

ADDENDUM NO. TWO  
NCSB -FBMS

To the Plans and Specifications for:  
Nassau County School Board – Project No. 98110-031  
Fernandina Beach Middle School Kitchen / Dining Remodeling and Campus  
Renovations/Enhancements

Prepared  
By:

**ARCHITECT**  
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1329-C Kingsley Ave.  
Orange Park, FL 32073  
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Certificate No. 00003403

Date: October 16, 2018

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| <b><u>35</u></b>  | <b>ITEMS TOTAL</b>                 |

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### **ARCHITECTURAL**

#### **Item No. 1, Performance and Payment Bond**

Section 00 21 13. Add to Paragraph 1.14, "F. The Bond shall be recorded in Nassau County."

#### **Item No. 2, Bid Form**

Section 00 41 00, Bid Form. Make the following changes:

- a. 1.06 B. Change 'five days' to 'ten days' in items 1., 2., and 3.
- b. A revised Bid Form is attached herewith.

#### **Item No. 3, Summary**

Section 01 10 00

- a. Change the phone number indicated in paragraph 1.06C.3. to 904-491-9871
- b. Paragraph 1.09. Add the following to items 11. and 12.: "Two classrooms at a time as designated by the school."

#### **Item No. 4, Finish Schedule**

Sheet 1A1001.

- a. Add the following note at both Room Finish Schedules, "1. Where existing finishes are to remain, repair and repaint existing wall and ceiling surfaces at the areas of demolition."
- b. Room Finish Schedule – Building 2. Change floor finish of Rooms 02-01, Office and 02-01AA, Waiting to new VCT. Note, VCT will have a minimum of (3) colors in these rooms.

#### **Item No. 5, Bldg. 2 Remodeling**

Sheet 2A201

- a. Demolition Plan – Bldg. 2 – Room 02-09. Change Key Note 1 at the window A/C unit to Key Note 8.
- b. New Reflected Ceiling Plan – Bldg. 2. Change the note on the east side of Room 02-01AA which reads "Clg.Height 8'-1" AFF" to read "Clg. Height 9'-4" "
- c. Demolition Plan – Bldg. 2. Add the following note at Rooms 02-01, 02-01AA, 02-07: "Remove existing ceiling, grid, and lighting fixtures."

**Item No. 6, Display Boards.**

- a. Sheet 2A301 – South Elevation Bldg. 5. Change note reading “Existing Glass Display Doors – To Remain” to read, “New Alum/Glass Display Board, See Detail 10/2A901 Typical, U.O.N.”
- b. Sheet 2A302 – South Elevation Bldg. 6. Change Note reading “Existing Glass Display Doors – To Remain: to read, “New Alum/Glass Display Board, see Detail 10/2A901. Typical, U.O.N.”

**Item No. 7, Relief Vents – Bldg. 9**

Sheet 2A303, North and South Elevations of Bldg. 9. Add the following note: “Replace existing round metal vents that are located at the concrete tie beam. Refer to M-7. Provide new vent covers that are approximately 3” diameter, white plastic, #PLW-100 by Maurice Franklin Louver Co. (22) louvers are required. Attach louvers with sealant.”

**Item No. 8, Specifications – Table of Contents**

Add “32 31 13 Chain Link Fencing and Gates” to the Table of Contents of the Specifications.

**Item No. 9, Drawings – Cover Sheet G001**

Add “FP-4 Building 8 Fire Protection Plan” to Cover Sheet G001.

**Item No. 10, Direct Purchase – Stored Materials**

Section 01 34 00. Change paragraph 1.06 to read, “Payment for materials stored off-site will be made provided that the materials are verified by the Owner or Architect by inspection and that the materials are stored in a bonded and insured storage facility. Proof of the bond and insurance are required for payment.”

**Item No. 11, Access Panels**

Section 10 60 00 Change paragraph 2.2 to read, “Access Door: 16 gauge frame, 14 gauge panel, keyed lock. Sizes: If the device to be accessed is located within 12” of the panel, provide 12”x12” size. If the device to be accessed is located more than 12” from the panel, provide 24” x 24” size.

**Item No. 12, Projection Screens**

Delete Section 11 13 10, Projection Screens, from the Project Manual. There are no new projection screens as part of this project.

**Item No. 13, Existing Concrete/Walkway Repair Plan – Benches**

Sheet AS102. Add the following note at the sidewalk for the new covered walkway. “Existing benches shall be relocated on-site or discarded as directed by the school Principal.”

**Item No. 14, Kitchen Equipment**

Sheet 1AFS101

- a. Add a sneeze guard, #36A, RT-SS-5W by Servetech, to Item #36.
- b. Relocate Item 10B, Spray nozzle to the garbage disposal.
- c. Add (2) faucets to Item #10 use Model 300716, 12” spout, standard, splash mounted, by Eagle Group. Faucet location will be determined by the Architect during construction.
- d. Add (1) faucet to Item #11 use Model 300716, 12” spout, standard, splash mounted, by Eagle Group. Faucet location will be determined by the Architect during construction.

**Item No. 15, Grassing, Seeding, and Sodding**

Section 32 92 00

- a. Paragraph 2.4.1 – Change Item 1 to read, “Generally, sod shall be Centipede in irrigated areas. Non-irrigated areas shall be Argentine Bahia.”
- b. Paragraph 2.2 – Change references in paragraph 2.2 from “Bermuda seed” to “Argentine-Bahia seed”.

**Item No. 16, Door Schedule**

Sheet 2A1002. Door 8-05D. Add the following to the remarks – “Door 8-05D shall be a custom size approx. 3’-8”w x 7’-0”h to fit the existing wall opening.”

**Item No. 17, Termite Control**

Section 31 31 16. Add the following to paragraph 1.6, “The warranty shall include re-inspection services at 5 year and 10 year periods after Substantial Completion.”

**Item No. 18, Windows**

Sheet 2A1001 – Window Types. Change window type H to fixed over fixed unit. The bottom unit shall have opaque glass where the window is adjacent to the reception countertop. Refer also to 5/2A902.

**Item No. 19, Lockers**

Section 10 50 00. Add the following to paragraph 3.1 B., “Provide a 6 inch thick concrete base.”

**Item No. 20, Bandroom Curtains**

Sheet 2A801, Elevation #3. Add the following note in regard to curtains. “The fixed curtain is to be a plain ‘blue’ polyester fabric and shall be treated with flame retardant treatment. The curtain is to be fabricated locally. Contractor shall provide curtain samples.”

**Item No. 21, Subcontractors Form**

Section 00 43 36. Change “Roofing” to “Metal Roofing”.

**Item No. 22, Sheet AS102**

Refer to attached Sheet AS102 for changes to Architectural Drawings.

**Item No. 23, Sheet AS103**

Refer to attached Sheet AS103 for changes to Architectural Drawings.

**Item No. 24, Sheet AS105**

Refer to attached Sheet AS105 for changes to Architectural Drawings.

**Item No. 25, Sheet AS111**

Refer to attached Sheet AS111 for changes to Architectural Drawings.

**Item No. 26, Clarification of Kitchen Equipment**

Sheet 1AFS101. Add the following note:

The Student and Teacher’s Serving Lines are to be provided by the Contractor. As a standard of Nassau County Schools Food Service, these lines are to be custom by Denver Equipment Co. of Charlotte, Inc.

Denver Equipment Co. of Charlotte, Inc. shall provide a turn-key installation of the serving lines only. This shall include all the serving counters, sneeze guards, lights and heat where required and drop-in cold and hot units.

Turn-key installation shall include plumbing and electrical connections provided through their patented DEPCON utility distribution system from the power provided in the ceiling above the serving counters. This will also encompass the DEPCON truss system with track and lights.

The Contractor shall include in the Base Bid, the cost of the serving lines. The remaining kitchen equipment shall be provided and installed by the Contractor as indicated.

**MECHANICAL**

**Item No. 27 , Drawing M-1**

- a. Delete existing Drawing M-1, dated 9/25/2018 and insert attached Drawing M-1, dated 10/16/2018.
- b. Revise new MS2-2 in Room 02-08 to MS 2-3.
- c. Revise new MS2-3 in Room 02-09 to MS 2-4.

**Item No. 28, Drawing M-7**

- a. Delete existing Drawing M-7, dated 9/25/2018 and insert Drawing M-7, dated 10/16/2018.
- b. Revise fence note outside of Room 109 new to read “6’ fence with 4’ gate extended 3’0” in front of MS/CU9-1.

**Item No. 29, Drawing M-12**

- a. Delete existing Drawing M-12, Dated 9/25/2018 and insert Drawing M-12, dated 10/16/2018.
- b. Revise dryer vent/lint trap detail 3/M-12 to delete CPVC piping to galvanized piping.

**Item No. 30, Drawing M-5**

- a. Delete existing Drawing, M-5, dated 9/25/2018 and insert Drawing M-5, Dated 10/16/18.
- b. Added note, “Existing piping in rework area . . . To clear ductwork and new ceiling offset.

**Item No. 31, Drawing M-6**

- a. Delete existing Drawing, M-6, dated 9/25/2018 and insert Drawing M-6, Dated 10/16/18.
- b. Revised ductwork routing between columns.9 & .10

**Item No. 32, Drawing M-14**

- a. Delete existing Drawing, M-14, dated 9/25/2018 and insert Drawing M-14, Dated 10/16/18.
- b. Delete TAG information in hood schedule and insert Hood #1 and #2 respectfully in four places.
- c. Kitchen Hood Plan View - Add note to size six supply duct connections at 20x8.

**Item No. 33, Drawing M-17**

- a. Delete existing Drawing, M-17, dated 9/25/2018 and insert Drawing M-17, Dated 10/16/18.
- b. Added Note “N” bid direction.

**Item No. 34, Drawing M-18**

- a. Delete existing Drawing, M-18, dated 9/25/2018 and insert Drawing M-18, Dated 10/16/18.
- b. Added note to “All controls to be . . . or intended on sheets”.

**Item No. 35, Drawing M-19**

- a. Delete existing Drawing, M-19, dated 9/25/2018 and insert Drawing M-19, Dated 10/16/18.
- b. Modified ductless mini split heat pump schedule to read MS 2-2 & 3 and changed MS 2-3 to 2-4.

**End of Addendum No. Two**

**SECTION 00 41 00**

**BID FORM**

**THE PROJECT AND THE PARTIES**

**1.01 TO:**

- A. Nassau County School Board  
1201 Atlantic Avenue  
Fernandina Beach, Florida 32304

**1.02 FOR:**

- A. Fernandina Beach Middle School No.031:

**Fernandina Beach Middle School, Kitchen / Dining Remodeling and Campus Renovations / Enhancements**

**1.03 DATE:** \_\_\_\_\_ (Bidder to enter date)

**1.04 SUBMITTED BY: (Bidder to enter name and address)**

- A. Bidder's Full Name

\_\_\_\_\_

Address

\_\_\_\_\_

City, State, Zip

**1.05 OFFER**

- A. Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by Bhide & Hall Architects, P.A. for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Sum of:

- B. BASE BID: Fernandina Beach Middle School Kitchen / Dining Remodeling and Campus Renovations / Enhancements \_\_\_\_\_ dollars (\$ \_\_\_\_\_), in lawful money of the United States of America.

- C. **ALTERNATE BID No. ONE:** Resinous Flooring. Provide and install resinous flooring in lieu of quarry tile. Refer to Section 00 41 05 for Alt No. One description. Add/Deduct: \_\_\_\_\_ dollars (\$ \_\_\_\_\_), in lawful money of the United States of America.

**ALTERNATE BID No. TWO:** Fencing at Fernandina Beach High School. Refer to Section 00 41 05 for alt. No. Two description. Add \_\_\_\_\_ dollars (\$ \_\_\_\_\_), in lawful money of the United States of America.

**ALTERNATE BID No. THREE:** Fencing at new locations at Fernandina Beach Middle School. Refer to Section 00 41 05 for Alt No. Three description.

Add: \_\_\_\_\_ dollars (\$ \_\_\_\_\_), in lawful money of the United States of America.

**ALTERNATE BID No. FOUR:** Remodeling/Improvement of Office/Waiting – Bldg. 2. Refer to Section 00 41 05 for Alt. No. Four description. Add \_\_\_\_\_ dollars (\$ \_\_\_\_\_), in lawful money of the United States of America.

- D. We have included the required bid security as required by the Instruction to Bidders.
- E. All applicable federal taxes are included and State of Florida taxes are included in the Bid Sum.
- F. This offer includes the requirement for any, and all persons under this contract, to have clearance under the Florida Statutes 1012.32 and House Bill 1877 approved by the Governor Chapter 2005-28 (Jessica Lunsford Act) before having access to the Fernandina Beach Middle School Site at any time, on any day, during this contract period.

#### **1.06 ACCEPTANCE**

- A. This offer shall be open to acceptance and is irrevocable for sixty days from the bid closing date.
- B. If this bid is accepted by Nassau County School Board within the time period stated above, we will:
  - 1. Execute the Agreement within ~~five~~ **ten** days of receipt of Notice of Award.
  - 2. Furnish the required bonds within ~~five~~ **ten** days of receipt of Notice of Award.
  - 3. Commence work within ~~five~~ **ten** days after written Notice to Proceed of this bid.
- C. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to Nassau County School Board by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.
- D. In the event the bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

#### **1.07 CONTRACT TIME**

- A. If this Bid is accepted:
- B. We will Substantially complete the Base Bid Work on or before **August 7, 2019**. See Section 01 10 00 SUMMARY, specifically paragraphs 1.01, 1.03 and 1.09.
- C. We will complete the Final Work within 30 calendar days from August 7, 2019.
- D. Upon failure to meet the above dates we will pay liquidated damages of **\$2,000.00** per

calendar day starting on **August 7, 2019**, and will continue until Substantial Completion of Base Bid Work or until **September 5, 2019**. Starting **September 6, 2019** we will pay Liquidated damages of **\$1000.00** per calendar day until the project work is finalized and inspected as Finally Complete.

- E. Work Sequence: See Section 01 10 00 SUMMARY for detailed work sequence and liquidated damages stipulations.

**1.08 CHANGES TO THE WORK**

- A. When Architect or Owner establishes that the method of valuation for Changes in the Work will be net cost plus a percentage fee in accordance with General Conditions, our percentage fee will be:
  - 1. Fifteen (15) percent overhead and profit on the net cost of our own Work;
  - 2. Seven and one-half (7 1/2) percent on the cost of work done by any Subcontractor.
- B. On work deleted from the Contract, our credit to Nassau County School Board shall be Architect or Owner approved net cost plus fifty (50) percent of the overhead and profit percentage noted above.

**1.09 UNIT PRICING**

- A. The following are Unit Prices provided in the event that additional work is required. The following is the list of Unit Prices:

| <u>ITEM DESCRIPTION</u>   | <u>UNIT QTY.</u>  | <u>UNIT COST</u> |
|---|-------------------|------------------|
| 1. Grid Acoustical Ceiling System Demolition                                    | Square Foot       | \$ _____         |
| 2. Provide New 2' x 2' Acoustical Ceiling System Complete                       | Square Foot       | \$ _____         |
| 3. Standard Base Cabinet & Counter Top.   | Lineal Foot       | \$ _____         |
| 4. Structural Steel-Miscellaneous shapes as directed by the Structural Engineer | Per Ton installed | \$ _____         |
| 5. Sidewalk Replacement   | Square Foot       | \$ _____         |

**1.10 ADDENDA**



- A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
1. Addendum # \_\_\_\_\_ Dated \_\_\_\_\_.
  2. Addendum # \_\_\_\_\_ Dated \_\_\_\_\_.
  3. Addendum # \_\_\_\_\_ Dated \_\_\_\_\_.

**1.11 BID FORM SUPPLEMENTS**

- A. The following Supplements are considered an integral part of this Bid Form and are to be included with the submitted Bid Form:
1. Section 00 41 01 - Bid Bond
  2. Section 00 43 36 - Subcontractors: Include the names of all Subcontractors and the portions of the Work they will perform.
  3. Section 00 41 03 - Florida Public Entity Crime Form
  4. Section 00 41 04 - Trench Excavation Safety Certification Form

**1.12 BID FORM SIGNATURE(S)**

- A. The Corporate Seal of

\_\_\_\_\_

(Bidder - print the full name of your firm)

was hereunto affixed in the presence of:

\_\_\_\_\_

(Authorized signing officer, Title)

(Seal)

\_\_\_\_\_

(Authorized signing officer, Title)

