

# New Hanover County Schools Closed Circuit Cooler Addition

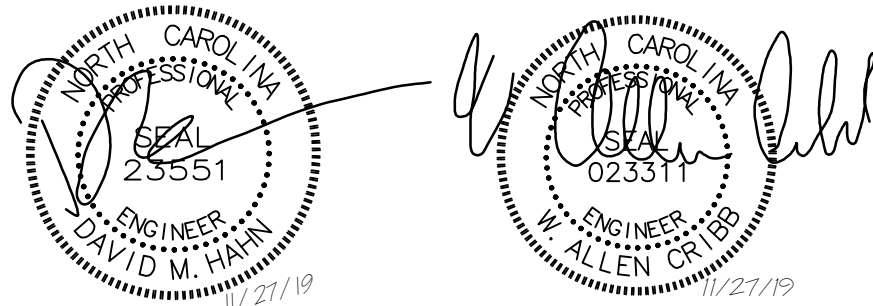
FOR  
Emsley A. Laney High School  
2700 North College Road  
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NC# P-0506



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[illegible]



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D	GENERAL NOTES:			
	<div>DESIGN LOADS: 1. 2018 NC STATE BUILDING CODE/2015 IBC &amp; ASCE/SEI 7-10 2. BUILDING CLASSIFICATION RISK: CATEGORY III 3. DESIGN LIVE LOADS (OPERATING) – COOLING TOWER: 43,100 LBS 4. WIND DESIGN: DESIGN WIND VELOCITY: 154 MPH (ULT) EXPOSURE CATEGORY: B DIRECTIONALITY FACTOR: Kd = 0.85 DESIGN BASE SHEAR: Vx = 8.5 KIPS; Vy = 14.20 KIPS COMPONENTS &amp; CLADDING PRESSURES: MAX SCREEN WALL PRESSURE: 35.8 PSF CHAIN LINK FENCE WIND PRESSURE (90% SOLID): 21.2 PSF (ULT)  5. SNOW DESIGN: IMPORTANCE FACTOR: Is = 1.10 GROUND SNOW LOAD: Pg = 10 PSF SNOW EXPOSURE FACTOR: Cs = 1.0 THERMAL FACTOR: Ct = 1.2 DESIGN SNOW LOAD: Pf = 9.2 PSF  6. SEISMIC DESIGN: RISK CATEGORY: III SITE CLASS: D (TAKEN FROM ADJ. BLDG. ECS REPORT #22-23295) SEISMIC DESIGN CATEGORY: C SPECTRAL RESPONSE COEFFICIENTS: Sds = 22.3%g; Sd1 = 14.35%g SPECTRAL RESPONSE ACCELERATION: Ss = 20.9%g; S1 = 8.9%g COMPONENT AMPLIFICATION FACTOR: ap = 1.0 COMPONENT RESPONSE MODIFICATION FACTOR: Rp = 2.5 SEISMIC RESPONSE COEFFICIENT: Fp = 0.035Wp COMPONENT IMPORTANCE FACTOR: Ip = 1.0 SEISMIC DEMANDS ON NONSTRUCTURAL COMPONENTS DESIGN BASE SHEAR: Vx=Vy= 1.54 KIPS</div>			
	<div>STRUCTURAL MASONRY 1. ALL MASONRY WALLS ARE CONSIDERED STRUCTURAL MASONRY. 2. COMPRESSIVE STRENGTH OF MASONRY UNITS: A. CONCRETE UNITS: (NORMAL WEIGHT) ASTM C90 TYPE II, fm = 1,900 PSI (MIN.). I. PROVIDE INTEGRAL WATER REPELLANT FOR CMU'S AND MORTAR, WHEN TESTED ACCORDING TO ASTM E514 B. CLAY UNITS: FACE BRICK, ASTM C216, GRADE SW, TYPE FBS, fm = 3,350 PSI. I. INITIAL RATED OF ABSORPTION: LESS THAN 30 G/30 SQ. IN. PER MINUTE WHEN TESTED ACCORDING TO ASTM C67. II. PROVIDE BRICK THAT HAS BEEN TESTED ACCORDING TO ASTM C67 AND IS RATED "NOT EFFLORESCED". III. PROVIDE FACE BRICK MATCHING COLOR RANGE, TEXTURE AND SIZE OF EXISTING ADJACENT BUILDING'S BRICKWORK. IV. PROVIDE TEMPORARY 48" X 48" MOCKUP PANEL FOR OWNER APPROVAL OF BRICK SELECTION. 3. MASONRY GROUT: ASTM C476 GROUT, fm = 1,900 psi, COARSE TYPE: SLUMP: 8" TO 11". 4. PROVIDE FULL HEIGHT VERTICAL BARS OF SIZE SHOWN ON SECTION, EXTENDING FROM TOP OF SLAB/TOP OF EXISTING GROUT FILL TO THE TOP OF THE WALL WITH A STANDARD 90° HOOK (9") INTO THE NEW UPPER BOND BEAM AND INTO FOOTING. PROVIDE SAME SIZE VERTICAL BARS AT THE FOLLOWING LOCATIONS: A. TWO (2) ADD'L BARS WITHIN 4" OF ALL WALL CORNERS &amp; CONTROL JOINTS. B. TWO (2) ADD'L BARS WITHIN 16" MAX OF EACH SIDE OF ALL WALL OPENINGS. C. TWO (2) ADD'L BARS WITHIN 8" MAX. OF ALL WALL ENDS. D. BARS AT SPACING OR QUANTITY AS SHOWN ON PLANS. 5. FILL ALL CORES CONTAINING REINFORCEMENT WITH MASONRY GROUT. 6. PIPE SLEEVES, MISCELLANEOUS OPENINGS, ETC., NOT SHOWN SHALL BE SIZED AND LOCATED AS NOTED ON DRAWINGS BY OTHER DISCIPLINES. COORDINATE ALL REINFORCING FOR ALL OPENINGS PRIOR TO CONSTRUCTION. 7. ALL MASONRY MATERIALS, CONSTRUCTION, INSPECTION, AND TESTING SHALL CONFORM TO THE NORTH CAROLINA STATE BUILDING CODE &amp; BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES 8. LAP SPLICES FOR BARS SHALL BE 50 BAR DIAMETERS MINIMUM. 9. PLACE GROUT IN LIFTS NOT EXCEEDING 5 FEET. 10. BOND BEAM REINFORCEMENT AND HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS AT CORNERS. PROVIDE CORNER REINFORCEMENT TO LAP WITH TYPICAL REINFORCEMENT. 11. HORIZONTAL MASONRY REINFORCING, ASTM A951: A. WIRE SIZE FOR SIDE RODS: 3/16-INCH DIAMETER. B. WIRE SIZE FOR CROSS RODS: 9 GA. C. SPACING OF CROSS RODS NOT MORE THAN 16 INCHES ON CENTER. D. PROVIDE BUTT-WELDED, LADDER-BOX REINFORCING. E. HOT-DIPPED GALVANIZED STEEL. F. "250 LADDER-BOX MESH BY HOHMANN AND BARNARD, INC. OR EQUIVALENT. 12. SEALANT: PROVIDE ONE-COMPONENT, HIGH PERFORMANCE, UV-RESISTANT, NONPRIMING, GUNGRADE, ELASTOMERIC POLYURETHANE SEALANT, MEETING ASTM C920, TYPE S, GRADE NS, CLASS 35, USE NT, PLUS 35% MINUS 35% MOVEMENT. COLOR: TO CLOSELY MATCH EXISTING/NEW BRICK COLOR. 13. BACKER RODS AND BOND-BREAKER TAPE: ASTM C1330, TYPE C (CLOSED-CELL MATERIAL WITH A SURFACE SKIN) AND OF SIZE AND DENSITY TO CONTROL SEALANT DEPTH AND OTHERWISE CONTRIBUTE TO PRODUCING OPTIMUM SEALANT PERFORMANCE. PROVIDE POLYETHYLENE, SELF-ADHESIVE TAPE OR OTHER PLASTIC TAPE AS RECOMMENDED BY SEALANT MANUFACTURER FOR PREVENTING SEALANT FROM ADHERING TO JOINT SURFACES AT BACK OF JOINT. 14. SUBMITTALS: SUBMIT MATERIAL CERTIFICATES FOR ALL MASONRY UNITS, REPELLENTS, CEMENTITIOUS MATERIALS, MORTAR ADMIXTURES AND ACCESSORIES.</div>			
	<div>CONCRETE: 1. REINFORCED CONCRETE WORK SHALL CONFORM TO THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE ACI 318-08 AND ALL SUBSEQUENT SUPPLEMENTS. 2. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS: 4000 PSI. 3. CONTRACTOR SHALL SUBMIT THE PROPOSED MIX DESIGN FOR REVIEW AND APPROVAL OF THE ENGINEER. THE PROPOSED MIX SHALL SHOW RESULTS FROM PREVIOUS TESTING. 4. REINFORCING STEEL: ASTM A615, GRADE 60, Fy = 60,000 PSI 5. MINIMUM CLEAR CONCRETE COVER ON REINFORCING: CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3" CONCRETE EXPOSED TO EARTH, WATER OR WEATHER: 2" 6. GROUT SHALL BE NON-SHRINK, NON-METALLIC GROUT COMPLYING WITH ASTM C1107 WITH A COMPRESSIVE STRENGTH OF 7000 PSI AFTER 7 DAYS. GROUT SHALL BE MIXED, PLACED AND CURED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. 7. DOWELS AND CONTINUOUS REINFORCING SHALL HAVE A MINIMUM LAP OF 42 BAR DIAMETERS. 8. PROVIDE AIR ENTRAINMENT OF 4 TO 6 PERCENT PER ASTM A260. 9. MAXIMUM SLUMP: 4 INCHES (ITL TEST PER ASTM C143). 10. THE CONTRACTOR SHALL WORK WITH THE OWNER'S CERTIFIED ITL FOR TESTING THE CONCRETE IN ACCORDANCE WITH ACI C172, C31 &amp; C39. FOR EACH DAY'S PLACEMENT AS FOLLOWS: 1 SET OF 4 STANDARD CYLINDERS FOR EACH SET OF CYLINDERS, TEST 1 SPECIMEN AT 7 DAYS AND 2 SPECIMENS AT 28 DAYS. THE FOURTH SPECIMEN SHALL REMAIN IN CASE ADDITIONAL TESTS ARE REQUIRED. 11. ADDITIONAL TESTING FOR CONCRETE NOT UP TO STRENGTH SHALL BE PAID FOR BY THE CONTRACTOR. WET CURE ALL CONCRETE CONTINUOUSLY FOR 7 DAYS. 12. CONCRETE FINISH: STEEL TROWEL. 13. CURING COMPOUND: ASTM C309, TYPE I, CLASS B, DISSIPATING. 14. HEADED ANCHOR RODS: ASTM F1554, GRADE 55, STRAIGHT, WELDABLE, H.D. GALV. PER ASTM A153 CLASS C WITH HEAVY HEX CARBON STEEL NUTS ASTM A563 AND WASHERS ASTM F436 TYPE 1 HARDENED CARBON STEEL. 15. BONDING AGENT: ASTM C1059, TYPE II, NON-REDISPERSIBLE, ACRYLIC EMULSION OR STYRENE BUTADIENE. 16. POST INSTALLED ADHESIVE ANCHORS INTO CONCRETE SHALL BE THE HILTI HIT HY-150/ HIT-ICE OR HIT-RE 500 INJECTION SYSTEM. ALL ADHESIVE ANCHORS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MINIMUM EMBEDMENT INTO CONCRETE AS SHOWN.</div>			
