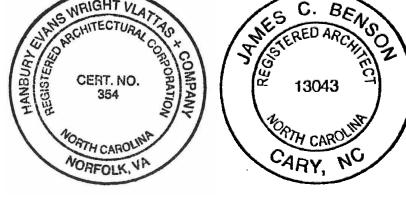
# Architect of Record

Owner

Consultants

Vicinity Map



# Document Issue Date

Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: **713** NC State Project ID Number: **202435062** SCO # **24-28212-01A** 

# **NCSU PARTNERS** III RENOVATION

# RALEIGH, NORTH CAROLINA

# HANBURY

www.hanbury.design 310 S West Street, Suite 100 Raleigh, NC 27603 +1 919 301 0202

NORTH CAROLINA STATE UNIVERSITY

NORTH CAROLINA STATE UNIVERSITY 851 Main Campus Dr RALEIGH, NC, 27606

Mechanical Engineer

MCKIM & CREED CONTACT: Tommy Norby 4300 EDWARDS MILL ROAD, SUITE 200 RALEIGH, NC 27612 919.233.8091 www.mckimcreed.com

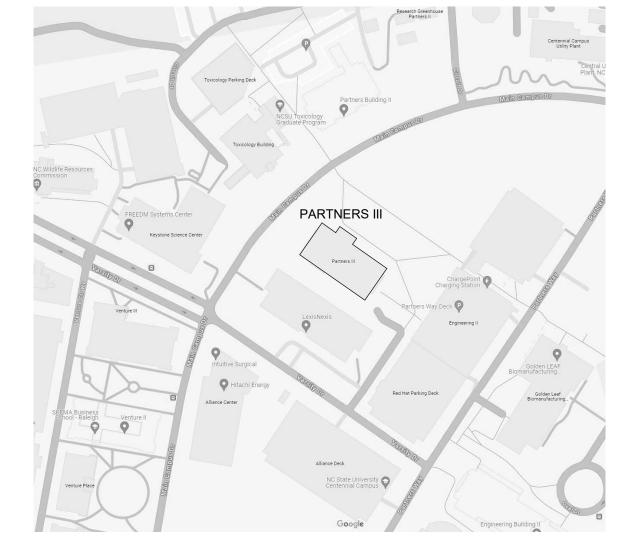
Electrical Engineer

MCKIM & CREED CONTACT: Tommy Norby 4300 EDWARDS MILL ROAD RALEIGH, NC, 27612 919.233.8091 www.mckimcreed.com

Plumbing Engineer

MCKIM & CREED CONTACT: Tommy Norby 4300 EDWARDS MILL ROAD RALEIGH, NC, 27612 919.233.8091 www.mckimcreed.com



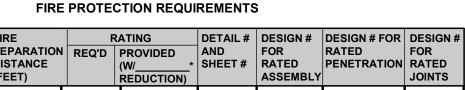




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	2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS (EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)	BUILDING ELEMENT FI SE DI (F
	(Reproduce the following data on the building plans sheet 1 or 2)	Structural Frame, including columns, girders, trusses
E	Name of Project:       PARTNERS III LAB RENOVATION         Address:       851 Main Campus Drive, Raleigh, NC       Zip Code: 27606         Owner/Authorized Agent:       L. KEEL       Phone #( 919 ) 515 - 8066 E-Mail Ilkeel@ncsu.edu         Owned By:       City/Country       Private       State         Code Enforcement Jurisdiction:       City       Country       State	Bearing Walls Exterior North East West South
	CONTACT: James Benson, Hanbury, james.benson@hanbury.design	Interior Nonbearing Walls and Partitions
	DESIGNER     FIRM     NAME     LICENSE #     TELEPHONE #     E-MAIL       Architectural     HANBURY     JAMES BENSON     13043     (919)     624-4186     james.benson@hanbury.design	Exterior walls North East
	Civil         n/a         ()           Electrical         McKIM & CREED         XING ZHOU         052051         ()P19         233-8091         szhou@mckimcreed.com           Fire Alarm         McKIM & CREED         XING ZHOU         052051         ()P19         233-8091         szhou@mckimcreed.com	West South Interior walls and partitions
	Plumbing       McKIM & CREED       BRIAN SHASSIAN       056538       ( 919 ) 233-8091       bshassian@mckimcreed.com         Mechanical       McKIM & CREED       BRIAN SHASSIAN       056538       ( 919 ) 233-8091       bshassian@mckimcreed.com         Sprinkler-Standpipe       McKIM & CREED       BRIAN SHASSIAN       056538       ( 919 ) 233-8091       bshassian@mckimcreed.com	Floor Construction Including supporting beams and joists
	Structural         ()           Retaining Walls >5' High         ()	Floor Ceiling Assembly Column Supporting Floors
	Other (	Roof Construction, including supporting beams and joists Roof Ceiling Assembly
	2018 NC CODE FOR:       New Construction       Addition       Renovation         1st Time Interior Completion       Shell/Core       Shell/Core         Phased Construction – Shell/Core       Shell/Core	Column Supporting RoofShaft Enclosures - ExitShaft Enclosures - OtherCorridor SeparationOccupancy/Fire Barrier
	2018 NC EXISTING BUILDING CODE:       □ Prescriptive       □ Repair       □ Chapter 14         Alteration:       □ Level I       □ Level II       □ Level III	Separation Party/Fire Wall Separation
П	CONSTRUCTED:(date) 2005 ORIGINAL OCCUPANCY(S) (Ch. 3): BUSINESS	Smoke Barrier SeparationSmoke PartitionTenant/Dwelling Unit/
D	RENOVATED:       (date)       2022       CURRENT OCCUPANCY(S)       (Ch. 3):       BUSINESS         RISK CATEGORY (table 1604.5)       Current:       I       II       III       IV	Sleeping Unit Separation Incidental Use Separation * Indicate section number permitti
	Proposed:         I         II         III         IV	EXISTING TO REMAIN
	BASIC BUILDING DATA Construction Type: I-A III-A III-A IV V-A (short all that apply)	FIRE SEPARATION DISTANCE (FEET FROM
	(check all that apply) □ I-B ■ II-B □ III-B □ V-B Sprinklers: □ No □ Partial ■ Yes ■ NFPA 13 □ NFPA 13R □ NFPA 13D Standpipes: □ No ■ Yes Class ■ I □ II □ III ■ Wet □ Dry	PERPERTY LINES
	Standpipes:       No       Yes       Class       I       II       III       Dry         Fire District:       No       Yes       (Primary)       Flood Hazard Area:       No       Yes         Special Inspections Required:       No       Yes	
	Gross Building Area:	
	FLOOR     EXISTING (SQ     NEW (SQ FT)     RENO/ALTER     SUB-TOTAL       FT)     (SQ.FT)       6th Floor	Emergency Lighting: Exit Signs:
	5th Floor       4th Floor       3rd Floor       23,386	Fire Alarm: Smoke Detection Systems: Carbon Monoxide Detection:
	2nd Floor         23,386           Mezzanine         -           1st Floor         23,269         1,377	
С	Basement         9,806           TOTAL         79,847         1,377	Life Safety Plan Sheet #:
	ALLOWABLE AREA	Fire and/or smoke rated v Assumed and real proper Exterior wall opening area
	Primary Occupancy Classification: <u>SELECT ONE</u> Assembly A-1 A-2 A-3 A-4 A-5	<ul> <li>Occupancy types for each</li> <li>Occupant loads for each</li> <li>Exit access travel distance</li> </ul>
	Business Educational Factory F-1 Moderate F-2 Low	Common path of travel di Dead end lengths (1020.4
	Hazardous H-1 Detonate H-2 Deflagrate H-3 Combust H-4 Health H-5 HPM Institutional I-1 Condition I 2 1-2 Condition I 2	Clear exit widths for each Maximum calculated occ Actual occupant load for
	☐ 1-3 Condition ☐ 1	A separate schematic pla of occupancy separation
	Mercantile Residential R-1 R-2 R-3 R-4 Storage S-1 Moderate S-2 Low High-piled	Location of doors with pa Location of doors with de Location of doors with ele
	Parking Garage Open Enclosed Repair Garage Utility and Miscellaneous  Accessory Occupancy Classification(s):	Location of doors equippe Location of emergency es
	Incidental Uses (Table 509): Special Uses (Chapter 4 – List Code Sections)	<ul><li>The square footage of ea</li><li>The square footage of ea</li><li>Note any code exceptions</li></ul>
	Special Provisions: (Chapter 5 – List Code Sections):         Mixed Occupancy:       No         Yes       Separation:         Hr. Exception:	Section/Table/Note
	Non-Separated Use (508.3) The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of	
_	construction, so determined, shall apply to the entire building.  Separated Use (508.4) - See below for area calculations for each story, the area of the occupancy shall be such that the sum of the retire of the setup flace area of each way divided by the allowable flace area for each way divided by the area of the occupancy shall be such that the sum of	EXISTING TO REMAIN
В	the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1. <u>Actual Area of Occupancy A</u> + <u>Actual Area of Occupancy B</u> < 1	TOTAL ACCESSIBLE ACCE
	Allowable Area of Occupancy A       Allowable Area of Occupancy B	UNITS UNITS UI REQUIRED PRO
	EXISTING TO REMAIN	
	STORY     DESCRIPTION AND     (A)     (B)     (C)     (D)       NO.     USE     BLDG AREA PER     TABLE 506.24     AREA FOR FRONTAGE     ALLOWABLE AREA PER	EXISTING TO REMAIN
	STORY (ACTUAL) AREA INCREASE <sup>1,5</sup> STORY OR UNLIMITED <sup>2,3</sup>	LOT OR TOTAL # OF PARKING REQUIRE
		AREA
		TOTAL
	1.Frontage area increases from Section 506.3 are computed thus: a. Perimeter which fronts a public way or open space having 20 feet minimum width = (F)	
	b. Total Building Perimeter = (P) c. Ratio (F/P) = (F/P) d. W = Minimum width of public way = (W)	EXISTING TO REMAIN
	e. Percent of frontage increase If = 100 [ F/P - 0.25] x W/30 = (%) 2.Unlimited area applicable under conditions of Section 507. 3.Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2)	
	4.The maximum area of open parking garages must comply with Table 406.5.4 5.Frontage increase is based on the unsprinklered area value in Table 506.2.	SPACE EXIST'G NEW REQ'D
Α	EXISTING TO REMAIN ALLOWABLE HEIGHT	• • · · · ·
/ X	ALLOWABLE (TABLE 503) SHOWN ON PLANS CODE REFERENCE	Special approval: (Local Jurisdictio
	Building Height in Feet (Table 504.3)         Building Height in Stories (Table 504.4)	
	1.Provide code reference if the "Show on Plans" quantity is not based on Table 594.3 or 504.4. 2.The maximum height of air traffic control towers must comply with Table 412.3.1 3.The maximum height of open parking garages must comply with Table 406.5.4	

JOINTS



,					
N/A	EXISTING	0			
N/A	N/A				
N/A	N/A				
0 HR	EXISTING				
0 HR	1 HR	1 HR			
UTIK	TTIX	1111			
	EXISTING				
	EXISTING				
	LAISTING				
	EXISTING				
	EXISTING				
	N/A				
	N/A				
	N/A				
	N/A				 
	N/A				
ng reduction	ר **SHAFT SHAFT FI	ENCLOSURE 4 STO NCLOSURE 3 STOP	ORIES OR MOR	RE - 2HR - 1HR	

SHAFT ENCLOSURE 3 STORIES OR LESS - 1HR CODE REFERENCE NCBC 713

PERCENTAGE OF WALL OPENING CALCULATIONS							
DEGREES OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)					
>	$\langle$						

LIFE \$	SAFETY SYSTEM REQUIREMENTS
🗌 No	Yes
No No	Yes
No	Yes

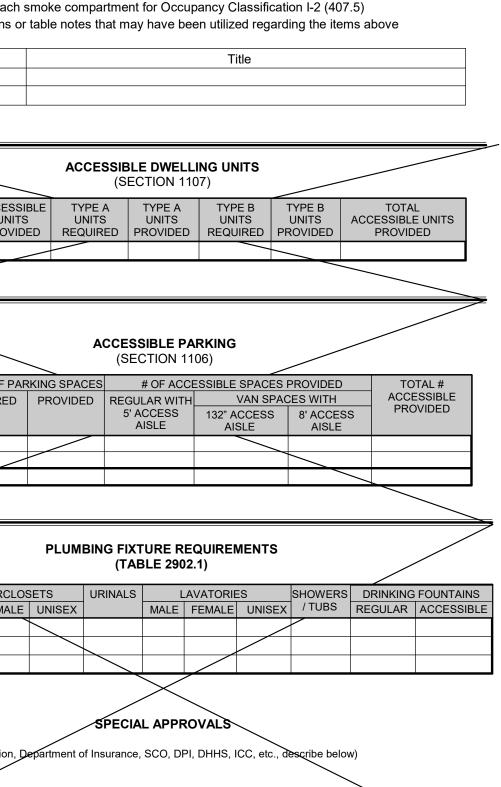
No	Yes	
No No	Yes Partial	
No	Yes	

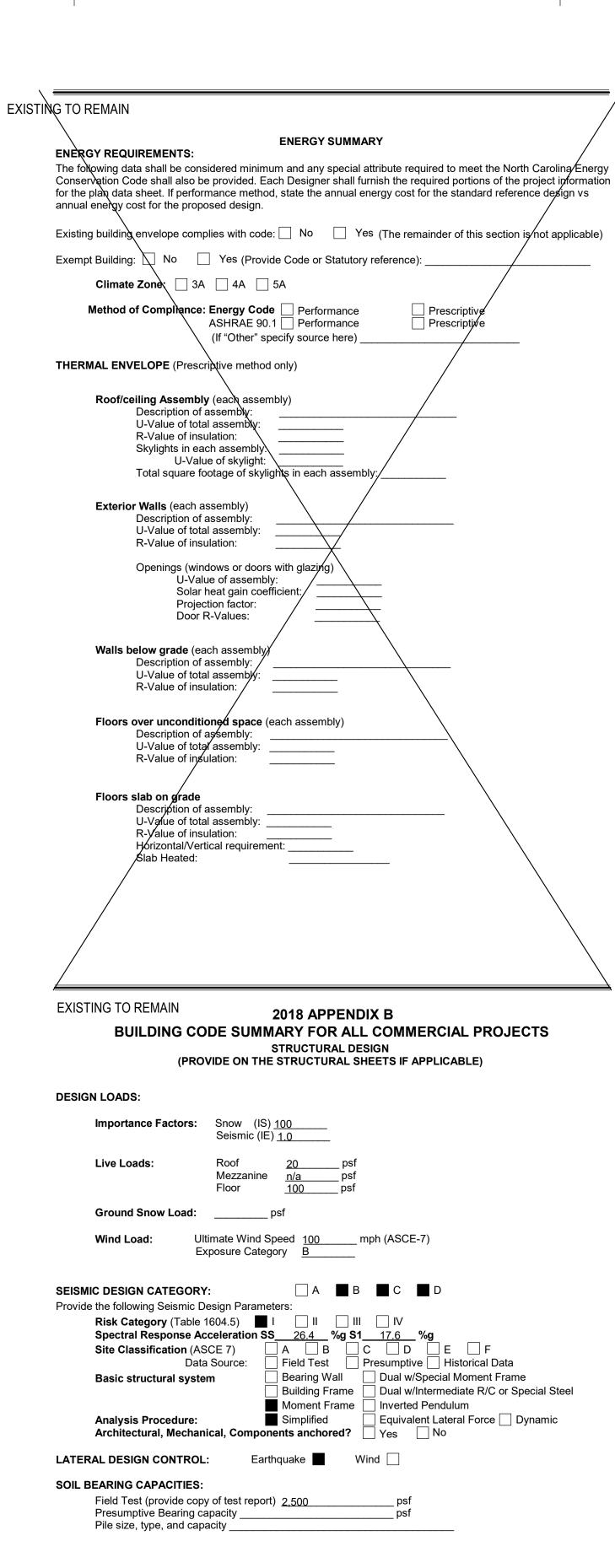
#### LIFE SAFETY PLAN REQUIREMENTS

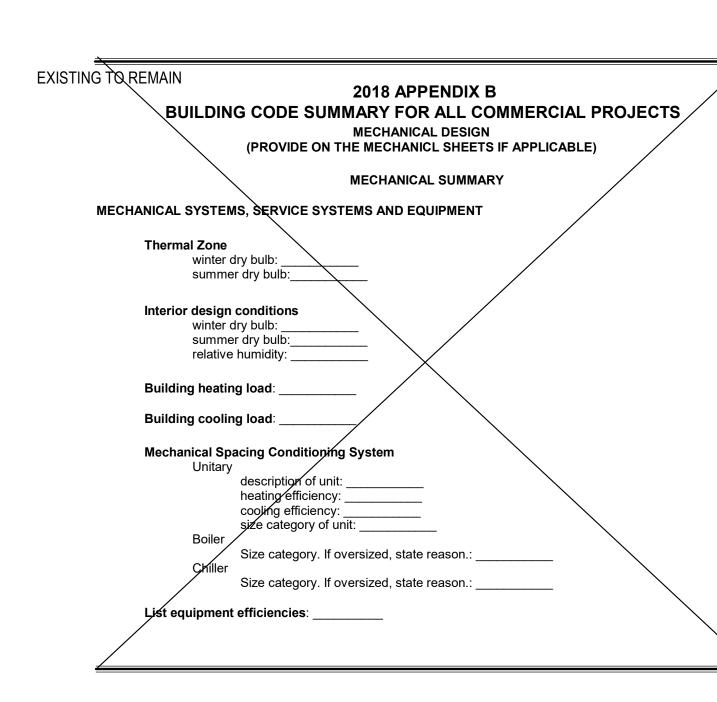
wall locations (Chapter 7)

- erty line locations (if not on the site plan)
- ea with respect to distance to assumed property lines (705.8) ch area as it relates to occupant load calculation (Table 1004.1.2)
- n area
- nces (1017)
- distances (1006.2.1 & 2006.3.2(1))
- n exit door
- cupant load capacity each exit door can accommodate based on egress width (1005.3) each exit door
- an indicating where fire rated floor/ceiling and/or roof structure is provided for purposes and supporting construction for a fire barrier/fire partition/smoke barrier.
- anic hardware (1010.1.10)
- elayed egress locks and the amount of delay (1010.1.9.7) ectromagnetic egress locks (1010.1.9.9)
- bed with hold-open devices
- scape windows (1030) ach fire area (202)

## ach smoke compartment for Occupancy Classification I-2 (407.5)

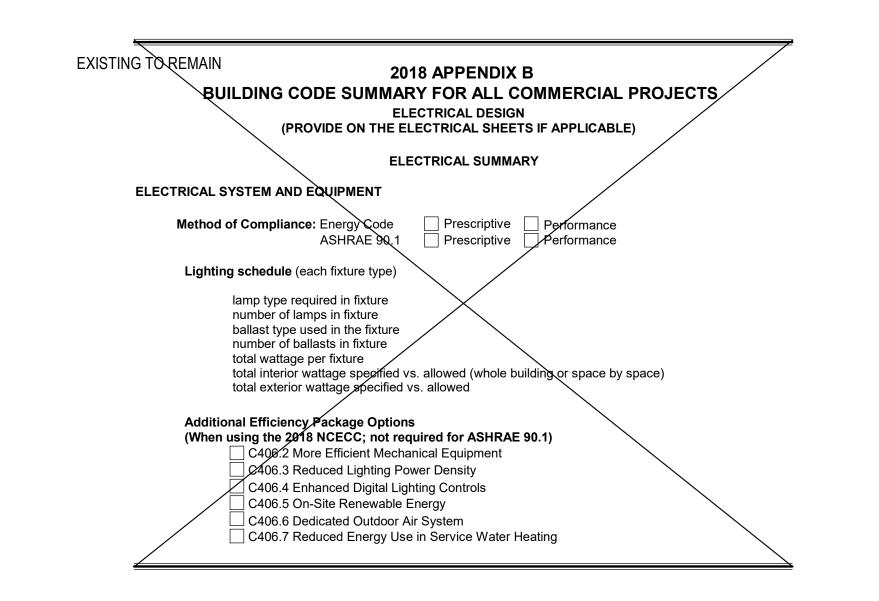












## INDEX OF DRAWINGS

<b>SHEET</b> NUMBER GENERAL	SHEET NAME	
G001	COVER SHEET	
G002	PROJECT DATA AND DRAWING INDEX	
G003	GENERAL NOTES & ABBREVIATIONS	
G110	LIFE SAFETY LEGEND & PLANS	
DEMOLITION		C
D001	DEMOLITION PLAN LEVEL 01	U
ARCHITECTU	JRE	
A101	FLOOR PLAN LEVEL 01	
A121	REFLECTED CEILING PLAN LEVEL 01	
QL001	LAB NOTES, DETAILS, AND SCHEDULES	
QL400	LABORATORY FLOOR PLANS	
ELECTRICAL		
E001	ELECTRICAL LEGEND SHEET	
E002	ELECTRICAL NOTES & ABBREVIATIONS SHEET	
E100	ELECTRICAL DEMOLITION	
E101	ELECTRICAL NEW WORK PLAN - POWER & SPECIAL SYSTEMS	
E102	ELECTRICAL NEW WORK PLAN - LIGHTING	
E300	ELECTRICAL PANEL SCHEDULES	
E500	ELECTRICAL DETAILS	
PLUMBING		
P001	PLUMBING DATA SHEET	
P100	PLUMBING WORK	
FIRE PROTE	CTION	
FP001	FIRE PROTECTION DATA SHEET	
FP201	FIRE PROTECTION PLAN	
MECHANICA	L	
M001	MECHANICAL DATA SHEET	
M100	MECHANICAL DEMOLITION	D
M200	MECHANICAL NEW WORK	D
M800	MECHANICAL DETAILS	
M801	AIRFLOW DIAGRAM	

## PROJECT SCOPE

#### NCSU Partners III 1F Reno

AREAS: THE SCOPE OF WORK FOR THE EXISTING BUILDING IS LIMITED TO ROOMS 169, 169A, AND 167 WITH THE ADDITION OF ROOM 169B TAKING A PORTION OF 167'S SQUARE FOOTAGE. ARCHITECTURAL: LIMITED SELECTIVE DEMOLITION OF EXISTING ISLAND CASEWORK IN 169 AND EAST WALL CASEWORK IN 169. REMOVAL OF THE GLASS FROM A STOREFRONT WINDOW IN 169 FOR THE ADDITION OF A PASSTHROUGH BETWEEN 169A AND NEW CLOSET. CEILINGS IN ALL SPACES TO BE DEMOLISHED. ADDITION OF NEW PARTITION AND DOOR ASSEMBLY IN 167 TO FOR NEW ROOM 169B. INFILL OF STOREFRONT PANE WITH DRYWALL AND NEW PASSTHROUGH ASSEMBLY. CEILINGS IN ALL SPACES TO BE REPLACED. MECHANICAL: RELOCATION OF EXISTING PROCESS CHILLED WATER PIPING IN SPACE. REWORK OF SUPPLY DUCTOWRK FROM EXISTING VAV AND SUPPLY AND EXHAUST SERVING POTION OF 167. DEMOLITION OF PROCESS CHILLED WATER SERVICE 169 AND ADDITION OF NEW PIPING, RECIRCULATION PUMP, AND MULTIPLE DROPS TO SERVE NEW EQUIPMENT IN 167. ADDITION OF NEW EXHAUST TERMINAL UNIT AND DUCTWORK FOR EXHAUST SNORKELS IN 169 PREP LAB. FIRE PROTECTION: REWORK OF BRANCH PIPING AND SPRINKLERS AS NECESSARY FOR NEW PARTITION AND NEW CEILING WORK. ADDITION OF NEW SPINKLERS FOR NEW RAISED CEILING ELECTRICAL: DEMOLITION OF ALL EXISTING LIGHTING AND ASSOCIATED CONTROLS, AND REPLACEMENT WITH NEW LED LIGHTING FIXTURES AND LOW VOLTAGE CONTROLS

(SWITCHES, POWER PACKS, AND CEILING MOUNTED SENSORS) TO ACCOMODATE NEW LAYOUTS. RELOCATION OF COORD REELS IN LAB 169A. DEMOLITION OF SOME EXISTING RECEPTACLES, WIREWAYS, AND DATA OUTLETS TO CREATE SPACE FOR NEW EQUIPMENT. ADDITION OF NEW DISCONNETS RECEPTACLES AND JUNCTION BOXES TO SUPPLY POWER FOR NEW LAB EQUIPMENT, PROVIDE CONNECTIONS FOR NEW VAV BY MECHANICAL AND CHILLED WATER PUMP BY PLUMBING. REMOVAL OF SMOKE DETECTOR IN LAB 169A, AND ADDITION OF NEW SMOKE DETECTOR AS REPLACEMENT TO ACCOMODATE NEW EQUIPMENT. PLUMBING: DEMOLITION OF ABANDONED COLD AND HOT WATER LINES IN LAB 169 BACK TO THE MAIN AND CAPPING OF LINE. DEMOLITION OF ABANDONED LAB VENT AND CAPPING OF VENT.

