



**HIGHLANDS COUNTY
BOARD OF COUNTY COMMISSIONERS
(HCBCC)
PURCHASING DIVISION**

DATE: February 9, 2018

BID NO. ITB 18-024 ADDENDUM No. 3

Project: GOVERNMENT CENTER HVAC UPGRADE

This addendum is being issued to revise the plans and specifications and address questions received.

1. Revision to the Specifications. See the attached revised page 01 10 00- 2 of the specifications. All other pages of the specifications remain unchanged.
2. Revision of all Plans. See the attached revised plans for this project. These plans replace the plans previously provided.

Questions and Answers

1. What type of license is required to bid on this project?
Answer: Since there is other work, outside of the HVAC work, a General Contractor would be required as the bidder. The other work includes tree removal, sidewalk replacement, ceiling replacement and slabs for the chillers. All Bidders must have attended the Pre Bid Meeting.
2. Is there full redundancy of the chillers?
Answer: Currently the chiller is 190 tons and the two replacement chillers are combined 240 tons.
3. What are the planned finish dates?
Answer: 180 calendar days are planned for substantial completion and 30 additional calendar days for final completion.
4. What are the allowable work hours?
Answer: Regular business hours however evenings and weekend hours can be allowed with arrangements with the County. The building will remain open and occupied during normal working hours. The Contractor should be aware that the Board of County

Commissioners hold regular meeting schedule adjacent to the work area. Operation of the chiller is required for these meetings and noise cannot disrupt the meetings.

5. Is there any asbestos?

Answer: An Asbestos Survey has been completed and is attached to this Addendum.

6. Will the same amount of pumps go back into the pump area?

Answer: Yes, we are replacing two (2) existing pumps with two (2) new pumps.

7. Changes in pump room with piping?

Answer: Contractor will need to cut in for isolation valves and capped stub outs for a future temporary chiller. In addition, the piping will be revised to accommodate the new pumps and hydronic specialties.

8. What depth are the underground pipes?

Answer: Pipes are a few feet underground but not deep.

9. What is the potential start date?

Answer: The contract for work should go to the Board for approval in March 2018.

10. Work area and staging?

Answer: Area adjacent to the chiller and some area on other side of driveway. Temporary closing of the driveway after the turn off to the front of the building will be allowed with notice. The street access cannot be closed during regular working hours.

11. Equipment in mezzanine?

Answer: Yes, currently one air handler.

12. Two control panels exist. What are acceptable control panels?

Answer: The main head-in equipment for the Government Center has been installed and maintained by ESSI, Inc. This head-in also serves the Commerce Avenue Annex across the street. Any HVAC control revisions in this facility must insure that control system serving Commerce Avenue remain functional.

13. Does the fire or smoke alarm tie into system?

Answer: See revised sheet M2.4 included in item 2 (Revised Plans) as indicated on this plan sheet.

14. Where is the main electrical for chiller located?

Answer: In hallway off of main entrance.

- Improvements to the Chiller Yard include concrete slab design, removal of an existing tree and fencing revisions for new chiller placement.

B. Type of Contract.

1. Project will be constructed under a single prime contract.

1.4 ACCESS TO SITE

A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Limits: Confine construction operations to Owner approved staging area. Coordinate Contractor parking area with Owner.
2. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.5 COORDINATION WITH OCCUPANTS

A. Full Owner Occupancy: Owner will occupy site and existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

1.6 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7 a.m. to 6 p.m., Monday through Friday, unless otherwise indicated.

HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS GOVERNMENT CENTER - HVAC RENOVATION - 15068

SWEET SPARKMAN
ARCHITECTS

600 S. COMMERCE AVE.
SEBRING, FL. 33870



VICINITY MAP
N.T.S

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ELECTRICAL

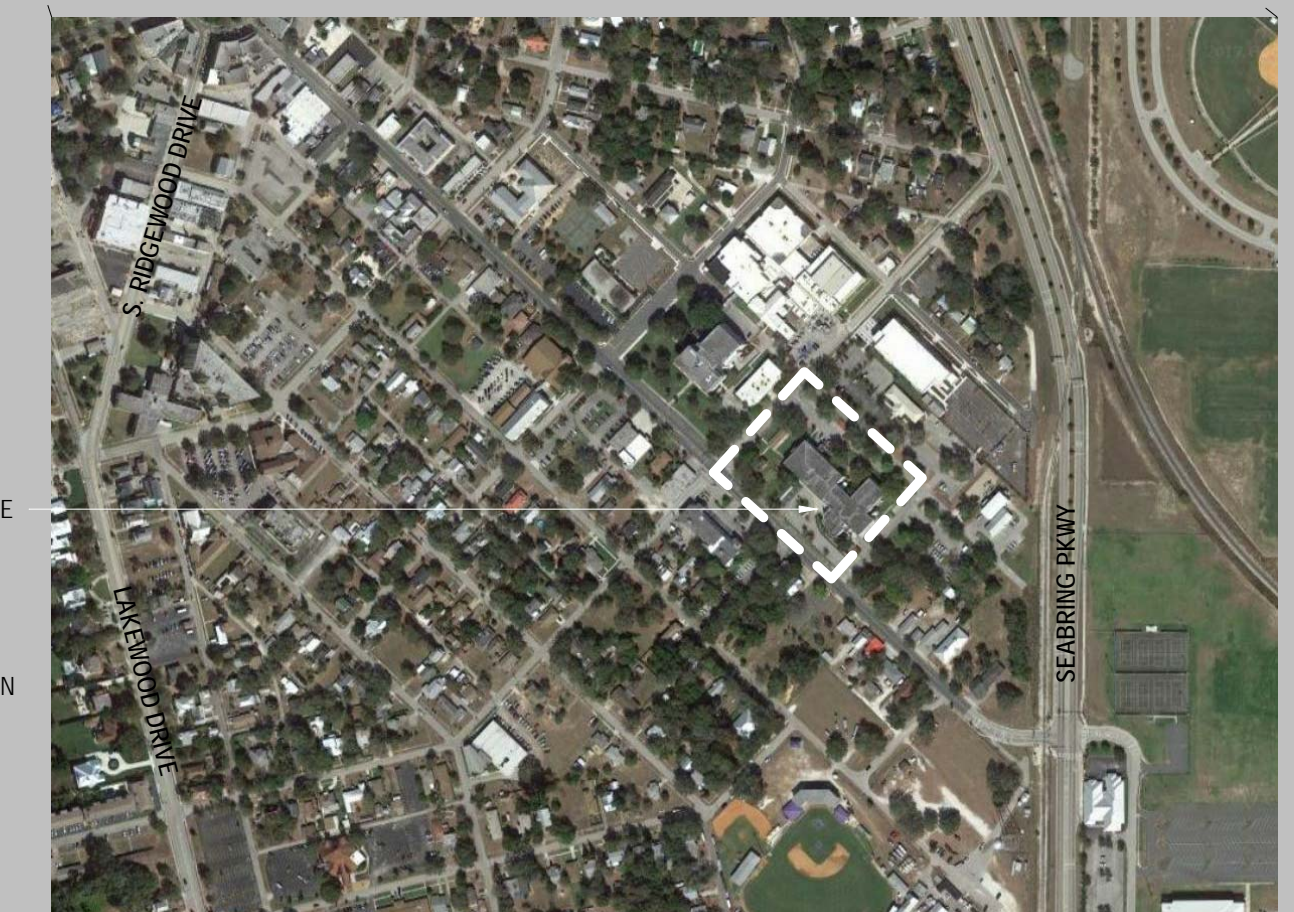
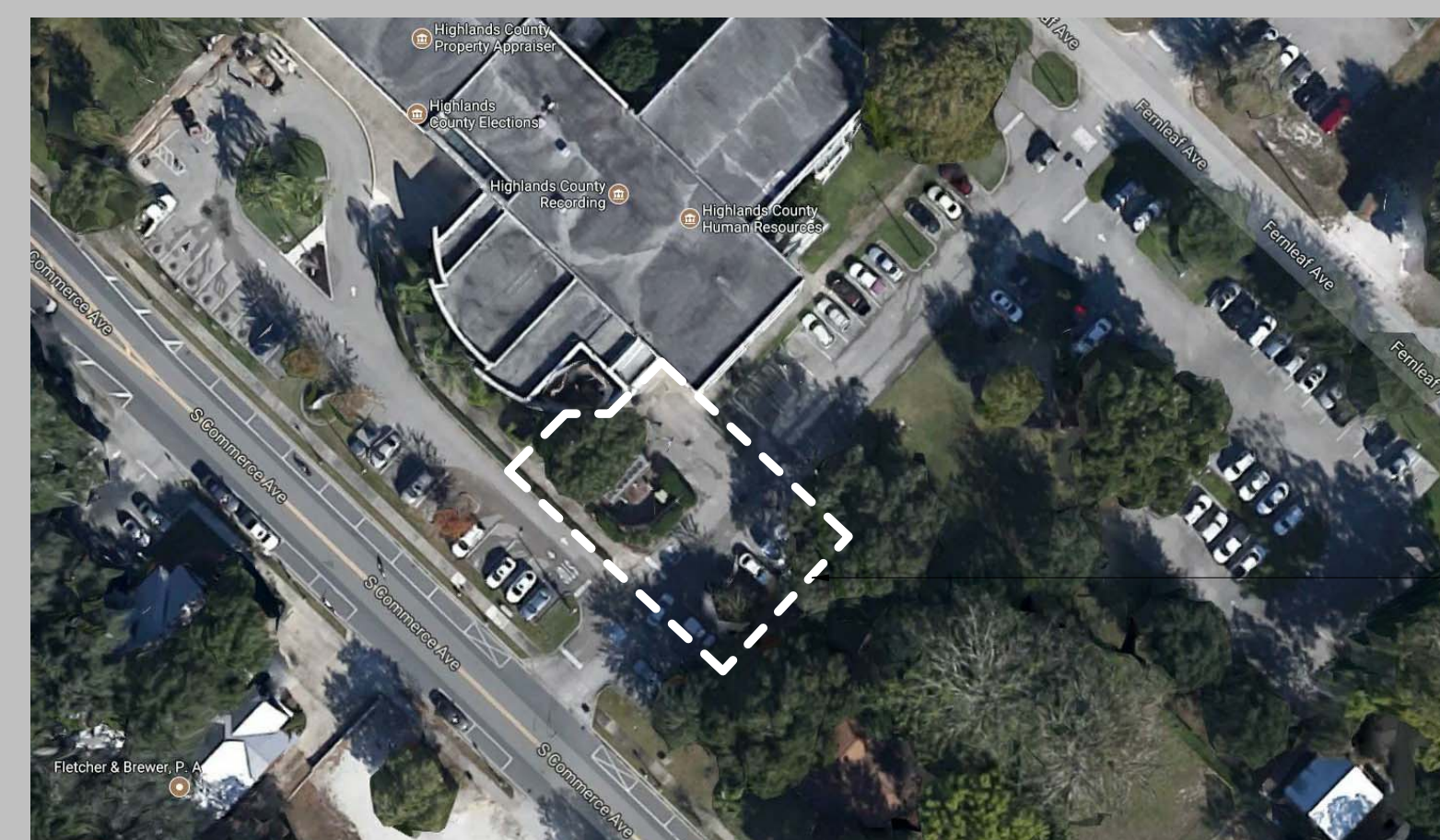
E1.0 GENERAL NOTES
E2.0 ELECTRICAL PLAN

SYMBOLS

- DETAIL SECTION
- EXTERIOR ELEVATION
- LEVEL LINE
- DRAWING NOTE
- DIRECTION OF SLOPED SURFACE
- STANDARD SYMBOLS
12" = 1'-0"

SITE LOCATION MAP

600 S. COMMERCE AVE.
SEBRING, FL. 33870



SITE

APPROX.
LOCATION OF
CONSTRUCTION
FENCE

OWNER

HIGHLANDS COUNTY BOARD OF
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600 S. COMMERCE AVENUE
SEBRING, FL 33870
MS. SUZANNE HUNNICUTT
CAPITAL PROJECTS MANAGER
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MEP ENGINEER

PYRAMID ENGINEERING
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PRESIDENT
PHONE: 727.531.2989

NOTE: THE SCALE OF THESE PLANS MAY HAVE
CHANGED DUE TO REPRODUCTION

HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS -
GOVERNMENT CENTER - HVAC RENOVATION - 15068
17471 - 100% CONSTRUCTION DOCUMENTS - 11/20/2017

MECHANICAL GENERAL NOTES:

- IN GENERAL, PLANS AND DIAGRAM ARE SCHEMATIC ONLY AND SHOULD NOT BE SCALED.
- INTENT OF THESE NOTES AND MECHANICAL NOTES ON DRAWINGS IS TO CLARIFY THE SCOPE OF WORK AND ALERT CONTRACTOR OF EXISTING CONDITIONS. CONTRACTOR TO VISIT SITE AND VERIFY ALL CLEARANCES BEFORE FABRICATION OF DUCTWORK AND PROVIDE ADDITIONAL OFFSET AND/OR CHANGES IN DUCT SIZES TO MEET FIELD CONDITIONS AND COORDINATE WITH ELECTRICAL SUBCONTRACTOR BEFORE ANY CONSTRUCTION WORK.
- BIDDERS SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS INVOLVING THE WORK.
- SHOULD ANY CONFLICTS ARISE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE CONFLICT BEFORE ANY CHANGES ARE MADE. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL BEFORE PROCEEDING WITH ANY CHANGES.
- THE PRIME CONTRACTOR IS RESPONSIBLE FOR ALL TRADES INSTALLATION SCHEDULES. FIXED WORK SUCH AS DUCTWORK AND PLUMBING SHALL BE INSTALLED PRIOR TO ANY TRADE WORK THAT CAN BE EASILY RELOCATED OR OFFSET SUCH AS ELECTRICAL CONDUITS AND SMALL WATER LINES ETC.
- ALL AIR CONDITIONING WORK SHALL NOT INTERFERE WITH CLEARANCES REQUIRED FOR GENERAL AND MECHANICAL CONSTRUCTION. SHOULD AIR CONDITIONING WORK BE INSTALLED WHICH INTERFERES WITH THE WORK OF OTHER CONTRACTORS. SUCH WORK SHALL BE CHANGED AT NO ADDITIONAL COST TO THE OWNER.
- ALL WORK COVERED IN THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST PUBLISHED STANDARDS OF ASHRAE, AND NFPA.
- ALL MECHANICAL WORK SHALL MEET ALL THE REQUIREMENTS OF THE "FLORIDA BUILDING CODE - 2014", 5TH EDITION.
- IN THE EVENT THAT THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND THE CODE, THE MORE STRINGENT REQUIREMENT SHALL TAKE PRECEDENCE. THE MECHANICAL CONTRACTOR SHALL STUDY THE CONTRACT DOCUMENTS AND SUBMIT A BID BASED ON WORK WHICH COMPLIES WITH ALL CODE REQUIREMENTS. ANY CONFLICTS BETWEEN THE CONTRACT DOCUMENTS AND THE CODE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BID. THE COST OF ANY WORK WHICH ARISES OUT OF ANY CHANGES DUE TO CODE REQUIREMENTS SHALL BE PAID BY THE MECHANICAL CONTRACTOR.
- THE MECHANICAL CONTRACTOR SHALL CHECK ALL EQUIPMENT FOR CORRECT VOLTAGE RATING BEFORE PURCHASING EQUIPMENT.
- THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL MINOR ITEMS WHICH ARE OBVIOUSLY AND REASONABLY NECESSARY TO COMPLETE THE INSTALLATION WHETHER OR NOT SPECIFIED OR SHOWN ON THE PLANS.
- ALL STRUCTURAL CUTTING AND PATCHING SHALL BE DONE BY THE PRIME CONTRACTOR.
- ALL NEW MECHANICAL EQUIPMENT, MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE UNLESS OTHERWISE NOTED.
- TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE MINIMUM BUILDING CODES.
- MAINTAIN AS-BUILT DRAWINGS, DAILY. SUBMIT TO ARCHITECT/OWNER AFTER COMPLETION OF ALL WORK.
- ALL INSULATION SHALL HAVE A MINIMUM FLAME SPREAD/SMOKE DEVELOPED RATING OF 25/50.
- ALL WALL MOUNTED THERMOSTATS, TEMPERATURE AND HUMIDITY SENSORS SHALL BE INSTALLED AT AN ELEVATION OF 48" ABOVE FINISHED FLOOR TO THE BOTTOM UNLESS OTHERWISE NOTED ON DRAWINGS. LOCATION OF THE WALL MOUNTED THERMOSTAT SHALL BE COORDINATED WITH OTHER TRADES FOR A NEAT APPEARANCE. FINAL LOCATION OF THERMOSTAT SHALL BE SUBJECT TO THE APPROVAL OF THE COUNTY'S REPRESENTATIVES.
- CONTRACTOR SHALL PROVIDE ALL SUPPLEMENTAL STEEL REQUIRED TO SUSPEND MECHANICAL EQUIPMENT AND MATERIALS.
- ALL ABOVE GRADE CHILLED WATER PIPING SHALL BE WELDED SCHEDULE 40 BLACK STEEL. PROVIDE STEEL TO PVC TRANSITION FOR CONNECTION TO UNDERGROUND PIPING.
- INSULATE CHILLED WATER PIPING, PUMPS AND ACCESSORIES WITH CELLULAR GLASS INSULATION (FOAMGLAS) COVER WITH ALL SERVICE JACKET. PROVIDE ALUMINUM JACKET FOR ALL EXTERIOR INSULATION.
- ALL UNDERGROUND PIPING SHALL BE PRE-INSULATED PIPE OR AT THE CONTRACTOR'S DISCRETION PVC PIPE WITH FOAMGLAS INSULATION AND A PITWRAP HS JACKETING.
- COORDINATE ALL WORK AND SHUT-DOWNS WITH REPRESENTATIVES OF HIGHLANDS COUNTY.