	<div>CHAIN LINK FENCE: 1. CHAIN LINK FENCE SHALL BE A DELEGATED DESIGN BY AN EXPERIENCED CHAIN LINK FENCE VENDOR. 2. FENCE SHALL BE GROUNDED IF REQUIRED BY ELECTRICAL – SEE ELECTRICAL DRAWINGS. 3. CHAIN LINK FABRIC SHALL BE 2" MESH NO. 9 GAGE GALVANIZED WIRE SECURELY FASTENED TO TENSION WIRE, LINE POSTS, RAILS, BRACES AND STRETCHER BARS SPACED AS SHOWN HEREON. 4. WIRE FASTENERS AND TIE CLIPS SHALL BE NO. 11 GAGE (W&amp;M) GALVANIZED STEEL WIRE. 5. STEEL POSTS, RAILS AND GATE FRAMES SHALL BE AS NOTES AND AS DESIGN BY VENDOR. 6. AT THE CONTRACTOR'S OPTION, PIPE USED FOR FENCE CONSTRUCTION SHALL CONFORM TO THE DIMENSIONS AND WEIGHTS FOR EITHER "ORDINARY PIPE" OR "ALTERNATIVE PIPE". "ALTERNATIVE PIPE" SHALL BE HIGH STRENGTH STEEL PIPE MEETING THE REQUIREMENTS OF FED. SPEC. RR-F-191/3C. 7. TENSION WIRE SHALL BE CONTINUOUS BETWEEN END OR CORNER POST AND LINE BRACE POST. A TURNBUCKLE OR OTHER APPROVED TIGHTENING DEVICE SHALL BE USED FOR EACH CONTINUOUS SPAN OF TENSION WIRE. 8. TENSION WIRE SHALL BE AS DESIGNED AND SPECIFIED BY THE CHAIN LINK FENCE VENDOR. 9. CONCRETE FOOTINGS SHALL HAVE TOPS CROWNED AT GROUND LEVEL AND SHALL BE CLASS B. 10. TERMINATION OF FENCE AT OTHER STRUCTURES SHALL BE AS SHOWN ON PLANS WITH MANUFACTURER'S STANDARD DETAILS. 11. CHAIN LINK FABRIC SHALL BE TWISTED AND BARBED ON THE TOP AND BOTTOM SELVAGE. 12. FENCE SHALL BE CONSTRUCTED WITH ROUND PIPE COMPONENTS. 13. ATTACH SUPPORT ARMS AT EACH POST. 14. WHERE FENCE CROSSES UNDERGROUND UTILITY LINES, USE CAUTION AND HAVE ALL UTILITIES LOCATED AND MARKED BEFORE INSTALLING FENCE. 15. PROVIDE RAILS IN ACCORDANCE WITH FS RR-F-191/3, CLASS 1, STEEL PIPE, GRADE A.</div>			
C	<div>GENERAL: 1. CONTRACTOR SHALL PROVIDE ALL LAYOUT REQUIRED TO CONSTRUCT HIS WORK. 2. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND CONDITIONS WHERE NEW CONSTRUCTION JOINS EXISTING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER UPON DISCREPANCIES WITH DRAWINGS. 3. ALL WORK IS TO CONFORM TO THE LATEST REVISIONS OF ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND REGULATIONS. 4. ALL WORK AREAS ARE TO BE KEPT CLEAN, ORDERLY, AND SAFE ON A DAILY BASIS. 5. ANY MODIFICATIONS TO PLANS, DESIGN OR SPECIFICATIONS MUST HAVE PRIOR APPROVAL BY THE ENGINEER. 6. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL, AND EQUIPMENT TO ACCOMPLISH THE WORK AS SHOWN ON THESE PLANS. ANY WORK NECESSARY TO COMPLETE THE WORK SHOWN BUT NOT SPECIFICALLY CALLED OUT, SHALL NOT CONSTITUTE REASON FOR CONTRACT MODIFICATION. 7. ANY DAMAGE TO EXISTING PROPERTY, STRUCTURE OR EQUIPMENT MADE BECAUSE OF CONSTRUCTION UNDER THIS CONTRACT MUST BE REPAIRED/REPLACED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE TO EXISTING CONDITIONS. 8. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND DIMENSIONS THAT AFFECT NEW WORK PRIOR TO CONSTRUCTION OR FABRICATION. CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO CONSTRUCTION OR FABRICATION SHOULD DISCREPANCIES DEVELOP. 9. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE MECHANICAL AND ELECTRICAL DRAWINGS 10. FOR DIMENSIONS NOT SHOWN ON THE DRAWINGS, REFER TO THE MECHANICAL OR ELECTRICAL DRAWINGS. 11. WALLS SHALL BE BRACED BY CONTRACTOR AGAINST WIND, CONSTRUCTION LOADS, AND OTHER TEMP. FORCES, UNTIL ERECTION IS COMPLETE. 12. NO OPENING SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. 13. NO CHANGES IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. 14. DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS.</div>			
	<div>FOUNDATION 1. FOUNDATION &amp; PAD DESIGN BASED ON AN ALLOWABLE SOIL PRESSURE OF 2,000 PSF. AS TAKEN FROM NEARBY ADJACENT BUILDING ADDITIONS GEOTECHNICAL REPORT BY ECS CAROLINAS LLP, DATED AUGUST 18,2015 (ECS #22.23044) 2. REMOVE TOPSOIL, ORGANICS, SOFT CLAY, AND OTHER UNSUITABLE MATERIALS UNDER ALL FLOOR SLABS, FOOTINGS AND 10'-0" BEYOND BUILDING WALLS. BACKFILL AS REQUIRED WITH CLEAN SELECTED FILL COMPACTED IN 8-INCH LAYERS TO A MINIMUM OF 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT IN ALL LAYERS UP TO THE UPPER ONE FOOT. FILL TO BE PLACED WITHIN 12 INCHES OF THE DESIGN SUBGRADE ELEVATION IS TO BE COMPACTED TO 98 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT. COMPACT UPPER 12" OF EXISTING SUBGRADE TO 95%. 3. AFTER STRIPPING, DENSIFY EXPOSED SANDS BY PROOFROLLING WITH A 10-TON VIBRATORY STEEL-WHEELED ROLLER &amp; ANY SOFT, OR UNSUITABLE SURFACE CONDITIONS, WHICH PUMPS OR RUTS EXCESSIVELY, SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION. THESE UNSUITABLE SURFACES SHALL BE UNDERCUT &amp; REPLACED WITH GRANULAR BACKFILL, SUCH AS #57 STONE. 4. CLEAN SELECT SAND FILL SHALL MEET UNIFIED SOIL CLASSIFICATION OF SP, SP-SM OR SP-SC AND SHALL HAVE A MINIMUM STANDARD PROCTOR DRY DENSITY OF 110 PCF. 5. CONTRACTOR SHALL NOTIFY ENGINEER FOR INSPECTION OF SUBGRADE PRIOR TO POURING ANY CONCRETE. 6. BEARING CAPACITY SHALL BE VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE. WRITTEN REPORTS OF FINDINGS SHALL BE SUBMITTED TO THE ENGINEER. 7. CONTRACTOR SHALL DEWATER AS NECESSARY PRIOR TO EXCAVATING. 8. CONTRACTOR SHALL PROTECT ALL FOUNDATION EXCAVATIONS FROM DETERIORATION DUE TO EXPOSURE TO MOISTURE UNTIL FOUNDATIONS AND BACK FILLING HAVE BEEN COMPLETED.</div>			
B				
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ISSUED FOR CONSTRUCTION