2

# HANBURY

www.hanbury.design 310 S West Street, Suite 100 Raleigh, NC 27601 +1 919 301 0202

Client North Carolina State University 851 Main Campus Drive Raleigh, NC, 12612

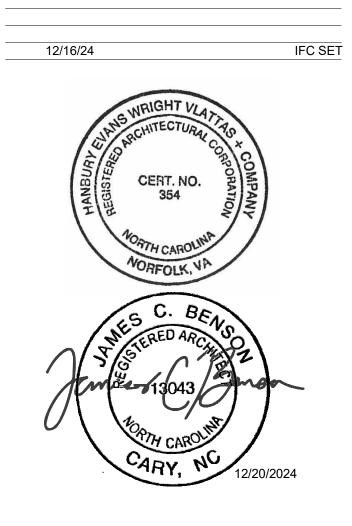
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Consultants McKim & Creed 4300 Edwards Mill Road, Suite 200 Raleigh, NC 27612 919.233.8091 www.mckimcreed.com





Project Number: 22057.03 Status & Date: 12/20/2024

Sheet Title: **PROJECT DATA AND DRAWING INDEX** 

Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: 713 NC State Project ID Number: 202435062 SCO # 24-28212-01A

Sheet Number: G002

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## ABBREVIATIONS

WV

Y'ALL

\_ \_ \_ \_ \_ \_ \_ + + + \_ \_ \_ \_

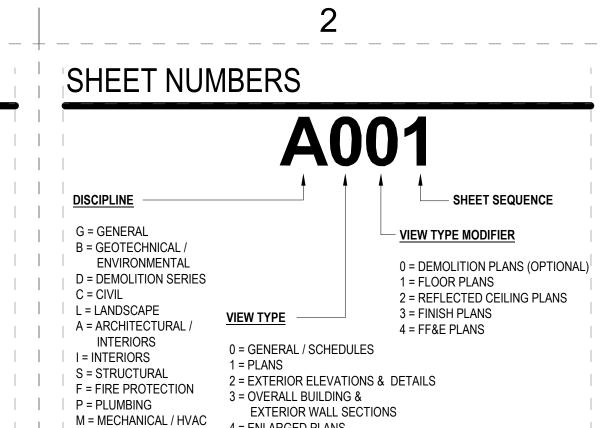
3

ACP ACT	ACOUSTIC CEILING PANEL ACOUSTIC CEILING TILE
ACT ADA	ACOUSTIC CEILING TILE AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISH FLOOR
ALUM B	
BES	BASE BUILDING EXPANSION JOINT
BLDG	BUILDING
BLKG	BLOCKING
C CAB	CEILING CABINET
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CFOI	CONTRACTOR FURNISHED OWNER INSTALLED
CIP CJ	
CL	CONTROL JOINT CENTERLINE
CLG	CEILING
CLR	CLEAR
CMD CMP	CORRUGATED METAL DECK COMPOSITE METAL PANEL
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT COORD	CONTINUOUS COORDINATE
CPT	CARPET
CSMU	CALCIUM SILICATE MASONRY UNIT
DBL	DOUBLE
DEMO DIA	DEMOLISH / DEMOLITION DIAMETER
DIAG	CORRUGATED METAL DECK
DIM	DIMENSION
DN	DOWN DECORATIVE PANEL
DP DR	DECORATIVE PANEL DOOR
DTL	DETAIL
DWG	DRAWING
EA EL	EACH
ELEC	ELECTRICAL
ELEV	ELEVATION OR ELEVATOR
EPDM	ETHYLENE PROPYLENE DIENE TERPOLYMER
EQ ERTS	EQUAL EMERGENCY RESPONSE TELEPHONE SYSTEM
EXT	EXTERIOR
F	FLOOR
FAB	
FD FE	FLOOR DRAIN FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FLR	FLOOR
FRP	FIBER REINFORCED PANEL
FRT GA	FIRE RETARDANT TREATED GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GL GWB	GLASS / GLAZING GYPSUM WALL BOARD
GVVB GYP BD	GYPSUM WALL BOARD
HC	HOLLOW CORE
HEWV	HANBURY, EVANS, WRIGHT, VLATTAS
hir Horiz	HEARING IMPARED ROOM HORIZONTAL
HPDL	HIGH PRESSURE DECORATIVE LAMINATE
HR	HOURS
HT	HEIGHT
IMP INSUL	INSULATED METAL PANEL INSULATED / INSULATION
INT	INTERIOR
LP	
LVT MAX	LUXURY VINYL TILE MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN MIN	MINIMUM MINUTES
MR	MIROR
MTL	METAL
NO NOM	NUMBER
OA	OVERALL
00	
OFCI OFOI	OWNER FURNISHED CONTRACTOR INSTALLED OWNER FURNISHED OWNER INSTALLED
OFOI OH	OWNER FURNISHED OWNER INSTALLED
OPP	OPPOSITE / OPPOSITE HAND
PART	PARTIAL
PJ PL	PANEL JOINT PLASTIC LAMINATE
PLY	PLYWOOD
PNT	PAINT
PT PT	
PT RBR	PRESSURE TREATED RUBBER
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REQD RF	REQUIRED RESILIENT FLOORING
RM	ROOM
RO	ROUGH OPENING
SC SCHED	SOLID CORE
SCHED	SMOKE DETECTOR
SEP	SEPARATION
SIM	SIMILAR
SPEC SPK	SPECIFICATION SPRINKLER
SS	SOLID SURFACE
SSTL	STAINLESS STEEL
ST STC	STONE SOUND TRANSMISSION COEFFICIENT
STC STRUC	SOUND TRANSMISSION COEFFICIENT STRUCTURE / STRUCTURAL
Т	TRIM
T&G	
TEL / TELE	TELECOMMUNICATIONS / TELEPHONE
TLT TO	TOILET TOP OF
ТОС	TOP OF CONCRETE
TOS	TOP OF STEEL
TYP	
UL UNO	UNDERWRITERS LABORATORY UNLESS NOTED OTHERWISE
VERT	VERTICAL
	VERIFY IN FIELD
VIF	NA/A1 1
VIF W	WALL
VIF W W/	WALL WITH WALL COVERING
/IF N N/ NC ND	WITH WALL COVERING WOOD
VIF W W/ WC WD WOM WT	WITH WALL COVERING

2B A141 40	<ul> <li>SHEET WHERE ELEVATION IS LOCATED</li> <li>EXTERIOR ELEVATION NUMBER</li> </ul>
5A A141	BUILDING SECTION NUMBER SHEET WHERE SECTION IS LOCATED
5A A141	
5A A141	CALLOUT NUMBER SHEET WHERE CALLOUT IS LOCATED
2B A141 4C - 3D	SHEET WHERE ELEVATION IS LOCATED INTERIOR ELEVATION NUMBER
5A A141	STAIR SECTION NUMBER SHEET WHERE SECTION IS LOCATED
5A	CASEWORK ELEVATION NUMBER SHEET WHERE ELEVATION IS LOCATED
▲ 5A / A1	CASEWORK ELEVATION NUMBER 41— SHEET WHERE ELEVATION IS LOCATED
5A	CASEWORK SECTION NUMBER
A141 -	SHEET WHERE SECTION IS LOCATED
A45°-	DELTA     TRUE NORTH     PROJECT NORTH
ROOM NAME	ROOM NUMBER
	ROOM NUMBER CENTERLINE OF SHEAR WALL
101   SW*   *   45 STC   5B4 - 4	CENTERLINE OF SHEAR WALL WITH LETTER OR NUMBER INDICATES
101 SW* 45 STC SB4 - 4 XXBCXX 120"	CENTERLINE OF SHEAR WALL WITH LETTER OR NUMBER INDICATES CENTERLINE OF COLUMN STC RATING (IF APPLICABLE)
101 SW* 45 STC SB4 - 4 XXBCXX 120" SB4 - 4 XXBCXX	CENTERLINE OF SHEAR WALL WITH LETTER OR NUMBER INDICATES CENTERLINE OF COLUMN STC RATING (IF APPLICABLE) PARTITION TYPE HEIGHT IN INCHES PARTITION TYPE (PARTIAL HEIGHT) CEILING TYPE
101 SW* 45 STC 45 STC 5B4 - 4 XXBCXX 120" SB4 - 4 XXBCXX	CENTERLINE OF SHEAR WALL WITH LETTER OR NUMBER INDICATES CENTERLINE OF COLUMN STC RATING (IF APPLICABLE) PARTITION TYPE HEIGHT IN INCHES PARTITION TYPE (PARTIAL HEIGHT) CEILING TYPE
101 SW* 45 STC SB4 - 4 XXBCXX 120" SB4 - 4 XXBCXX 120" SB4 - 4 XXBCXX	CENTERLINE OF SHEAR WALL WITH LETTER OR NUMBER INDICATES CENTERLINE OF COLUMN STC RATING (IF APPLICABLE) PARTITION TYPE HEIGHT IN INCHES PARTITION TYPE (PARTIAL HEIGHT) CEILING TYPE HEIGHT AFF
101 SW* 45 STC SB4 - 4 XXBCXX 120" SB4 - 4 XXBCXX 120" 11-0" 100A	CENTERLINE OF SHEAR WALL WITH LETTER OR NUMBER INDICATES CENTERLINE OF COLUMN STC RATING (IF APPLICABLE) PARTITION TYPE HEIGHT IN INCHES PARTITION TYPE (PARTIAL HEIGHT) CEILING TYPE HEIGHT AFF
101 SW* 45 STC SB4 - 4 XXBCXX 120" SB4 - 4 XXBCXX 120" 11-0" 100A (#)	CENTERLINE OF SHEAR WALL WITH LETTER OR NUMBER INDICATES CENTERLINE OF COLUMN STC RATING (IF APPLICABLE) PARTITION TYPE HEIGHT IN INCHES PARTITION TYPE (PARTIAL HEIGHT) CEILING TYPE HEIGHT AFF
101 SW* 45 STC SB4 - 4 XXBCXX 120" SB4 - 4 XXBCXX 120" (100A) (100A) (#) (100A)	CENTERLINE OF SHEAR WALL WITH LETTER OR NUMBER INDICATES CENTERLINE OF COLUMN STC RATING (IF APPLICABLE) PARTITION TYPE HEIGHT IN INCHES PARTITION TYPE (PARTIAL HEIGHT) CEILING TYPE HEIGHT AFF DOOR MARK WINDOW TYPE
101 SW* 45 STC SB4 - 4 XXBCXX 120" SB4 - 4 XXBCXX 120" SB4 - 4 XXBCXX 11-0" 100A (#) ? 11 CASE	CENTERLINE OF SHEAR WALL WITH LETTER OR NUMBER INDICATES CENTERLINE OF COLUMN STC RATING (IF APPLICABLE) PARTITION TYPE HEIGHT IN INCHES PARTITION TYPE (PARTIAL HEIGHT) CEILING TYPE HEIGHT AFF DOOR MARK WINDOW TYPE KEYNOTE FURNITURE TYPE
101 SW* 45 STC SB4 - 4 XXBCXX 120" SB4 - 4 XXBCXX 120" SB4 - 4 XXBCXX 11-0" 100A (#) ? 11 CASE	CENTERLINE OF SHEAR WALL WITH LETTER OR NUMBER INDICATES CENTERLINE OF COLUMN STC RATING (IF APPLICABLE) PARTITION TYPE HEIGHT IN INCHES PARTITION TYPE (PARTIAL HEIGHT) CEILING TYPE HEIGHT AFF DOOR MARK WINDOW TYPE KEYNOTE FURNITURE TYPE CASEWORK TYPE ROOM FINISH LOCATION

WOOD VENEER

YOU ALL



#### 4 = ENLARGED PLANS 5 = INTERIOR ELEVATIONS & CASEWORK 6 = DETAILS

## SHEET LAYOUT

E = ELECTRICAL

X = OTHER

	6	5	4	3	2	1	
  E 	<b>E</b> 6	E5	E4	E3	E2	E1	
D 	D6	D5	D4	D3	D2	D1	
C	C6	C5	C4	C3	C2	C1	
  B 	B6	B5	B4	B3	B2	B1	
 A 	A6	A5	A4	A3	A2	A1	

## COLOR CODING

	DISCIPLINES		
	ARCHITECTURAL (S	SURFACE)	
	ARCHITECTURAL (0	CUT)	
	STRUCTURAL		
	MECHANICAL		
	ELECTRICAL		
	PLUMBING		
	ELEMENTS		
	LIFE SAFETY ELEM	ENTS	
	ANNOTATION		
	GENERAL ANNOTA	TION	
	CRITICAL DIMENSIO	ON / CLEARANCE	
+			
	IS		
MATERIA	LS		
	LS		·
	EARTH		GYPSUM WALL BOARD
	EARTH		
			GYPSUM WALL BOARD
	EARTH		RIGID INSULATION
	EARTH POROUS FILL		
	EARTH POROUS FILL		RIGID INSULATION
	EARTH POROUS FILL MORTAR		RIGID INSULATION SAFING
	EARTH POROUS FILL MORTAR		RIGID INSULATION SAFING
	EARTH POROUS FILL MORTAR CONCRETE		RIGID INSULATION SAFING CLEARANCES
	EARTH POROUS FILL MORTAR CONCRETE		RIGID INSULATION SAFING CLEARANCES
	EARTH POROUS FILL MORTAR CONCRETE CMU BRICK		RIGID INSULATION SAFING CLEARANCES
	EARTH POROUS FILL MORTAR CONCRETE CMU		RIGID INSULATION SAFING CLEARANCES
	EARTH POROUS FILL MORTAR CONCRETE CMU BRICK FINISH WOOD		RIGID INSULATION SAFING CLEARANCES
	EARTH POROUS FILL MORTAR CONCRETE CMU BRICK		RIGID INSULATION SAFING CLEARANCES
	EARTH POROUS FILL MORTAR CONCRETE CMU BRICK FINISH WOOD		RIGID INSULATION SAFING CLEARANCES
	EARTH POROUS FILL MORTAR CONCRETE CMU BRICK FINISH WOOD FINISH WOOD		RIGID INSULATION SAFING CLEARANCES
	EARTH POROUS FILL MORTAR CONCRETE CMU BRICK FINISH WOOD FINISH WOOD		RIGID INSULATION SAFING CLEARANCES
	EARTH POROUS FILL MORTAR CONCRETE CMU BRICK FINISH WOOD FINISH WOOD	Y	RIGID INSULATION SAFING CLEARANCES
	EARTH POROUS FILL MORTAR CONCRETE CMU BRICK FINISH WOOD FINISH WOOD		RIGID INSULATION SAFING CLEARANCES

#### DEFINITION: THE TERM "DESIGN PROFESSIONAL" MEANS "ARCHITECT", "PROFESSIONAL ENGINEER", "INTERIOR DESIGNER" OR OTHER PARTY RESPONSIBLE FOR PROVIDING DESIGN SERVICES AS APPROPRIATE.

- 1. ALL WORK TO CONFORM TO LOCAL CODES, ORDINANCES, AND REGULATIONS. VERIFY ALL EXISTING CONDITIONS.
  - VERTICAL DIMENSIONS ARE FROM "FLOOR LINE" UNLESS OTHERWISE NOTED. REFER TO ELEVATIONS FOR "FLOOR LINE" DATUMS. EXTERIOR DIMENSIONS ARE TO FACE OF BRICK VENEER, BRICK VENEER MASONRY OPENING,
  - OR COLUMN CENTERLINE UNLESS NOTED OTHERWISE. INTERIOR HORIZONTAL DIMENSIONS FOR NEW CONSTRUCTION ARE FROM FACE OF STUD OR BLOCK UNLESS OTHERWISE NOTED. HORIZONTAL DIMENSIONS FOR EXISTING CONSTRUCTION ARE FROM FACE OF EXISTING FINISHED SURFACE.
  - DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND NOTIFY DESIGN PROFESSIONAL OF ALL DISCREPANCIES AND OBTAIN CLARIFICATION BEFORE CONTINUING WITH CONSTRUCTION. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND COORDINATING WITH ALL
  - TRADES, THE SIZE AND QUANTITY OF ALL OPENINGS FOR MECHANICAL, ELECTRICAL, AND PLUMBING EQUIPMENT, EQUIPMENT PADS OR BASES, AS WELL AS POWER, WATER, AND DRAIN INSTALLATIONS. COORDINATION DRAWINGS FOR ALL TRADE'S WORK SHALL BE SUBMITTED BY THE GENERAL CONTRACTOR BEFORE COMMENCING WITH WORK. ALL CONCERNS, SPATIAL LIMITATIONS, OR STRUCTURAL CONFLICTS SHALL BE IMMEDIATELY SUBMITTED TO THE DESIGN PROFESSIONAL FOR RESOLUTION PRIOR TO COMMENCING WITH
- ANY RELATED WORK. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL ELECTRICAL, DATA, | | 7. AND PHONE OUTLETS, SWITCHES, ETC. TO AVOID CONFLICTS WITH CASEWORK, DOORS, AND OTHER TRADES.
  - ALIGN NEW FLOOR FINISHES WITH EXISTING ADJACENT FLOOR FINISHES UNLESS OTHERWISE INDICATED. WHERE NEW AND EXISTING FINISHED SURFACES ARE INDICATED TO BE ALIGNED, INSTALL SO FINISHED SURFACES ARE FLUSH (FEATHER MAXIMUM 1/8" PER FOUR FEET). IT IS UNDERSTOOD AND AGREED THAT DRAWING REFINEMENTS, ADDITIONAL DETAILING AND CLARIFICATIONS WILL BE ISSUED DURING THE CONSTRUCTION SCHEDULE AND NO
  - ADJUSTMENT WILL BE MADE IN THE CONTRACTORS' OR SUB-CONTRACTORS' PRICE UNLESS SUCH REFINEMENT, DETAILING OR CLARIFICATIONS RESULT IN CHANGES TO THE SCOPE. QUALITY, FUNCTION AND OR INTENT OF THE DRAWINGS AND THE PROJECT MANUAL NOT REASONABLY INFERABLE BY A CONTRACTOR OR SUB-CONTRACTOR EXPERIENCED IN THIS TYPE OF WORK.
  - 10. ALL CONTRACTORS AND SUB-CONTRACTORS MUST QUOTE ON COMPLETED, FULLY OPERABLE SYSTEMS BASED ON THE DESIGN INTENT OF THE CONTRACT DOCUMENTS, AND
  - ALL MATERIAL AND LABOR IMPLIED THEREFROM. 11. UNLESS OTHERWISE REQUIRED BY THE OWNER, CONSTRUCTION ADMINISTRATION SERVICES WILL BE COMPLETED USING NEWFORMA PROJECT CENTER. REFERENCE DIVISION 1 OF THE SPECIFICATIONS FOR THE PROCEDURES FOR REQUESTS FOR INFORMATION AND
  - SUBMITTALS. 12. ALL WOOD BLOCKING IN EXTERIOR WALLS SHALL BE PRESERVATIVE PRESSURE TREATED IN ACCORDANCE WITH THE SPECIFICATIONS. ALL WOOD BLOCKING IN INTERIOR WALLS SHALL BE FIRE RETARDANT TREATED IN ACCORDANCE WITH THE SPECIFICATIONS. 13. INSTALL SEALANT AT THE EXTERIOR SIDE OF ALL JOINTS, SEAMS, CONNECTIONS, OR
  - OPENINGS THAT WOULD ALLOW AIR OR WATER INFILTRATION UNLESS NOTED OTHERWISE. SEALANT COLOR MUST RECEIVE DESIGN PROFESSIONAL'S APPROVAL AND MATCH THEIR SAMPLE.
  - 14. THE LOCATIONS OF EXISTING UTILITIES ARE BASED ON DOCUMENTS PROVIDED BY THE OWNER AND MAY NOT REPRESENT THE ACTUAL FIELD CONDITIONS. REVIEW ALL OWNER DOCUMENTS AND BECOME FAMILIAR WITH ALL EXISTING UTILITIES. VERIFY LOCATIONS IN THE FIELD BY EMPLOYING FIELD UTILITY LOCATING SERVICES BEFORE CONSTRUCTION STARTS, AND COORDINATE ALL NEW UTILITY LOCATIONS, CONNECTIONS AND PENETRATIONS.