PROJECT SCOPE:

1. PREPARE EXISTING CHILLER YARD FOR THE INSTALLATION OF TWO (2) NEW AIR-COOLED CHILLERS. CHILLERS SHALL REPLACE EXISTING CHILLER, CH-1, HOWEVER CHILLER CH-1 SHALL REMAIN OPERATIONAL DURING PHASE I OF THIS PROJECT. PREPARATION SHALL INCLUDE THE INSTALLATION OF A NEW CHILLER HOUSEKEEPING PAD AS INDICATED IN THE ARCHITECTURAL DRAWINGS.
2. INSTALL NEW CHILLER, CH-2, AND ASSOCIATED CHILLER YARD PIPING. MAKE FINAL CONNECTION TO EXISTING 6" CHWS/CHWR LINES BELOW GRADE. CHILLER IS TO BE FUNCTIONAL AND IN OPERATION AT THE COMPLETION OF PHASE I.
3. PROVIDE NEW VALVED AND CAPPED CONNECTION FOR FUTURE CONNECTION OF A TEMPORARY CHILLER.
4. REMOVE EXISTING CHILLER, CH-1, AND REPLACE WITH NEW CHILLER. CONNECT TO EXISTING CHILLER YARD PIPING.
5. REPLACE EXISTING CHILLED WATER PUMPS AND HYDRONIC SPECIALTIES WITH NEW.
6. PROVIDE AND INSTALL A NEW DUAL PATH AIR HANDLER TO REPLACE EXISTING AIR HANDLER, AHU-3.
7. PROVIDE AND INSTALL NEW VARIABLE FREQUENCY DRIVES (VFD'S) ON FOUR (4) EXISTING AIR HANDLERS. INSTALLATION SHALL INCLUDE THE REMOVAL OF THE EXISTING INLET GUIDE VANES.
8. PROVIDE AND INSTALL NEW DIRECT DIGITAL CONTROL (DDC) SYSTEM THROUGHOUT THE FACILITY. INSTALLATION SHALL INCLUDE ALL COMPONENTS FOR A FULLY FUNCTIONAL SYSTEM AND SHALL CONTROL (AT A MINIMUM) ALL CHILLERS, AIR HANDLERS, PUMPS, FANS AND VAV TERMINALS. IN ADDITION, THE NEW SYSTEM SHALL INCORPORATE A DEMAND CONTROLLED VENTILATION FEATURE. INSTALLATION SHALL BE "TURN-KEY" AND SHALL INCLUDE TRAINING OF THE HIGHLANDS COUNTY STAFF AS NOTED IN THE PROJECT SPECIFICATION.

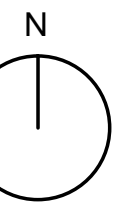
NOTE:

THIS FACILITY IS TO REMAIN OPERATIONAL DURING THE HVAC RENOVATION. SPACE TEMPERATURE SHALL BE MAINTAINED AT 75° F AT ALL PERIODS OF OCCUPANCY. IT IS THE PRIME CONTRACTOR'S RESPONSIBILITY TO COORDINATE ANY TEMPORARY SHUT-DOWNS WITH THE REPRESENTATIVES OF HIGHLANDS COUNTY. PROVIDE TEMPORARY CONDITIONING, INCLUDING TEMPORARY CHILLER/PUMPS AND SCHEDULE ANY WORK REQUIRING A SIGNIFICANT (GREATER THAN ONE HOUR) SHUT-DOWN OVER WEEKENDS AND HOLIDAYS.

MECHANICAL LEGEND	
SYMBOL	DESCRIPTION
	NEW DUCTWORK, PIPING, OR EQUIPMENT
	EXISTING DUCTWORK, PIPING, OR EQUIPMENT TO REMAIN
	FLEXIBLE DUCT
	SUPPLY OR OUTSIDE AIR DUCT SECTION
	RETURN DUCT SECTION
	EXHAUST DUCT SECTION
	DUCTWORK TRANSITION
	MANUAL AIR VOLUME CONTROL DAMPER
	SUPPLY AIR DEVICE, CLEAR TRIANGLE SIDES INDICATE AIR FLOW PATTERN
	RETURN AIR DEVICE
	EXHAUST AIR DEVICE OR FAN
	UNDERCUT DOOR 3/4"
	WALL MOUNTED THERMOSTAT
	MOTORIZED DAMPER
	CONNECT TO EXISTING
	WALL MOUNTED TEMPERATURE SENSOR
	HUMIDITY SENSOR
	VOC SENSOR
	AIRFLOW MONITORING STATION
	STRAINER
	ISOLATION VALVE

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HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS
GOVERNMENT CENTER - HVAC RENOVATION
600 S. COMMERCE AVE.
SEBRING, FL 38970

100% CONSTRUCTION DOCUMENTS
11/13/2017

PROJECT TITLE:

ISSUED FOR:

REV DESCRIPTION DATE

GRAPHIC SCALE:
0" 1"

SCALE: N/A

PROJECT MANAGER:

DRAWN BY: RC

A/E OF RECORD:

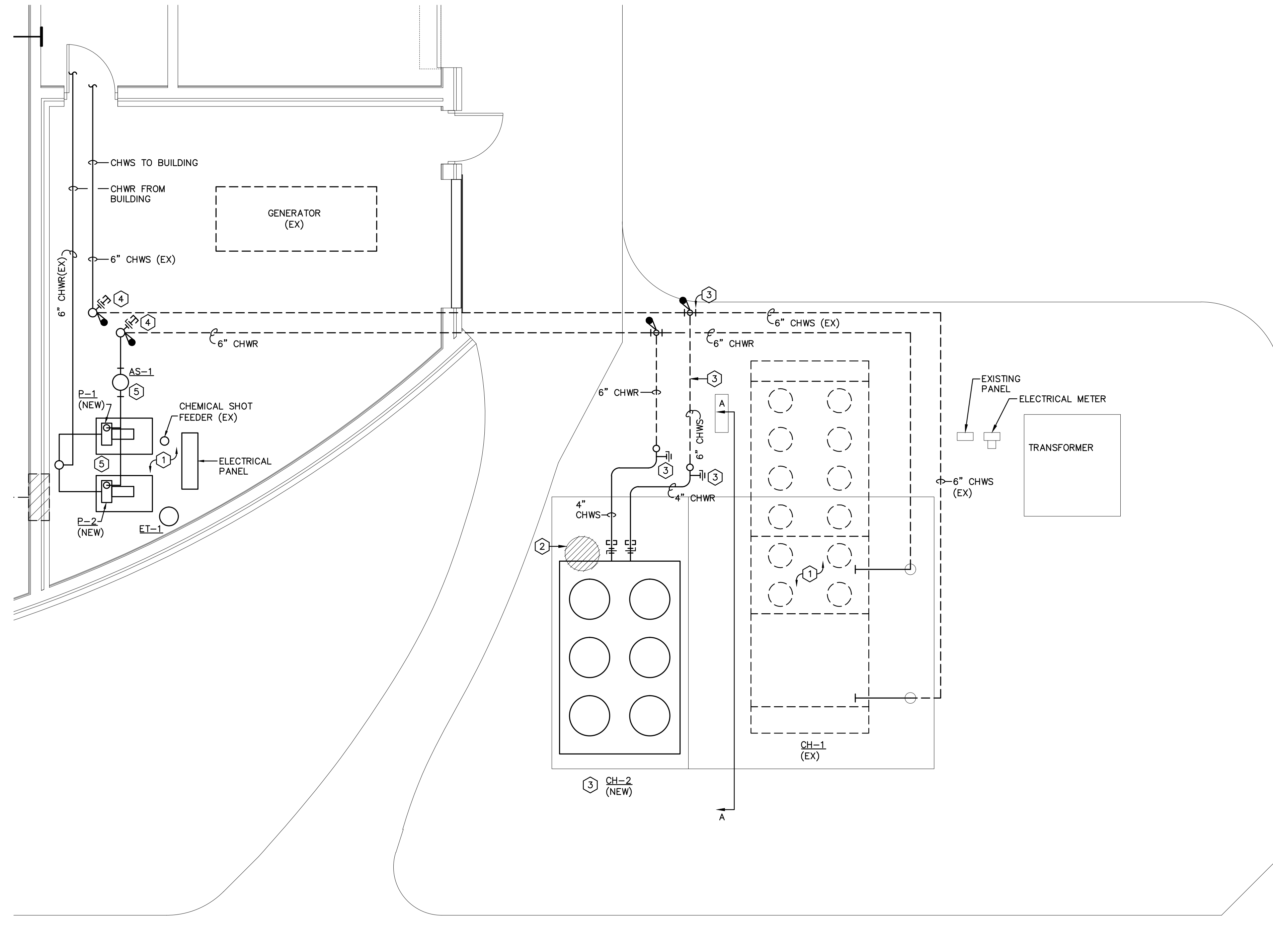
PROJECT NO: 4023

SHEET TITLE:

MECHANICAL NOTES, SCHEDULES AND LEGEND

SHEET No.: **M1.0**

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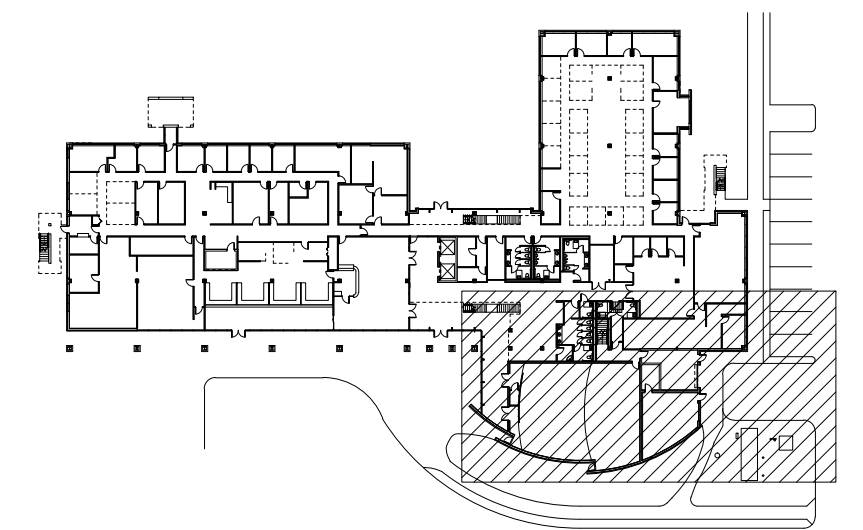


CHILLER YARD FLOOR PLAN - MECHANICAL - PHASE I

SCALE: 1/4"=1'-0" /4023-M2.0

MECHANICAL NOTES:

- 1 EXISTING CHILLER, CHILLED WATER PIPING, PUMPS AND ACCESSORIES TO REMAIN IN PHASE I.
- 2 REMOVE EXISTING TREE TO ACCOMMODATE NEW CHILLER.
- 3 NEW AIR-COOLED CHILLER, CH-2. ROUTE NEW CHILLED WATER LINES TO EXISTING LINES BELOW GRADE AND MAKE NEW CONNECTION. PROVIDE VALVED STUB-OUTS FOR INSTALLATION OF CH-1 IN PHASE 2.
- 4 PROVIDE VALVED 6" CHWS/CHWR STUB-OUT FOR CONNECTION OF TEMPORARY CHILLER.
- 5 REPLACE EXISTING CHILLED WATER PUMPS AND HYDRONIC SPECIALTIES WITH NEW EQUIPMENT AS INDICATED.

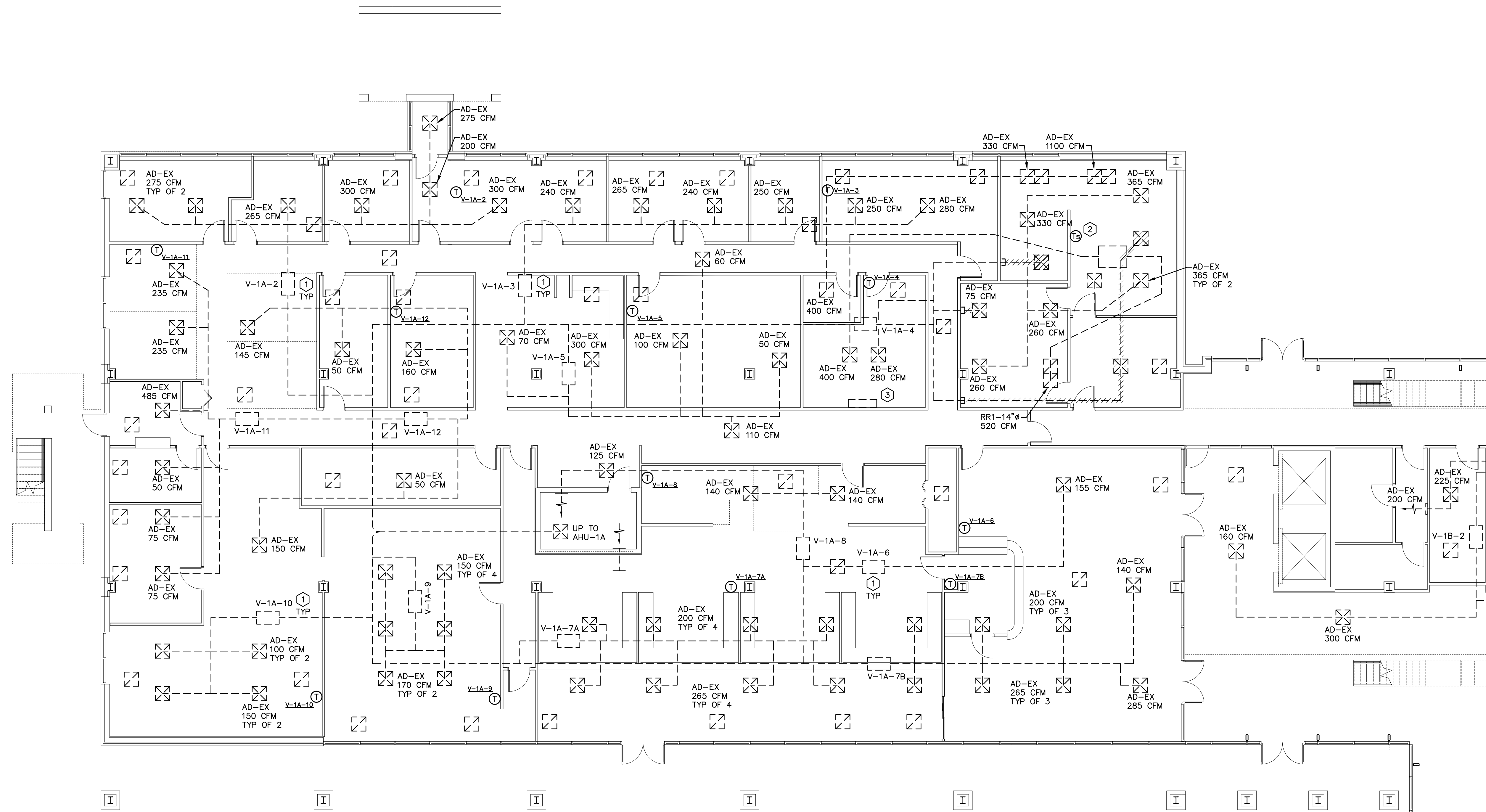


KEY PLAN
N.T.S.

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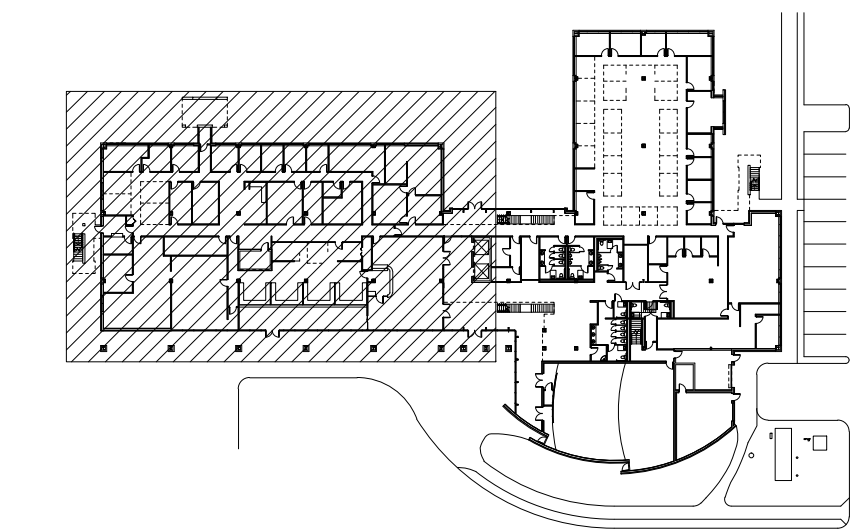
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2166 MAIN STREET SARASOTA, FL 34237 T 941-952-0084 F 941-952-0201 FL AA26000857		
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N		
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HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS GOVERNMENT CENTER - HVAC RENOVATION 600 S. COMMERCE AVE. SEBRING, FL 38970		
PROJECT TITLE:	ISSUED FOR: 100% CONSTRUCTION DOCUMENTS	
	11/13/2017	
REV	DESCRIPTION	DATE
GRAPHIC SCALE: 0" 1"		
SCALE: 1/4" = 1'-0"		
PROJECT MANAGER:		
DRAWN BY: RC		
A/E OF RECORD:		
PROJECT NO: 4023		
SHEET TITLE:		
CHILLER YARD FLOOR PLAN - MECHANICAL - PHASE I		
SHEET No.: M2.0		
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FIRST FLOOR PLAN - MECHANICAL
 SCALE: 1/8"=1'-0" /4023-M2.2

- MECHANICAL NOTES:**
- ① EXISTING VAV TERMINAL TO BE REUSED. REMOVE AND REPLACE CONTROLS WITH NEW. INSTALLATION SHALL INCLUDE NEW WALL MOUNTED TEMPERATURE SENSOR/THERMOSTAT. REBALANCE TO AIR FLOWS INDICATED ON SCHEDULE.
 - ② EXISTING COMPUTER ROOM UNIT TO BE REUSED. PROVIDE NEW TEMPERATURE SENSOR TO MONITOR TEMPERATURE.
 - ③ SUPPLEMENTAL A/C UNIT TO REMAIN.

