

# 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.
  - 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.

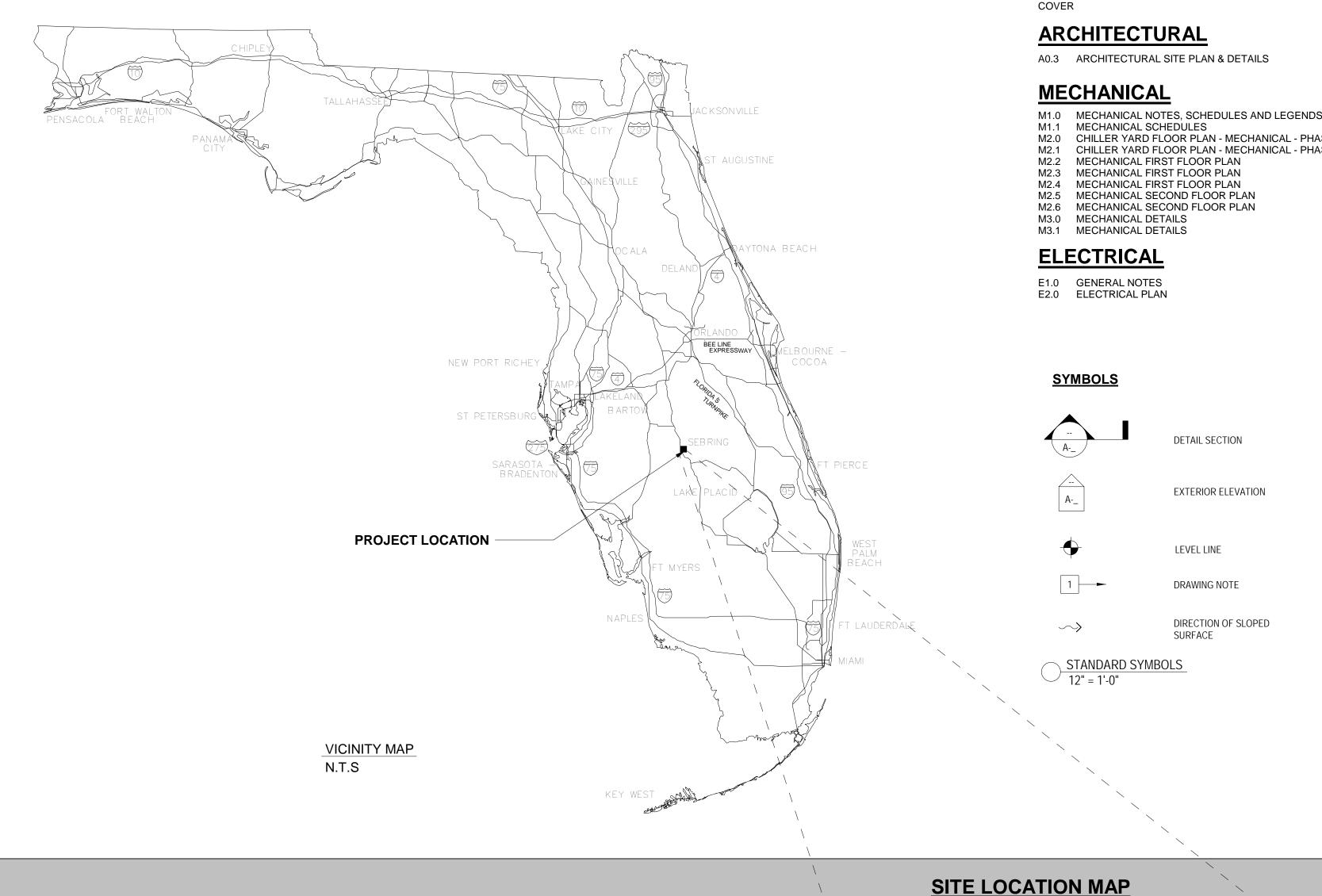
# HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS GOVERNMENT CENTER - HVAC RENOVATION - 15068

SWEET SPARKMAN ARCHITECTS

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600 S. COMMERCE AVE. SEBRING, FL. 33870





## **OWNER**

HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS 600 S. COMMERCE AVENUE SEBRING, FL 33970 CAPITAL PROJECTS MANAGER

PHONE: 863.402.6932

## **ARCHITECT**

SWEET SPARKMAN ARCHITECTS 2168 MAIN STREET SARASOTA, FLORIDA 34237

PHONE: 941.952.0084 FAX: 941.952.0201

## **STRUCTURAL ENGINEER**

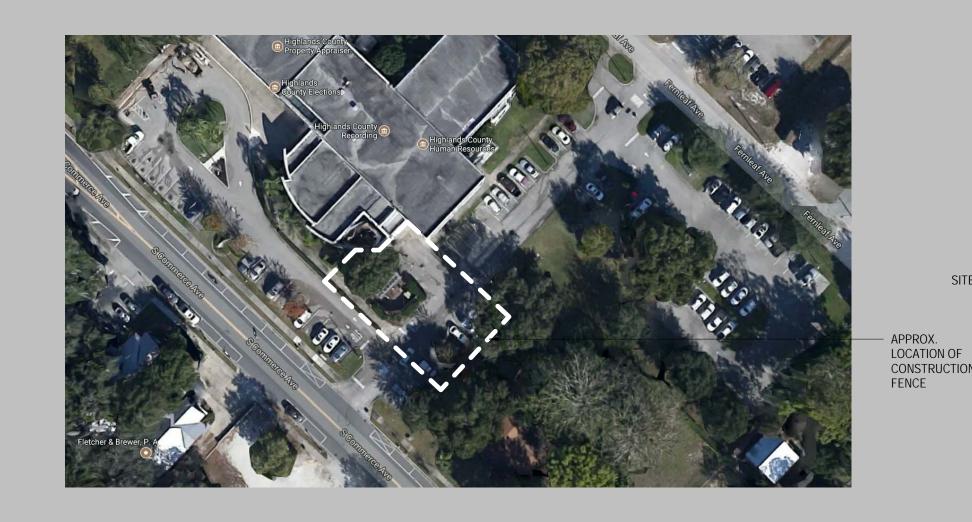
**COLLINS STRUCTURAL ENGINEERING** 149 GRAND OAK CIRCLE VENICE, FL 34292 CONTACT: STEPHEN K. COLLINS, P.E.

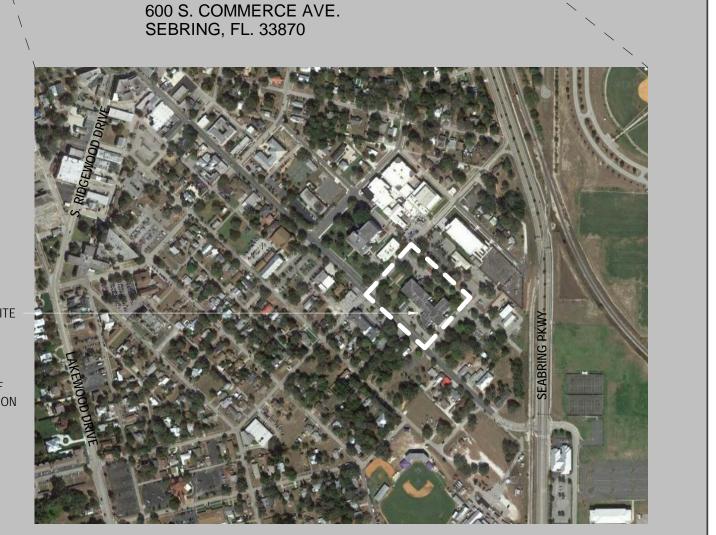
PHONE: 941.223.1584 FAX: 941.451.8553

# **MEP ENGINEER**

PYRAMID ENGINEERING 5596 RIO VISTA DRIVE CLEARWATER, FLORIDA 33760 CONTACT: MICHAEL J. CURKAN, PE

PHONE: 727.531.2989





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**CHANGED DUE TO REPRODUCTION** 

NOTE: THE SCALE OF THESE PLANS MAY HAVE

#### **APPLICABLE CODES** FLORIDA BUILDING CODE (FBC), FIFTH EDITION (2014) WITH APPLICABLE AMENDMENTS MECHANICAL CODE: FBC, FIFTH EDITION (2014) MECHANICAL WITH APPLICABLE AMENDMENTS ENERGY CONSERVATION: FBC, FIFTH EDITION (2014) ENERGY CONSERVATION WITH APPLICABLE AMENDMENTS **ELECTRICAL CODE:** FBC - CHAPTER 27; NFPA 70 (N.E.C.) WITH APPLICABLE AMENDMENTS PLUMBING CODE: FBC, FIFTH EDITION (2014) PLUMBING WITH APPLICABLE AMENDMENTS FUEL GAS CODE: FBC, FIFTH EDITION (2014) FUEL GAS WITH APPLICABLE AMENDMENTS FBC. FIFTH EDITION (2014) ACCESSIBILITY WITH APPLICABLE AMENDMENTS ACCESSIBILITY CODE: FIRE SAFETY CODE: FLORIDA FIRE PREVENTION CODE, FIFTH EDITION WITH APPLICABLE AMENDMENTS OTHER: **BUILDING CATEGORIZATION & PHYSICAL PROPERTIES**

	FLORIDA BUILDING CODE	FLORIDA FIRE PREVENTION CODE
OCCUPANCY CLASSIFICATION	CHAPTER 3, SECTION 302	CHAPTER 6
OCCUPANCY CLASSIFICATION	GROUP [XX] B, A-3 (NO CHANGE TO EXISTING)	
CONSTRUCTION TYPE	CHAPTER 6	REFER TO NFPA A8.2.1.2
	VB	(000)

RISK CATEGORY

TABLE 1604.5

#### **GENERAL NOTES:**

WIND LOADS (FBC CHAPTER 16)

\*SEE STRUCTURAL NOTES

PRIOR TO ANY WORK COMMENCING, PREPARE A PLAN OF WORK EXECUTION IN WRITTEN FORM, INCLUDING BUT NOT LIMITED TO: AREAS TO MARSHALL DEBRIS, DEBRIS REMOVAL, NOISE ABATEMENT PROCEDURES, LOCATION OF DUMPSTER. LOCATION OF REFUSE REMOVAL VEHICLE, ETC.

FBC CHAPTER 16

140 MPH\*

- THE CONTRACTOR SHOULD VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION. IF ANY EXISTING CONDITIONS ARE DIFFERENT THAN SPECIFIED IN THE DRAWINGS THE DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE
- THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO PROVIDE FOR A PLUMB, LEVEL, AND SQUARE STRUCTURE UNLESS OTHERWISE NOTED. ANY DEVIATION FROM THIS GENERAL INTENT SHOULD BE BROUGHT TO THE ATTENTION OF
- THE WORK SHALL BE CONSTRUCTED IN FULL COMPLIANCE WITH ALL APPLICABLE CODES, ORDINANCES AND REGULATIONS AS WELL AS THE DRAWINGS AND SPECIFICATIONS. ANY CODE DEFICIENCIES IN THE DRAWINGS RECOGNIZED BY THE CONTRACTOR SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR CLARIFICATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURATE PLACEMENT OF THE WORK ON THE SITE AND VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS. DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE BIDDING THE PROJECT OR THE COMMENCEMENT OF WORK. THE OWNER SHALL NOT BE RESPONSIBLE FOR CHANGES TO THE WORK DUE TO THE FAILURE OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS.
- THE CONTRACTOR SHALL PROVIDE ALL PERMITS AND INSPECTION NECESSARY FOR THE PROPER EXECUTION OF THE WORK IN ACCORDANCE WITH APPLICABLE CODES AND GOVERNING REGULATIONS. WALKWAY CROSS SLOPES ARE NOT TO EXCEED 1:48 OR 2%.
- FIELD VERIFY LOCATIONS OF EXISTING CONCRETE SLABS AND EQUIPMENT. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY.
- PAY ALL FEES, PERMITS, & DUMPING CHARGES.

BECOME THE PROPERTY OF THE CONTRACTOR.

#### STRUCTURAL NOTES

GENERAL NOTES: STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR SLEEVES, DEPRESSIONS, AND OTHER DETAILS NOT SHOWN ON

- ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
- SOIL SHALL BE TREATED FOR TERMITES WITH A REGISTERED TERMITICIDE PER THE REQUIREMENTS OF SECTION 1816 OF THE 2014 FLORIDA BUILDING CODE. UPON COMPLETION, THE CODE REFERENCED "CERTIFICATE OF COMPLIANCE" SHALL BE SUBMITTED TO THE BUILDING OFFICIAL BY A LICENSED

CONCRETE: SHALL BE PER AN APPROVED MIX DESIGN PROPORTIONED TO ACHIEVE A STRENGTH AT 28 DAYS AS LISTED BELOW WITH A PLASTIC AND

#### 3000 psi FOR FOUNDATIONS AND SLABS ON GRADE.

CONCRETE SHALL BE PLACED AND CURED ACCORDING TO ALL STANDARDS AND SPECIFICATIONS.

SUBMIT PROPOSED MIX DESIGN WITH RECENT FIELD CYLINDER OR LAB TESTS FOR REVIEW PRIOR TO USE. MIX SHALL BE UNIOUELY IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. MIX SHALL MEET THE REQUIREMENTS OF ASTM C33 FOR COARSE AGGREGATE. CONCRETE SHALI COMPLY WITH ALL THE REQUIREMENTS OF ASTM STANDARD C94 FOR MEASURING, MIXING, TRANSPORTING, ETC. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN CONCRETE IS BATCHED.

THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1-1/2) HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY THAN THAT STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE WITH THE ABOVE.

6" CONCRETE SLAB

WITH NO. 4 BARS @

12" O.C EACH WAY,

CONCRETE SLAB

CONCRETE PAD

GRADE TO SLOPE

AWAY ALL SIDES

8" X 12" THICKENED

SLAB EDGE WITH (2)

NO. 4 BARS TOP &

MIN. 16" SAND FILL

COMPACTED TO 95% OF

DO NOT SCALE DRAWINGS.

IF THE LOCATION OF ANY BUILDING ELEMENT IS NOT

MATHEMATICS, OR AS NOTED ABOVE, CONTACT THE

FIELD VERIFY THE EXISTING CONDITIONS PRIOR TO

CONSTRUCTION, INFORM THE ARCHITECT OF ANY

ARCHITECT PRIOR TO LOCATING THE ELEMENT.

DISCREPANCIES IN THE PROPOSED PLAN.

OBVIOUS OR CANNOT BE DETERMINED BY DIMENSION,

MODIFIED PROCTOR

BOTTOM. —

LAB TESTS.

OF PAD.

1" CHAMFER AROUND

ENTIRE PERIMETER OF

ANCHOR CHILLER BASE FRAME

TO SLAB WITH (6) GALVANIZED

1/2" DIAMETER THREADED ROD

DRILLED AND EPOXIED 5" INTO

CENTERED.

- ALL SLABS SHALL BE CURED USING A DISSIPATING CURING COMPOUND MEETING ASTM STANDARD C309 TYPE 1-D AND SHALL HAVE A FUGITIVE DYE THE COMPOUND SHALL BE PLACED AS SOON AS THE FINISHING IS COMPLETED OR AS SOON AS THE WATER HAS LEFT THE UNFINISHED CONCRETE. ALL SCUFFED OR BROKEN AREAS IN THE CURING MEMBRANE SHALL BE RE-COATED DAILY. CALCIUM CHLORIDES SHALL NOT BE UTILIZED; OTHER
- ALL CONCRETE MIX DESIGNS SHALL INCLUDE A WRITTEN DESCRIPTION INDICATING WHERE EACH PARTICULAR MIX IS TO BE PLACED WITHIN THE STRUCTURE.
- ALL CONCRETE DESIGN MIX SUBMITTALS SHALL INCLUDE TESTED, STATISTICAL BACK-UP DATA AS PER CHAPTER 5 OF ACI 318-89.
- CONCRETE COVER OVER REINFORCING BARS: THE FOLLOWING CONCRETE COVER OVER REINFORCING BARS SHALL BE PROVIDED UNLESS NOTED OTHERWISE ON THE DRAWINGS:
  - A) CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO SOIL- 3"
  - B) CONCRETE EXPOSED TO SOIL OR WEATHER -#6 BARS AND LARGER - 2" COVER

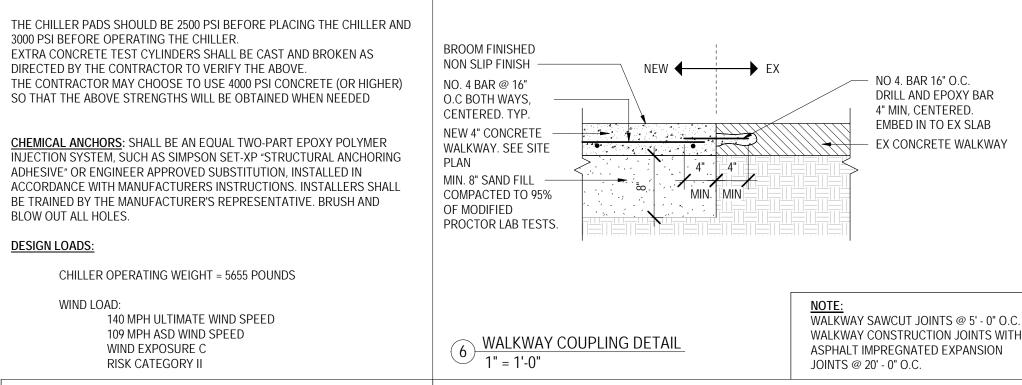
ADMIXTURES MAY BE USED ONLY WITH THE APPROVAL OF THE ENGINEER.