**1.13 If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.**

**1.14 This Bid Form may be placed on the Bidder's Letter Head.**

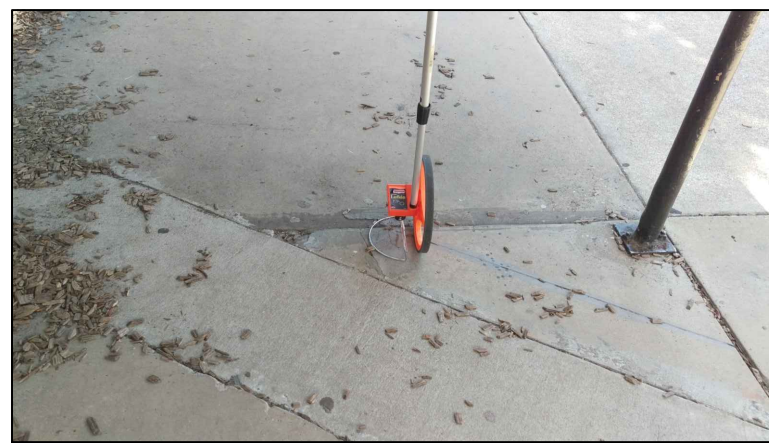
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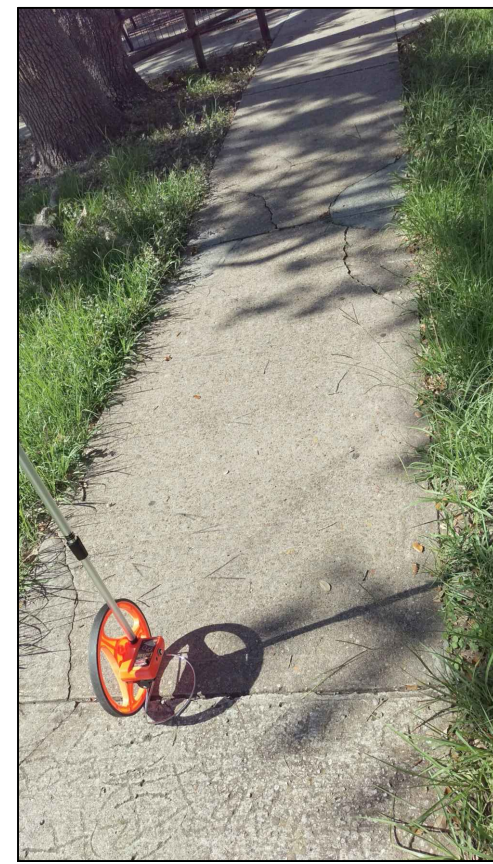
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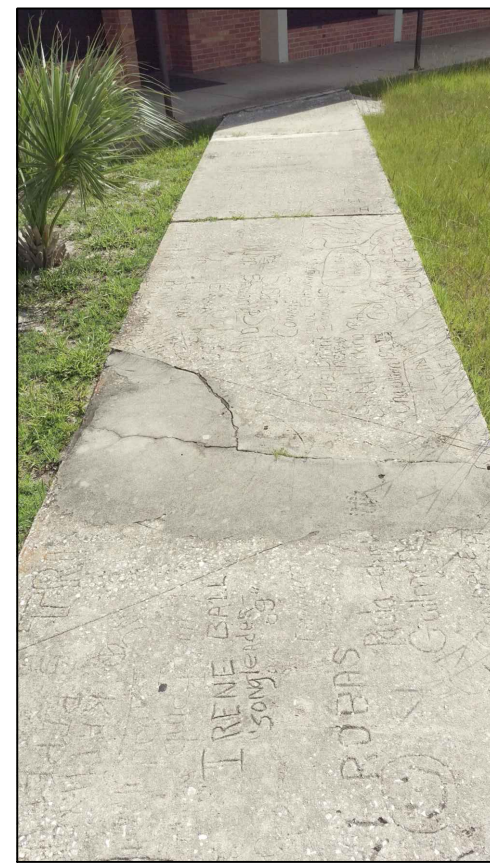
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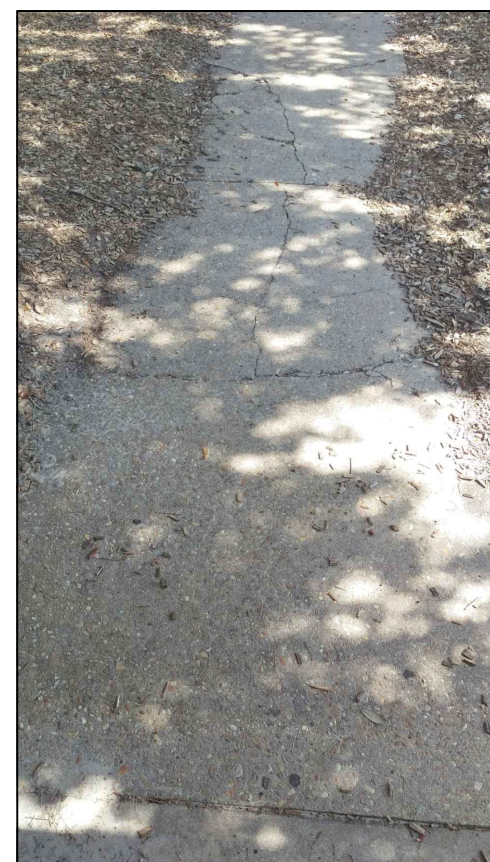
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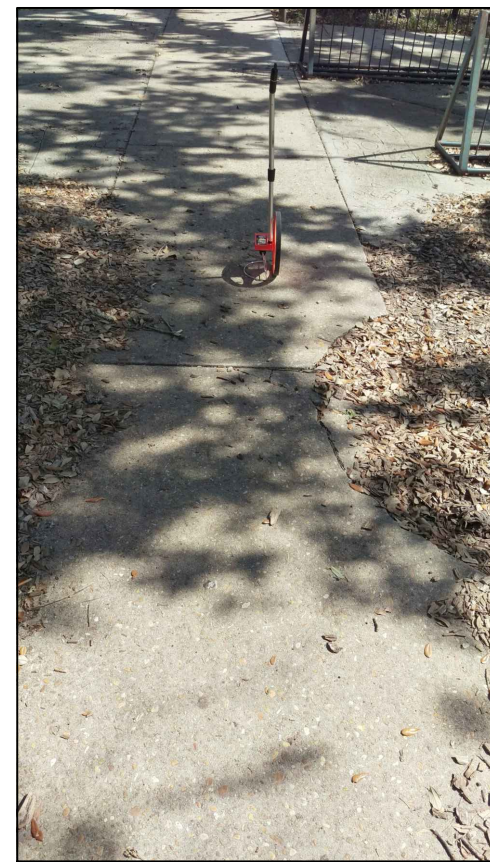
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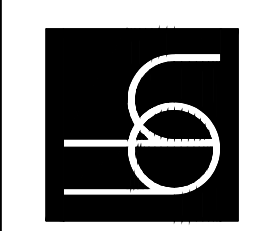
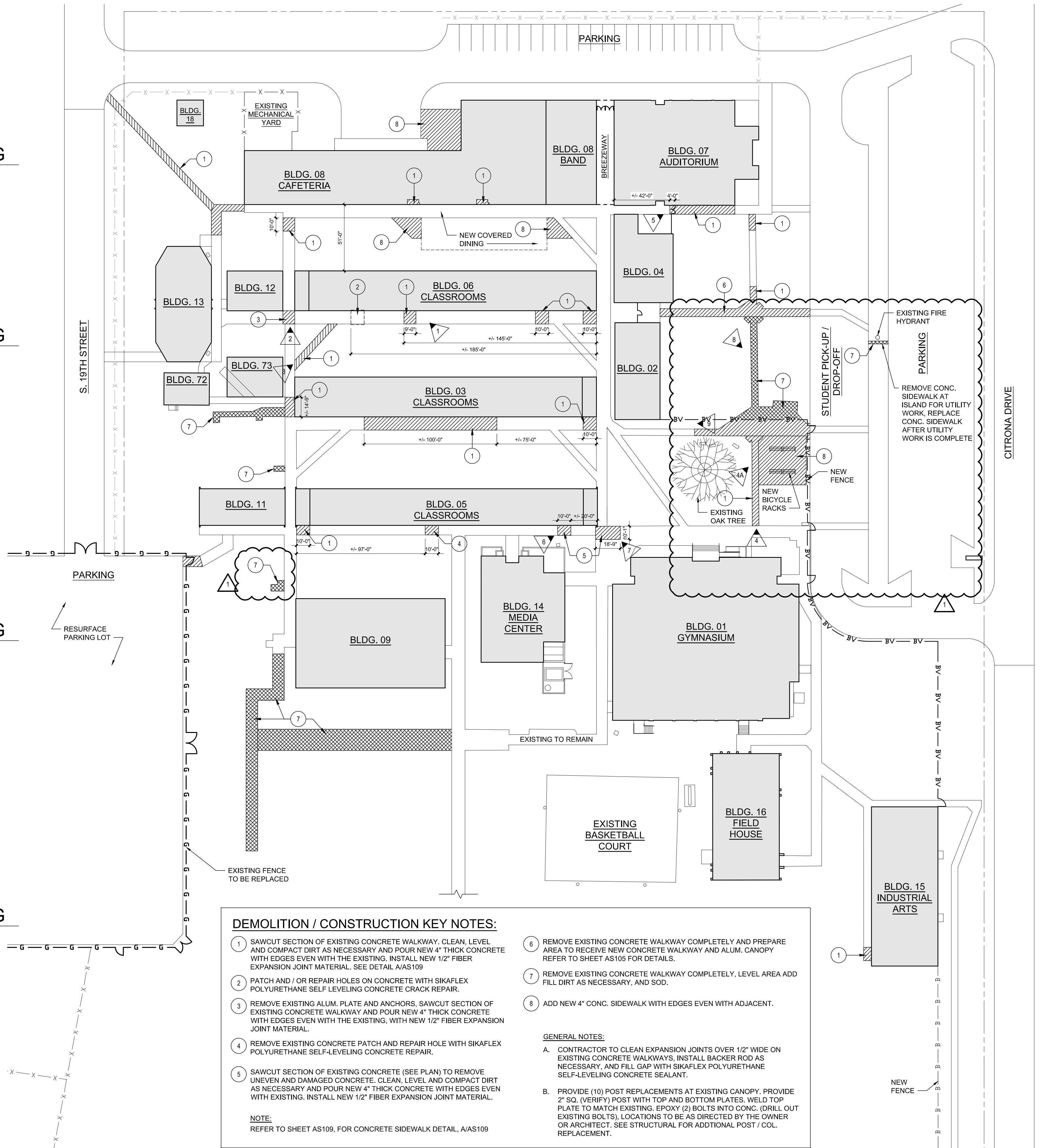
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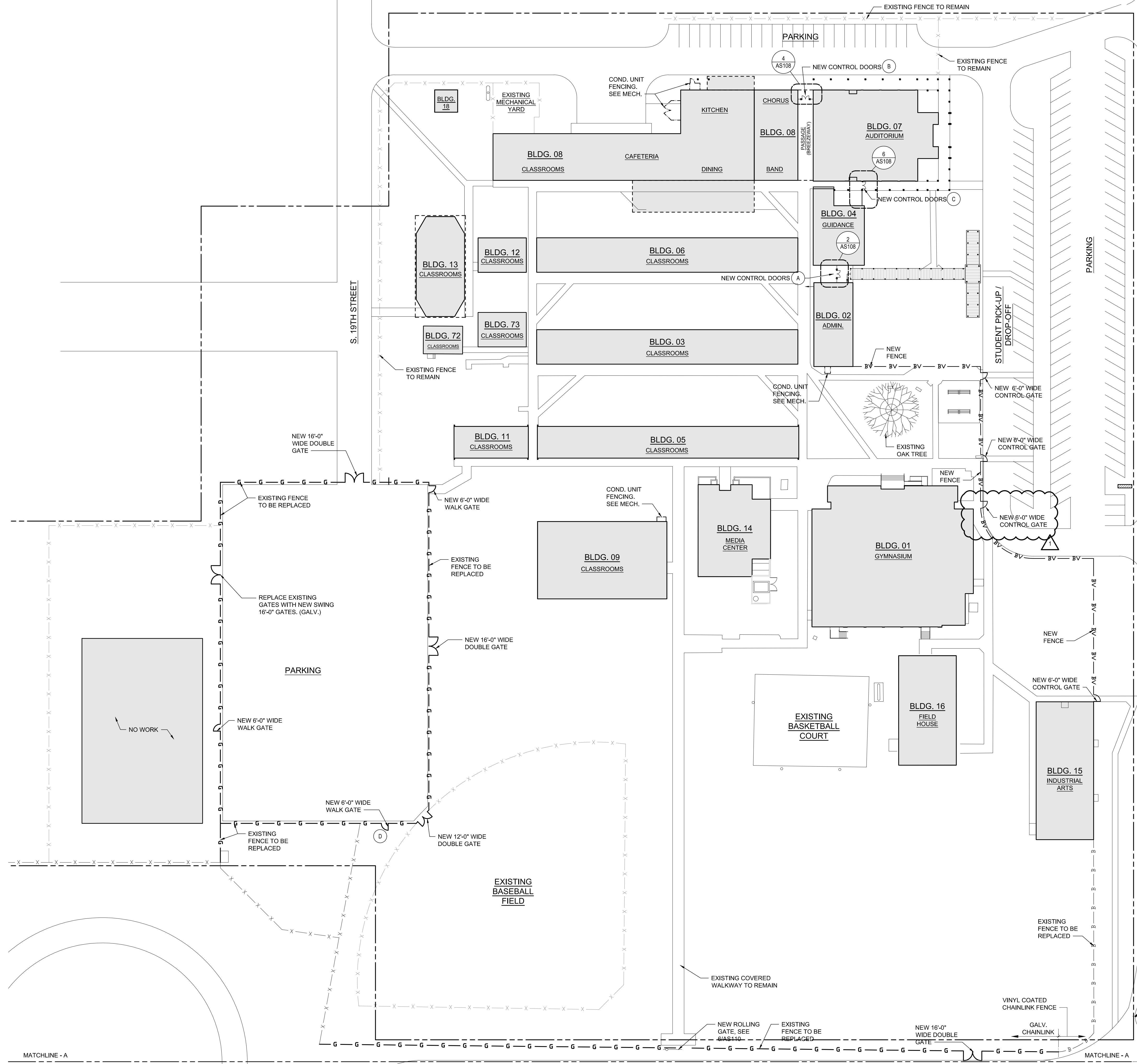
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4A PHOTOS OF EXISTING  
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| REVISIONS        | 10-16-2018 |
| ADDENDUM NO. TWO |            |
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**LEGEND:**

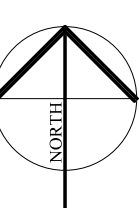
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|-----------|--|
| - X - X - | EXISTING CHAIN LINK FENCE TO REMAIN  |
| - BV -    | NEW BLACK VINYL COATED CHAIN LINK FENCE, NO EXISTING FENCE.                                |
| - B - B - | EXISTING RUSTED CHAIN LINK FENCE TO BE REPLACED, WITH BLACK VINYL COATED CHAIN LINK FENCE. |
| - G - G - | EXISTING RUSTED CHAIN LINK FENCE TO BE REPLACED, WITH GALVANIZED CHAIN LINK FENCE.         |
| (D)       | INDICATES CONTROL DOOR .<br>(SEE SHEET AS108, AS109, AS110)                                |

- FENCING GENERAL NOTES:**
- CONTRACTOR SHALL VERIFY LINE OF FENCING AND LAYOUT WITH THE OWNER'S PROJECT MANAGER PRIOR TO INSTALLATION.
  - COORDINATE INSTALLATION SCHEDULE WITH THE SCHOOL.
  - ALL FENCING TO BE 6'-0" HIGH UNLESS SHOWN OTHERWISE.
  - REFER TO FENCING DETAILS, SHEET AS110.
  - REFER TO MECHANICAL DRAWINGS FOR DETAILS OF FENCING AT MECHANICAL EQUIPMENT.

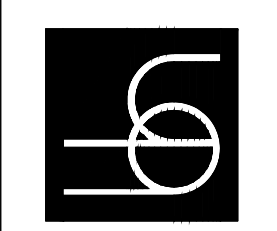
**FENCING PLAN  
FERNANDINA BEACH MIDDLE SCHOOL**

SCALE: 1" = 40'-0"

CONTRACTOR:  
NOTE SCALE



REFER TO AS104 FOR FENCING PLAN AT FBHS



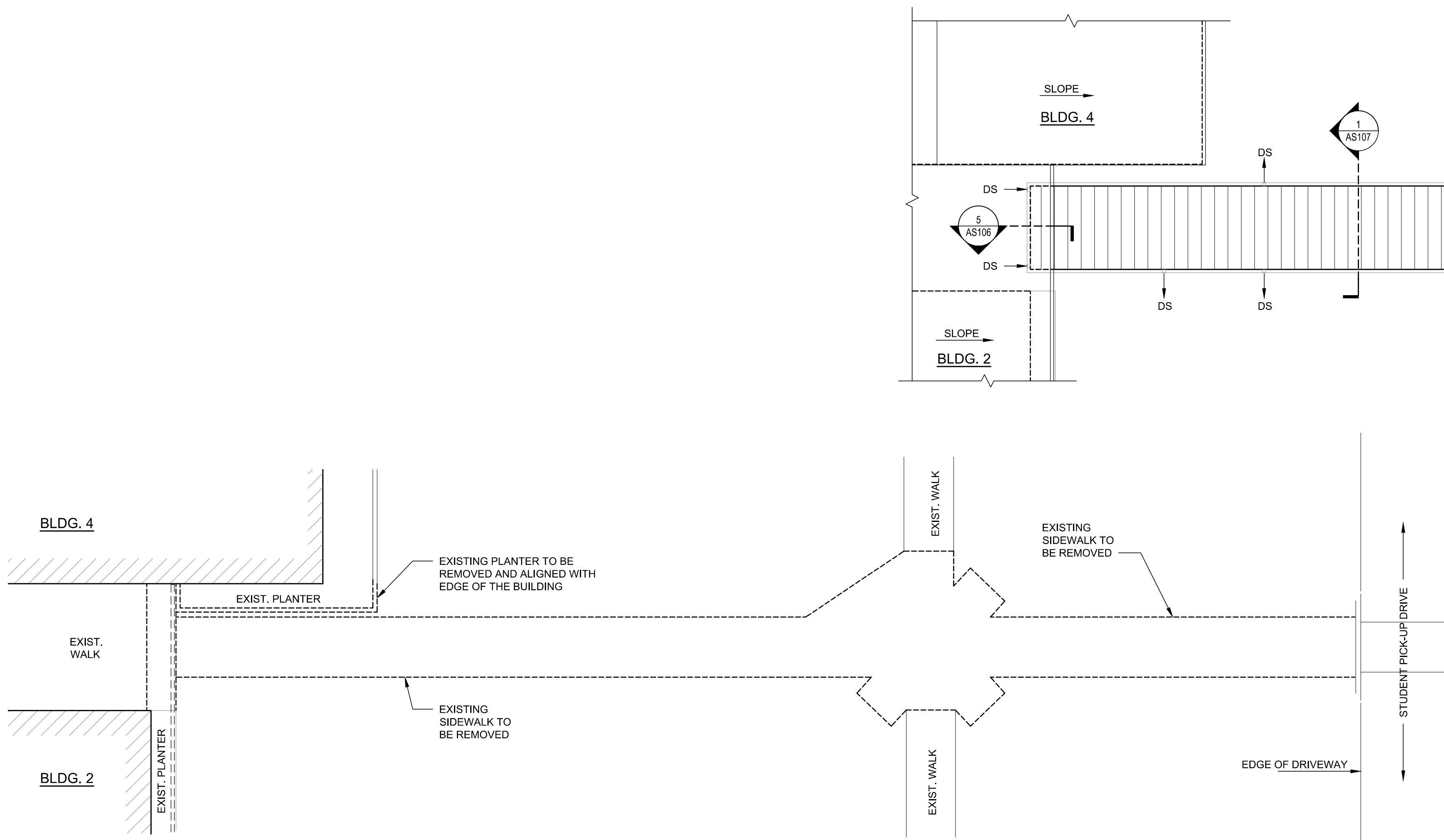
Architect License No.  
Robert McVeigh AR0011549

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| REVISIONS | DATE       | DESCRIPTION      |
| 1         | 10-16-2018 | ADDENDUM NO. TWO |

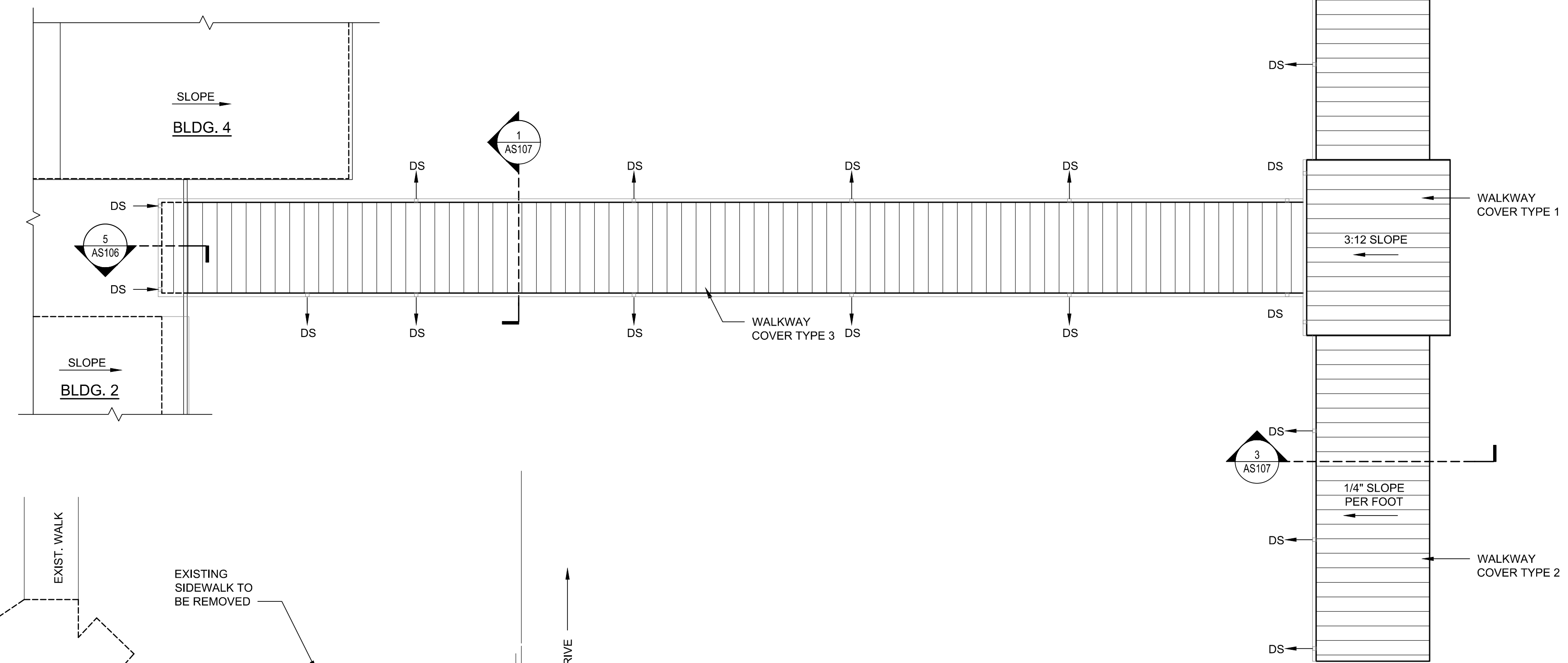
FENCING PLAN  
FERNANDINA BEACH MIDDLE SCHOOL

|         |           |
|---------|-----------|
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| C.R.    | R.E.M.    |
| JOB NO. | 18016     |