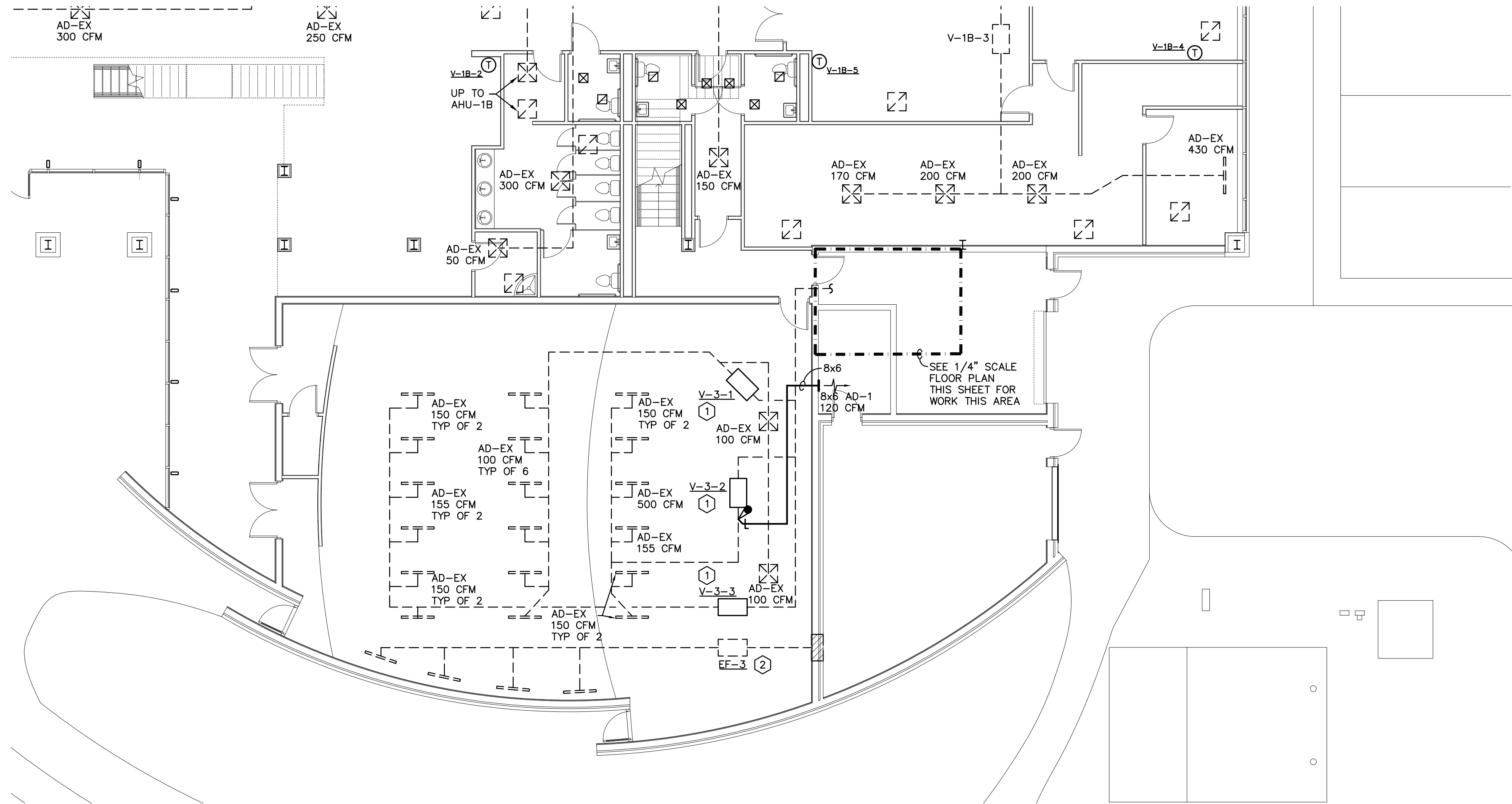


KEY PLAN
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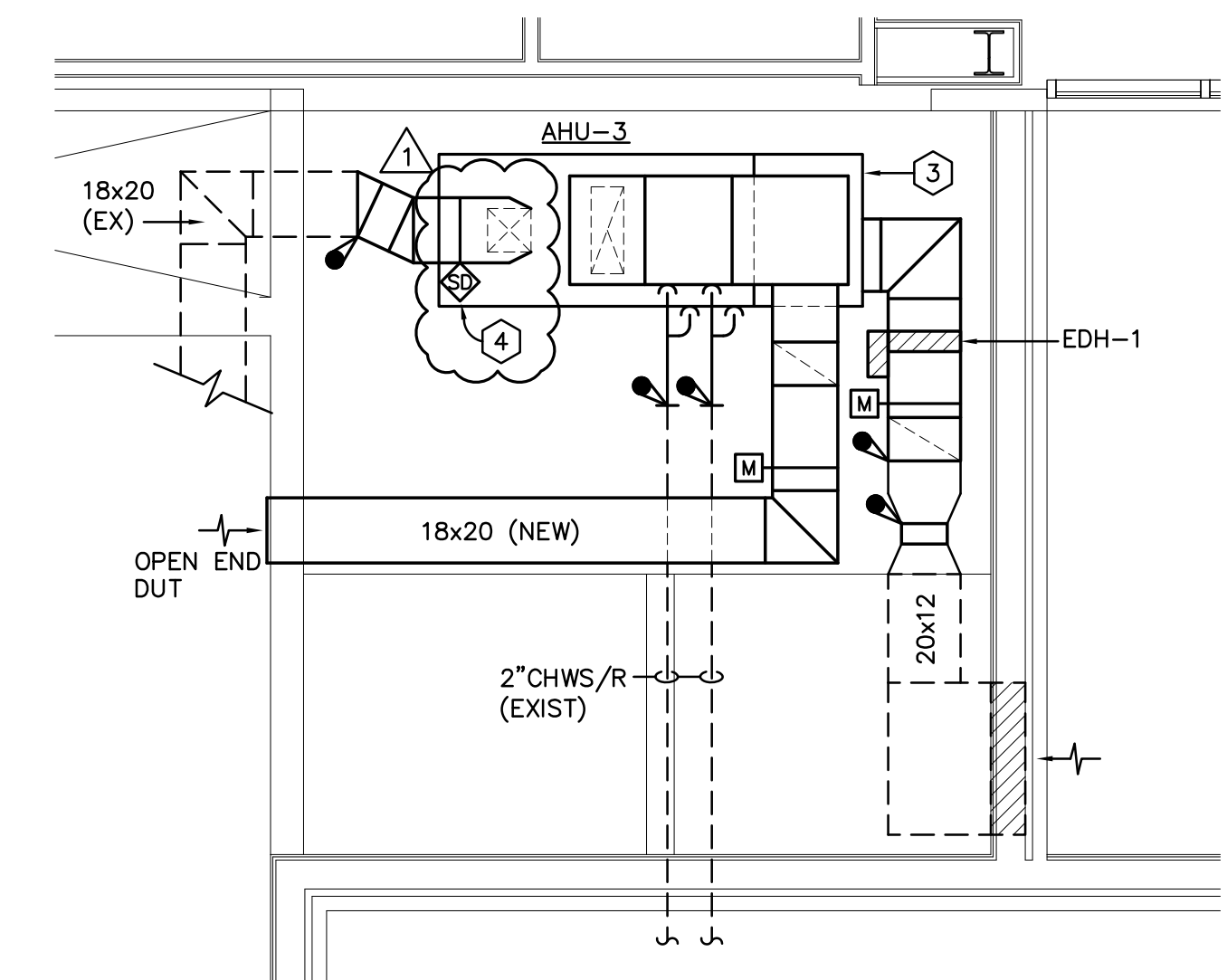
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NOT FOR CONSTRUCTION HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS GOVERNMENT CENTER - HVAC RENOVATION 600 S. COMMERCE AVE. SEBRING, FL 33870		
PROJECT TITLE:	100% CONSTRUCTION DOCUMENTS	
ISSUED FOR:	11/13/2017	
REV	DESCRIPTION	DATE
GRAPHIC SCALE: 		
SCALE:	1/8" = 1'-0"	
PROJECT MANAGER:		
DRAWN BY:	RC	
A/E OF RECORD:		
PROJECT NO:	4023	
SHEET TITLE:		
MECHANICAL FIRST FLOOR PLAN		
SHEET No.:	M2.2	
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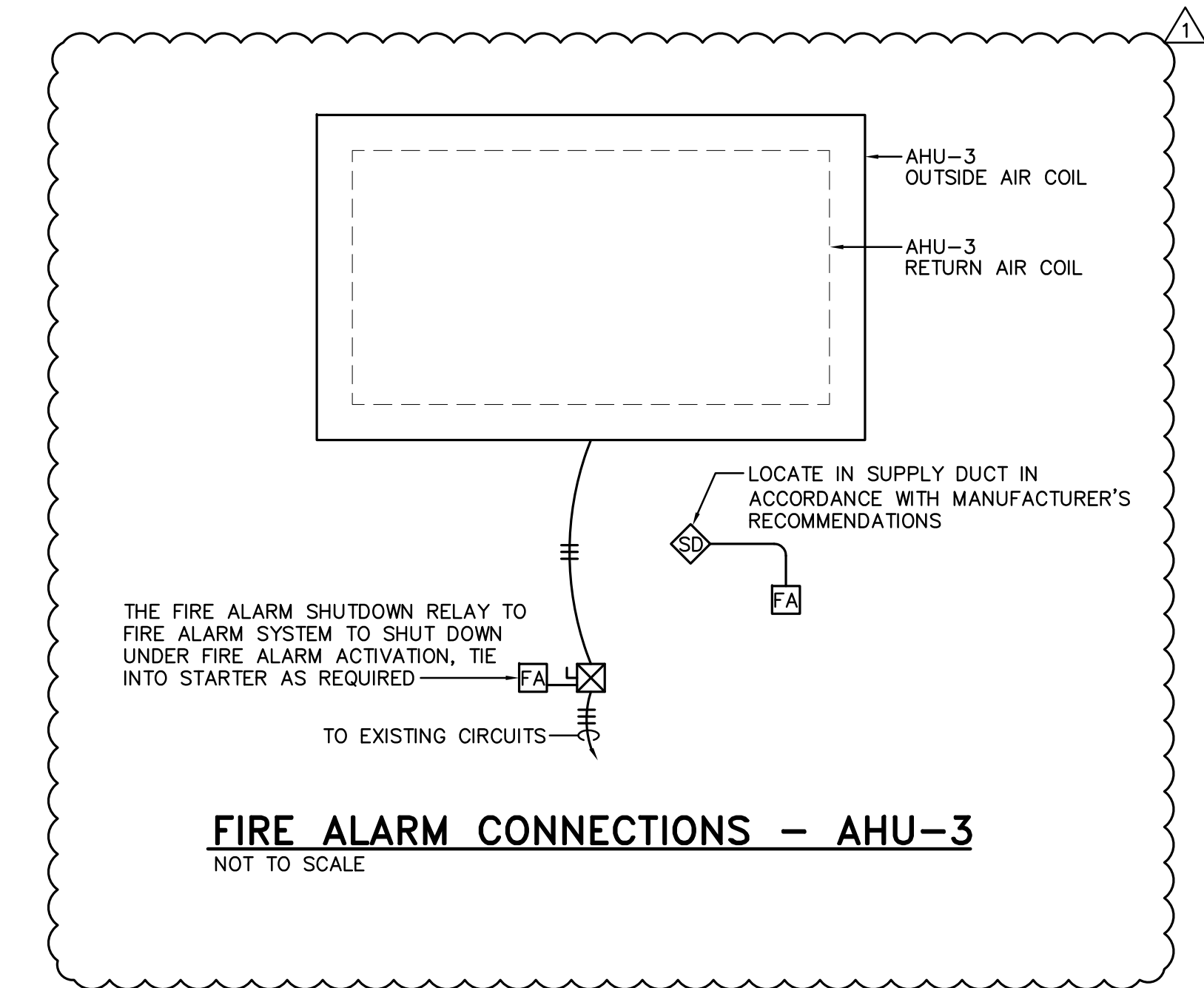
FIRST FLOOR PLAN - MECHANICAL
SCALE: 1/8"=1'-0" / 4023-M2.4

MECHANICAL NOTES:

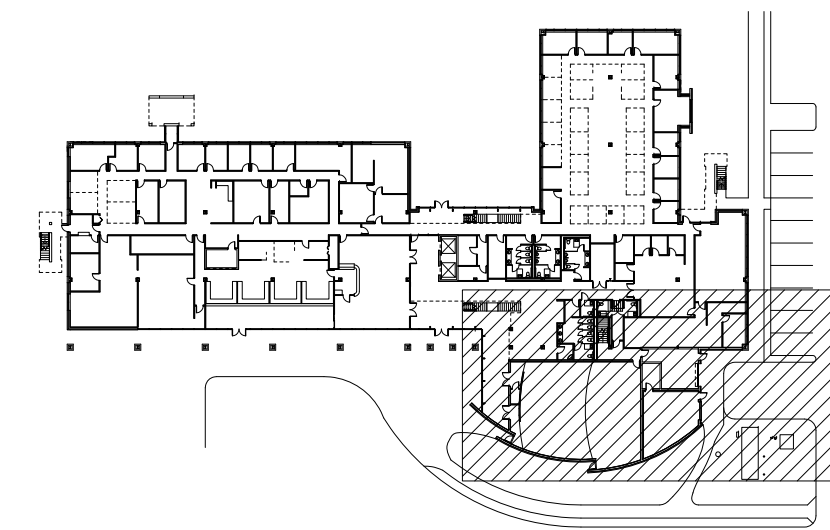
- ① EXISTING VAV TERMINAL TO BE REUSED. REMOVE AND REPLACE CONTROLS WITH NEW. INSTALLATION SHALL INCLUDE NEW WALL MOUNTED TEMPERATURE SENSOR/THERMOSTAT. REBALANCE TO AIR FLOWS INDICATED ON SCHEDULE.
- ② EXISTING EXHAUST SYSTEM TO REMAIN.
- ③ REPLACE EXISTING DUAL PATH AIR HANDLER WITH NEW UNIT. EXTEND NEW DUCT AND PIPING CONNECTIONS TO EXISTING SERVICES.
- ④ REMOVE EXISTING DUCT DETECTOR FROM EXISTING DUAL PATH AIR HANDLER AND REINSTALL IN SUPPLY DUCT OF NEW UNIT.



MEZZANINE B135 FLOOR PLAN - MECHANICAL
SCALE: 1/4"=1'-0"



FIRE ALARM CONNECTIONS - AHU-3
NOT TO SCALE



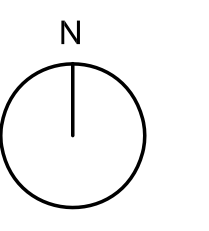
KEY PLAN
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GOVERNMENT CENTER - HVAC RENOVATION - 15068
600 S. COMMERCE AVE.
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11/20/2017

REV	DESCRIPTION	DATE
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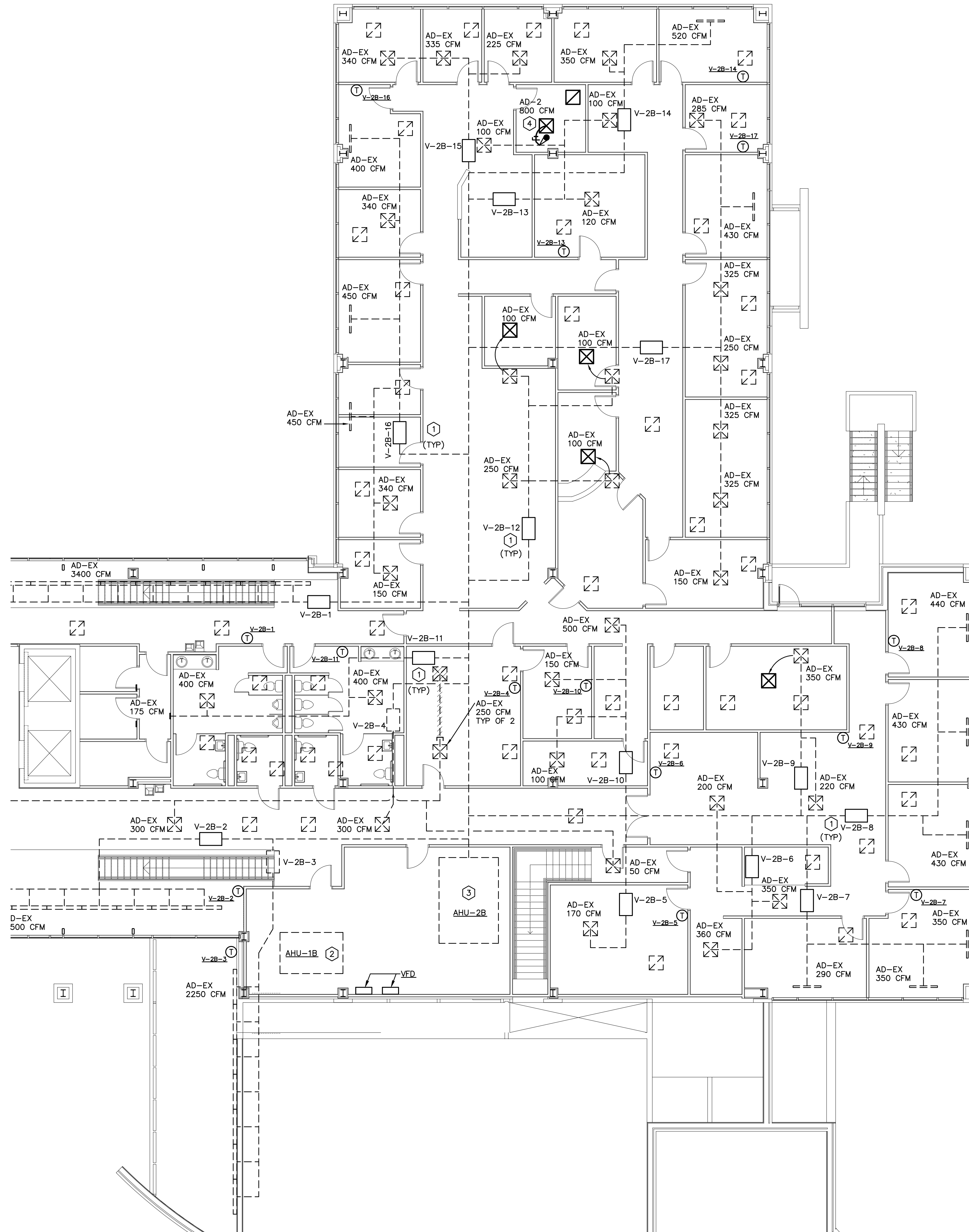
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0" 1"

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

PROJECT MANAGER:
DRAWN BY: RC
A/E OF RECORD:
PROJECT NO: 4023
SHEET TITLE:

MECHANICAL
FIRST FLOOR
PLAN

SHEET No.:
M2.4

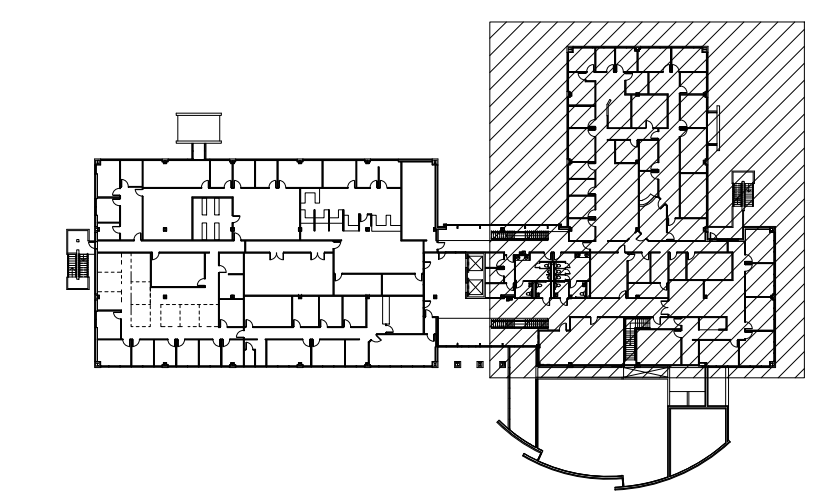


SECOND FLOOR PLAN - MECHANICAL

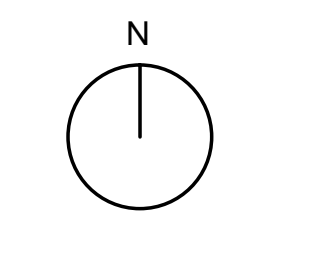
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MECHANICAL NOTES:

- ① EXISTING VAV TERMINAL TO BE REUSED. REMOVE AND REPLACE CONTROLS WITH NEW. INSTALLATION SHALL INCLUDE NEW WALL MOUNTED TEMPERATURE SENSOR/THERMOSTAT. REBALANCE TO AIR FLOWS INDICATED ON SCHEDULE.
- ② EXISTING AIR HANDLER, AHU-1B, TO BE REUSED. CLEAN AND SERVICE UNIT PRIOR TO REUSE. REMOVE EXISTING INLET GUIDE VANES AND ASSOCIATED CONTROL ELEMENTS AND REPLACE WITH NEW 20HP VFD. PROVIDE NEW SENSORS, ACTUATORS AND CONTROL ELEMENTS FOR A COMPLETE INSTALLATION. REBALANCE UNIT TO:
13,120 CFM SUPPLY AIR
1,475 CFM OUTSIDE AIR
89.4 GPM CHILLED WATER
- ③ EXISTING AIR HANDLER, AHU-2B, TO BE REUSED. CLEAN AND SERVICE UNIT PRIOR TO REUSE. REMOVE EXISTING INLET GUIDE VANES AND ASSOCIATED CONTROL ELEMENTS AND REPLACE WITH NEW 30HP VFD. PROVIDE NEW SENSORS, ACTUATORS AND CONTROL ELEMENTS FOR A COMPLETE INSTALLATION. REBALANCE UNIT TO:
13,120 CFM SUPPLY AIR
1,475 CFM OUTSIDE AIR
89.4 GPM CHILLED WATER
- ④ PROVIDE AND INSTALL NEW AIR DEVICE THIS ROOM.