## FIREPROOFING NOTES

- 1. FIRE STOP ALL FLOORS, WALLS, & CEILINGS AS REQUIRED BY APPLICABLE CODES. 2. ALL FIREPROOFING DESIGNS SHOULD BE CONSIDERED THERMALLY UNRESTRAINED. HOLES CUT THROUGH EXISTING OR NEW FIRE RATED CONSTRUCTION FOR INSTALLATION OF PIPING, DUCTWORK, OR OTHER PENETRATIONS SHALL BE KEPT TO A MINIMUM NUMBER AND HELD TO A MINIMUM SIZE. FILL VOIDS BETWEEN PIPES, DUCTS, OTHER PENETRATING ITEMS AND RATED CONSTRUCTION WITH FIRE RETARDANT SEALANT SYSTEM LISTED IN THE UL FIRE RESISTANCE DIRECTORY WITH FIRE (F) AND TEMPERATURE (T) RATINGS EQUAL TO OR GREATER THAN THE FIRE RESISTANCE RATING OF THE ASSEMBLY BEING SEALED. SPRAYED FIREPROOFING FOR STRUCTURAL MEMBERS WITH W/D OR A/P RATIOS OTHER
- THAN THE SPECIFIED UL DESIGN, WILL BE ADJUSTED IN ACCORDANCE WITH THE ADJUSTMENT OF SPRAYED PROTECTION MATERIAL THICKNESS FOR UNRESTRAINED RATINGS FOR VARIOUS BEAM AND COLUMN SIZES AS FOUND IN THE MOST CURRENT EDITION OF THE UL FIRE RESISTANCE DIRECTORY. 4. ALL BEAMS AND COLUMNS SHALL BE ADJUSTED USING W/D OR A/P RATIOS TO DETERMINE

## DESIGN RESPONSIBILITY NOTES

- 1. THESE DRAWINGS AND ASSOCIATED SPECIFICATIONS ARE LIMITED TO THE DESIGN SERVICE'S CONVEYED WITHIN THE CONTRACT DOCUMENTS. THESE DESIGN SERVICES ARE LIMITED TO:
- A. ARCHITECTURAL DESIGN B. MECHANICAL ENGINEERING DESIGN

THE CORRECT FIREPROOFING THICKNESS.

- C. ELECTRICAL ENGINEERING DESIGN D. PLUMBING ENGINEERING DESIGN
- E. STRUCTURAL ENGINEERING DESIGN F. FIRE PROTECTION ENGINEERING
- G. COST ESTIMATION
- 2. EXCLUDED SERVICES ARE, BUT NOT LIMITED TO, THE FOLLOWING: A. GEOTECHNICAL ENGINEERING B. CIVIL ENGINEERING C. LANDSCAPE DESIGN

## REFERENCE THE OWNER ARCHITECT AGREEMENT FOR ALL EXCLUDED SERVICES.

- THE PROJECT SPECIFICATIONS INDICATE SEVERAL AREAS OF DELEGATED DESIGN WHERE A QUALIFIED PROFESSIONAL MUST BE ENGAGED BY THE CONTRACTOR AND/OR
- SUBCONTRACTOR TO PROVIDE DESIGN SERVICES AND/OR SHOP DRAWINGS. THESE MAY INCLUDE, BUT ARE NOT LIMITED TO: A. COLD-FORMED METAL FRAMING
- B. METAL FABRICATIONS C. STAIRS AND RAILINGS

D. INTERIOR DESIGN

- D. WOOD OR LIGHT GAUGE METAL TRUSSES E. ALUMINUM FRAMED ENTRANCES AND STOREFRONTS
- F. GLAZING G. LOUVERS
- H. SUSPENDED CEILING SYSTEMS I. SIGNAGE
- J. FIRE SUPPRESSION & FIRE SPRINKLER SYSTEMS K. PIPE HANGERS & EQUIPMENT SUPPORTS L. LIGHTING POLES & SPECIALTY LIGHTING DESIGN
- M. FIRE ALARM SYSTEMS
- N. IRRIGATION SYSTEMS.
- REFERENCE SPECIFICATIONS FOR ALL REQUIREMENTS RELATED TO DELEGATED DESIGN ALONG WITH PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA.

## ABATEMENT NOTES

ABATEMENT OF HAZARDOUS MATERIALS IS OUTSIDE THE SCOPE OF THESE DOCUMENTS AND WILL BE PERFORMED UNDER A SEPARATE CONTRACT.

 $^{\prime}$  DUE TO THE ORIGINAL CONSTRUCTION DATE AND AGE OF THE STRUCTURE DESCRIBED WITHIN  $^{\prime}$ THIS RENOVATION PROJECT'S SCOPE OF WORK, A HAZARDOUS MATERIAL SURVEY BY A QUALIFIED LICENSED PROFESSIONAL FOLLOWING THE EPA, NIOSH, AND ASTM METHODOLOGIES AND STANDARDS SHALL BE CONDUCTED BY THE OWNER / GC. COORDINATION BETWEEN THE LICENSED INSPECTING PROFESSIONAL AND THE LOCAL AHJ IS REQUIRED TO ENSURE ALL LOCAL REQUIREMENTS OF TESTING, REPORTING, AND RECOMMENDED ABATEMENT PROCEDURES ARE DENTIFIED AND MET, AND ALL RELATED DOCUMENTATION IS TO BE SUBMITTED AS PER THE

 $\pm$ LOCAL AHJ'S CRITERIA. — — — — — — — — — — — — — — — — — — + –

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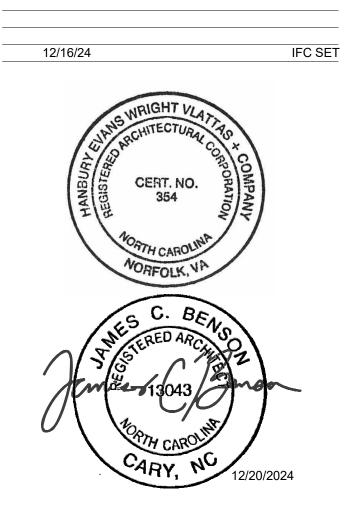
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Project Number: 22057.03 Status & Date: 12/20/2024

Sheet Title: **GENERAL NOTES & ABBREVIATIONS** 

Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: 713 NC State Project ID Number: 202435062 SCO # 24-28212-01A







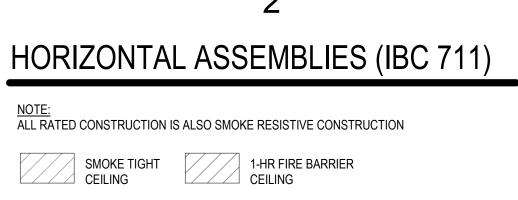




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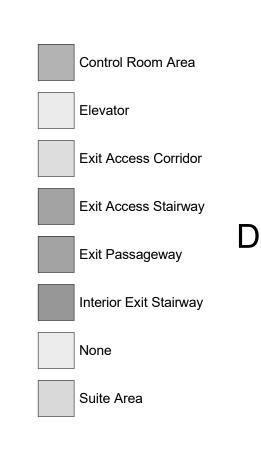
4 FIRE PROTECTION & AL	ARM DEVICES (IBC 906 -90	3	2 HORIZONTAL ASSEMBLIES (IBC 71	1)
FE       FIRE EXTINGUISHER       FEC         BRACKET MOUNTED       FIRE ALARM PULL STATION, +48"       F	FIRE EXTINGUISHER CABINET (RECESSED/ SEMI RECESSED)       SD       FIRE AL SMOKE MOUNTI         FIRE ALARM HORN/STROBE       SD = = F	ARM PHOTOELECTRIC V FIRE ALARM STROBE ONLY, +80" DETECTOR CEILING SYNCHRONIZED 15 CANDELA	NOTE:         ALL RATED CONSTRUCTION IS ALSO SMOKE RESISTIVE CONSTRUCTION         SMOKE TIGHT         CEILING             1-HR FIRE BARRIER         CEILING	
	CANDELA UNLESS OTHERWISE S	ENSOR AND REMOTE LED/ALARM EST STATION	1 HR RATED ROOF/FLOOR ASSEMBLY 2 HR RATED ROOF/FLOOR ASSEMBLY 3 HR RAT ROOF/FLOOR ASSEMBLY ASSEMBLY	.OOR
POINT OF EXIT ACCESS			EGRESS PATH DISTANCES	PATH OF
EGRESS TRAVEL DISTANCE (1017) CHOICE (X USE = X' MAXIMUM)	COMMON (1006.2.1) (X USE = X' MAXIMUM) (MAXIMUM ?')	(MAXIMUM ?')	TYPE EXIT PATH 'A' COMMON PATH OF EGRESS TRAVEL EXIT ACCESS TRAVEL DISTANCE	28'-10" 84'-8" 113'-6"
STAIR 230 ELEV ROOM 103A	AREA OF F	LAB SUPPORT		
	_AB 175A 173A	LAB 169A 512 SF DATA ANALYSIS		
		167 353 SF 26 ot 296		
	LAB 175 173	PREPLAB	LAB 165 ROOM 161	
		34 1/4"/ 0.15" 50 of 228		
JAN 182 ELEC 180 TELEPHONE 178 WOMEN 176 176	MEN 174 LAB 170B	ROOM 208	STA NO.	IR 2 STAIR I (EXISTI WIDTH 140 OCCUP
WRITE UP 134 WRITE UP 136 WRITE UP 138 138	WRITE UP 140 WRITE UP 142			
OFFICE 135 OFFICE 137 OFFICE 139 OFFICE 139	OFFICE 141 OFFICE 143 143		FFICE OFFICE OFFICE OFFICE 153 0FFICE 155 0FFICE 0F	

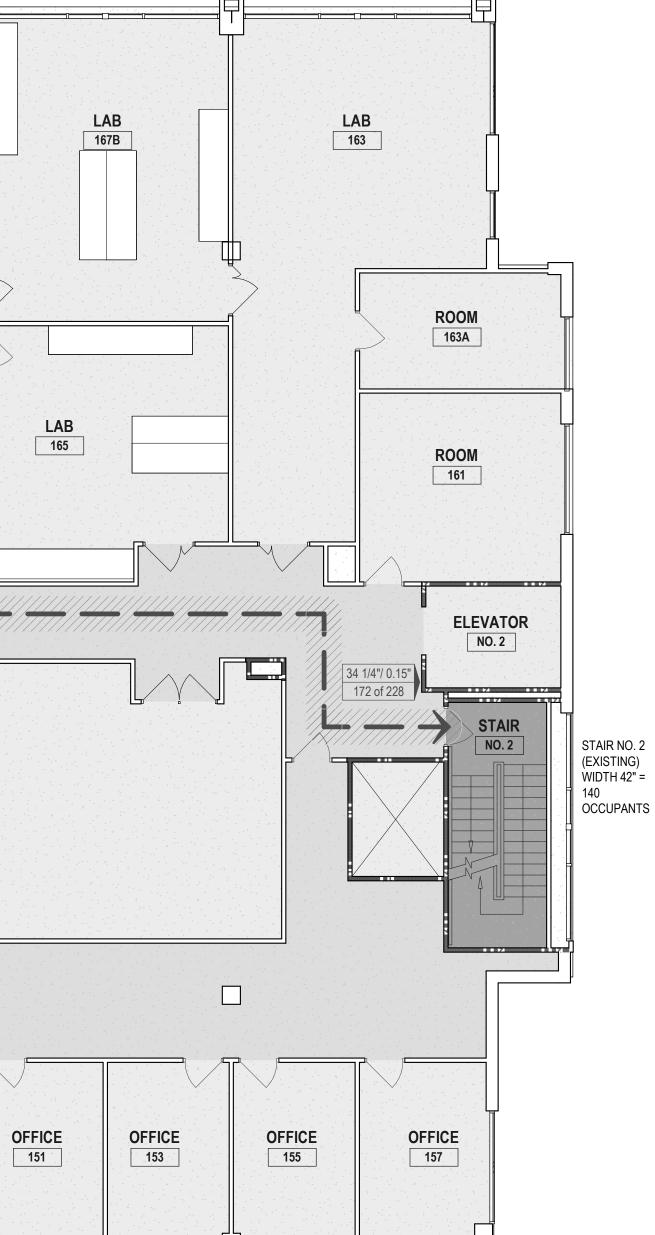
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1 HR RATED ROOF/FLOOR ASSEMBLY	2 HR RATED ROOF/FLOOR ASSEMBLY	3 HR RA ROOF/F ASSEME

- 1. FIRE EXTINGUISHER CABINETS SHALL BE LOCATED SO THAT THE MAXIMUM TRAVEL DISTANCE SHALL NOT EXCEED 75'-0" (906.3).
- 2. MINIMUM EGRESS WIDTH PER OCCUPANT AT STAIRS = 0.3" PER OCCUPANT (1005.3.1). MINIMUM EGRESS WIDTH PER OCCUPANT AT OTHER EGRESS COMPONENTS = 0.2" PER OCCUPANT. (1005.3.2) 3. A FIRE RATED ASSEMBLY AND SMOKE BARRIER ASSEMBLY SHALL BE STENCILED WITH
- THE RELEVANT DESIGNATION AS FOLLOWS (703.7): 3-INCH TALL LETTERS IN RED INK OR PAINT.
  APPLIED AT ALL CONCEALED LOCATIONS (EG., ABOVE CEILING AND INSIDE ELEVATOR SHAFTS) @ 8'-0" OC MAX.





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Keyplan 

> CERT. NO. 354

IFC SET

NCSU PARTNERS III RENOVATION RALEIGH, NORTH CAROLINA

Project Number: 22057.03 Status & Date: 12/20/2024

Sheet Title: A LIFE SAFETY LEGEND & PLANS

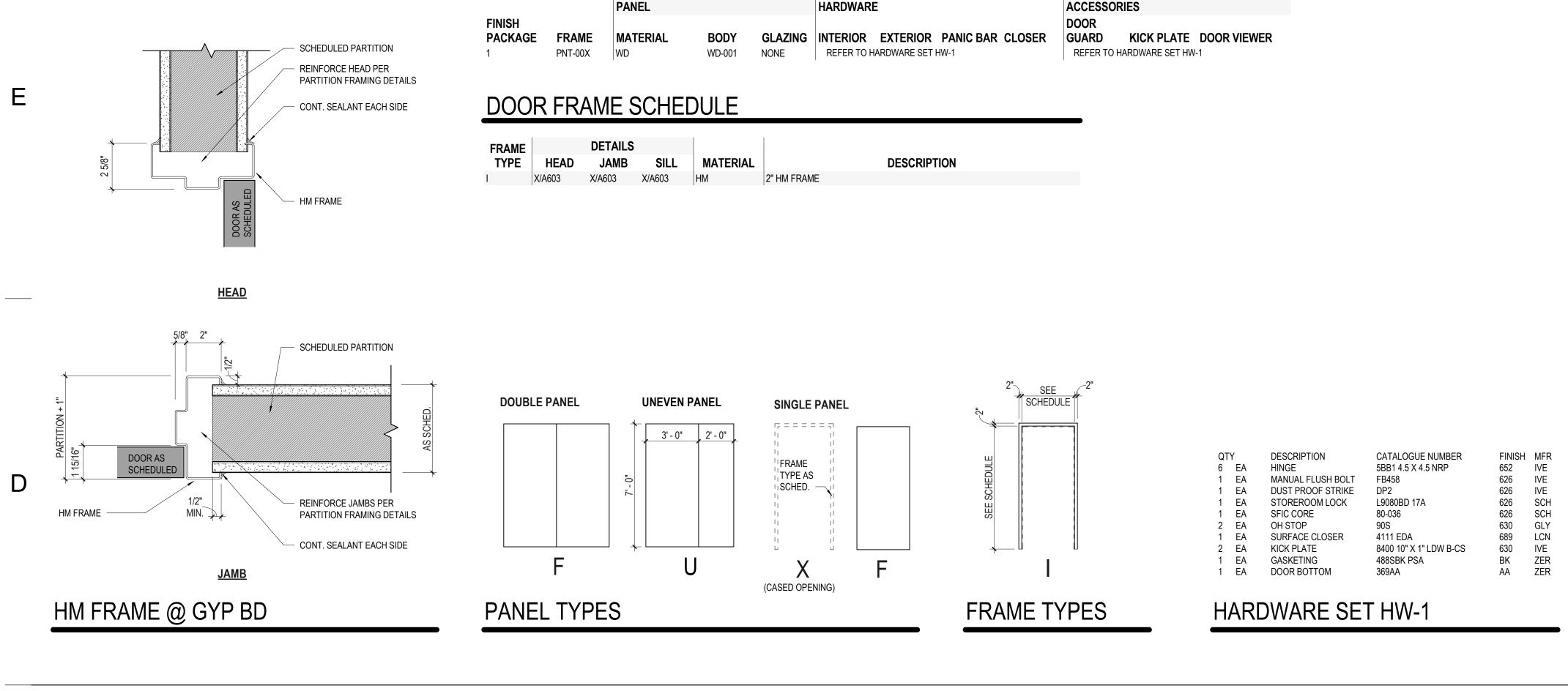
> Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: **713** NC State Project ID Number: **202435062** SCO # 24-28212-01A

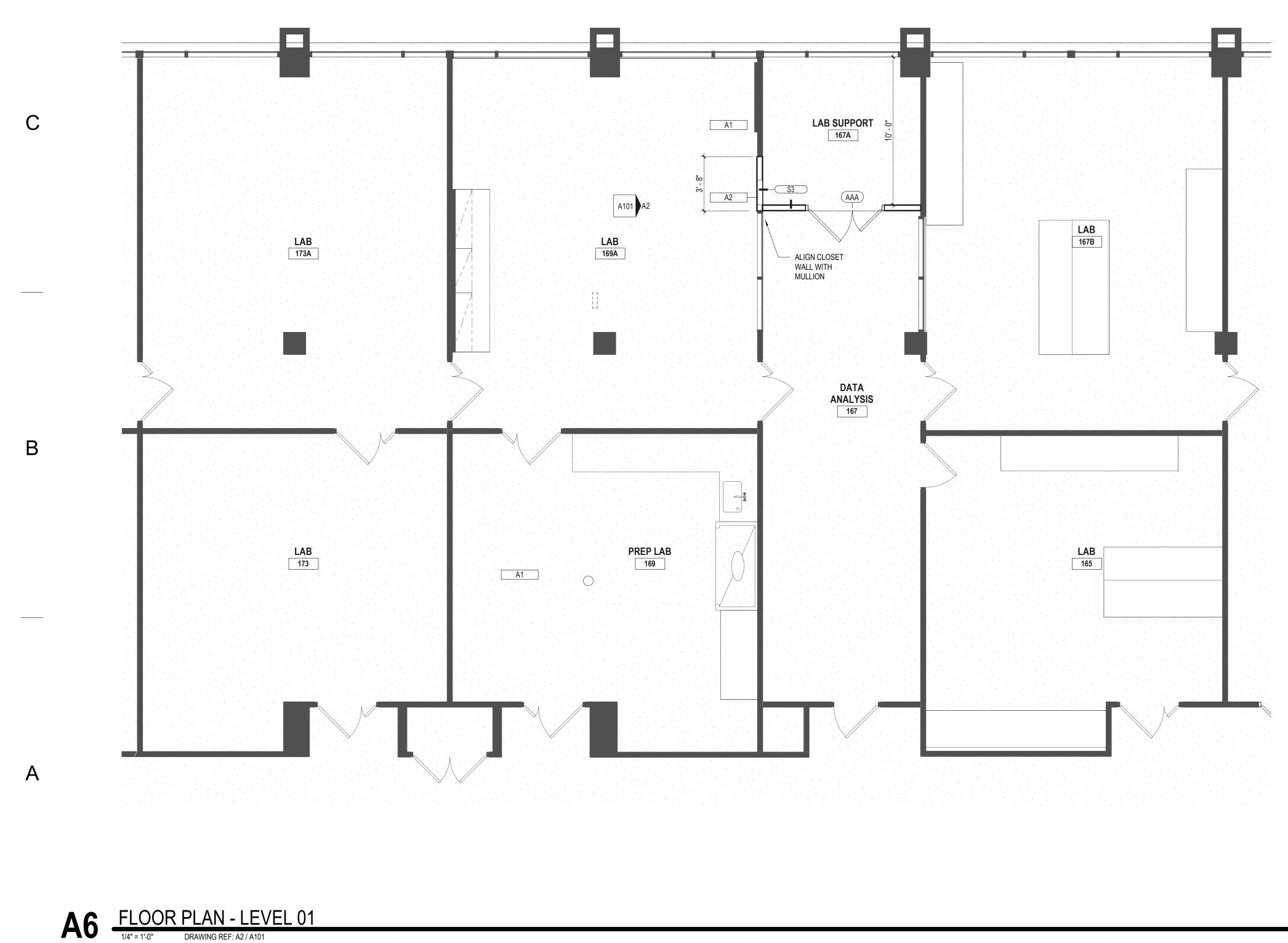
Sheet Number: **G110** 



DOOR FINISH SCHEDULE

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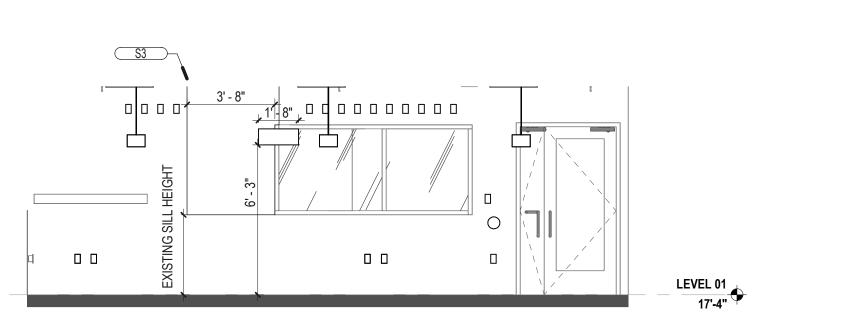
ACCESSORIES