11.27.19

Date

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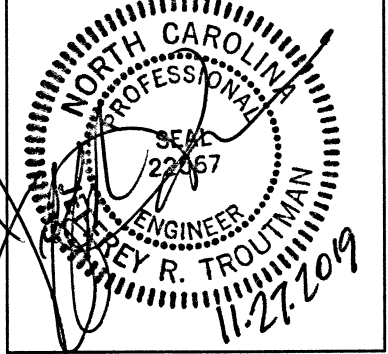
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New Hanover County Schools  
Emilesey A Laney High School  
CLOSED CIRCUIT COOLER ADDITION  
2700 NORTH COLLEGE ROAD, WILMINGTON, NORTH CAROLINA

GENERAL NOTES

JOB NO.: 19170  
DRAWN: LMN  
DESIGNED: JRT  
CHECKED: JRT

DRAWING NO:  
**S0.1**

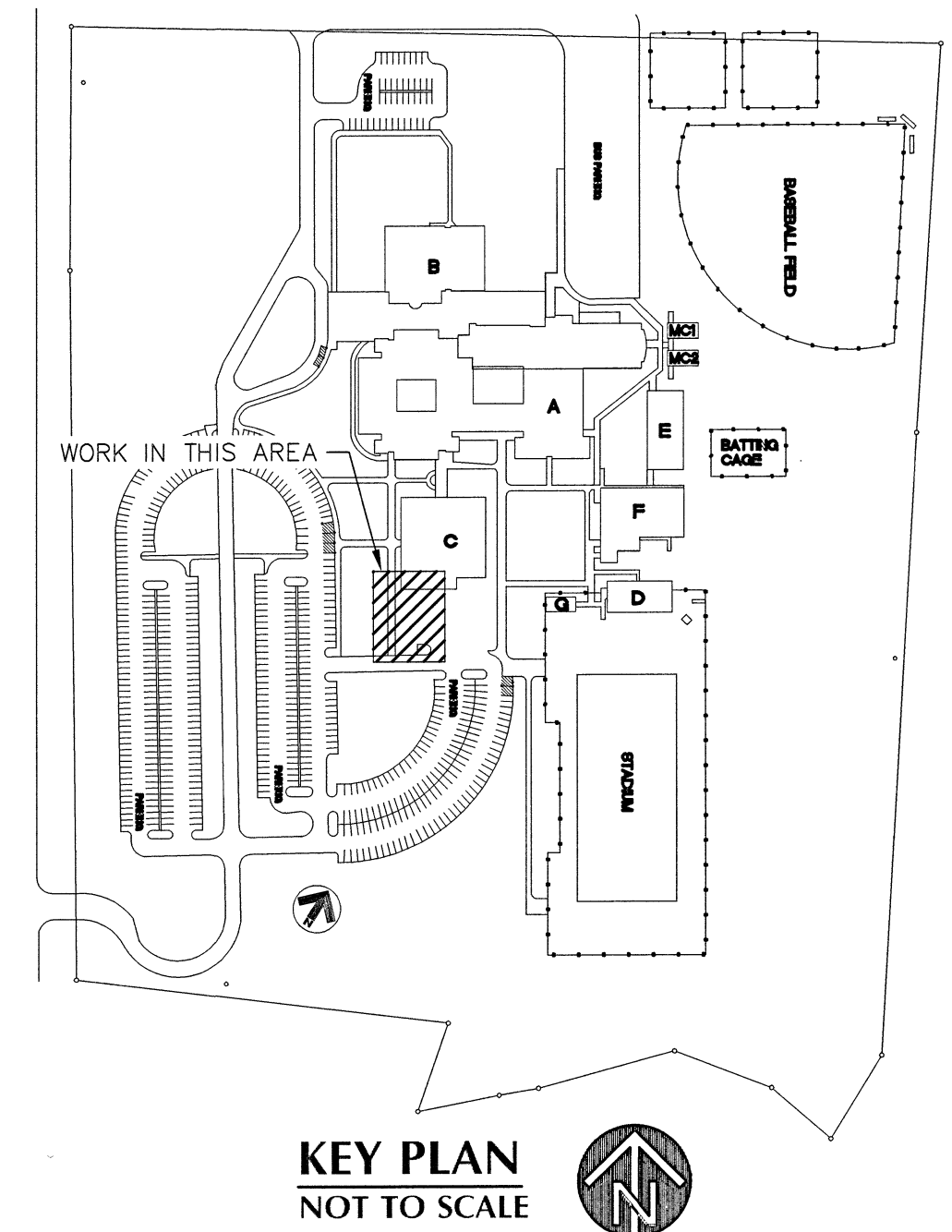
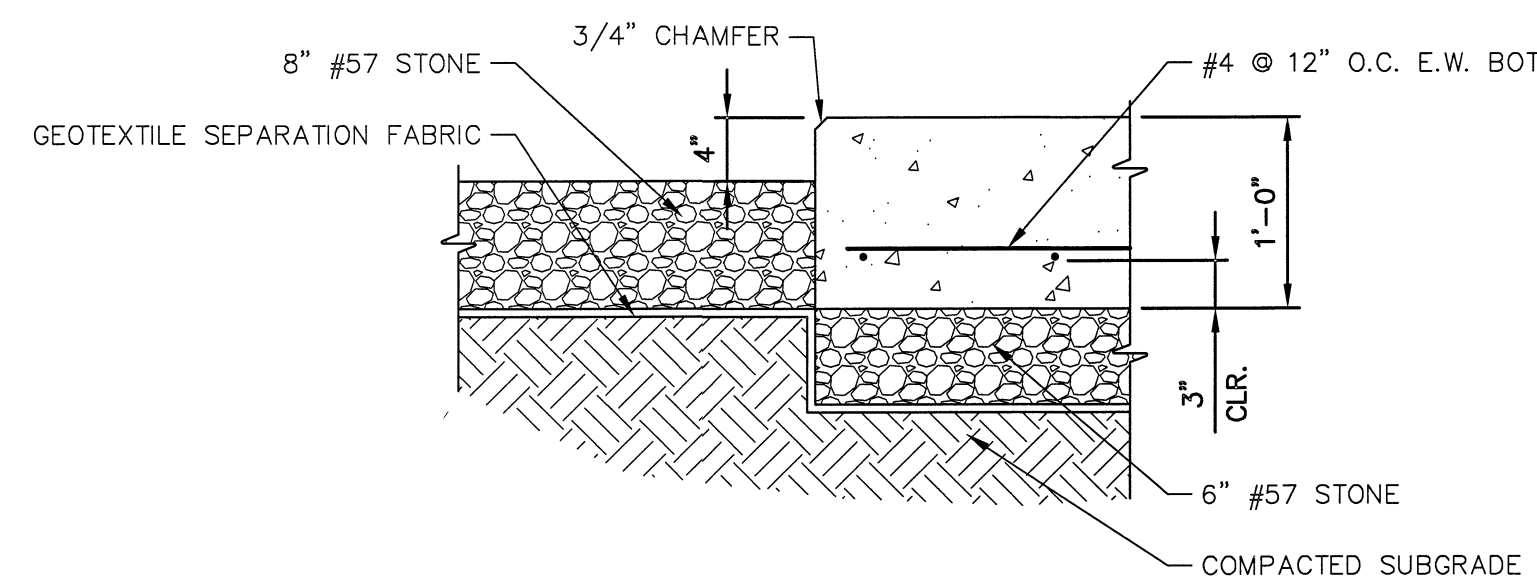
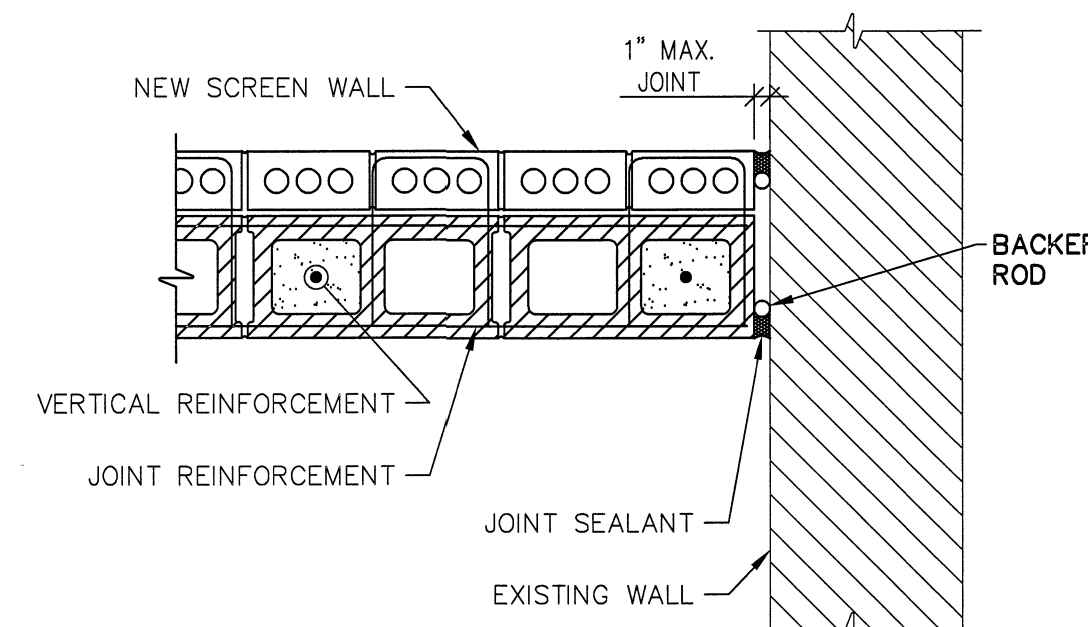
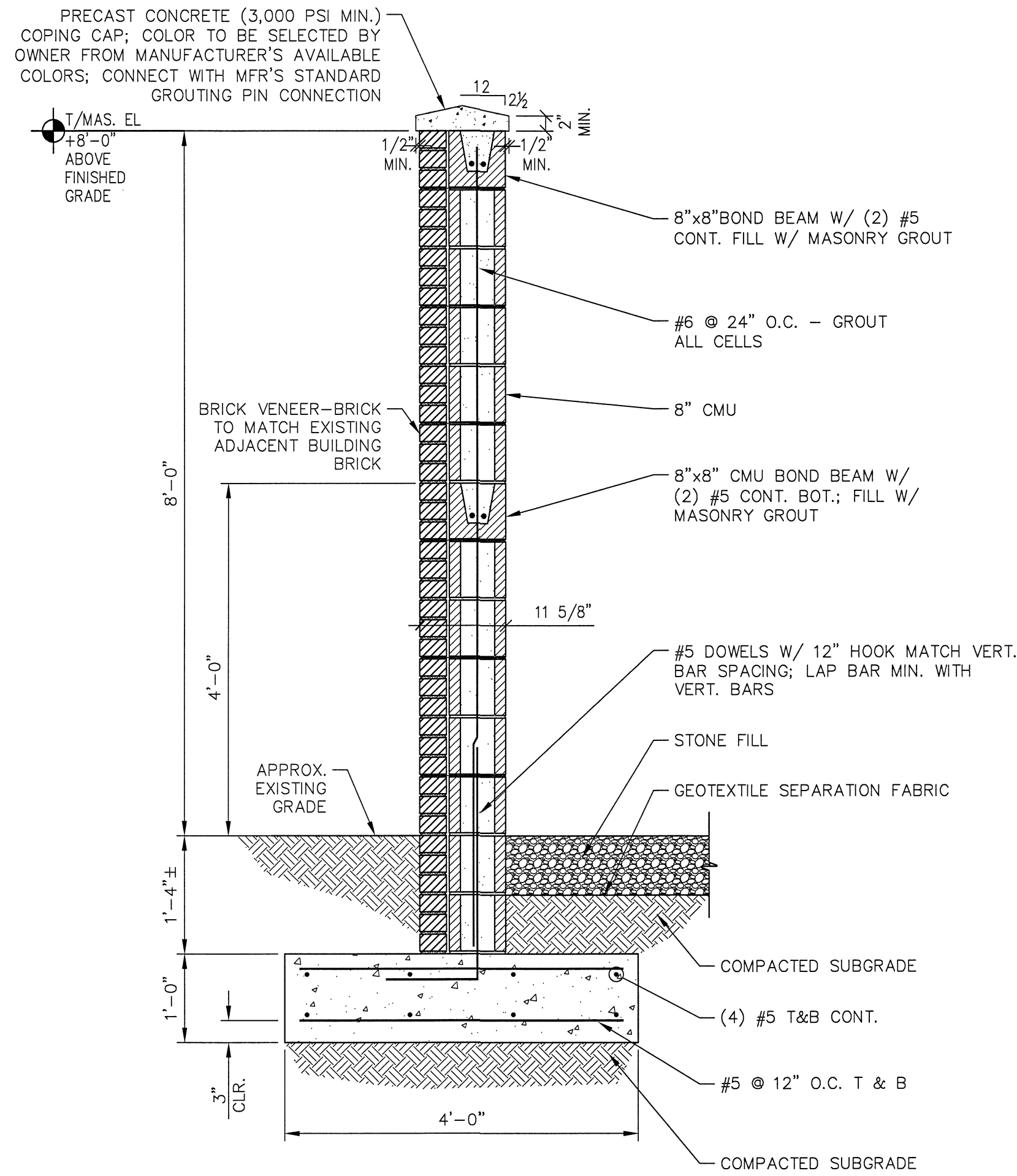
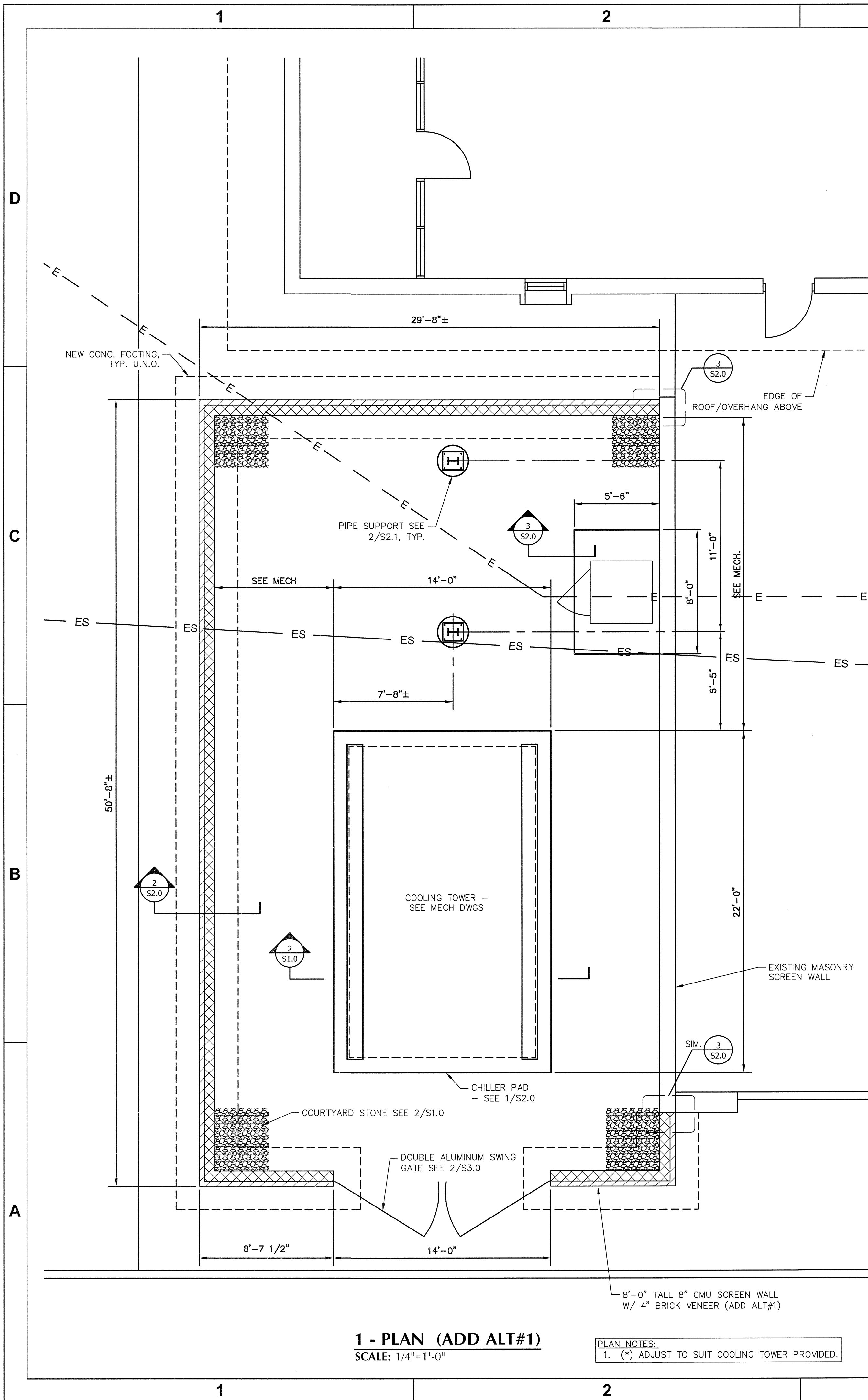
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PROJECT T-2019-007640