KEY PLAN
N.T.S.



NOT FOR CONSTRUCTION

HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS
GOVERNMENT CENTER - HVAC RENOVATION
600 S. COMMERCE AVE.
SEBRING, FL 38970

PROJECT TITLE:
ISSUED FOR: 100% CONSTRUCTION DOCUMENTS
11/13/2017

REV	DESCRIPTION	DATE

REV	DESCRIPTION	DATE

GRAPHIC SCALE:
0' 1'

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

PROJECT MANAGER:
DRAWN BY: RC
A/E OF RECORD:
PROJECT NO: 4023
SHEET TITLE:
**MECHANICAL
SECOND
FLOOR PLAN**

PYRAMID ENGINEERING
CONSULTING ENGINEERS

5506 Rio Vista Drive
Clearwater, Florida 33760
(727) 531-2989 • Reg. No. EB6890
pyramid@pyramidengineering.org

SCOPE OF DEMAND CONTROLLED VENTILATION WORK

1. INSTALLATION

A. PROVIDE AND INSTALL ALL SENSORS, WIRING, AIR FLOW MONITORS, MOTORIZED DAMPERS, ETC... REQUIRED TO PROVIDE A "TURN KEY" DEMAND CONTROLLED VENTILATION SYSTEM AS DESCRIBED IN THE "SEQUENCE OF OPERATION" OUTLINED BELOW. THE EXISTING AIRFLOW MONITORING STATIONS, MOTORIZED DAMPERS AND AIR HANDLER CAN BE REUSED IF SUITABLE FOR REUSE. THIS WORK SHALL INCLUDE ANY INTERFACES AND PROGRAMMING REQUIRED TO COMPLETELY INTEGRATE THIS NEW FEATURE INTO THE SITE'S NEW EMS.

B. INSTALLATION SHALL INCLUDE COORDINATION ASSISTANCE WITH THE TEST AND BALANCE CONTRACTOR AND A TWO (2) HOUR TRAINING SESSION WITH THE OWNER.

2. SEQUENCE OF OPERATION

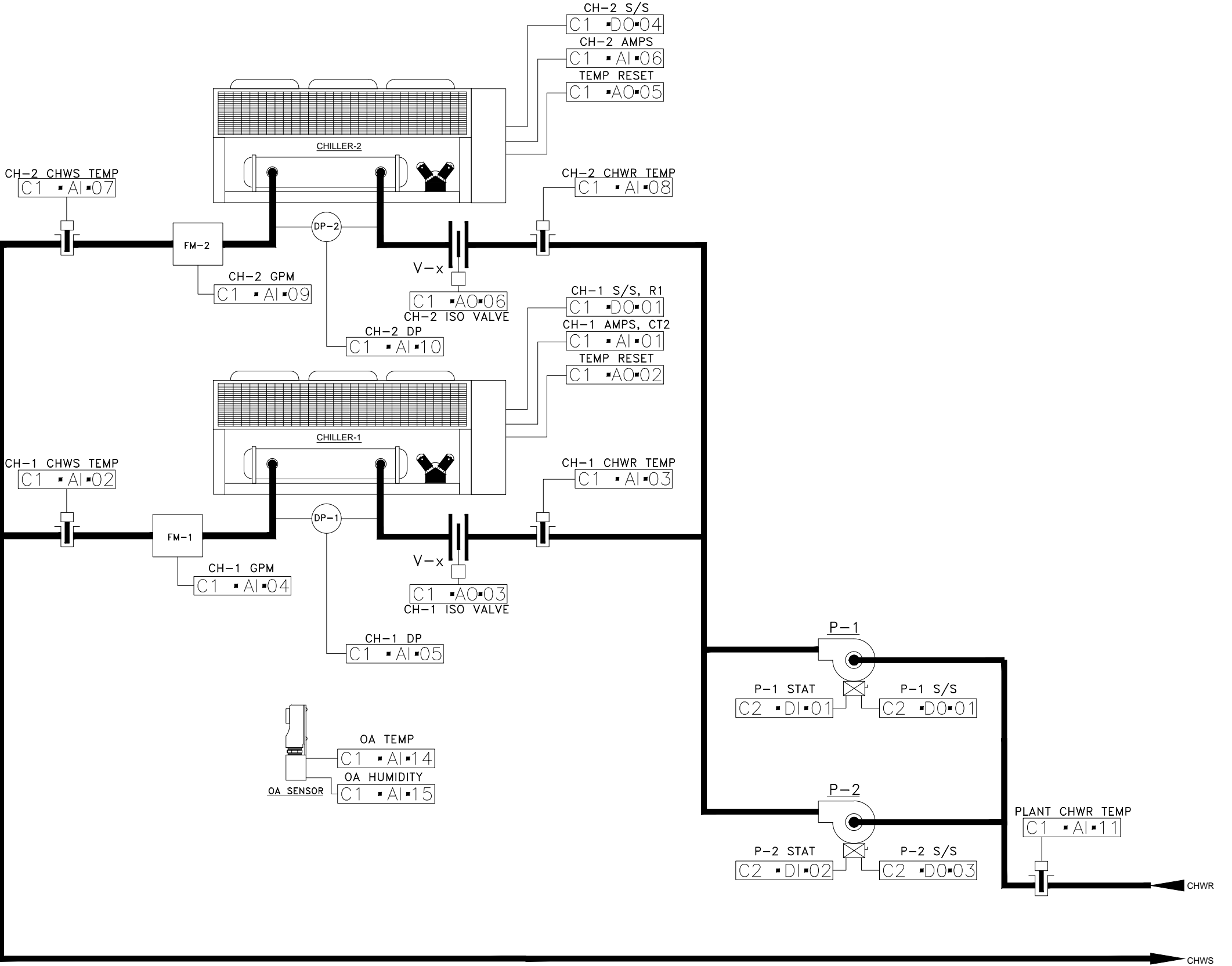
A. DEMAND CONTROLLED VENTILATION:

A DEMAND CONTROLLED VENTILATION FEATURE SHALL BE ADDED TO THE SYSTEM. ON A DROP IN CO2 LEVELS BELOW THE SET POINT (500 PPM, ADJUSTABLE) THE CONTROLLER SHALL REDUCE AIRFLOW BY 10% OF CURRENT CAPACITY BY MODULATING THE MOTORIZED CONTROL DAMPER CLOSED. THE SYSTEM SHALL MONITOR CO2 LEVELS EVERY 10 MINUTES AND CONTINUE TO REDUCE OUTSIDE AIRFLOW IN 10% INCREMENTS UNTIL THE SYSTEM REACHES ITS MINIMUM AIRFLOW SET POINT. ON A RISE IN CO2 LEVELS, THE OPPOSITE SHALL OCCUR.

ON UNITS PROVIDED WITH AN OUTSIDE AIR FAN, IF CO2 LEVEL REMAINS ABOVE THE SET POINT WHEN THE DAMPERS ARE FULLY OPEN, THE OUTSIDE AIR FAN SHALL START.

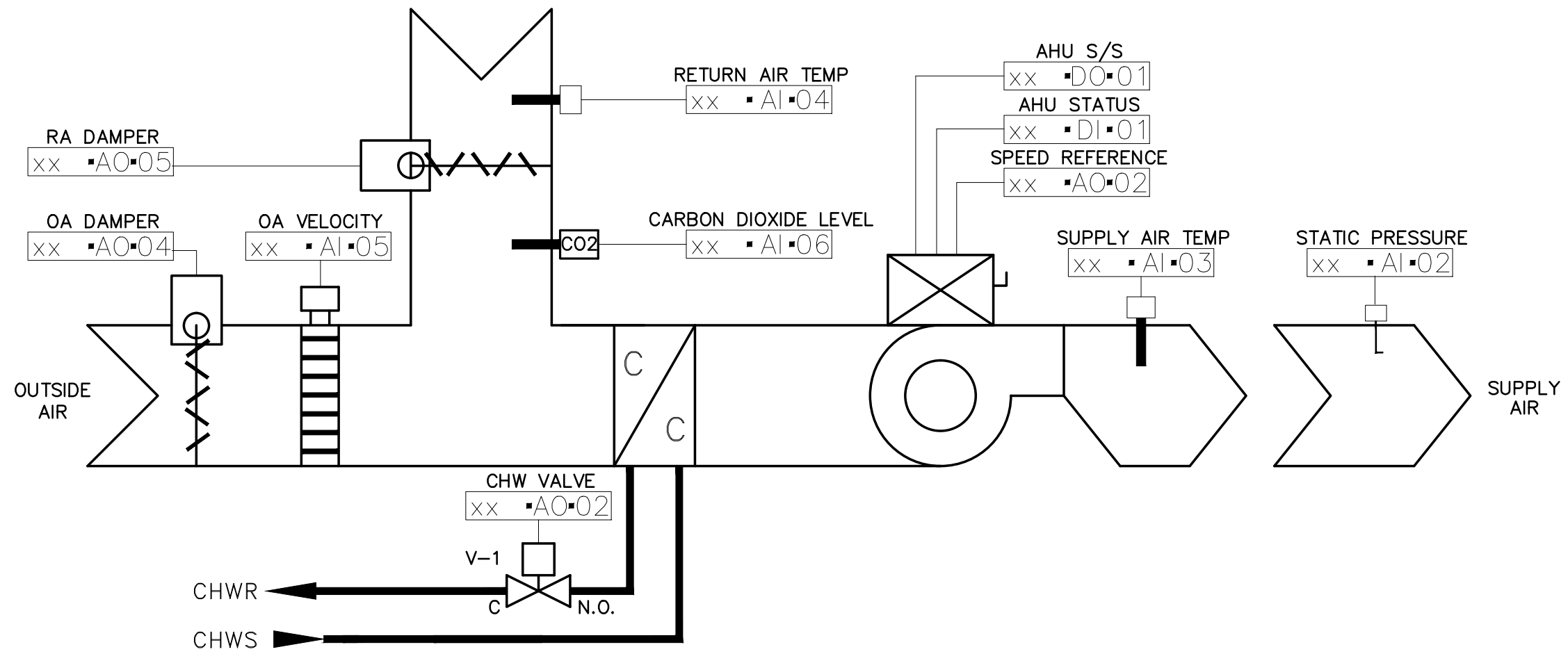
IN THE UNOCCUPIED MODE, THE OUTSIDE AIR DAMPERS SHALL REMAIN CLOSED; OUTSIDE AIR FANS SHALL REMAIN OFF.

3. REBALANCE OUTSIDE AIR AND EXHAUST SYSTEMS AS NOTED ON DRAWINGS AND SCHEDULES.



CHILLER PLANT CONTROLS

N.T.S.



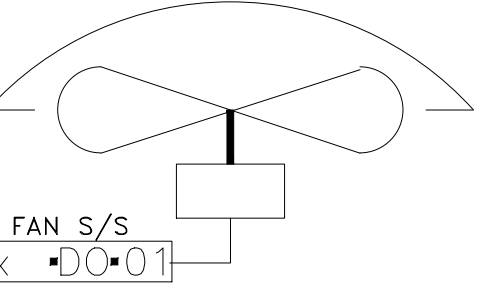
INPUTS		NO		OUTPUTS	
DESCRIPTIONS	SGNL.			DESCRIPTIONS	
AHU STATUS	DI	1	DO	AHU START/STOP	
STATIC PRESSURE	AI	2	AO	VFD SPEED REFERENCE	
SUPPLY AIR TEMP	AI	3	DO	CHW VALVE	
RETURN AIR TEMP	AI	4	DO	OUTSIDE AIR DAMPER	
OA VELOCITY	AI	5	DO	RETURN AIR DAMPER	
CARBON DIOXIDE LEVELS	AI	6			
		7			
		8			

VARIABLE AIR VOLUME AIR HANDLER WITH DEMAND CONTROLLED VENTILATION CONTROLS

N.T.S.

INPUTS		NO		OUTPUTS	
DESCRIPTIONS	SGNL.			DESCRIPTIONS	
CH-1 AMPS	AI	1	DO	CH-1 S/S	
CH-1 CHWS TEMP	AI	2	AO	CH-1 TEMP RESET	
CH-1 CHWR TEMP	AI	3	AO	CH-1 ISO VALVE	
CH-1 CHWS GPM	AI	4	DO	CH-2 S/S	
CH-1 DP	AI	5	AO	CH-2 TEMP RESET	
CH-2 AMPS	AI	6	AO	CH-2 ISO VALVE	
CH-2 CHWS TEMP	AI	7			
CH-2 CHWR TEMP	AI	8			
CH-2 CHWS GPM	AI	9			
CH-2 DP	AI	10			
PLANT CHWR TEMP	AI	11			
OA TEMP	AI	12			
OA HUM	AI	13			
	AI	14			
	AI	15			

INPUTS		NO		OUTPUTS	
DESCRIPTIONS	SGNL.			DESCRIPTIONS	
P-1 STAT	DI	1	DO	P-1 S/S	
P-2 STAT	DI	2	DO	P-2 S/S	



NOTE: FIVE EXISTING FANS

EXHAUST FANS

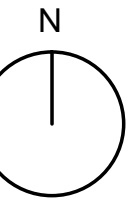
N.T.S. TYPICAL

PYRAMID ENGINEERING CONSULTING ENGINEERS

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SWEET SPARKMAN ARCHITECTS



NOT FOR CONSTRUCTION

HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS
GOVERNMENT CENTER - HVAC RENOVATION
600 S. COMMERCE AVE.
SEBRING, FL 38970

ISSUED FOR: 100% CONSTRUCTION DOCUMENTS
11/13/2017

REV	DESCRIPTION	DATE

GRAPHIC SCALE:
0' 1'

SCALE: 1/16" = 1'-0"

PROJECT MANAGER:
DRAWN BY: RC

A/E OF RECORD:
PROJECT NO: 4023
SHEET TITLE:

MECHANICAL DETAILS

DEMOLITION:

1. REMOVE EXISTING WIRING AND EQUIPMENT/DEVICES WHICH ARE NOT NECESSARY FOR THE FUNCTION OF NEW EQUIPMENT/DEVICES AND THE FUNCTIONS OF EXISTING EQUIPMENT/DEVICES REMAINING.
2. REMOVE ABANDONED WIRING ENTIRELY UNLESS NOTED AND REMOVE ACCESSIBLE RACEWAYS.
3. CUT, CAP AND PATCH OVER CONCEALED CONDUITS AT POINT OF EMERGENCE.
4. EXISTING EQUIPMENT AND MATERIALS THAT ARE REMOVED SHALL NOT BE REUSED EXCEPT WHERE SPECIFICALLY NOTED.
5. DISPOSE OF SCRAP AND DEBRIS. MAINTAIN ELECTRICAL CONTINUITY TO EQUIPMENT/DEVICES WHICH SHALL REMAIN.
6. CONTRACTORS SHALL BE GUIDED BY OWNER'S REPRESENTATIVE, THE ARCHITECT AND THE ENGINEER AS TO THE REQUIREMENT FOR THE REMOVAL OF EQUIPMENT/ DEVICES WHICH MAY NOT BE INDICATED.
7. REMOVE EXISTING WIRING DEVICES AS REQUIRED FOR THE REMOVAL OF WALLS AND/OR THE INSTALLATION OF NEW WALL FINISHES.
8. WHERE DEVICES ARE REMOVED, CONTRACTOR SHALL ALSO REMOVE OUTLET BOX, CONDUCTORS, CONDUIT AND MOUNTING HARDWARE. EXCEPTION TO THIS REQUIREMENT MAY BE WHERE CONTRACTOR PROPOSES TO RE-USE CONDUIT CONCEALED OR OUTLET BOX RECESSED IN EXISTING WALL OR FLOOR SLAB FOR NEW WORK IF APPROVED IN ADVANCE BY THE ARCHITECT/ENGINEER

GENERAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2014 FLORIDA BUILDING CODE AND THE 2011 NATIONAL ELECTRICAL CODE. WORK SHALL ALSO COMPLY WITH ALL APPLICABLE RULES AND REGULATIONS OF LOCAL LAWS AND ORDINANCES.
2. CONTRACTOR SHALL MAKE A THOROUGH EXAMINATION OF THE SITE AND THE CONTRACT DOCUMENTS. NO CLAIM FOR EXTRA COMPENSATION WILL BE RECOGNIZED IF DIFFICULTIES ARE ENCOUNTERED WHICH AN EXAMINATION OF SITE CONDITIONS AND CONTRACT DOCUMENTS PRIOR TO EXECUTING CONTRACT WOULD HAVE REVEALED.
3. ELECTRICAL CONTRACTOR SHALL ARRANGE FOR ALL NECESSARY PERMITS, LICENSES, UTILITY COORDINATION, AND INSPECTIONS AS REQUIRED BY THE CITY OR UTILITY COMPANY. CONTRACTOR IS RESPONSIBLE FOR ALL EQUIPMENT REQUIRED BY UTILITY COMPANY AND SHOULD INCLUDE NECESSARY COSTS IN BID.
4. CONTRACTOR SHALL LEGIBLY MARK-UP A SET OF 24"x36" DRAWINGS TO REFLECT AS-BUILT CONDITIONS, AND TURN OVER TO ARCHITECT.