PARTITION SCHEDULE

**CONSTRUCTION DATA** 

## **KEYNOTE LEGEND**

KEY VALUE	KEYNOTE
	PATCH AND REPAIR PARTITION AND FLOORING WHERE CASEWORK HAS BEEN REMOVED.
	INFILL STOREFRONT FRAME WITH DRYWALL. CREATE PIPING PASSTHROUGH. REFER TO A2/A101



# A2 ELEVATION - INFILL AT STOREFRONT

DRAWING REF: A6 / A101	
2	

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Keyplan 

12/16/24 IFC SET CERT. NO. 354

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**NCSU PARTNERS** III RENOVATION RALEIGH, NORTH CAROLINA

Project Number: 22057.03

Status & Date: 12/20/2024

A FLOOR PLAN LEVEL 01

Building No: **713** NC State Project ID Number: **202435062** 

Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III

Sheet Title:

SCO # 24-28212-01A

A101

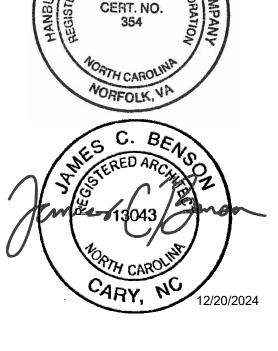
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Sheet Number:









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	• Ť	SPRINKLER HEAD	$\overset{\bullet}{\succeq}$	EXIT SIGNAGE	
	<b>0</b>	SMOKE DETECTOR		LAY-IN FLUORESCENT LIGHT FIXTURE	
	Ś	SPEAKER		PENDANT LIGHT FIXTURE LAY-IN FLUORESCENT LIGHT FIXTURE	
Е	00	OCCUPANCY SENSOR		RECESSED/FLUSH-MOUNTED LIGHT FIXTURE	
	•	CEILING MOUNTED PROJECTOR LOCATION	2	WALL-MOUNTED LIGHT FIXTURE	
	M	MICROPHONE	0	DOWN LIGHT FIXTURE	
		CAMERA LOCATION - CEILING OR WALL-MOUNTED	$\bigcirc$	SEMI-RECESSED DECORATIVE LIGHT FIXTURE	

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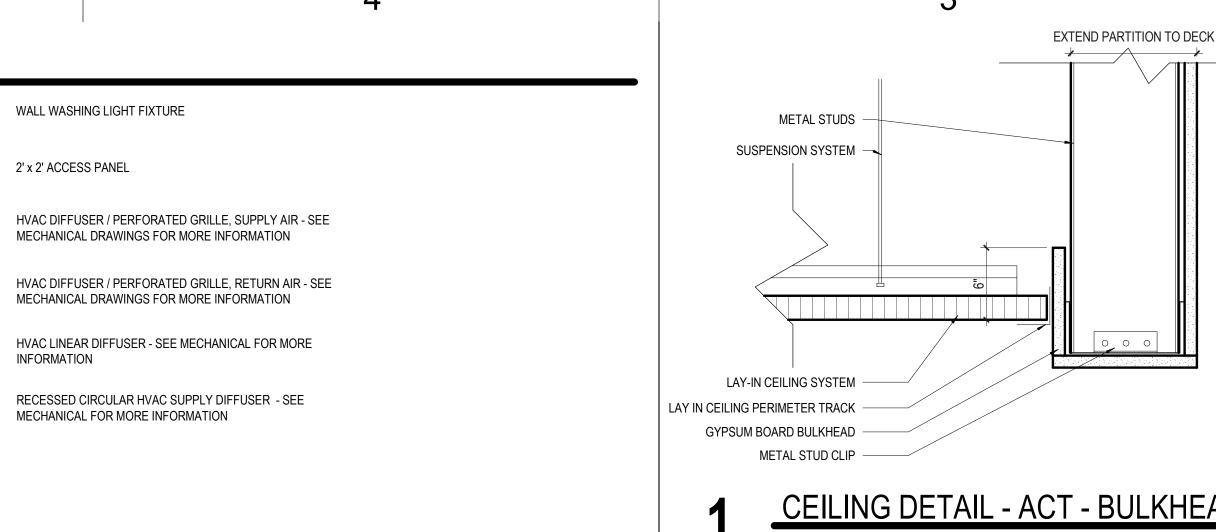
# A6 FIRST FLOOR REFLECTED CEILING PLAN 1/8" = 1'-0" DRAWING REF: A2 / A101

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	ELEVATOR	103A			CE	HEIGHT OF LIGHTS IN OPEN EILING TO BE CONFIRMED WITH ARCHITECT (10'-6 AFF)	LAB 169A	LAB SUPPORT
	LAB 107		LA 175			AC1 RELOCATED		AC1 9'-9"
		]		]		EXISTING CORD REEL	A121 1 Sim	
	LAB 181		LA 177		LAB 173		-8"	
		·/////////////////////////////////////	RIDOR 172				PREP LAB	DATA ANALYSIS 167
	JAN 182 ELEC 180 SHAFT 183	TELEPHONE 178	WOMEN 176	MEN 174	LAB 1708			ROOM 208
	WRITE UP	WRITE UP 136	WRITE UP	WRITE UP	WRITE UP 142		]	
E	OFFICE 135	OFFICE [137]	OFFICE 139	OFFICE 141	OFFICE 143	OFFICE 145	OFFICE 147	OFFICE 149

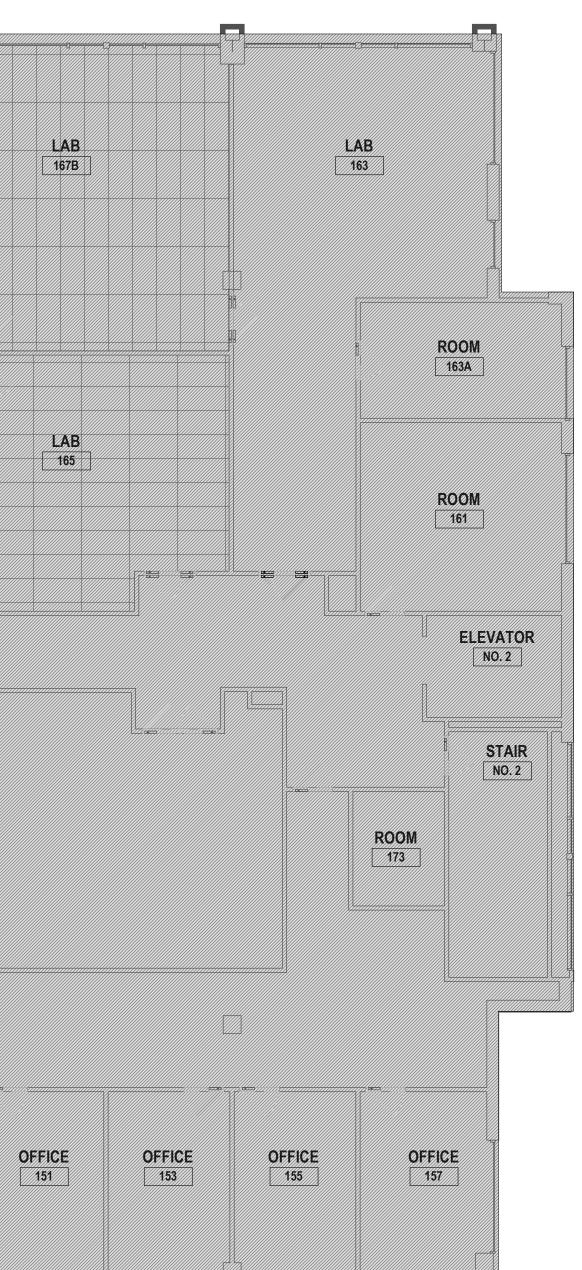


STAIR 230

ELEV ROOM 103A

NOT TO SCALE

2	1	
	KEYVALUE       KEYNOTE         AC1       NEW LIGHTING PER ELECTRICAL DRAWINGS.         AC3       EXISTING CEILING TO REMAIN. REPLACE TILES AS REQUIRED FOR NEW LIGHTING.	
<u>EAD</u>	<ul> <li><b>DEEDED</b> SEE ELECTRICAL DRAWINGS FOR LIGHT FIXTURE TYPE - SEE MECHANICAL DRAWINGS FOR DIFFUSER AND GRILLE TYPES.</li> <li>SEE ELECTRICAL DRAWINGS FOR LIGHT FIXTURE TYPE - SEE MECHANICAL DRAWINGS FOR DIFFUSER AND GRILLE TYPES.</li> <li>CENTER CEILING FIXTURES IN ROOM OR SPACE IF NOT OTHERWISE LOCATED BY DIMENSIONS OR GRAPHIC REPRESENTATION.</li> <li>CENTER CEILING FIXTURES IN SUSPENDED ACOUSTICAL CEILING TILE PANELS.</li> <li>ALL DIMENSIONS ON REFLECTED CEILING PLANS ARE CLEAR DIMENSIONS UNLESS OTHERWISE NOTED.</li> <li>REFER TO INTERIOR ELEVATIONS AND BUILDING ELEVATIONS FOR MOUNTING HEIGHT OF WALL MOUNTED LIGHTS.</li> </ul>	E



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12/16/24

Keyplan 

CERT. NO. 354

IFC SET



Project Number: 22057.03 Status & Date: 12/20/2024

Sheet Title: A REFLECTED CEILING PLAN LEVEL 01

> Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: **713** NC State Project ID Number: **202435062** SCO # **24-28212-01A**



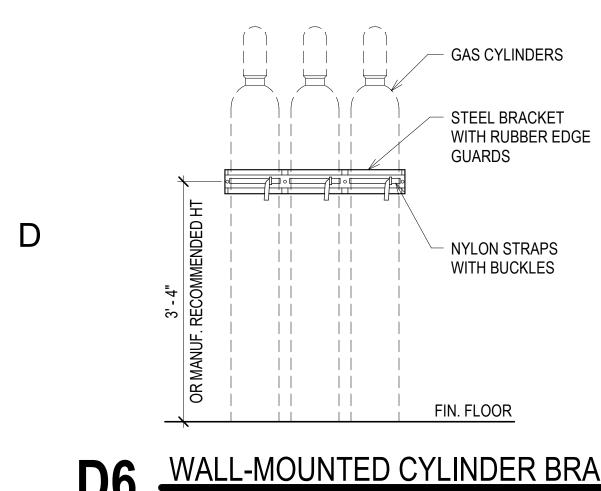




## FINISH LEGEND

	DESCRIPTION ACOUSTIC CEILING PANEL (ACT-1) RESILENT BASE	MANUFACTURER ARMSTRONG TARKETT	MODEL NO 3353 MATCH EXISTING	MODEL NAME OPTIMA N/A	DIMENSION GRID: SQUARE LAY- IN 15/16 PANEL: 24" X 48"	COMMENTS INFORMATION PROVIDED AS A BASIS OF DESIGN.
F	FINISH SCHEDU	JLE				
E	ROOM	BASE	CEILING		_	

ROOM		BASE	CEILING	
NUMBER	NAME	PRIMARY	PRIMARY	COMMENTS
167	DATA ANALYSIS	RB-1	ACT-1	
167A	LAB SUPPORT		ACT-1	
169	PREP LAB		ACT-1	
169A	LAB		ACT-1	

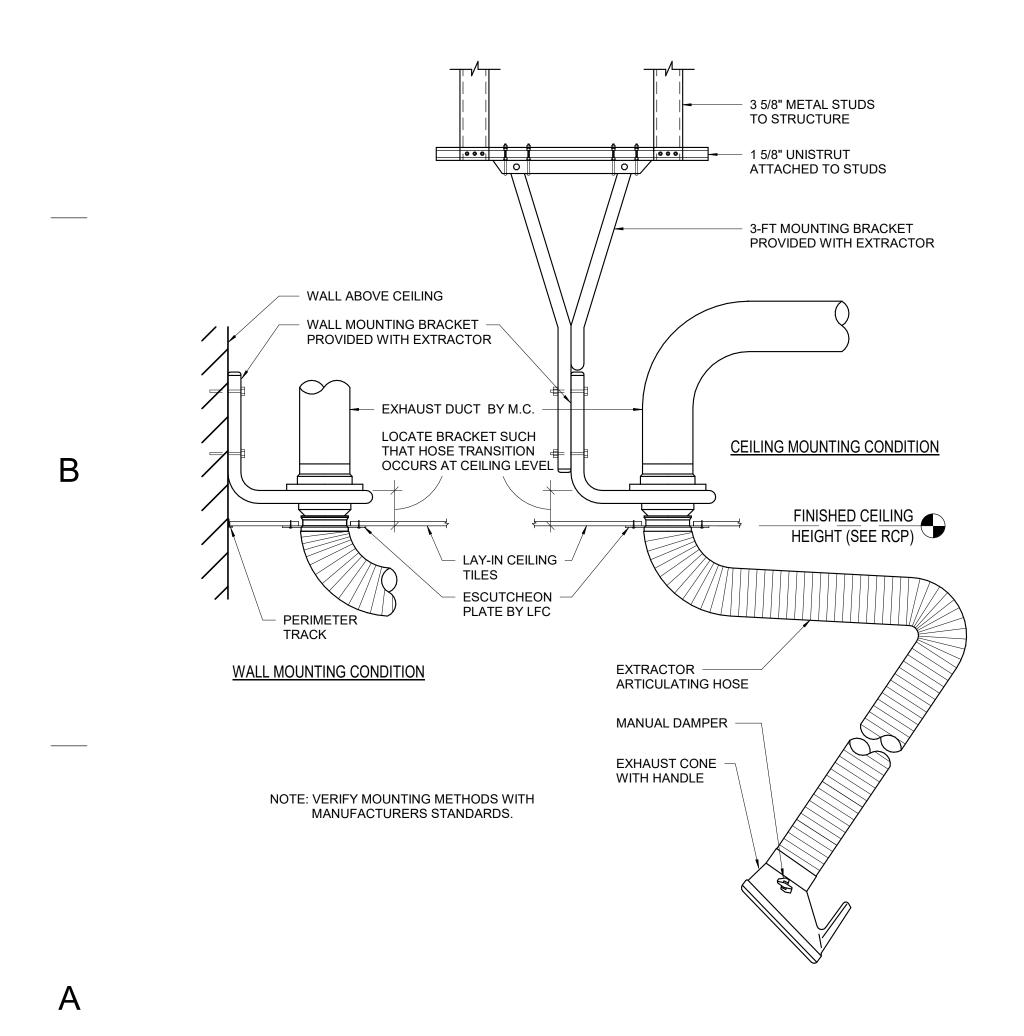


# D6 WALL-MOUNTED CYLINDER BRACKET

	ACCESSORIES SCHEDULE							
MARK         DESCRIPTION         TYPE         MANUFACTURER         MODEL         REMARKS								
CB3	CYLINDER BRACKET	3 CYLINDER	USS SAFETY	GB300FS	WALL-MOUNTED STEEL BRACKET WITH NYLON STRAPS AND TENSION LOCKS			

NOTES: 1. ALL MANUFACTURERS AND MODEL NUMBERS LISTED ARE PROVIDED AS A BASIS OF DESIGN.

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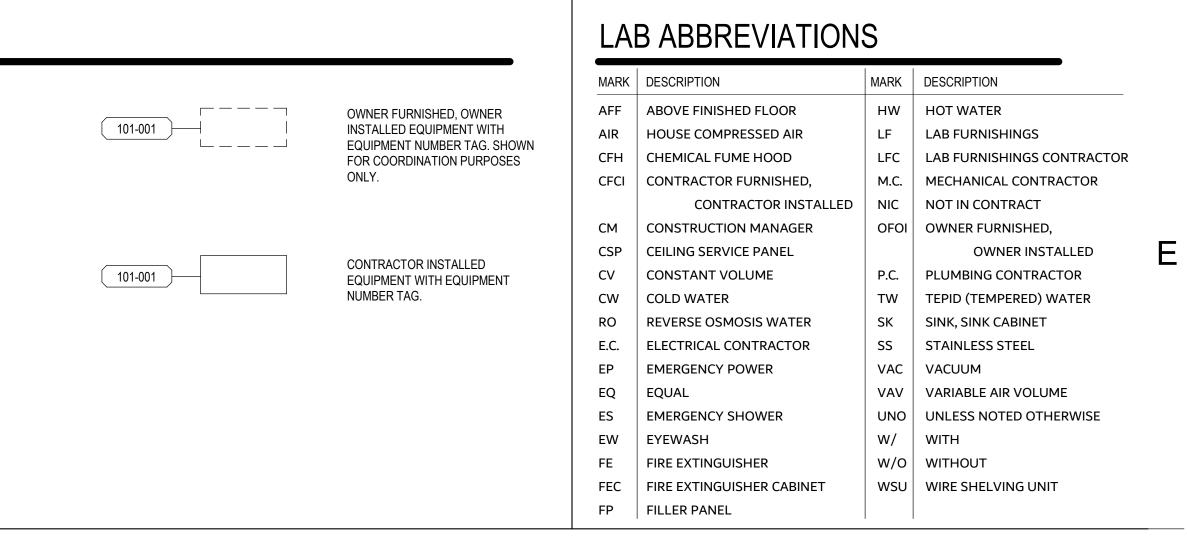


			EXHAUST	SCHEDULE		
MARK	CONFIG. (L x W x D)	MATERIAL	MANUFACTURER	MODEL	EXHAUST	REMARKS
LVE1	SNORKEL	N/A	FUME EXTRACTOR	FX-HA-0610	350 CFM	

NOTES: 1. ALL MANUFACTURERS AND MODEL NUMBERS LISTED ARE PROVIDED AS A BASIS OF DESIGN.