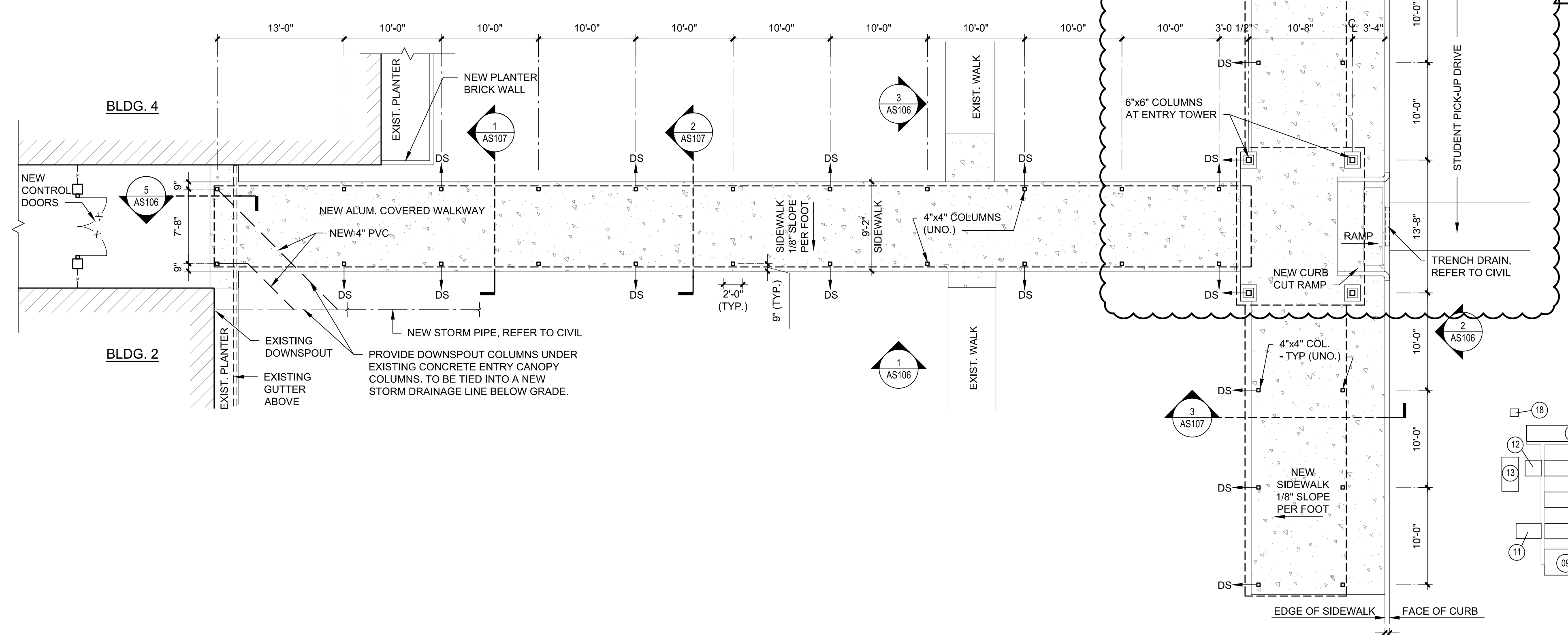
AS103



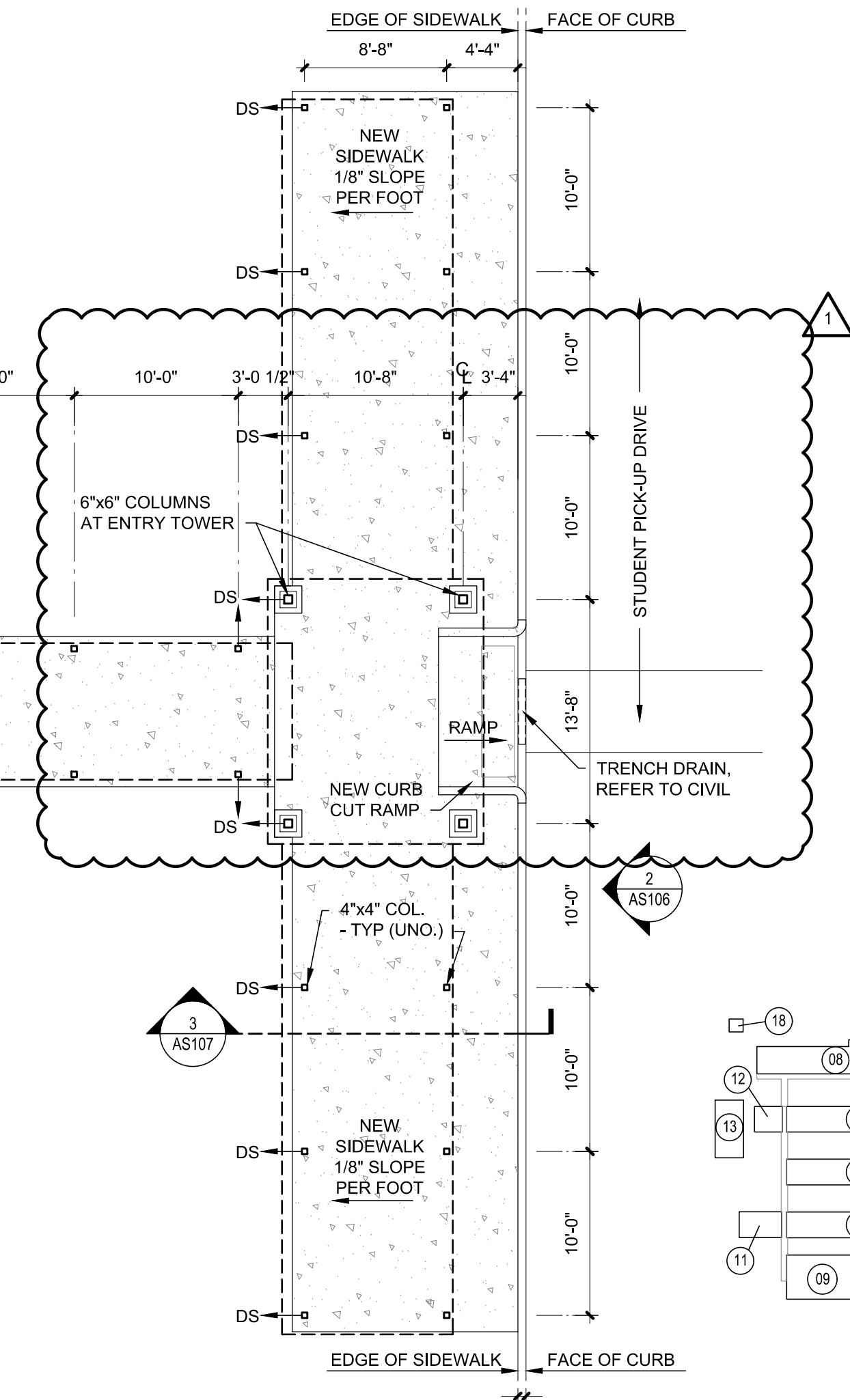
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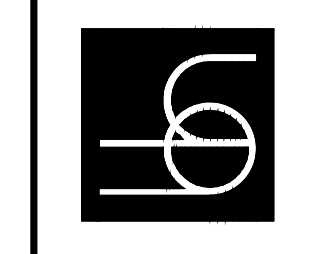
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**1 WALKWAY COVER COLUMN PLAN**  
 SCALE: 1/8" = 1'-0"

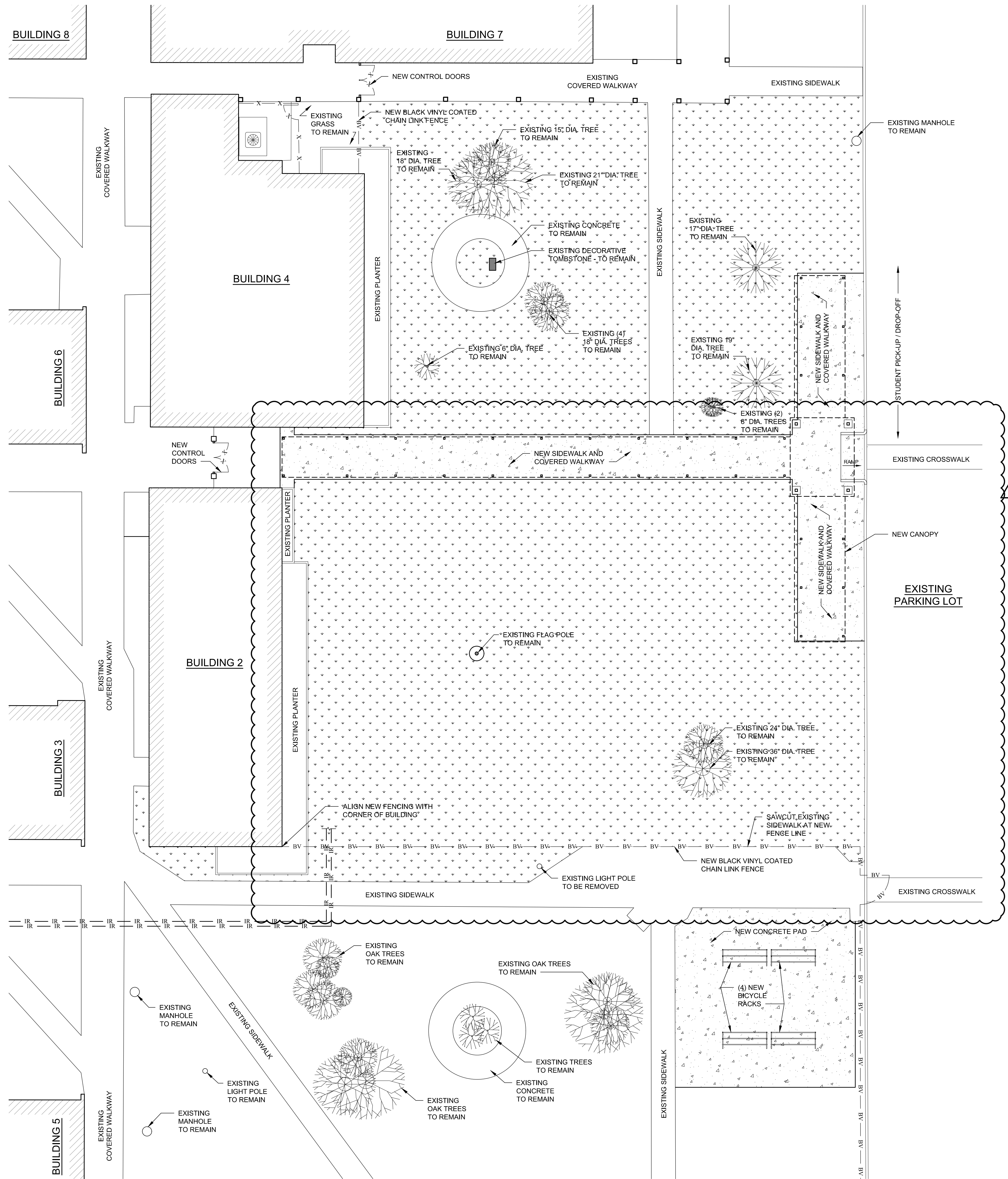


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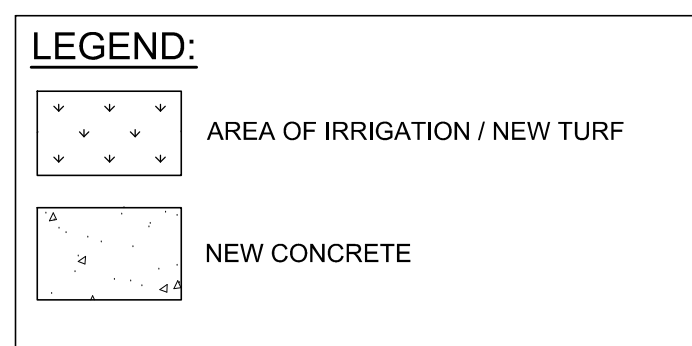
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| DATE    | 9-25-2018 |
| D.R.    | P.R.L.    |
| C.R.    | R.E.M.    |
| JOB NO. | 18016     |



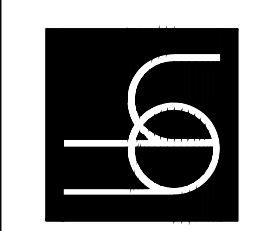
- LANDSCAPING NOTES:**
1. PROVIDE CENTIPEDE SOD IN THE IRRIGATED AREAS. SOD IN NON-IRRIGATED AREAS SHALL BE ARGENTINE BAHIA (FGBS W4.2).
  2. DO NOT LOCATE NEW TURF ON BERMS AT TREES. FGBC W4.5.
  3. PROVIDE NEW MULCH 3"-4" THICK AT PLANTING AREA BUILDING 4 AND 2 AND AT EXISTING TREES IN NEW TURF AREAS FGBC W4.7.

- IRRIGATION NOTES:**
1. PROVIDE SEPARATE ZONES FOR TURF AND LANDSCAPING BEDS. FGBC INSTALLED IRRIGATION REQUIREMENT, POINTS W6.
  2. NEW LANDSCAPING IS LESS THAN 60% OF EXISTING AND NEW LANDSCAPED AREAS.
  3. PROVIDE HEAD TO HEAD COVERAGE FOR ROTOR/ SPRAY HEADS (DO NOT OVERLAP).
  4. PROVIDE MICRO-IRRIGATION PLANTERS AND AREAS LESS THAN 4' WIDE.
  5. DO NOT IRRIGATE IMPERVIOUS OR WALL SURFACES.
  6. INSTALL CHECK VALVES AT ANY HEADS IN LOW AREAS.
  7. PROVIDE WRITTEN INSTRUCTIONS AND AS-BUILT PLANS TO OWNER. TRAIN OWNER'S PERSONNEL IN IRRIGATION SYSTEM OPERATOR.
  8. PROVIDE ZONES WITH IRRIGATION HEADS OF MATCHING PRECIPITATION RATES.
  9. POP-UP SPRINKLERS SHALL RAISE 5" MINIMUM ABOVE TURF.
  10. PROVIDE SHOP DRAWING OF IRRIGATION LAYOUT WITH ZONES TO MEET NOTES 1-9 ABOVE.



**LANDSCAPE AND IRRIGATION PLAN**  
 SCALE: 3/32" = 1'0"

**BHIDE & HALL ARCHITECTS, P.A.**  
 1329 KINGSLEY AVENUE, SUITE C ORANGE PARK, FLORIDA 32073  
 P.H. (904) 264-1919 LIC. NO. AAC000609



**FERNANDINA BEACH MIDDLE SCHOOL  
 KITCHEN/ DINING REMODELING AND CAMPUS  
 ADDITIONS AND REMODELING**  
 315 Citrona Dr. Fernandina Beach, FL 32034

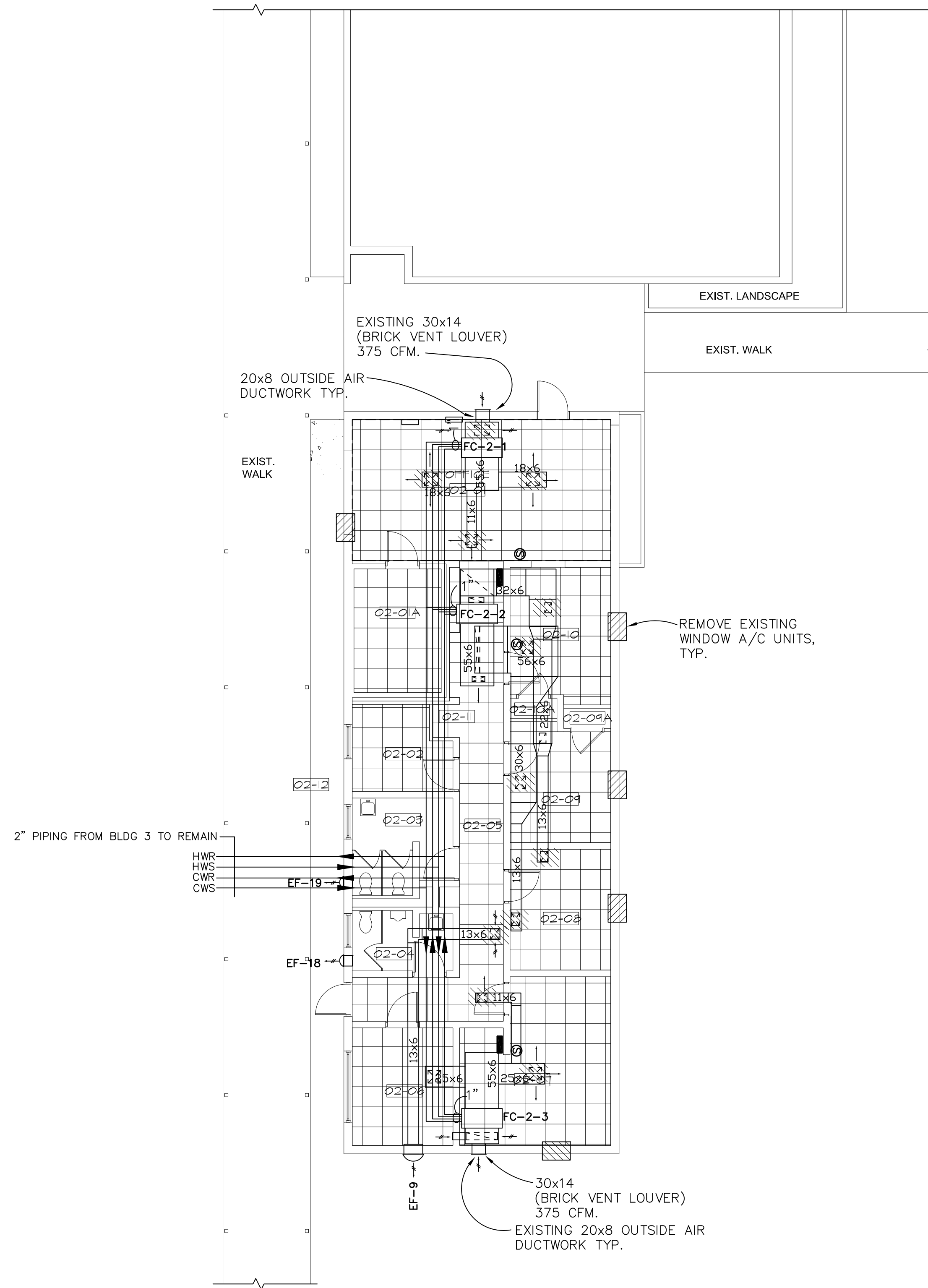
Architect License No.  
 Robert McVeigh AR0011549

|                  |            |
|------------------|------------|
| REVISIONS        | 10-16-2018 |
| ADDENDUM NO. TWO |            |

**LANDSCAPE AND IRRIGATION PLAN**

|         |           |
|---------|-----------|
| DATE    | 9-25-2018 |
| D.R.    | P.R.L.    |
| C.R.    | R.E.M.    |
| JOB NO. | 18016     |

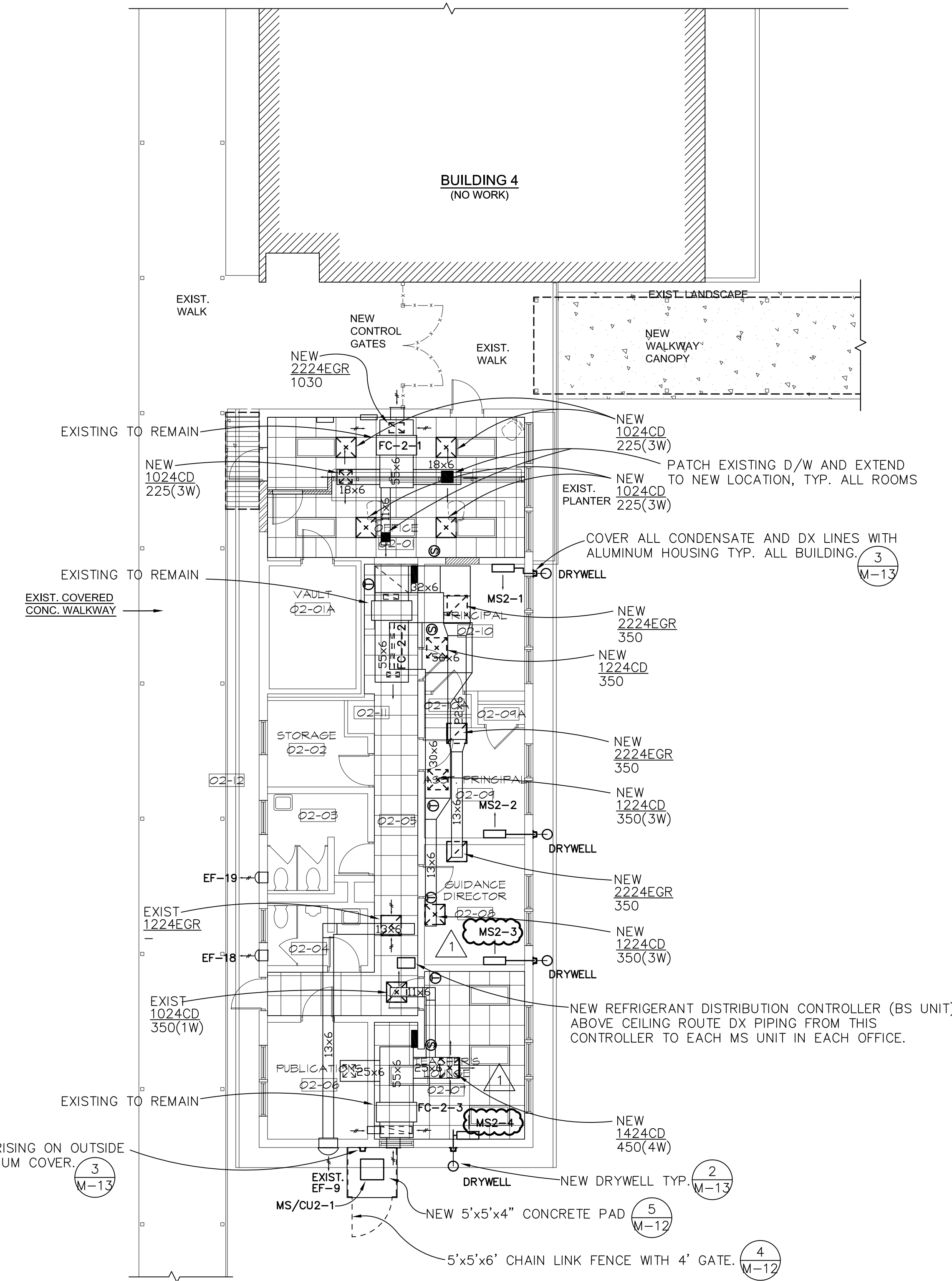
AS111



**BUILDING #2  
DEMOLITION MECHANICAL PLAN**  
SCALE: 1/8" = 1'-0"

**DEMOLITION NOTES (TYPICAL ALL ROOMS)**

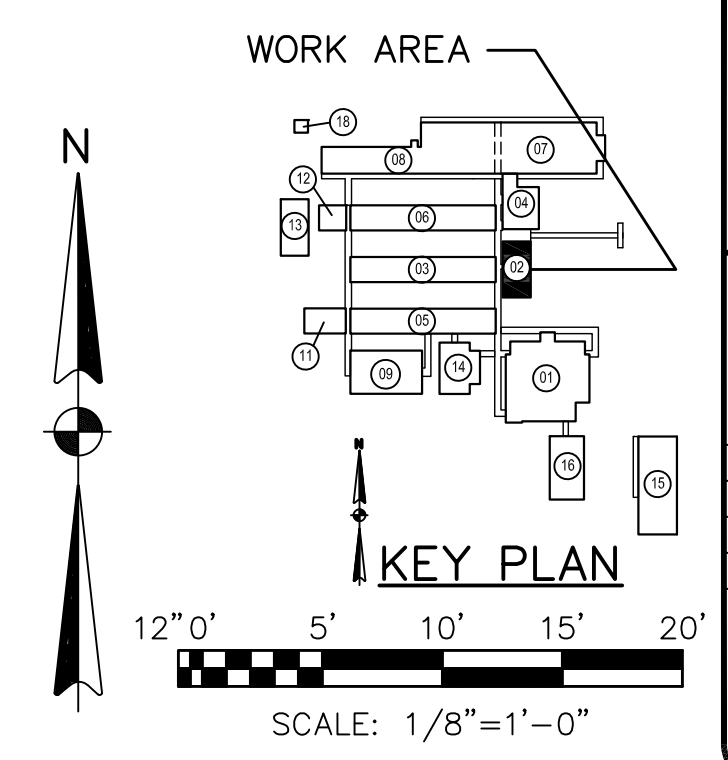
1. REMOVE EXISTING CEILING REGISTERS AND DIFFUSERS. PATCH DUCTWORK TO RECEIVE NEW DIFFUSERS SPIN-IN TAKE OFFS.
2. ALL PIPING, EXHAUST FANS, FAN COIL UNITS AND DUCTWORK ARE EXISTING AND TO REMAIN.
3. REMOVE CROSS HATCHED DIFFUSERS, REGISTERS AND WINDOW UNITS, TYPICAL.
4. RETURN WINDOW A/C UNITS TO NCSB. DELIVER TO MAINTENANCE SHOP AS DIRECTED. TYP. ALL BUILDINGS.