- #5 BARS AND SMALLER 1 ½" COVER C) CONCRETE NOT EXPOSED TO SOIL OR WEATHER:
- 1) SLABS, WALLS & JOISTS #11 BARS AND SMALLER 3/4" 2) BEAMS & COLUMNS (TIES & STIRRUPS)- 1 1/2"

D) FOR EXTERIOR FORMED SLAB SEE DRAWINGS AS ADDITIONAL COVER MAY BE REQUIRED

CONCRETE TESTING: AN INDEPENDENT TESTING LABORATORY SHALL PERFORM THE FOLLOWING TESTS ON CAST IN PLACE CONCRETE:

- a) ASTM C143 "STANDARD TEST METHOD FOR SLUMP OF PORTLAND CEMENT CONCRETE." MAXIMUM SLUMP SHALL BE 5 INCHES BEFORE A PLASTICIZER IS ADDED.
- b) ASTM C39 "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS." A SEPARATE TEST SHALL BE CONDUCTED FOR EACH CLASS, FOR EVERY 50 CUBIC YARDS (OR FRACTION THEREOF), PLACED PER DAY. REQUIRED CYLINDER (S) QUANTITIES AND TEST AGE AS FOLLOWS: 1 AT 7 DAYS
- 2 AT 28 DAYS ONE ADDITIONAL RESERVE CYLINDER TO BE TESTED UNDER THE DIRECTION OF THE ENGINEER, IF REQUIRED. IF 28 DAY STRENGTH IS ACHIEVED, THE ADDITIONAL CYLINDER(s) MAY BE DISCARDED.



ANCHOR CHILLER BASE FRAME

TO SLAB WITH (6) GALVANIZED

1/2" DIAMETER THREADED ROD

DRILLED AND EPOXIED 5" INTO

CONCRETE SLAB

6" CONCRETE SLAB

WITH NO. 4 BARS @

12" O.C EACH WAY,

MIN. 16" SAND FILL

COMPACTED TO

95% OF MODIFIED

PROCTOR LAB

TESTS.

**NOTE:** WHERE FINISH

CENTERED.



· / /

EXTEND CH-1

2 SLAB.

REINFORCING

BARS 16" INTO CH-

8"X12" THICKENED

SLAB EDGE WITH

(2) NO. 4 BARS

TOP & BOTTOM

6" CONCRETE SLAB

WITH NO. 4 BARS @

12" O.C EACH WAY,

CENTERED.

PROVIDE NEW TOP SEAL. DOOR TOP GAP IS 3-1/2".

ROLLING DOOR-TOP SEAL 

DOOR IS 10' X 10' - 6"

ANCHOR CHILLER BASE FRAME TO SLAB WITH (6) GALVANIZED 1/2" DIAMETER THREADED ROD DRILLED AND **EPOXIED 5" INTO** CONCRETE SLAB

CONCRETE PAD

THICKENED SLAB EDGE

WITH (2) NO. 4 BARS

TOP & BOTTOM.

GRADE TO SLOPE

MIN. 16" SAND FILL

95% OF MODIFIED

PROCTOR LAB

COMPACTED TO

AWAY ALL SIDES

OF PAD.

TESTS.

1" CHAMFER AROUND ENTIRE PERIMETER OF

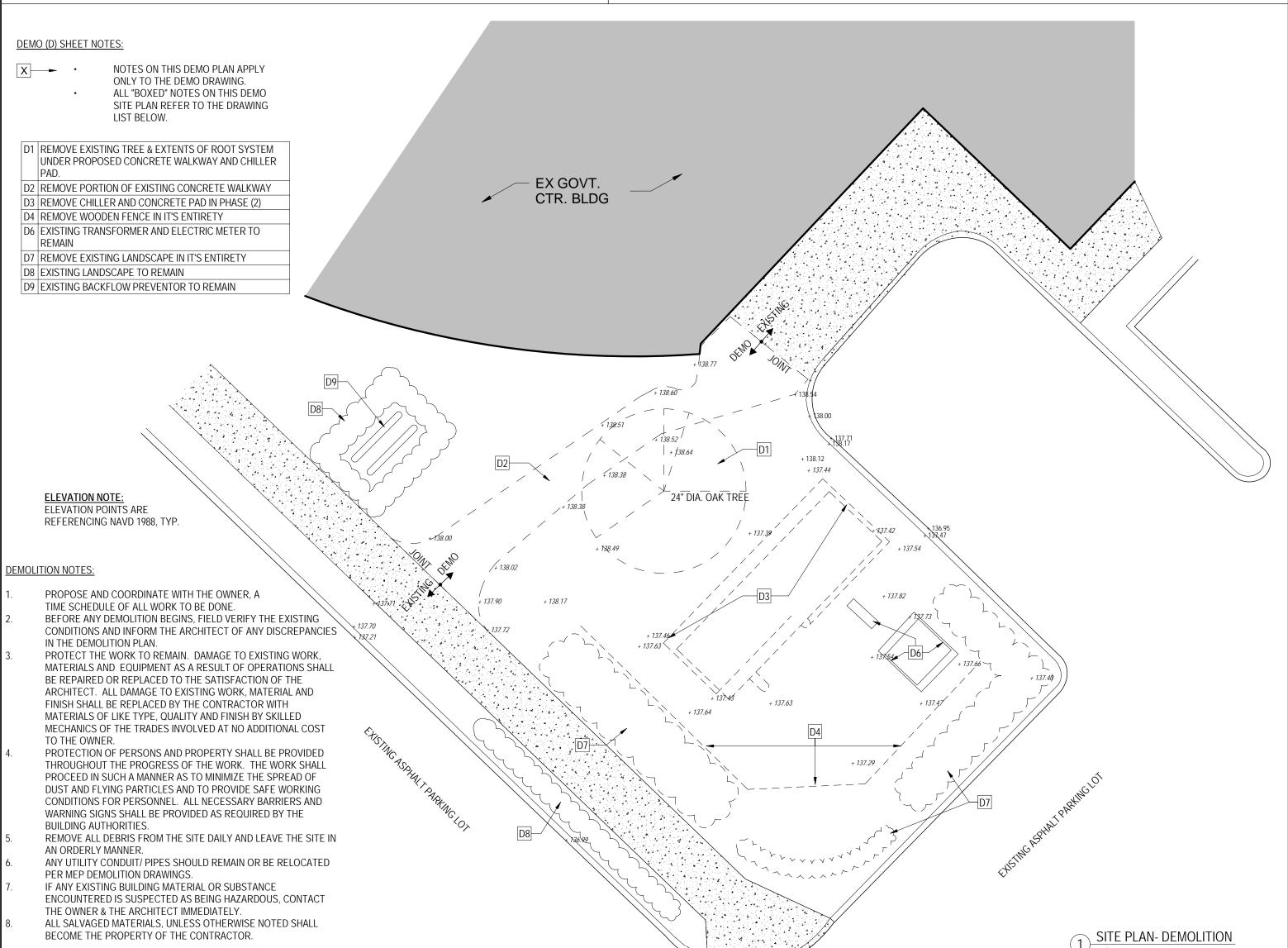
168 MAIN STREET ARASOTA, FL 34237

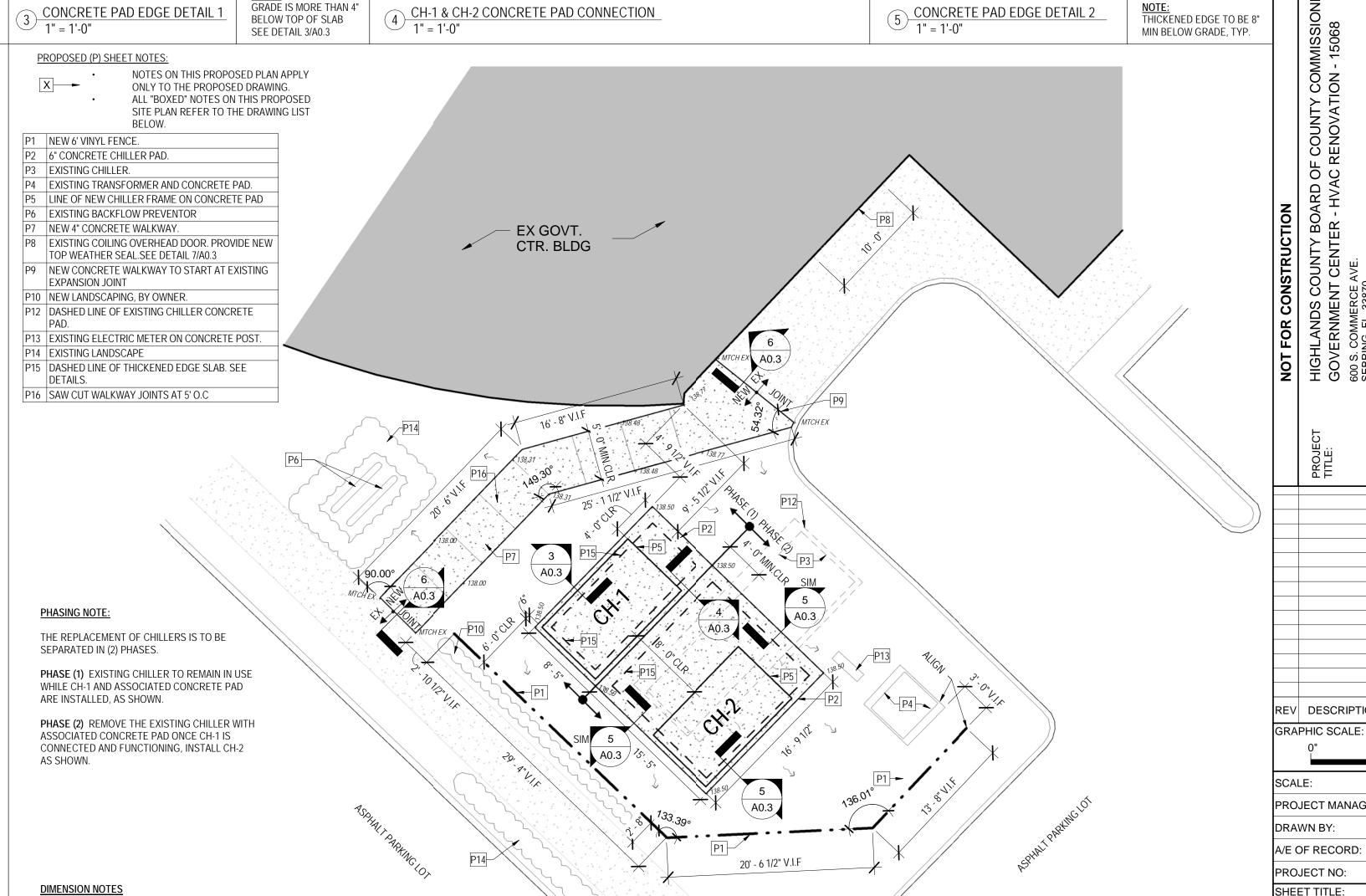
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REV DESCRIPTION DATE **GRAPHIC SCALE:** PROJECT MANAGER: MJF RAWN BY A/E OF RECORD: ROJECT NO: SHEET TITLE: **ARCHITECTURAL** SITE PLAN & DETAILS 2 SITE PLAN - PROPOSED 1/8" = 1'-0" SHEET No.: A0.3





#### MECHANICAL GENERAL NOTES:

- 1. IN GENERAL, PLANS AND DIAGRAMS ARE SCHEMATIC ONLY AND SHOULD NOT BE
- 2. INTENT OF THESE NOTES AND MECHANICAL NOTES ON DRAWINGS IS TO CLARIFY THE SCOPE OF WORK AND ALERT CONTRACTOR OF EXISTING CONDITIONS.

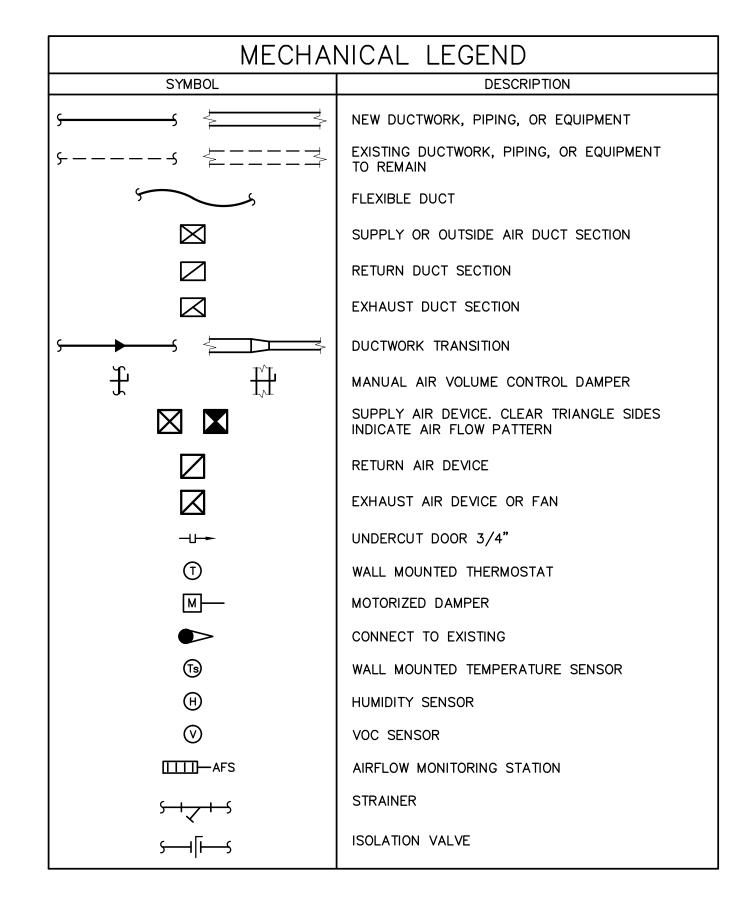
  CONTRACTOR TO VISIT SITE AND VERIFY ALL CLEARANCES BEFORE FABRICATION OF DUCTWORK AND PROVIDE ADDITIONAL OFFSET AND/OR CHANGES IN DUCT SIZES TO MEET FIELD CONDITIONS AND COORDINATE WITH ELECTRICAL SUBCONTRACTOR BEFORE ANY CONSTRUCTION WORK.
- 3. BIDDERS SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS INVOLVING THE WORK.
- 4. 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.
- 5. 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.
- 6. 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.
- 7. ALL WORK COVERED IN THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST PUBLISHED STANDARDS OF ASHRAE, AND NFPA.
- 8. ALL MECHANICAL WORK SHALL MEET ALL THE REQUIREMENTS OF THE "FLORIDA BUILDING CODE 2014", 5TH EDITION.
- 9. 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.
- 10. THE MECHANICAL CONTRACTOR SHALL CHECK ALL EQUIPMENT FOR CORRECT VOLTAGE RATING BEFORE PURCHASING EQUIPMENT.
- 11. 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.
- 12. ALL STRUCTURAL CUTTING AND PATCHING SHALL BE DONE BY THE PRIME CONTRACTOR.
- 13. 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.
- 14. TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE MINIMUM BUILDING CODES.
- 15. MAINTAIN AS—BUILT DRAWINGS, DAILY. SUBMIT TO ARCHITECT/OWNER AFTER COMPLETION OF ALL WORK.
- 16. ALL INSULATION SHALL HAVE A MINIMUM FLAME SPREAD/SMOKE DEVELOPED RATING OF 25/50.
- 17. 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.
- 18. CONTRACTOR SHALL PROVIDE ALL SUPPLEMENTAL STEEL REQUIRED TO SUSPEND MECHANICAL EQUIPMENT AND MATERIALS.
- 19. ALL ABOVE GRADE CHILLED WATER PIPING SHALL BE WELDED SCHEDULE 40 BLACK STEEL. PROVIDE STEEL TO PVC TRANSITION FOR CONNECTION TO UNDERGROUND PIPING
- 20. INSULATE CHILLED WATER PIPING, PUMPS AND ACCESSORIES WITH CELLULAR GLASS INSULATION (FOAMGLAS) COVER WITH ALL SERVICE JACKET. PROVIDE ALUMINUM JACKET FOR ALL EXTERIOR INSULATION.
- 21. ALL UNDERGROUND PIPING SHALL BE PRE-INSULATED PIPE OR AT THE CONTRACTOR'S DISCRETION PVC PIPE WITH FOAMGLAS INSULATION AND A PITTWRAP HS JACKETING.
- 22. COORDINATE ALL WORK AND SHUT-DOWNS WITH REPRESENTATIVES OF HIGHLANDS

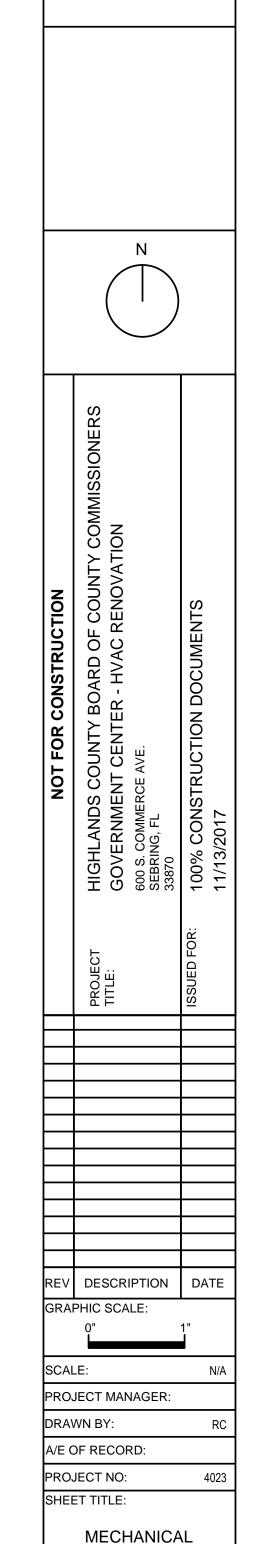
#### PROJECT SCOPE:

- 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.