4 LAB FURNISHING	20	3	
	10		
	CHEMICAL FUME HOOD		WALL SHELVING (MOUNTED ON WALL RAILS)
O	LAB SINK		FLOOR MOUNTED WIRE SHELVING UNIT
			DRYING RACK (PEGBOARD)
	FIXED BENCH MODULE UNDER WORK SURFACE		EMERGENCY SHOWER AND/OR EYEWASH STATION (REQUIRED CLEARANCE SHOWN)

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12/16/24

Keyplan 

> CERT. NO. 354

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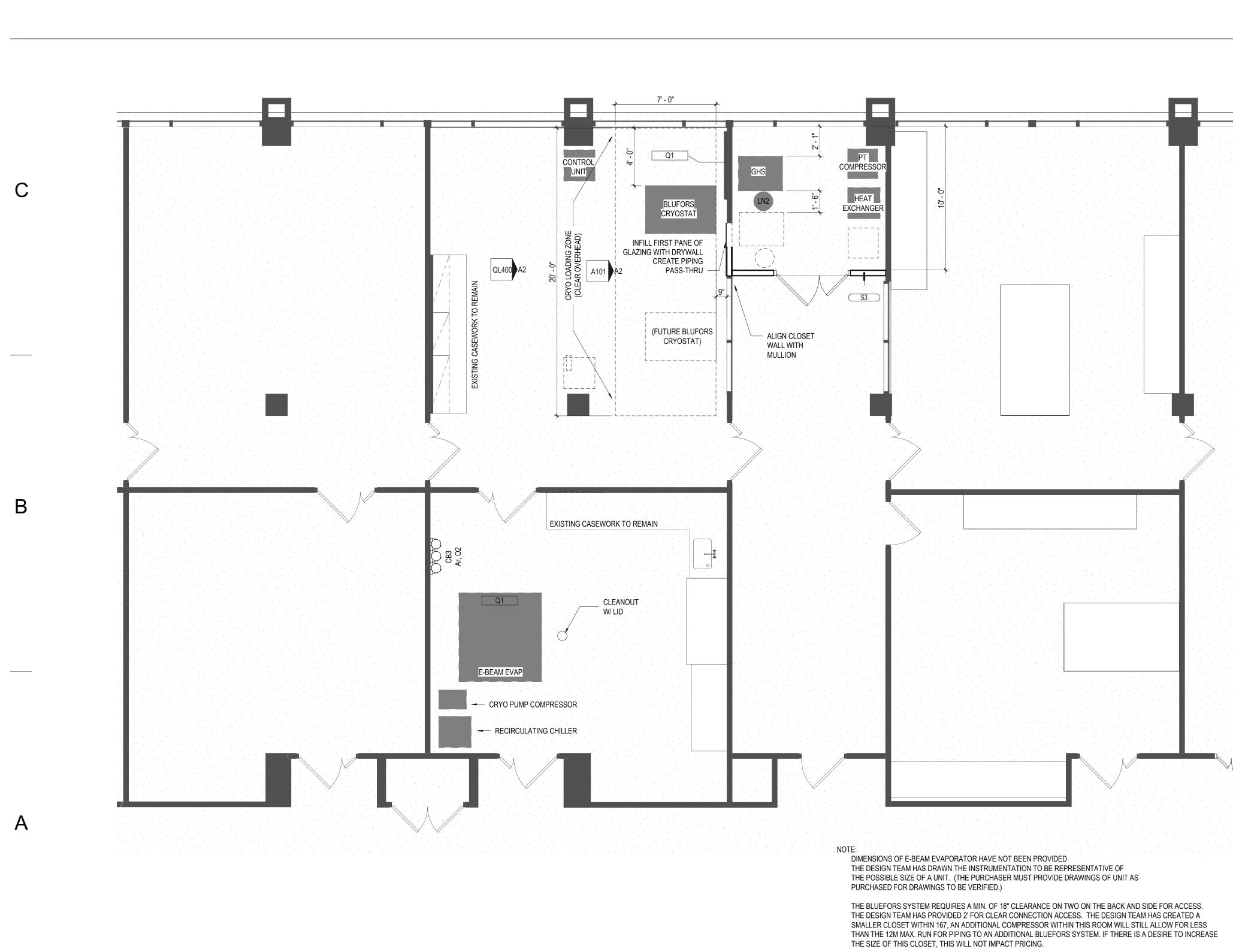


Project Number: 22057.03 Status & Date: 12/20/2024

Sheet Title: A LAB NOTES, DETAILS, AND SCHEDULES

> Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: **713** NC State Project ID Number: **202435062** SCO # 24-28212-01A





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A6 <u>PRELIMINARY LAB LAYOUT</u> 1/4" = 1'-0" DRAWING REF: A2 / A101

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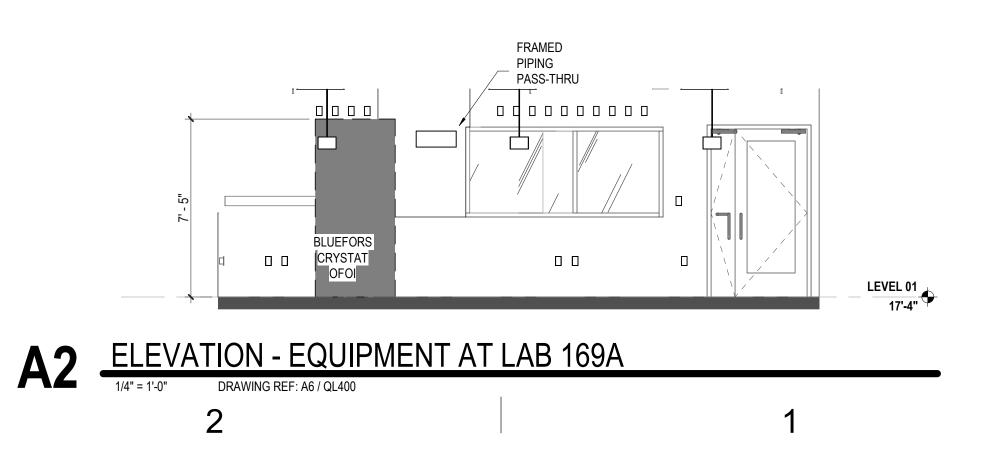
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GENERAL NOTES LABORATORY

## KEYNOTE LEGEND

Q1	PATCH AND REPAIR PARTITION AND FLOORING WHERE CASEWORK HAS BEEN REMOVED.	DEFINITION: THE TERM "DESIGN PROFESSIONAL" MEANS "ARCHITECT", "PROFESSIONAL ENGINEER", "INTERIOR DESIGNER" OR OTHER PARTY RESPONSIBLE FOR PROVIDING DESIGN SERVICES AS APPROPRIATE.
		<ol> <li>LAB FURNISHINGS CONTRACTOR(S) SHALL CAREFULLY EXAMINE THE LABORATORY FURNISHINGS DRAWINGS, SPECIFICATIONS AND ALL OTHER DRAWINGS/SPECIFICATIONS TO PROPERLY DETERMINE CONTRACTUAL RESPONSIBILITIES.</li> <li>FOR ACTUAL ROOM DIMENSIONS, REFER TO THE ARCHITECTURAL PLANS.</li> <li>LAB FURNISHINGS CONTRACTOR(S) SHALL FIELD VERIFY ALL DIMENSIONS BEFORE FABRICATION.</li> <li>OVERALL LENGTH OF WORK SURFACES SHALL BE DETERMINED BY THE CASEWORK AND/OR DIMENSIONS AS INDICATED ON PLANS. LENGTHS SHALL REMAIN CONSTANT REGARDLESS OF SUCCESSFUL BIDDER'S STANDARDS. WORK SURFACES SHALL OVERHANG 1" AT EACH END AND 1" FROM FRONT OF BASE CABINET. WHEN OVERALL DIMENSIONS ARE GIVEN, 1" OVERHANG IS INCLUDED.</li> <li>ON WALL-TO-WALL CASEWORK ASSEMBLIES, THE "OPEN" SPACE DIMENSION SHALL BE DETERMINED IN THE FIELD. IF THERE IS MORE THAN ONE "OPEN" SPACE INDICATED, SPACE AVAILABLE FOR "OPEN" SPACE SHALL BE EVENLY DISTRIBUTED UNLESS OTHERWISE NOTED.</li> <li>WORK SURFACE MATERIAL TO BE 1" THICK EPOXY RESIN CONSTRUCTION, UNLESS OTHERWISE NOTED. SEE LAB PLANS AND WORK SURFACE MATERIAL SCHEDULE FOR TYPE OF WORK SURFACE. DIMENSIONS FOR WORK SURFACE HEIGHTS ARE NOMINAL WITHIN 3/4" OF THE REQUIRED HEIGHT.</li> <li>FILLER PANELS SHALL BE USED BETWEEN BACK OF CABINETS OR FUME HOODS AND WALLS</li> </ol>
		<ol> <li>Inclear Andels Shall be used be twelve back of cabine is on four house and wales (AT EXPOSED ENDS AND WHEN BASE CABINETS AND/OR FUME HOODS ARE SET BACK-TO- BACK). FILLER PANELS SHALL ALSO BE USED AT THE ENDS OF BENCHES, ALL KNEE SPACES AND AT ALL EXPOSED CORE AREAS.</li> <li>ALL EXPOSED-TO-VIEW WORK SURFACE EDGES, BACKS OF SPLASHES, BACKS OF WORK SURFACES AND SPLASHES SHALL BE CAULKED, FILLED, SEALED AND FINISHED.</li> <li>ARCHITECT WILL SELECT COLORS FOR ALL LAB FURNISHING COMPONENTS OF PROJECT (WHERE APPLICABLE) FROM THE MANUFACTURER'S FULL RANGE OF COLORS.</li> <li>ALL PENETRATIONS THROUGH WORK SURFACES SHALL BE CAULKED BY THE LAB FURNISHINGS CONTRACTOR(S) WITH APPROVED ACID-RESISTANT SEALANT.</li> <li>LOCATION OF EQUIPMENT, SUCH AS CEILING SERVICE PANELS, FUME HOODS, UTILITY CHASES OR ANY OTHER ITEMS THAT MAY INTERFERE WITH LIGHTING, STRUCTURAL OR MECHANICAL SYSTEMS SHALL BE CAREFULLY COORDINATED BY THE LAB FURNISHINGS CONTRACTOR. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION IMMEDIATELY.</li> </ol>
		<ol> <li>UTILITY CHASES SHALL BE CENTERED WITHIN INDIVIDUAL BASE CABINET MODULES UNLESS OTHERWISE NOTED.</li> <li>ANY TYPE OF UNISTRUT OR SLOTTED STANDARD FRAME SUPPORTS (USED FOR RACKS, SHELVING, ETC.) SHALL BE SPACED AND POSITIONED TO CLEAR FITTINGS, SINKS AND CUPSINKS.</li> <li>FOR LAB SERVICE FITTINGS, TYPES, LOCATION AND ORDER, SEE ENLARGED LAB PLANS. THESE FITTINGS SHALL BE FURNISHED AND DELIVERED BY THE LAB FURNISHINGS CONTRACTOR AND INSTALLED BY THE PLUMBING OR MECHANICAL PIPING CONTRACTORS. CASEWORK SINKS SHALL BE FURNISHED AND INSTALLED BY THE LAB FURNISHINGS CONTRACTOR.</li> </ol>
		<ol> <li>ALL PLUMBING/MECHANICAL PIPING SYSTEM SUPPORTS SHALL BE FURNISHED AND INSTALLED BY THE PLUMBING/MECH PIPING CONTRACTOR. THE SPACING HANGERS AND FASTENERS SHALL BE AS PER PIPE MANUFACTURER'S RECOMMENDATIONS.</li> <li>ELECTRICAL CONTRACTOR SHALL PROVIDE POWER/DATA DEVICES IN CEILING SERVICE PANELS AND WALL-MOUNTED RACEWAYS.</li> <li>WALL SHELVING AND WALL CABINETRY SHALL BE ALIGNED WITH BASE CABINETRY UNLESS OTHERWISE NOTED. WALLTO-WALL SHELVING OR CABINETRY SHALL BE CENTERED ON WALL AS A SINGLE STRING.</li> <li>GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL BLOCKING FOR CASEWORK AND SHELVES. LAB FURNISHINGS CONTRACTOR IS REQUIRED TO COORDINATE WITH GENERAL CONTRACTOR FOR LOCATION AND SIZE OF BLOCKING.</li> </ol>



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Keyplan 

> CERT. NO. 354

IFC SET



Project Number: 22057.03 Status & Date: 12/20/2024

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В

12/16/24

Sheet Title: A LABORATORY FLOOR PLANS

> Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: **713** NC State Project ID Number: **202435062** SCO # 24-28212-01A





## **KEYNOTE LEGEND**

	KEYNOTE
KEY VALUE	KEYNOTE
AD1	REMOVE EXISTING CASEWORK IN ITS ENTIRETY.
AD2	REMOVE GLAZING FROM STOREFRONT FRAME.
AD3	REMOVE EXISTING PENDANT LIGHTING FIXTURE IN ITS ENTIRETY. REFER TO ELECTRICAL DRAWINGS.
AD4	REMOVE EXISTING DIFFUSER. REFER TO MECHANICAL DRAWINGS.
AD5	REMOVE CEILING GRID IN THIS ROOM IN ITS ENTIRETY.
AD6	REMOVE CEILING GRID WITHIN THE SPECIFIED DIMENSIONS.
AD7	EXISTING CEILING GRID TO REMAIN.

## GENERAL DEMOLITION NOTES

- PRIOR TO PROCEEDING WITH ANY WORK UNDER THIS CONTRACT, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL NECESSARY SAFEGUARDS TO MAINTAIN ALL PARTS OF THE EXISTING SITE AND BUILDINGS IN A SAFE CONDITION THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL PROTECT THE EXISTING BUILDING, ITS CONTENTS AND ALL BUILDING MECHANICAL, ELECTRICAL, FIRE PROTECTION, TELECOMMUNICATIONS AND ALL OTHER MISCELLANEOUS SYSTEMS FROM DAMAGE AT ALL TIMES. ALL DAMAGES RESULTING DIRECTLY OR INDIRECTLY FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED TO A "LIKE NEW" CONDITION AT THE CONTRACTOR'S EXPENSE WITHOUT ANY ADDITIONAL COST TO THE OWNER. IF ASBESTOS CONTAINING MATERIAL IS DISCOVERED DURING THE CONSTRUCTION PROJECT. THE CONTRACTOR SHALL IMMEDIATELY SUSPEND OPERATIONS IN THE AFFECTED AREA AND NOTIFY THE OWNER'S PROJECT REPRESENTATIVE. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT HIS PERSONAL, SUBCONTRACTORS AND ALL SITE VISITORS FROM EXPOSURE TO THE ASBESTOS CONTAINING MATERIAL. CONFIRM EXISTING PAINT HAS BEEN TESTED AND DETERMINED TO CONTAIN LEAD ABOVE
- THE MINIMUM DETECTION LIMIT. ALL EXISTING MATERIALS SHALL BE ASSUMED TO BE PAINTED UNLESS INDICATED OTHERWISE. PERFORM ALL WORK ON EXISTING PAINTEDMATERIALS IN ACCORDANCE WITH CONTRACTOR'S LEAD PAINT COMPLIANCE PLAN. UNLESS LIGHT BALLASTS ARE CLEARLY LABELED "PCB FREE" AND LIGHT FIXTURE BULBS ARE IDENTIFIED AS "LOW MERCURY" AND HAVE DOCUMENTATION INDICATING THAT THE LAMPS PASS "TOXIC CHARACTERISTIC LEACHING PROCEDURE" (TCLP) TESTING, REMOVE ALL
- EXISTING LIGHT BALLASTS AND LAMPS AS PCB AND MERCURY CONTAMINATED MATERIALS AND DISPOSE OF ACCORDANCE WITH EPA, FEDERAL AND STATE REGULATIONS REGARDING DISPOSAL OF HAZARDOUS MATERIALS. DEMOLITION NOTES IN THIS SECTION DO NOT INDICATE LOCATIONS OFHAZARDOUS MATERIALS OR REQUIREMENTS FOR HAZARDOUS MATERIAL REMOVAL. SEE OWNER'S
- INDEPENDENT HAZARDOUS MATERIAL SURVEY FOR TYPES AND LOCATIONS OFSUSPECTED HAZARDOUS MATERIALS. MATERIALS AND CONSTRUCTION SHOWN ON THE DRAWINGS REPRESENTS BOTH EXISTING AND NEW MATERIALS. THE DRAWINGS, OTHER THAN THE DEMOLITION PLANS AND PHOTOGRAPHS, SHOW THE DESIRED FINISHED CONSTRUCTION. IN GENERAL, ONLY NEW WORK ITEMS ARE SPECIFICALLY CALLED OUT ON THE DRAWINGS. EXISTING ITEMS THAT ARE INTEGRAL TO THE CONSTRUCTION ARE IDENTIFIED AS "TO REMAIN."NEW MATERIAL MAY BE IMPLIED AND THEREFORE, NOT SPECIFICALLY CALLED OUT ON THE DRAWINGS. THESE ITEMS ARE DISCERNIBLE FROM OTHER DETAILS AND INFORMATION SHOWN ON THE DRAWINGS.
- DRAWINGS HAVE BEEN PREPARED FROM A COMBINATION OF EXISTING DRAWING INFORMATION AND FIELD MEASUREMENT. DIMENSIONAL DISCREPANCIES WILL BE ENCOUNTERED AND SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. DIMENSIONS ON THE WORK PLANS WITH AN INDICATION OF +/-ARE AREAS THAT CAN BE REVISED DIMENSIONALLY TO COMPENSATE FOR DIMENSIONAL DISCREPANCIES BETWEEN THE EXISTING STRUCTURE AND THE WORK PLANS. ALL DIMENSIONAL REVISIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. THE CONTRACTOR SHALL BECOME TOTALLY FAMILIAR WITH AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS THAT AFFECT THE CONTRACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DIMENSIONS, ELEVATIONS, AND SEQUENCES OF WORK NECESSARY FOR THE PROPER CONSTRUCTION
- AND ALIGNMENT OF PORTIONS OF THE PROJECT THAT INTERFACE WITH EXISTING CONDITIONS TO REMAIN. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS NECESSARY FOR THE PROPER EXECUTION, FABRICATION AND ERECTION OF ALL WORK ASSOCIATED WITH THIS CONTRACT. THE CONTRACTOR SHALL PROTECT THE EXISTING FACILITIES AT ALL TIMES DURING THE COURSE OF CONSTRUCTION. ALL DAMAGES CAUSED AS A RESULT OF HIS ACTIVITIES SHALL
- BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER. IN GENERAL, PATCH, REPAIR, REMODELING AND RENOVATION WORK IS INTENDED TO MATCH, COMPLIMENT AND ALIGN WITH EXISTING CONDITIONS. 9. PLAN DIMENSIONS ARE FROM FACE OF EXISTING FINISH TO REMAIN, FACE OF NEW CMU
- WALL, FACE OF STUD OR CENTERLINES AS INDICATED, UNLESS OTHERWISE NOTED. 10. COORDINATE LOCATION OF CONTRACTOR'S LAY DOWN AREA, PROJECT ACCESS POINTS AND LIMITS OF PERIMETER FENCING WITH OWNER'S PROJECT REPRESENTATIVE. 11. ALL MATERIALS AND EQUIPMENT NOT SPECIFICALLY IDENTIFIED TO REMAIN AND FOR SALVAGE SHALL BE DEMOLISHED WITH THE INTERIOR FINISH DEMOLITION.MISCELLANEOUS SURFACE MOUNTED, RECESSED, BUILT-IN AND FREESTANDING MATERIAL AND EQUIPMENT
- SHALL BE DEMOLISHED AS IF THEY WERE INTEGRAL WITH THE FLOOR, WALL AND CEILING CONSTRUCTION IDENTIFIED TO BE DEMOLISHED. SEE CIVIL, MECHANICAL AND ELECTRICAL DEMOLITION DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS. 12. PATCH ALL EXISTING FLOOR PENETRATIONS FROM REMOVED PIPING, CONDUIT AND OTHER MISCELLANEOUS PENETRATIONS WITH NON-SHRINK GROUT LEVEL WITH ADJACENT SUBFLOOR SURFACE. CLEAN AND PREPARE REPAIRED SURFACES FOR INSTALLATION OF NEW FINISHES AS INDICATED IN FINISH SCHEDULE. CONTRACTOR SHALL ASSUME THAT ALL MECHANICAL UNITS, PLUMBING FIXTURES AND ELECTRICAL DEVICES HAVE ASSOCIATED FLOOR PENETRATIONS THAT WILL REQUIRE INFILL; SEE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL FLOOR PENETRATIONS. ALL EXISTING ABANDONED FLOOR PENETRATIONS SHALL BE FILLED FULL DEPTH WITH CONCRETE FILL MATERIAL. AT EXISTING FLOOR PENETRATIONS WHERE THE PENETRATING ELEMENT REMAINS, PROVIDE UL APPROVED RATED FLOOR PENETRATION ASSEMBLY AS APPROPRIATE TO THE SLAB TYPEAND PENETRANT. ALL NEW SLAB PENETRATIONS SHALL BE PROVIDED WITH UL
- APPROVED RATED FLOOR PENETRATION ASSEMBLY AS APPROPRIATE TO THE SLAB TYPE AND PENETRANT. 13. PATCH AND REPAIR EXISTING FLOOR SUBSTRATE TO RECEIVE NEW FINISH MATERIAL AS REQUIRED.
- 14. CAP AND SEAL EXISTING MEP CONNECTIONS AS REQUIRED, SEE MEP SHEETS FOR ADDITIONAL INFORMATION
- 15. PROVIDE DUST AND VIBRATION PROTECTION THROUGHOUT THE CONSTRUCTION PROCESS AS REQUIRED TO MEET THE OWNER'S REQUIREMENTS AND FOR THE PROTECTION OF OCCUPANTS AND EXISTING EQUIPMENT.