WIRE/RACEWAY:

1. ALL CONDUCTORS SHALL BE COPPER. CONDUCTOR INSULATION SHALL BE DUAL TYPE THIN/THIN 75°C (167°F) FOR DRY, DAMP, AND WET LOCATIONS. CONDUCTOR INSULATION WITH SINGLE TYPE MARKING THHN 90°C (194°F) MAY BE USED FOR DRY LOCATIONS ONLY. ALL CONDUCTORS SHALL BE COLOR CODED AS REQUIRED BY NEC AND FURTHER IDENTIFIED AND CODED AS SPECIFIED HEREINAFTER. COLOR CODING SHALL BE BY MEANS OF COLORED INSULATING MATERIAL, COLORED BRAID OR JACKET OVER THE INSULATION OR BY MEANS OF SUITABLE COLORED, PERMANENT, NON-AGING, INSULATING TAPE APPLIED TO CONDUCTORS AT EACH CABINET OR JUNCTION POINT. THE COLOR CODING SHALL BE ACCOMPLISHED AS THE CONDUCTORS ARE INSTALLED. THE FOLLOWING SYSTEMS OF COLOR CODING SHALL BE STRICTLY ADHERED TO:
 - A) GROUND LEADS: GREEN
 - B) 120/208 VOLT UNGROUNDED PHASE WIRES:
 - PHASE A: BLACK
 - PHASE B: RED
 - PHASE C: BLUE
 - NEUTRAL: WHITE
 - C) 277/480 VOLT UNGROUNDED PHASE WIRES:
 - PHASE A: BROWN
 - PHASE B: ORANGE
 - PHASE C: YELLOW
 - NEUTRAL: GRAY

- THE COLOR CODE ASSIGNED TO EACH PHASE WIRE SHALL BE CONSISTENTLY FOLLOWED THROUGHOUT.
2. BRANCH CIRCUIT CONDUCTORS ARE SIZED FOR A MAXIMUM VOLTAGE DROP OF 3% AT DESIGN LOAD PER FBC C405.7.3.2. FEEDER & SERVICE CONDUCTORS ARE SIZED FOR A MAXIMUM VOLTAGE DROP OF 2% AT DESIGN LOAD PER FBC C405.7.3.1.
 3. ALL INTERIOR BUILDING CONDUCTORS SHALL BE RUN IN THIN WALL CONDUIT AND THIN WALL CONDUIT SHALL BE UNDERWRITERS' APPROVED GALVANIZED ELECTRICAL METALLIC TUBING. COUPLINGS AND CONNECTORS SHALL BE STEEL COMPRESSION TYPE, ZINC OR CADMIUM PLATED. BELOW GRADE CONDUITS SHALL BE SCHEDULE 40 PVC WITH RIGID METAL ELBOWS AND RISERS. RIGID METAL CONDUIT BELOW GRADE OR IN CONCRETE SHALL BE COATED WITH BITUMASTIC OR OR SLEEVED WITH 10 MIL POLYETHYLENE. SITE CONDUITS SHALL BE ROUTED AT 24" BELOW GRADE AND CONDUITS ROUTED BELOW BUILDINGS SHALL BE AT 36". EXTERIOR CONDUITS SHALL BE RIGID GALVANIZED STEEL.
 4. RACEWAY PENETRATIONS OF FIRE RATED WALLS AND/OR FLOORS SHALL BE SEALED TO MAINTAIN INTEGRITY OF CONSTRUCTION. ALL PRODUCTS, MATERIALS AND METHODS OF INSTALLATION SHALL BE UL APPROVED AND MEET NFPA.

GROUNDING:

1. THE ENTIRE ELECTRICAL SYSTEM SHALL BE COMPLETELY AND EFFECTIVELY GROUNDED AS REQUIRED BY NATIONAL ELECTRICAL CODE. ALL METALLIC RACEWAYS SHALL BE MECHANICALLY AND ELECTRICALLY SECURE AT ALL JOINTS AND AT ALL BOXES, CABINETS, FITTINGS AND EQUIPMENT.
2. THE GROUNDING SYSTEM SHALL BE TESTED BY THE CONTRACTOR. THE RESISTANCE TO GROUND SHALL BE NO MORE THAN FIVE (5) OHMS. SUBMIT TEST RESULTS TO ENGINEER. CONTRACTOR SHALL MAKE UPGRADES AND ADDITIONS TO GROUNDING SYSTEM AS REQUIRED TO ACHIEVE THE (5) OHM REQUIREMENT.

OUTLET BOXES/DEVICES:

1. COORDINATE DEVICE AND COVER PLATE COLORS WITH ARCHITECT.
2. ALL OUTLET BOXES SHALL BE RIGIDLY MOUNTED AND SHALL BE EQUIPPED WITH SUITABLE SCREW FASTENED COVERS. OPEN KNOCKOUTS OR HOLES IN BOXES SHALL BE PLUGGED WITH SUITABLE BLANKING DEVICE.
3. OUTLET BOXES SHALL BE 4 INCH SQUARE x 2-1/8" DEEP. OUTLET BOXES LOCATED ABOVE THE CEILING SHALL BE LEGIBLY IDENTIFIED WITH BRANCH CIRCUIT NUMBER OF CIRCUIT TERMINATED WITHIN BY MEANS OF BLACK PERMANENT MARKER.
4. RECEPTACLES WITHIN (6) FEET OF A SINK SHALL HAVE GFCI PROTECTION.

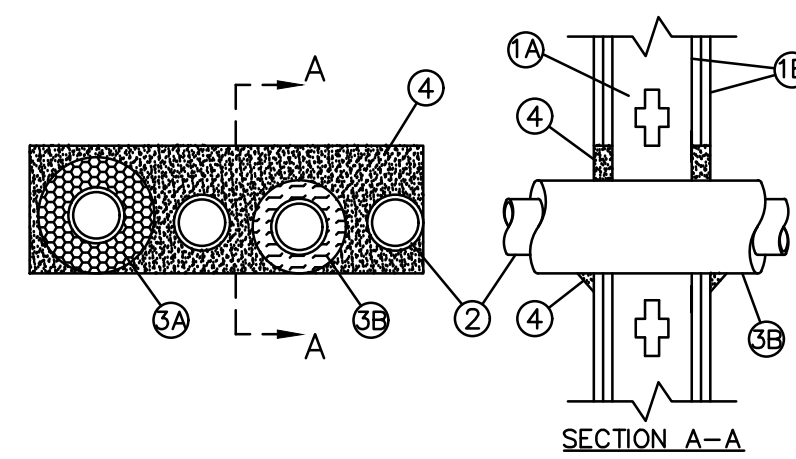
SWITCHGEAR:

5. DISCONNECT SWITCHES SHALL BE HEAVY-DUTY TYPE AND MANUFACTURED MANUFACTURED BY SQUARE 'D' COMPANY OR APPROVED EQUAL: EATON OR SIEMENS. FUSES SHALL BE DUAL ELEMENT, CARTRIDGE TYPE. FUSES SHALL BE BY ONE MANUFACTURER: BUSSMAN "FUSETRON" OR CHASE-SHAMMUT "TRONIC."
6. INSTALL ENGRAVED PLASTIC-LAMINATE LABELS ON EACH MAJOR UNIT OF ELECTRICAL EQUIPMENT IDENTIFYING PANELBOARD NAME OR EQUIPMENT SERVING. EXAMPLES ARE: PANELBOARDS, DISCONNECT SWITCHES, AND MOTOR STARTERS, I.E. LABELS SHALL BE 1/16" THICK BLACK PLASTIC LAMINATE WITH 3/8" WHITE CORE PLIE LETTERS.
7. PANELBOARD DIRECTORY CARDS SHALL BE TYPEWRITTEN WITH ACCURATE AND CURRENT INFORMATION BY THE CONTRACTOR AT THE END OF CONSTRUCTION.
8. MAGNETIC FULL VOLTAGE STARTERS SHALL BE SQUARE D CLASS 8536, MAGNETICALLY OPERATED WITH THREE THERMAL OVERLOAD UNITS AND FOUR AUXILIARY CONTACTS. CONTROL VOLTAGE SHALL BE 24 VOLTS SUPPLIED FROM AN INTERNAL CONTROL POWER TRANSFORMER WHERE NO OTHER SUPPLY OF CONTROL POWER IS INDICATED. HOA SWITCH SHOULD BE MOUNTED IN FRONT COVER. COMBINATION UNITS SHALL BE SQUARE D CLASS 8538 WITH THREE POLE HORSEPOWER RATED, NON-FUSIBLE DISCONNECT SWITCH INCLUDED IN THE ENCLOSURE OR APPROVED EQUAL: EATON OR SIEMENS.
9. ALL MULTI-WIRE BRANCH CIRCUIT BREAKERS ARE TO BE TIED TOGETHER BY AN IDENTIFIED HANDLE-TIE OR BY A COMMON TRIP CIRCUIT BREAKER PER 2011 NEC SECTION 210.4(B).

RATED THRU WALL PIPE PENETRATION

NTS

System No. W-L-8010
May 19, 2005
F Ratings - 1 & 2 Hr (See Item 1)
T Ratings - 1/4, 3/4, 1, 1-1/2 and 1-3/4 Hr (See Items 2 & 3)



1. Wall Assembly - The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

- A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 in. by 4 in. (51 mm to max 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-5/8 in. (92 mm) wide and spaced max 24 in. (610 mm) OC.
 - B. Gypsum Board* - Nom 5/8 in. (16 mm) thick gypsum wallboard, as specified in the individual Wall and Partition Design. Max area of opening is 65-1/4 sq in. (421 cm2) with max dimension of 14-1/2 in. (368 mm).
- The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly.

2. Through Penetrants - A max of four pipes, conduits or tubing to be installed within the opening. The space between pipes, conduits or tubing shall be min 1/2 in. to max 1-5/16 in. (13 mm to max 33 mm). The space between pipes, conduits or tubing and periphery of opening shall be min 1-3/16 in. (30 mm) for uninsulated copper tubes and copper pipes (Items 2C and 2D) and 0 in. (point contact) for insulated copper tubes and copper pipes and uninsulated steel pipes and conduit (Item 2B). The space between pipes, conduits or tubing and periphery of opening shall be max 1-5/16 in. (33 mm). Pipe, conduit or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

- A. Steel Pipe - Nom 2 in. (51 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
- B. Conduit - Nom 2 in. (51 mm) diam (or smaller) steel electrical metallic tubing or steel conduit.
- C. Copper Tubing - Nom 2 in. (51 mm) diam (or smaller) Type L (or heavier) copper tubing.
- D. Copper Pipe - Nom 2 in. (51 mm) diam (or smaller) Regular (or heavier) copper pipe.

When uninsulated steel pipe or conduit is used, T Rating is 3/4 hr and 1-1/2 hr for 1 and 2 hr rated assemblies, respectively. When uninsulated copper tubing or pipe is used, T Rating is 1/4 hr for both 1 and 2 hr rated assemblies.

3A. Pipe Covering* (Optional) - Nom 1 in. (25 mm) hollow cylindrical heavy density glass fiber units jacketed on the outside with an oil service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing top tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product.

See Pipe and Equipment Covering - Materials* (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

When pipe covering is used on all through penetrants, T Rating is 1 hr and 1-3/4 hr for 1 and 2 hr rated assemblies, respectively.

3B. Tube Insulation - Plastics* (Optional) - Nom 3/4 in. (19 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing.

See Plastics* (DMFZ) category in the Recognized Component Directory for names of manufacturers. Any Recognized component tube insulation material meeting the above specifications and having a UL94 Flammability Classification of 94-5VA may be used.

When tube insulation is used on all through penetrants, T Rating is 3/4 hr and 1-1/2 hr for 1 and 2 hr rated assemblies, respectively.

4. Fill Void or Cavity Material* - Caulk or Sealant - Min 5/8 in. or 1-1/4 in. (16 mm or 32 mm) thickness of fill material, for 1 or 2 hr walls, respectively, applied within the annulus, flush with both surfaces of wall. At point contact locations, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the wall/pipe and wall/pipe insulation interface on both surfaces of wall.

3M COMPANY - CP 25WB+, IC 15WB+ caulk or FB-3000 WT sealant

5. Fill Void or Cavity Materials* - Wrap Strip (Not Shown) - Min one layer of 2 in. (51 mm) wide, nom 1/4 in. (6 mm) thick intumescent elastomeric material faced on one side with aluminum foil, required only when tube insulation (Item 3B) is used in 2 hr rated assemblies. Wrap strip tightly wrapped around tube insulation (foil side exposed) within the opening on both sides of the wall, flush with both surfaces of the wall assembly.

3M COMPANY - FS-195+

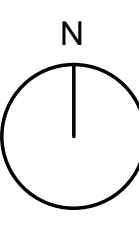
*Bearing the UL Recognized Component Mark
*Bearing the UL Classification Marking

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION	MOUNTING
	DUPLEX RECEPTACLE (20A., 125V.)	M.H. 18" TO CENTERLINE
	DENOTES GROUND FAULT INTERRUPTER TYPE RECEPTACLE	
	DENOTES WEATHER-RESISTANT RECEPTACLE	
	DENOTES RECEPTACLE WITH DIECAST ALUMINUM 'IN-USE' COVER.	
	DENOTES DEVICE EXISTING TO REMAIN.	
	JUNCTION BOX OR OUTLET BOX, 4" SQUARE BOX UNLESS OTHERWISE NOTED	ABOVE CEILING
	DISCONNECT SWITCH	
	FUSED DISCONNECT SWITCH	
	COMBINATION STARTER/DISCONNECT SWITCH	
	120/208V. POWER PANELBOARD	
	RACEWAY CONCEALED IN WALL OR CEILING	SEE GENERAL NOTES
	RACEWAY CONCEALED UNDER FLOOR OR BENEATH GRADE	SEE GENERAL NOTES
	HOMERUN TO PANEL, LETTERS INDICATE PANEL, NUMBERS INDICATE CIRCUIT. NOTE: ANY CIRCUIT WITHOUT FURTHER DESIGNATION INDICATES A TWO WIRE & EQUIP. GROUND CIRCUIT. A GREATER NUMBER OF WIRES IS INDICATED AS SHOWN: (3 WIRES & EQUIPMENT GROUND), (4 WIRES & EQUIPMENT GROUND), ETC.	AS NOTED

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 SWEET SPARKMAN
ARCHITECTS



NOT FOR CONSTRUCTION

PROJECT TITLE: Highlands County Board of County Commissioners
Government Center - HVAC Renovation
600 S. Commerce Ave.
Sebring, FL 33870-3889

ISSUED FOR: 100% CONSTRUCTION DOCUMENTS
11/13/2017

REV DESCRIPTION DATE

GRAPHIC SCALE:
0' 1'

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

PROJECT MANAGER:

DRAWN BY: DN

A/E OF RECORD: DN

PROJECT NO: 4023

SHEET TITLE:

GENERAL NOTES

SHEET No.: **E1.0**

NEWPOWER
consulting, inc
15520 HIGH BELL PL, BRADENTON FL 34212
PH: 813.489.9850, COA# 32011
ENGINEERING

EXISTING SWITCH BOARD															
MDP(1) VOLTAGE 277 / 480 V SIZE 1600A MCB CABINET SURFACE NEMA-1															
PHASE 3 PH 1600A BUS RATING 65,000 AIC RATED															
NOTES	REMARKS	VA PHASE LOAD			#	BUS			VA PHASE LOAD			CKT. BKR.	REMARKS	NOTES	
		AMPS	P	A B C		A B C	A B C	AMPS	P						
	EXISTING LOAD	300	3					1 X	2			450	3	EXISTING SPARE	
	EXISTING LOAD	400	3					3 X	4			300	3	EXISTING LOAD	
	NEW CH-1	300	3					5 X	6					SPACE	
	NEW CH-2	300	3					7 X	8					SPACE	
	MDP(2)							9 X	10						
								11 X	12						
								13 X	14						
								15 X	16						
								17 X	18						
								19 X	20						
								21 X	22						
								23 X	24						
								FEED-THRU LUGS	2						
	TOTAL														

NB = NEW BREAKER SHALL BE COMPATIBLE WITH EXISTING PANELBOARD AND SHALL MATCH PANELBOARD AIC RATING.
EB = REUSE EXISTING BREAKER.

NOTE:
CONTRACTOR IS RESPONSIBLE FOR UPDATING ALL PANEL SCHEDULES WITH CURRENT DESCRIPTIONS OF ALL BRANCH CIRCUIT DESIGNATIONS.

