUMP PUMP IN THE ELEVATOR PIT.



ELEVATOR PIT - DEMO - ELECTRICAL

SCALE: 1/8" = 1'- 0"

PROJECT NORTH HUDSON



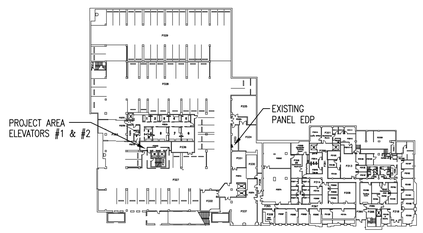
ELEVATOR PIT - RENO - ELECTRICAL

SCALE: 1/8" = 1'- 0"

PROJECT NORTH HUDSON

DEMOLITION KEY NOTES:

1. UNIT HEATER, CONDENSING UNIT, EXH. FAN: REMOVE ASSOCIATED ELECTRICAL BACK TO FEEDING SOURCE AND LABEL BREAKER AS SPARE.
2. AHU: REMOVE ASSOCIATED ELECTRICAL BACK TO FEEDING SOURCE AND REMOVE CIRCUIT BREAKER TO MAKE SPACE AVAILABLE FOR RENOVATION.
3. ELEVATOR EQUIPMENT AND CONTROLS TO BE REMOVED, REMOVE ASSOCIATED ELECTRICAL BACK TO GUTTER.
4. EXISTING LIGHTING AND RECEPTACLES TO BE REPLACED WITH NEW, RENO PLAN.
5. EXISTING DISCONNECT FOR ELEVATOR PANEL TO REMAIN.
6. EXISTING LIGHTING AND RECEPTACLES IN ELEVATOR PIT TO BE REPLACED WITH NEW, SEE RENO PLAN.



KEY PLAN

N.T.S.

PROJECT NORTH HUDSON

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Ryan D. Fryman, P.E.
Florida License #55472

Project No.: 813004

Issue Date: FEFRUARY 28, 2013

Drawn By: MRC
Approved By: RDF

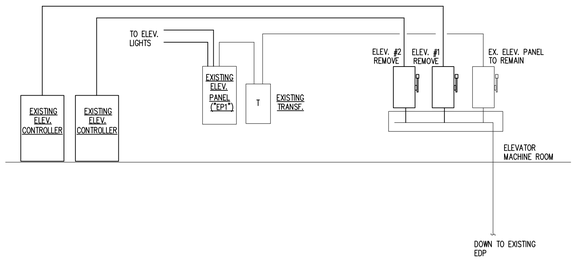
Scale: AS NOTED

Drawing Title:

PARTIAL FLOOR PLANS - ELECTRICAL

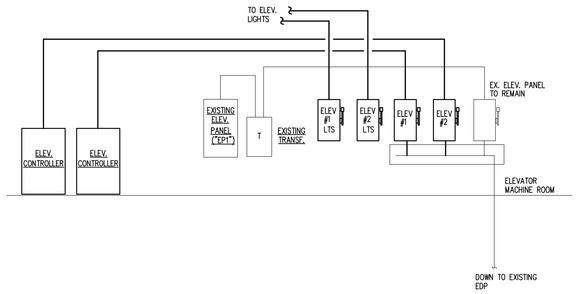
Drawing No.: E1.1

Sheet: of



PARTIAL RISER DIAGRAM - DEMOLITION

SCALE: NONE



PARTIAL RISER DIAGRAM - RENOVATION

SCALE: NONE

Name: ELEV PNL (EP1)

MAIN BREAKER: 50 AMPS 3 POLE
MAIN LUGS: AMPS
K.A.I.C. : AMPS
SURFACE MTD: X
FLUSH MTD:

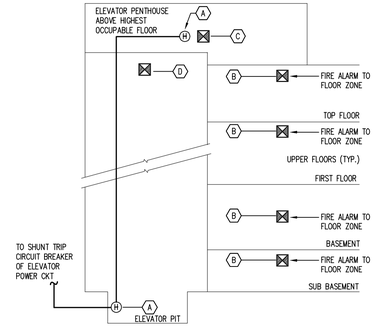
3 PHASE
4 WIRE
X 208Y/120V
480Y/277V
240/120V

Project Name: LEON CO. CH ELEV
Project Number: 813004
Fed From: EXISTING EDP

NOTES	CKT NO	IDENTIFICATION	CODE	LOAD/PHASE (KVA) A	B	C	CIRCUIT BREAKER TRIP	POLES	POLES	TRIP	LOAD/PHASE (KVA) A	B	C	CODE	IDENTIFICATION	CKT NO	NOTES
	1	MOTOR OPERATED DAMPERS	O	0.1			20	1	2	30	1.9			C	HP-1 (1HP)	2	
	3	AHU-1 (1/2HP)	H		0.4		20	2				1.9		C		4	
	5		H			0.4			1	20			0.4	R	REC. MACH. RM.	6	
	7	LTS. MACH. RM.	L	0.3			20	1	1	20	1.0			L	LTS. ELEV. #2	8	
	9	REC. MACH. RM.	R		0.2		20	1	1	20		1.0		L	LTS. ELEV. #1	10	
	11	REC. MACH. RM.	R			0.4	20	1	1	20			0.1	O	POWER SUPPLY	12	
	13	MAIN					50	3							DO NOT USE	14	
	15														DO NOT USE	16	
	17														DO NOT USE	18	
				0.4	0.6	0.8					2.9	2.9	0.5				

	CONN. LOAD (KVA)	ADJUST. FACTOR	DEMAND FACTOR	DEMAND LOAD (KVA)
LIGHTING (L)	2.3	1.00	1.00	2.3
RECEPTACLES (R)	1.0	---	NEC	1.0
LARGEST MOTOR (M)	0.0	1.00	1.00	0.0
ALL OTHER MOTORS (M)	0.0	1.00	1.00	0.0
HEATING (H)	0.8	1.00	1.00	0.8
COOLING (C)	3.8	1.00	1.00	3.8
OTHER (O)	0.2	1.00	1.00	0.2
ELEVATOR (V)	0.0	1.00	1.00	0.0
SPARES (S)	0.0	1.00	1.00	0.0
DRYERS (D)	0.0	1.00	1.00	0.0
X-RAY (X)	0.0	1.00	1.00	0.0
KITCHEN (K)	0.0	1.00	1.00	0.0