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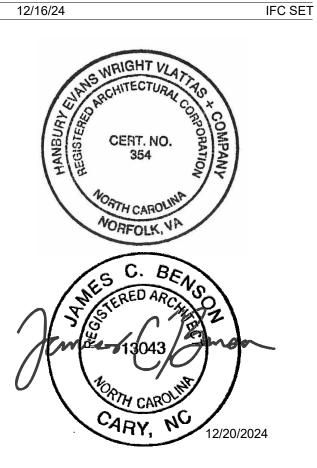
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Keyplan 





Project Number: 22057.03 Status & Date: 12/20/2024

Sheet Title:

A DEMOLITION PLAN LEVEL 01

> Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: 713 NC State Project ID Number: 202435062 SCO # 24-28212-01A

Sheet Number:

D001

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		GENERAL			LIGHTING CONTROLS
	#	DEMOLITION KEYED NOTE.	WALL	CEILING	
_	(##)	NEW WORK KEYED NOTE.			J DUAL TECHNOLOGY OCCUPANCY SENSOR IN FLUSH (FI
	$\bullet$	REMOVE WIRING, CABLING, ETC. TO THIS POINT.		$( os)_{x}$	SPACES) CEILING-MOUNTED OUTLET BOX. X - DENOTES CONTROL ZONE
	•	CONNECT WIRING, CABLING, ETC. TO THIS POINT.	(VS)	(VS)	DUAL TECHNOLOGY VACANCY SENSOR IN FLUSH (FINIS SPACES) CEILING-MOUNTED OUTLET BOX.
	X XXX	FEEDER TAG - SEE FEEDER SCHEDULE			X - DENOTES CONTROL ZONE
E	PR	PRESENT LIGHTING FIXTURE, SWITCH, DEVICE, ETC., TO REMAIN.			DAYLIGHT SENSOR
	PRN	PRESENT LIGHTING FIXTURE, SWITCH, DEVICE, ETC., TO BE REMOVED AND REPLACED WITH NEW.	PC		
	PRR	PRESENT LIGHTING FIXTURE, SWITCH, DEVICE, ETC., SHOWN AT NEW LOCATION	♀×		CLOSED LOOP LIGHTING PHOTOCELL. MOUNT PER MAN X - DENOTES CONTROL ZONE
	PRX	PRESENT LIGHTING FIXTURE, SWITCH, DEVICE, ETC., TO BE REMOVED AND OUTLET BOX EXTENSION INSTALLED FOR SURFACE CONDUIT OR SMR AND WIRE EXTENSION TO NEW OUTLET SHOWN. REINSTALL PRESENT LIGHTING FIXTURE, SWITCH, DEVICE, ETC.		x PC x	OPEN LOOP LIGHTING PHOTOCELL. MOUNT PER MANUF X - DENOTES CONTROL ZONE
	RPC	REMOVE PRESENT FIXTURE, SWITCH, DEVICE, ETC., AND CAP OUTLET		SBD	SWITCH BYPASS DEVICE.
	RPP	REMOVE PRESENT FIXTURE, SWITCH, DEVICE, ETC., PATCH THE PLASTER IF IN PLASTER: CAP IF IN METAL OR WOOD.		LC LC#	LIGHTING CONTROL STATION - REFER TO KEY NOTES C # INDICATES TYPE NUMBER (1,2,3,)
	RPR	REMOVE PRESENT FIXTURE, SWITCH, DEVICE, ETC., TO BE REMOVED AND RELOCATED.		ZM	LIGHTING OR SWITCHED RECEPTACLE ZONE MODULE.
	RPX	REMOVE PRESENT FIXTURE, SWITCH, DEVICE, ETC., WIRE AND ALL RELATED EXPOSED RACEWAY INSOFAR AS IS POSSIBLE. ALL DAMAGED SURFACES TO BE REPAIRED.	I	P	LIGHTING DIMMING POWER PACK
				\$ <sup>×</sup>	SINGLE-POLE SWITCH IN FLUSH (FINISHED SPACES) OR X - DENOTES TYPE (MAY BE MULTIPLE):
		LIGHTING FIXTURES			a,b,c SWITCH / CONTROL ZONE/GROUP L
		SURFACE, RECESSED, OR WALL MOUNTED LIGHTING FIXTURE. SEE LIGHTING FIXTURE KEY FOR TAG			3 THREE WAY
		INFORMATION. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS.			4 FOUR WAY D DIMMER
		SURFACE, RECESSED, OR WALL MOUNTED LIGHTING FIXTURE CONNECTED TO EMERGENCY/LIFE SAFETY BRANCH CIRCUIT OR PROVIDE EMERGENCY DRIVER. SEE LIGHTING FIXTURE KEY FOR TAG INFORMATION. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS.			OS DUAL TECH OCCUPANCY SENSOR OS2 DUAL TECH, DUAL CIRCUIT OCCUPANCY SENSOR
Л		SURFACE, RECESSED, OR WALL MOUNTED LIGHTING FIXTURE CONNECTED TO CRITICAL BRANCH CIRCUIT OR PROVIDE EMERGENCY DRIVER. SEE LIGHTING FIXTURE KEY FOR TAG INFORMATION. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS.			E EMERGENCY (RED COLOR) V F FAN
D	$ \begin{array}{c} & & & \\ \hline & & & \\ & & & & \\ & & & \\ & & & \\ & & & & \\ & & & & \\ & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & $	SURFACE MOUNTED TRACK LIGHTING SYSTEM. LETTER INDICATES TYPE. SEE LIGHTING FIXTURE KEY FOR TAG INFORMATION. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT TRACK AND FIXTURE REQUIREMENTS.			K KEY OPERATED N LV LOW VOLTAGE
	<b>#</b>	MONO-POINT HEAD LIGHT FIXTURE. LETTER INDICATES TYPE. SEE LIGHTING FIXTURE KEY FOR TAG INFORMATION. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT TRACK AND FIXTURE REQUIREMENTS.	WALL	FLOOR	DATA / COMMUNICATION - PATHWA
		CEILING MOUNTED EXIT SIGN, SHADED AREA INDICATES FACE WITH DIRECTIONAL ARROWS AS SHOWN. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS. CONNECT UNSWITCHED TO INDICATED BRANCH CIRCUIT.			DATA OUTLET - 4" SQUARE BOX WITH SINGLE
		WALL MOUNTED EXIT SIGN, SHADED AREA INDICATES FACE WITH DIRECTIONAL ARROWS AS SHOWN. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS. CONNECT UNSWITCHED TO INDICATED BRANCH CIRCUIT.	•		ACCESSIBLE CEILING WITH PULL STRING. VOICE OUTLET - 4" SQUARE BOX WITH SINGL SPACES) OR SURFACE (UNFINISHED SPACES
	•••	POLE MOUNTED ROUND SITE LIGHTING FIXTURE. NUMBER OF HEADS AS SHOWN ON PLANS	V	V	ACCESSIBLE CEILING WITH PULL STRING. VOICE/DATA OUTLET - 4" SQUARE BOX WITH (FINISHED SPACES) OR SURFACE (UNFINISH ACCESSIBLE CEILING WITH PULL STRING.
	+	POLE MOUNTED SQUARE SITE LIGHITNG FIXTURE. NUMBER OF HEADS AS SHOWN ON PLANS	(v		WIRELESS ACCESS POINT - 4" SQUARE BOX WITH SINGL FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED S
		STRIP FIXTURE			TELEVISION CABLE OUTLET - 4" SQUARE BOX WITH SING SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET B
	0	DOWNLIGHT FIXTURE	WALL	CEILING	ACCESSIBLE CEILING WITH PULL STRING.
			SP		COMMUNICATION SYSTEM SPEAKER. SUBSCRIPT, WHEN
		WALL WASHER FIXTURE			AUDIO INPUT
	•				MICROPHONE
С	$\phi$	BOLLARD			BASKET TRAY - (width)" x (height)" AS INDICATED.
	0	PENDANT LIGHT			
		EMERGENCY BATTERY PACK UNIT WITH NUMBER OF LAMPS AS INDICATED WITH SELF DIAGNOSTICS. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS. CONNECT UNSWITCHED TO INDICATED BRANCH CIRCUIT.	 [	ACP	FLUSH MOUNTED ACCESS CONTROL CARD READER MO UNLESS OTHERWISE INDICATED.
	X	EMERGENCY REMOTE LIGHTING FIXTURE WITH SINGLE LAMP. LETTER (WHERE SHOWN) INDICATES TYPE. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS. CONNECT UNSWITCHED TO REMOTE BATTERY PACK, SEE PLANS.		CR	FLUSH MOUNTED ACCESS CONTROL CARD READER MO UNLESS OTHERWISE INDICATED.
		EMERGENCY REMOTE LIGHTING FIXTURE WITH DOUBLE LAMPS. LETTER (WHERE SHOWN) INDICATES TYPE. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS. CONNECT UNSWITCHED TO REMOTE BATTERY PACK, SEE PLANS.		KP	FLUSH MOUNTED ACCESS CONTROL KEY PAD MOUNTED OTHERWISE INDICATED.
		LIGHTING FIXTURE KEY		DR	DOOR RELEASE BUTTON. SUBSCRIPT, WHEN SHOWN, IN
		INDICATES FIXTURE TYPE SEE			INFRARED HAND SENSOR FOR HANDS FREE DOOR OPE
		SCHEDULE FOR DESCRIPTION		HS	ZONE.
		INDICATES PANEL NAME INDICATES CIRCUIT NUMBER	Ē	REX	REQUEST TO EXIT
				ES	ELECTRIC DOOR STRIKE
				ML	MAG LOCK DEVICE - PROVIDE 120V TO THIS LOCATION.
				DC	DOOR CONTACTS. SUBSCRIPT, WHEN SHOWN, INDICATI

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В

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A

## N FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED

## LUSH (FINISHED SPACES) OR SURFACE (UNFINISHED

NT PER MANUFACTURER'S REQUIREMENTS.

PER MANUFACTURER'S REQUIREMENTS.

EY NOTES OR TYPE DETAIL FOR MORE INFORMATION

## E MODULE.

SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX.

1	LVD	LOW VOLTAGE DIMMER
	MC	MOMENTARY CONTACT
	М	MOTOR STARTER
	Р	PILOT LIGHT
	Т	TIMER SWITCH WITH VISUAL AND AUDIBLE OFF WARNING
PANCY	VS	VACANCY SWITCH
	VSD	VACANCY SWITCH DIMMER
	W	WET LOCATION

VSD	VACANCY SWITCH DIMMER
W	WET LOCATION
WP	WEATHER PROOF COVER

#### X EXPLOSION PROOF PATHWAYS & BOXES

WITH SINGLE GANG DEVICE BRACKET FLUSH (FINISHED HED SPACES). MINIMUM 1" CONDUIT TO ABOVE

STRING. WITH SINGLE GANG DEVICE BRACKET FLUSH (FINISHED HED SPACES). MINIMUM 1" CONDUIT TO ABOVE STRING.

E BOX WITH SINGLE GANG DEVICE BRACKET FLUSH (UNFINISHED SPACES). MINIMUM 1" CONDUIT TO ABOVE

STRING. NITH SINGLE GANG DEVICE BRACKET CEILING MOUNTED

FINISHED SPACES) OUTLET BOX. X WITH SINGLE GANG DEVICE BRACKET FLUSH (FINISHED ) OUTLET BOX. MINIMUM 1" CONDUIT TO ABOVE

RIPT, WHEN SHOWN, INDICATES ZONE.

## THWAY & BOXES

READER MOUNTED 46-INCHES ABOVE FINISHED FLOOR

READER MOUNTED 46-INCHES ABOVE FINISHED FLOOR

D MOUNTED 46-INCHES ABOVE FINISHED FLOOR UNLESS

### SHOWN, INDICATES ZONE.

DOOR OPERATION. SUBSCRIPT, WHEN SHOWN, INDICATES

LOCATION.

DOOR CONTACTS. SUBSCRIPT, WHEN SHOWN, INDICATES ZONE.

PROVIDE POWER RACEWAYS, EMPTY 1" CONDUIT WITH PULL STRING AND BACK BOXES FOR TELECOM, SECURITY AND AV DEVICES AND EQUIPMENT AS REQUIRED.

	POWER EQUIPMENT				
	480/277 VOLT PANELBOARD, FLUSH AND SURFACE MOUNTED RESPECTIVELY. DESIGNATION AS INDICATED. REFER TO PANELBOARD SCHEDULES FOR EXACT REQUIREMENTS.	WALL	FLOOR	CEILING	[ _
	208Y/120 OR 120/240 VOLT PANELBOARD, FLUSH AND SURFACE MOUNTED RESPECTIVELY. DESIGNATION AS INDICATED. REFER TO PANELBOARD SCHEDULES FOR EXACT REQUIREMENTS.	φ	Ø		1 (l
	EXISTING PANELBOARD, FLUSH AND SURFACE MOUNTED RESPECTIVELY. DESIGNATION AS INDICATED. REFER TO PANELBOARD SCHEDULES FOR EXACT REQUIREMENTS.	The second secon			1 (I
(P)	ELECTRICAL POWER POLE, MOUNTING AND CONFIGURATION AS SPECIFIED.	<b>P</b>	0		E
(M) $(M)$	MOTOR CONNECTION. ELECTRICAL CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR	¶   ⊕			E C
	FOR FINAL CONNECTION.	 ₩			E
CB	ENCLOSED CIRCUIT BREAKER. FRAME SIZE AND TRIP RATING AS INDICATED ON PLANS.	۹			S A
	MANUAL MOTOR STARTER. STARTER TYPE AND SIZE AS INDICATED ON PLANS.				.1
	FUSED DISCONNECT. FRAME SIZE AND TRIP RATING AS INDICATED ON PLANS. PROVIDE FUSES PER NAMEPLATE OF EQUIPMENT SERVED UNLESS OTHERWISE INDICATED.	Q	J	$\cup$	B
	COMBINATION MOTOR STARTER & DISCONNECT. FRAME SIZE, TRIP RATING, AND STARTER SIZE AS INDICATED ON PLANS.				
	SPECIAL EQUIPMENT EQUIPMENT CONNECTION. SEE KEYED NOTE OR EQUIPMENT CONNECTION SCHEDULE FOR EXACT REQUIREMENTS.				
	DISCONNECT SWITCH TAG KEY SIZE NO. OF POLES NEMA TYPE FUSE SIZE OR NF				
VFD	VARIABLE FREQUENCY DRIVE - ELECTRICAL CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR FOR FINAL CONNECTION.		•	ELECTRIC F BOX. MOUN	١T
ATS	AUTOMATIC TRANSFER SWITCH - SEE RISER DIAGRAM		_	SITE COND PUSH BUTT	
	TRANSFORMER - SEE RISER DIAGRAM		••	BOX. MOUN	١T
	WIRING, RACEWAY, & GROUNDING	Í	Ĥ	EMERGENO FINISHED F	
	CONDUIT WITH BUSHING AND CAP		Ð	POKE-THRU	
-		_ ~		SYSTEMS F	۶L

3

	TRANSFORMER - SEE RISER DIAGRAM						
WIRING, RACEWAY, & GROUNDING							
]	CONDUIT WITH BUSHING AND CAP						
———————————————————————————————————————	CONDUIT TURNED UP						
•	CONDUIT TURNED DOWN						
	CONDUIT CONTINUED						
	SURFACE METAL RACEWAY, MOUNTING AND CONFIGURATION AS SPECIFIED.						
	CONCEALED CONDUIT AND WIRING						
	UNDER FLOOR OR UNDER GROUND CONDUIT AND WIRING						
GND	GROUND CABLE						
$\square$	GROUNDING TRIODE						
	GROUNDING ROD						
B1-3	WIRING HOMERUN - INDICATES CIRCUIT CONDUIT AND WIRE TO PANELBOARD SEE PANEL SCHEDULE						

●	ELECTRIC BOX. MOI SITE CON
•	PUSH BU BOX. MOI SITE CON
$\widehat{\Box}$	emergei Finished
<del>-0</del> 0	POKE-TH SYSTEMS
<b>-€0</b> ⊲	POKE-TH POWER A
Ø	Poke-th Plans.
$\odot$	CORE DR
$\Phi \bigtriangledown$	FLOOR B
Or	FURNITU
CR	CORD RE

CP

- APPROVED.

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### POWER DEVICES 125 VOLT, 3 WIRE DUPLEX RECEPTACLE FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX. 125 VOLT, 3 WIRE DUPLEX RECEPTACLE GFI FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX. EMERGENCY DUPLEX RECEPTACLE EMERGENCY GFI DUPLEX RECEPTACLE QUAD RECEPTACLE EMERGENCY QUAD RECEPTACLE SPECIAL EQUIPMENT RECEPTACLE. SUBSCRIPT INDICATES NEMA CONFIGURATION, IF APPLICABLE. JUNCTION BOX FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX. COORDINATE LOCATION WITH MANUFACTURES FOR FROM STATES BOX. COORDINATE LOCATION WITH MANUFACTURER FOR EQUIPMENT MOUNTED BOXES. POWER DEVICE NOMENCLATURE + ABOVE COUNTER WP WEATHER PROOF +# CUSTOM MOUNTING HEIGHT EWC ELECTRIC WATER COOLER USB DUPLEX WITH USB-A & USB-C PORTS IG ISOLATED GROUND TR TAMPER RESIDENT POWER DEVICE TAG KEY INDICATES PANEL NAME -XX-XX NUMBER IC PUSH BUTTON - FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET OUNT 46-INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED OR REQUIRED BY NDITIONS. UTTON (3 POSITION) - FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET OUNT 46-INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED OR REQUIRED BY NDITIONS. NCY STOP MUSHROOM TYPE BUTTON IN SURFACE MOUNTED BOX. MOUNT 46-INCHES ABOVE D FLOOR UNLESS OTHERWISE INDICATED OR REQUIRED BY SITE CONDITIONS. HRU. PROVIDE ELECTRICAL DEVICE. SAME DEVICE MAYBE SHOWN ON BOTH POWER AND MS PLANS. IRU. PROVIDE COMBINATION ELECTRICAL/DATA DEVICE. SAME DEVICE IS SHOWN ON BOTH AND SYSTEMS PLANS. HRU. PROVIDE DATA DEVICE. SAME DEVICE MAYBE SHOWN ON BOTH POWER AND SYSTEMS BOX - PROVIDE DEVICES AND COUNTS AS SHOWN OR NOTED URE FEED MOTORIZED DAMPER - PROVIDE 120V POWER AND LOCAL DISCONNECT. COORDINATE EXACT LOCATIONS WITH M.C.

EQUIPMENT CONTROL PANEL. FINAL CONNECTION BY E.C.

#### $((\widetilde{S}))$ SPEAKER AND STROBE FIRE ALARM SYSTEM. X = cd ( F ) HORN ONLY, FIRE ALARM SYSTEM. S ) SPEAKER FIRE ALARM SYSTEM FIRE ALARM STROBE ONLY DEVICE. X=cd MANUAL FIRE ALARM PULL STATION DUCT DETECTOR, FURNISHED BY E.C. INSTALLED BY M.C. REQUIRED FOR ALL HVAC SYSTEM OVER 2000 CFM, COORDINATE FINAL COUNTS AND LOCATIONS WITH M.C. FLUSH MOUNTED CEILING FIRE ALARM SYSTEM DUCT DETECTOR REMOTE TEST STATION L AND ALARM INDICATING LAMP. $\langle R \rangle$ FIRE ALARM SYSTEM RELAY. SUBSCRIPT, WHEN SHOWN, INDICATES ZONE. $\langle SD \rangle$ LOCAL 120v SMOKE DETECTOR. $\langle s \rangle$ SYSTEM SMOKE DETECTOR. SMOKE DETECTOR NOMENCLATURE P PHOTOELECTRIC I IONIZATION R RELAY BASE $\langle S \rangle$ SYSTEM SMOKE DETECTOR WITH SOUNDER BASE (`\$`)<sub>#</sub> SYSTEM SMOKE DETECTOR WITH STROBE BASE SYSTEM SMOKE DETECTOR FOR ELEVATOR RECALL. $\langle SE \rangle$ HD LOCAL 120v HEAT DETECTOR. $\langle H \rangle$ SYSTEM HEAT DETECTOR. $\langle HR \rangle$ SYSTEM HEAT DETECTOR. RATE OF RISE (HF)# SYSTEM HEAT DETECTOR. FIXED TEMP, #° = ACTIVATING TEMP $\mathbf{O}_{\rm co}$ CARBON MONOXIDE DETECTOR CARBON DIOXIDE DETECTOR SYSTEM FIRE WATER FLOW MONITORING SWITCH. $\langle FS \rangle$ SYSTEM FIRE WATER TAMPER MONITORING SWITCH. MAGNETIC DOOR HOLD OPEN. PROVIDE 120v AND FIRE ALARM INTERFACE. HOLD OPEN HO WILL DE-ENERGIZE ALLOWING DOOR TO CLOSE WHEN FIRE ALARM IS ACTIVATED FIRE ALARM CONTROL PANEL FACP

FIRE ALARM

 $(\widetilde{(H)})$  HORN AND STROBE FIRE ALARM SYSTEM. X = cd

WALL CEILING

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FIRE ALARM POWER SUPPLY

FIRE ALARM ANNUNCIATOR PANEL

FAA

FAPS

FATC

CM

MM

PS

GDS

FSDZZ

FIRE ALARM TERMINAL CABINET

FIRE ALARM ADDRESSABLE CONTROL MODULE

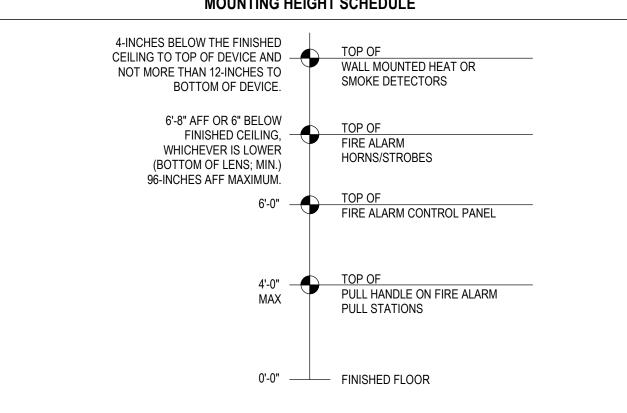
FIRE ALARM ZONE INTERFACE MODULE WITH RELAY

PRESSURE SWITCH FOR DRY TYPE SPRINKLER SYSTEM. FURNISHED AND INSTALLED BY THE PLUMBING CONTRACTOR AND WIRED BY THE ELECTRICAL CONTRACTOR.

GAS DETECTION SYSTEM

FIRE SMOKE DAMPER (BY MC), PROVIDE DUCT DETECTOR, 120V POWER, CONTROL MODULE, & INTERFACE MODULE TO FIRE ALARM SYSTEM. COORDINATE FINAL COUNTS AND LOCATIONS WITH M.C.

MOUNTING HEIGHT SCHEDULE



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### FIRE ALARM GENERAL NOTES

1. THE WIRING REQUIREMENTS CHANGE FROM MANUFACTURER TO MANUFACTURER. VERIFY WIRING WITH THE FIRE ALARM MANUFACTURER AND INSTALL AS DIRECTED AND

2. THE FIRE ALARM SYSTEM PRODUCT DATA INFORMATION, BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, INSTALLATION DRAWINGS AND DETAILS WILL BE PROVIDED AS A DEFERRED SUBMISSION TO THE FIRE ALARM PERMIT REVIEWER FROM THE CONTRACTOR AFTER THE FIRE ALARM SYSTEM VENDOR HAS SUBMITTED THE INFORMATION TO BE REVIEWED AND APPROVED BY THE ENGINEER.

3. SOUND PRESSURE COVERAGE THROUGHOUT THE BUILDING WILL BE DETERMINED AFTER THE FIRE ALARM SYSTEM HAS BEEN INSTALLED. ADDITIONAL DEVICES WILL BE ADDED IF THE COVERAGE IS DEEMED TO BE INADEQUATE BY THE INSPECTOR DURING THE FIRE ALARM SYSTEM TEST.

4. 25 PERCENT SPARE CAPACITY SHALL BE PROVIDED ON ALL NOTIFICATION APPLIANCE CIRCUITS FOR ANY ADDITIONAL DEVICES THAT MAY BE ADDED IN THE FUTURE. ALL EMPLOYEE WORK AREAS SHALL HAVE AUDIBLE AND VISUAL APPLIANCES. 5. ALL AUDIBLE DEVICES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 DECIBELS ABOVE THE MAXIMUM SOUND LEVEL FOR A DURATION OF NOT LESS THAN 60 SECONDS, WHICHEVER IS GREATER. PER 907.5.2.1.1.