EXISTING SWITCH BOARD															
MDP(2) VOLTAGE 277 / 480 V SIZE 1600A MCB CABINET SURFACE NEMA-1															
PHASE 3 PH 1600A BUS RATING 65,000 AIC RATED															
NOTES	REMARKS	VA PHASE LOAD			#	BUS			VA PHASE LOAD			CKT. BKR.	REMARKS	NOTES	
		AMPS	P	A B C		A B C	A B C	AMPS	P						
	EXISTING PANEL 'H2A'	150	3					1 X	2			50	3	NEW P-1	NB
	EXISTING PANEL 'H1A'	150	3					3 X	4			50	3	NEW P-2	NB
	SPACE							5 X	6						
	SPACE							7 X	8			30	3	EXISTING CHILLER PUMP	
	SPACE							9 X	10			30	3	EXISTING CHILLER PUMP	
	EXISTING TRANSFORMER L2B'	50	3					11 X	12			50	3	EXISTING TRANSFORMER L1B'	
	SPACE							13 X	14			50	3	EXISTING TRANSFORMER L1C'	
								15 X	16						
								17 X	18						
								19 X	20						
								21 X	22						
								23 X	24						
								25 X	26						
								27 X	28						
								29 X	30						
								31 X	32						
								33 X	34						
								35 X	36						
	TOTAL														

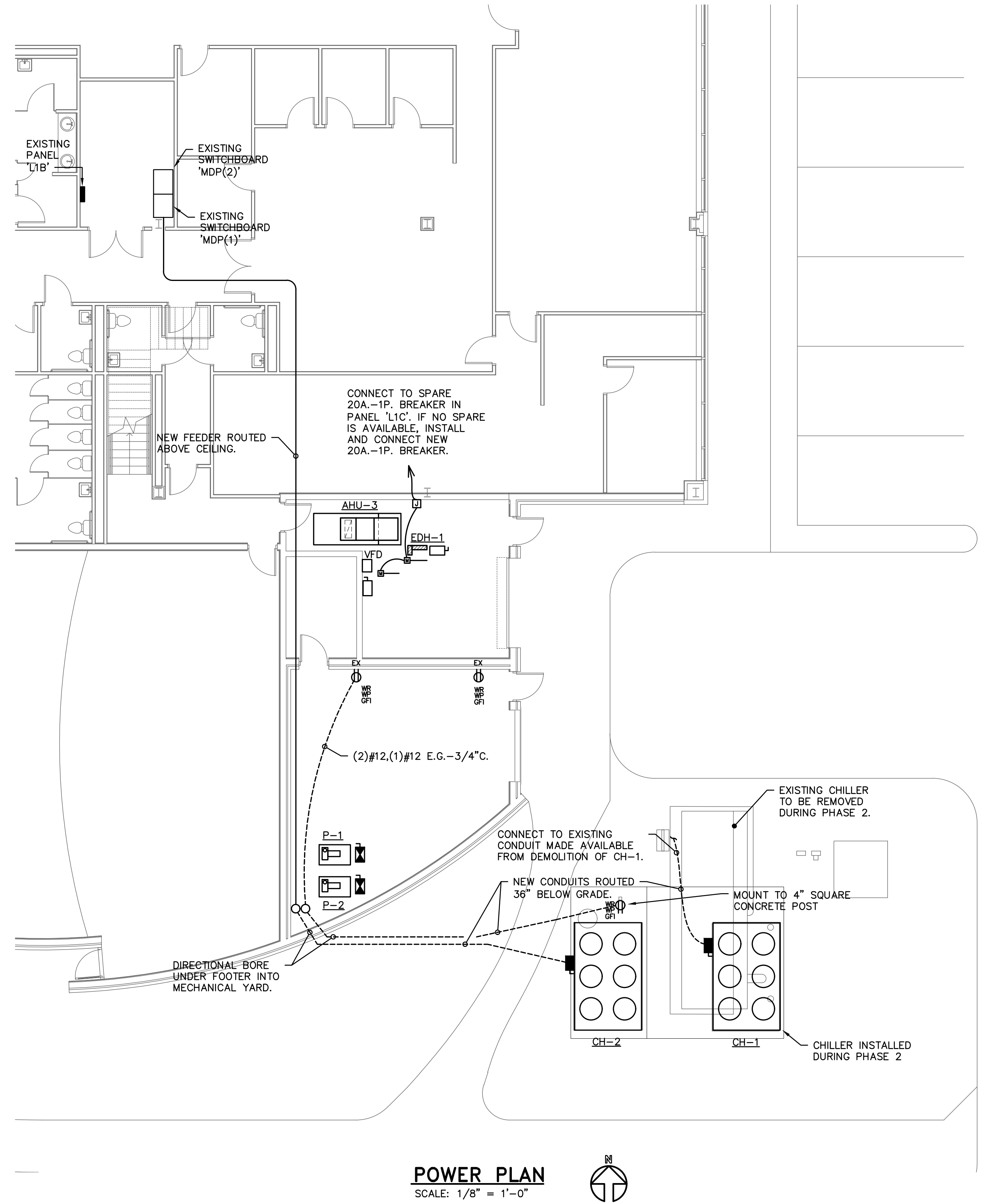
NB = NEW BREAKER SHALL BE COMPATIBLE WITH EXISTING PANELBOARD AND SHALL MATCH PANELBOARD AIC RATING.
EB = REUSE EXISTING BREAKER.

NOTE:
CONTRACTOR IS RESPONSIBLE FOR UPDATING ALL PANEL SCHEDULES WITH CURRENT DESCRIPTIONS OF ALL BRANCH CIRCUIT DESIGNATIONS.

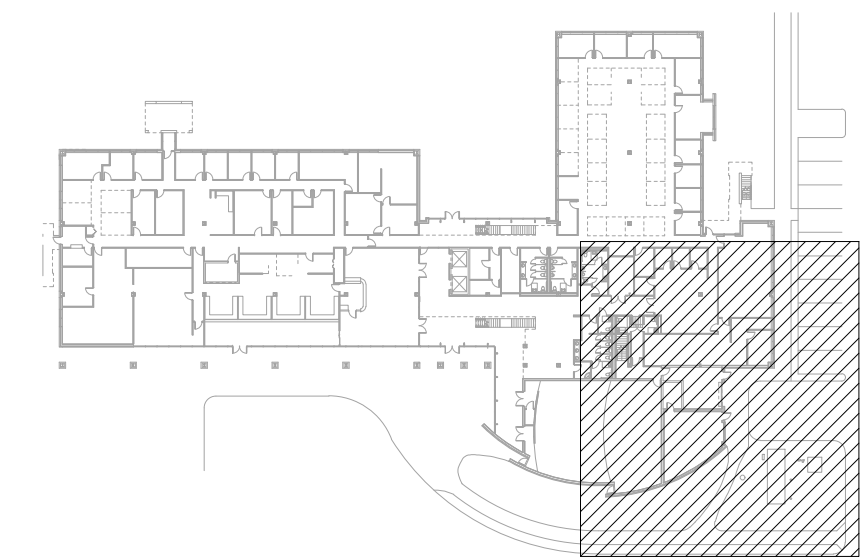
LOAD REMOVED:	LOAD ADDED:
P-1 16,710 VA.	P-1 16,710 VA.
P-2 16,710 VA.	P-2 16,710 VA.
CH-1 239,040 VA.	CH-1 168,558 VA.
AHU-3 6,050 VA.	CH-2 168,558 VA.
EDH-1 15,000 VA.	AHU-3 3,820 VA.
	EDH-1 15,000 VA.

LOAD SUMMARY		
LOAD REMOVED	293,510 VA	
LOAD ADDED	389,552 VA	
NEW LOAD	96,042 VA	

EXISTING HIGHEST DEMAND OVER THE LAST YEAR PER DUKE ENERGY = 340KW @ 125%	= 425.0 KW
NEW LOAD	= 96.1
TOTAL	521.1 KW (628 AMPS)



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

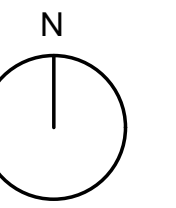


MECHANICAL EQUIPMENT											
DESCRIPTION	ELECTRICAL CHARACTERISTICS				BREAKER		EQUIP. GROUND	CONDUIT	DISCONNECT SWITCH	REMARKS	
	VOLTS	PHASE	KW	HP	MCA	AMPS POLES					
CH-1	480	3			254.0	300 3	(3)#350 #2	4"	400A/3P/F/NEMA-3R	NOTE #1	
CH-2	480	3			254.0	300 3	(3)#350 #2	3"	400A/3P/F/NEMA-3R	NOTE #1	
AHU-3	480	3	3		6.0	15 3	(3)#12 #12	3/4"	30A/3P/NF/NEMA-1	NOTE #2	
EDH-1	480	3	15		22.6	25 3	(3)#10 #10	3/4"	30A/3P/NF/NEMA-1		
P-1	480	3		15	26.3	50 3	(3)#10 #10	3/4"	NOTE #3		
P-2	480	3		15	26.3	50 3	(3)#10 #10	3/4"	NOTE #3		

- NOTES:
1. FUSE DISCONNECT PER UNIT NAMEPLATE MFS OR MOCP.
2. ROUTE CIRCUIT VIA VFD.
3. NEMA 2 SIZE STARTER/DISCONNECT IN NEMA-3R ENCLOSURE.

9166 MAIN STREET
SARASOTA, FL 34237
T 941.952.0084
F 941.952.0201
FL AA26000857

SWEET SPARKMAN
ARCHITECTS

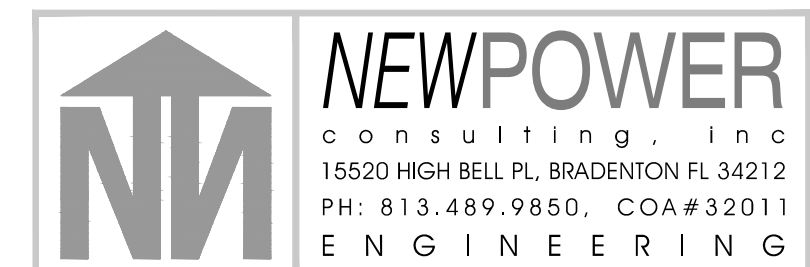


NOT FOR CONSTRUCTION
PROJECT TITLE: Highlands County Board of County Commissioners
Government Center - HVAC Renovation
600 S. Commerce Ave.
Sebring, FL 33870-3889
ISSUED FOR: 100% CONSTRUCTION DOCUMENTS
11/13/2017

REV DESCRIPTION DATE
GRAPHIC SCALE:
0" 1"
SCALE: 1/8" = 1'-0"
PROJECT MANAGER:
DRAWN BY: DN
A/E OF RECORD: DN
PROJECT NO: 4023
SHEET TITLE:

ELECTRICAL PLAN

SHEET No.: **E2.0**



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ASBESTOS SURVEY REPORT

FACILITY NAME

Highlands County
Government Building
600 South Commerce Ave.
Sebring, Florida 33870

FACILITY OWNER

Highlands County Board of
County Commissioners
600 South Commerce Ave.
Sebring, Florida 33870

Survey Date: Aug. 22, 2017

Report Date: Oct. 1, 2017

A·C·T Project #18516

Vision
Solutions
Performance

Prepared by:



A·C·T

Environmental & Infrastructure
CORPORATE OFFICE:

1875 West Main Street | Bartow, Florida 33830

(P) 863-533-2000 | www.A-C-T.com

A handwritten signature in blue ink, appearing to read 'Eric Jonsson', is written over a white rectangular background.

Eric Jonsson, CIH
Licensed Asbestos Consultant #AX83
Licensed Asbestos Business #ZA334

A FULL-SERVICE ENGINEERING, ENVIRONMENTAL SCIENCES,
FIELD SERVICES, CONTRACTING & EMERGENCY RESPONSE FIRM

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1.0 INTRODUCTION

The purpose of this survey was to identify asbestos-containing material (ACM) and its location in the interior areas of the Highlands County Government Building located at 600 South Commerce Avenue in Sebring, Florida. The survey was conducted on August 22, 2017, by Eric Jonsson, Licensed Asbestos Consultant and Mr. Dan Stump, accredited Building Inspector. Roof materials and systems were excluded from the scope of this survey. On September 28th, Mr. Eric Jonsson mobilized back to the site and collected samples of suspect fireproofing from the property.

2.0 BUILDING/FACILITY DESCRIPTION

The subject structure is a two-story masonry commercial building consisting of concrete block walls erected over concrete slab floors. The building houses several county governmental agencies.

3.0 SUMMARY OF FINDINGS

The following table shows the building materials identified as ACM within this location.

**Table I. Summary of Findings
Highlands County Government Building**

Homogeneous Area No.	ACM Description	Location	Approx. Quantity	Asbestos Content	NF/F	Hazard Ranking
<i>Highlands County Government Building</i>						
No Asbestos Containing Materials Detected						

NF = Non – Friable Material

F = Friable Material

4.0 RECOMMENDATIONS

Interior areas of Highlands County Government Building were accessible to the ACT Inspectors during this survey. As laboratory results indicate, no ACM was detected inside the subject space during this survey. Therefore, no recommendations are necessary at this time.

5.0 ASBESTOS SURVEY GUIDELINES

The survey was performed in accordance with 29 CFR 1910.1001 the OSHA standard for general industry. Homogenous sampling areas were delineated in order to randomly obtain representative samples from each type of homogenous material. We must emphasize that it is not possible to survey every aspect or material of the building.

Bulk sampling was performed as an integral part of the survey procedure and was performed in accordance with 29 CFR 1910.1001. Following delineation of homogenous sampling areas, determined by visual survey, samples were collected from representative locations within each of the homogenous areas.

Sampling was performed using the following guidelines. The inspection focuses on identifying: 1) Surfacing Material, 2) Thermal System Insulation, 3) Flooring Materials, and 4) roofing material, all of which are likely to contain asbestos. Samples were collected in a random manner utilizing the EPA Guidance Document titled "Asbestos in Buildings- Simplified Sampling Scheme for Friable Surfacing Materials" dated October 1985. A homogenous area is considered not to contain ACM only if the analysis results of all samples obtained from the area contained asbestos in amounts of less than one percent.

6.0 HOMOGENEOUS AREAS

The following table includes the various suspect building materials that were accessible and observed during the asbestos survey. However, areas such as voids, cavities, and other inaccessible spaces may contain suspect ACM.

**Table II. Homogeneous Areas
Highlands County Government Building**

Homogeneous Area No.	Material Description	Sample Number	Location	ACM Y/N
<i>Highlands County Government Building</i>				
01	12"x12" Grey Floor Tile w/ White/Black Fleck and Mastic	1-1 to 1-5	B135, SE Stairwell, A218, B146	N
02	2'x2' Ceiling Tile Wormhole Pattern	3-1 to 3-7	Hallway, B140, B142, A127, B238, A242, A207	N
03	12"x12" Red-Brown Floor Tile/Mastic	5-1 to 5-2	Concealed Weapons Hallway, Teller Across from A128	N
04	Brown Laminate Flooring/Mastic	6-1 to 6-2	Outside A242, Outside A218	N
05	4" Red Cove Base/Mastic	7-1 to 7-2	Cubicle Near A126, Teller Across from A128	N
06	Red Multi-Color Carpet/Mastic	8-1 to 8-2	Cubicle Near A126, Conf. Room Near A136	N
07	12"x12" Light Grey Floor Tile/Mastic	9-1 to 9-5	A127, Breakroom Near A140, B238, Breakroom Near B251, Near B126	N
08	4" Grey Cove Base/Mastic	10-1 to 10-5	B135, B145, A127, B238, A218	N
09	4" Orange Cove Base/Mastic	11-1 to 11-3	B140, Outside B142, Property Appraiser Area	N
10	Green Multi-Color Carpet/Mastic	12-1 to 12-2	B140, B124	N
11	12"x12" White Floor Tile w/ Green Fleck and Mastic	13-1 to 13-3	B145, B142, B254	N

Homogeneous Area No.	Material Description	Sample Number	Location	ACM Y/N
12	4" Dark Brown Cove Base/Mastic	14-1 to 14-3	Hallway Near B238, Conf. Room Near B228, Outside B218	N
13	Brown Multi-Color Carpet/Mastic	15-1 to 15-2	Hallway Near B238, B232	
14	Dark Grey HVAC Mastic	16-1 to 16-3	B252, B254, A229	
15	White HVAC Mastic	17-1 to 17-5	B252, A229	
16	12"x12" Light Brown Floor Tile w/Brown-White Fleck and Mastic	18-1	Hallway Near B238	
17	Blue Multi-Color Carpet/Mastic	19-1	B234	
18	4" Black Cove Base/Mastic	20-1	B233	
19	4" Dark Grey Cove Base/Mastic	21-1 to 21-2	B254, A229	
20	Drywall/Joint Compound	22-1 to 22-7	Hallway Outside B135, B142, A127, B238, Outside B207, A242, Near A207	
21	Grey Stair Tread/Mastic	25-1 to 25-2	Hallway Outside B135	
22	Pink Decking Caulk	26-1	Hallway Outside B135	
23	4" Green Cove Base/Mastic	27-1	B104	
24	Green Carpet/Mastic	28-1	B104	
25	Fireproofing (Collected 9-29-17)	1 to 2	Commissioner's Auditorium	

7.0 ASBESTOS ABATEMENT OPINION OF PROBABLE COST

Because no ACMs were identified within the accessible areas of this tenant space during this survey, no asbestos abatement opinion of probable cost is necessary at this time.

8.0 DISCLAIMER

All documents prepared by A-C-T, are related exclusively to the services provided herein. They are not intended or represented to be suitable for reuse by Highlands County BOCC or others on extensions of this project or on any other project. Any reuse without written verification or adaption by A-C-T for specific purposes intended, will be at the sole risk of Highlands County BOCC, and without liability or legal exposure to A-C-T, Highlands County BOCC shall indemnify and hold A-C-T harmless from all claims, damages, losses and expenses, including, but not limited to, attorney's fees arising out of or resulting there from. Any such verification or adaption will entitle A-C-T to further compensation at rates to be agreed upon by Highlands County BOCC and A-C-T.

This report, consisting of narrative and attachments, must be considered and utilized in its entirety.



Asbestos Survey Report

**Highlands County Government Building
ACT Project #18516**

APPENDIX A

LABORATORY DATA



August 28, 2017

ACT, Inc
1875 W. Main Street
Bartow, FL 33830

CLIENT PROJECT: Highlands Co. BOCC Govt. Ctr; 18516
CEI LAB CODE: A17-12202

Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on August 24, 2017. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations. If you have any questions, please feel free to call our office at 919-481-1413.

Kind Regards,

A handwritten signature in black ink, appearing to read "Tianbao Bai".