**BUILDING #2  
NEW MECHANICAL PLAN**  
SCALE: 1/8" = 1'-0"

**NEW NOTES (TYPICAL ALL ROOMS)**

1. ADJUST ALL CEILING DIFFUSERS AND EGG CRATE RETURNS TO FIT NEW CEILING GRID, HARD DUCTED.
2. MINI SPLIT UNITS TO BE MOUNTED AS HIGH AS POSSIBLE. ROUTE CONDENSATE TO NEAREST OUTSIDE WALL AND DOWN TO NEW DRYWELL COVER WITH METAL ENCLOSURE, TYP..
3. ALL REFRIGERANT AND CONDENSATE LINES TO BE COVERED WITH AN ALUMINUM BOX COVER, SEE DETAIL (3) TYP.
4. ALL EXTERIOR REFRIGERANT AND CONDENSATE LINE TO BE 1/2" PVC MINIMUM SCH. 40 TO DRYWELL. SECURE TO WALL ON 4'-0" CENTERS WITH COVER, SEE DETAIL (4) TYP.
5. TURN OVER WINDOW A/C UNITS TO NCSB. DELIVER TO MAINTENANCE SHOP TYP.
6. ALL NEW CEILING DIFFUSERS TO BE 12" ROUND NECK 24X24 ALUMINUM CEILING DIFFUSERS, LAYIN, STEEL OPPOSE BLADE DAMPER, 4-WAY DISCHARGE, PAINTED CEILING WHITE. TITUS TMSA 24x24, ROUND NECK OR EQUAL.
7. PIPING DELETED ON NEW PLAN FOR CLARITY OF NEW INSTALLATION. ALL PIPING TO REMAIN UNLESS SPECIFICALLY NOTED TO BE REMOVED. TYP. ALL BUILDINGS.



**BHIDE & HALL ARCHITECTS, P.A.**  
1329 KINGSLEY AVENUE, SUITE C ORANGE PARK, FLORIDA 32073  
PH: (904) 264-1919 LIC. NO. AA-C000569

**M.V. CUMMINGS ENGINEERS, INC. CONSULTING ENGINEERS**  
650 ARLINGTON EXPRESSWAY, SUITE B-211 JACKSONVILLE, FLORIDA 32211  
CERT. NO. EB-3403

**FERNANDINA BEACH MIDDLE SCHOOL  
KITCHEN/DINING REMODELING AND CAMPUS  
ADDITIONS AND REMODELING**  
315 Citrona Dr, Fernandina Beach, FL 32034

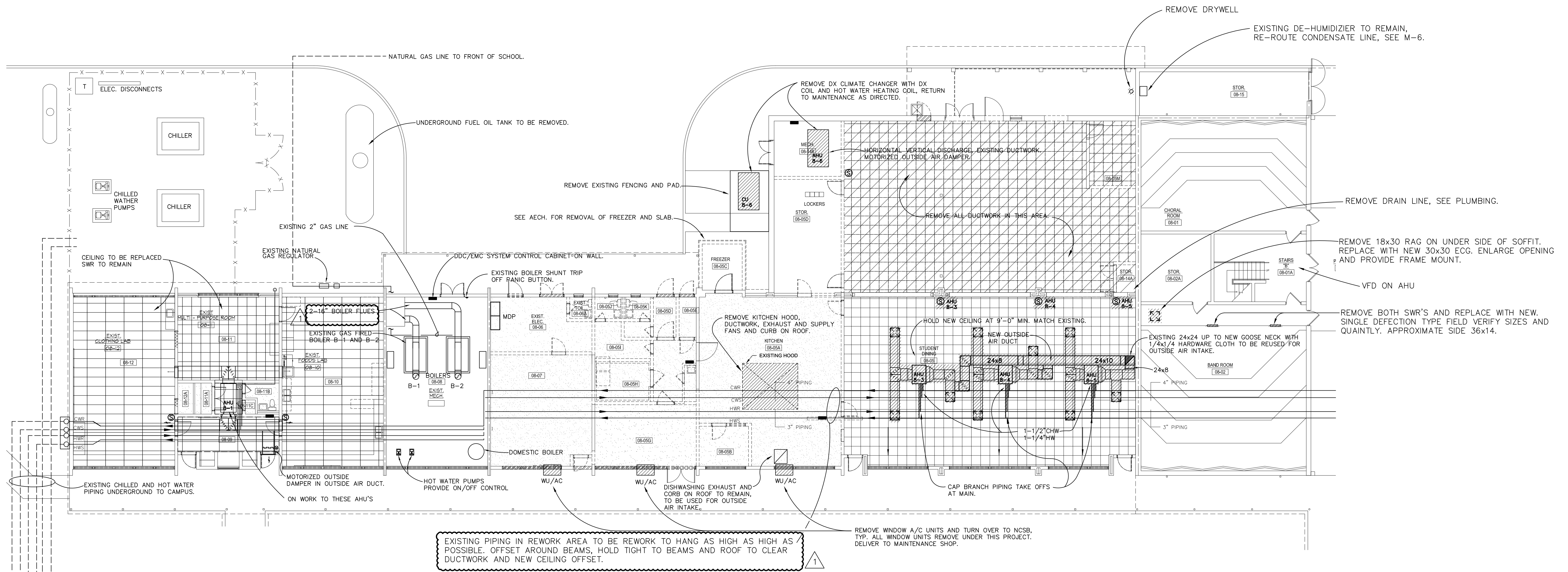
|                |             |
|----------------|-------------|
| Engineer       | License No. |
| Wayne C. Kelly | 18451       |

|                |          |
|----------------|----------|
| REVISIONS      | 10-16-18 |
| 1. MS2-2 TO -3 |          |
| 2. MS2-3 TO -4 |          |

**BUILDING 02  
MECHANICAL  
DEMOLITION & NEW  
PLANS**

|         |           |
|---------|-----------|
| DATE    | 9-25-2018 |
| D.B.    | REM       |
| C.B.    | WCK       |
| JOB NO. | 18016     |

M-1

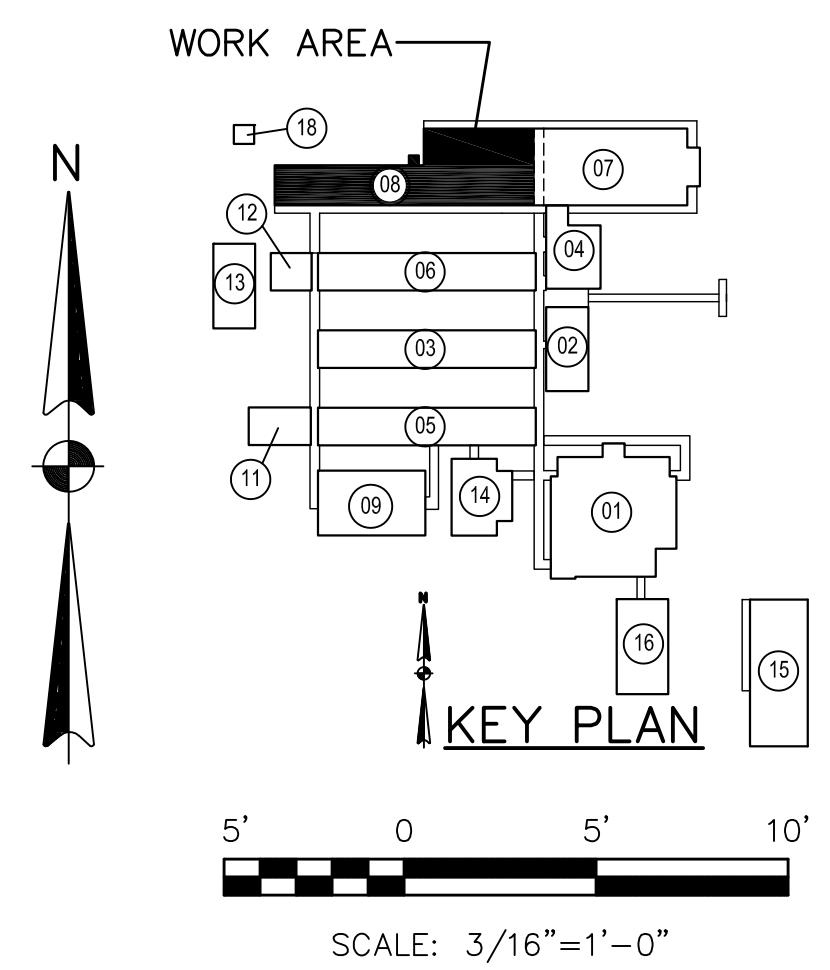


**BUILDING 8 FLOOR PLAN-DEMOLITION**

SCALE: 3/32" = 1'-0"

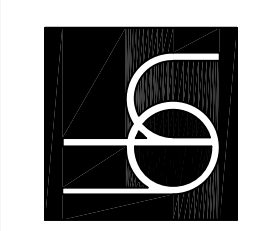
**DEMOLITION NOTES**

- AHU'S 8-3, 4, AND 5 IN DINING ROOM TO BE REUSED. REMOVE, CLEAN AND FLUSH COILS. PROVIDE NEW FAN BELTS AND FILTERS GRILLES.



**BHIDE & HALL ARCHITECTS, P.A.**  
 1329 KINGSLEY AVENUE, SUITE C ORANGE PARK, FLORIDA 32073  
 P.L. (904) 264-1919 LIC. NO. AA-C000569

**M.V. CUMMINGS ENGINEERS, INC. CONSULTING ENGINEERS**  
 650 ARLINGTON EXPRESSWAY, SUITE B-211 JACKSONVILLE, FLORIDA 32211  
 TELEPHONE (904) 724-0660



**FERNANDINA BEACH MIDDLE SCHOOL  
 KITCHEN/DINING REMODELING AND CAMPUS  
 ADDITIONS AND REMODELING**

315 Citrona Dr, Fernandina Beach, FL 32034

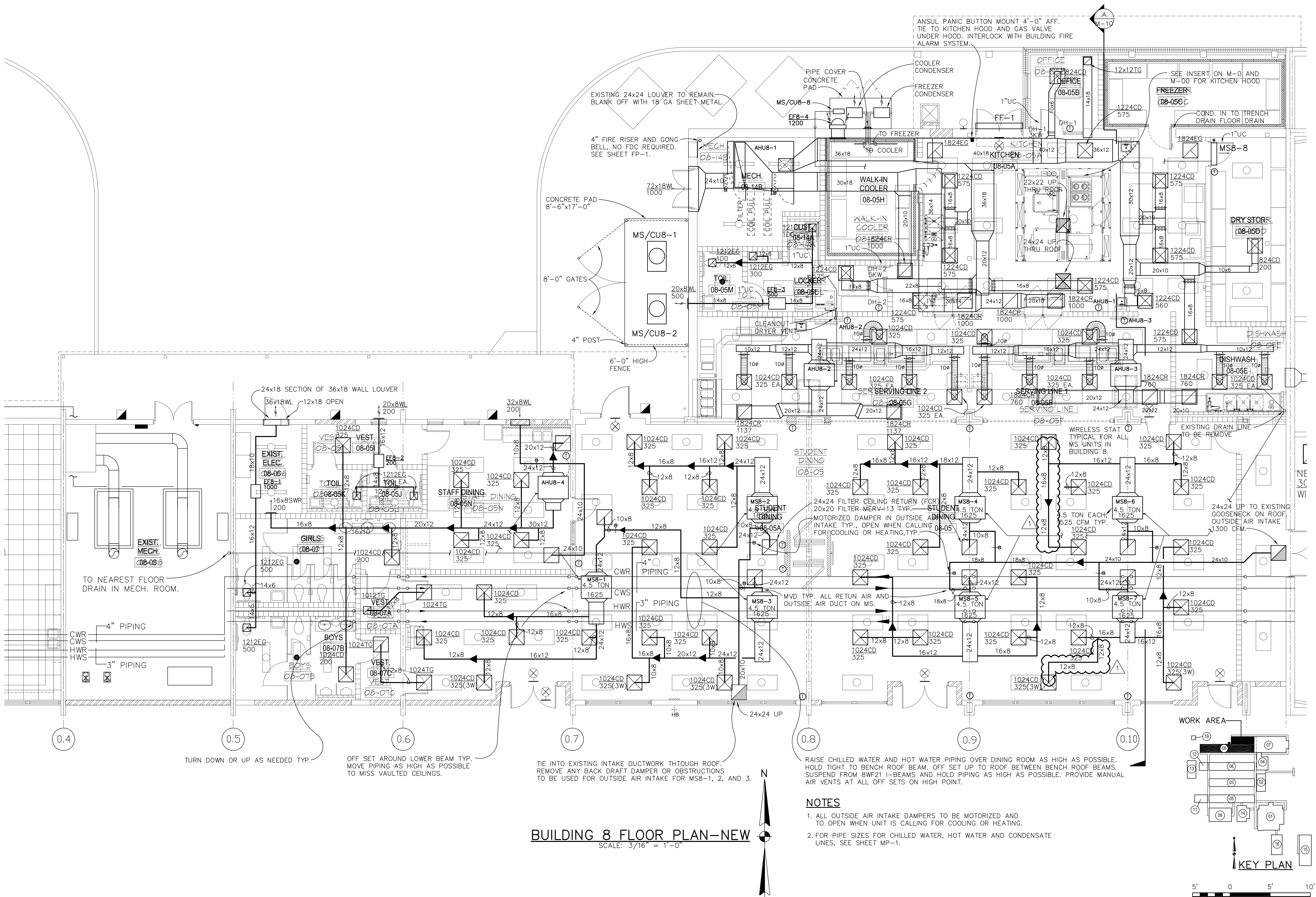
Engineer License No.  
 Marye-A.C. Olesby 130434

|           |  |
|-----------|--|
| 10-16-18  |  |
| REVISIONS |  |
| NOTE      |  |

**BUILDING 08  
 MECHANICAL  
 DEMOLITION  
 FLOOR PLAN**

|         |           |
|---------|-----------|
| DATE    | 9-25-2018 |
| D.B.    | REM       |
| C.B.    | WCK       |
| JOB NO. | 18016     |

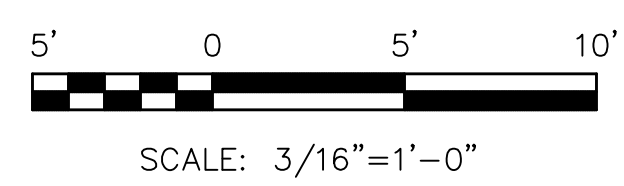
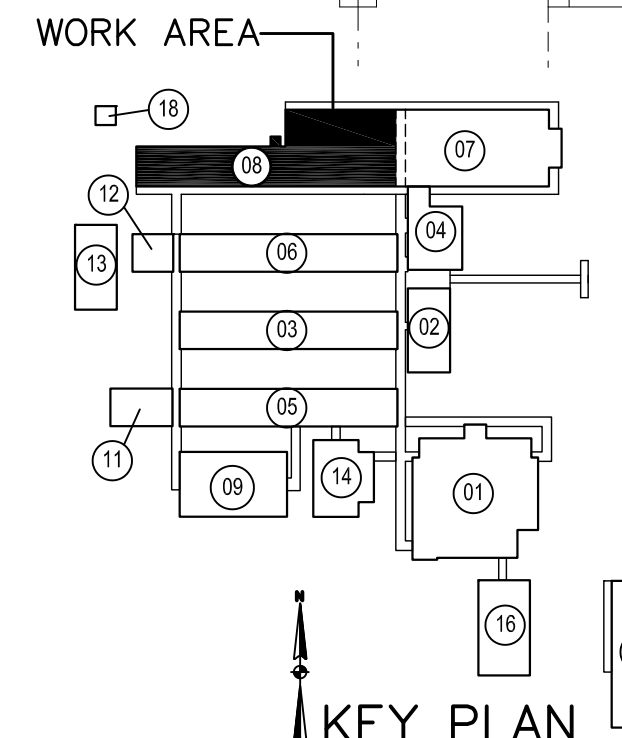
**M-5**



**BUILDING 8 FLOOR PLAN-NEW**  
SCALE: 3/16" = 1'-0"

**NOTES**

1. ALL OUTSIDE AIR INTAKE DAMPERS TO BE MOTORIZED AND TO OPEN WHEN UNIT IS CALLING FOR COOLING OR HEATING.
2. FOR PIPE SIZES FOR CHILLED WATER, HOT WATER AND CONDENSATE LINES, SEE SHEET MP-1.