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# E001

PRINT IN COLOR Sheet Number:

Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: 713 NC State Project ID Number: 202435062 SCO # 24-28212-01A

Sheet Title: A ELECTRICAL LEGEND SHEET

Project Number: 22057.03 Status & Date: 12/20/2024





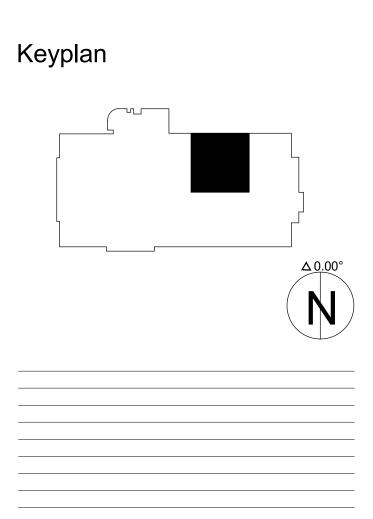


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C

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HANBURY

GE	ENERAL NOTES		
1.	ALL ELECTRICAL WORK SHALL BE IN ACCORD WITH ALL APPLICABLE ORDINANCES, CODES AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION. ALL ELECTRICAL WORK SHALL BE INSPECTED AND APPROVED BY THE LOCAL ELECTRICAL INSPECTION AGENCY. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY FEES AND PERMITS, INCLUDING THE CERTIFICATE OF ELECTRICAL INSPECTION.	11.	THE ELECTRICAL CONTRACTOR AT THE S EXISTING CONDITIONS PERTAINING TO T SYSTEMS. WHERE A CONTRACTOR UNCO PLANS OR IN THE SPECIFICATIONS, THEY PROCEEDING WITH ANY WORK. FAILURE CONTRACTOR RESPONSIBLE FOR ALL CO
2.	THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION SAFETY. ARCHITECT AND/OR ENGINEER SHALL ASSUME NO RESPONSIBILITY FOR WORKMAN'S, OR PEDESTRIAN'S SAFETY. NOTHING IN THE CONTRACT DOCUMENTS SHALL BE CONSTRUED TO INSTRUCT PROCEDURES OR COMPONENTS FOR PROJECT SAFETY.	12.	THE ELECTRICAL DRAWINGS ARE DIAGRA INTENT ONLY. THE ELECTRICAL CONTRA WIRING ETC, AS REQUIRED BY THE SITE
3.	WHERE A CONFLICT ARISES BETWEEN PLANS, SPECIFICATIONS, DETAILS, SCHEDULES, APPLICABLE CODES OR REGULATIONS, THE MOST STRINGENT SHALL APPLY.	13.	ALL WIRING SHALL BE CONCEALED IN FIN PERMITTED IN THE SPECIFICATIONS, USE PER N.E.C., LOCAL CODES, AND INSPECT
4.	NOTHING CONTAINED IN THE CONTRACT DOCUMENTS SHALL BE CONSTRUED TO CONFLICT WITH ANY NATIONAL, STATE, MUNICIPAL, OR LOCAL LAWS OR REGULATIONS GOVERNING THE WORK INDICATED OR SPECIFIED. THE ELECTRICAL CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER SHALL SATISFY ALL SUCH REQUIREMENTS.	14.	CONDUIT, MINIMUM 3/4" UNLESS NOTED C THE FOLLOWING CONDUCTORS SHALL BE 14.1.ALL FEEDERS RUN IN SLAB - MAY BY
5.	THE CONTRACT DOCUMENTS ARE COMPRISED OF DRAWINGS AND SPECIFICATIONS. EACH ELECTRICAL BIDDER SHALL VISIT SITE TO DETERMINE EXISTING CONDITIONS PRIOR TO SUBMITTING BID PROPOSAL. BIDS SHALL BE BASED ON THE COMPLETE		14.2.WHERE REQUIRED BY THE N.E.C. 14.3.EXPOSED WIRING ON A ROOF - SEAL 14.4.EXTERIOR, ABOVE GRADE WIRING.
	EXAMINATION OF THE DRAWINGS, SPECIFICATIONS AND EXISTING CONDITIONS. NO CONSIDERATION WILL BE GIVEN ANY CONTRACTOR WHO FAILS TO DO SO.	15.	FOLLOWING FEEDERS SHALL BE IN EMT: 15.1.BRANCH FEEDERS TO PANELS. 15.2.BRANCH RACEWAY RUN EXPOSED.
6.	THE WORK UNDER THIS CONTRACT SHALL INCLUDE THE FURNISHING OF ALL NECESSARY MATERIALS, TOOLS, AND LABOR FOR A COMPLETE, AND WORKING INSTALLATION AS DEFINED BY THE PLANS AND SPECIFICATIONS. THE ELECTRICAL CONTRACTOR SHALL WARRANT THE WORK INDICATED AND SPECIFIED FOR A PERIOD OF	16.	TRENCHING AND BACKFILL FOR UNDERG ELECTRICAL CONTRACTOR.
	ONE YEAR. THE WORK SHALL FUNCTION AS INTENDED, BE COMPLETE IN ALL DETAILS, AND SHALL INCLUDE ALL INDICATED, SPECIFIED, OR REQUIRED ACCESSORIES FOR A FUNCTIONING SYSTEM.		UPON THE COMPLETION OF WORK THE E TYPED PANEL SCHEDULES TO CLEARLY I UPON THE COMPLETION OF WORK THE E
7.	THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY LIGHT AND POWER AS REQUIRED BY THE GENERAL CONDITIONS OF THE SPECIFICATION.	10.	EQUIPMENT WITH TYPED NAMEPLATES T AND RECEPTACLE PLATES WITH CIRCUIT
8.	THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES. ALL DEVICES PROVIDED BY OTHERS THAT REQUIRE LINE VOLTAGE ELECTRICAL	19.	CHANNELING OF THE FLOORS SHALL BE
	POWER SHALL BE CONNECTED BY THE ELECTRICAL CONTRACTOR. POWER, PHONE, DATA, TV, AND SIMILAR DEVICE OUTLET LOCATIONS SHALL BE COORDINATED WITH THE ARCHITECTURAL INTERIOR LAYOUTS, THE GENERAL CONTRACTOR, AND THE OWNER.		REFER TO ARCHITECTURAL REFLECTED
9.	THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OWNER'S PROJECT MANAGER PRIOR TO AND FOR SCHEDULING ANY INTERRUPTION OF ANY BUILDING UTILITY.		E.C. SHALL COORDINATE ALL RECEPTACI CASEWORK PLAN WHICH WILL BE DIMENS ALL HOMERUNS WITH MORE THAN SIX (6)
10.	THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE LOCAL UTILITIES AND ARRANGE FOR THE FOLLOWING SERVICES: ELECTRICAL POWER, CABLE TV, AND TELEPHONE SERVICE. THE ELECTRICAL CONTRACTOR SHALL MEET WITH THE		ALL HOMERONS WITH MORE THAN SIX (0) NO. 10 THWN WIRE UNLESS SPECIFICALL
	REPRESENTATIVES OF THE ELECTRICAL CONTRACTOR SHALL MEET WITH THE DETAILS ON THE SERVICE AND METERING. THE ELECTRICAL CONTRACTOR SHALL PAY	۷٦.	CONTRACTOR UNLESS SPECIFICALLY NO
	ALL NECESSARY COSTS, FEES, AND PERMITS INVOLVED IN BRINGING SERVICE TO THE BUILDING.	24.	CONTRACTOR SHALL REMOVE DEMOLITIC SCHEDULE WITH THE OWNER THE TIME, I

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#### LECTRICAL CONTRACTOR AT THE SITE SHALL VERIFY ALL DIMENSIONS AND ING CONDITIONS PERTAINING TO THE INSTALLATION OF THE ELECTRICAL EMS. WHERE A CONTRACTOR UNCOVERS CONDITIONS NOT INDICATED ON THE S OR IN THE SPECIFICATIONS, THEY SHALL NOTIFY THE ARCHITECT PRIOR TO EEDING WITH ANY WORK, FAILURE TO NOTIFY THE ARCHITECT WILL MAKE THE RACTOR RESPONSIBLE FOR ALL COSTS AND CONSEQUENCES OF SUCH FAILURE. LECTRICAL DRAWINGS ARE DIAGRAMMATIC AND REPRESENT THE DESIGN/LAYOUT

IT ONLY. THE ELECTRICAL CONTRACTOR SHALL DETERMINE CIRCUITING, ROUTING, NG ETC.., AS REQUIRED BY THE SITE CONDITIONS, AND ALL APPLICABLE CODES. IRING SHALL BE CONCEALED IN FINISHED AREAS AS SPECIFIED. WHERE ITTED IN THE SPECIFICATIONS, USE OF MC CABLE IN CONCEALED AREAS SHALL BE

I.E.C., LOCAL CODES, AND INSPECTION AGENCY APPROVAL. OTHERWISE, USE EMT UIT, MINIMUM 3/4" UNLESS NOTED OR SPECIFIED OTHERWISE. FOLLOWING CONDUCTORS SHALL BE RUN IN HEAVY WALL CONDUIT:

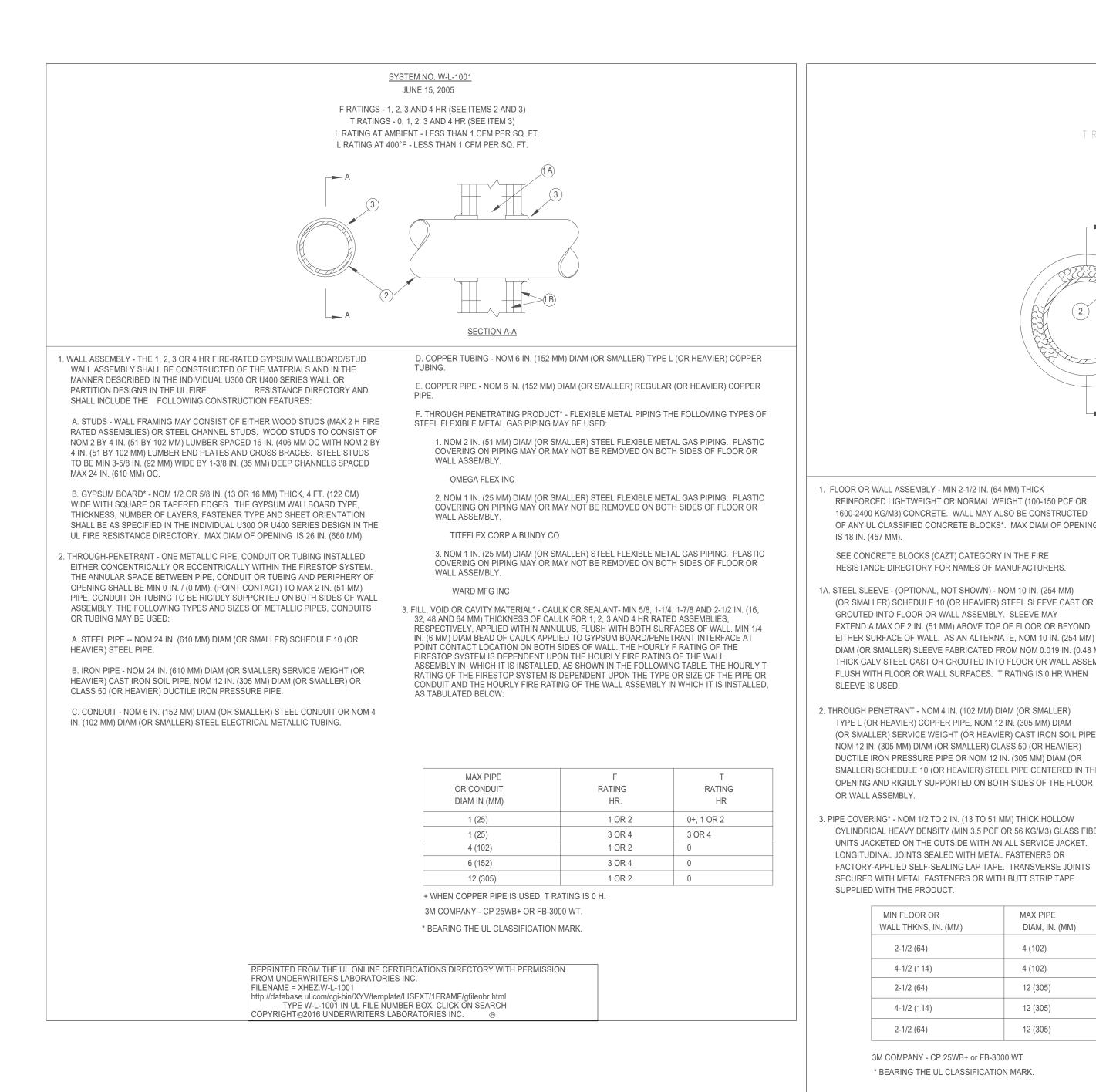
LL FEEDERS RUN IN SLAB - MAY BY SCHEDULE 40 PVC. EXPOSED WIRING ON A ROOF - SEAL PROPERLY.

## CHING AND BACKFILL FOR UNDERGROUND CONDUITS SHALL BE BY THE

- THE COMPLETION OF WORK THE E.C. SHALL PROVIDE ALL PANELBOARDS WITH D PANEL SCHEDULES TO CLEARLY DEFINE THE EQUIPMENT SERVED. THE COMPLETION OF WORK THE E.C. SHALL PROVIDE ALL DISTRIBUTION PMENT WITH TYPED NAMEPLATES TO CLEARLY DEFINE THE EQUIPMENT SERVED
- RECEPTACLE PLATES WITH CIRCUITS SERVING EACH. INELING OF THE FLOORS SHALL BE MINIMIZED. R TO ARCHITECTURAL REFLECTED CEILING PLANS FOR THE COORDINATED
- EMENT OF LIGHTS, DIFFUSERS, SPRINKLERS, AND RETURN AIR GRILLES. HALL COORDINATE ALL RECEPTACLE AND LIGHT FIXTURES LOCATIONS WITH WORK PLAN WHICH WILL BE DIMENSIONED.
- OMERUNS WITH MORE THAN SIX (6) TOTAL CONDUCTORS SHALL BE A MINIMUM OF THWN WIRE UNLESS SPECIFICALLY SIZED OTHERWISE. ORK SHOWN ON THE ELECTRICAL DRAWINGS SHALL BE BY THE ELECTRICAL
- FRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE. RACTOR SHALL REMOVE DEMOLITION DEBRIS COMPLETELY. CONTRACTOR SHALL DULE WITH THE OWNER THE TIME, LOCATION, ELEVATOR AND HAULING ROUTE.
- 25. CONTRACTOR SHALL CLEAN UP ALL DEBRIS AT THE END OF EACH WORK DAY.

- 26. EXACT COUNTS/QUANTITIES FOR CONTRACT PURPOSES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR AND INCLUDED AS PART OF THE BASE BID. 27. REFER TO ARCHITECTURAL DRAWING FOR ALL WALL HEIGHTS.
- 28. VERIFY EXACT LOCATION OF ALL MECHANICAL EQUIPMENT WITH THE MECHANICAL CONTRACTOR, PRIOR TO ROUGH-IN. E.C. SHALL ALSO INCLUDE COORDINATION WITH DEVICES BY M.C., WIRING REQUIREMENTS, INTERCONNECTIONS, AND TERMINATIONS AND PROVIDE AS REQUIRED.
- 29. ALL CONDUITS RUN IN EXPOSED AREAS SHALL BE MOUNTED TIGHT TO THE UNDERSIDE OF THE STRUCTURAL STEEL. THIS APPLIES FOR ALL BRANCH CIRCUIT AND FEEDER CONDUITS.
- 30. ALL HOLES AND OPENINGS CREATED TO EXTEND THE ELECTRICAL SYSTEMS THROUGH FLOORS AND FIRE RATED ASSEMBLIES SHALL BE FIRESTOPPED.
- 31. DURING THE BIDDING PROCESS, ELECTRICAL CONTRACTOR SHALL REVIEW DRAWINGS AND SPECIFICATIONS OF ALL OTHER TRADES (GENERAL, HVAC, AND PLUMBING). ALL ITEMS REQUIRING POWER INDICATED ON THESE DRAWINGS BUT NOT INDICATED ON THE ELECTRICAL DRAWINGS SHALL BE CONSIDERED A PART OF THE ELECTRICAL CONTRACTORS WORK. THIS WORK SHALL BE INSTALLED AS PER NEC AT NO ADDITIONAL COST TO THE OWNER
- 32. WHERE CONDUIT SIZES HAVE BEEN OMITTED, THE CONTRACTOR SHALL INSTALL THE CORRECT SIZES REQUIRED BY THE N.E.C. AS DETERMINED BY THE NUMBER OF WIRES TO BE INSTALLED. WHERE THE NUMBER AND OR SIZES OF HAVE BEEN OMITTED. THE CONTRACTOR SHALL INSTALL THE REQUIRED NUMBER AND OR SIZES AS DETERMINED BY THE EQUIPMENT REQUIREMENTS OR FROM ADJACENT SECTIONS AND CIRCUIT NUMBERS.
- 33. WIRE SIZE FOR BRANCH CIRCUITS SHALL BE ADJUSTED TO COMPENSATE FOR VOLTAGE DROP CALCULATIONS AS REQUIRED BY NEC. IF CIRCUIT RUN EXCEEDS 100FT. IN WIRE LENGTH, NEXT WIRE SIZE (#10) SHALL BE USED.
- 34. STARTERS, COMBINATION STARTERS, CONTRACTORS, ETC.. FOR MECHANICAL EQUIPMENT SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR. ALL POWER WIRING AND CONDUIT TO EQUIPMENT TERMINALS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. POWER TO MECHANICAL EQUIPMENT SHALL BE TURNED ON ONLY BY THE MECHANICAL CONTRACTOR. MECHANICAL NAME PLATE DATA SHALL NOT BE COVERED BY ELECTRICAL DEVICES.
- 35. THE ELECTRICAL CONTRACTOR SHALL FURNISH SUBMITTALS IN ACCORDANCE WITH THE SPECIFICATIONS. ALL SUBMITTALS SHALL BE REVIEWED AND STAMPED BY THE ENGINEER PRIOR TO INSTALLATION.
- 36. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS FOR THE ENTIRE PROJECT AS DEFINED IN THE SPECIFICATIONS 37. THIS CONTRACTOR SHALL VISIT THE SITE AND FULLY INFORM HIMSELF OF ALL THE
- EXISTING CONDITIONS, WHICH IN ANY WAY WILL AFFECT THE EXECUTION OF HIS WORK AND THE REQUIREMENTS OF THIS CONTRACT AS SHOWN OR REASONABLY INFERRED ON THE DRAWINGS AND PRODUCT SPECIFICATIONS.

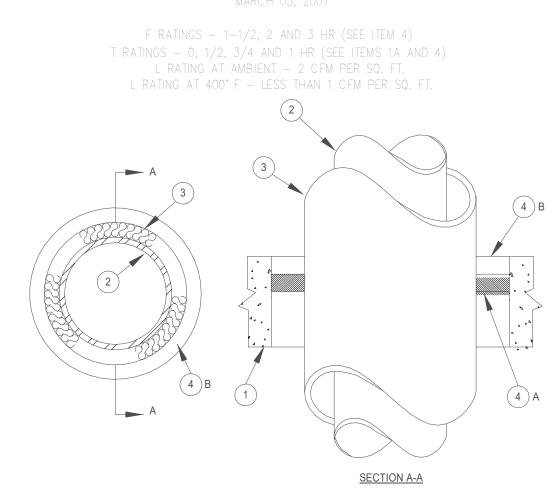
		ELE	CTRICAL ABBREVIATIONS		
BBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A/AMP	AMPERE	G, GND,GRD	GROUND	NFPA	NATIONAL FIRE PROTECTION
AFCI	ARC FAULT INTERRUPTER	GC	GENERAL CONTRACTOR		ASSOCIATION
AFF	ABOVE FINISHED FLOOR	GEN	GENERATOR	NIC	NOT IN THIS CONTRACT
AFG	ABOVE FINISHED GRADE	GFI	GROUND FAULT INTERRUPTER	NM	NON-METTALIC
AHJ	AUTHORITY HAVING JURISDICTION	GTB	GROUND TERMINAL BOX	NO	NORMALLY OPEN
AL	ALUMINUM	HID	HIGH INTENSITY DISCHARGE	NTS	NOT TO SCALE
ANSI	AMER. NATIONAL STANDARDS INSTITUTE	HP	HORSE POWER	OC	ON CENTER
ASA	AMERICAN STANDARDS ASSOCIATION	HPF	HIGH POWER FACTOR	OEM	ORIGINAL EQUIPMENT MANUFACTURER
ASTM	AMER. SOCIETY OF TESTING MATERIALS	HR	HOMERUN	OSHA	OCCUPATIONAL SAFETY AND HEALTH
AWG	AMERICAN WIRE GAUGE	HTR	HEATER		ADMINISTRATION
AT	AMPERE TRIP	HVAC	HEATING, VENTILATION, AIR	Р	POLE
ATS	AUTOMATIC TRANSFER SWITCH		CONDITIONING CONTRACTOR	PBOX	PULL BOX
BL	BLANK	HV	HIGH VOLTAGE	PC	PHOTOCELL
BKR	BREAKER	HZ	HERTZ	P.C.	PLUMBING CONTRACTOR
С	CONDUIT	ICEA	INTERNATIONAL CABLE ENGR. ASSOC.	PH / Ø	PHASE
CB, C/B	CIRCUIT BREAKER	IEEE	INSTITUTE OF ELECTRICAL AND	PNL	PANEL
CKT BKR	-		ELECTRONIC ENGINEERS	POS	POSITION
CKT	CIRCUIT	IES	ILLUMINATING ENGINEERING SOCIETY	PRI	PRIMARY
CCTV	CLOSED CIRCUIT TV	IN	INCH	PWR	POWER
CLG	CEILING	INCAN	INCANDESCENT	REC / RECPT	RECEPTACLE
CO	CONVENIENCE OUTLET	IR	INFRA-RED	RGS	RIGID GALVANIZED STEEL
CONN	CONVERTINGE OUTLET	JB/JBOX	JUNCTION BOX	RMC	RIGID GALVANIZED METAL CONDUIT
CU	COPPER	K	THOUSAND	RT	RAIN TIGHT
DB	DIRECT BURIAL	KVA	KILOVOLT-AMPERE	SCHED	SCHEDULE
DISC	DISCONNECT	KW	KILOWATT	SEC	SECONDARY
DISC	DOWN	KWH	KILOWATT HOUR	SIG	SIGNAL
	DRAWING				
DWG	-	LA		SM	
EA	EACH	LCP	LIGHTING CONTROL PANEL	SMR	SURFACE MOUNTED RACEWAY
E.C.		LED	LIGHT EMITTING DIODE	SP	SPARE
EF	EXHAUST FAN	LTS	LIGHTS	SS	SAFETY SWITCH
EH		LTG	LIGHTING	SW	SW
EIA	ELECTRONIC INDUSTRIES ASSOC.	LV	LOW VOLTAGE	SWBD	SWITCHBOARD
EMT	ELECTRIC METALLIC TUBING	MC	METAL CLAD	TEL / TELE	TELEPHONE
XP	EXPLOSION PROOF	M.C.	MECHANICAL CONTRACTOR	TL	TWIST LOCK
E, EM	EMERGENCY	MCB	MAIN CIRCUIT BREAKER	TP	TAMPER PROOF
ELEC	ELECTRIC	MCC	MOTOR CONTROL CENTER	TX / XFMR	TRANSFORMER
EMT	ELECTRIC METALLIC TUBING	MDP	MAIN DISTRIBUTION PANEL	TTB	TELEPHONE TERMINAL BOARD
EQ/EQPM	EQUIPMENT	MFR	MANUFACTURER	TV	TELEVISION
EUH	ELECTRIC UNIT HEATER	MH	MANHOLE	TYP	TYPICAL
EWC	ELECTRIC WATER COOLER	MLO	MAIN LUGS ONLY	UH	UNIT HEATER
EX	EXISTING	MISC	MISCELLANEOUS	UL	UNDERWRITERS' LABORATORIES, INC
F	FIXTURE	MTD	MOUNTED	UNO	UNLESS NOTED OTHERWISE
FA	FIRE ALARM	MTG HGT	MOUNTING HEIGHT	V	VOLTAGE
FAAP	FIRE ALARM ANNUNCIATOR PANEL	MTR	MOTOR	VT	VAPOR TIGHT
FACP	FIRE ALARM CONTROL PANEL	N/A	NOT APPLICABLE	W	WIRE; WATT
FCU	FAN COIL UNIT	NC	NORMALLY CLOSED	W/	WITH
FDR	FEEDER	NF	ON-FUSED SAFETY SWITCH	W/O	WITHOUT
FIXT	FIXTURE	NEC	NATIONAL ELECTRIC CODE	WP	WEATHER PROOF
FL	FLOOR	NEMA	NATIONAL ELECTRICAL	WT	WATER TIGHT
FLUOR	FLUORESCENT		MANUFACTURERS ASSOCIATION		
FSS	FUSED SAFETY SWITCH				
FT	FEET				