Tianbao Bai, Ph.D., CIH
Laboratory Director





ASBESTOS ANALYTICAL REPORT
By: Polarized Light Microscopy

Prepared for

ACT, Inc

CLIENT PROJECT: Highlands Co. BOCC Govt. Ctr; 18516

CEI LAB CODE: A17-12202

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 08/28/17

TOTAL SAMPLES ANALYZED: 68

SAMPLES >1% ASBESTOS:

TEL: 866-481-1412

www.ceilabs.com



Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Highlands Co. BOCC Govt. Ctr; 18516

CEI LAB CODE: A17-12202

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
1-1		A2482406A	Gray	Floor Tile	None Detected
		A2482406B	Yellow	Mastic	None Detected
1-2		A2482407A	Gray	Floor Tile	None Detected
		A2482407B	Yellow	Mastic	None Detected
1-3		A2482408A	Gray	Floor Tile	None Detected
		A2482408B	Yellow	Mastic	None Detected
1-4		A2482409A	Gray	Floor Tile	None Detected
		A2482409B	Yellow	Mastic	None Detected
1-5		A2482410A	Gray	Floor Tile	None Detected
		A2482410B	Yellow	Mastic	None Detected
3-1		A2482411	White	Ceiling Tile	None Detected
3-2		A2482412	White	Ceiling Tile	None Detected
3-3		A2482413	White	Ceiling Tile	None Detected
3-4		A2482414	White	Ceiling Tile	None Detected
3-5		A2482415	White	Ceiling Tile	None Detected
3-6		A2482416	White	Ceiling Tile	None Detected
3-7		A2482417	White	Ceiling Tile	None Detected
5-1		A2482418A	Red,Brown	Floor Tile	None Detected
		A2482418B	Yellow	Mastic	None Detected
5-2		A2482419A	Red,Brown	Floor Tile	None Detected
		A2482419B	Yellow	Mastic	None Detected
6-1		A2482420	Brown	Laminate	None Detected
6-2		A2482421	Brown	Laminate	None Detected
7-1		A2482422A	Red	Baseboard	None Detected
		A2482422B	Yellow	Mastic	None Detected
7-2		A2482423A	Red	Baseboard	None Detected
		A2482423B	Yellow	Mastic	None Detected
8-1	Layer 1	A2482424	Red	Carpet	None Detected
	Layer 2	A2482424	Yellow	Mastic	None Detected
8-2	Layer 1	A2482425	Red	Carpet	None Detected
	Layer 2	A2482425	Yellow	Mastic	None Detected



Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Highlands Co. BOCC Govt. Ctr; 18516

CEI LAB CODE: A17-12202

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
9-1		A2482426A	Light Gray	Floor Tile	None Detected
		A2482426B	Yellow	Mastic	None Detected
9-2		A2482427A	Light Gray	Floor Tile	None Detected
		A2482427B	Yellow	Mastic	None Detected
9-3		A2482428A	Light Gray	Floor Tile	None Detected
		A2482428B	Yellow	Mastic	None Detected
9-4		A2482429A	Light Gray	Floor Tile	None Detected
		A2482429B	Yellow	Mastic	None Detected
9-5		A2482430A	Light Gray	Floor Tile	None Detected
		A2482430B	Yellow	Mastic	None Detected
10-1		A2482431A	Gray	Baseboard	None Detected
		A2482431B	Yellow	Mastic	None Detected
10-2		A2482432A	Gray	Baseboard	None Detected
		A2482432B	Yellow	Mastic	None Detected
10-3		A2482433A	Gray	Baseboard	None Detected
		A2482433B	Yellow	Mastic	None Detected
10-4		A2482434A	Gray	Baseboard	None Detected
		A2482434B	Yellow	Mastic	None Detected
10-5		A2482435A	Gray	Baseboard	None Detected
		A2482435B	Yellow	Mastic	None Detected
11-1		A2482436A	Orange	Baseboard	None Detected
		A2482436B	Yellow	Mastic	None Detected
11-2		A2482437A	Orange	Baseboard	None Detected
		A2482437B	Yellow	Mastic	None Detected
11-3		A2482438A	Orange	Baseboard	None Detected
		A2482438B	Yellow	Mastic	None Detected
12-1		A2482439	Yellow,Green	Mastic	None Detected
12-2		A2482440	Yellow,Green	Mastic	None Detected
13-1		A2482441A	White,Green Fleck	Floor Tile	None Detected
		A2482441B	Yellow	Mastic	None Detected



Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Highlands Co. BOCC Govt. Ctr; 18516

CEI LAB CODE: A17-12202

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
13-2		A2482442A	White,Green Fleck	Floor Tile	None Detected
		A2482442B	Yellow	Mastic	None Detected
13-3		A2482443A	White,Green Fleck	Floor Tile	None Detected
		A2482443B	Yellow	Mastic	None Detected
14-1		A2482444A	Dark Brown	Baseboard	None Detected
		A2482444B	Yellow	Mastic	None Detected
14-2		A2482445A	Dark Brown	Baseboard	None Detected
		A2482445B	Yellow	Mastic	None Detected
14-3		A2482446A	Dark Brown	Baseboard	None Detected
		A2482446B	Yellow	Mastic	None Detected
15-1		A2482447	Yellow	Mastic	None Detected
15-2	Layer 1	A2482448	Brown,Multi-color	Carpet	None Detected
	Layer 2	A2482448	Yellow	Mastic	None Detected
16-1		A2482449	Dark Grey	HVAC Mastic	None Detected
16-2		A2482450	Dark Grey	HVAC Mastic	None Detected
16-3		A2482451	Dark Grey	HVAC Mastic	None Detected
17-1		A2482452	White	HVAC Mastic	None Detected
17-2		A2482453	White	HVAC Mastic	None Detected
17-3		A2482454	White	HVAC Mastic	None Detected
17-4		A2482455	White	HVAC Mastic	None Detected
17-5		A2482456	White	HVAC Mastic	None Detected
18-1		A2482457A	Light Brown	Floor Tile	None Detected
		A2482457B	Yellow	Mastic	None Detected
19-1	Layer 1	A2482458	Blue, Multicolored	Carpet	None Detected
	Layer 2	A2482458	Yellow	Mastic	None Detected
20-1		A2482459A	Black	Baseboard	None Detected
		A2482459B	Yellow	Mastic	None Detected
21-1		A2482460A	Dark Grey	Baseboard	None Detected



Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Highlands Co. BOCC Govt. Ctr; 18516

CEI LAB CODE: A17-12202

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
		A2482460B	Yellow	Mastic	None Detected
21-2		A2482461A	Dark Grey	Baseboard	None Detected
		A2482461B	Yellow	Mastic	None Detected
22-1		A2482462	White	Drywall/Joint Compound	None Detected
22-2		A2482463	White	Drywall/Joint Compound	None Detected
22-3		A2482464	White	Drywall/Joint Compound	None Detected
22-4		A2482465	White	Drywall/Joint Compound	None Detected
22-5		A2482466	White	Drywall/Joint Compound	None Detected
22-6		A2482467	White	Drywall/Joint Compound	None Detected
22-7		A2482468	White	Drywall/Joint Compound	None Detected
25-1		A2482469	Gray	Mastic	None Detected
25-2		A2482470	Yellow	Mastic	None Detected
26-1		A2482471	Pink	Caulking	None Detected
27-1		A2482472A	Green	Baseboard	None Detected
		A2482472B	Yellow	Mastic	None Detected
28-1	Layer 1	A2482473	Green	Carpet	None Detected
	Layer 2	A2482473	Yellow	Mastic	None Detected



ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: ACT, Inc
 1875 W. Main Street
 Bartow, FL 33830

CEI Lab Code: A17-12202
Date Received: 08-24-17
Date Analyzed: 08-25-17
Date Reported: 08-28-17

Project: Highlands Co. BOCC Govt. Ctr; 18516

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
1-1 A2482406A	Floor Tile	Homogeneous	70%	Vinyl	None Detected
		Gray Non-fibrous Tightly Bound	20%	Calc Carb 10% Binder	
A2482406B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected
1-2 A2482407A	Floor Tile	Homogeneous	70%	Vinyl	None Detected
		Gray Non-fibrous Tightly Bound	20%	Calc Carb 10% Binder	
A2482407B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected
1-3 A2482408A	Floor Tile	Homogeneous	70%	Vinyl	None Detected
		Gray Non-fibrous Tightly Bound	20%	Calc Carb 10% Binder	
A2482408B	Mastic	Homogeneous Yellow Non-fibrous Bound	2% 93%	Cellulose Mastic 5% Silicates	None Detected
1-4 A2482409A	Floor Tile	Homogeneous	70%	Vinyl	None Detected
		Gray Non-fibrous Tightly Bound	20%	Calc Carb 10% Binder	



ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %	
			Fibrous	Non-Fibrous			
A2482409B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic		None Detected	
1-5 A2482410A	Floor Tile	Homogeneous Gray Non-fibrous Tightly Bound	70%	Vinyl 20% Calc Carb 10% Binder		None Detected	
A2482410B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic		None Detected	
3-1 A2482411	Ceiling Tile	Heterogeneous White Fibrous Tightly Bound	50% 30%	Cellulose Fiberglass	5% 15%	Paint Perlite	None Detected
3-2 A2482412	Ceiling Tile	Heterogeneous White Fibrous Tightly Bound	50% 30%	Cellulose Fiberglass	5% 15%	Paint Perlite	None Detected
3-3 A2482413	Ceiling Tile	Heterogeneous White Fibrous Tightly Bound	50% 30%	Cellulose Fiberglass	5% 15%	Paint Perlite	None Detected
3-4 A2482414	Ceiling Tile	Heterogeneous White Fibrous Tightly Bound	50% 30%	Cellulose Fiberglass	5% 15%	Paint Perlite	None Detected



ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: ACT, Inc
 1875 W. Main Street
 Bartow, FL 33830

CEI Lab Code: A17-12202
Date Received: 08-24-17
Date Analyzed: 08-25-17
Date Reported: 08-28-17

Project: Highlands Co. BOCC Govt. Ctr; 18516

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
3-5 A2482415	Ceiling Tile	Heterogeneous	50%	Cellulose	5%	Paint	None Detected
		White	30%	Fiberglass	15%	Perlite	
		Fibrous					
		Tightly Bound					
3-6 A2482416	Ceiling Tile	Heterogeneous	50%	Cellulose	5%	Paint	None Detected
		White	30%	Fiberglass	15%	Perlite	
		Fibrous					
		Tightly Bound					
3-7 A2482417	Ceiling Tile	Heterogeneous	50%	Cellulose	5%	Paint	None Detected
		White	30%	Fiberglass	15%	Perlite	
		Fibrous					
		Tightly Bound					
5-1 A2482418A	Floor Tile	Homogeneous			70%	Vinyl	None Detected
		Red,Brown			20%	Calc Carb	
		Non-fibrous			10%	Binder	
		Tightly Bound					
A2482418B	Mastic	Homogeneous	5%	Cellulose	95%	Mastic	None Detected
		Yellow					
		Non-fibrous					
		Bound					
5-2 A2482419A	Floor Tile	Homogeneous			70%	Vinyl	None Detected
		Red,Brown			20%	Calc Carb	
		Non-fibrous			10%	Binder	
		Tightly Bound					
A2482419B	Mastic	Heterogeneous	5%	Cellulose	90%	Mastic	None Detected
		Yellow			5%	Silicates	
		Non-fibrous					
		Bound					



ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: ACT, Inc
 1875 W. Main Street
 Bartow, FL 33830

CEI Lab Code: A17-12202
Date Received: 08-24-17
Date Analyzed: 08-25-17
Date Reported: 08-28-17

Project: Highlands Co. BOCC Govt. Ctr; 18516

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
6-1 A2482420	Laminate	Homogeneous Brown Non-fibrous Tightly Bound	70% 30%	Vinyl Binder	None Detected
Lab Notes: No mastic present					
6-2 A2482421	Laminate	Homogeneous Brown Non-fibrous Tightly Bound	70% 30%	Vinyl Binder	None Detected
Lab Notes: No mastic present					
7-1 A2482422A	Baseboard	Homogeneous Red Non-fibrous Tightly Bound	100%	Vinyl	None Detected
A2482422B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected
7-2 A2482423A	Baseboard	Homogeneous Red Non-fibrous Tightly Bound	100%	Vinyl	None Detected
A2482423B	Mastic	Heterogeneous Yellow Non-fibrous Bound	5% 95%	Cellulose Mastic	None Detected
8-1 Layer 1 A2482424	Carpet	Heterogeneous Red Fibrous Bound	95% 5%	Synthetic Fiber Binder	None Detected



ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: ACT, Inc
 1875 W. Main Street
 Bartow, FL 33830

CEI Lab Code: A17-12202
Date Received: 08-24-17
Date Analyzed: 08-25-17
Date Reported: 08-28-17

Project: Highlands Co. BOCC Govt. Ctr; 18516

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
Layer 2 A2482424	Mastic	Heterogeneous Yellow Non-fibrous Bound	10%	Synthetic Fiber 85% 5%	Mastic Silicates None Detected
8-2 Layer 1 A2482425	Carpet	Heterogeneous Red Fibrous Bound	95%	Synthetic Fiber 5%	Binder None Detected
Layer 2 A2482425	Mastic	Heterogeneous Yellow Non-fibrous Bound	10%	Synthetic Fiber 85% 5%	Mastic Silicates None Detected
9-1 A2482426A	Floor Tile	Homogeneous Light Gray Non-fibrous Tightly Bound		70% 20% 10%	Vinyl Calc Carb Binder None Detected
A2482426B	Mastic	Homogeneous Yellow Non-fibrous Bound		95% 5%	Mastic Silicates None Detected
9-2 A2482427A	Floor Tile	Homogeneous Light Gray Non-fibrous Tightly Bound		70% 20% 10%	Vinyl Calc Carb Binder None Detected
A2482427B	Mastic	Homogeneous Yellow Non-fibrous Bound		95% 5%	Mastic Silicates None Detected



ASBESTOS BULK ANALYSIS

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Date Reported: 08-28-17

Project: Highlands Co. BOCC Govt. Ctr; 18516

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
9-3 A2482428A	Floor Tile	Homogeneous	70%	Vinyl	None Detected
		Light Gray	20%	Calc Carb	
		Non-fibrous Tightly Bound	10%	Binder	
A2482428B	Mastic	Homogeneous Yellow Non-fibrous Bound	95% 5%	Mastic Silicates	None Detected
9-4 A2482429A	Floor Tile	Homogeneous	70%	Vinyl	None Detected
		Light Gray	20%	Calc Carb	
		Non-fibrous Tightly Bound	10%	Binder	
A2482429B	Mastic	Homogeneous Yellow Non-fibrous Bound	95% 5%	Mastic Silicates	None Detected
9-5 A2482430A	Floor Tile	Homogeneous	70%	Vinyl	None Detected
		Light Gray	20%	Calc Carb	
		Non-fibrous Tightly Bound	10%	Binder	
A2482430B	Mastic	Homogeneous Yellow Non-fibrous Bound	95% 5%	Mastic Silicates	None Detected
10-1 A2482431A	Baseboard	Homogeneous Gray Non-fibrous Tightly Bound	100%	Vinyl	None Detected



ASBESTOS BULK ANALYSIS

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Date Analyzed: 08-25-17
Date Reported: 08-28-17

Project: Highlands Co. BOCC Govt. Ctr; 18516

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
A2482431B	Mastic	Homogeneous Yellow Non-fibrous Bound	95%	Mastic 5% Silicates	None Detected
10-2 A2482432A	Baseboard	Homogeneous Gray Non-fibrous Tightly Bound	100%	Vinyl	None Detected
A2482432B	Mastic	Homogeneous Yellow Non-fibrous Bound	30% Cellulose	70% Mastic	None Detected
10-3 A2482433A	Baseboard	Homogeneous Gray Non-fibrous Tightly Bound	100%	Vinyl	None Detected
A2482433B	Mastic	Homogeneous Yellow Non-fibrous Bound	95%	Mastic 5% Silicates	None Detected
10-4 A2482434A	Baseboard	Homogeneous Gray Non-fibrous Tightly Bound	100%	Vinyl	None Detected
A2482434B	Mastic	Homogeneous Yellow Non-fibrous Bound	95%	Mastic 5% Silicates	None Detected



ASBESTOS BULK ANALYSIS

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Date Reported: 08-28-17

Project: Highlands Co. BOCC Govt. Ctr; 18516

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %
			Fibrous	Non-Fibrous		
10-5 A2482435A	Baseboard	Homogeneous Gray Non-fibrous Tightly Bound		100%	Vinyl	None Detected
A2482435B	Mastic	Heterogeneous Yellow Non-fibrous Bound	40%	Cellulose	50% 10%	Mastic Binder None Detected
11-1 A2482436A	Baseboard	Homogeneous Orange Non-fibrous Tightly Bound		100%	Vinyl	None Detected
A2482436B	Mastic	Homogeneous Yellow Non-fibrous Bound		100%	Mastic	None Detected
11-2 A2482437A	Baseboard	Homogeneous Orange Non-fibrous Tightly Bound		100%	Vinyl	None Detected
A2482437B	Mastic	Homogeneous Yellow Non-fibrous Bound	30%	Cellulose	70%	Mastic None Detected
11-3 A2482438A	Baseboard	Homogeneous Orange Non-fibrous Tightly Bound		100%	Vinyl	None Detected



ASBESTOS BULK ANALYSIS

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %	
			Fibrous		Non-Fibrous		
A2482438B	Mastic	Homogeneous Yellow Non-fibrous Bound	30%	Cellulose	70%	Mastic	None Detected
12-1 A2482439	Mastic	Heterogeneous Yellow, Green Non-fibrous Bound	2%	Synthetic Fiber	80%	Mastic Binder Silicates	None Detected
Lab Notes: No carpet present							
12-2 A2482440	Mastic	Heterogeneous Yellow, Green Non-fibrous Bound	2%	Synthetic Fiber	80%	Mastic Binder Silicates	None Detected
Lab Notes: No carpet present							
13-1 A2482441A	Floor Tile	Homogeneous White, Green Fleck Non-fibrous Tightly Bound			70%	Vinyl Calc Carb Binder	None Detected
A2482441B	Mastic	Homogeneous Yellow Non-fibrous Bound	5%	Cellulose	95%	Mastic	None Detected
13-2 A2482442A	Floor Tile	Homogeneous White, Green Fleck Non-fibrous Tightly Bound			70%	Vinyl Calc Carb Binder	None Detected



ASBESTOS BULK ANALYSIS

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
A2482442B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected
13-3 A2482443A	Floor Tile	Homogeneous White, Green Fleck Non-fibrous Tightly Bound	70% 20% 10%	Vinyl Calc Carb Binder	None Detected
A2482443B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected
14-1 A2482444A	Baseboard	Homogeneous Dark Brown Non-fibrous Tightly Bound	100%	Vinyl	None Detected
A2482444B	Mastic	Heterogeneous Yellow Non-fibrous Bound	25% 50% 15% 10%	Cellulose Mastic Calc Carb Binder	None Detected
14-2 A2482445A	Baseboard	Homogeneous Dark Brown Non-fibrous Tightly Bound	100%	Vinyl	None Detected
A2482445B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected



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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %
			Fibrous	Non-Fibrous		
14-3 A2482446A	Baseboard	Homogeneous Dark Brown Non-fibrous Tightly Bound		100%	Vinyl	None Detected
A2482446B	Mastic	Heterogeneous Yellow Non-fibrous Bound	25%	Cellulose 50%	Mastic 15% Calc Carb 10% Binder	None Detected
15-1 A2482447	Mastic	Heterogeneous Yellow Non-fibrous Bound	2%	Synthetic Fiber 90% 8%	Mastic Silicates	None Detected
Lab Notes: No carpet present						
15-2 Layer 1 A2482448	Carpet	Heterogeneous Brown, Multi-color Fibrous Bound	90%	Synthetic Fiber 10%	Binder	None Detected
Layer 2 A2482448	Mastic	Heterogeneous Yellow Non-fibrous Bound	2%	Synthetic Fiber 73% 15%	Mastic Silicates 10% Binder	None Detected
16-1 A2482449	HVAC Mastic	Homogeneous Dark Grey Non-fibrous Bound	5%	Cellulose 85% 10%	Mastic Silicates	None Detected
16-2 A2482450	HVAC Mastic	Homogeneous Dark Grey Non-fibrous Bound	5%	Cellulose 85% 10%	Mastic Silicates	None Detected