**BHIDE & HALL ARCHITECTS, P.A.**  
1329 KINGSLEY AVENUE, SUITE C ORANGE PARK, FLORIDA 32073    PH: (904) 264-9199    LIC. NO. AA 000569

**M.V. CUMMINGS ENGINEERS, INC. CONSULTING ENGINEERS**  
650 ARLINGTON EXPRESSWAY, SUITE 10-211 JACKSONVILLE, FLORIDA 32211    TEL: (904) 724-6660    CERT. NO. EB-340

**FERNANDINA BEACH MIDDLE SCHOOL  
KITCHEN/DINING REMODELING AND CAMPUS  
ADDITIONS AND REMODELING**

315 Citrona Dr., Fernandina Beach, FL 32034

|                 |             |
|-----------------|-------------|
| Engineer        | License No. |
| Wayne C. Cleary | 13454       |

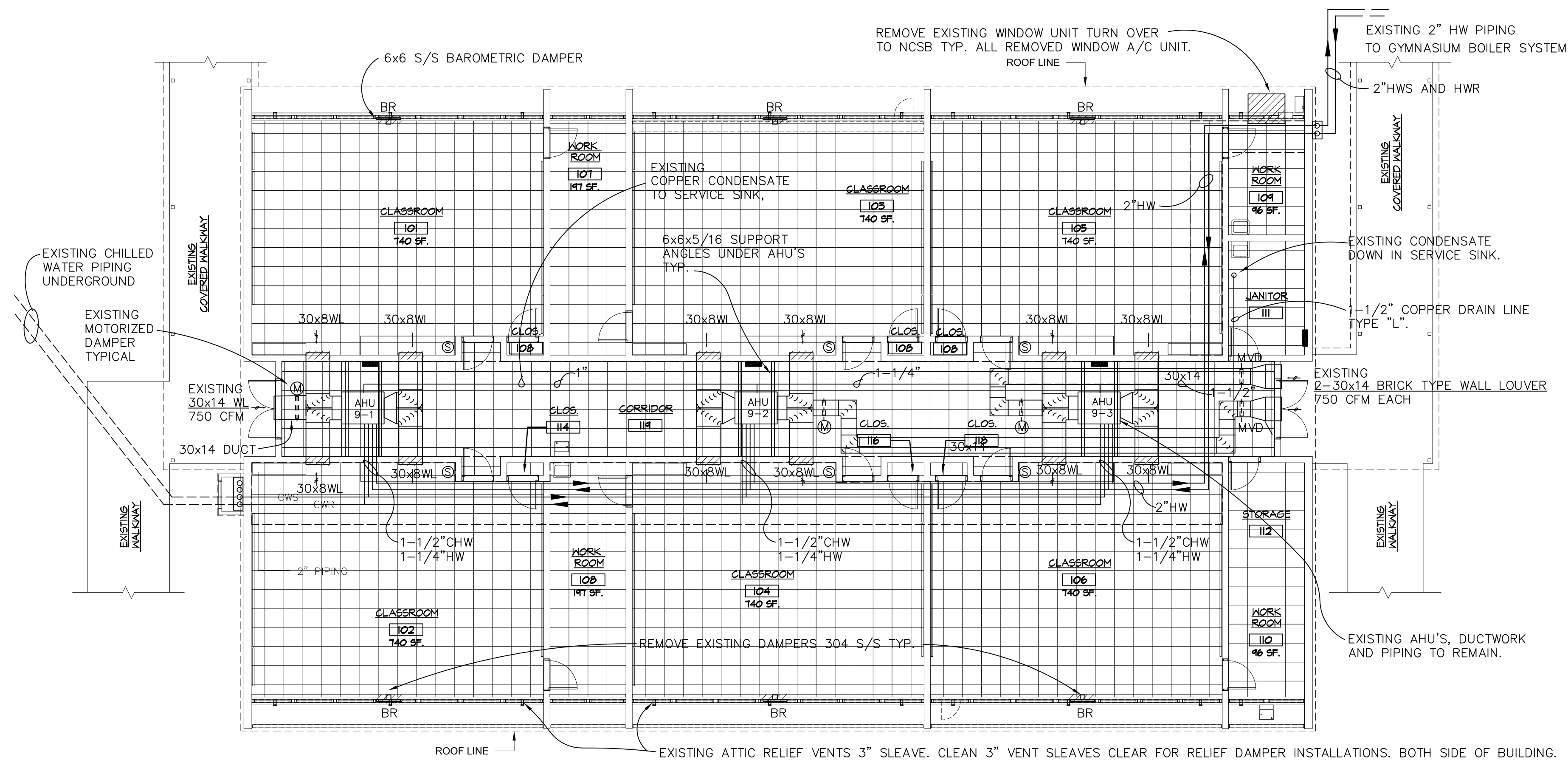
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|-----------------|----------|
| REVISIONS       | 10-16-18 |
| REWORK DUCTWORK |          |

**BUILDING 08  
MECHANICAL  
NEW FLOOR  
PLAN**

|         |           |
|---------|-----------|
| DATE    | 9-25-2018 |
| D.B.    | REX       |
| C.B.    | WCK       |
| JOB NO. | 18016     |

**M-6**

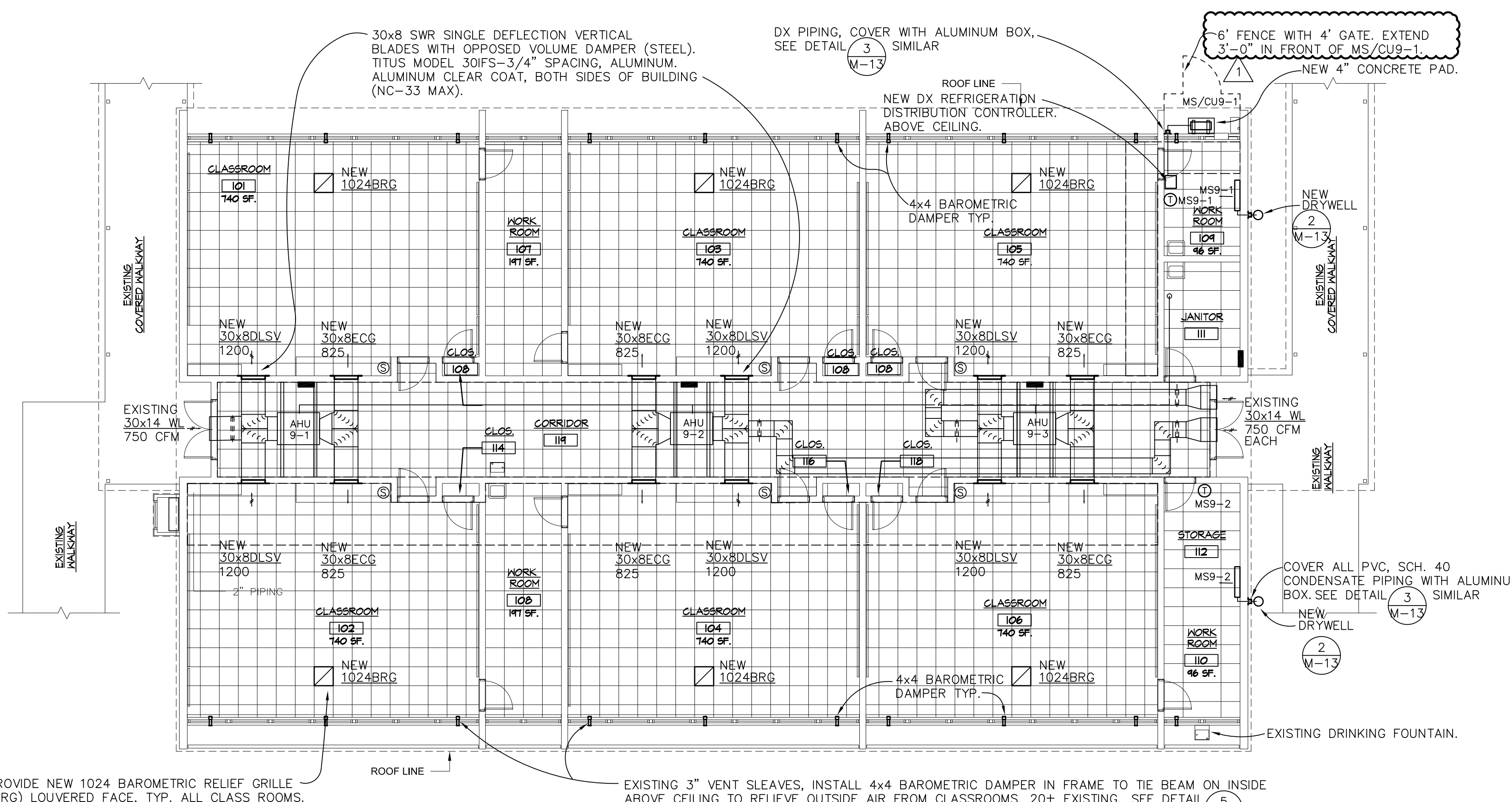




**BUILDING 9 FLOOR PLAN-DEMO**  
SCALE: 1/8" = 1'-0"

**DEMOLITION NOTES**

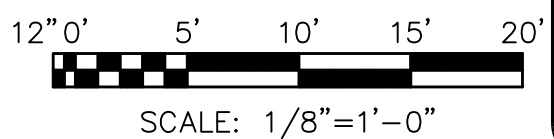
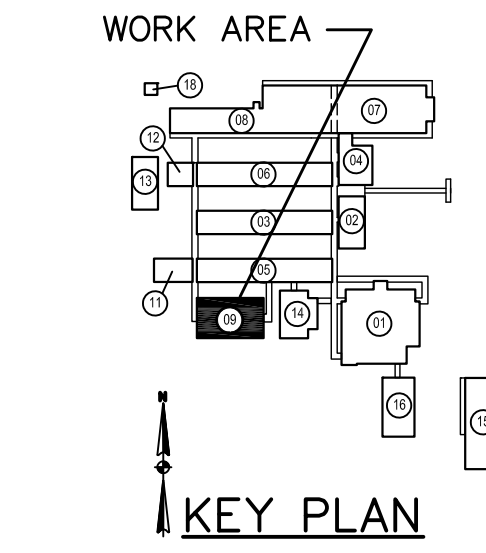
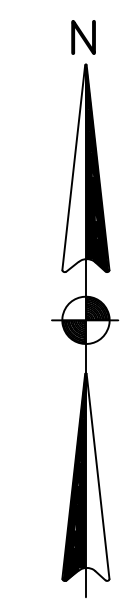
1. REMOVE ALL AHU SUPPLY AND RETURN GRILLES AND REGISTERS. REPLACE WITH NEW SPECIFIC TYPE.
2. BAROMETRIC RELIEF DAMPERS "BR" IN WINDOWS TO BE REMOVED BY WINDOW FRAME REPLACEMENT. NOT TO BE REINSTALLED IN NEW WINDOW FRAMES.
3. DELIVER ALL REMOVED WINDOW UNITS TO MAINTENANCE OFFICE AS DIRECTED.
4. ALL CHILLED AND HOT WATER PIPING IS EXISTING AND TO REMAIN.
5. EXISTING OUTSIDE AIR INTAKE LOUVERS IN BRICK WALLS ABOVE CORRIDOR DOORS TO REMAINING TYP.



**BUILDING 9 FLOOR PLAN-NEW**  
SCALE: 1/8" = 1'-0"

**NEW CONSTRUCTION NOTES**

1. SET AHU9-1, 9-2, AND 9-3 SUPPLY AIR FLOW TO 2400 CFM'S WITH EXISTING VFS'S.
2. SET EACH CLASSROOM AIR FLOW AT 1200 CFM.
3. SET AHU'S OUTSIDE AIR AT 750 CFM EACH.
4. SET AHU'S SUPPLY AIR TEMPERATURE AT 52°F FOR COOLING AND 110°F FOR HEATING.
5. VERIFY ALL GRILLE SIZES, TYP. BEFORE ORDERING NEW, TYP.
6. ALL EXISTING DUCTWORK THROUGH CORRIDOR WALLS HAVE FIRE DAMPERS. VERIFY FIRE LINK IS INTACT AND DAMPER IS FUNCTIONAL.
7. ALL SUPPLY REGISTERS TO BE SINGLE DEFLECTION WITH OBD.
8. ALL RETURN GRILLES TO BE EGG CRATE 1/2x1/2x1/2 STEEL, NO BALANCING DAMPERS. VERIFY ALL SIZES.
9. PROVIDE TITUS DRUM LOUVER MODEL DLSV OR EQUAL.
10. VERIFY SIZE OF GRILLES AND DRUM LOUVER PRIOR TO ORDERING. (DLSV)
11. PIPING DELETED ON NEW PLAN FOR CLARITY OF NEW INSTALLATION. ALL PIPING TO REMAIN UNLESS SPECIFICALLY NOTED TO BE REMOVED. TYP. ALL BUILDINGS.



**BHIDE & HALL ARCHITECTS, P.A.**  
1329 KINGSLEY AVENUE, SUITE C ORANGE PARK, FLORIDA 32073  
TEL (904) 264-1919 LIC. NO. A.A.C.0000669

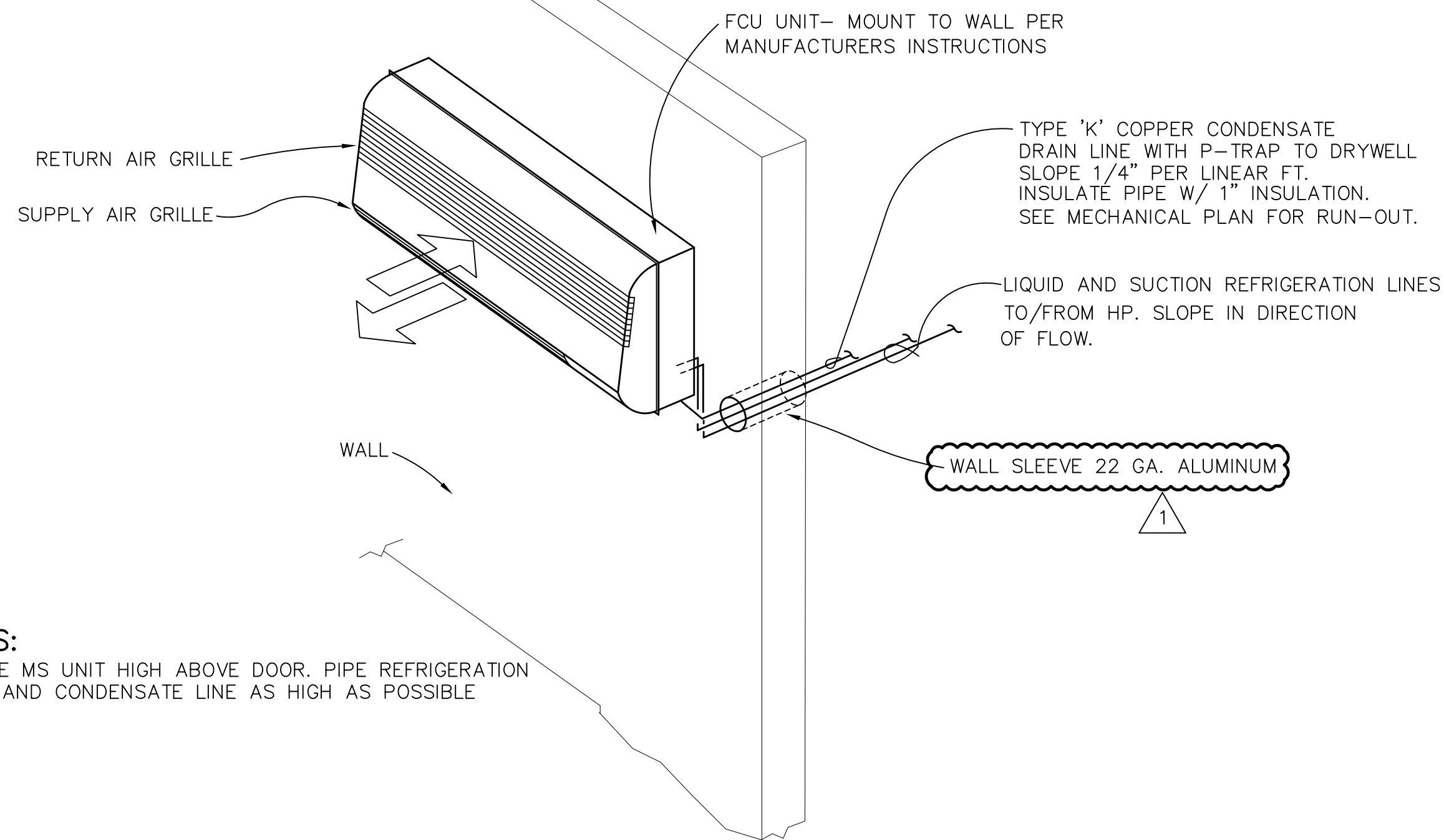
**M.V. CUMMINGS ENGINEERS, INC. CONSULTING ENGINEERS**  
6501 ARLINGTON EXPRESSWAY, SUITE B-211 JACKSONVILLE, FLORIDA 32211  
TEL (904) 724-0660 CERT. NO. EB-345

**MB**

**FERNANDINA BEACH MIDDLE SCHOOL  
KITCHEN/DINING REMODELING AND CAMPUS  
ADDITIONS AND REMODELING**  
315 Citrona Dr., Fernandina Beach, FL 32034

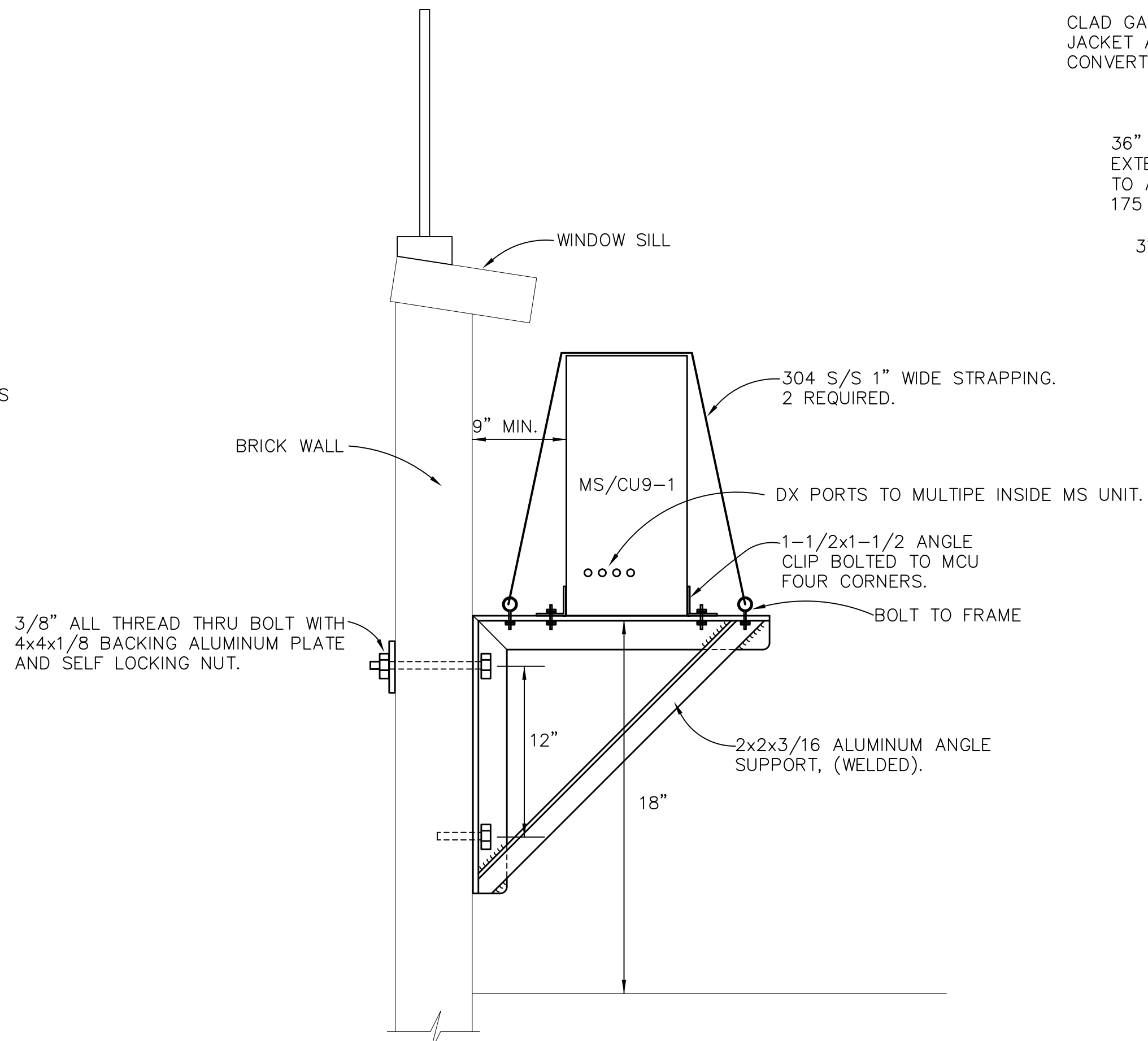
|   |             |
|---|-------------|
| Engineer  | License No. |
| Wayne C. Kelly  | 18451       |
| REVISONS  | 10-16-18    |
| TEXT FORM 6" TO 6"  |             |
| <b>BUILDING 09<br/>MECHANICAL<br/>DEMO AND NEW<br/>FLOOR PLAN</b> |             |
| DATE  | 9-25-2018   |
| D.R.  | REM.        |
| C.R.  | WCK.        |
| JOB NO.   | 18016       |