Job No.: 19170  
Drawn: LMN  
Designed: JRT  
Checked: JRT

DRAWING NO.:  
**S2.0**

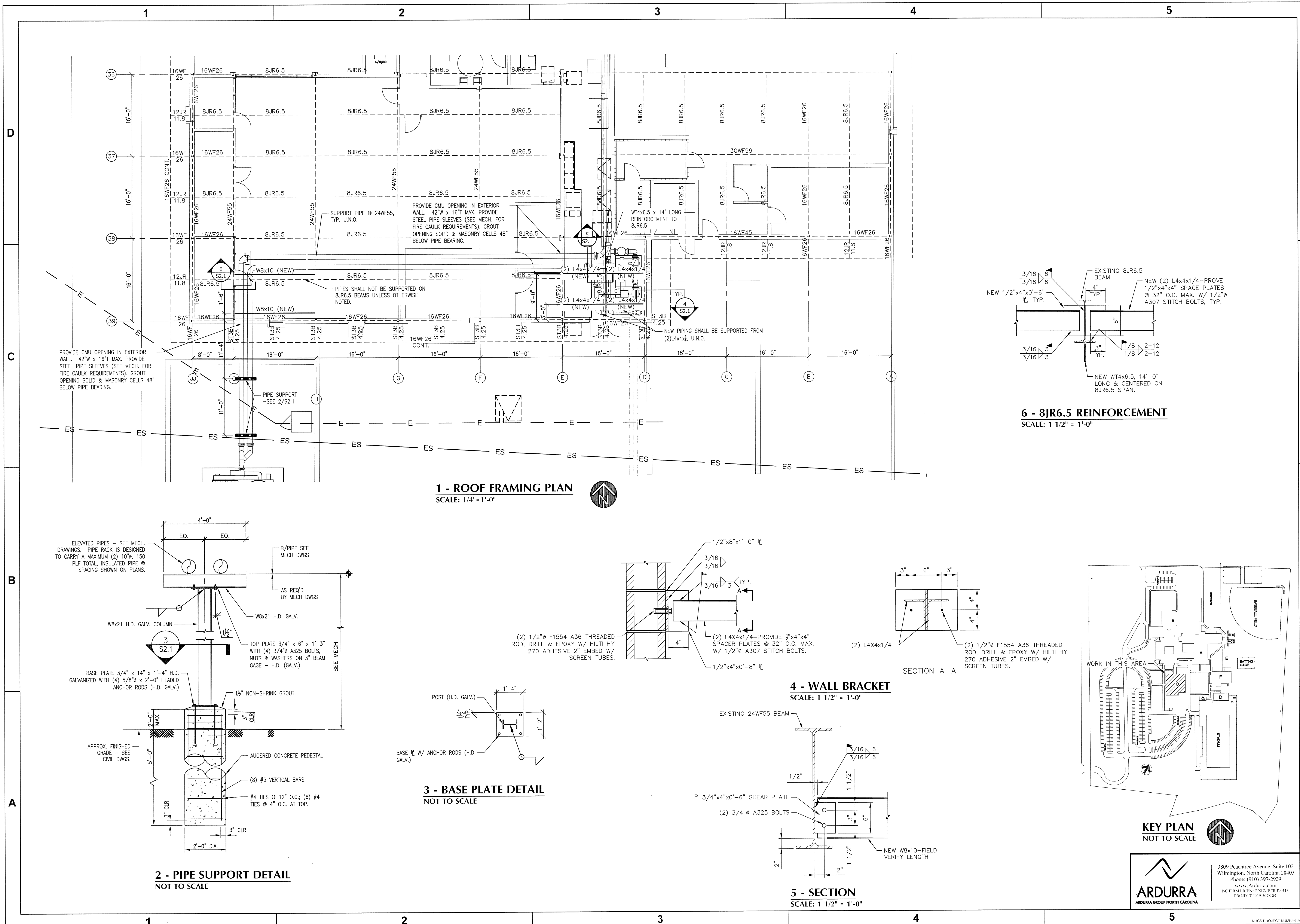
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NEW HANOVER COUNTY SCHOOLS  
Emile A Laney High School  
CLOSED CIRCUIT COOLER ADDITION  
2700 NORTH COLLEGE ROAD, WILMINGTON, NORTH CAROLINA

PLAN & SECTION (ADD ALT #1)