NOTES, SCHEDULES

AND LEGEND

M1.0

SHEET No.:

STREET L 34237 .0084

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VA	V TEI	RMINA	L SCI	HEDUL	.E																										
MARK	V-1A-2	V-1A-3	V-1A-4	V-1A-5	V-1A-6	V-1A-7A	V-1A-7B	V-1A-8	V-1A-9	V-1A-10	V-1A-11	V-1A-12	V-1B-1	V-1B-2	V-1B-3	V-1B-4	V-1B-5	V-1B-6	V-1B-7	V-1B-8	V-1B-9	V-1B-10	V-1B-11	V-1B-12A	V-1B-12B	V-2A-1	V-2A-2	V-2A-3	V-2A-4	V-2A-5	V-2A-6
COOLING AIR FLOW (CFM) (MAX./MIN.) HEATING AIRFLOW (CFM) HEATER CAP. (KW)	1890/560	1525/460	280/85	690/200	155/50	1860/550	1820/550	505/150	940/280	500/150	1155/350	555/165	1300/390	1210/360	1000/300	1000/300	360/110	1010/300	540/160	930/280	650/195	440/130	1100/330	1370/410	1625/490	1760/530	1990/600	160/50	545/165	400/120	1800/540
HEATING AIRFLOW (CFM)	600	525	0	0	0	600	600	0	375	225	525	0	0	0	375	375	0	375	225	375	0	0	375	525	600	600	600	75	150	150	600
HEATER CAP. (KW)	8.0	7.0	N/A	N/A	N/A	8.0	8.0	N/A	5.0	3.0	7.0	N/A	N/A	N/A	5.0	5.0	N/A	5.0	3.0	5.0	N/A	N/A	5.0	7.0	8.0	8.0	8.0	1.0	2.0	2.0	8.0
MARK	V-2A-7	V-2A-8	V-2A-9	V-2A-10	V-2A-11	V-2A-12	V-2A-13	V-2A-14	V-2A-15	V-2A-16	V-2B-1	V-2B-2	V-2B-3	V-2B-4	V-2B-5	V-2B-6	V-2B-7	V-2B-8	V-2B-9	V-2B-10	V-2B-11	V-2B-12	V-2B-13	V-2B-14	V-2B-15	V-2B-16	V-2B-17	V-3-1	V-3-2	V-3-3	1
COOLING AIR FLOW (CFM) (MAX./MIN.)	540/160	555/165	880/265	935/280	450/135	1365/410	1020/305	1050/315	260/80	595/180	3400/1020	3500/1050	2250/675	1395/420	170/50	910/275	990/300	1300/390	570/170	750/225	975/290	550/165	320/100	870/260	980/270	2130/640	2090/630	1300/390	1030/275	910/275	1
HEATING AIRFLOW (CFM)	225	225	300	300	75	375	375	375	0	150	1125	1125	750	525	75	375	375	525	225	225	375	225	75	375	375	600	600	900	0	0	1
COOLING AIR FLOW (CFM) (MAX./MIN.) HEATING AIRFLOW (CFM) HEATER CAP. (KW)	3.0	3.0	4.0	4.0	1.0	5.0	5.0	5.0	N/A	2.0	15.0	15.0	10.0	7.0	1.0	5.0	5.0	7.0	3.0	3.0	5.0	3.0	1.0	5.0	5.0	8.0	8.0	12.0	N/A	N/A	

<sup>1</sup> VAV TERMINALS ARE EXISTING TO BE REUSED. CONTROLS UPGRADE, AT A MINIMUM SHALL INCLUDE NEW CONTROLLER, NEW ACTUATOR AND A NEW WALL MOUNTED TEMPERATURE SENSOR/THERMOSTAT.

<sup>2</sup> SET AIR FLOWS FOR ALL UNITS TO QUANTITIES NOTED.

Al	R C	OOLED	SCROLL						
CHILLER SCHEDULE									
MARK		_	CH-1	CH-2					
CAPACITY (NOMINAL	)	TONS	120	120					
AMBIENT TEMPERATU	JRE	<b>"</b> F	95	95					
WATER FLOW		G.P.M.	240	240					
MAX. WATER PRESS.	DROP	FT. H <sub>2</sub> 0	10.0	10.0					
WATER TEMP. ENT/L	.VG	<b>F/</b> F	56/44	56/44					
# FANS/FLA EACH		_	6/4	6/4					
UNIT TOTAL EER		_	9.85	9.85					
REFRIGERANT		_	R410A	R410A					
COMPRESSORS (MINIMUM)		#	2	2					
INDEPENDANT REF. CIRCUIT	S (MIN)	#	2	2					
TOTAL POWER INPUT	-	KW/FLA	147.5	147.5					
ELECTRICAL		V/ø/HZ	460/3/60	460/3/60					
	95.0%	AT EER	9.85	9.85					
EFFICIENCY PART LOAD	83.9%	AT EER	12.52	12.52					
(AMBIENT)	70.6%	AT EER	17.05	17.05					
	55.0%	AT EER	20.45	20.45					
WEIGHT (OPERATING)		LBS.	5655	5655					
LOCATION		_	CHILLER YARD	CHILLER YARD					
MANUFACTURER		_	JCI/YORK	JCI/YORK					
MODEL		_	YLAA0120SE	YLAA0120SE					
NOTES		#	1 7	1)—7					

- 1) AIR CERTIFIED EFFICIENCY PER STANDARD 550.
- PROVIDE WITH SINGLE POINT POWER CONNECTION, CONTROL VOLTAGE TRANSFORMER, PHASE FAILURE PROTECTION, MANUFACTURER'S STANDARD "SEACOAST" PROTECTION, DIPPED AND BAKED FOR THE CONDENSER COILS AND ACROSS—THE—LINE STARTER.
- (3) PROVIDE UNIT WITH 4" SPRING VIBRATION ISOLATORS.
- PROVIDE WITH BACNET CARD OR IMBEDDED CONTROLS INTERFACE TO TIE INTO THE SITE'S ENERGY MANAGEMENT SYSTEM. AS A MINIMUM THE CONTROL INTERFACE SHALL PROVIDE THE FOLLOWING FEATURES:
- A. THE ABILITY TO READ AND CHANGE THE CHILLER'S TEMPERATURE SETPOINTS.
- B. THE REAL TIME ENTERING AND LEAVING WATER TEMPERATURES.
- C. THE REAL TIME CHILLED WATER FLOW THROUGH THE CHILLERS IN GPM.
- D. CHILLED WATER FLOW RATES (MAX/MIN) IN GPM.
- E. REAL TIME PERCENTAGE OF CHILLER CAPACITY.
- F. CHILLER ALARM STATUS AND INDICATION OF THE ACTUAL
- 5 PROVIDE FULL FIVE (5) YEAR STANDARD MANUFACTURER'S WARRANTY ON THE CHILLER. WARRANTY SHALL INCLUDE ALL PARTS AND LABOR, INCLUDING REFRIGERANT.
- 6 THE EVAPORATOR HEATER ELECTRICAL FOR SCHEDULED CHILLER IS INTEGRAL TO THIS UNIT. IF AN ALTERNATE MANUFACTURER IS UTILIZED INCLUDE ALL COSTS TO PROVIDE THIS CIRCUIT AS REQUIRED.
- 7 PROVIDE WITH SOUND ATTENUATION PACKAGE. PACKAGE TO INCLUDE ACOUSTIC SOUND BLANKET AND ULTRA QUIET FANS WITH VSD CONTROL. CHILLER SHALL SHOW NO DEGRADATION OF CHILLER PERFORMANCE WITH PACKAGE INSTALLED. MAXIMUM SOUND POWER LEVELS (IN ACCORDANCE WITH AHRI 370) ARE AS FOLLOWS:

SOUND PO	OWER LEVELS
FREQUENCY (Hz)	SOUND POWER (dB)
63	94
125	93
250	89
500	89
1000	86
2000	<u>82</u>
4000	<u>79</u>
8000 I WA	76
LWA.	91

\* APPROVED EQUALS SHALL BE CARRIER, DAIKEN AND TRANE.

DUAL PATH AIR HANDL	ING UNIT	SCHEDULI				
MARK	AHU	AHU-3				
AREA SERVED		BOARD ROOM				
RETURN COIL						
TOTAL CAPACITY	BTUH	54,400				
SENSIBLE CAPACITY	BTUH	48,000				
COOLING COIL	ROWS/FPI	4/12				
COOLING COIL MAX. FACE VEL.	FPM	500				
COOLING COIL MAX. PRES. DROP	IN. H <sub>2</sub> 0	1.0				
ENTERING AIR TEMP. (DB/WB)	<b>°</b> F/ <b>°</b> F	75.0/62.5				
LEAVING AIR TEMP. (DB/WB)	*F/*F	54.5/54.0				
CHILLED WATER FLOW	GPM	6.0				
CHILLED WATER TEMP. (ENT/LVG)	<b>°F/°</b> F	44/56				
MAX. WATER PRESSURE DROP	FT. H <sub>2</sub> 0	15.0				
OUTSIDE AIR COIL						
TOTAL CAPACITY	BTUH	170,600				
SENSIBLE CAPACITY	BTUH	87,500				
COOLING COIL	ROWS/FPI	6/10				
COOLING COIL MAX. FACE VEL.	FPM	400				
COOLING COIL MAX. PRES. DROP	IN. H 20	1.0				
ENTERING AIR TEMP. (DB/WB)	<b>°</b> F/ <b>°</b> F	95/80				
LEAVING AIR TEMP. (DB/WB)	*F/*F	54.5/54.0				
CHILLED WATER FLOW	GPM	29.6				
CHILLED WATER TEMP. (ENT/LVG)	<b>°F/°</b> F	44/56				
MAX. WATER PRESSURE DROP	FT. H <sub>2</sub> 0	15.0				
UNIT	-	-				
SUPPLY AIR	CFM	3130				
OUTSIDE AIR	CFM	2000				
STATIC PRESSURE IN. H <sub>2</sub> 0	EXT./TOTAL	2.0/3.1				
MOTOR	HP	3.0				
FAN WHEEL TYPE	_	AF				
FILTER	_	2"-MERV 8				
ELECTRICAL	V/ø/HZ	480/3/60				
LOCATION	_	MEZZANINE				
WEIGHT	LBS	1904				
MANUFACTURER	_	JCI				
MODEL	_	XTI-36X42 0.7 XTI-27X33 R.7				
NOTES	#)	(1)(2)(3)(4)				

- 1 HORIZONTAL DRAW—THRU WITH UPBLAST DISCHARGE, FAN SECTION, RETURN AIR COIL SECTION, OUTSIDE AIR PATH COIL SECTION AND FLAT FILTER SECTIONS.
- 2 ALL SECTIONS SHALL BE DOUBLE WALL CONSTRUCTION WITH SOLID INNER LINER. PROVIDE WITH EXTENDED GREASE FITTINGS
- 3 UNIT PROVIDED WITH VARIABLE FREQUENCY DRIVE (SQUARE 'D' OR APPROVED EQUAL).
- 4 PROVIDE WITH FULL PERIMETER 6" TALL BASE RAIL. PROVIDE SECTIONS IN A CONTINUOUS LENGTH FOR EACH SIDE. PROVIDE BOLTED CLIP ANGLES IN CORNERS. COORDINATE DETAILING WITH AIR HANDLER MANUFACTURER.
- \* APPROVED EQUALS: CARRIER, DAIKEN AND TRANE

R SC	HEDULE
_	AS-1
_	BELL & GOSSETT
_	RL-6F
GPM	850
INCHES	6
PSI	125
_	FLANGED W/ STRAINER
_	BASE
_	PUMP YARD
#	12
	GPM INCHES PSI

- 1) PROVIDE WITH FLANGED CONNECTIONS AND STEEL MESH STRAINER.
- 2 PROVIDE WITH CONSTRUCTION STRAINER.\*APPROVED EQUALS: AMTROL AND TACO.

EXPANSION TAI	NK SC	CHEDULE
MARK	_	ET-1
MANUFACTURER	_	BELL & GOSSETT
MODEL NUMBER	_	B-130LA
TANK VOLUME	GALS.	34
ACCEPT. VOLUME	GALS.	27
OPERATING WEIGHT	LBS.	410
CHARGE PRESSURE	PSIG	12
MAX. DESIGN TEMPERATURE	<b>°</b> F	240
MAX WORKING PRESSURE	PSI	125
SYSTEM TYPE	_	VERTICAL
MOUNTING	_	BASE
LOCATION	_	PUMP YARD
NOTES	#	1

- 1) BASE MOUNT UNIT, PROVIDE WITH TANK PURGE VALVE (BELL & GOSSETT MODEL TPV-1FM).
  - \* APPROVED EQUALS SHALL BE AMTROL AND TACO.

PUN	PUMP SCHEDULE								
MARK	_	P-1	P-2						
SERVICE	_	CHILLED WATER	CHILLED WATER						
PUMP TYPE	_	CLOSE-COUPLED BASE MOUNT	CLOSE-COUPLED BASE MOUNT						
WATER FLOW	G.P.M.	480	480						
TOTAL DYNAMIC HEAD	FT. H <sub>2</sub> 0	70.0	70.0						
MOTOR	H.P.	15.0	15.0						
SPEED (IMPELLER)	R.P.M.	1800	1800						
IMPELLER SIZE	INCHES	9.0	9.0						
ELECTRICAL	V/ø/HZ	460/3/60	460/3/60						
MOUNTING LOCATION	_	PUMP YARD	PUMP YARD						
MANUFACTURER	_	BELL & GOSSETT	BELL & GOSSETT						
MODEL NUMBER	_	SERIES e-1510, SIZE 3BD	SERIES e-1510, SIZE 3BD						
NOTES	#	1 2	1 2						

- PROVIDE WITH HIGH EFFICIENCY TEFC MOTOR.
- 2 PROVIDE SUCTION DIFFUSER (BELL & GOSSETT MODEL GE-3X) AND TRIPLE DUTY VALVE (BELL & GOSSETT MODEL 3DS-6B) WITH CONSTRUCTION STRAINER.
  - \* APPROVED EQUALS SHALL BE ARMSTRONG, AURORA AND

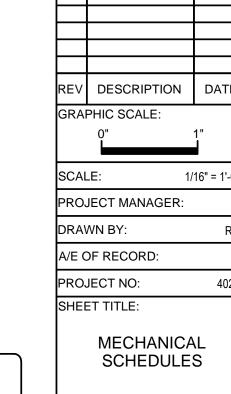
AIR DEVICE SCHEDULE										
MARK	TYPE	MATERIAL	FINISH	MANUFACTURER AND MODEL	REMARKS					
AD-1	SIDWALL SUPPLY	ALUMINUM	WHITE BAKED ENAMEL	TITUS 300FSL	1)					
AD-2	CEILING SUPPLY	ALUMINUM	WHITE BAKED ENAMEL	MATCH EXISTING	1					

PYRAMID **/** 

ENGINEERING

CONSULTING ENGINEERS

- 1) SEE PLANS FOR NECK SIZE.
  - \* APPROVED EQUALS SHALL BE METALAIRE AND NAILOR.