**M-7**

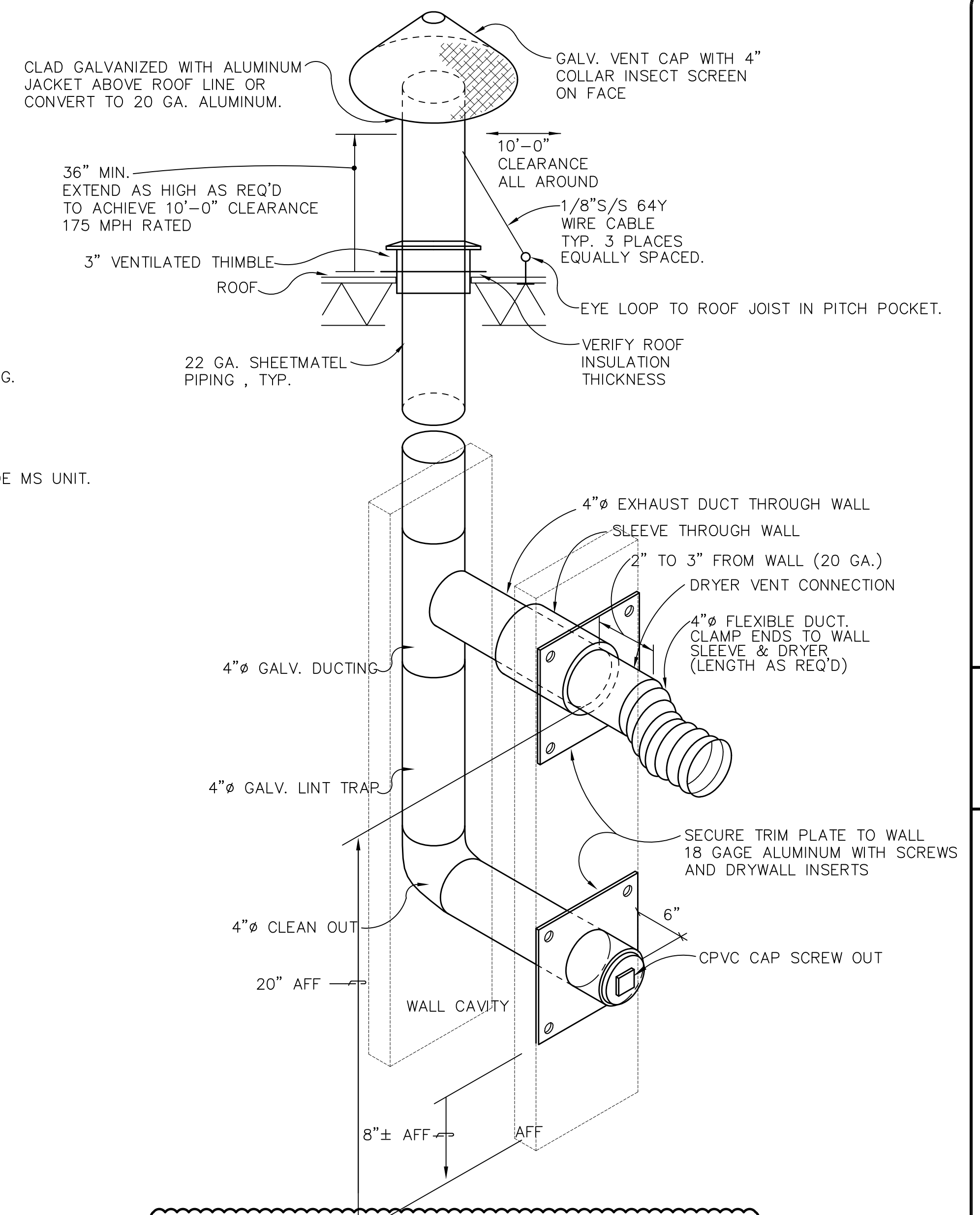


**NOTES:**  
 1. LOCATE MS UNIT HIGH ABOVE DOOR. PIPE REFRIGERATION LINES AND CONDENSATE LINE AS HIGH AS POSSIBLE

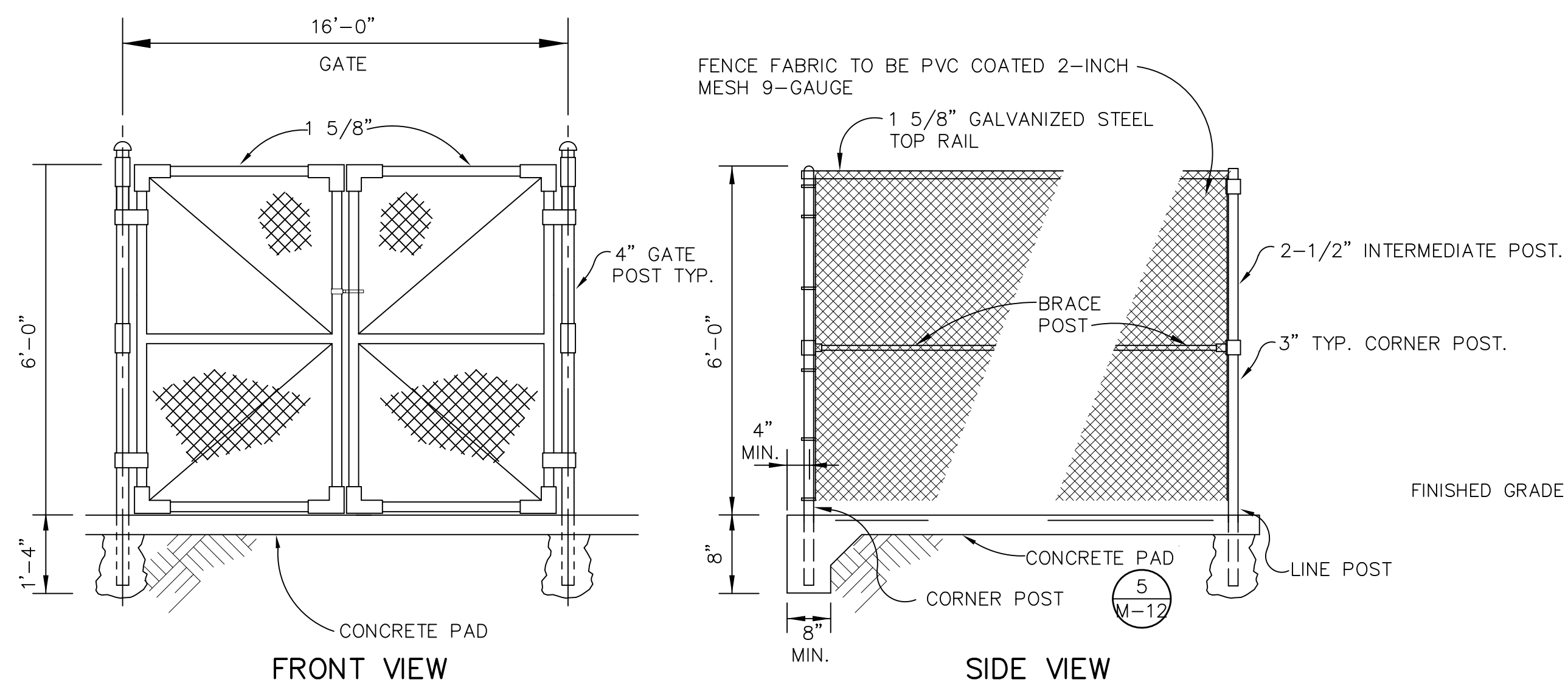
**FCU HIGH WALL SYSTEM INSTALLATION DETAIL** 1  
 NOT TO SCALE M-12



**MCU SUPPORT DETAIL** 2  
 NOT TO SCALE M-12

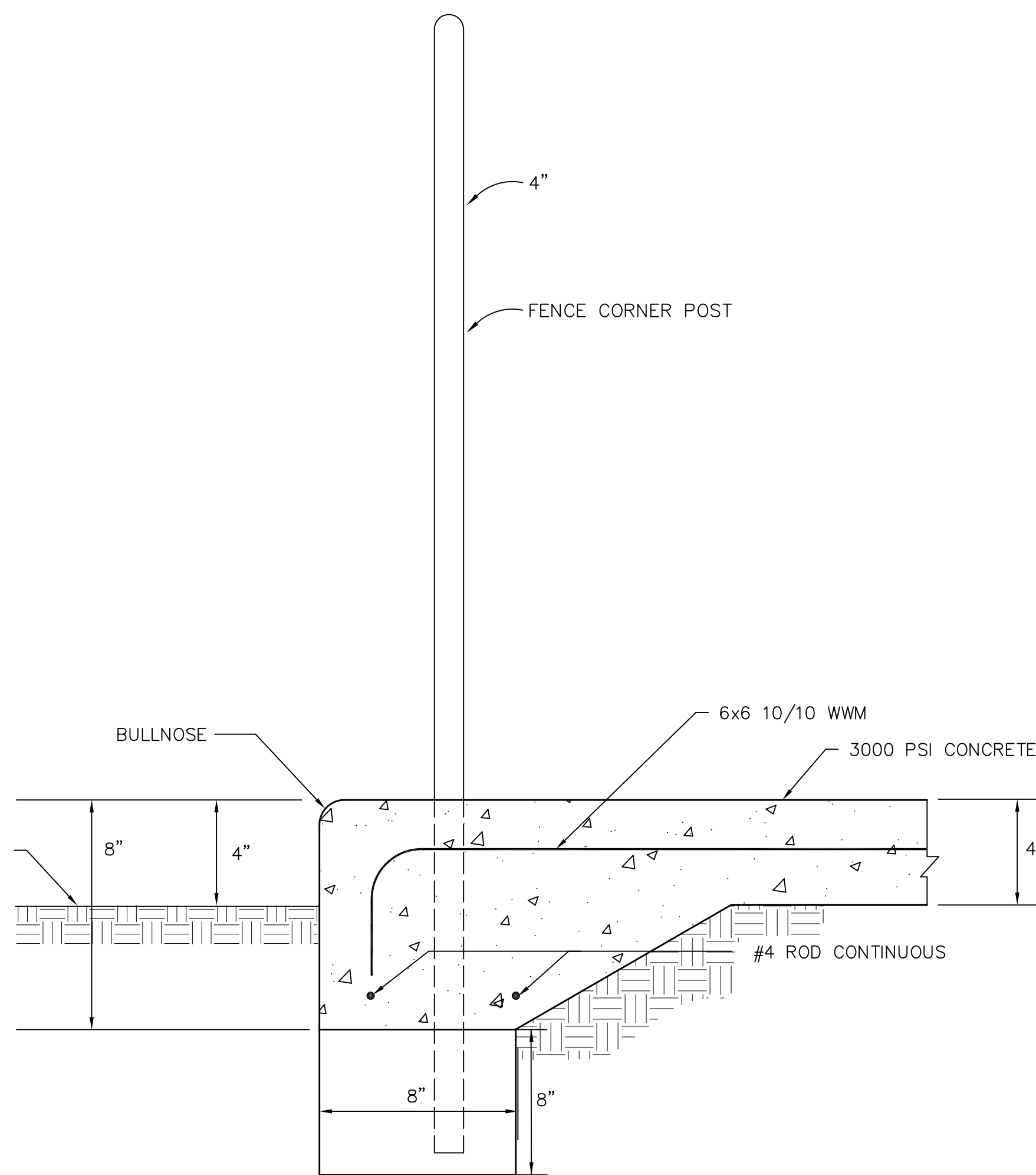


**DRYER VENT/LINT TRAP DETAIL** 3  
 NOT TO SCALE M-12

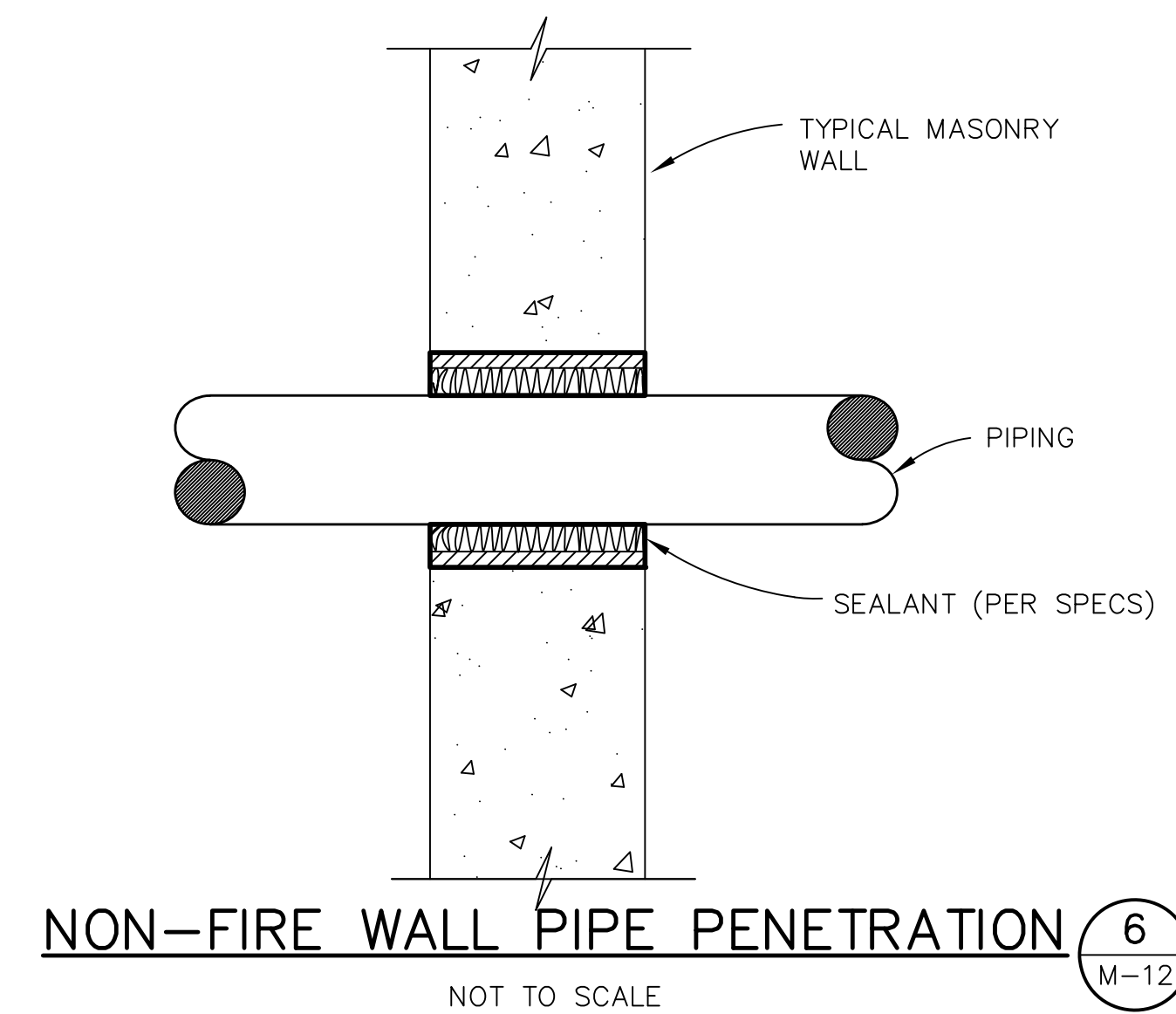


**FENCE NOTES:**  
 1. LINE POST TO BE 2 1/2" O.D. GALVANIZED STEEL PIPE.  
 2. CORNER POST TO BE 3" O.D. GALVANIZED STEEL PIPE.  
 3. GATE POST TO BE 4" O.D. GALVANIZED STEEL PIPE.  
 4. GATE RAILS 1-5/8 MIN., 2" ON 8' GATES.

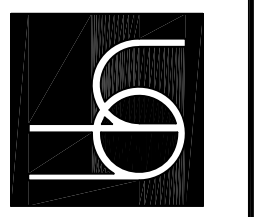
**CHAIN LINK FENCE DETAILS** 4  
 NOT TO SCALE M-12



**FOUNDATION DETAIL** 5  
 NOT TO SCALE M-12



**NON-FIRE WALL PIPE PENETRATION** 6  
 NOT TO SCALE M-12



|                 |          |             |
|-----------------|----------|-------------|
| REVISIONS       | DATE     | DESCRIPTION |
| REUSED DETAIL 3 | 10-16-18 |             |

**HOOD INFORMATION (KEF-1)**

| HOOD NO. | TAG     | MODEL           | LENGTH | MAX. COOKING TEMP. | TOTAL EXH. CFM | EXHAUST PLENUM RISER(S) |       |        |      |      |      | TOTAL SUPPLY CFM | HOOD CONSTRUCTION | HOOD CONFIG.         |            |       |
|----------|---------|-----------------|--------|--------------------|----------------|-------------------------|-------|--------|------|------|------|------------------|-------------------|----------------------|------------|-------|
|          |         |                 |        |                    |                | WIDTH                   | LENG. | HEIGHT | DIA. | CFM  | VEL. |                  |                   | S.P.                 | END TO END | ROW   |
| 1        | HOOD #1 | 6024 ND-2-PSP-F | 12' 0" | 450 Deg.           | 3000           |                         |       | 4'     | 16'  | 3000 | 2000 | 1.125            | 2250              | 304 SS Where Exposed | ALONE      | FRONT |
| 2        | HOOD #2 | 6024 ND-2-PSP-F | 12' 0" | 450 Deg.           | 3000           |                         |       | 4'     | 16'  | 3000 | 2000 | 1.125            | 2250              | 304 SS Where Exposed | ALONE      | BACK  |

**HOOD INFORMATION**

| HOOD NO. | TAG     | TYPE                 | FILTER(S) |        |        | LIGHT(S)               |      |               | UTILITY CABINET(S) |          |             |                  | FIRE SYSTEM PIPING | HOOD HANGING WT |                      |                    |                   |
|----------|---------|----------------------|-----------|--------|--------|------------------------|------|---------------|--------------------|----------|-------------|------------------|--------------------|-----------------|----------------------|--------------------|-------------------|
|          |         |                      | QTY.      | HEIGHT | LENGTH | EFFICIENCY @ 7 MICRONS | QTY. | TYPE          | WIRE GUARD         | LOCATION | SIZE        | FIRE SYSTEM TYPE |                    |                 | SIZE                 | ELECTRICAL MODEL # | SWITCHES QUANTITY |
| 1        | HOOD #1 | Captrate Solo Filter | 9         | 20"    | 16'    | 85% See Filter Spec.   | 3    | 12' x 12' LED | NO                 | Left     | 12"x60"x24" | Ansul R102       | 3.0/1.5            | DCV-1111        | 1 LED Light<br>1 Fan | YES                | 853 LBS           |
| 2        | HOOD #2 | Captrate Solo Filter | 9         | 20"    | 16'    | 85% See Filter Spec.   | 3    | 12' x 12' LED | NO                 | Right    | 12"x60"x24" |                  |                    |                 |                      | YES                | 719 LBS           |

**HOOD OPTIONS**

| HOOD NO. | TAG     | OPTION  |
|----------|---------|---|
| 1        | HOOD #1 | FIELD WRAPPER 18.00' High Front, Left, Right<br>BACK STANDOFF (FLAT) 12" Wide 156" Long |
| 2        | HOOD #2 | FIELD WRAPPER 18.00' High Front, Left, Right  |

**Fire System Information**

| FIRE SYSTEM NO. | Tag    | TYPE       | SIZE    | FLOW POINTS | INSTALLATION      |                  |
|-----------------|--------|------------|---------|-------------|-------------------|------------------|
|                 |        |            |         |             | SYSTEM            | LOCATION ON HOOD |
| 1               | #17 FS | Ansul R102 | 3.0/1.5 | 6           | Fire Cabinet Left | Left             |

**PERFORATED SUPPLY PLENUM(S)**

| HOOD NO. | TAG     | POS.  | LENGTH | WIDTH | HEIGHT | TYPE | RISER(S) |       |      |        |      |
|----------|---------|-------|--------|-------|--------|------|----------|-------|------|--------|------|
|          |         |       |        |       |        |      | WIDTH    | LENG. | DIA. | CFM    | S.P. |
| 1        | HOOD #1 | Front | 156'   | 14'   | 6'     | MUA  | 8"       | 36"   | 623  | 0.174' |      |
|          |         |       |        |       |        | MUA  | 8"       | 36"   | 623  | 0.174' |      |
|          |         |       |        |       |        | MUA  | 8"       | 36"   | 623  | 0.174' |      |
|          |         |       |        |       |        | MUA  | 8"       | 36"   | 623  | 0.174' |      |
| 2        | HOOD #2 | Front | 156'   | 14'   | 6'     | MUA  | 8"       | 36"   | 623  | 0.174' |      |
|          |         |       |        |       |        | MUA  | 8"       | 36"   | 623  | 0.174' |      |
|          |         |       |        |       |        | MUA  | 8"       | 36"   | 623  | 0.174' |      |
|          |         |       |        |       |        | MUA  | 8"       | 36"   | 623  | 0.174' |      |

**SPECIFICATION: GREASE-STOP FILTER**

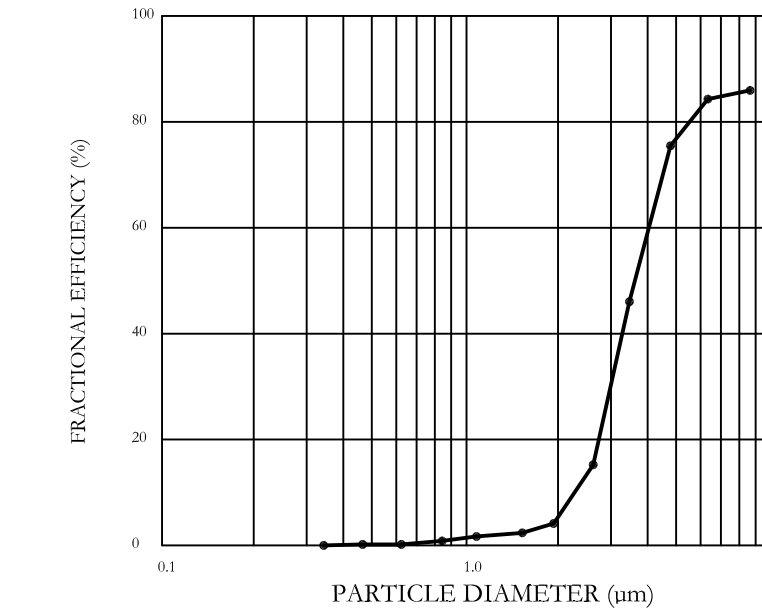
THE GREASE-STOP FILTER SHALL BE A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN. FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

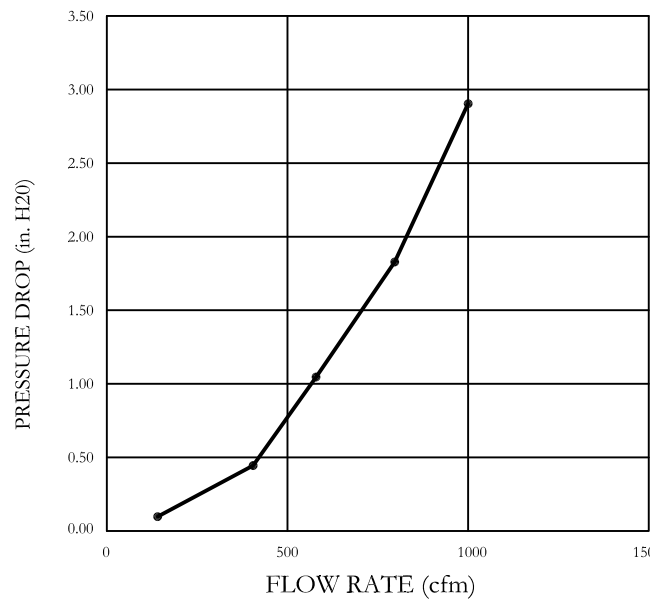
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

THE CAPTRATE GREASE-STOP SOLD TO ASTM STANDARD ASTM F2519-05.