TOTAL CONNECTED LOAD: 8.1 KVA
TOTAL DEMAND LOAD: 8.1 KVA
DEMAND AMPS: 22.5 AMPS



NOTES
1. CONTRACTOR SHALL MODIFY AND COORDINATE EXISTING CONTROLS AS REQUIRED TO PROVIDE FIREMANS RECALL FOR ELEVATOR CONTROLS. PROVIDE THE SERVICES OF THE FIRE ALARM SYSTEM FIELD TECHNICIAN AS REQUIRED.
2. INITIATION OF ELEVATOR LOBBY, TOP OF SHAFT, OR MACHINE ROOM SMOKE DETECTOR LOOP SHALL PLACE THE ELEVATOR IN RECALL.

LEGEND
(A) CONTRACTOR SHALL PROVIDE THE CONNECTION AT THE AUXILIARY CONTACTS IN THE HEAT DETECTOR WITH THE SHUNT-TRIP COIL OF THE CIRCUIT BREAKER FEEDING THE ELEVATOR TO SHUNT TRIP POWER TO ELEVATOR UPON ACTIVATION OF DETECTOR. REPLACE THE EXISTING HEAT DETECTOR AS REQUIRED TO PROVIDE AUXILIARY CONTACTS.
(B) EXISTING SMOKE DETECTOR LOCATED IN ELEVATOR LOBBY.
(C) EXISTING SMOKE DETECTOR(S)/HEAT DETECTOR(S) LOCATED IN ELEVATOR MACHINE ROOM
(D) EXISTING SMOKE DETECTOR(S)/HEAT DETECTOR(S) LOCATED AT TOP OF SHAFT

Elevator Machine Room
No Scale

1

THIS DRAWING IS BEING RELEASED FOR THE PURPOSE OF **100% OWNER REVIEW.**

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LEON COUNTY COURTHOUSE
ELEVATORS #1 AND #2 UPGRADES
TALLAHASSEE, FLORIDA

Revisions:

No.	Date	Description

Seal

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Project No.: 813004
Issue Date: FEFRUARY 28, 2013
Drawn By: MRC
Approved By: RDF
Scale: NTS
Drawing Title: RISER DIAGRAM AND PANEL SCHEDULE - ELECTRICAL
Drawing No.: E2.1
Sheet: of

SECTION 15010

BASIC MECHANICAL REQUIREMENTS

PART 1 -GENERAL
1.01 RELATED DOCUMENTS
A. CONFLICTS: NOTHING CONTAINED IN THIS SECTION SHALL BE CONSTRUED TO CONFLICT IN ANY WAY WITH OTHER PROVISIONS OR REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE INTENT IS THAT THIS SECTION WILL TAKE PRECEDENCE. WHERE DIFFERENCES ARISE, THE ENGINEER SHALL DECIDE WHICH DIRECTIONS OR INSTRUCTIONS TAKE PRECEDENCE.

1.02 SUMMARY
A. GENERAL: UNLESS AN ITEM IS SPECIFICALLY MENTIONED AS BEING PROVIDED BY OTHERS, THE REQUIREMENTS OF DIVISION 15 CONTRACT DOCUMENTS SHALL BE COMPLETED. THE SYSTEMS, EQUIPMENT, DEVICES AND ACCESSORIES SHALL BE INSTALLED, FINISHED, TESTED AND ADJUSTED FOR CONTINUOUS AND PROPER OPERATION. ANY APPARATUS, MATERIAL OR DEVICE NOT SHOWN ON THE DRAWINGS BUT MENTIONED IN THESE SPECIFICATIONS, OR VICE VERSA, OR ANY INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE PROJECT COMPLETE AND OPERATIONAL IN ALL RESPECTS, SHALL BE FURNISHED, DELIVERED AND INSTALLED WITHOUT ADDITIONAL EXPENSE TO THE OWNER. INCLUDE ALL MATERIALS, EQUIPMENT, SUPERVISION, OPERATION, METHODS AND LABOR FOR THE FABRICATION, INSTALLATION, START-UP AND TESTS NECESSARY FOR COMPLETE AND PROPERLY FUNCTIONING SYSTEMS.

1.03 APPLICABLE STANDARDS
A. CODE COMPLIANCE: AS A MINIMUM, UNLESS OTHERWISE INDICATED, COMPLY WITH ALL RULES, REGULATIONS, STANDARDS, CODES, ORDINANCES AND LAWS OF LOCAL, STATE AND FEDERAL GOVERNMENTS AND THE AMENDMENTS AND INTERPRETATION OF SUCH RULES, REGULATIONS, STANDARDS, CODES, ORDINANCES AND LAWS OF LOCAL, STATE AND FEDERAL GOVERNMENTS BY THE AUTHORITIES HAVING LAWFUL JURISDICTION.