SHEET No.:

5596 Rio Vista Drive

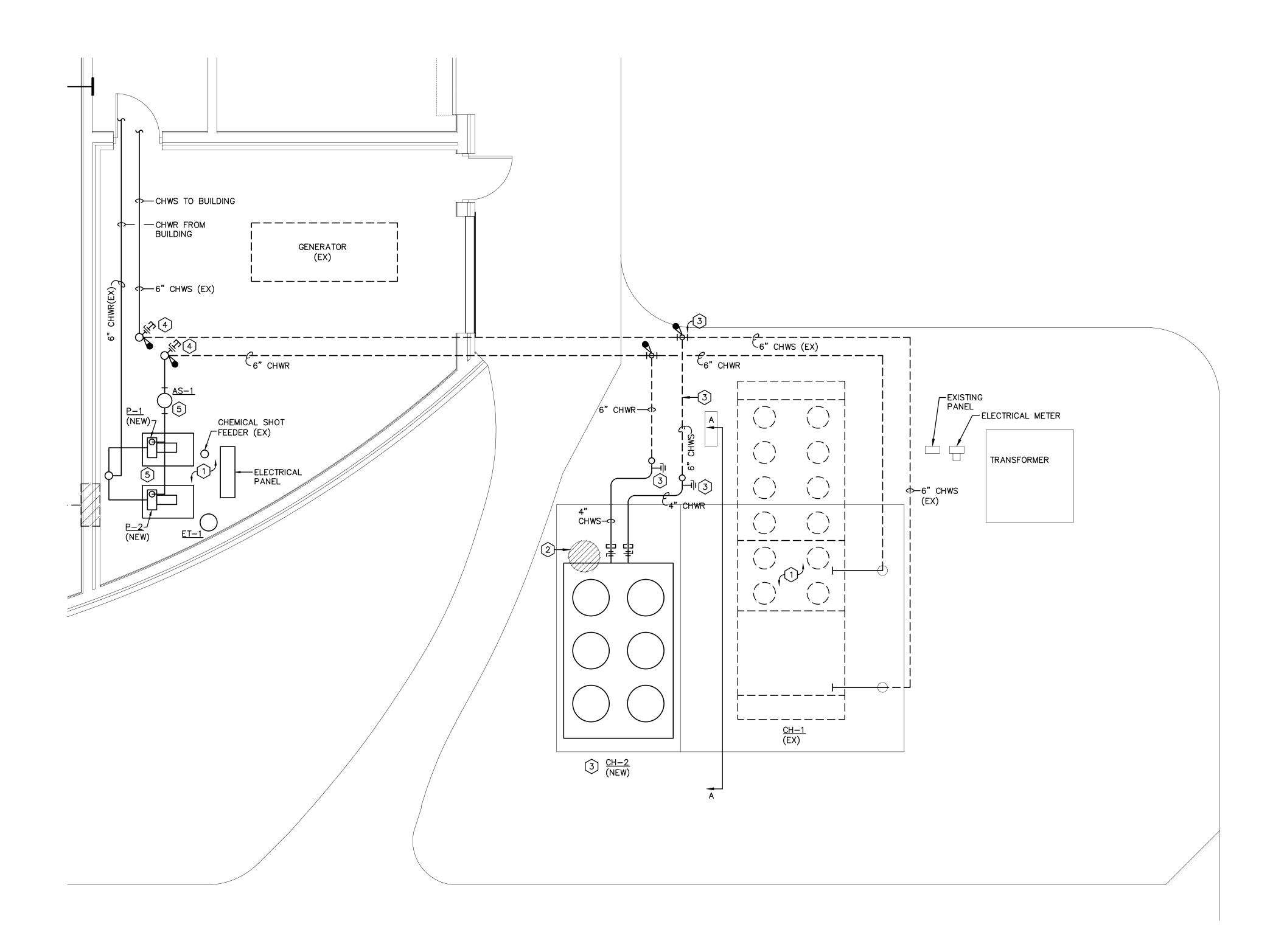
Clearwater, Florida 33760

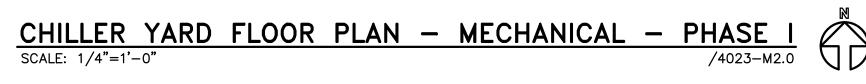
(727) 531–2989 \* Reg. No. EB6890 pyramid@pyramidengineering.org

M A N E C T S

ARK

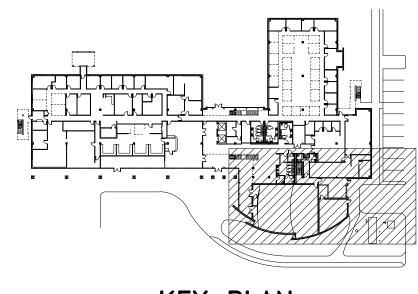
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#### MECHANICAL NOTES:

- 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.
- PROVIDE VALVED 6" CHWS/CHWR STUB-OUT FOR CONNECTION OF TEMPORARY CHILLER.
- FEPLACE EXISTING CHILLED WATER PUMPS AND HYDRONIC SPECIALTIES WITH NEW EQUIPMENT AS INDICATED.



KEY PLAN



	VERS CONTRACTOR OF THE STATE OF	
NOT FOR CONSTRUCTION	HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS GOVERNMENT CENTER - HVAC RENOVATION 600 S. COMMERCE AVE. SEBRING, FL	100% CONSTRUCTION DOCUMENTS 11/13/2017
	PROJECT TITLE:	ISSUED FOR:
		-

PROJECT MANAGER:

CHILLER YARD FLOOR PLAN -MECHANICAL -

PHASE I

M2.0

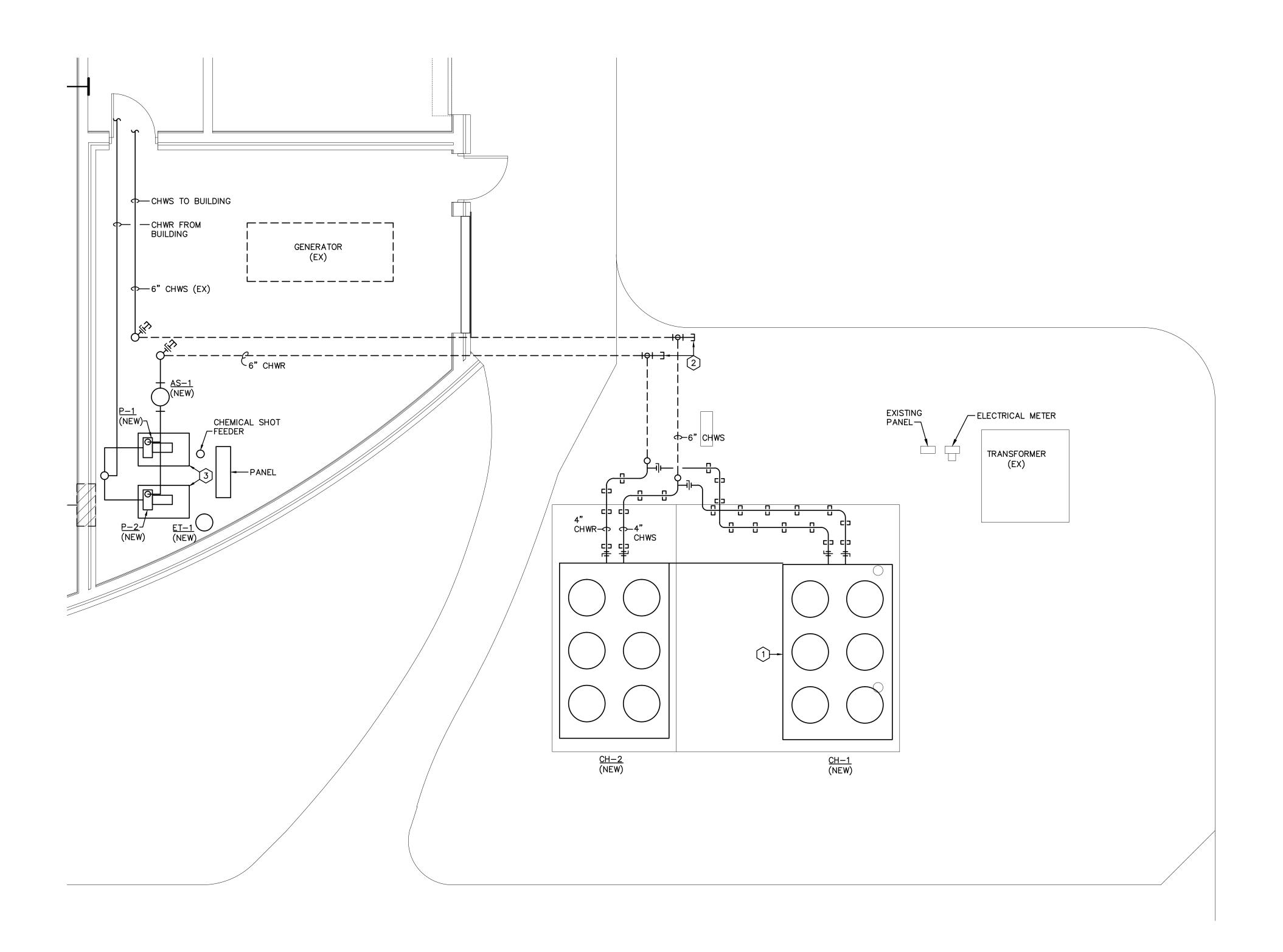
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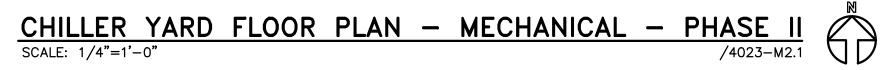
A/E OF RECORD:

PROJECT NO: SHEET TITLE:

SHEET No.:

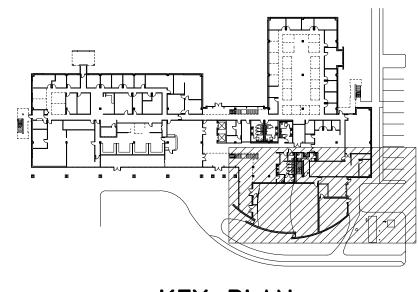
SP ARK M AN ARCHITECTS





#### MECHANICAL NOTES:

- 1 REMOVE EXISTING CHILLER AND REPLACE WITH NEW. EXTEND NEW CHILLED WATER PIPING TO NEW CONNECTIONS.
- (2) CAP EXISTING CHILLED WATER LINES BELOW GRADE AT POINT NOTED. SEAL LINES WATER-TIGHT.



KEY PLAN



	SWEET SPARKMAN ARCHITECTS	
	N N	
NOT FOR CONSTRUCTION	HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS GOVERNMENT CENTER - HVAC RENOVATION 600 S. COMMERCE AVE. SEBRING, FL 33870	100% CONSTRUCTION DOCUMENTS 11/13/2017
	PROJECT TITLE:	ISSUED FOR:
REV	DESCRIPTION	DATE

PROJECT MANAGER:

CHILLER YARD FLOOR PLAN -

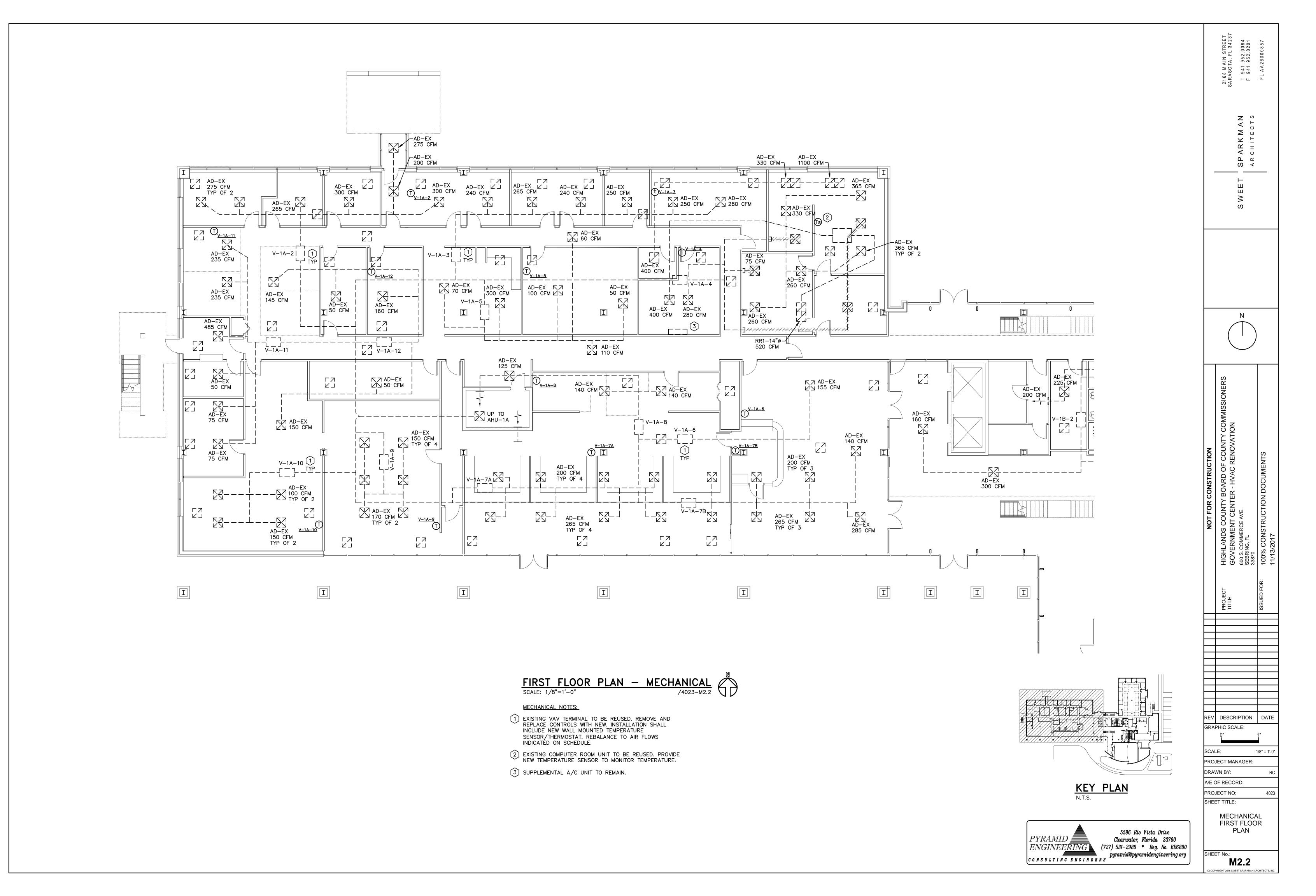
MECHANICAL -PHASE II

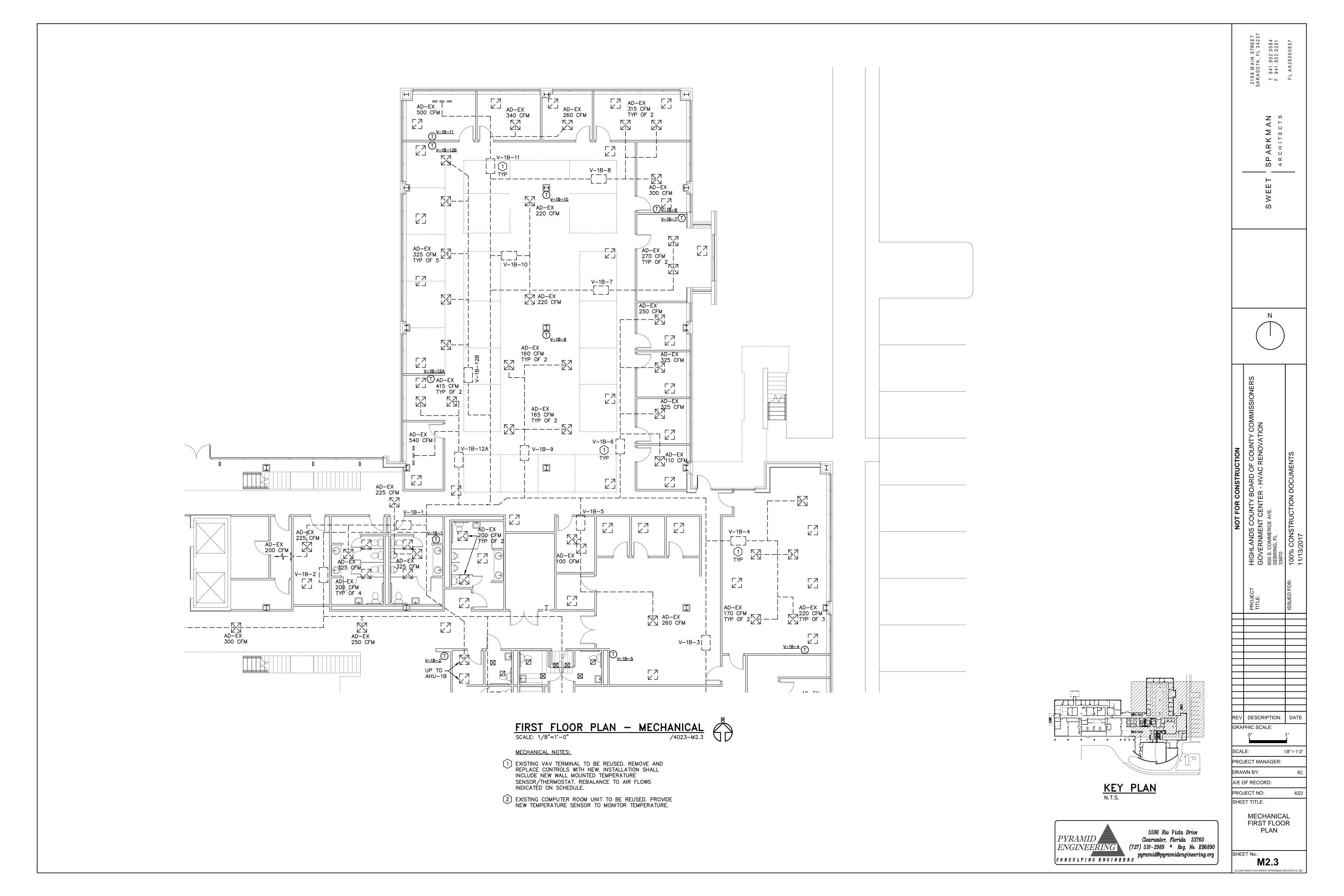
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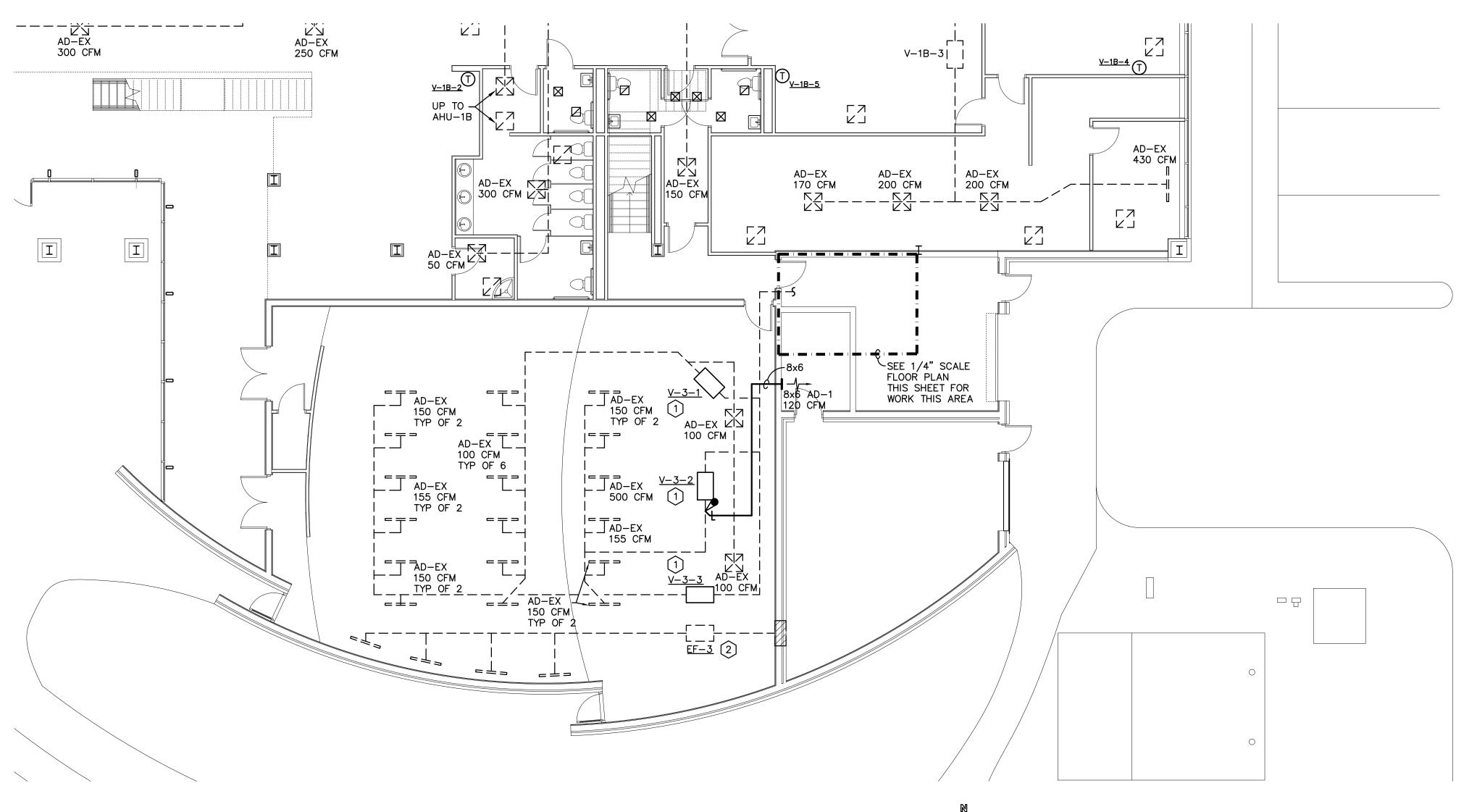
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A/E OF RECORD:

PROJECT NO: SHEET TITLE:





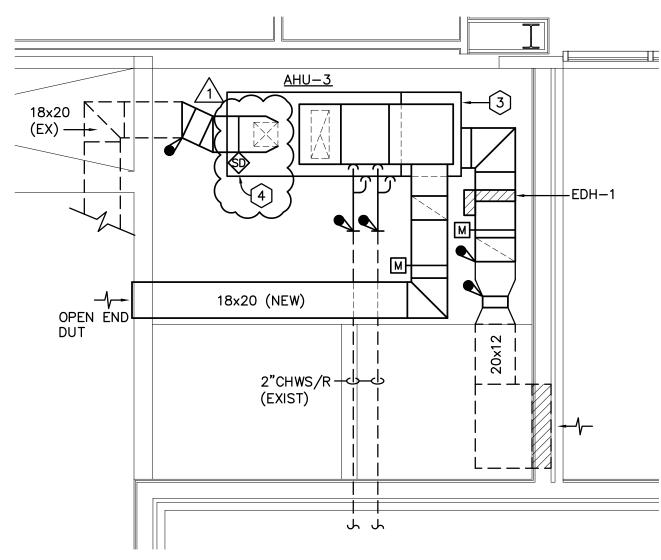


FIRST FLOOR PLAN - MECHANICAL
SCALE: 1/8"=1'-0"

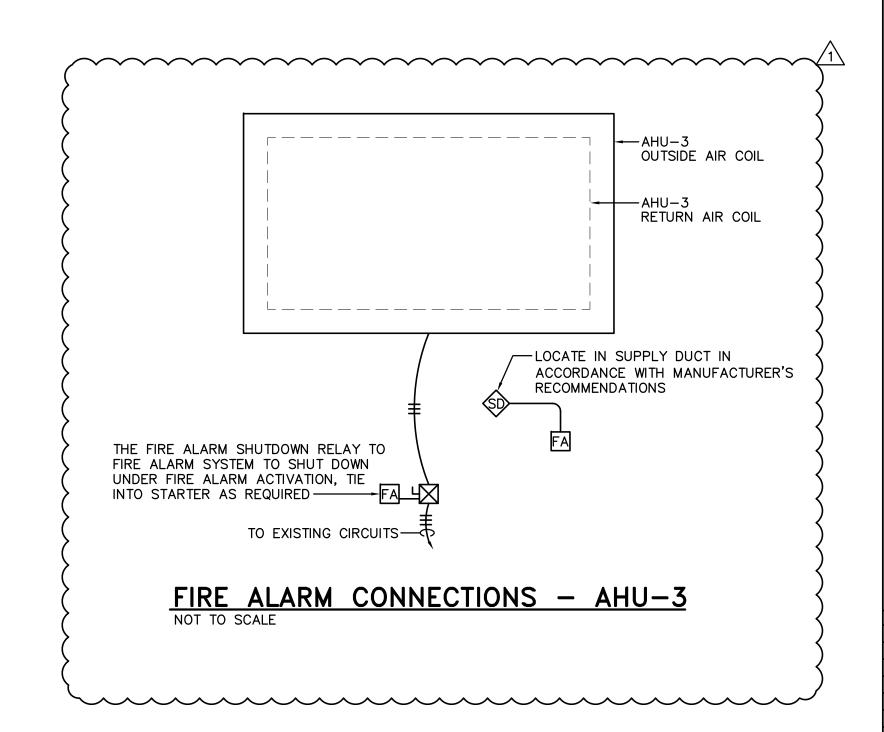
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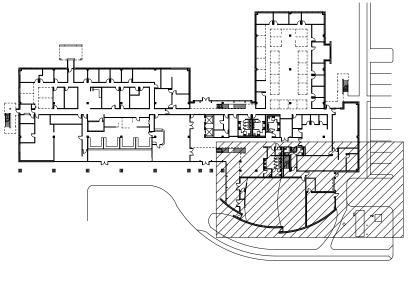
MECHANICAL NOTES:

- 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.
- 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"





KEY PLAN



SWEET SPARKMAN T 941.952.0084 FLAA26000857

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PROJECT HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONE
TITLE: GOVERNMENT CENTER - HVAC RENOVATION - 15068
600 S. COMMERCE AVE.
SEBRING, FL 33870
1SSUED FOR: 100% CONSTRUCTION DOCUMENTS
11/20/2017

1 ADD. NO. 3 02.09.18

REV DESCRIPTION DATE

GRAPHIC SCALE:

0" 1"

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

SCALE: 1/8" = 1
PROJECT MANAGER:

DRAWN BY:

A/E OF RECORD:

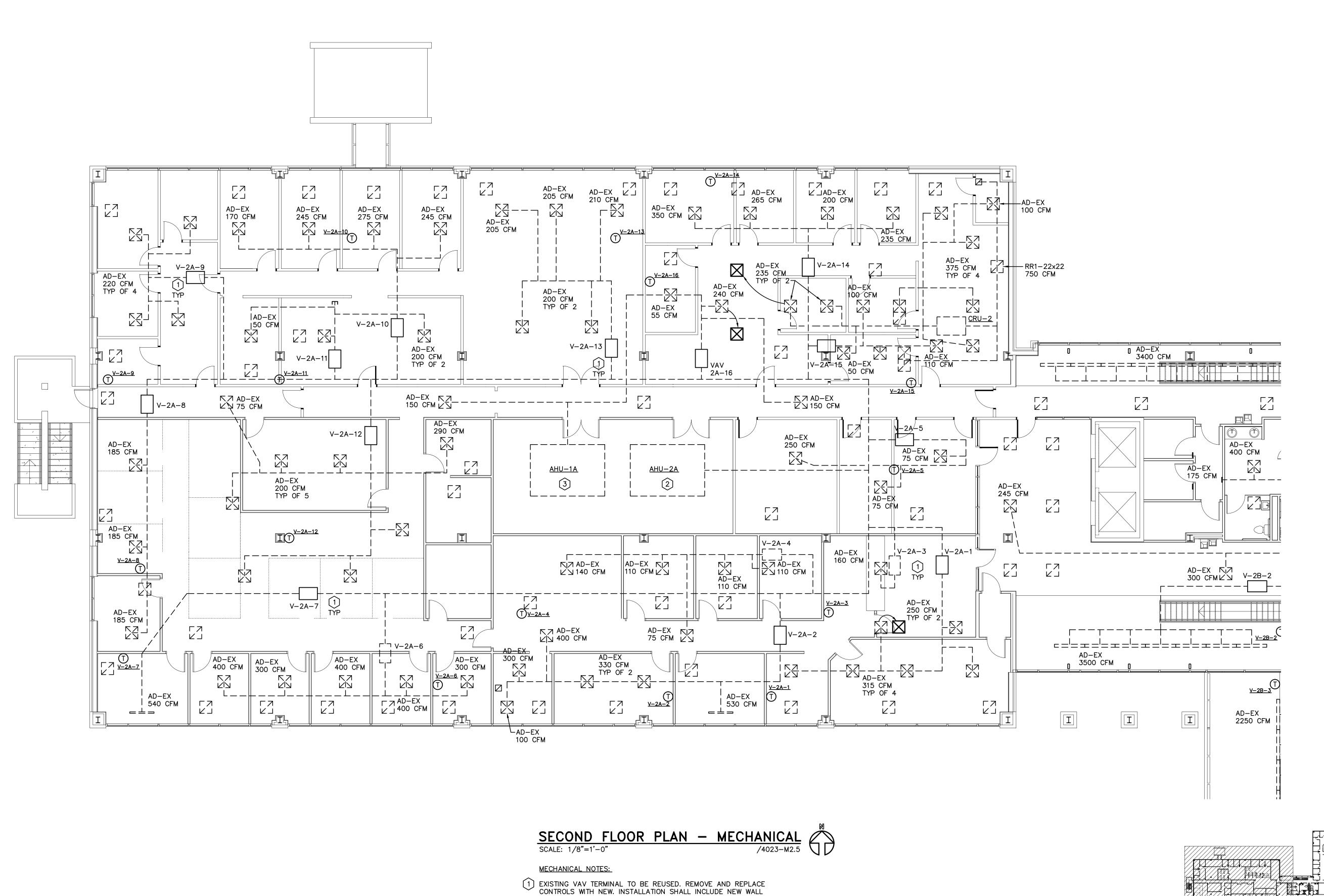
A/E OF RECORD:
PROJECT NO:
SHEET TITLE:

MECHANICAL FIRST FLOOR PLAN

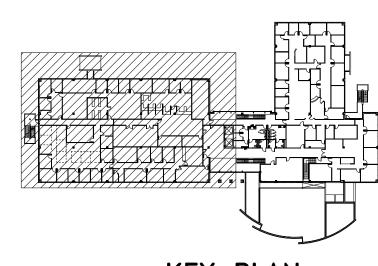
SHEET No.:

M2.4

(C) COPYRIGHT 2016 SWEET SPARKMAN ARCHITECTS, INC.



- MOUNTED TEMPERATURE SENSOR/THERMOSTAT. REBALANCE TO AIR FLOWS INDICATED ON SCHEDULE.
- 2 EXISTING AIR HANDLER, AHU-2A, 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-1A, 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: 11,700 CFM SUPPLY AIR 1,950 CFM OUTSIDE AIR 81.0 GPM CHILLED WATER



KEY PLAN



F COUNTY CON REV DESCRIPTION DATE GRAPHIC SCALE: SCALE: 1/8" = 1'-0" PROJECT MANAGER: DRAWN BY: A/E OF RECORD: PROJECT NO: SHEET TITLE: **MECHANICAL** SECOND

FLOOR PLAN

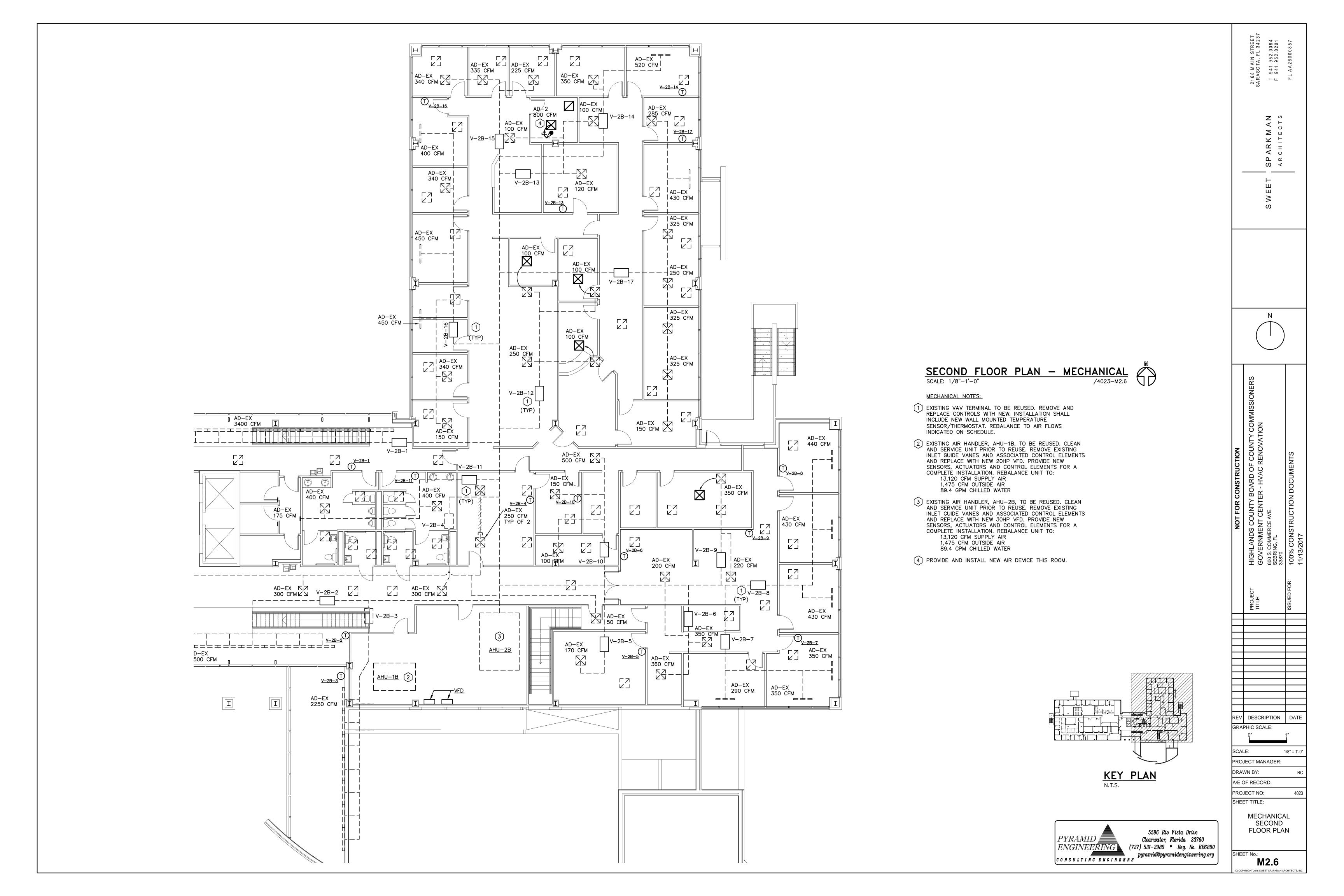
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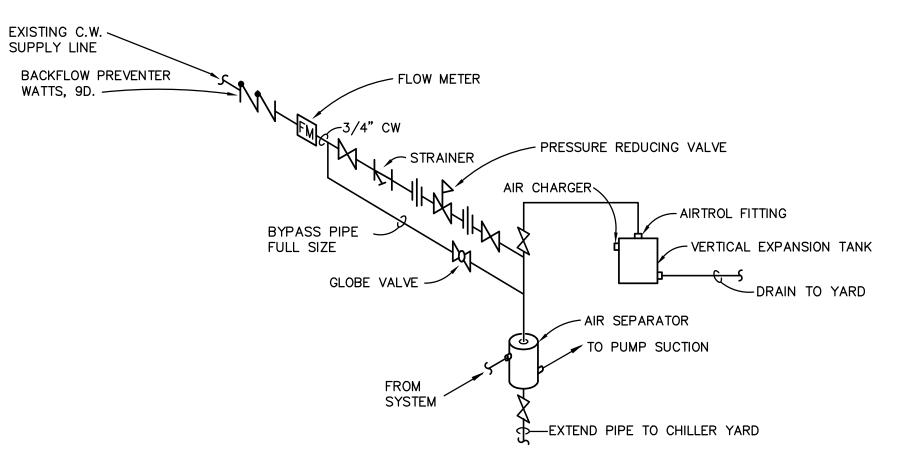
SHEET No.:

2168 MAIN STREET SARASOTA, FL 34237 T 941.952.0084 F 941.952.0201

ARKMAN CHITECTS

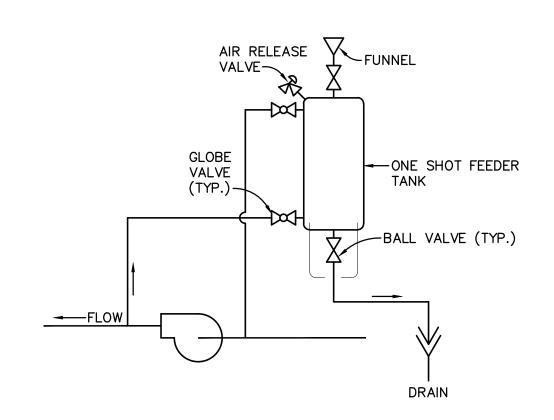
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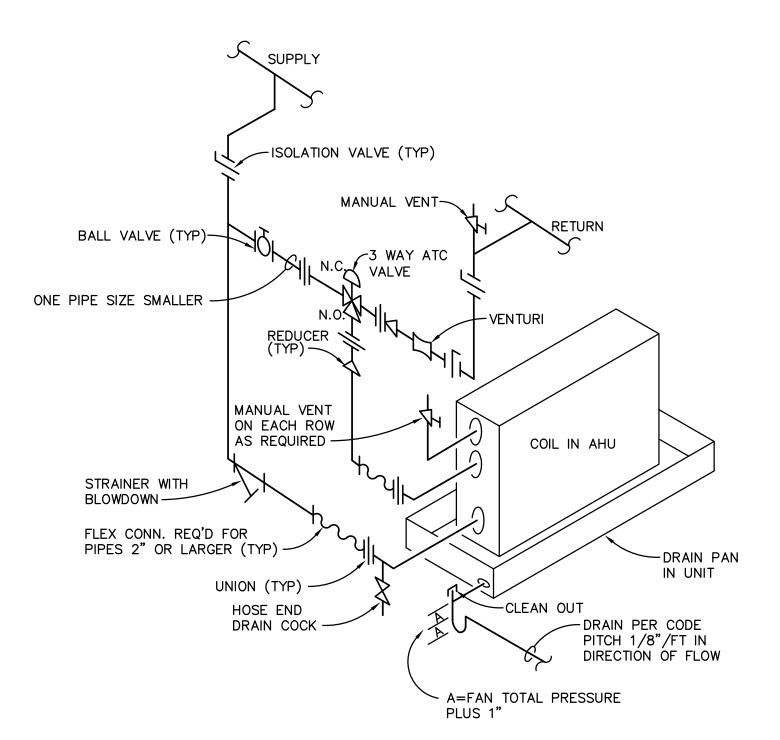
EXPANSION TANK PIPING DETAIL

NOT TO SCALE



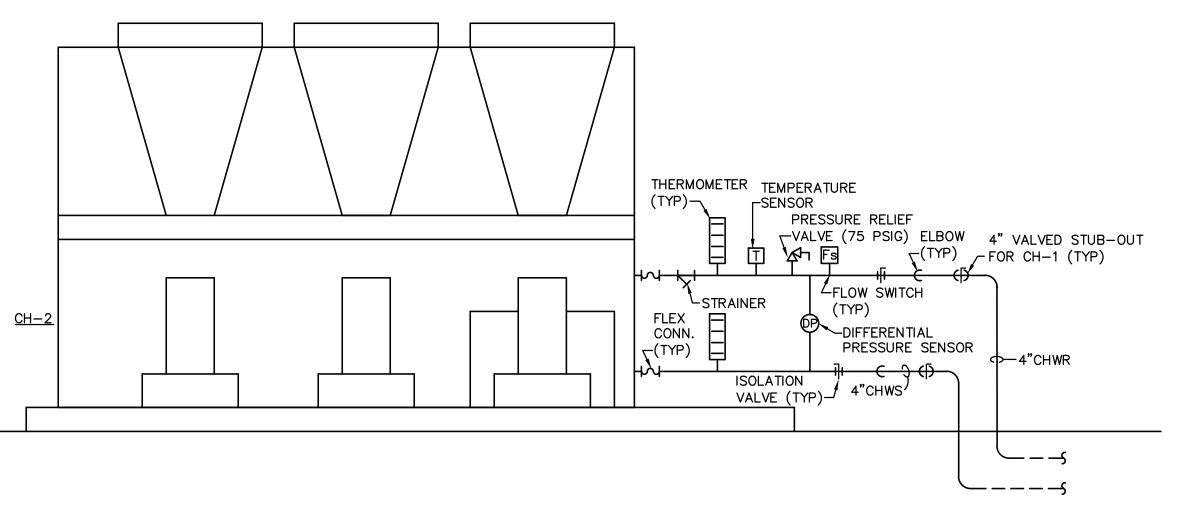
CHEMICAL SHOT FEEDER DETAIL

NOT TO SCALE



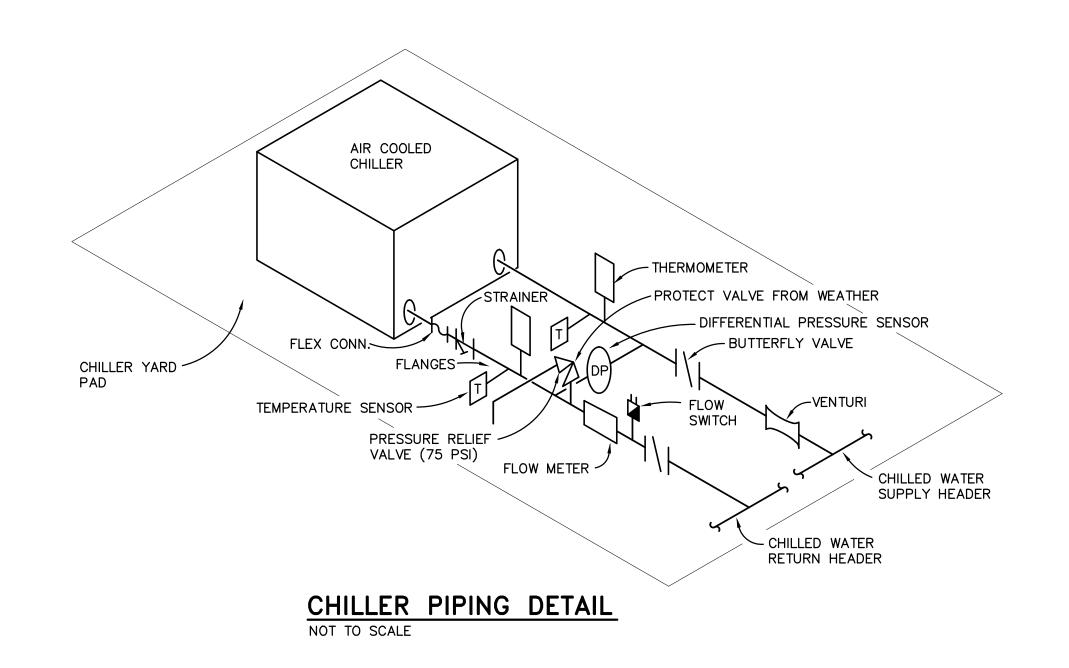
AHU CHILLED WATER COIL CONNECTION DETAIL

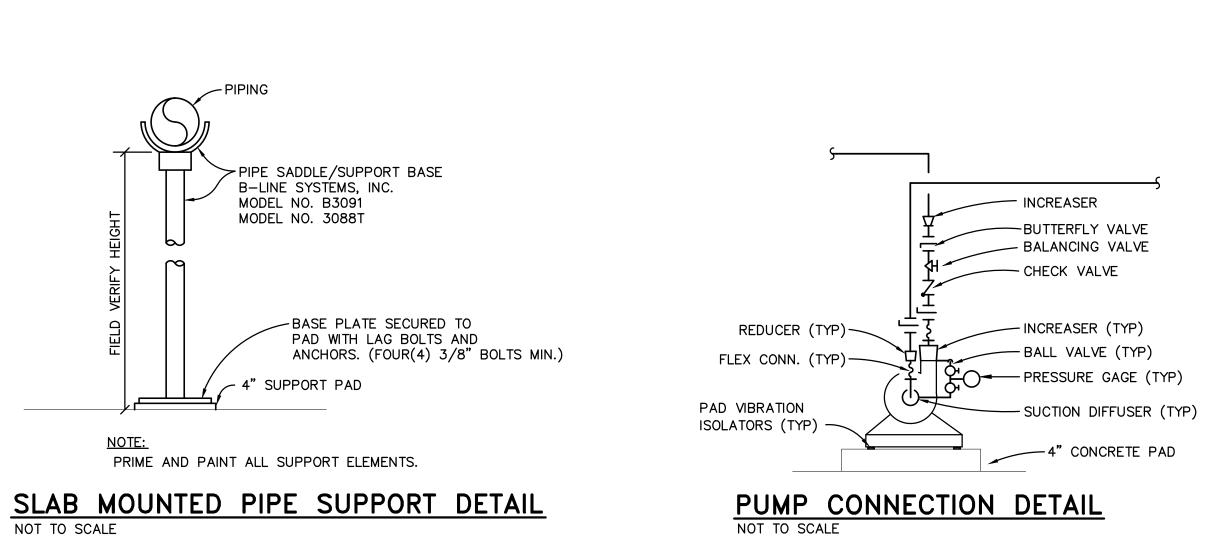
NOT TO SCALE



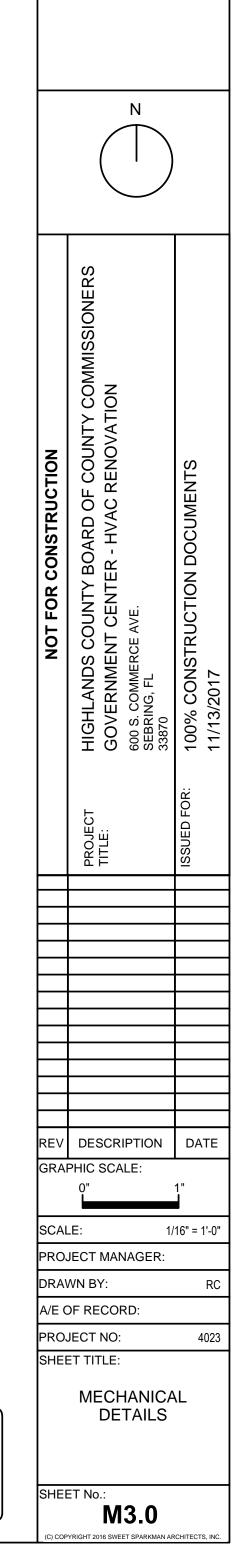
ELEVATION A-A - CHILLER CH-2 PIPING CONNECTIONS

1/2"=1'-0"









2168 MAIN STREET SARASOTA, FL 34237 T 941.952.0084 F 941.952.0201

> ARKMAN CHITECTS

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#### 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

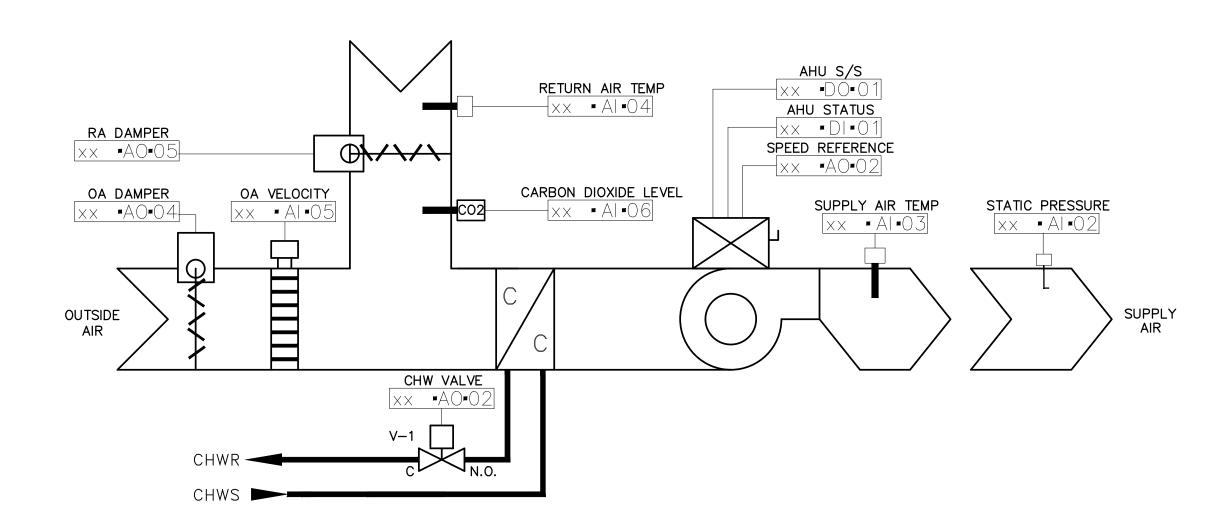
A. DEMAND CONTROLLED VENTILATION:

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.

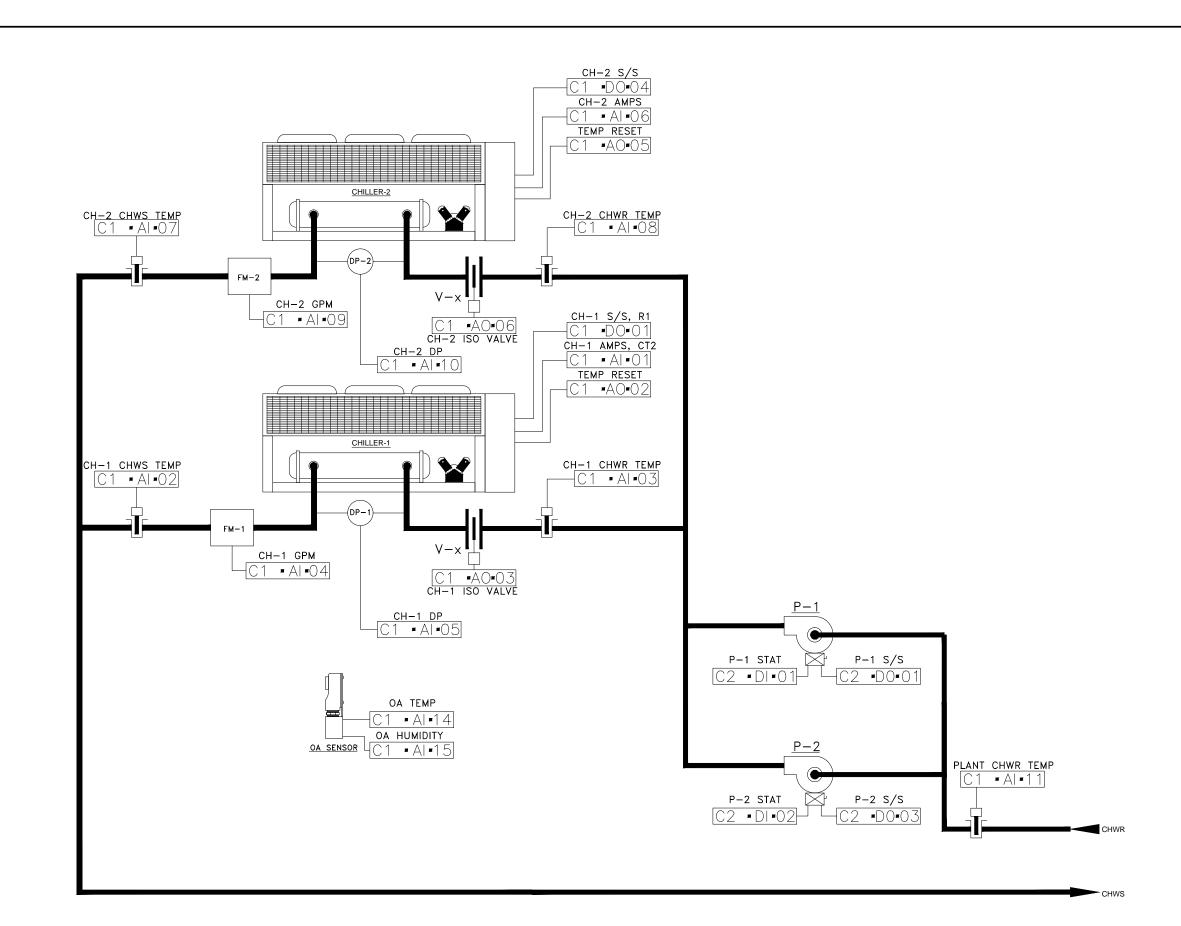
IN THE UNOCCUPIED MODE, THE OUTSIDE AIR DAMPERS SHALL REMAIN CLOSED; OUTSIDE AIR FANS SHALL REMAIN OFF.

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



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

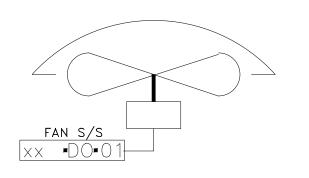
# VARIABLE AIR VOLUME AIR HANDLER WITH DEMAND CONTROLLED VENTILATION CONTROLS N.T.S.