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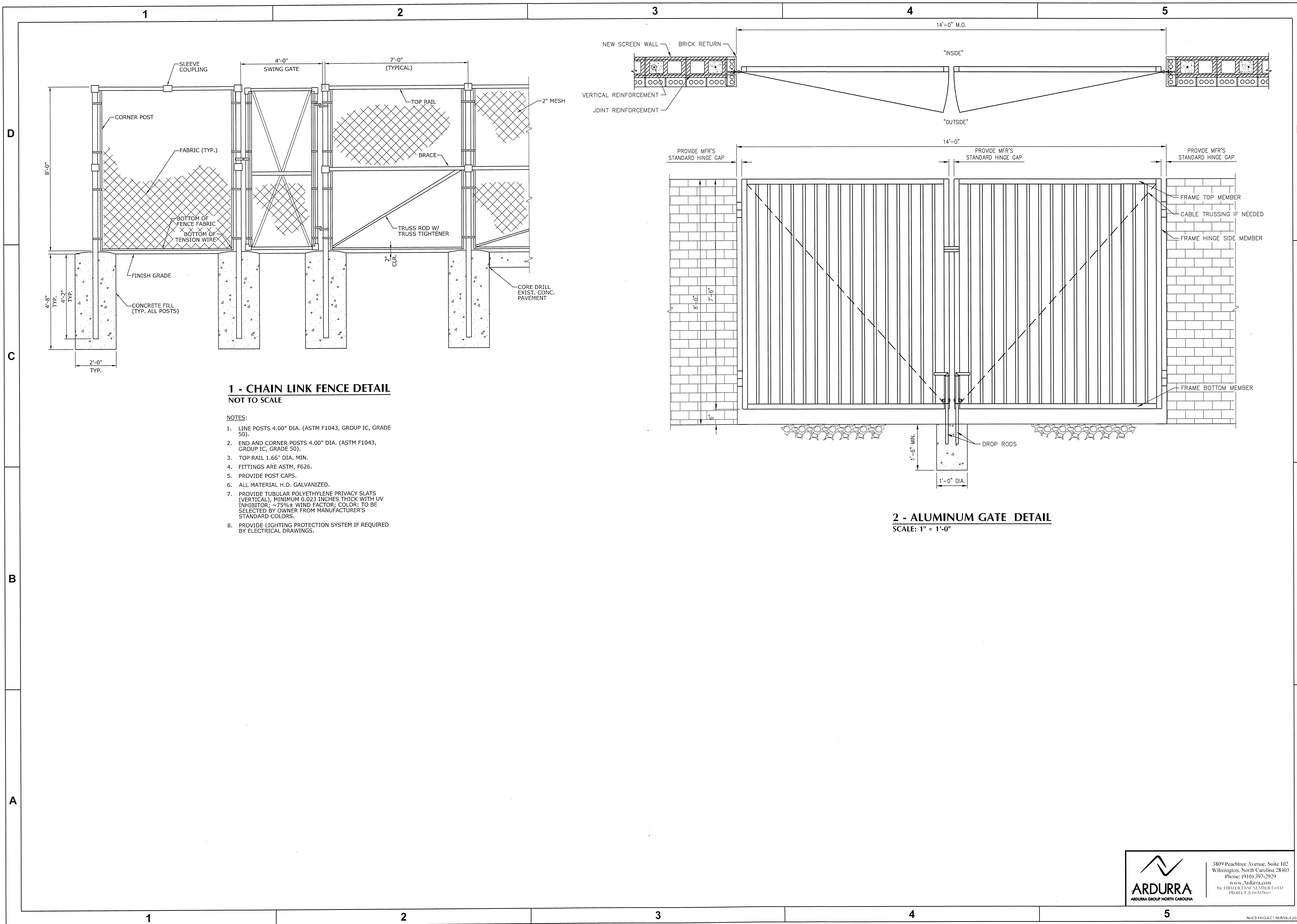


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<b>New Hanover County Schools</b> Emileys A Laney High School <b>CLOSED CIRCUIT COOLER ADDITION</b> 2700 NORTH COLLEGE ROAD, WILMINGTON, NORTH CAROLINA	
<b>ROOF FRAMING PLAN, SECTIONS &amp; DETAILS</b>	
JOB NO.: 19170	DRAWN: LMN
DESIGNED: JRT	CHECKED: JRT
DRAWING NO.: <b>S2.1</b>	
REVISION: 0	

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DATE	

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11/27/2019

**SECTION & DETAILS**

**New Hanover County Schools**  
**Emilsey A Laney High School**  
**CLOSED CIRCUIT COOLER ADDITION**  
2700 NORTH COLLEGE ROAD, WILMINGTON, NORTH CAROLINA

JOB NO.:	19179
DRAWN:	LJN
DESIGNED:	JRT
CHECKED:	JRT

DRAWING NO.  
**S3.0**

REVISION:  
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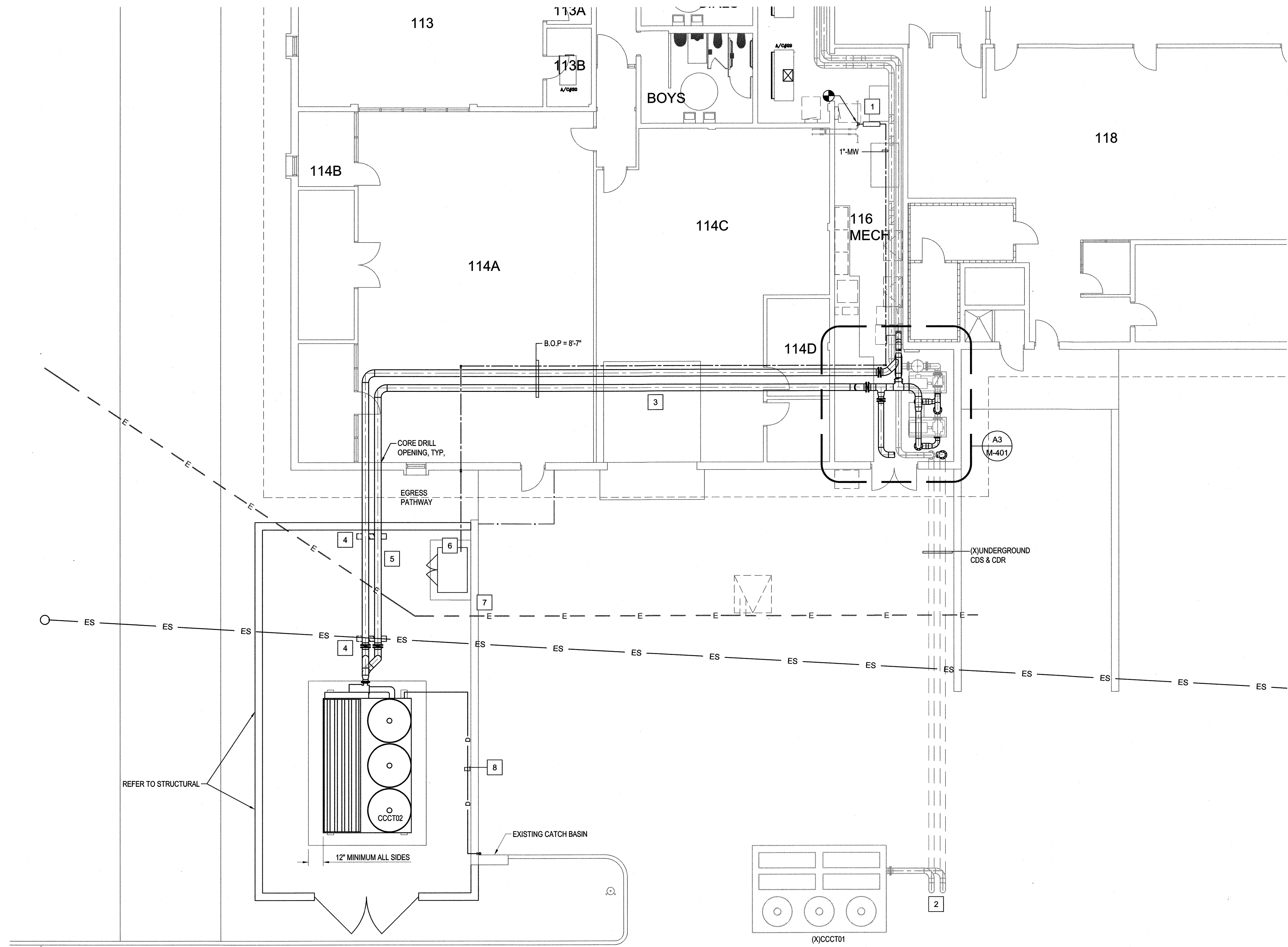
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NHCS PROJECT NUMBER 2019-0216