B. ADA: COMPLY WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA).

C. COMPLY: WITH THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS AND OTHER CODES AND STANDARDS AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

D. COMPLY: WITH THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS AND OTHER CODES AND STANDARDS INDICATED.

E. FLORIDA BUILDING CODE 2010: CONFORM IN STRICT COMPLIANCE TO THE FLORIDA BUILDING CODE (FBC) AND THE AMENDMENTS WHICH ARE ENFORCED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

1. FLORIDA BUILDING CODE - MECHANICAL 2010 EDITION
2. FLORIDA BUILDING CODE - PLUMBING 2010 EDITION
3. FLORIDA BUILDING CODE - FUEL GAS 2010 EDITION
4. FLORIDA BUILDING CODE - ENERGY CONSERVATION 2010 EDITION

F. NATIONAL FIRE PROTECTION (NFPA) STANDARDS

1. NFPA-1, UNIFORM FIRE CODE, 2009 REVISION
2. NFPA-51B, STANDARD FOR FIRE PREVENTION DURING WELDING, CUTTING, OTHER HOT WORK, 2009 REVISION
3. NFPA-70, NATIONAL ELECTRICAL CODE, 2008 REVISION
4. NFPA-72, NATIONAL FIRE ALARM CODE, 2007 REVISION
5. NFPA-90A, STANDARD FOR THE INSTALLATION OF AIR CONDITIONING AND VENTILATION SYSTEMS, 2009 REVISION

G. NOTIFICATION: COMPLY WITH ALL OF THE REQUIREMENTS OF THE FEDERAL "RIGHT-TO-KNOW" REGULATIONS AND THE FLORIDA "RIGHT-TO-KNOW" LAW AND PROVIDE NOTIFICATION TO ALL PARTIES CONCERNED AS TO THE USE OF TOXIC SUBSTANCES.

1.04 DRAWINGS AND SPECIFICATIONS
A. INTENT: THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO ESTABLISH MINIMUM ACCEPTABLE QUALITY STANDARDS FOR MATERIALS, EQUIPMENT AND WORKMANSHIP, AND TO PROVIDE OPERABLE MECHANICAL SYSTEMS COMPLETE IN EVERY RESPECT.

B. EQUIPMENT PLACEMENT: THE DRAWINGS ARE DIAGRAMMATIC, INTENDED TO SHOW GENERAL ARRANGEMENT, CAPACITY AND LOCATION OF VARIOUS COMPONENTS, EQUIPMENT AND DEVICES. EACH LOCATION SHALL BE DETERMINED BY REFERENCE TO THE GENERAL BUILDING PLANS AND BY ACTUAL MEASUREMENTS IN THE BUILDING AS BUILT. REASONABLE CHANGES IN LOCATIONS ORDERED BY THE ENGINEER PRIOR TO THE PERFORMANCE OF THE AFFECTED WORK SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

C. DRAWING SCALE: DUE TO THE SMALL SCALE OF THE DRAWINGS, AND TO UNFORESEEN JOB CONDITIONS, ALL REQUIRED OFFSETS, TRANSITIONS AND FITTINGS MAY NOT BE SHOWN BUT SHALL BE PROVIDED AT NO ADDITIONAL COST.

D. CONFLICT: IN THE EVENT OF A CONFLICT, THE ENGINEER WILL RENDER AN INTERPRETATION IN ACCORDANCE WITH THE GENERAL CONDITIONS.
1.05 INSTRUCTION TO OWNER
A. GENERAL: INSTRUCTIONS TO THE OWNER SHALL BE BY COMPETENT REPRESENTATIVES OF THE MANUFACTURERS INVOLVED, WITH TIME ALLOWED FOR COMPLETE COVERAGE OF ALL OPERATING PROCEDURES. PROVIDE FIELD TRAINING IN THE DESIGN, OPERATION AND MAINTENANCE OF THE EQUIPMENT AND TROUBLESHOOTING PROCEDURES. EXPLAIN THE IDENTIFICATION SYSTEM, OPERATIONAL DIAGRAMS, EMERGENCY AND ALARM PROVISIONS, SEQUENCING REQUIREMENTS, SEASONAL PROVISIONS, SECURITY, SAFETY, EFFICIENCY AND SIMILAR PROVISIONS OF THE SYSTEMS. ON THE DATE OF SUBSTANTIAL COMPLETION, TURN OVER THE PRIME RESPONSIBILITY FOR OPERATION OF THE MECHANICAL EQUIPMENT AND SYSTEMS TO THE OWNER'S OPERATING PERSONNEL.

B. TRAINING PERIOD: UNLESS OTHERWISE INDICATED TRAINING PERIODS SHALL ENCOMPASS THE FOLLOWING NUMBER OF HOURS OF HANDS-ON INSTRUCTIONS.
1. TRAINING PERIODS: 4 HOURS HANDS-ON

C. SCHEDULING: SUBMIT ANY REMAINING REQUIRED ITEMS FOR CHECKING AT LEAST ONE WEEK BEFORE FINAL INSPECTION OF BUILDING. WHEN SUBMITTAL ITEMS ARE FOUND ACCEPTABLE, NOTIFY OWNER, IN WRITING, THAT AN "INSTRUCTION IN OPERATION CONFERENCE" MAY PROCEED. CONFERENCE WILL BE SCHEDULED BY THE OWNER. AFTER THE CONFERENCE, COPIES OF A MEMO CERTIFYING THAT THE "INSTRUCTION IN OPERATION CONFERENCE" AND "COMPLETED DEMONSTRATION" HAVE BEEN MADE WILL BE SIGNED BY OWNER AND THE INSTRUCTORS, AND ONE COPY WILL BE INSERTED IN EACH TECHNICAL INFORMATION BROCHURE.

1.06 SUBMITTAL
A. GENERAL: THE PROVISIONS OF THIS SECTION ONLY APPLY TO THE MATERIAL AND EQUIPMENT COVERED IN DIVISION 15.

B. TIME: SUBMIT MANUFACTURER'S LITERATURE, PERFORMANCE DATA AND INSTALLATION INSTRUCTIONS COVERED IN EACH SECTION OF DIVISION 15 UNDER AN INDIVIDUAL LETTER OF TRANSMITTAL WITHIN 30 DAYS AFTER NOTICE TO PROCEED UNLESS OTHERWISE INDICATED.