# CHILLER PLANT CONTROLS N.T.S.

CHILLER	PLANT	PLC1	POINT	SUMMARY				
INPUTS		NO	OUTPUTS					
DESCRIPTIONS	SGNL.	NO	SGNL.	DESCRIPTIONS				
CH-1 AMPS	Al	1	DO	CH-1 S/S				
CH-1 CHWS TEMP	Al	2	AO	CH-1 TEMP RESET				
CH-1 CHWR TEMP	Al	3	AO	CH-1 ISO VALVE				
CH-1 CHWS GPM	Al	4	DO	CH-2 S/S				
CH-1 DP	Al	5	AO	CH-2 TEMP RESET				
CH-2 AMPS	Al	6	AO	CH-2 ISO VALVE				
CH-2 CHWS TEMP	Al	7						
CH-2 CHWR TEMP	Al	8						
CH-2 CHWS GPM	Al	9						
CH-2 DP	Al	10						
PLANT CHWR TEMP	Al	11						
OA TEMP	Al	12						
OA HUM	ΑI	13	/////	\/////////////////////////////////////				
	Al	14	1////					
	Al	15						
				X/////////////////////////////////////				

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



NOTE: FIVE EXISTING FANS

EXHAUST FANS

N.T.S. TYPICAL



-	2168 MAIN STREET SARASOTA, FL 34237	SWEET SPARKMAN T 941.952.0084 ARCHITECTS F 941.952.0201	FL AA26000857
		N	
NOT FOR CONSTRUCTION	HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS GOVERNMENT CENTER - HVAC RENOVATION	600 S. COMMERCE AVE. SEBRING, FL 33870	100% CONSTRUCTION DOCUMENTS 11/13/2017
	PROJECT TITLE:		ISSUED FOR:
REV	DESCR		DATE
SCAL	0"		1" 16" = 1'-0"
DRA	JECT MAN		RC
PRO	JECT NO: ET TITLE:		4023
		HANICA TAILS	AL.
SHEE	ET No.:	2 4	
(C) COP	YRIGHT 2016 SWE	13.1 et sparkman af	RCHITECTS, INC.

#### **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 THHN/THWN 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 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—SHAWMUT "TRIONIC.
- 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

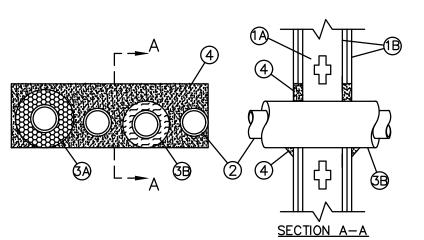
NTS

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 V400 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, TRating 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, TRating 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 all service jacket. Longitudinal joints sealed with metal fasteners or factory—applied self—sealing lap 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.

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.

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,

See Plastics (QMFZ2) 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

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
$\ominus$	DUPLEX RECEPTACLE (20A., 125V.)	M.H. 18" TO CENTERLINE
GFI	DENOTES GROUND FAULT INTERRUPTER TYPE RECEPTACLE	
WR	DENOTES WEATHER-RESISTANT RECEPTACLE	
WP	DENOTES RECEPTACLE WITH DIECAST ALUMINUM 'IN-USE' COVER.	
EX	DENOTES DEVICE EXISTING TO REMAIN.	
C	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 CEILINGS	SEE GENERAL NOTES
/ \	RACEWAY CONCEALED UNDER FLOOR OR BENEATH GRADE	SEE GENERAL NOTES
L1-1,3	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:	AS NOTED

SWEET   SPARKMAN AR
N (

STREET L 34237 .0084

38 M AIN S ASOTA, FL 941.952.

2168 M / SARASON

NOT FOR CONSTRUCTION	PROJECT TITLE: Highlands County Board of County Commissioners Government Center - HVAC Renovation 600 S. Commerce Ave. Sebring, FL 33870-3869	ISSUED FOR: 100% CONSTRUCTION DOCUMENTS 11/13/2017
REV	DESCRIPTION	DATE
GRA	PHIC SCALE:  0"	1" <b>-</b>

1/8" = 1'-0"

PROJECT MANAGER:

GENERAL NOTES

DRAWN BY:

A/E OF RECORD

PROJECT NO: SHEET TITLE:



	EXISTING SWITCH	MDP(	1)	VOLTAGE	277	/ 480	_V	SIZE	16	600A.	МСВ	CABINET	SURF	ACE	_ NE	EMA-1	
	BOARD				PHASE		PH		16	800A.	BUS	RATING	65,0	000	_Al	C RATED	
S		CKT.BK	R.	VA	PHASE LO	AD		BL	IS	#	VA	PHASE LC	AD	CKT.BK	R.		S
NOTES	REMARKS	AMPS	P	A	В	С	CKT.#	A B	С	CKT.#	А	В	С	AMPS	P	REMARKS	NOTES
	EXISTING LOAD	300	3				1 3 5	X	X	4 6				450	3	EXISTING SPARE	
	EXISTING LOAD	400	3				7 9 11	X	X	8 10 12				300	3	EXISTING LOAD	
NB	NEW CH-1	300	3				13 15 17	X	X	14 16 18						SPACE	
NB	NEW CH-2	300	3				19 21 23	X	X	20 22 24						SPACE	
	MDP(2)						1	FEE THE LUC	₹U	2							
	,	TOTAL												TOTAL			

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

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

	EXISTING SWITCH	MDP(2	2)	VOLTAGE	277	/ 480	V	SIZ	E 16	800A.	МСВ	CABINET	SURF	ACE	NE	EMA-1	
	BOARD				PHASE		PH		16	600A.	BUS	RATING	65,0	000	ΑI	C RATED	
-	1	CKT.BK			PHASE LC	4	W	Г	JS	1	\/A	PHASE LO	MD	CKT.BK			T 40
NOTES	REMARKS	AMPS	P	A	В	С	CKT.#	П	3 C	CKT.#	A	B	С	AMPS	P	REMARKS	NOTES
	EXISTING				$\geq <$		1	Х		2						NEW	
	PANEL 'H2A'	150	3				3 5	'	(     X	6	$\sim$			50	3	P-1	NB
	EXISTING						7	Х		8						NEW	1
	PANEL 'H1A'	150	3				9	'	(     X	10 12				50	3	P-2	NB
							13	x	+^	14						EXISTING	+
	SPACE						15			16	$\mathbb{R}$			30	3	CHILLER	
			_		$\geq \leq$		17		Х	18						PUMP	$\perp$
	SPACE						19 21		+	20			>	30	٦	EXISTING CHILLER	
	OI AGE						23	H	X	24				- 50	ľ	PUMP	
	EXISTING						25			26						EXISTING	
	TRANSFORMER	50	3				27 29		(     X	28 30	$\sim$			50	3	TRANSFORMER	
								x	+^	32						EXISTING	+
	SPACE						33			34				50	3	TRANSFORMER	
							35		Х	36				TOT::		L1C'	
		TOTAL	-											TOTAL	-		

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

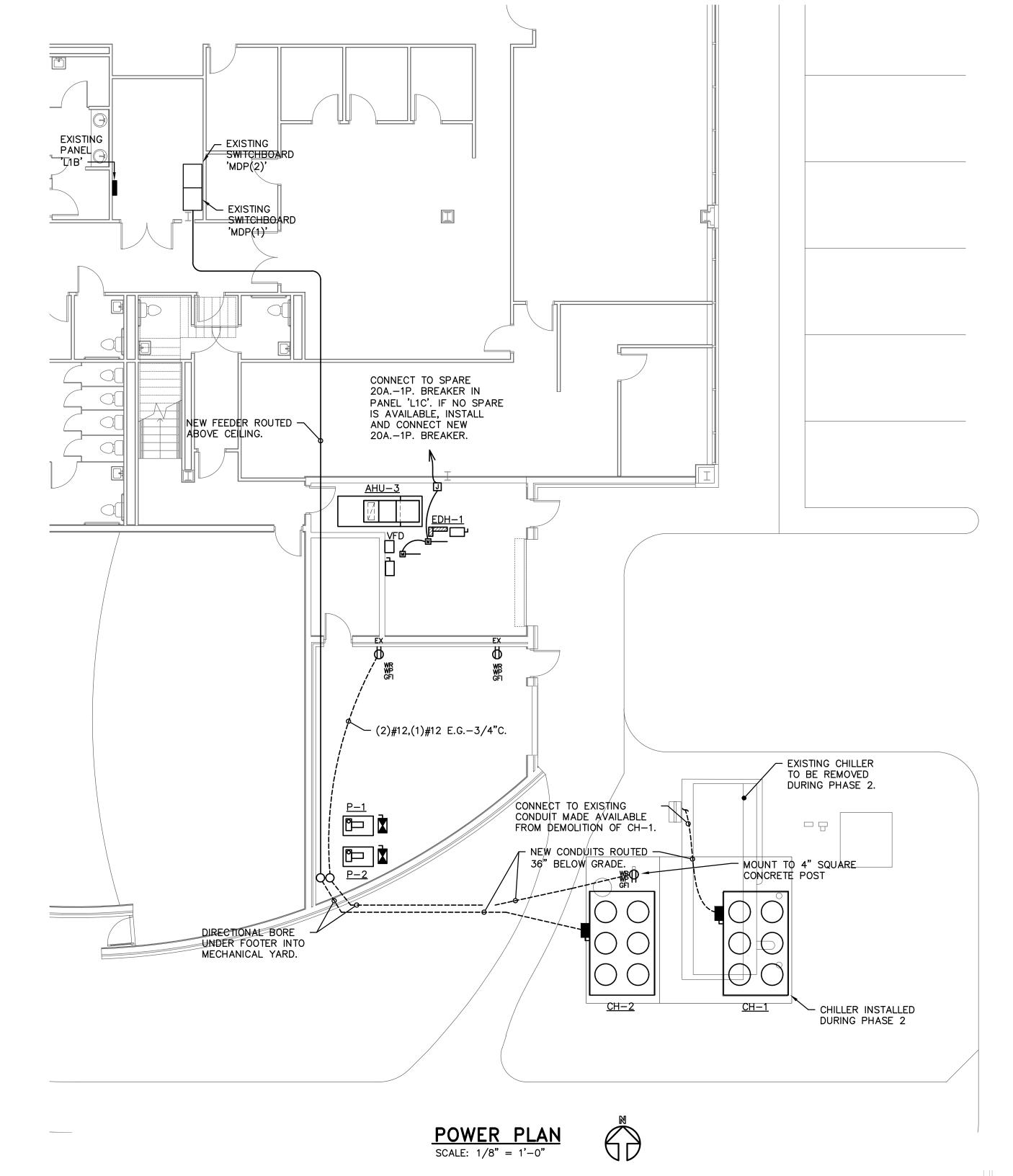
CONTRACTOR IS RESPONSIBLE FOR UPDATING ALL PANEL SCHEDULES WITH CURRENT DESCRIPTIONS OF ALL BRANCH CIRCUIT DESIGNATIONS.

EB = REUSE EXISTING BREAKER.

LOAD RE	EMOVED:	LOAD AD	DED:
P-1 P-2 CH-1 AHU-3 EDH-1	16,710 VA. 16,710 VA. 239,040 VA. 6,050 VA. 15,000 VA.	P-1 P-2 CH-1 CH-2 AHU-3 EDH-1	16,710 VA. 16,710 VA. 168,656 VA. 168,656 VA. 3,820 VA. 15,000 VA.

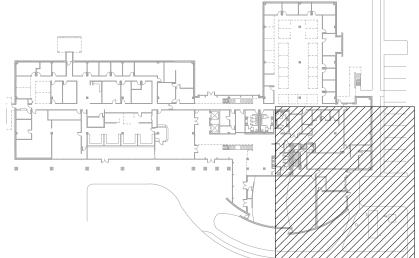
LOA	D SUMMARY	
LOAD REMOVED LOAD ADDED	293,510 389.552	
NEW LOAD	96,042	

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

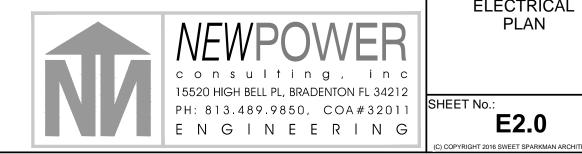


MECHANICAL EQUIPMENT												
DECCRIPTION		ELECTRICA	AL CHARA	CTERISTICS		BRE	AKER	FFFDFD	EQUIP.	CONDUIT	DISCONNECT SWITCH	DENAS DIVE
DESCRIPTION	VOLTS	PHASE	KW	HP	MCA	AMPS	POLES	FEEDER	GROUND	CONDUIT		REMARKS
CH-1	480	3			254.0	300	3	(3)#350	#2	4"	400A/3P/F/NEMA-3R	NOTE #1
CH-2	480	3			254.0	300	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	
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.



KEY PLAN



PROJECT MANAGER: DRAWN BY: A/E OF RECORD PROJECT NO: SHEET TITLE: ELECTRICAL PLAN

REV DESCRIPTION DATE

1/8" = 1'-0"

GRAPHIC SCALE:

2168 MAIN STREET SARASOTA, FL 34237 T 941.952.0084 F 941.952.0201

ARK CHIT

 $\Box$   $\simeq$ S ∢

S

# Vision **Solutions**

# Performance

## **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

#### Prepared by:



1875 West Main Street | Bartow, Florida 33830 (P) 863-533-2000 | www.A-C-T.com

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 28<sup>th</sup>, 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					
	Highlands County Government Building										
	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
	Highlan	ds County Governmer	nt Building	
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
	4" Red Cove Base/ Mastic	7-1 to 7-2	Cubicle Near A126, Teller Across from A128	N
	Red Multi-Color Carpet/ Mastic	8-1 to 8-2	Cubicle Near A126, Conf. Room Near A136	N
	12"x12" Light Grey Floor Tile/Mastic	9-1 to 9-5	A127, Breakroom Near A140, B238, Breakroom Near B251, Near B126	N
	4" Grey Cove Base/ Mastic	10-1 to 10-5	B135, B145, A127, B238, A218	N
	4" Orange Cove Base/ Mastic	11-1 to 11-3	B140, Outside B142, Property Appraiser Area	N
	Green Multi-Color Carpet/Mastic	12-1 to 12-2	B140, B124	N
\	12"x12" White Floor Tile  // 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	
	Blue Multi-Color Carpet/Mastic	19-1	B234	
	4" Black Cove Base/ Mastic	20-1	B233	
	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	
	4" Green Cove Base/ Mastic	27-1	B104	
24	Green Carpet/Mastic	28-1	B104	
	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.



# 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,

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

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

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

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

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



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



By: POLARIZING LIGHT MICROSCOPY

Client: ACT, Inc

1875 W. Main Street Bartow, FL 33830 **CEI Lab Code:** A17-12202

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				N-ASBESTOS		NENTS Fibrous	ASBESTOS %
A2482409B	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
<b>1-5</b> A2482410A	Floor Tile	Homogeneous Gray Non-fibrous Tightly Bound			70% 20% 10%	Vinyl Calc Carb Binder	None Detected
A2482410B	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
<b>3-1</b> A2482411	Ceiling Tile	Heterogeneous White Fibrous Tightly Bound	50% 30%	Cellulose Fiberglass	5% 15%	Paint Perlite	None Detected
<b>3-2</b> A2482412	Ceiling Tile	Heterogeneous White Fibrous Tightly Bound	50% 30%	Cellulose Fiberglass	5% 15%	Paint Perlite	None Detected
<b>3-3</b> A2482413	Ceiling Tile	Heterogeneous White Fibrous Tightly Bound	50% 30%	Cellulose Fiberglass	5% 15%	Paint Perlite	None Detected
<b>3-4</b> A2482414	Ceiling Tile	Heterogeneous White Fibrous Tightly Bound	50% 30%	Cellulose Fiberglass	5% 15%	Paint Perlite	None Detected



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		N-ASBESTOS	ONENTS Fibrous	ASBESTOS %	
<b>3-5</b> A2482415	Ceiling Tile	Heterogeneous White Fibrous Tightly Bound	50% 30%	Cellulose Fiberglass	5% 15%	Paint Perlite	None Detected
<b>3-6</b> A2482416	Ceiling Tile	Heterogeneous White Fibrous Tightly Bound	50% 30%	Cellulose Fiberglass	5% 15%	Paint Perlite	None Detected
<b>3-7</b> A2482417	Ceiling Tile	Heterogeneous White Fibrous Tightly Bound	50% 30%	Cellulose Fiberglass	5% 15%	Paint Perlite	None Detected
<b>5-1</b> A2482418A	Floor Tile	Homogeneous Red,Brown Non-fibrous Tightly Bound			70% 20% 10%	Vinyl Calc Carb Binder	None Detected
A2482418B	Mastic	Homogeneous Yellow Non-fibrous Bound	5%	Cellulose	95%	Mastic	None Detected
<b>5-2</b> A2482419A	Floor Tile	Homogeneous Red,Brown Non-fibrous Tightly Bound			70% 20% 10%	Vinyl Calc Carb Binder	None Detected
A2482419B	Mastic	Heterogeneous Yellow Non-fibrous Bound	5%	Cellulose	90% 5%	Mastic Silicates	None Detected



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		ON-ASBESTOS Prous		NENTS Fibrous	ASBESTOS %
<b>6-1</b> A2482420	Laminate	Homogeneous Brown Non-fibrous Tightly Bound			70% 30%	Vinyl Binder	None Detected
Lab Notes: N	lo mastic present						
<b>6-2</b> A2482421	Laminate	Homogeneous Brown Non-fibrous Tightly Bound			70% 30%	Vinyl Binder	None Detected
Lab Notes: N	lo mastic present						
<b>7-1</b> A2482422A	Baseboard	Homogeneous Red Non-fibrous Tightly Bound			100%	Vinyl	None Detected
A2482422B	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
<b>7-2</b> A2482423A	Baseboard	Homogeneous Red Non-fibrous Tightly Bound			100%	Vinyl	None Detected
A2482423B	Mastic	Heterogeneous Yellow Non-fibrous Bound	5%	Cellulose	95%	Mastic	None Detected
<b>8-1</b> Layer 1 A2482424	Carpet	Heterogeneous Red Fibrous Bound	95%	Synthetic Fiber	5%	Binder	None Detected



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

Client ID Lab ID	Lab Description	Lab Attributes	NO Fibr	N-ASBESTOS C		ONENTS Fibrous	ASBESTOS %
Layer 2 A2482424	Mastic	Heterogeneous Yellow Non-fibrous Bound	10%	Synthetic Fiber	none tood area	Mastic Silicates	None Detected
<b>8-2</b> 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
<b>9-1</b> 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
<b>9-2</b> 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