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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %
			Fibrous	Non-Fibrous		
16-3 A2482451	HVAC Mastic	Homogeneous Dark Grey Non-fibrous Bound	5%	Cellulose	85% Mastic 10% Silicates	None Detected
17-1 A2482452	HVAC Mastic	Homogeneous White Non-fibrous Bound	20%	Talc	65% Mastic 15% Silicates	None Detected
17-2 A2482453	HVAC Mastic	Heterogeneous White Non-fibrous Bound	40% 25%	Fiberglass Talc	35% Binder	None Detected
17-3 A2482454	HVAC Mastic	Homogeneous White Non-fibrous Bound	5%	Cellulose	95% Mastic	None Detected
17-4 A2482455	HVAC Mastic	Homogeneous White Non-fibrous Bound	5% 5%	Cellulose Fiberglass	90% Mastic	None Detected
17-5 A2482456	HVAC Mastic	Homogeneous White Non-fibrous Bound	2%	Cellulose	88% Mastic 10% Vinyl	None Detected
18-1 A2482457A	Floor Tile	Homogeneous Light Brown Non-fibrous Tightly Bound			70% Vinyl 20% Calc Carb 10% Binder	None Detected



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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %	
			Fibrous	Non-Fibrous			
A2482457B	Mastic	Homogeneous Yellow Non-fibrous Bound	5%	Cellulose	95%	Mastic	None Detected
19-1 Layer 1 A2482458	Carpet	Heterogeneous Blue, Multicolored Fibrous Bound	100%	Synthetic Fiber			None Detected
Layer 2 A2482458	Mastic	Heterogeneous Yellow Non-fibrous Bound	2%	Synthetic Fiber	80%	Mastic Silicates Binder	None Detected
20-1 A2482459A	Baseboard	Homogeneous Black Non-fibrous Tightly Bound		100%	Vinyl		None Detected
A2482459B	Mastic	Heterogeneous Yellow Fibrous Bound	40%	Cellulose	50%	Mastic Binder	None Detected
21-1 A2482460A	Baseboard	Homogeneous Dark Grey Non-fibrous Tightly Bound		100%	Vinyl		None Detected
A2482460B	Mastic	Heterogeneous Yellow Fibrous Bound	40%	Cellulose	50%	Mastic Binder	None Detected



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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %
			Fibrous	Non-Fibrous		
21-2 A2482461A	Baseboard	Homogeneous Dark Grey Non-fibrous Tightly Bound	100%	Vinyl		None Detected
A2482461B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic		None Detected
22-1 A2482462	Drywall/Joint Compound	Heterogeneous White Non-fibrous Bound	10%	Cellulose	60% Gypsum 20% Calc Carb 10% Binder	None Detected
22-2 A2482463	Drywall/Joint Compound	Heterogeneous White Non-fibrous Bound	10%	Cellulose	60% Gypsum 20% Calc Carb 10% Binder	None Detected
22-3 A2482464	Drywall/Joint Compound	Heterogeneous White Non-fibrous Bound	10%	Cellulose	60% Gypsum 20% Calc Carb 10% Binder	None Detected
22-4 A2482465	Drywall/Joint Compound	Heterogeneous White Non-fibrous Bound	10%	Cellulose	60% Gypsum 20% Calc Carb 10% Binder	None Detected
22-5 A2482466	Drywall/Joint Compound	Heterogeneous White Non-fibrous Bound	10%	Cellulose	60% Gypsum 20% Calc Carb 10% Binder	None Detected



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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %
			Fibrous	Non-Fibrous		
22-6 A2482467	Drywall/Joint Compound	Heterogeneous White Non-fibrous Bound	10%	Cellulose	60% Gypsum 20% Calc Carb 10% Binder	None Detected
22-7 A2482468	Drywall/Joint Compound	Heterogeneous White Non-fibrous Bound	10%	Cellulose	60% Gypsum 20% Calc Carb 10% Binder	None Detected
25-1 A2482469	Mastic	Heterogeneous Gray Non-fibrous Bound	15%	Cellulose	60% Mastic 25% Binder	None Detected
Lab Notes: No stair tread present						
25-2 A2482470	Mastic	Homogeneous Yellow Non-fibrous Bound			100% Mastic	None Detected
Lab Notes: No stair tread present						
26-1 A2482471	Caulking	Heterogeneous Pink Non-fibrous Bound			100% Binder	None Detected
27-1 A2482472A	Baseboard	Homogeneous Green Non-fibrous Tightly Bound			100% Vinyl	None Detected
A2482472B	Mastic	Homogeneous Yellow Non-fibrous Bound			95% Mastic 5% Silicates	None Detected



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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %
			Fibrous	Non-Fibrous		
28-1 Layer 1 A2482473	Carpet	Heterogeneous Green Fibrous Bound	90%	Synthetic Fiber 10%	Binder	None Detected
Layer 2 A2482473	Mastic	Heterogeneous Yellow Non-fibrous Bound	2%	Synthetic Fiber 80%	Mastic Silicates Binder	None Detected



LEGEND: Non-Anth = Non-Asbestiform Anthophyllite
 Non-Trem = Non-Asbestiform Tremolite
 Calc Carb = Calcium Carbonate

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORTING LIMIT: <1% by visual estimation

REPORTING LIMIT FOR POINT COUNTS: 0.25% by 400 Points or 0.1% by 1,000 Points

REGULATORY LIMIT: >1% by weight

Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation. Estimated measurement of uncertainty is available on request.

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ANALYST: Adriana de la Nuez
Adriana de la Nuez

APPROVED BY: Tianbao Bai
Tianbao Bai, Ph.D., CIH
Laboratory Director

Candace Burrus
Candace Burrus





730 SE Maynard Road, Cary, NC 27511
 Tel: 866-481-1412; Fax: 919-481-1442

(68) 11-17-202
 A 248 2406
 A 248 2773

ASBESTOS CHAIN OF CUSTODY

LAB USE ONLY:
CEI Lab Code:
CEI Lab I.D. Range:

COMPANY INFORMATION	PROJECT INFORMATION
CEI CLIENT #:	Job Contact: <i>Eric Jonsson</i>
Company: <i>ACT</i>	Email / Tel: <i>ejonsson@a-c-t.com</i>
Address:	Project Name: <i>Highlands Co. BOCC Govt. Ctr.</i>
Email:	Project ID#: <i>18516</i>
Tel:	PO #: <i>2264</i>
Fax:	STATE SAMPLES COLLECTED IN: <i>FL</i>

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

ASBESTOS	METHOD	TURN AROUND TIME					
		4 HR	8 HR	24 HR	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (400)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (1000)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM GRAV w POINT COUNT	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM BULK	CARB 435	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCM AIR	NIOSH 7400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	EPA AHERA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	NIOSH 7402	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	ISO 10312	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	ASTM 6281-09	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM BULK	CHATFIELD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST WIPE	ASTM D6480-05 (2010)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST MICROVAC	ASTM D5755-09 (2014)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM SOIL	ASTM D7521-13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM VERMICULITE	CINCINNATI METHOD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

REMARKS / SPECIAL INSTRUCTIONS:			<input checked="" type="checkbox"/> Accept Samples <input type="checkbox"/> Reject Samples
Relinquished By:	Date/Time	Received By:	Date/Time
<i>Don JFP</i>	<i>8/22/17 / 1630</i>	<i>AA</i>	<i>8/24/17 9:10</i>

Samples will be disposed of 30 days after analysis

11/12/202

ASBESTOS SAMPLING FORM



COMPANY CONTACT INFORMATION	
Company: <u>ACT</u>	Job Contact:
Project Name: <u>Highlands Co. BOCC Govt. Ctr.</u>	
Project ID #: <u>18516</u>	Tel:

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
1-1	12"x12" Grey Floor		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
1-2	Tile w/ white-black		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
1-3	fleck and mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
1-4			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
1-5	↓		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
3-1	2'x2' white Ceiling		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
3-2	Tile w/ wormhole		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
3-3	pattern		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
3-4			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
3-5			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
3-6			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
3-7	↓		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
5-1	12"x12" Red-Brown		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
5-2	multi-color Floor Tile & mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
6-1	Brown Laminant Flooring		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
6-2	and mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
7-1	4" Red Baseboard and		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
7-2	mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
8-1	Red multi-color carpet		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
8-2	and mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
9-1	12"x12" Light Grey		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
9-2	Floor Tile and mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
9-3			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
9-4			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
9-5	↓		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
10-1	4" Grey Baseboard		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
10-2	and Mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
10-3	↓		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>

Att. 12.202

ASBESTOS SAMPLING FORM



COMPANY CONTACT INFORMATION	
Company: <u>ACT</u>	Job Contact:
Project Name: <u>Highlands Co. BOCC Govt. Ctr.</u>	
Project ID #: <u>18516</u>	Tel:

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
10-4	↓		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
10-5	↓		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
11-1	4" Orange Baseboard		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
11-2	and Mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
11-3	↓		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
12-1	Green multicolor		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
12-2	carpet and mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
13-1	12" x 12" White Floor		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
13-2	Tile w/ green fleck		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
13-3	and Mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
14-1	4" Dark Brown		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
14-2	Baseboard and mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
14-3	↓		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
15-1	Brown multi-color		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
15-2	carpet and mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
16-1	Dark Grey HVAC mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
16-2	↓		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
16-3	↓		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
17-1	White HVAC mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
17-2	↓		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
17-3	↓		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
17-4	↓		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
17-5	↓		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
18-1	12" x 12" Light Brown Floor tile w/ brown-white fleck and mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
19-1	Blue multi-color carpet and mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
20-1	4" Black Baseboard and mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
21-1	4" Dark Grey Baseboard and mastic		PLM <input type="checkbox"/>	TEM <input type="checkbox"/>

Apr 12, 202

ASBESTOS SAMPLING FORM



COMPANY CONTACT INFORMATION	
Company: <i>ACT</i>	Job Contact:
Project Name: <i>Highlands Co. BOCC Govt. Ctr.</i>	
Project ID #: <i>18516</i>	Tel:

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
			PLM	TEM
<i>21-2</i>	<i>4" Dark Grey Baseboard and mastic</i>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>22-1</i>	<i>Drywall and Joint</i>		<input type="checkbox"/>	<input type="checkbox"/>
<i>22-2</i>	<i>Compound</i>		<input type="checkbox"/>	<input type="checkbox"/>
<i>22-3</i>	↓		<input type="checkbox"/>	<input type="checkbox"/>
<i>22-4</i>			<input type="checkbox"/>	<input type="checkbox"/>
<i>22-5</i>			<input type="checkbox"/>	<input type="checkbox"/>
<i>22-6</i>			<input type="checkbox"/>	<input type="checkbox"/>
<i>22-7</i>			<input type="checkbox"/>	<input type="checkbox"/>
<i>25-1</i>	<i>Grey Stair Tread and</i>		<input type="checkbox"/>	<input type="checkbox"/>
<i>25-2</i>	<i>mastic</i>		<input type="checkbox"/>	<input type="checkbox"/>
<i>26-1</i>	<i>Pink Decking Caulk</i>		<input type="checkbox"/>	<input type="checkbox"/>
<i>27-1</i>	<i>4" Green Baseboard and mastic</i>		<input type="checkbox"/>	<input type="checkbox"/>
<i>28-1</i>	<i>Green carpet and mastic</i>		<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>

44



September 29, 2017

ACT, Inc
1875 W. Main Street
Bartow, FL 33830

CLIENT PROJECT: HCBOCC-Gov. Center; 18516
CEI LAB CODE: A17-13808

Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on September 29, 2017. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations. If you have any questions, please feel free to call our office at 919-481-1413.

Kind Regards,

A handwritten signature in black ink, appearing to read "Tianbao Bai".

Tianbao Bai, Ph.D., CIH
Laboratory Director





ASBESTOS ANALYTICAL REPORT
By: Polarized Light Microscopy

Prepared for

ACT, Inc

CLIENT PROJECT: HCBOCC-Gov. Center; 18516

CEI LAB CODE: A17-13808

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 09/29/17

TOTAL SAMPLES ANALYZED: 2

SAMPLES >1% ASBESTOS:

TEL: 866-481-1412

www.ceilabs.com



Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: HCBOCC-Gov. Center; 18516

CEI LAB CODE: A17-13808

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
1		A2508055	Tan	Fireproofing	None Detected
2		A2508056	Tan	Fireproofing	None Detected



ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: ACT, Inc
1875 W. Main Street
Bartow, FL 33830

CEI Lab Code: A17-13808
Date Received: 09-29-17
Date Analyzed: 09-29-17
Date Reported: 09-29-17

Project: HCBOCC-Gov. Center; 18516

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
1 A2508055	Fireproofing	Heterogeneous Tan Fibrous Loose	35%	Cellulose	25%	Perlite Binder	None Detected
2 A2508056	Fireproofing	Heterogeneous Tan Fibrous Loose	35%	Cellulose	25%	Perlite Binder	None Detected



LEGEND: Non-Anth = Non-Asbestiform Anthophyllite
 Non-Trem = Non-Asbestiform Tremolite
 Calc Carb = Calcium Carbonate

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORTING LIMIT: <1% by visual estimation

REPORTING LIMIT FOR POINT COUNTS: 0.25% by 400 Points or 0.1% by 1,000 Points

REGULATORY LIMIT: >1% by weight

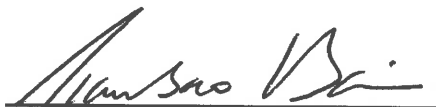
Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation. Estimated measurement of uncertainty is available on request.

This report relates only to the samples tested or analyzed and may not be reproduced, except in full, without written approval by CEI Labs, Inc. CEI Labs makes no warranty representation regarding the accuracy of client submitted information in preparing and presenting analytical results. Interpretation of the analytical results is the sole responsibility of the client. Samples were received in acceptable condition unless otherwise noted. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.

ANALYST: _____


Megan Rumble

APPROVED BY: _____


Tianbao Bai, Ph.D., CIH
Laboratory Director





730 SE Maynard Road, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

ASBESTOS CHAIN OF CUSTODY

② A17.13.808
A2508055
A2508056

LAB USE ONLY:
CEI Lab Code:
CEI Lab I.D. Range:

COMPANY INFORMATION	PROJECT INFORMATION
CEI CLIENT #:	Job Contact: Eric Jonsson
Company: A-C-T	Email / Tel: 863-559-0188
Address: 1875 W. Main St. Bartow, FL 33830	Project Name: HC BOCC - Gov. Center
Email: ejonsson@a-c-t.com	Project ID#: 18516
Tel: 863-559-0188 Fax:	PO #: 2264
	STATE SAMPLES COLLECTED IN: FL

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

ASBESTOS	METHOD	TURN AROUND TIME					
		4 HR	8 HR	24 HR	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (400)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (1000)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM GRAV w POINT COUNT	EPA 600		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM BULK	CARB 435		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCM AIR	NIOSH 7400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	EPA AHERA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	NIOSH 7402	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	ISO 10312	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	ASTM 6281-09	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM BULK	CHATFIELD		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST WIPE	ASTM D6480-05 (2010)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST MICROVAC	ASTM D5755-09 (2014)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM SOIL	ASTM D7521-13			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM VERMICULITE	CINCINNATI METHOD			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

REMARKS / SPECIAL INSTRUCTIONS:		<input checked="" type="checkbox"/> Accept Samples <input type="checkbox"/> Reject Samples	
Relinquished By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	9-28-17 / 16:00	<i>[Signature]</i>	9/29/17 9:00

Samples will be disposed of 30 days after analysis

Page 1 of 2



Asbestos Survey Report

**Highlands County Government Building
ACT Project #18516**

APPENDIX B

BUSINESS, CONSULTANT, AND LABORATORY CERTIFICATIONS

Asbestos Online Training, LLC

13987 94th Avenue N Seminole, FL 33776

727-593-3067

Asbestos Survey & Mechanical (AHERA Building
Inspector) Refresher Training

This is to certify that

Daniel Stump

Training was in accordance with Title II of TSCA, 40 CFR
Part 763. Appendix C to Subpart E as revised

Date of Course Examination 3/6/17

Date of Course Completion 3/6/17

Expiration Date 3/6/18

Certificate # 3617536

Course # FL-490006359 Provider # FL-490005406



INSTRUCTOR



**STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION**

**ASBESTOS LICENSING UNIT
2601 BLAIR STONE ROAD
TALLAHASSEE FL 32399-0783**

(850) 487-1395

**JONSSON, ERIC ANDREW
AMERICAN COMPLIANCE TECHNOLOGIES, INC.
1875 WEST MAIN STREET
BARTOW FL 33830**

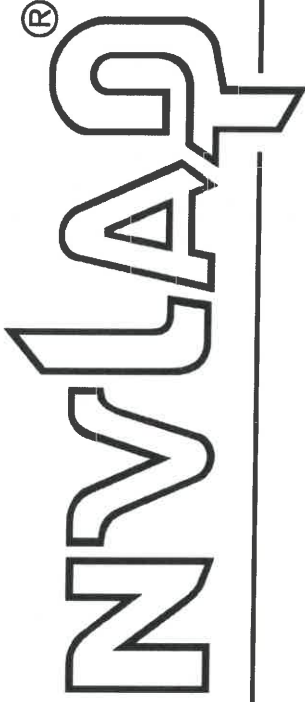
Congratulations! With this license you become one of the nearly one million Floridians licensed by the Department of Business and Professional Regulation. Our professionals and businesses range from architects to yacht brokers, from boxers to barbecue restaurants, and they keep Florida's economy strong.

Every day we work to improve the way we do business in order to serve you better. For information about our services, please log onto www.myfloridalicense.com. There you can find more information about our divisions and the regulations that impact you, subscribe to department newsletters and learn more about the Department's initiatives.

Our mission at the Department is: License Efficiently, Regulate Fairly. We constantly strive to serve you better so that you can serve your customers. Thank you for doing business in Florida, and congratulations on your new license!



United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101768-0

CEI Labs, Inc.
Cary, NC

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2017-04-01 through 2018-03-31

Effective Dates

A handwritten signature in blue ink, which appears to read "Peter S. Lamm".

For the National Voluntary Laboratory Accreditation Program



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

CEI Labs, Inc.
730 SE Maynard Road
Cary, NC 27511
Dr. Tianbao Bai
Phone: 919-481-1413 Fax: 919-481-1442
Email: bai@ceilabs.com
<http://www.ceilabs.com>

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 101768-0

Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- Appendix E to Subpart E of Part 763 -- Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

For the National Voluntary Laboratory Accreditation Program