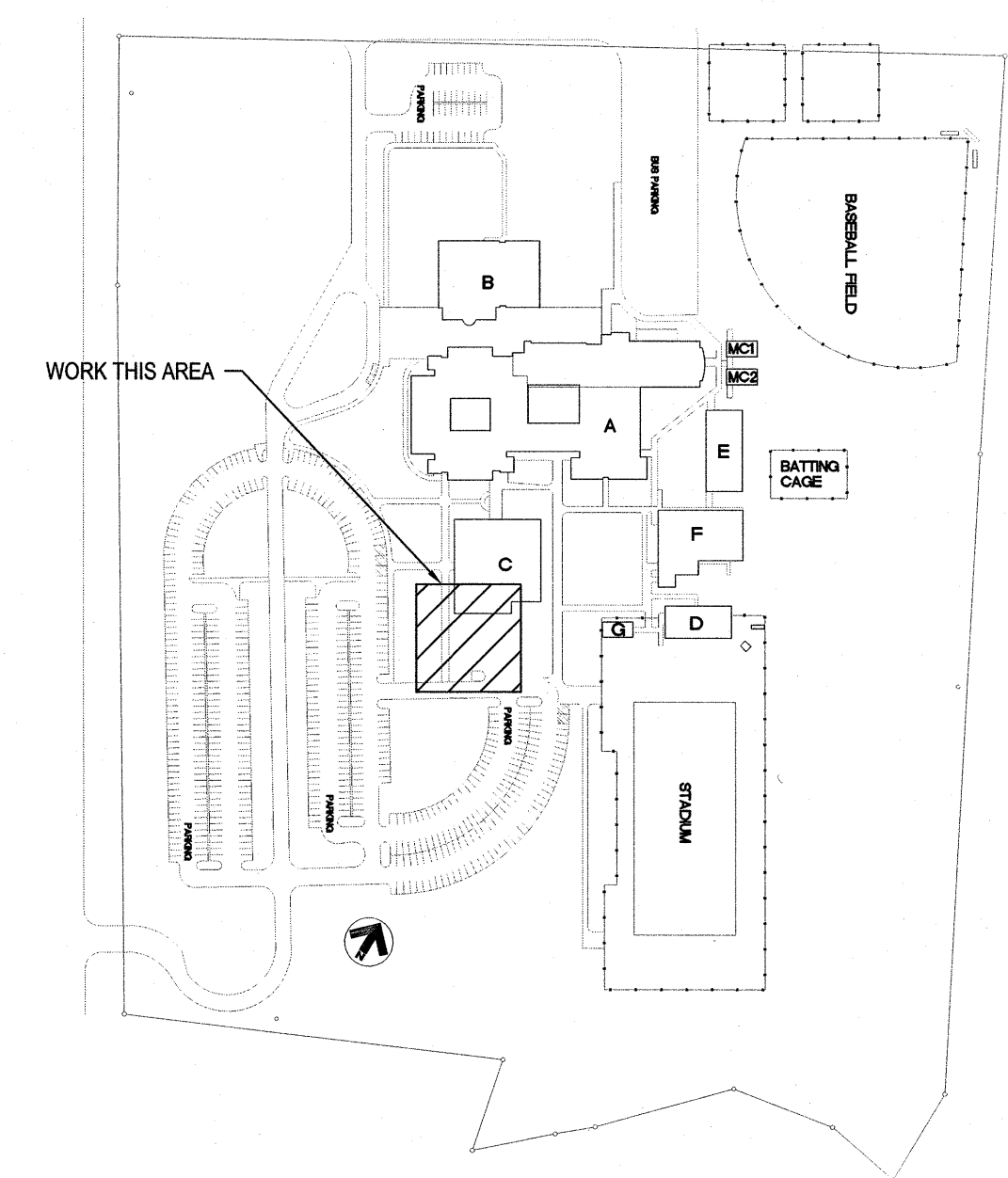


**A1 FLOOR PLAN**  
1/8" = 1'-0"  
0 4' 8' 16'  
PLAN NORTH

**GENERAL NOTES**

**KEYED NOTES**

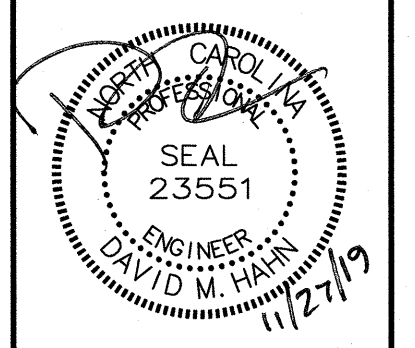
- 1 CONNECT INTO DOMESTIC COLD WATER PIPING. ADD RPZ AFTER TIE-IN. FIELD ROUTE IN MECHANICAL ROOM. MAINTAIN CLEARANCES FOR EXISTING EQUIPMENT AND ROOF ACCESS LADDER. DO NOT ROUTE OVER ELECTRICAL EQUIPMENT.
- 2 INSTALL FLOW METER IN VERTICAL PIPING TO AND FROM (X)CCCT01. INSTALL PER MANUFACTURERS RECOMMENDATIONS. REINSULATE PIPING. CONTROL WIRING BY CONTROLS CONTRACTOR.
- 3 ROUTE CDS, CDR AND MAKE-UP WATER TO CCCT02 THROUGH VOCATIONAL SHOPS. ROUTE UNDER EXISTING SHOP OVERHEAD DOOR. MAINTAIN MAXIMUM CLEARANCE HEIGHT WITHOUT COMPROMISING DOOR OPERATION.
- 4 PROVIDE PIPE RACK TO SUPPORT 10" CDS AND CDR. PIPE RACK MUST BE INSTALLED INSIDE WALLED SPACE AS SHOWN. VERIFY LOCATION OF EXISTING UNDERGROUND SERVICES BEFORE CONSTRUCTION. SEE STRUCTURAL DRAWINGS FOR PIPE RACK DETAILS. PIPE RACK MUST BE INSTALLED TO KEEP PIPING LEVEL.
- 5 EXTERIOR EXPOSED PIPING TO BE INSULATED PER SPECIFICATIONS.
- 6 1" TOWER MAKE-UP WATER PIPING TO BE ROUTED IN TRENCH WITH ELECTRICAL CONDUIT TO CHEMICAL FEED SYSTEM IN BUILDING. VERIFY LOCATION OF UNDERGROUND UTILITIES BEFORE CONSTRUCTION.
- 7 DOUBLE DOOR 4' x 6' PRE-MANUFACTURED CHEMICAL TREATMENT STORAGE SHED ANCHORED TO HOUSEKEEPING PAD. CRAFTSMAN MODEL CMXRSC6250 OR APPROVED EQUAL.
- 8 PROVIDE DRAIN FROM CCCT02 TO LOCATION SHOWN. PROVIDE ADEQUATE SUPPORTS AND MAINTAIN MAXIMUM CLEARANCE HEIGHT.



**A5 KEYPLAN**  
NOT TO SCALE  
PLAN NORTH

ISSUED FOR CONSTRUCTION	11/27/19
ISSUED FOR REVIEW	11/15/19
REVISION NO.	0
DESCRIPTION	REVISIONS

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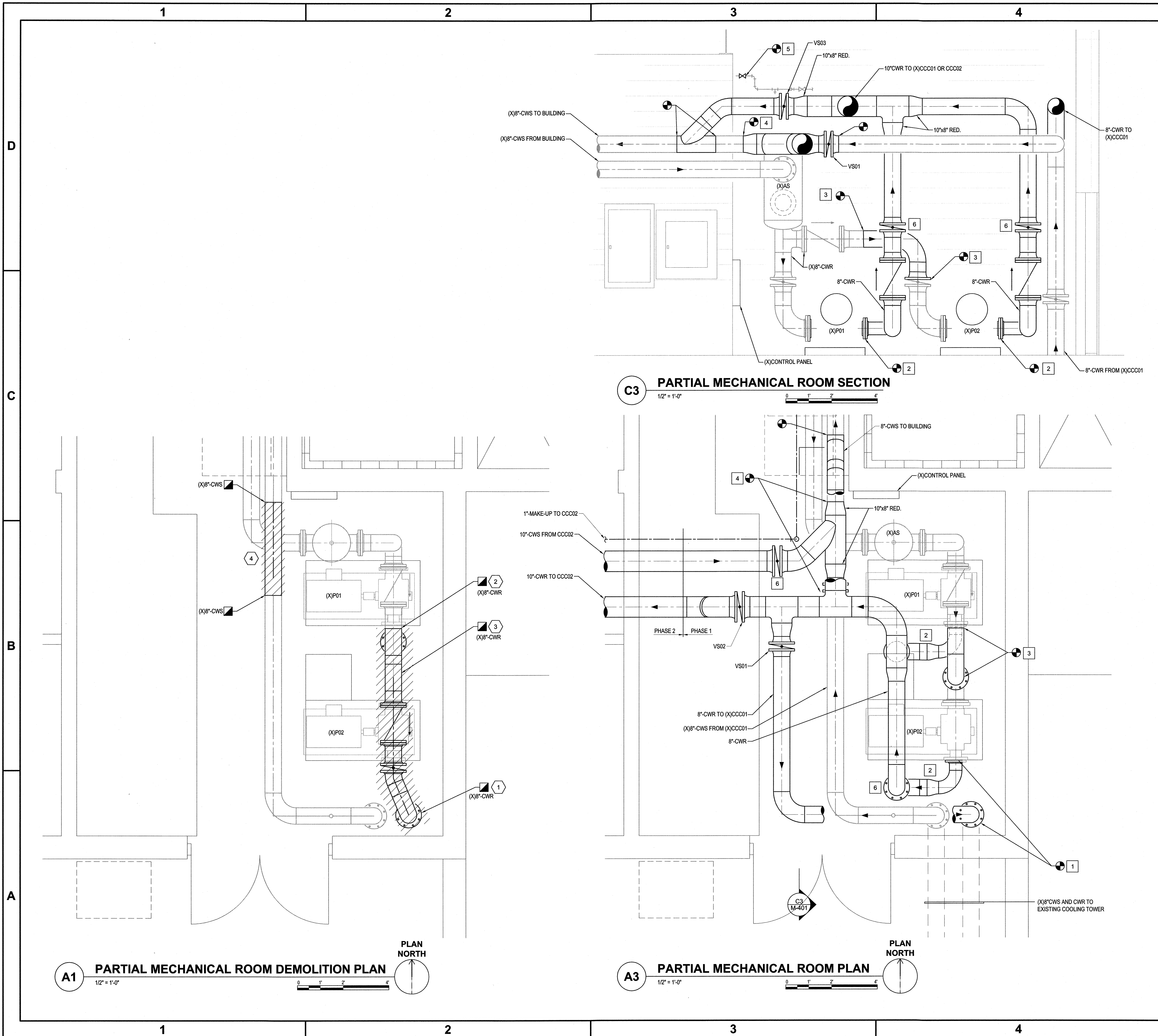


New Hanover County Schools  
Emile A Laney High School  
**CLOSED CIRCUIT COOLER ADDITION**  
2700 NORTH COLLEGE ROAD, WILMINGTON, NORTH CAROLINA  
**FLOOR PLAN**

JOB NO.:	19170
DRAWN:	RWC
DESIGNED:	RWC
CHECKED:	DMH

DRAWING NO.  
**M-101**

REVISION:  
0



### GENERAL NOTES

### KEYED NOTES

- 1 PROVIDE 8" CWR PIPING TO FLANGE SET AT FLOOR.
- 2 PROVIDE 6" CWR PIPING FROM (X)P01. ECCENTRIC 8"x6" REDUCER MUST BE INSTALLED AS FLAT ON TOP TO VERTICALLY MOUNTED 8" CHECK VALVE AND 8" SHUT-OFF VALVE. 10"x8" REDUCER TO 10" HEADER AS SHOWN IN SECTION C3M-401.
- 3 PROVIDE 8" CWR PIPING FROM HEADER DOWN TO SHUT-OFF VALVE AT (X)P02.
- 4 PROVIDE TWO 10"x8" REDUCERS, 8" BUTTERFLY VALVE AND FLANGES AND A 10" 45° LATERAL FITTING.
- 5 REPLACE BROKEN EXISTING GATE VALVE WITH 1" BALL VALVE.
- 6 MANUAL ISOLATION VALVE.