C. SUBMITTER'S REVIEW: ALL ITEMS REQUIRED FOR EACH SECTION SHALL BE REVIEWED BEFORE SUBMITTAL. SUBMITTAL INFORMATION FOR EACH ITEM SHALL BEAR A REVIEW STAMP OF APPROVAL, INDICATING THE NAME OF THE CONTRACTOR AND SUBCONTRACTOR (WHERE APPLICABLE), THE MATERIAL SUPPLIERS, THE INITIALS OF SUBMITTER AND DATE CHECKED. RESPONSIBILITY FOR ERRORS OR OMISSIONS IN SUBMITTALS SHALL NOT BE RELIEVED BY THE ENGINEER'S REVIEW OF SUBMITTALS. RESPONSIBILITY FOR SUBMITTALS CANNOT BE SUBROGATED TO MATERIAL SUPPLIERS BY CONTRACTORS OR SUBCONTRACTORS.

1. REVIEW OF THE SUBMITTAL DATA, WHETHER INDICATED WITH "APPROVED" OR WITH REVIEW COMMENTS, DOES NOT CONSTITUTE AUTHORIZATION FOR OR ACCEPTANCE OF A CHANGE IN THE CONTRACT PRICE.

D. THE SUBMITTAL DATA SHALL BE REVIEWED ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND FOR GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS. ANY ACTION INDICATED IS SUBJECT TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. REVIEWS OF SUBMITTAL DATA REVIEW SHALL NOT INCLUDE QUANTITIES; DIMENSIONS (WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE); FABRICATION PROCESSES; TECHNIQUES OF CONSTRUCTION; AND CO-ORDINATION OF THE SUBMITTAL DATA WITH ALL OTHER TRADES. COPIES OF THE SUBMITTAL DATA WILL BE RETURNED MARKED "ACCEPTED AS SUBMITTED", "ACCEPTED AS NOTED", "REVISED AS NOTED AND RESUBMIT", "REJECTED, REVISED AS NOTED AND RESUBMIT".

E. SUBMITTAL ITEMS: SUBMITTAL ITEMS SHALL BE INSERTED IN A TECHNICAL INFORMATION BROCHURE. MARK THE APPROPRIATE SPECIFICATION SECTION OR DRAWING REFERENCE NUMBER IN THE RIGHT HAND CORNER OF EACH ITEM. ALL TYPEWRITTEN PAGES SHALL BE ON THE PRODUCT OR EQUIPMENT MANUFACTURER'S PRINTED LETTERHEAD.

1. MANUFACTURER'S LITERATURE: WHERE INDICATED, INCLUDE THE MANUFACTURER'S PRINTED LITERATURE. LITERATURE SHALL BE CLEARLY MARKED TO INDICATE THE ITEM INTENDED FOR USE.

2. PERFORMANCE DATA: PROVIDE PERFORMANCE DATA, WIRING AND CONTROL DIAGRAMS AND SCALE DRAWINGS WHICH SHOW THAT PROPOSED EQUIPMENT WILL FIT INTO ALLOTTED SPACE (INDICATE AREAS REQUIRED FOR SERVICE ACCESS, CONNECTIONS, ETC.), AND OTHER DATA REQUIRED FOR THE ENGINEER TO DETERMINE THAT THE EQUIPMENT COMPLIES WITH THE CONTRACT DOCUMENTS. WHERE NOTED, PERFORMANCE DATA SHALL BE CERTIFIED BY THE MANUFACTURER AT THE DESIGN RATING POINTS.

3. INSTALLATION INSTRUCTIONS: WHERE REQUESTED, EACH PRODUCT SUBMITTAL SHALL INCLUDE THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. GENERIC INSTALLATION INSTRUCTIONS ARE NOT ACCEPTABLE. INSTRUCTIONS SHALL BE THE SAME AS THOSE INCLUDED WITH THE PRODUCT WHEN IT IS SHIPPED FROM THE FACTORY.

4. WRITTEN OPERATING INSTRUCTIONS: INSTRUCTIONS SHALL BE THE MANUFACTURER'S WRITTEN OPERATING INSTRUCTIONS FOR THE SPECIFIED PRODUCT. IF THE INSTRUCTIONS COVER MORE THAN ONE MODEL OR TYPE OF PRODUCT THEY SHALL BE CLEARLY MARKED TO IDENTIFY THE INSTRUCTIONS THAT COVER THE PRODUCT DELIVERED TO THE PROJECT. OPERATING INSTRUCTIONS SHALL BE SUBMITTED IMMEDIATELY AFTER THE PRODUCT OR EQUIPMENT SUBMITTAL HAS BEEN RETURNED FROM THE ENGINEER MARKED "APPROVED" OR "APPROVED AS NOTED".

5. MAINTENANCE INSTRUCTIONS: INFORMATION SHALL BE THE MANUFACTURER'S PRINTED INSTRUCTIONS AND PARTS LISTS FOR THE EQUIPMENT FURNISHED. IF THE INSTRUCTIONS COVER MORE THAN ONE MODEL OR TYPE OF EQUIPMENT THEY SHALL BE MARKED TO IDENTIFY THE INSTRUCTIONS FOR THE FURNISHED PRODUCT. SUBMIT MAINTENANCE INSTRUCTIONS IMMEDIATELY AFTER THE PRODUCT OR EQUIPMENT SUBMITTAL HAS BEEN RETURNED FROM THE ENGINEER MARKED "APPROVED" OR "APPROVED AS NOTED".

SECTION 15510

REFRIGERANT AND CONDENSATE PIPING SYSTEM

PART 1 - GENERAL
1.01 SUMMARY
A. GENERAL: PROVIDE PIPING SYSTEM AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN.

1.02 APPLICABLE STANDARDS
A. GENERAL: ALL EQUIPMENT, MATERIAL, ACCESSORIES, METHODS OF CONSTRUCTION AND REINFORCEMENT, FINISH QUALITY, WORKMANSHIP AND INSTALLATION SHALL BE IN COMPLIANCE WITH THE PARAGRAPH ENTITLED "CODE COMPLIANCE" IN SECTION 15010.

B. MSDS: SUBMIT A MATERIAL SAFETY DATA SHEET FOR EACH CHEMICAL AND TEST REAGENT COMPOUND USING U.S. DEPARTMENT OF LABOR FORMS.