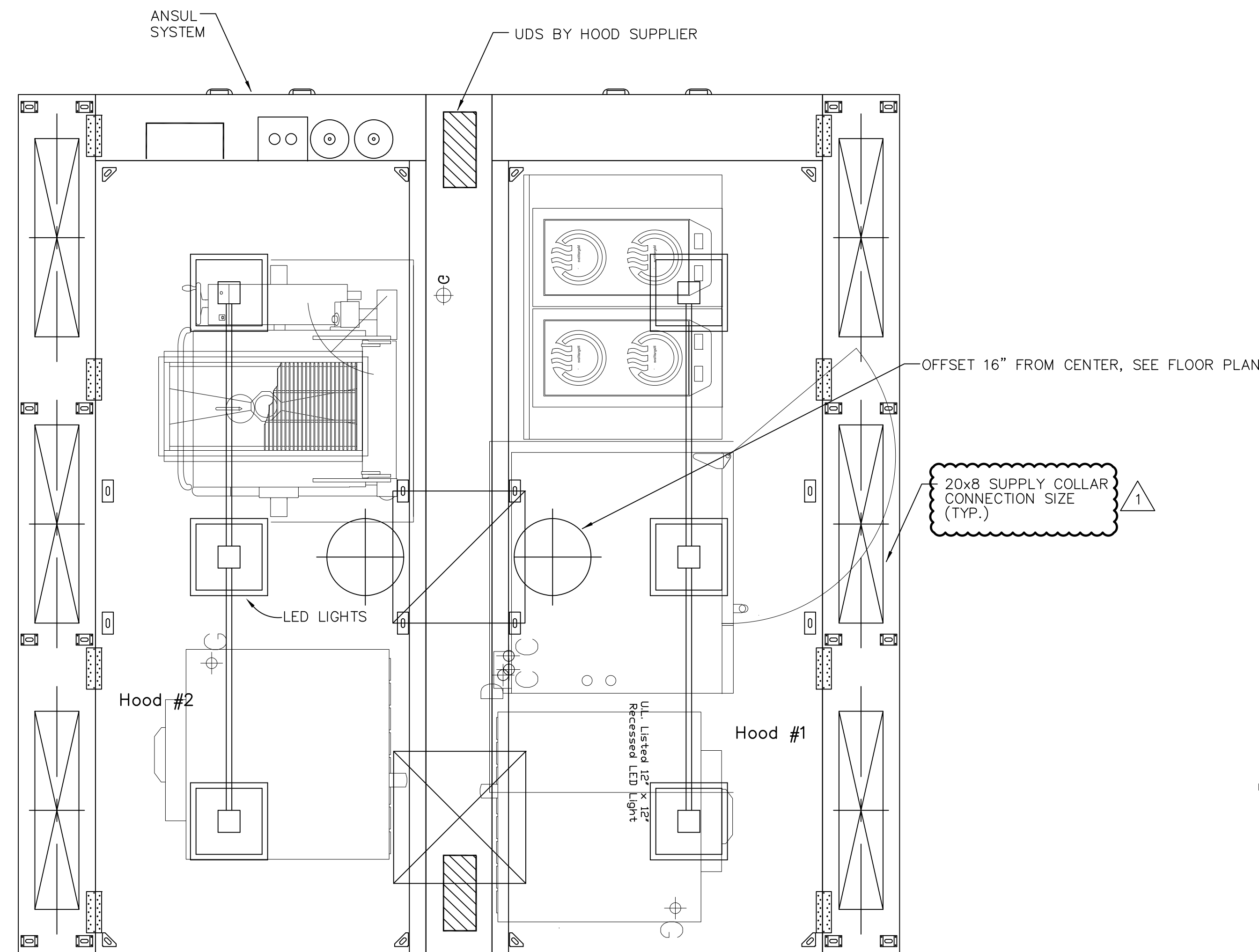
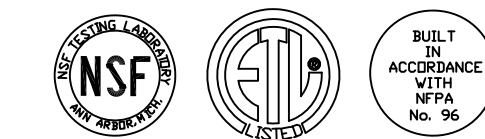
EFFICIENCY VS. PARTICLE DIAMETER



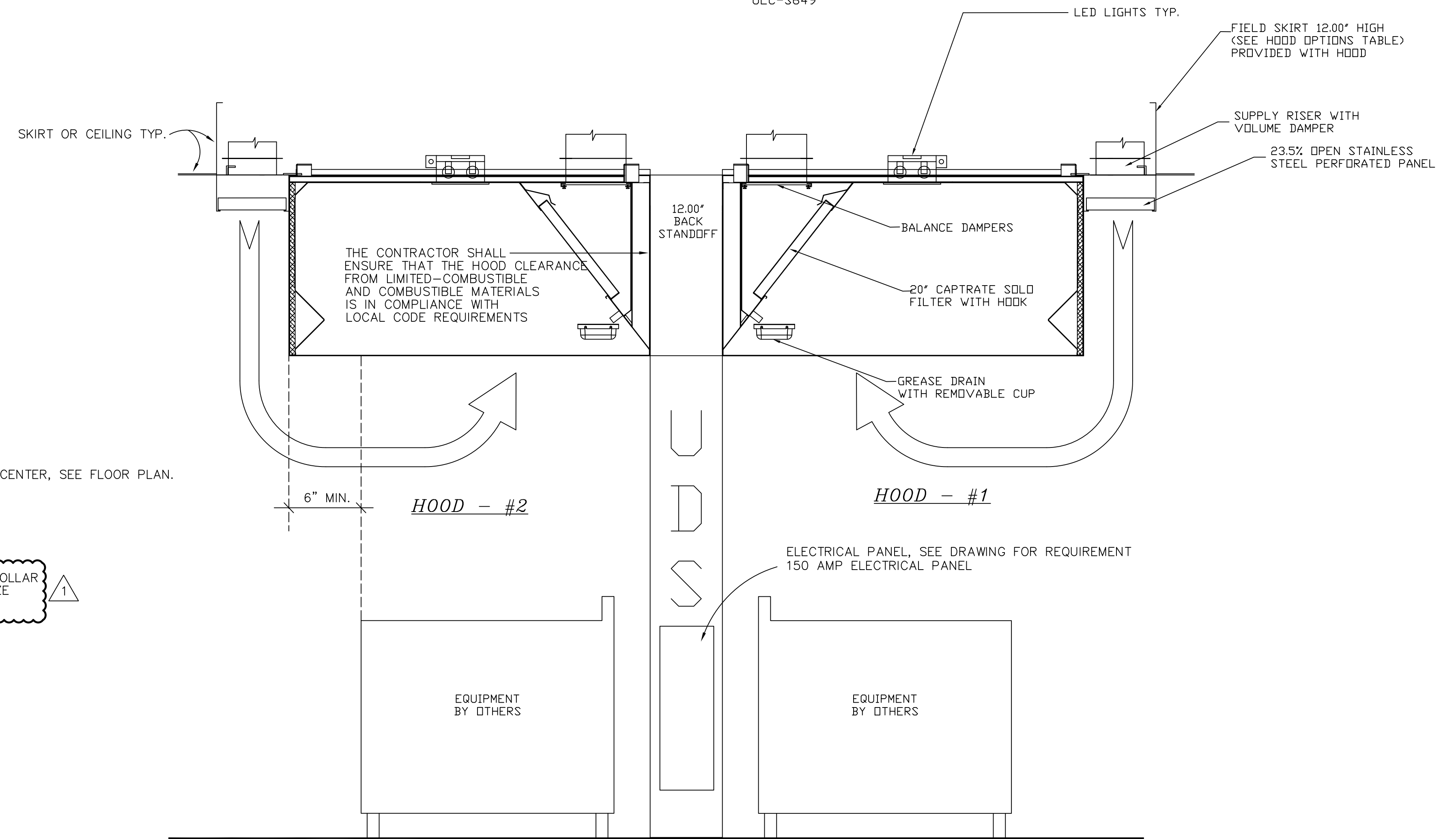
PRESSURE DROP VS. FLOW RATE



FILTERS SHALL BE BUILT IN COMPLIANCE WITH:  
 NFPA #96  
 NSF STANDARD #2  
 UL STANDARD #1046  
 INT. MECH. CODE (IMC)  
 ULC-S649



**KITCHEN HOOD PLAN VIEW**  
NOT TO SCALE



**KITCHEN HOOD PLAN AND SECTION DETAIL**  
NOT TO SCALE

**NOTES:**

- PROVIDE UL300 APPROVED ANSUL FIRE SUPPRESSION STSYEM IN BOTH HOODS.
- INTERLOCK FIRE SUPPRESSION SYSTEM TO SHUT AUTO GAS SHUT OFF VALVE AND SHUNT TRIP ELECTRICAL TO DE-ENTERGIZE KITCHEN HOOD FANS.



| REVISIONS | DATE     | DESCRIPTION       |
|-----------|----------|-------------------|
| 1         | 10-16-18 | REVISED SCHEDULES |

MECHANICAL KITCHEN HOOD DETAILS AND SCHEDULES

| DATE      | BY      | REVISION |
|-----------|---------|----------|
| 9-25-2018 | D.B.    | REM      |
|           | C.B.    | WCK      |
|           | JOB NO. | 18016    |

AHU'S SEQUENCE OF OPERATIONS: AHU8-2, AHU8-3, AND AHU8-4

**A. RUN CONDITIONS-CONTINUOUS AS PROGRAMMED:**

1. THE UNIT SHALL RUN CONTINUOUSLY WHEN IN OCCUPIED MODE AS DEFINED BY PROGRAM.

**B. AHU SHUTDOWN:**

1. THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A FREEZE PROTECTION OR SMOKE DETECTION. FREEZE PROTECTION TO BE AN AVERAGE SENSOR WITH PROGRAMMED 15 MIN. DELAY.  
 2. FREEZE STAT TO ACTIVATE WHEN SENSES AIR TEMPERATURE OF BELOW 35°F ADJ.

**C. AHU OPTIMAL START:**

1. THE UNIT SHALL START PRIOR TO SCHEDULED OCCUPANCY BASED ON THE TIME NECESSARY FOR THE ZONE TO REACH THEIR OCCUPIED SETPOINTS. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED DURING WARM-UP / COOL-DOWN STARTUP. THE START TIME SHALL AUTOMATICALLY ADJUST BASED ON CHANGES IN OUTSIDE AIR TEMPERATURE AND ZONE TEMPERATURES.

**D. SUPPLY FAN:**

1. THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN, UNLESS SHUTDOWN ON SAFETIES. ALARMS SHALL BE PROVIDED AS FOLLOWS:  
 a. SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.  
 b. SUPPLY FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.

**E. SUPPLY AIR DUCT CONTROL:**

1. THE CONTROLLER SHALL MODULATE FAN VFD TO MAINTAIN SPACE TEMPERATURE. MINIMUM VFD SETPOINT 20% OF FULL AIR FLOW CFM'S FOR AHU8-2, AHU8-3 AND AHU8-4 (ADJ.). THE SPEED SHALL NOT DROP BELOW 20% OF TOTAL AIR FLOW OR 12HZ VFD SETTING (ADJ.).  
 ALARMS SHALL BE PROVIDED AS FOLLOWS:  
 a. SUPPLY FAN VFD FAULT.  
 b. HIGH OR LOW ZONE TEMPERATURE.

**F. SUPPLY AIR TEMPERATURE SETPOINT:**

1. AHU'S: THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND MODULATE THE COOLING VALVE TO MAINTAIN THE LEAVING AIR COIL TEMPERATURE SETPOINT AT 55 °F WHEN IN COOLING MODE (WHEN RETURN AIR IS ABOVE SETPOINT) WHILE VARYING THE SUPPLY AIR FLOW TO MAINTAIN ZONE TEMPERATURE SETPOINT.  
 a. THE SUPPLY AIR TEMPERATURE SETPOINT IN OCCUPIED COOLING MODE SHALL BE 55 °F (ADJ.) OR LOWER.  
 b. THE SUPPLY AIR TEMPERATURE SETPOINT IN UNOCCUPIED COOLING MODE SHALL BE 58 °F (ADJ.).  
 c. IF COMMON RETURN AIR TEMPERATURE REQUIRES HEATING, THEN THE AHU SUPPLY AIR TEMPERATURE SETPOINT SHALL BE RESET FOR 68°F (ADJ.) OFF OF COOLING COIL AND HOT WATER HEAT ACTIVATED UNTIL ZONE REACHES PROGRAMMED SETPOINT.

**G. COOLING COIL VALVE:**

1. THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE COOLING COIL VALVE TO ITS COOLING SETPOINT AT 55 °F ON AHU'S. THE COOLING SHALL BE ENABLED WHENEVER:  
 a. OUTSIDE AIR TEMPERATURE IS GREATER THAN 50 °F (ADJ.).  
 b. THE SUPPLY FAN STATUS IS ON.  
 c. ZONE TEMPERATURE IS HIGHER THAN SETPOINT.  
 2. THE COOLING COIL VALVE SHALL OPEN TO 100% (ADJ.) WHENEVER AMBIENT IS BELOW 35°F THE FREEZE SENSOR SENSES A SUPPLY AIR TEMPERATURE BELOW 35 °F. OR CHILLER IS IN FREEZE PROTECTION MODE.  
 3. ALARMS SHALL BE PROVIDED AS FOLLOWS:  
 a. HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS 10 °F (ADJ.) GREATER THAN SETPOINT.

**H. HOT WATER REHEATING:**

1. THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND STAGE THE HEATING TO MAINTAIN ITS SPACE HEATING SETPOINT AFTER THE VFD HAS REDUCED FAN SPEED TO 50% AND CHILLED WATER VALVE IS FULLY CLOSED TO COIL.  
 2. ALARMS SHALL BE PROVIDED AS FOLLOWS:  
 a. LOW SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS 10°F LESS THAN SETPOINT.

**I. OUTSIDE AIR VENTILATION:**

1. THE OUTSIDE AIR DAMPERS SHALL OPERATE/OPEN DURING BUILDING OCCUPIED HOURS AND BE CLOSED DURING SCHEDULED OR UNSCHEDULED UNOCCUPIED HOURS.

**J. DEHUMIDICATION:**

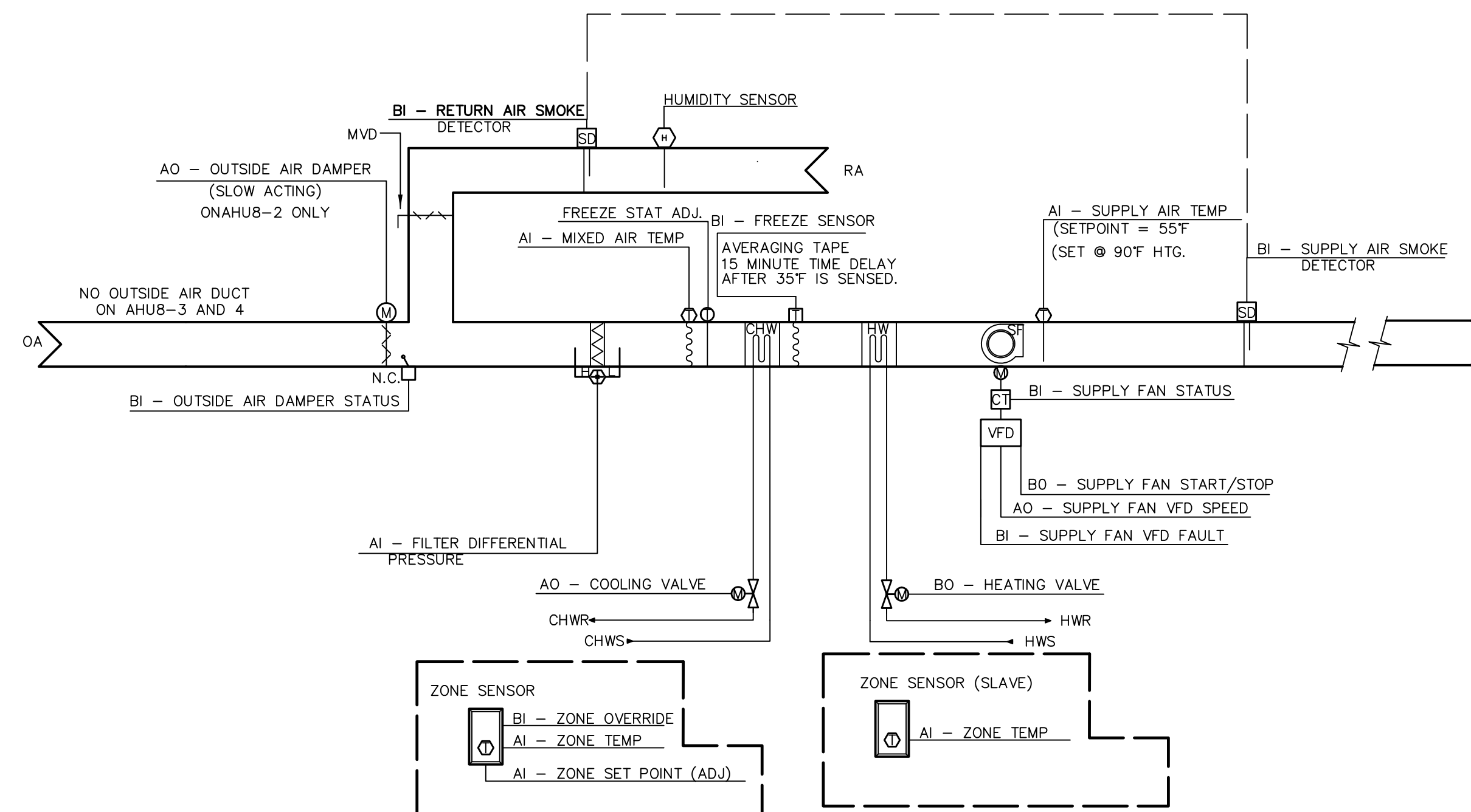
1. THE CONTROLLER SHALL MEASURE, MONITOR AND RECORD THE RETURN AIR HUMIDITY FOR REPORTING PURPOSES ONLY. ALL SENSORS SHALL BE ADJUSTABLE FOR CONTROL PURPOSES IF ACTIVATED IN THE FUTURE BY PROGRAM. ALARMS SHALL BE ANNOUNCED WHEN DATA RECORDED IS ABOVE ADJUSTABLE SETPOINT. SET AT 75% FOR ALARM PURPOSES ONLY. PROGRAM SUCH THAT RESET OF CONTROLS IS NOT POSSIBLE WITHOUT REPROGRAMMING OF EMCS.

**K. FILTER DIFFERENTIAL PRESSURE MONITOR:**

1. THE CONTROLLER SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER. ALARMS SHALL BE PROVIDED AS FOLLOWS:  
 a. FILTER CHANGE REQUIRED: FILTER DIFFERENTIAL PRESSURE EXCEEDS A USER DEFINABLE LIMIT 1.0" W.C. (ADJ.). GRATER THEN THE INITIAL FILTER PRESSURE DROP.

**L. SUPPLY AIR TEMPERATURE ALARM:**

1. THE CONTROLLER SHALL MONITOR THE SUPPLY AIR TEMPERATURE. ALARMS SHALL BE PROVIDED AS FOLLOWS:  
 a. HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS GREATER THAN 135 °F (ADJ.).  
 b. LOW SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS LESS THAN 45 °F (ADJ.).



**BUILDING 8 DINING  
 AHU8-2, 8-3, AND 8-4  
 AHU SINGLE ZONE CONTROL DIAGRAM**

NOT TO SCALE

| POINT NAME                       | HARDWARE POINTS |    |    |    |    |    | SOFTWARE POINTS |       |       | SHOW ON GRAPHIC |
|----------------------------------|-----------------|----|----|----|----|----|-----------------|-------|-------|-----------------|
|                                  | AI              | AO | BI | BO | AV | BV | SCHED           | TREND | ALARM |                 |
| FILTER DIFFERENTIAL PRESSURE     | X               |    |    |    |    |    |                 | X     | X     | X               |
| SUPPLY AIR TEMP                  | X               |    |    |    |    | X  |                 | X     |       | X               |
| SUPPLY FAN VFD SPEED             | X               | X  |    |    |    |    |                 | X     |       | X               |
| COOLING VALVE POSITION           |                 | X  |    |    |    |    |                 | X     |       | X               |
| FREEZESTAT                       |                 |    | X  |    |    |    |                 | X     | X     | X               |
| RETURN AIR SMOKE DETECTOR        |                 |    | X  |    |    |    |                 | X     | X     | X               |
| SUPPLY AIR SMOKE DETECTOR        |                 |    | X  |    |    |    |                 | X     | X     | X               |
| SUPPLY FAN VFD FAULT             | X               |    |    |    |    |    |                 |       | X     | X               |
| SUPPLY FAN STATUS                | X               |    |    |    |    |    |                 | X     |       | X               |
| OUTSIDE AIR DAMPER               | X               | X  |    |    |    |    | X               |       |       | X               |
| MIXED AIR TEMP                   | X               |    |    | X  |    |    |                 | X     |       | X               |
| SUPPLY FAN START/STOP            |                 |    |    | X  |    |    |                 | X     |       | X               |
| SUPPLY AIR TEMP SETPOINT CLG/HTG |                 |    |    |    | X  |    |                 | X     |       | X               |
| EMERGENCY SHUTDOWN               |                 |    |    |    |    | X  |                 | X     | X     | X               |
| SUPPLY FAN FAILURE               |                 |    |    |    |    |    |                 | X     |       |                 |
| SUPPLY FAN IN HAND               |                 |    |    |    |    |    |                 | X     |       |                 |
| RETURN AIR HUMIDITY              | X               |    |    |    |    |    |                 |       | X     |                 |
| HIGH SUPPLY AIR TEMP             |                 |    |    |    |    |    |                 | X     |       |                 |
| LOW SUPPLY AIR TEMP              |                 |    |    |    |    |    |                 | X     |       |                 |
| FILTER CHANGE REQUIRED           |                 |    |    |    |    |    |                 |       | X     | X               |
| HEATING VALVE POSITION           |                 | X  |    |    |    |    |                 | X     |       | X               |

**M. SCHEDULED UNOCCUPIED ZONE TEMPERATURE:**

1. WHEN IN THE SCHEDULED UNOCCUPIED MODE THE SYSTEM SHALL MAINTAIN 50°F BUILDING TEMPERATURE DURING HEATING SEASON (AMBIENT IS LESS THAN 55°F) AND 85°F IN COOLING SEASON.