### KEYED DEMOLITION NOTES

- 1 DEMOLISH EXISTING 8" CWR TO EXISTING COOLING TOWER DOWN TO FLANGE SET.
- 2 6" FLANGE AND REDUCER ATTACHED TO PUMP TO BE DEMOLISHED UP TO AND INCLUDING TEE AT HEADER.
- 3 DEMOLISH 8" TEE DOWN TO EXISTING SHUT-OFF VALVE.
- 4 DEMOLISH 8" CWS PIPE TO ACCEPT TWO 10"x8" REDUCERS, AN 8" BUTTERFLY VALVE WITH FLANGES AND A 10" 45° LATERAL FITTING.

ISSUED FOR CONSTRUCTION  
11/27/19  
Date:

ISSUED FOR REVIEW  
11/15/19  
Revision No. 0

DESCRIPTION:  
REVISIONS

**CBHF**  
Engineers, PLLC

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NCEP-P-0568

SEAL  
23551  
NORTH CAROLINA  
REGISTERED PROFESSIONAL ENGINEER  
DAVID M. HANN  
11/27/19

**ENLARGED PLANS**  
New Hanover County Schools  
Emiley A Laney High School  
CLOSED CIRCUIT COOLER ADDITION  
2700 NORTH COLLEGE ROAD, WILMINGTON, NORTH CAROLINA

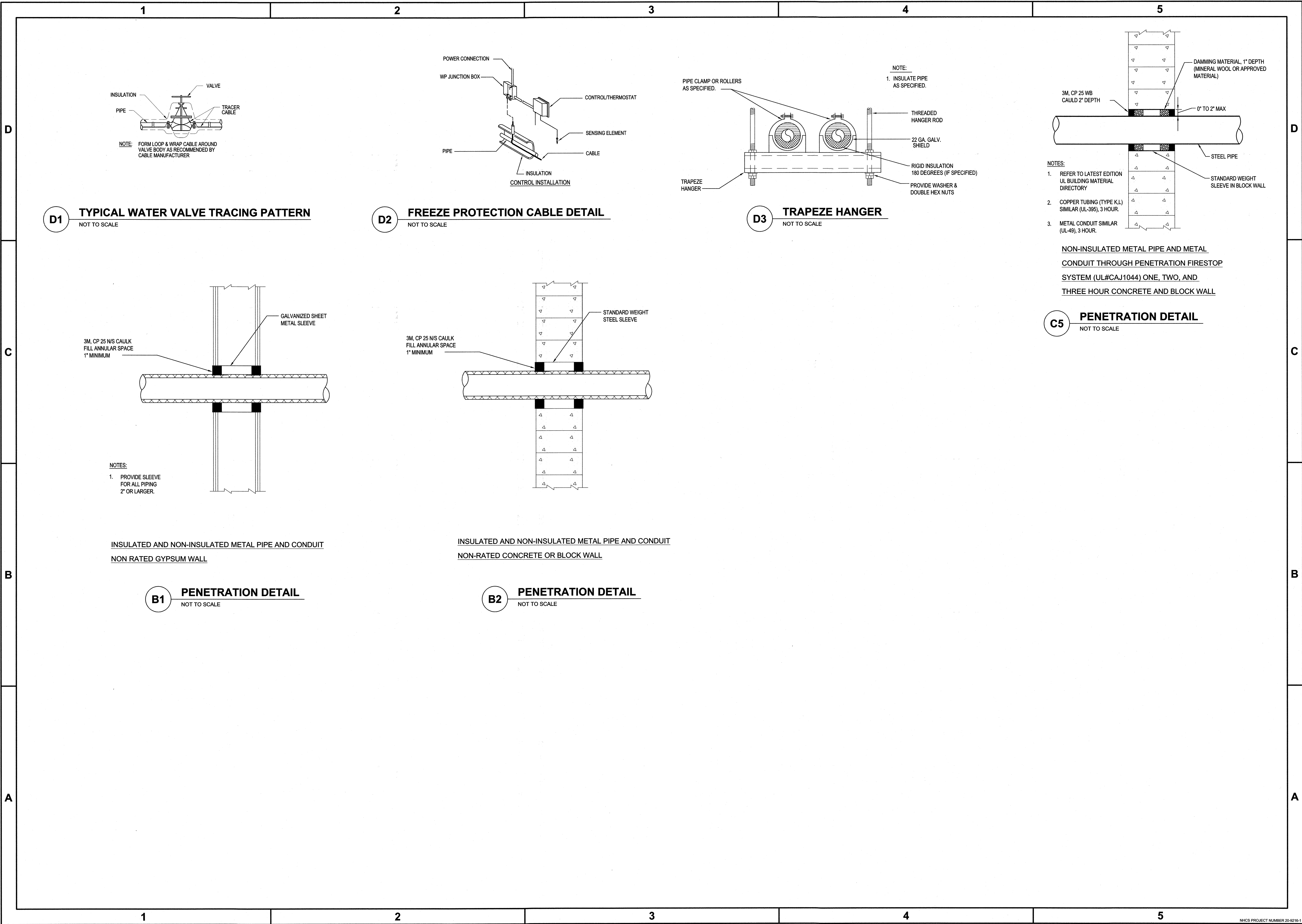
JOB NO.: 19170  
DRAWN: RWC  
DESIGNED: RWC  
CHECKED: DMH

DRAWING NO:  
**M-401**

REVISION:  
0

NHCS PROJECT NUMBER 20-0216-1





11/27/18 11/15/18 Date:	
ISSUED FOR CONSTRUCTION ISSUED FOR REVIEW Revision No. 0 Description: MECHANICAL DETAILS	
REVISIONS	
<b>CBHF</b> Engineers, PLLC 2246 Yaupon Drive Wilmington, NC 28401 Phone: 910.791.4000 Fax: 910.791.5266 www.cbhfe.com © Copyright 2018 CBHF Engineers, PLLC NCB P-0568	
 DAVID M. HANN 1/27/19	
New Hanover County Schools Emisey A Laney High School CLOSED CIRCUIT COOLER ADDITION 2700 NORTH COLLEGE ROAD, WILMINGTON, NORTH CAROLINA MECHANICAL DETAILS	
JOB NO.: 19170 DRAWN: RWC DESIGNED: RWC CHECKED: DMH	DRAWING NO: <b>M-501</b>
REVISION: 0	





# A

D

**C**

**B**

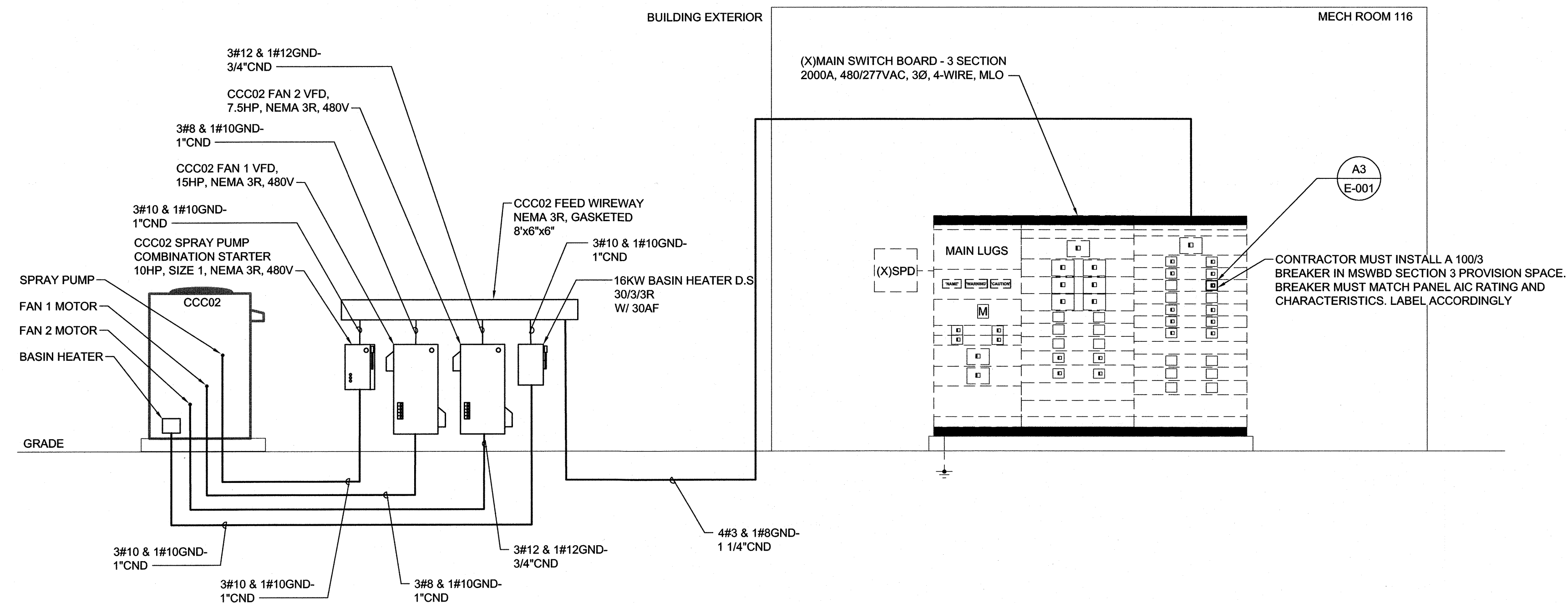
JOB NO.:	19170
DRAWN:	JLG
DESIGNED:	JLG
CHECKED:	WAC