PART 2 - PRODUCTS
2.01 REFRIGERANT PIPING
A. REFRIGERANT PIPING SHALL BE COPPER TUBE, ASTM B 88 (ASTM B 88M), TYPE K (A), ANNEALED WITH ASME B16.26 CAST COPPER FITTINGS AND SOLDERED JOINTS. PIPING AND FITTINGS SHALL BE SUITABLE FOR A WORKING PRESSURE OF 300 PSIG.
B. LINES SHALL BE SIZED, INSTALLED AND INSULATED IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S INSTRUCTIONS. SUCTION LINE INSULATION JOINTS SHALL BE SEALED WITH AN ADHESIVE RECOMMENDED BY THE INSULATION MANUFACTURER. SUCTION AND HOT GAS LINE SETS SHALL BE SECURED TOGETHER WITH PLASTIC TIES. TAPE OR COATED WIRE SHALL NOT BE ALLOWED. BARE COPPER PIPING SHALL NOT BE ALLOWED TO COME IN CONTACT WITH MASONRY, MORTAR, OR STEEL ITEMS. COOLING CONDENSATE LINES SHALL BE TYPE DWV COPPER WITH SOLDER JOINTS. PIPE SUPPORTS SHALL BE ON MAXIMUM 6-FOOT CENTERS ON HORIZONTAL LINES. OPEN ENDS OF LINES AND CONNECTION FITTINGS OF EQUIPMENT SHALL BE PROPERLY CAPPED OR PLUGGED DURING CONSTRUCTION TO PROTECT FROM DAMAGE AND ENTRY OF DIRT OR FOREIGN MATERIAL.
C. REFRIGERANT SUCTION PIPING AND COOLING CONDENSATE PIPING SHALL BE INSULATED WITH 1/2" THICK ELASTOMERIC. COVER WITH VENTURE TAPE, VENTURECLAD 1579CW. HOT GAS LINES LOCATED WITHIN WALLS SHALL ALSO BE INSULATED (IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS) FOR VIBRATION ISOLATION. PROVIDE ALL REQUIRED PLUMBING WORK TO SUPPORT COOLING CONDENSATE DISPOSAL.
2.03 CONDENSATE AND EQUIPMENT DRAIN
A. PIPE AND FITTINGS: DWV COPPER.
B. INSULATION: 1/2 INCH ELASTOMERIC WITH ALUMINUM JACKETING.
C. CONDENSATE PIPING SHALL BE SLOPED AT MINIMUM 1/8"/FOOT.

SECTION 15890

DUCTWORK

PART 1 -GENERAL
1.01 SUMMARY
A. GENERAL: PROVIDE COMPLETE DUCT SYSTEMS AS INDICATED.

1.02 TERMINOLOGY
A. DIMENSIONS: ALL DUCTWORK DIMENSIONS ARE NOMINAL FREE CLEARANCE INTERNAL DIMENSIONS WHICH DO NOT INCLUDE INSULATION THICKNESS, UNLESS OTHERWISE INDICATED.

1.03 APPLICABLE STANDARDS
A. SMACNA: USE MATERIAL, WEIGHT, THICKNESS, GAUGE, REINFORCING, SEAMS AND JOINTS, SUSPENSION, WORKMANSHIP AND CONSTRUCTION AND INSTALLATION METHODS AS OUTLINED IN THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC., HVAC DUCT CONSTRUCTION STANDARDS, METAL & FLEXIBLE SECOND EDITION WITH ADDENDUM, 1997. MANUFACTURED ROUND OR OVAL DUCTWORK SHALL COMPLY WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS.

B. COMPLY: WITH THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS AND OTHER CODES AND STANDARDS AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

C. NFPA: THE DUCT SYSTEM, FITTINGS, SEALANTS AND ACCESSORIES SHALL COMPLY TO NFPA 90A REQUIRING A FLAME SPREAD RATING OF NOT OVER 25 AND A SMOKE DEVELOPED/FUEL CONTRIBUTED RATING NO HIGHER THAN 50.

D. UNDERWRITERS' LABORATORIES RATING: ALL FLEXIBLE FIBERGLASS DUCT SHALL BE LISTED CLASS 1 BY THE UL-181 STANDARDS RATING.

PART 2 - PRODUCTS
2.01 SHEET METAL DUCTWORK
A. MATERIAL: PRIME QUALITY 48 INCH WIDE SQUARE TIGHT COAT COLD-ROLLED HOT-DIPPED GALVANIZED STEEL CAPABLE OF DOUBLE SEAMING WITHOUT FRACTURE. CONFORM TO THE REQUIREMENTS OF ASTM-G60.

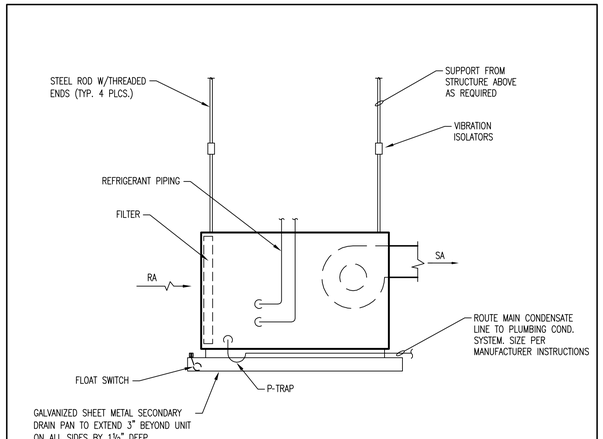
B. SQUARE AND RECTANGULAR DUCT CONNECTIONS: MANUFACTURED AIR DUCT CONNECTIONS WITH GASKET TAPE, INTEGRAL MASTIC SEALER AND BOLTED CONNECTIONS MAYBE USED FOR TRANSVERSE JOINTS.