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

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



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

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBE	STOS COMPO Non-	NENTS Fibrous	ASBESTOS %
A2482431B	Mastic	Homogeneous Yellow Non-fibrous Bound		95% 5%	Mastic Silicates	None Detected
<b>10-2</b> A2482432A	Baseboard	Homogeneous Gray Non-fibrous Tightly Bound		100%	Vinyl	None Detected
A2482432B	Mastic	Homogeneous Yellow Non-fibrous Bound	30% Cellulos	se 70%	Mastic	None Detected
<b>10-3</b> A2482433A	Baseboard	Homogeneous Gray Non-fibrous Tightly Bound		100%	Vinyl	None Detected
A2482433B	Mastic	Homogeneous Yellow Non-fibrous Bound		95% 5%	Mastic Silicates	None Detected
<b>10-4</b> A2482434A	Baseboard	Homogeneous Gray Non-fibrous Tightly Bound		100%	Vinyl	None Detected
A2482434B	Mastic	Homogeneous Yellow Non-fibrous Bound		95% 5%	Mastic Silicates	None Detected



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

Client ID Lab ID	Lab Description	Lab Attributes		N-ASBESTO		NENTS Fibrous	ASBESTOS %
<b>10-5</b> 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
<b>11-1</b> A2482436A	Baseboard	Homogeneous Orange Non-fibrous Tightly Bound			100%	Vinyl	None Detected
A2482436B	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
<b>11-2</b> 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



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

Client ID Lab ID	Lab Description Mastic	Lab Attributes	2.3	N-ASBESTOS C ous	ONENTS Fibrous	ASBESTOS %	
A2482438B		Homogeneous Yellow Non-fibrous Bound	30%	Cellulose	70%	Mastic	None Detected
<b>12-1</b> A2482439	Mastic	Heterogeneous Yellow,Green Non-fibrous Bound	2%	Synthetic Fiber	80% 13% 5%	Mastic Binder Silicates	None Detected
Lab Notes: N	o carpet present						
<b>12-2</b> A2482440	Mastic	Heterogeneous Yellow,Green Non-fibrous Bound	2%	Synthetic Fiber	80% 13% 5%	Mastic Binder Silicates	None Detected
Lab Notes: N	o carpet present						
<b>13-1</b> A2482441A	Floor Tile	Homogeneous White,Green Fleck Non-fibrous Tightly Bound			70% 20% 10%	Vinyl Calc Carb Binder	None Detected
A2482441B	Mastic	Homogeneous Yellow Non-fibrous Bound	5%	Cellulose	95%	Mastic	None Detected
<b>13-2</b> A2482442A	Floor Tile	Homogeneous White,Green Fleck Non-fibrous Tightly Bound			70% 20% 10%	Vinyl Calc Carb Binder	None Detected



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

Client ID Lab ID	Lab Description	Lab Attributes		N-ASBESTO: rous		NENTS Fibrous	ASBESTOS %
A2482442B	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
<b>13-3</b> 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
<b>14-1</b> A2482444A	Baseboard	Homogeneous Dark Brown Non-fibrous Tightly Bound			100%	Vinyl	None Detected
A2482444B	Mastic	Heterogeneous Yellow Non-fibrous Bound	25%	Cellulose	50% 15% 10%	Mastic Calc Carb Binder	None Detected
<b>14-2</b> A2482445A	Baseboard	Homogeneous Dark Brown Non-fibrous Tightly Bound	F.		100%	Vinyl	None Detected
A2482445B	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected



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

Client ID Lab ID	Lab	Lab		N-ASBESTOS C			ASBESTOS
<b>14-3</b> A2482446A	<b>Description</b> Baseboard	Attributes  Homogeneous Dark Brown	FID	rous		Vinyl	None Detected
		Non-fibrous Tightly Bound					
A2482446B	Mastic	Heterogeneous	25%	Cellulose	50%	Mastic	None Detected
		Yellow Non-fibrous Bound			15% 10%	Calc Carb Binder	
<b>15-1</b> A2482447	Mastic	Heterogeneous Yellow Non-fibrous Bound	2%	Synthetic Fiber	90% 8%	Mastic Silicates	None Detected
Lab Notes: N	o carpet present						
<b>15-2</b> Layer 1 A2482448	Carpet	Heterogeneous Brown,Multi-colo Fibrous Bound		Synthetic Fiber	10%	Binder	None Detected
Layer 2	Mastic	Heterogeneous	2%	Synthetic Fiber		Mastic	None Detected
A2482448		Yellow Non-fibrous Bound			15% 10%	Silicates Binder	
<b>16-1</b> A2482449	HVAC Mastic	Homogeneous Dark Grey Non-fibrous Bound	5%	Cellulose	85% 10%	Mastic Silicates	None Detected
<b>16-2</b> A2482450	HVAC Mastic	Homogeneous Dark Grey Non-fibrous Bound	5%		85% 10%	Mastic Silicates	None Detected



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

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



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

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous Non-Fibrous				ASBESTOS %
A2482457B	Mastic	Homogeneous 59 Yellow Non-fibrous Bound	5%	Cellulose	95%	Mastic	None Detected
<b>19-1</b> Layer 1 A2482458	Carpet	Heterogeneous Blue,Multicolored Fibrous Bound		Synthetic Fiber			None Detected
Layer 2 A2482458	Mastic	Heterogeneous Yellow Non-fibrous Bound	2%	Synthetic Fiber	80% 10% 8%	Mastic Silicates Binder	None Detected
<b>20-1</b> A2482459A	Baseboard	Homogeneous Black Non-fibrous Tightly Bound			100%	Vinyl	None Detected
A2482459B	Mastic	Heterogeneous Yellow Fibrous Bound	40%	Cellulose	50% 10%	Mastic Binder	None Detected
<b>21-1</b> A2482460A	Baseboard	Homogeneous Dark Grey Non-fibrous Tightly Bound			100%	Vinyl	None Detected
A2482460B	Mastic	Heterogeneous Yellow Fibrous Bound	40%		50% 10%	Mastic Binder	None Detected



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

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



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

Client ID Lab ID	Lab Description	Lab Attributes	NO Fibr	N-ASBESTOS ous		NENTS Fibrous	ASBESTOS %
<b>22-6</b> A2482467	Drywall/Joint Compound	Heterogeneous White Non-fibrous Bound	10%	Cellulose	60% 20% 10%	Gypsum Calc Carb Binder	None Detected
<b>22-7</b> A2482468	Drywall/Joint Compound	Heterogeneous White Non-fibrous Bound	10%	Cellulose	60% 20% 10%	Gypsum Calc Carb Binder	None Detected
<b>25-1</b> A2482469	Mastic	Heterogeneous Gray Non-fibrous Bound	15%	Cellulose	60% 25%	Mastic Binder	None Detected
Lab Notes: N	o stair tread present						
<b>25-2</b> A2482470	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
Lab Notes: No	o stair tread present	200					
<b>26-1</b> A2482471	Caulking	Heterogeneous Pink Non-fibrous Bound			100%	Binder	None Detected
<b>27-1</b> A2482472A	Baseboard	Homogeneous Green Non-fibrous Tightly Bound			100%	Vinyl	None Detected
A2482472B	Mastic	Homogeneous Yellow Non-fibrous Bound			95% 5%	Mastic Silicates	None Detected



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

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous Non-Fibrous			ASBESTOS %	
<b>28-1</b> 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% 10% 8%	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

APPROVED BY:

Tianbao Bai, Ph.D., CIH Laboratory Director

Candace Burrus



Samples will be disposed of 30 days after analysis

	(8) A7-12 201
ASB	ESTOS A ME 240
CHAIN OF	ESTOS A 348 3406 CUSTODY A 348 2403

730 SE Maynard Road, Cary	30 SE Maynard Road, Cary, NC 27511			CEI Lab Code:					
Tel: 866-481-1412; Fax: 919				.D. Range:					
OCHRANK MESSALES	<b>A</b>								
COMPANY INFORMATIO	N		PROJECT INFORMATION						
CEI CLIENT #:			Job Contact: Eric Jonsson						
Company: ACT			Email/Tel: ejonsson@a-c-t.com						
Address:						Co. Bocc			
			Project ID:		8516	- 2000	0.007.0		
Email:			PO#:		264				
						E	,		
161.	Tel: Fax:			AMPLES C	OLLECTED	IN: F	<u></u>		
	F TAT IS NOT MARKI	ED STAND	ARD 3 DA	Y TAT AP	PLIES.				
				TURN AR	OUND TIME				
ASBESTOS	METHOD	4 HR	8 HR	24 HR	2 DAY	3 DAY	5 DAY		
PLM BULK	EPA 600					K			
PLM POINT COUNT (400)	EPA 600								
PLM POINT COUNT (1000)	EPA 600								
PLM GRAV w POINT COUNT	EPA 600								
PLM BULK	CARB 435								
PCM AIR	NIOSH 7400								
TEM AIR	EPA AHERA								
TEM AIR	NIOSH 7402								
TEM AIR	ISO 10312								
TEM AIR	ASTM 6281-09								
TEM BULK	CHATFIELD								
TEM DUST WIPE	ASTM D6480-05 (2010)								
TEM DUST MICROVAC	ASTM D5755-09 (2014)								
TEM SOIL	ASTM D7521-13								
TEM VERMICULITE	CINCINNATI METHOD		124 12 12 12 12						
OTHER:									
EMARKS / SPECIAL IN	STRUCTIONS:					cept Sample			
Relinquished By:	Date/Time		Received By: Date/Time				BY STARTE		
Dan Sep	. 1 1	630		A	824	17 9:	10		
				- ' /	V - V				

LAB USE ONLY:



COMPANY C	ONTACT INFORMATION	
Company:	ACT	Job Contact:
Project Name:	Highlands Co. Bocc Gout. Ctr.	
Project ID #:	18516	Tel:

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA		TEST
1-1	Tile w/ white-black		PLM	TEM
1-2	Tile w/ white-black		PLM	TEM
1-3	fleak and mastic		PLM	TEM
1-4			PLM	TEM
1-5	<b>→</b>		PLM	TEM
3-1	Zxz' white Ceiling		PLM	TEM
3-2	Tile w/ wormhole		PLM	TEM
3-3	Z'xz' white Ceiling Tile w/ wormhole pattern		PLM	TEM
3-4			PLM	TEM
3-5			PLM	TEM
3-6			PLM	TEM
3-7	. <b>V</b>		PLM	TEM
5-1	12"x12" Red-Brown		PLM	TEM
5-2	multi-color Floor Tile & mas	tic	PLM	TEM
6-1	Brown Laminant Flooring		PLM	TEM
6-2	and mastic		PLM	TEM
7-1	4" Red Baseboard and		PLM	TEM
7-2	mastic		PLM	TEM
8-1	Red multi-color carpet		PLM	TEM
8-2	and mastic		PLM	TEM
9-1	12"x12" Light Grey Floor Tile and Mastic		PLM	TEM
9-2	Floor Tile and mastic		PLM	TEM
9-3			PLM	TEM
9-4			PLM	TEM
9-5	4		PLM	TEM
10-1	4" Grey Baseboard and Mastic		PLM	TEM
10-2	and Mastic		PLM _	TEM
10-3	1		PLM	TEM

Page 2 of 4



COMPANY CONTACT INFORMATION	
Company: ACT	Job Contact:
Project Name: Highlands Co. BOCC Gout. Ctr.	
Project ID #: 18516	Tel:

SAMPLE ID#		VOLUME/ AREA		TEST
10-4			PLM	TEM
10-5	<b>V</b>		PLM	TEM
11-1	4" Orange Baseboard		PLM 📉	TEM
11-2	and mastic		PLM	TEM
11-3	<b>1</b>		PLM	TEM
12-1	Green multicolor		PLM 📥	TEM
12-2	correct and mastic		PLM	TEM
13-1	12" x 12" White Floor		PLM 📥	TEM
13-2	Tile w/ green fleck		PLM	TEM
13-3	and Mastic		PLM 📥	TEM
14-1	4" Dark Brown		PLM (	TEM
14-2	Baseboard and Mastic		PLM	TEM
14-3	<b>V</b>		PLM	TEM
15-1	Brown multi-color		PLM	TEM
15-2	carpet and mastic		PLM	TEM
16-1	Dark Grey HVAC Mastic		PLM	TEM
16-2			PLM	TEM
16-3	V		PLM	TEM
17-1	white HVAC Mastic		PLM	TEM
17-2			PLM	TEM
17-3			PLM	TEM
17-4			PLM	TEM
17-5	1		PLM	TEM
18-1	12"x12" Light Brown Floor		PLM	TEM
	fleck and Mastic		PLM	TEM
19-1	Blue multi-color carpet and mast	ic	PLM	TEM
20-1	4" Black Baseboard and mastic		PLM	TEM
21-1	4" Dark Grey Baseboard and mastic		PLM	TEM

Page \_\_\_\_\_3\_\_of \_\_\_\_\_\_\_\_\_



COMPANY CONTACT INFORMATION	
Company: ACT	Job Contact:
Project Name: Highlands Co. Bocc Govt. Ctr.	
Project ID #: 18516	Tel:

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA		EST
21-2	4" Dark Grey Baseboard and me	stic	PLM	TEM
22-1	Drywall and Joint		PLM	TEM
22-2	Compound		PLM 🗀	TEM
22-3	1		PLM	TEM
22-4			PLM	TEM
22-5			PLM	TEM
22-6			PLM 🔼	TEM
22-7	<b>↓</b>		PLM 🔲	TEM
25-1	Grey Stair Tread and		PLM	TEM
25-2	mastic		PLM	TEM
26-1	Pink Decking Caulk 4" Green Beseboard and mastic		PLM	TEM
27-1	4" Green Baseboard and mastic		PLM	TEM
28-1	Green corpet and maste		PLM	TEM
	•		PLM	TEM
			PLM	TEM

Page 4 of 4

32



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,

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



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

Client ID Lab ID 1 A2508055	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous Non-Fibrous				ASBESTOS
	Fireproofing	Heterogeneous Tan Fibrous	35%	Cellulose	25% 40%	Perlite Binder	None Detected
<b>2</b> A2508056	Fireproofing	Loose  Heterogeneous Tan	35%	Cellulose	25% 40%	Perlite Binder	None Detected
		Fibrous Loose					



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:

Medan Rumble

**APPROVED BY:** 

Tianbao Bai, Ph.D., CII-Laboratory Director

NVLAP LAB CODE 101768-0



Samples will be disposed of 30 days after analysis

ASBESTOS ADTO 8055 CHAIN OF CUSTODY AD 5080 56

- ILAB				LAB USE UNLT:					
730 SE Maynard Road, Cary			CEI Lab (	Code:					
Tel: 866-481-1412; Fax: 919	9-481-1442		CEI Lab I	.D. Range:					
COMPANY INFORMATIO	N STATE OF THE STA		PROJECT INFORMATION						
CEI CLIENT #:			Job Contact: Eric Jonsson						
Company: A-C-T			Email / Tel: 863-559-0188						
Address: 1875 W. A	Main St.				-BOCC -		ter		
Bartow, F	Project ID:			000. 00	Ciri				
Email: CIONSSON @	PO#:	Z264	10						
rel: 863-559-0188				E1					
ei: 00 ) 33 / 010 q	Fax:		STATESA	AMPLES C	OLLECTED	IN: /L			
	F TAT IS NOT MARKE	ED STAND	ARD 3 DA	Y TAT AF	PPLIES.				
				TURN AF	ROUND TIME				
ASBESTOS	METHOD	4 HR	8 HR	24 HR	2 DAY	3 DAY	5 DAY		
PLM BULK	EPA 600	区							
PLM POINT COUNT (400)	EPA 600								
PLM POINT COUNT (1000)	EPA 600								
PLM GRAV w POINT COUNT	EPA 600								
PLM BULK	CARB 435								
PCM AIR	NIOSH 7400								
TEM AIR	EPA AHERA								
TEM AIR	NIOSH 7402								
TEM AIR	ISO 10312								
TEM AIR	ASTM 6281-09								
TEM BULK	CHATFIELD								
TEM DUST WIPE	ASTM D6480-05 (2010)								
TEM DUST MICROVAC	ASTM D5755-09 (2014)								
TEM SOIL	ASTM D7521-13		37 - 75						
TEM VERMICULITE	CINCINNATI METHOD								
OTHER:									
EMARKS / SPECIAL IN	STRUCTIONS:			Part Andrew Street		cept Sample			
Relinquished By:	Date/Time		Receive	ed By:		Date/Time			
5/h-	9-28-17/16:00			OD	9/29/17	9:00			
	, , , , , , , , , , , , , , , , , , , ,								



COMPANY CONTACT INFORMATION				
Company: A·C-T	Job Contact: ETC Jonsson			
Project Name: HCBBCC. Gov. Center				
Project ID #: 18516	Tel: 863-559-0188			

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
l	Fireproofing		PLM 🔀	TEM
2	Fire proofing Fire proofing		PLM 🔀	TEM
			PLM	TEM

Page Z of Z



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

Varnor Hollands



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# 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 barbeque 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!

AX83
AX83
AX83
AX83
AX83
AX83
AX84
AX86
ASBESTOS CONTRUCTANT
JONSSON, ERIC
LICENSED under the provisions of Ch. 469 ES.
Explandordate Nov 10, 2018

# 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, isted on the Scope of Accreditation, for:

# **Asbestos Fiber Analysis**

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

2017-04-01 through 2018-03-31

Effective Dates



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**

Code

**Description** 

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

Code

**Description** 

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