TIE THESE AHU'S TO THE EXISTING EMCS CONTROLS ON CAMPUS AND IN BUILDING 8.

**N. BID DIRECTION**  
 CONTROL CONTRACTOR TO BID DIRECTLY AS GENERAL CONTRACTOR. EXISTING CONTROLS ARE AUTOMAED LOGIC AND NEW TO BE FULLY COMPATABLE WITH AUTOMATED LOGIC AND PROGRAMMED THROUGH ALC.

**BHIDE & HALL ARCHITECTS, P.A.**  
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 650 ARLINGTON EXPRESSWAY, SUITE B-21 JACKSONVILLE, FLORIDA 32211  
 CERT. NO. EB-3403

**FERNANDINA BEACH MIDDLE SCHOOL  
 KITCHEN/ DINING REMODELING AND CAMPUS  
 ADDITIONS AND REMODELING**  
 315 Citrona Dr, Fernandina Beach, Fl 32034

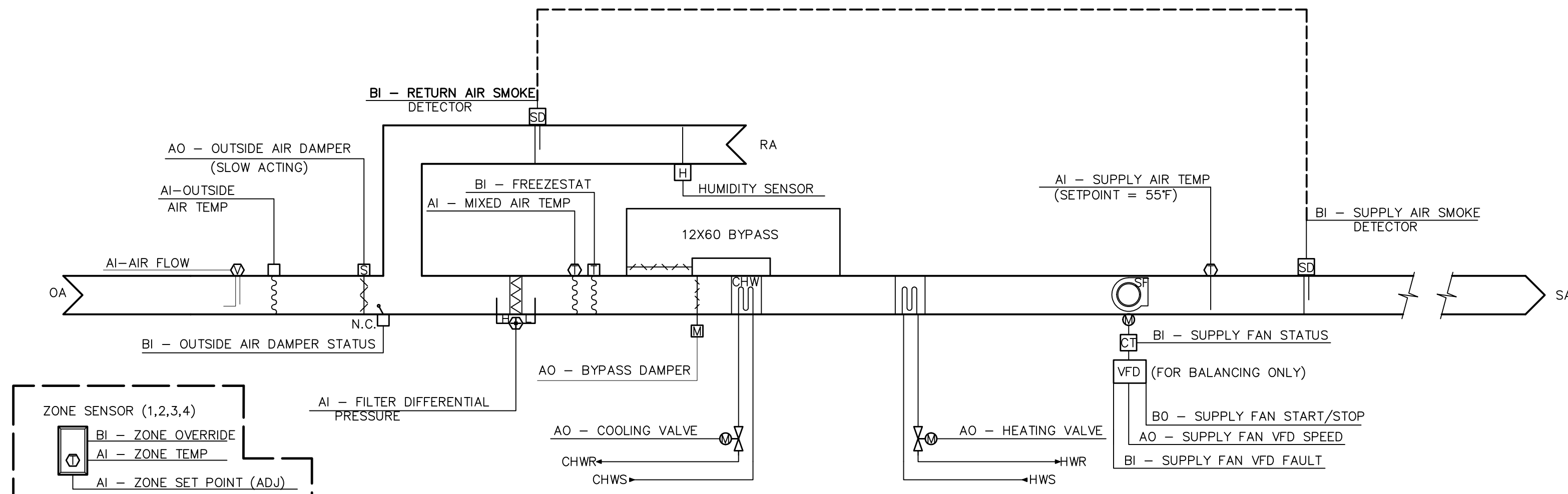
Engineer License No. 18451  
 Wayne C. Kelly

10-16-18  
 BID DIRECTION

MECHANICAL CONTROLS AND SEQUENCE OF OPERATIONS

DATE 9-25-2018  
 D.B. REM  
 C.B. CONTROLS  
 JOB NO. 18016

M-17

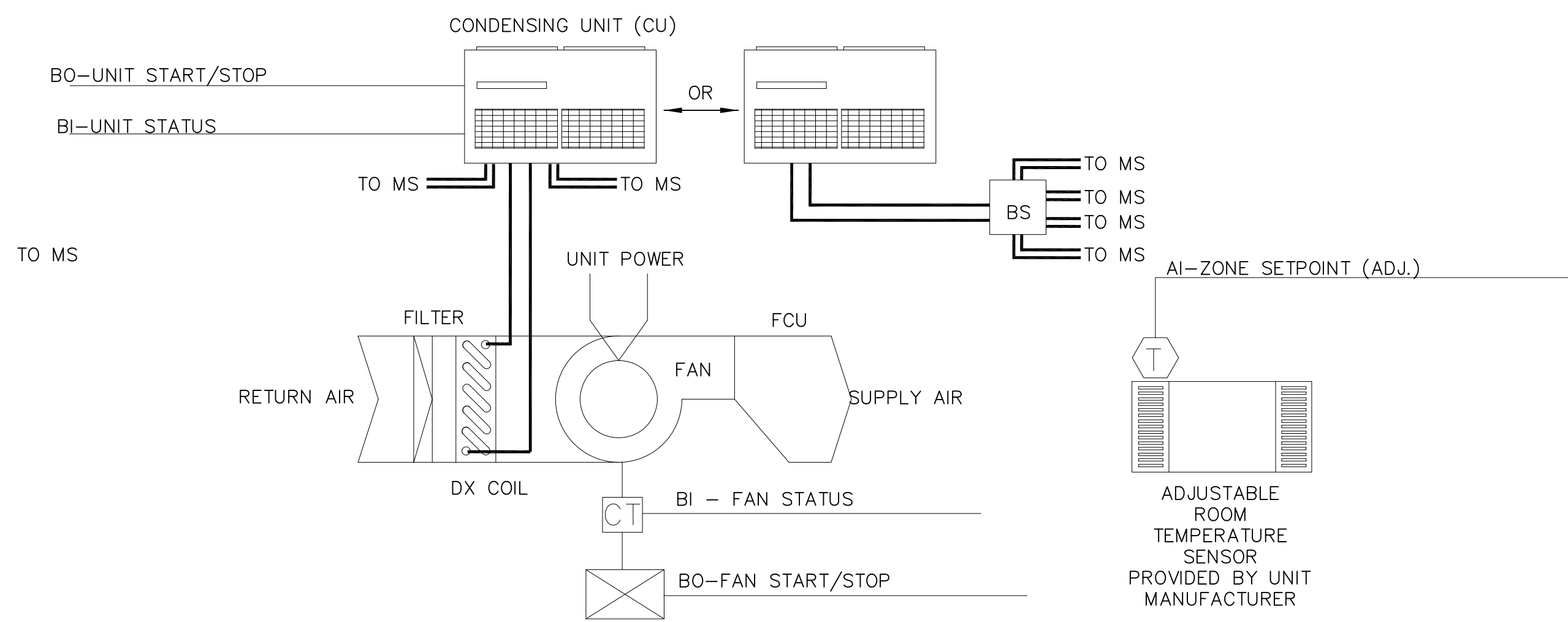


**(BUILDING 8 (KITCHEN))**  
**AHU8-1 CONTROLS DIAGRAM**  
 NOT TO SCALE

**AHU8-1 SEQUENCE OF OPERATIONS:**

- A. RUN CONDITIONS—CONTINUOUS:**  
 1. THE UNIT SHALL RUN CONTINUOUSLY, WHEN IN OCCUPIED MODE.
- B. AHU SHUTDOWN:**  
 1. THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A FREEZE PROTECTION, OR SMOKE DETECTION.
- C. AHU OPTIMAL START:**  
 1. THE UNIT SHALL START PRIOR TO SCHEDULED OCCUPANCY BASED ON THE TIME NECESSARY FOR THE ZONE TO REACH THEIR OCCUPIED SETPOINTS. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED DURING WARM-UP/COOL-DOWN STARTUP. THE START TIME SHALL AUTOMATICALLY ADJUST BASED ON CHANGES IN OUTSIDE AIR TEMPERATURE AND ZONE TEMPERATURES.
- D. SUPPLY FAN:**  
 1. THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN, UNLESS SHUTDOWN ON SAFETIES. ALARMS SHALL BE PROVIDED AS FOLLOWS:  
 a. SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.  
 b. SUPPLY FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.  
 2. TEMPERATURE REDUCTION WILL CAUSE FACE & BYPASS DAMPERS TO MODULATE TO MAINTAIN ZONE TEMPERATURE OUTSIDE AIR SHALL BE CONSTAST AT SCHEDULE VALVE.
- E. FACE AND BYPASS:**  
 1. FACE AND BYPASS SHALL MODULATE FROM FULL COIL TO FULL BYPASS TO MAINTAIN ZONE/SPACE TEMPERATURE MINIMUM COIL AIR FLOW SHALL BE SET AT 50% OF SCHEDULED OUTSIDE AIR FLOW.
- F. SUPPLY AIR TEMPERATURE SETPOINT — OPTIMIZED:**  
 1. THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE COOLING VALVE TO MAINTAIN THE LEAVING AIR COIL TEMPERATURE SETPOINT AT 55°F AT ALL TIMES. DURIBG COOLING REQUIREMENT.  
 a. THE SUPPLY AIR TEMPERATURE SETPOINT IN OCCUPIED COOLING MODE SHALL BE 55° F (ADJ.)  
 b. THE SUPPLY AIR TEMPERATURE SETPOINT IN UNOCCUPIED COOLING MODE SHALL BE 58° F (ADJ.)
- G. COOLING COIL VALVE:**  
 1. THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE COOLING COIL VALVE TO MAINTAIN IT'S COOLING SETPOINT AT 55°. THE COOLING SHALL BE ENABLED WHENEVER:  
 a. OUTSIDE AIR TEMPERATURE IS GREATER THAN 50° F (ADJ.).  
 b. AND THE SUPPLY FAN STATUS IS ON.  
 2. THE COOLING COIL VALVE SHALL OPEN TO 100% (ADJ.) WHENEVER THE FREEZESTAT IS ALARMING.
- 3. ALARMS SHALL BE PROVIDED AS FOLLOWS:**  
 a. HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS 10° F (ADJ.) GREATER OR LOWER THAN SETPOINT OR FREEZESTAT ALARM.
- H. HEAT COIL VALVE:**  
 1. HOT WATER COIL SHALL BE ENERGIZED WHEN IN FULL BYPASS AIRFLOW AND SPACE TEMPERATURE IS CALLING FOR HEAT OR REHEAT IS REQUIRED TO MAINTAIN SPACE TEMPERATURE..
- I. OUTSIDE AIR VENTILATION:**  
 1. THE OUTSIDE AIR DAMPERS SHALL BE CONSTANT DURING BUILDING OCCUPIED HOURS AND BE CLOSED DURING UNOCCUPIED HOURS.
- J. DEHUMIDIFICATION:**  
 1. THE CONTROLLER SHALL MEASURE, MONITOR AND RECORD THE RETURN AIR HUMIDITY FOR REPORTING PURPOSES ONLY. ALL SENSORS SHALL BE ADJUSTABLE FOR CONTROL PURPOSES IF ACTIVATED IN THE FUTURE BY PROGRAM. ALARMS SHALL BE ANNOUNCED WHEN DATA RECORDED IS ABOVE ADJUSTABLE SET POINT. SET AT 70% FOR ALARM PURPOSES ONLY. PROGRAM SUCH THAT RESET OF CONTROLS IS POSSIBLE WITHOUT REPROGRAMMING OF EMCS. HUMIDITY CONTROL SHALL ONLY REQUIRE SETTING OF CONTROLS TO FUNCTION WITH HUMIDITY CONTROL.
- K. FILTER DIFFERENTIAL PRESSURE MONITOR:**  
 1. THE CONTROLLER SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER. ALARMS SHALL BE PROVIDED AS FOLLOWS:  
 a. FILTER CHANGE REQUIRED: FILTER DIFFERENTIAL PRESSURE EXCEEDS A USER DEFINABLE LIMIT 1.0" W.C. (ADJ.).
- L. SUPPLY AIR TEMPERATURE ALARM:**  
 1. THE CONTROLLER SHALL MONITOR THE SUPPLY AIR TEMPERATURE. ALARMS SHALL BE PROVIDED AS FOLLOWS:  
 a. HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS GREATER THAN 120° F (ADJ.).  
 b. LOW SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS LESS THAN 40° F (ADJ.).

| POINT NAME                   | HARDWARE POINTS |    |    |    | SOFTWARE POINTS |    |       |       | SHOW ON GRAPHIC |       |
|------------------------------|-----------------|----|----|----|-----------------|----|-------|-------|-----------------|-------|
|                              | AI              | AO | BI | BO | AV              | BV | SCHED | TREND |                 | ALARM |
| FILTER DIFFERENTIAL PRESSURE | x               |    |    |    |                 |    |       | x     |                 | x     |
| RETURN AIR HUMIDITY          | x               |    |    |    |                 |    |       | x     |                 | x     |
| SUPPLY AIR TEMP              | x               |    |    |    | x               |    |       | x     |                 | x     |
| COOLING VALVE                |                 | x  |    |    |                 |    |       | x     |                 | x     |
| FREEZESTAT                   |                 | x  |    |    |                 |    |       | x     | x               | x     |
| RETURN AIR SMOKE DETECTOR    |                 |    | x  |    |                 |    |       | x     | x               | x     |
| SUPPLY AIR SMOKE DETECTOR    |                 |    | x  |    |                 |    |       | x     | x               | x     |
| SUPPLY FAN STATUS            |                 |    |    | x  |                 |    |       | x     |                 | x     |
| OUTSIDE AIR DAMPER           | x               | x  |    |    | x               |    |       | x     |                 | x     |
| SUPPLY FAN START/STOP (VFD)  |                 | x  | x  |    |                 |    |       | x     |                 | x     |
| HOT WATER VALVE              |                 |    |    |    |                 |    |       | x     |                 | x     |
| SUPPLY AIR TEMP SETPOINT     | x               |    |    |    | x               |    |       | x     |                 | x     |
| DEHUMIDIFICATION SETPOINT    |                 |    |    | x  |                 |    |       | x     |                 | x     |
| EMERGENCY SHUTDOWN           |                 |    |    |    | x               |    |       | x     |                 | x     |
| SUPPLY FAN FAILURE           |                 |    |    |    |                 |    |       | x     |                 | x     |
| SUPPLY FAN IN HAND           |                 |    |    |    |                 |    |       | x     |                 | x     |
| SUPPLY FAN RUNTIME EXCEEDED  |                 |    |    |    |                 |    |       | x     |                 | x     |
| HIGH SUPPLY AIR TEMP         |                 |    |    |    |                 |    |       | x     |                 | x     |
| LOW SUPPLY AIR TEMP          |                 |    |    |    |                 |    |       | x     |                 | x     |
| FILTER CHANGE REQUIRED       |                 |    |    |    |                 |    |       | x     | x               |       |
| HIGH RETURN AIR HUMIDITY     |                 |    |    |    |                 |    |       | x     |                 | x     |
| LOW RETURN AIR HUMIDITY      |                 |    |    |    |                 |    |       | x     |                 | x     |
| FACE AND BYPASS              | x               |    |    |    |                 | x  |       |       |                 | x     |

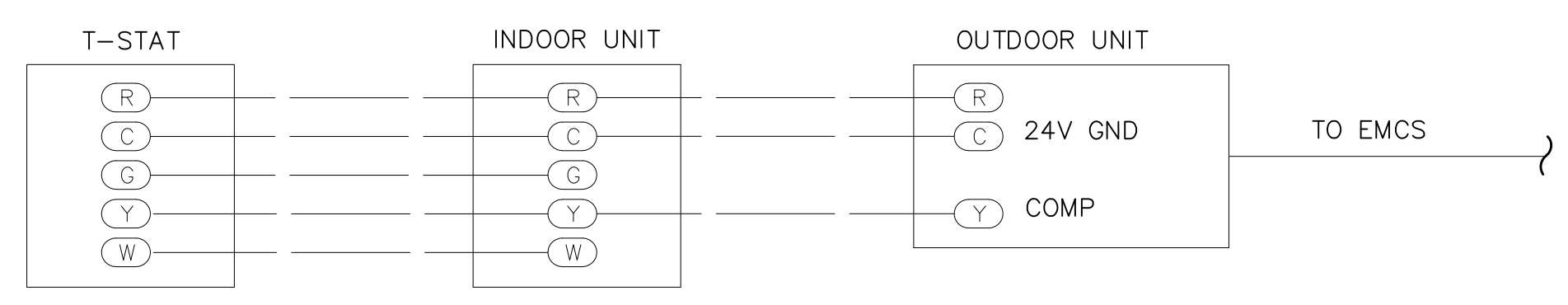


**MINI SPLIT SYSTEM A/C UNIT DIAGRAM**

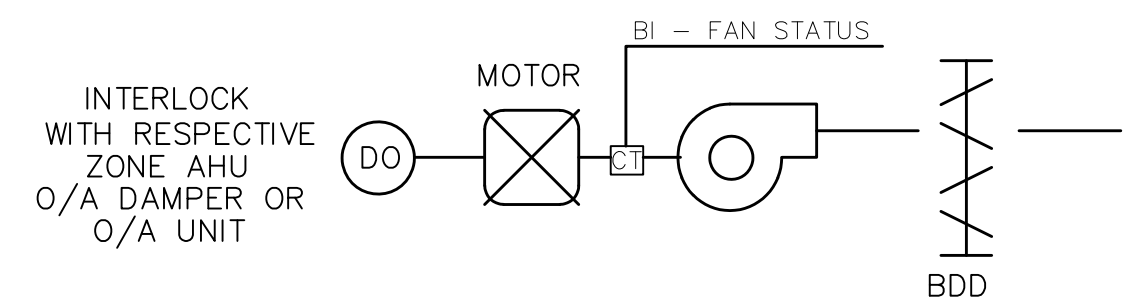
**SEQUENCE OF OPERATIONS:**

The mini split MS/CU system shall operate when activated. The condensing unit shall be equipped with Bacnet interface card adapter to allow EMCS communication to the mini split system for simply on/off control, space temperature setpoint adjustment (set at 70° F (adj.)), and condensing unit and fan coil unit status. EMCS shall schedule mini splits off/on periods.

| POINT NAME                 | HARDWARE POINTS |    |    |    | SOFTWARE POINTS |    |       |       | SHOW ON GRAPHIC |       |
|----------------------------|-----------------|----|----|----|-----------------|----|-------|-------|-----------------|-------|
|                            | AI              | AO | BI | BO | AV              | BV | SCHED | TREND |                 | ALARM |
| ZONE SETPOINT (ADJ.)       | x               |    |    |    | x               |    |       |       |                 | x     |
| CONDENSING UNIT START/STOP |                 |    |    | x  |                 |    |       |       |                 | x     |
| CONDENSING UNIT STATUS     |                 |    | x  |    |                 |    |       |       |                 | x     |
| MINI START/STOP            |                 |    |    | x  |                 |    |       |       |                 | x     |
| MINI STATUS                |                 |    | x  |    |                 |    |       |       |                 | x     |



**FACTORY MINI SPLIT CONTROL UNIT WIRING DIAGRAM**  
 FIELD VERIFY WIRING



PROGRAM GROUP RESTROOM EXHAUST FANS TO RUN CONTINUOUSLY WHEN BUILDING IS OCCUPIED. INDIVIDUAL EXHAUST RESTROOM FANS TO BE ON TIMER DELAY.

**TYPICAL EXHAUST FAN CONTROLS DIAGRAM**  
 NOT TO SCALE

ALL CONTROLS TO BE AUTOMATIC LOGIC OR EQUAL TO PROVIDE FUNCTIONS AS INDICATED OR INTENDED ON SHEETS.

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**FERNANDINA BEACH MIDDLE SCHOOL**  
**KITCHEN/DINING REMODELING AND CAMPUS**  
**ADDITIONS AND REMODELING**  
 315 Citrona Dr, Fernandina Beach, FL 32034

Engineer License No.  
 Wayne C. Kelly 18451

REVISIONS  
 ADD NOTE

|          |  |  |  |  |  |
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| 10-16-18 |  |  |  |  |  |
|          |  |  |  |  |  |
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MECHANICAL CONTROLS

DATE 9-25-2018

D.B. REM

C.B. WCK

JOB NO. 18016

M-18