ROUND: MANUFACTURED ROUND DUCTS MAY BE USED PROVIDED THEY COMPLY WITH THE MANUFACTURE'S PUBLISHED STANDARDS

2.02 DUCT INSULATION

A. DUCTWORK REQUIREING INSULATION SHALL BE INSULATED WITH 2" R-6 INSULATION.
1) DUCTWORK LOCATED IN NON CONDITIONED, CONCEALED SPACES
2) ALL SUPPLY DUCTWORK

MINERAL-FIBER BLANKET INSULATION: MINERAL OR GLASS FIBERS BONDED WITH A THERMOSETTING RESIN. WITH FSK JACKET: ALUMINUM-FOIL, FIBERGLASS-REINFORCED SCRIM WITH KRAFT-PAPER BACKING; COMPLYING WITH ASTM C 1136, TYPE II. ATTACH INSULATION WITH METAL, ADHESIVELY ATTACHED, PERFORATED-BASE INSULATION HANGERS: BASEPLATE WELDED TO PROJECTING SPINDLE THAT IS CAPABLE OF HOLDING INSULATION, OF THICKNESS INDICATED, SECURELY IN POSITION INDICATED WHEN SELF-LOCKING WASHER IS IN PLACE. ALL JOINTS ARE TO BE SEALED WITH FIBROUS GLASS FABRIC AND AN APPROVED VAPOR BARRIER MASTIC. USE OF TAPES TO SEAL INSULATION JOINTS IS STRICTLY PROHIBITED.



SUSPENDED FCU/AHU INSTALLATION
No Scale

CONTROLS SCOPE OF WORK

ELEVATOR EQUIPMENT ROOM

PROVIDE EQUIPMENT ROOM BAS GRAPHIC TO DEPICT ROOM TEMPERATURE SENSOR/ALARM AND NEW CONTROL DAMPERS POSITION.

NEW SPACE TEMPERATURE SENSOR

PROVIDE AND PROGRAM TO ALARM THE OPERATOR WHEN THE SPACE TEMPERATURE IS 5°F (ADJ) ABOVE AHU-1 SETPOINT

ELEVATOR SHAFT VENT DAMPER

NEW ELECTRIC OPERATED DAMPER IN EACH VENT SHAFT SHALL OPEN VIA FIRE ALARM ACTIVATION/SIGNAL. BAS GRAPHIC SHALL DEPICT DAMPER POSITION VIA DAMPER ACTUATOR OUTPUT.

MECHANICAL SCOPE OF WORK

COORDINATE WORK WITH OTHER TRADES.

PERFORM LIMITED DEMOLITION AND DISPOSAL OF HVAC EQUIPMENT, PIPING AND DUCTWORK.

PROVIDE AND INSTALL NEW ELEVATOR SHAFT VENT CONTROL DAMPERS.

PROVIDE AND INSTALL NEW SHAFT VENT DUCTWORK TO ACCOMMODATE NEW DAMPERS.

DEMOLISH EXISTING CONDENSING UNIT, AIR HANDLING UNIT AND ASSOCIATED APPURTENANCES AND INSTALL NEW UNITS.

PROVIDE AND INSTALL NEW SPACE TEMPERATURE SENSOR IN EQUIPMENT ROOM AND PROGRAM AS SPECIFIED.

PERFORM SYSTEM OPERATIONAL CHECKOUT AND MAKE CORRECTIONS.

PERFORM PROJECT CLOSEOUT.

HVAC EQUIPMENT TAGS

AHU-1 — AHU NUMBER; -AIR HANDLING UNIT

GENERAL NOTES

1. CONNECTION TO EQUIPMENT SHALL BE VERIFIED WITH MANUFACTURER'S CERTIFIED DRAWINGS. TRANSITIONS TO EQUIPMENT SHALL BE VERIFIED AND PROVIDED FOR EQUIPMENT FURNISHED.
2. DIMENSIONS SHALL BE FIELD-VERIFIED AND COORDINATED PRIOR TO PROCUREMENT OR FABRICATION. COORDINATE THE WORK WITH OTHER TRADES INVOLVED. FIELD MODIFICATIONS SUCH AS OFFSETS IN PIPING OR DUCTWORK (INCLUDING DIVIDED DUCTWORK) NEEDED DUE TO OBSTRUCTIONS OR INTERFERENCES SHALL BE PROVIDED AT NO ADDITIONAL COST. FOR PROJECTS INVOLVING RENOVATION, COORDINATE NEW WORK WITH EXISTING ELEMENTS SUCH AS THE BUILDING STRUCTURE AND ARCHITECTURAL FEATURES, SPRINKLER PIPING, LIGHTS, PLUMBING, AND ELECTRICAL CONDUIT.
3. DUCT CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARD.
4. SEE SPECIFICATIONS FOR GAUGES, THICKNESS, BRACING, REQUIREMENTS, ETC., OF DUCTWORK.
5. DUCT SIZES AND OPENINGS THROUGH BUILDING CONSTRUCTION SHALL SUIT EQUIPMENT FURNISHED.
6. LOCATE THERMOSTATS, TEMPERATURE SENSORS, HUMIDISTATS, AND HUMIDITY SENSORS AT 48" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. COORDINATE LOCATIONS WITH OTHER EQUIPMENT, FURNITURE, AND DOOR SWINGS.
7. EQUIPMENT, DUCTWORK, ETC., SHALL BE SUPPORTED AS DETAILED AND/OR SPECIFIED. PROVIDE ADDITIONAL SUPPORTS AS REQUIRED TO PROVIDE A VIBRATION-FREE, RIGID INSTALLATION.
8. DUCT SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.
9. REFER TO TYPICAL DETAILS FOR PIPING AND INSTALLATION OF EQUIPMENT.
10. TRAPPED CONDENSATE DRAINS FROM MECHANICAL EQUIPMENT SHALL BE PROVIDED FOR PROPER DRAINAGE TO SUIT EQUIPMENT FURNISHED.
11. ACCESS PANELS IN DUCTWORK AND CEILINGS SHALL BE PROVIDED WHERE REQUIRED FOR OPERATION, BALANCING OR MAINTENANCE OF MECHANICAL EQUIPMENT.
12. DUCTWORK AND PIPING IS SHOWN SCHEMATICALLY. PROVIDE TRANSITIONS, TURNING VANES, ELBOWS, FITTINGS, ETC., TO ALLOW SMOOTH FLOWS. SPLIT DUCT FITTINGS SHALL TRANSITION TO FULL SIZE OF THE SUM OF BOTH BRANCHES, UPSTREAM OF SPLIT.
13. PROVIDE FLEXIBLE DUCT CONNECTIONS ON DUCTWORK CONNECTING TO EACH FAN, AIR HANDLING UNITS, AND FAN COIL UNITS.
14. INTERRUPTIONS TO EXISTING SERVICES SHALL BE SCHEDULED FOR TIMES OTHER THAN NORMAL OPERATING HOURS (SUCH AS NIGHTS AND WEEKENDS). SUCH INTERRUPTIONS TO SERVICES SHALL NOT BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF THE OWNER'S REPRESENTATIVE AND PROPER COORDINATION WITH OTHER TRADES. PRE-WORK SHALL BE PERFORMED TO MAKE THE SHUTDOWN PERIOD AS BRIEF AS POSSIBLE.
15. EQUIPMENT, DUCTWORK, ETC., TO BE REMOVED SHALL REMAIN PROPERTY OF THE OWNER OR DISPOSED OF LEGALLY, AS DIRECTED BY OWNER.