REVISION:  
**0**







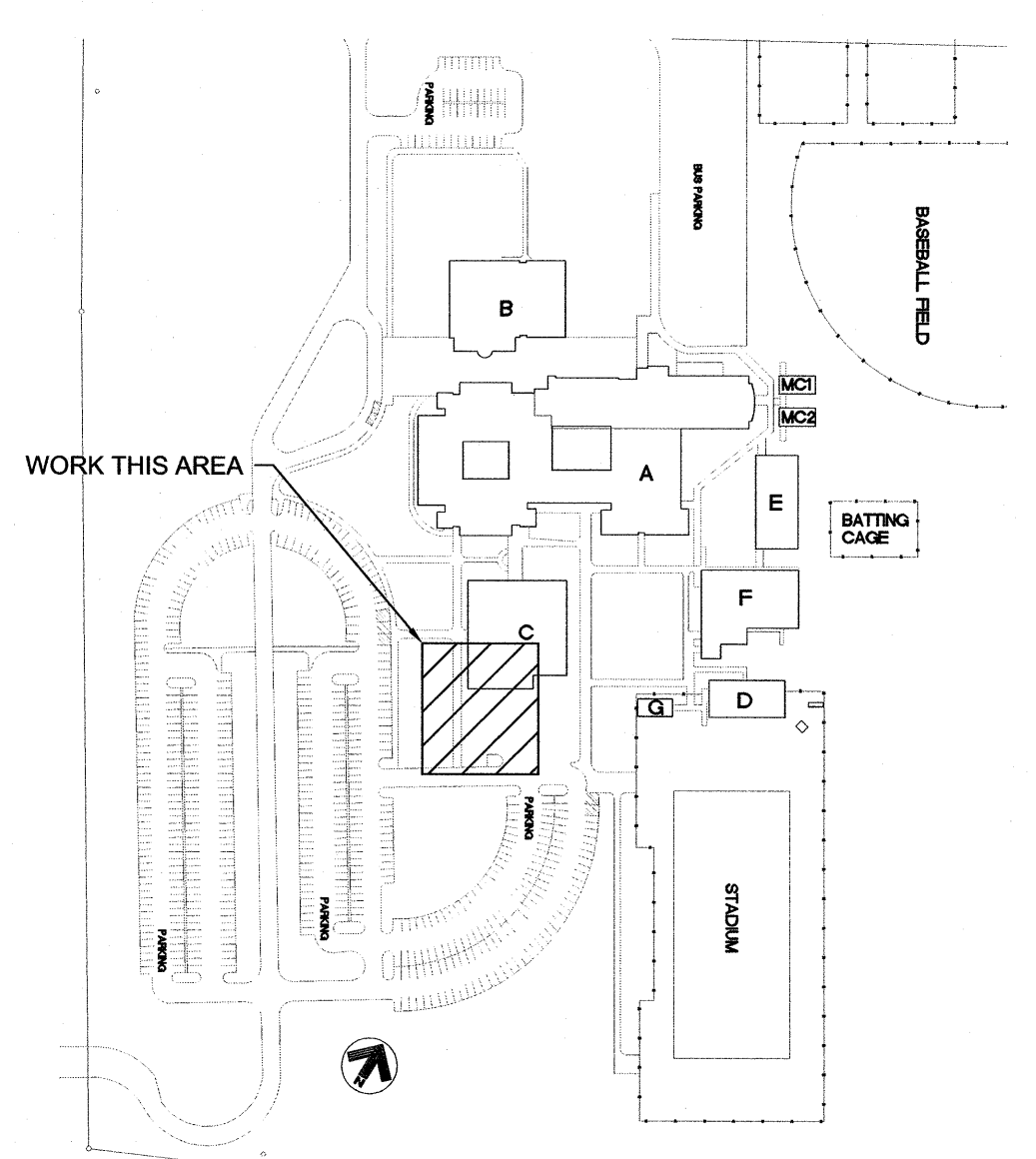
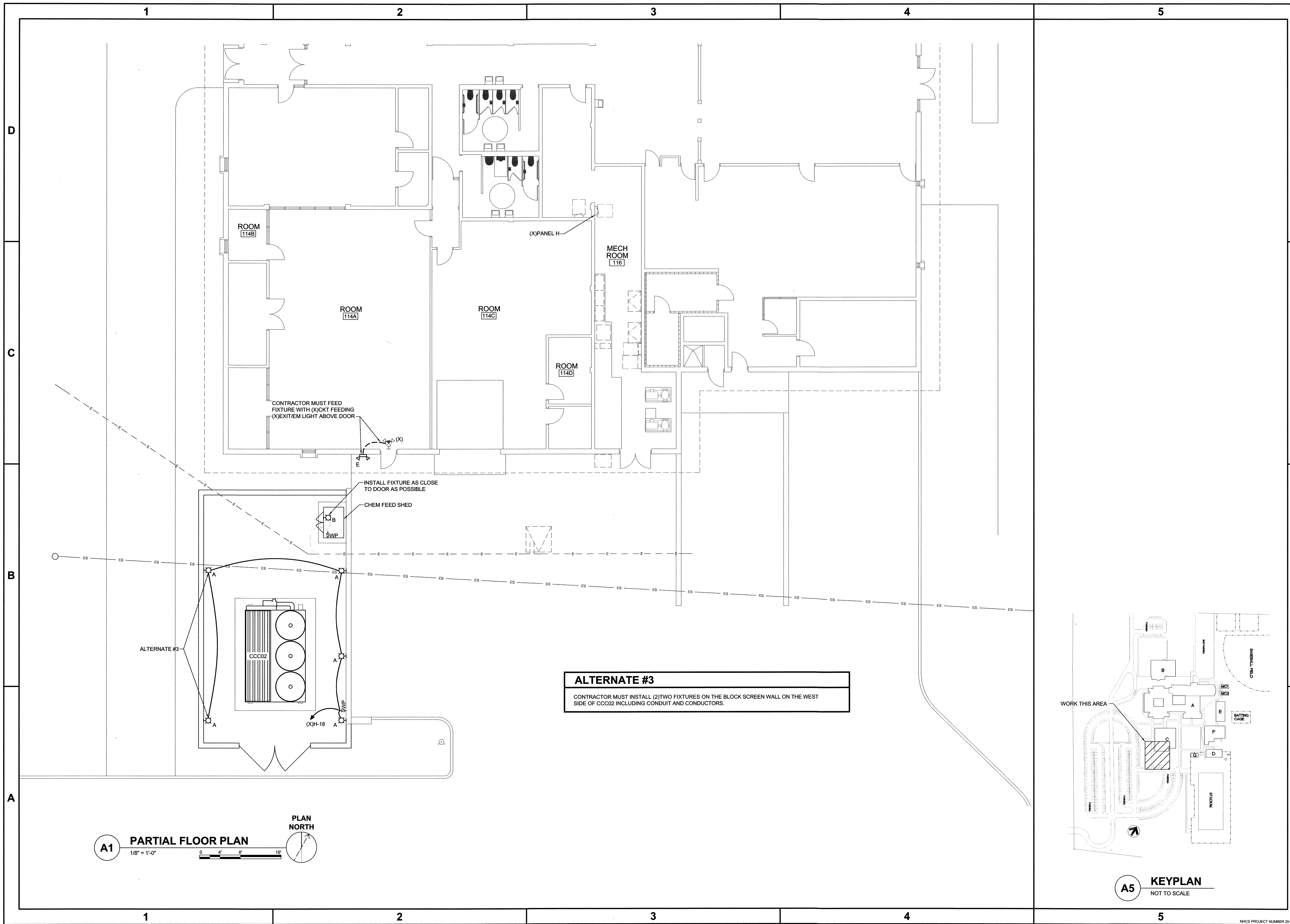


(X)PANEL H										
TYPE: NEMA 1 BOLT-ON SQUARE D	208 MOUNT: SURFACE FEED:	120	V.	3	PH.	4	WIRE	PROVIDE IF CHECKED:	EQUIP. GROUND BUS NEUTRAL BUS GUTTER TAPS SUB-FEED LUGS	
LOAD SERVED	LOAD VA	CKT BKR	CKT #	LOAD VA			CKT #	CKT BKR	LOAD VA	LOAD SERVED
				A	B	C				
(X)HEAT TRACE	2,000	30/1	1	2,000			2			SPACE
(X)HET TRACE	2,000	30/1	3	2,180			4	20/1	180	ROOFTOP GFI
BOILER	180	20/1	5				6	20/1	500	GAS WATER HEATER 3&4
EXHAUST FAN	180	1&1	7	180			8			SPACE
SPARE		20/1	9	750			10	20/1	750	GAS WATER HEATER 1,2&5
SPACE	-	-	11				12	-		SPACE
SPACE	-	-	13				14	20/1		SPACE
SPACE	-	-	15				16	20/1		SPACE
SPACE	-	-	17				18	20/1		SPACE
SPACE	-	-	19				20	20/1		SPACE
SPACE	-	-	21				22	20/1		SPACE
SPACE	-	-	23				24	20/1		SPACE
SPACE	-	-	25				26	20/1		SPACE
SPACE	-	-	27				28	20/1		SPACE
SPACE	-	-	29				30	20/1		SPACE
NOTES:				2,180	2,930	680	TOTAL VOLT AMPS		100	A. BUS (COPPER)
				18	24	6	CONN. AMPS		100	A. MAIN LUGS

[illegible]







**A1 PARTIAL FLOOR PLAN**  
1/8" = 1'-0"  
0 4' 8' 16'  
PLAN NORTH

**ALTERNATE #3**  
CONTRACTOR MUST INSTALL (2) TWO FIXTURES ON THE BLOCK SCREEN WALL ON THE WEST SIDE OF CCC02 INCLUDING CONDUIT AND CONDUCTORS.

**A5 KEYPLAN**  
NOT TO SCALE

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<b>Professional Seal</b> W. ENGINEER W. ALLEN CR 158 023311 11/20/19			
<b>New Hanover County Schools</b> Emisey A Laney High School CLOSED CIRCUIT COOLER ADDITION 2700 NORTH COLLEGE ROAD, WILMINGTON, NORTH CAROLINA <b>PARTIAL FLOOR PLAN</b> LIGHTING			
JOB NO.: 19170 DRAWN: JLG DESIGNED: JLG CHECKED: WAC		DRAWING NO: <b>E-201</b> REVISION: 0	