HVAC ABBREVIATIONS

SYMBOL	DESCRIPTION
AHU	-AIR HANDLING UNIT
BTU	-BRITISH THERMAL UNIT
CFM	-CUBIC FEET PER MINUTE
CU	-CONDENSING UNIT
EAT	-ENTERING AIR TEMPERATURE
ESP	-EXTERNAL STATIC PRESSURE
HP	-HEAT PUMP
LAT	-LEAVING AIR TEMPERATURE
MBH	-THOUSAND BTUs PER HOUR
MCA	-MINIMUM CIRCUIT AMPS
MOCP	-MAXIMUM OVER CURRENT PROTECTION
NTS	-NOT TO SCALE
OA	-OUTSIDE AIR
RA	-RETURN AIR
RS/L	-REFRIGERANT SUCTION & LIQUID LINES
SA	-SUPPLY AIR
SP	-STATIC PRESSURE
TSP	-TOTAL STATIC PRESSURE
V/PH	-VOLTS/PHASE

HVAC/PIPING SYMBOL LEGEND

- 1 — -REVISION REFERENCE
- T — -THERMOSTAT/TEMPERATURE SENSOR
- -CONNECT TO EXISTING
- -DEMOLISH TO POINT INDICATED
- M — -MOTOR OPERATED CONTROL DAMPER (MOD)
- 24x12 — -NEW DUCTWORK, FIRST DIMENSION IS SIDE SHOWN
- 24x12 — -EXISTING DUCTWORK TO REMAIN
- EQUIP. — - P-TRAP

THIS DRAWING IS BEING RELEASED FOR THE PURPOSE OF **100% OWNER REVIEW.**

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LEON COUNTY COURTHOUSE
ELEVATORS #1 AND #2 UPGRADES
TALLAHASSEE, FLORIDA

Revisions:

No.	Date	Description

Seal

Jeffrey Joseph Stone, P.E.
Florida License #71466

Project No.: 813004
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Drawing Title:

GENERAL NOTES, LEGENDS, DETAILS AND SPECS - HVAC

Drawing No.: M0.1
Sheet: of

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HEAT PUMP SPLIT SYSTEM CONDENSING UNIT SCHEDULE

PLAN MARK	SERVING	SELECTION BASED ON		REFRIGERANT TYPE	MINIMUM EFFICIENCY (EER)	UNIT DATA		CONDENSER FAN MOTOR				COMPRESSOR DATA			UNIT ELECTRIC DATA				NOTES
		MANUFACTURER	MODEL			CAPACITY MBH	CONDENSER EAT °F	NO.	HP (EA)	VOLT	PHASE	QUANTITY/TYPE	VOLT	PHASE	VOLT	PHASE	MCA	MOCP	
HP-1	AHU-1	TRANE	TWB3036	R-410A	13.0	36	95	1	1	208	3	1/SCROLL	208	1	208	1	18	30	1,2

NOTES:

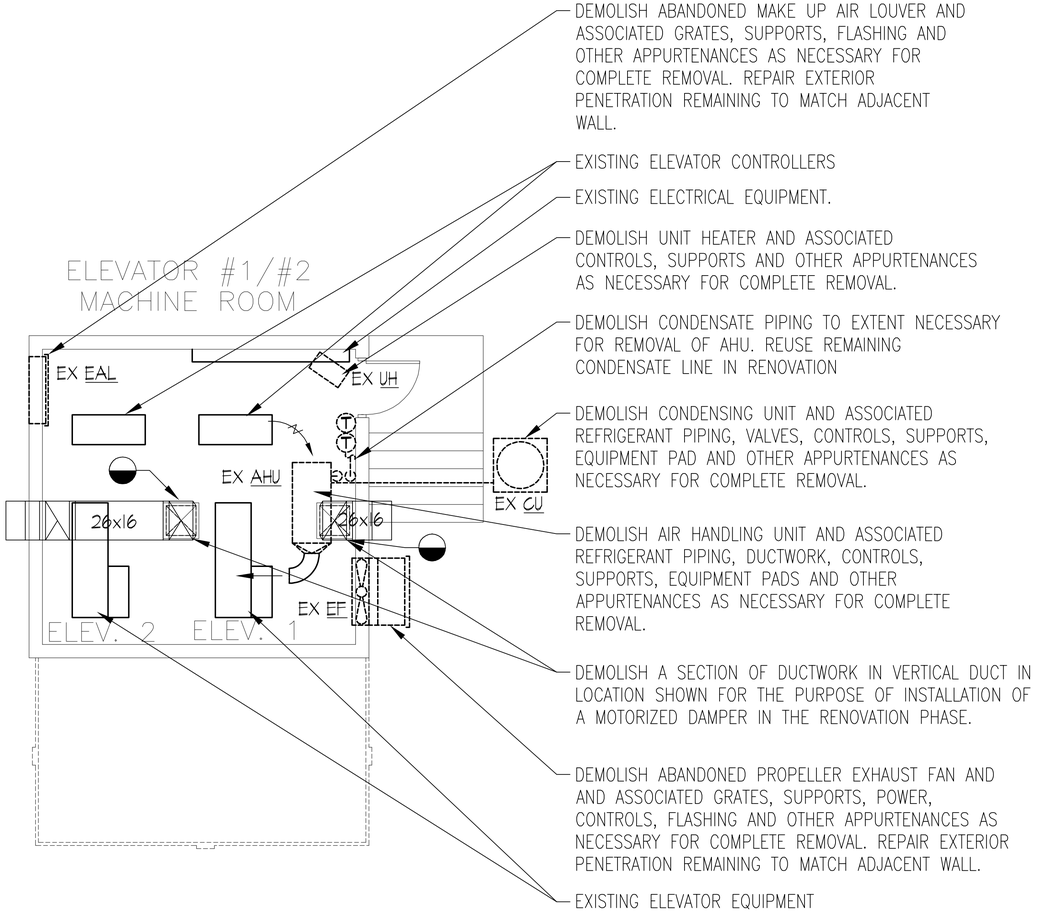
1. HEAT PUMP CONFIGURATION WITH LOW AMBIENT COOLING KIT FOR OPERATION DOWN TO 30°F
2. SINGLE POINT ELECTRICAL CONNECTION. STARTER, RELAY AND CONTROLS TO BE PROVIDED AS REQUIRED.

SPLIT SYSTEM AIR HANDLING UNIT SCHEDULE

PLAN MARK	SELECTION BASED ON		FAN DATA					COOLING COIL DATA						HEATING DATA		ELECTRICAL DATA				NOTES
	MANUFACTURER	MODEL	TOTAL CFM	MINIMUM OA CFM	MOTOR HP	EXT. SP (IN H_2O)	TOTAL SP (IN H_2O)	EAT °F		LAT°F		TOTAL CAP	SENS CAP	HEATING TYPE	HEATER CAPACITY MBH	VOLTAGE	PHASE	MCA	MOCP	
								DB	WB	DB	WB	MBH	MBH							
AHU-1	TRANE	TAM7A0C36	1225	0	0.5	0.5	–	75.0	59.9	53.9	50.7	36	26.7	HEAT PUMP	34.4	208	1	4	15	1-4

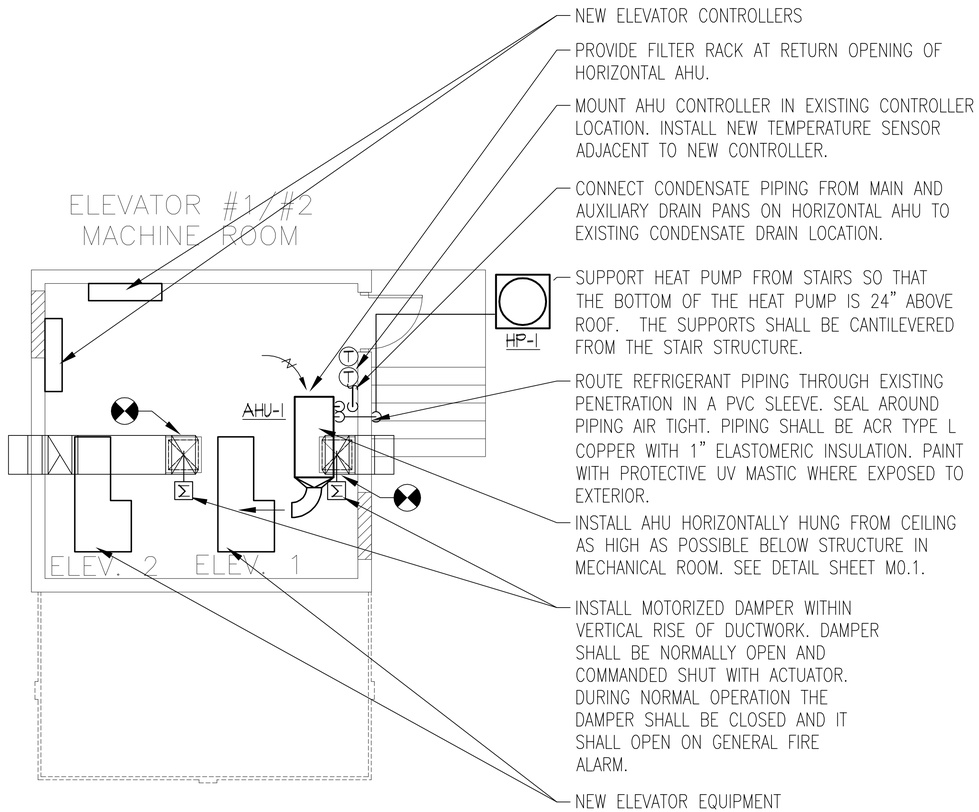
REMARKS:

1. PROVIDE WITH 2" MERV 7 FILTERS.
2. PROVIDE SINGLE POINT ELECTRICAL CONNECTION. STARTER/CONTACTOR, RELAY AND CONTROLS TO BE PROVIDED AS REQUIRED.
3. AHU'S SHALL HAVE REMOVABLE PANELS FOR ACCESS TO BLOWER AND COIL ASSEMBLY.
4. HORIZONTAL ARRANGEMENT



ELEV. MACHINE RM. - DEMOLITION

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



ELEV. MACHINE RM. - RENOVATION

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

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