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. FLOOR OR WALL ASSEMBLY - MIN 2-1/2 IN. (64 MM) THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF OR 1600-2400 KG/M3) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS\*. MAX DIAM OF OPENING

SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

1A. STEEL SLEEVE - (OPTIONAL, NOT SHOWN) - NOM 10 IN. (254 MM) (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL SLEEVE CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY. SLEEVE MAY EXTEND A MAX OF 2 IN. (51 MM) ABOVE TOP OF FLOOR OR BEYOND EITHER SURFACE OF WALL. AS AN ALTERNATE, NOM 10 IN. (254 MM) DIAM (OR SMALLER) SLEEVE FABRICATED FROM NOM 0.019 IN. (0.48 MM) THICK GALV STEEL CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY

2. THROUGH PENETRANT - NOM 4 IN. (102 MM) DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER PIPE, NOM 12 IN. (305 MM) DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 12 IN. (305 MM) DIAM (OR SMALLER) CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE OR NOM 12 IN. (305 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE CENTERED IN THE OPENING AND RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR OR WALL ASSEMBLY.

3. PIPE COVERING\* - NOM 1/2 TO 2 IN. (13 TO 51 MM) THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MIN 3.5 PCF OR 56 KG/M3) 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 STRIP TAPE SUPPLIED WITH THE PRODUCT.

MIN FLOOR OR WALL THKNS, IN. (MM)	MAX PIPE DIAM, IN. (MM)	NOM PIPE COVERING THKNS, IN. (MM)	ANNULAR SPACE IN. (MM)	F RATING HR.	T RATING HR.
2-1/2 (64)	4 (102)	1 or 1-1/2 (25 or 38)	1/2 to 2-3/8 (13 to 60)	2	1
4-1/2 (114)	4 (102)	2 (51)	1/4 to 3-5/8 (6 to 92)	2	1-1/2
2-1/2 (64)	12 (305)	1 (25)	1/2 to 1-1/2 (13 to 38)	2	1/2
4-1/2 (114)	12 (305)	1 (25)	1/2 to 2-3/8 (13 to 60)	3	1
2-1/2 (64)	12 (305)	1/2 (13)	1/2 to 2-3/8 (13 to 60)	2	0

3M COMPANY - CP 25WB+ or FB-3000 WT \* BEARING THE UL CLASSIFICATION MARK.

# REPRINTED FROM THE UL ONLINE CERTIFICATIONS DIRECTORY FILENAME = XHEZ.C-AJ-5001 http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/gfilenbr.html TYPE C-AJ-5001 IN UL FILE NUMBER BOX, CLICK ON SEARCH COPYRIGHT @016 BY UNDERWRITERS LABORITORIES INC. ®

SEE PIPE AND EQUIPMENT COVERING - MATERIALS\* (BRGU)

OF MANUFACTURERS. ANY PIPE COVERING MATERIAL

4. FIRESTOP SYSTEM - THE DETAILS OF THE FIRESTOP SYSTEM

A. PACKING MATERIAL - MIN 1 IN. (25 MM) THICKNESS OF FIRMLY

PACKED MINERAL WOOL BATT INSULATION USED AS A

THICKNESS OF CAULK FILL MATERIAL (ITEM B).

PERMANENT FORM. PACKING MATERIAL TO BE RECESSED

B. FILL, VOID OR CAVITY MATERIAL\* - CAULK OR SEALANT - APPLIED

TO FILL THE ANNULAR SPACE FLUSH WITH THE TOP SURFACE OF

WHEN NOM PIPE COVERING THICKNESS IS 2 IN. (51 MM), MIN

THE FLOOR OR SLEEVE OR FLUSH WITH BOTH SURFACES OF WALL.

THICKNESS OF CAULK FILL MATERIAL IS 2 IN. (51 MM). WHEN NOM

THICKNESS OF CAULK FILL MATERIAL IS 1 IN. (25 MM). THE HOURLY

THE THICKNESS OF THE FLOOR OR WALL, THE SIZE OF PIPE, THE

THICKNESS OF PIPE COVERING MATERIAL AND THE SIZE OF THE

EDGE OF THE CIRCULAR THROUGH OPENING) AS SHOWN IN THE

F AND T RATINGS OF THE FIRESTOP SYSTEM ARE DEPENDENT UPON

ANNULAR SPACE (BETWEEN THE PIPE COVERING MATERIAL AND THE

PIPE COVERING THICKNESS IS 1-1/2 IN. (38 MM) OR LESS, MIN

FROM TOP SURFACE OF FLOOR OR SLEEVE OR FROM BOTH

SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED

BE USED.

SHALL BE AS FOLLOWS:

FOLLOWING TABLE:

CATEGORY IN BUILDING MATERIALS DIRECTORY FOR NAMES

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

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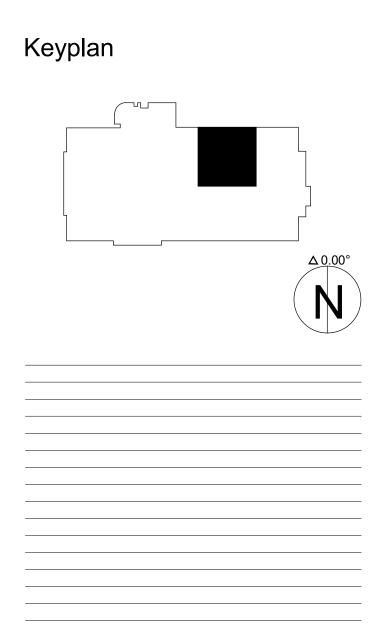
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Project Number: 22057.03 Status & Date: 12/20/2024

B

Sheet Title: **ELECTRICAL NOTES &** ABBREVIATIONS SHEET Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: 713 NC State Project ID Number: 202435062 SCO # 24-28212-01A

PRINT IN COLOR Sheet Number:

# E002

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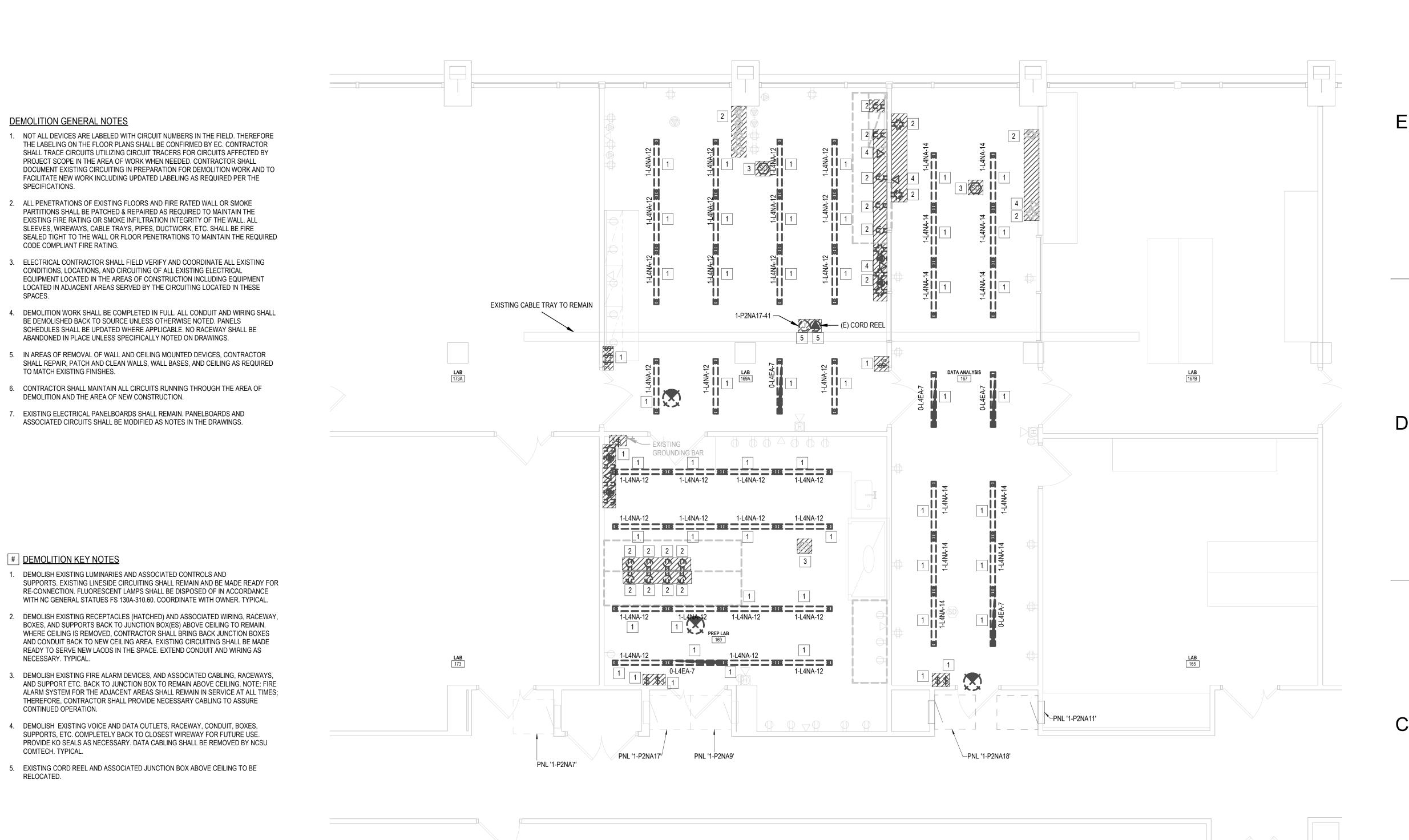
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# 1 FIRST FLOOR ELECTRICAL PLAN - DEMOLITION SCALE: 1/4" = 1'-0"

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# E100

PRINT IN COLOR Sheet Number:

Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: **713** NC State Project ID Number: **202435062** SCO # 24-28212-01A

A ELECTRICAL DEMOLITION

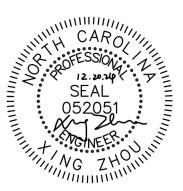
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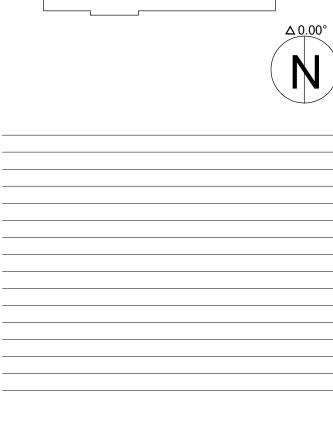
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Project Number: 22057.03 Status & Date: 12/20/2024







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1. EXISTING CIRCUIT NUMBERING IN FIELD IS INCONSISTENT BETWEEN DEVICE LABELING, SCHEDULE IN PANEL DOOR, AND RECORD DRAWINGS THEREFORE THE LABELING ON THE FLOOR PLANS SHALL BE CONFIRMED BY EC. CONTRACTOR SHALL TRACE CIRCUITS UTILIZING CIRCUIT TRACERS FOR ALL CIRCUITS IN THE AREA OF WORK. CONTRACTOR SHALL DOCUMENT EXISTING CIRCUITING IN PREPARATION FOR DEMOLITION WORK AND TO FACILITATE NEW WORK INCLUDING UPDATED LABELING AS REQUIRED PER THE SPECIFICATIONS. 2. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY AND COORDINATE ALL EXISTING CONDITIONS, LOCATIONS, AND CIRCUITING OF ALL EXISTING ELECTRICAL (POWER, LIGHTING, SPECIAL SYSTEMS, ETC.) EQUIPMENT LOCATED IN AREAS OF DEMOLITION/CONSTRUCTION INCLUDING EQUIPMENT LOCATED IN ADJACENT AREAS SERVED BY CIRCUITING LOCATED IN THESE SPACES. THE CONTRACTOR SHALL VISIT THE JOB SITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS PRIOR TO BID AND ANY WORK. 3. EXISTING ELECTRICAL PANELBOARDS SHALL REMAIN. PANELBOARDS AND

ASSOCIATED CIRCUITS SHALL BE MODIFIED AS NOTED IN THE DRAWINGS. 4. IN AREAS OF REMOVAL OF WALL AND CEILING MOUNTED DEVICES, CONTRACTOR SHALL REPAIR, PATCH AND CLEAN WALLS, WALL BASES, AND CEILING AS REQUIRED TO MATCH EXISTING FINISHES. 5. REFER TO DRAWING E001 AND E002 FOR GENERAL PROJECT NOTES, SYMBOLS &

ABBREVIATIONS. 6. REFER TO DRAWING E500 FOR ELECTRICAL DETAILS.

(#)<u>NEW WORK POWER KEY NOTES</u> 1. NEW LOCATION OF EXISTING CORD REEL AND ASSOCIATED JUNCTION BOX ABOVE CEILING. EXTEND CONDUIT AND CONDUCTORS AS NECESSARY.

8. PROVIDE DEDICATED 120V RECEPTACLE TO SERVE WATER COOLED CHILLER. REQUIRED. PURCHASE. PURCHASE.

13. PROVIDE NEW CONNECTION FOR POWER AND DATA REQUIRED FOR BLUEFORS

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### NEW WORK GENERAL NOTES

2. PROVIDE NEW CONNECTION FOR POWER AND DATA REQUIRED FOR BLUEFORS CONTROL UNIT. COORDINATE EXACT LOCATION WITH FINAL EQUIPMENT LAYOUT IN THE FIELD. EC SHALL COORDINATE WITH MANUFACTURER AND INSTALLATION MANUAL PRIOR TO CONSTRUCTION FOR SPECIFIED PLUG TYPE AS NECESSARY. 3. PROVIDE NEMA L6-20R RECEPTACLE TO POWER BLUEFORS MAGNET PSU.

COORDINATE EXACT LOCATION WITH FINAL EQUIPMENT LAYOUT IN THE FIELD. EC SHALL COORDINATE WITH MANUFACTURER AND INSTALLATION MANUAL PRIOR TO CONSTRUCTION FOR SPECIFIED PLUG TYPE AS NECESSARY.

4. PROVIDE DEDICATED SINGLE PHASE 120V 20A RECEPTACLE TO POWER BLUEFORS MAGNET CONTROLLER. COORDINATE EXACT LOCATION WITH FINAL EQUIPMENT LAYOUT IN THE FIELD. EC SHALL COORDINATE WITH MANUFACTURER AND INSTALLATION MANUAL PRIOR TO CONSTRUCTION FOR SPECIFIED PLUG TYPE AS NECESSARY.

5. PROVIDE SINGLE PHASE 120V POWER WITH 2 NEUTRAL TO SERVE BLUEFORS GAS HANDLING SYSTEM PER INSTALLATION MANUAL. COORDINATE EXACT LOCATION WITH FINAL EQUIPMENT LAYOUT IN THE FIELD.

6. PROVIDE LINESIDE CIRCUITING FOR OWNER PROVIDED BLUEFORS PT COMPRESSOR (INSTALLED BY OTHERS). PROVIDE 3 PHASE 600V 60A FRAME NEMA 1 50A FUSED DISCONNECT SWITCH (OR APPROVED EQUIVALENT BY EATON OR ABB). DISCONNECT SHALL BE UL LISTED. COORDINATE DISCONNECT LOCATION WITH FINAL COMPRESSOR LOCATION IN THE FIELD. CONDUIT BETWEEN DISCONNECT AND EQUIPMENT SHALL BE LFMC. COORDINATE COMPLETE INSTALLATION WITH LAB EQUIPMENT PROVIDED BY OWNER.

7. PROVIDE SINGLE PHASE 120V CONNECTION TO VAV STEP DOWN TRANSFORMER/CONTROLS. VAV, STEP DOWN TRANSFORMER, AND DISCONNECTING MEANS TO BE PROVIDED BY MECHANICAL CONTRACTOR.

9. PROVIDE NEW FIRE ALARM DETECTION DEVICES, CABLING, RACEWAY ETC. AS REQUIRED PER DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL PROVIDE CALCULATIONS TO CONFIRM EXISTING POWER SUPPLIES/CIRCUITS WILL ACCOMMODATE MODIFICATIONS OR PROVIDE ADDITIONAL POWER SUPPLY(IES) AS

10. PROVIDE THREE PHASE 208V CONNECTION TO POWER E BEAM EVAPORATOR. COORDINATE EXACT REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO

11. PROVIDE SINGLE PHASE 208V CONNECTION TO POWER RECIRCULATING CHILLER. COORDINATE EXACT REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO 12. EC SHALL PROVIDE GROUNDING BAR AT 18" AFF AND CONNECT IT TO BUILDING

GROUNDING SYSTEM. EC SHALL COORDINATE EXACT LOCATION WITH OWNER FOR EACH ROOM. #4 AWG CONDUCTOR BETWEEN SYSTEM AND GROUNDING BAR. COORDINATE WITH OWNER PRIOR TO PURCHASE. COORDINATE WITH EXISTING GROUNDING BAR IN THE ROOM.

CONTROL UNIT. COORDINATE EXACT LOCATION WITH FINAL EQUIPMENT LAYOUT IN THE FIELD. EC SHALL COORDINATE WITH MANUFACTURER AND INSTALLATION MANUAL PRIOR TO CONSTRUCTION FOR SPECIFIED PLUG TYPE AS NECESSARY. 14. PROVIDE NEMA L6-20R RECEPTACLE TO POWER FUTURE BLUEFORS MAGNET PSU.

COORDINATE EXACT LOCATION WITH FINAL EQUIPMENT LAYOUT IN THE FIELD. EC SHALL COORDINATE WITH MANUFACTURER AND INSTALLATION MANUAL PRIOR TO CONSTRUCTION FOR SPECIFIED PLUG TYPE AS NECESSARY. 15. PROVIDE DEDICATED SINGLE PHASE 120V 20A RECEPTACLE TO POWER FUTURE

BLUEFORS MAGNET CONTROLLER. COORDINATE EXACT LOCATION WITH FINAL EQUIPMENT LAYOUT IN THE FIELD. EC SHALL COORDINATE WITH MANUFACTURER AND INSTALLATION MANUAL PRIOR TO CONSTRUCTION FOR SPECIFIED PLUG TYPE AS NECESSARY.

16. PROVIDE SINGLE PHASE 120V POWER WITH 2 NEUTRAL TO SERVE FUTURE BLUEFORS GAS HANDLING SYSTEM PER INSTALLATION MANUAL. COORDINATE EXACT LOCATION WITH FINAL EQUIPMENT LAYOUT IN THE FIELD.

17. PROVIDE LINESIDE CIRCUITING FOR OWNER PROVIDED BLUEFORS PT COMPRESSOR (INSTALLED BY OTHERS). PROVIDE 3 PHASE 600V 60A FRAME NEMA 1 50A FUSED DISCONNECT SWITCH (ÓR APPROVED EQUIVALENT BY EATON OR ABB). DISCONNECT SHALL BE UL LISTED. COORDINATE DISCONNECT LOCATION WITH FINAL COMPRESSOR LOCATION IN THE FIELD. CONDUIT BETWEEN DISCONNECT AND EQUIPMENT SHALL BE LFMC. COORDINATE COMPLETE INSTALLATION WITH LAB

EQUIPMENT PROVIDED BY OWNER.

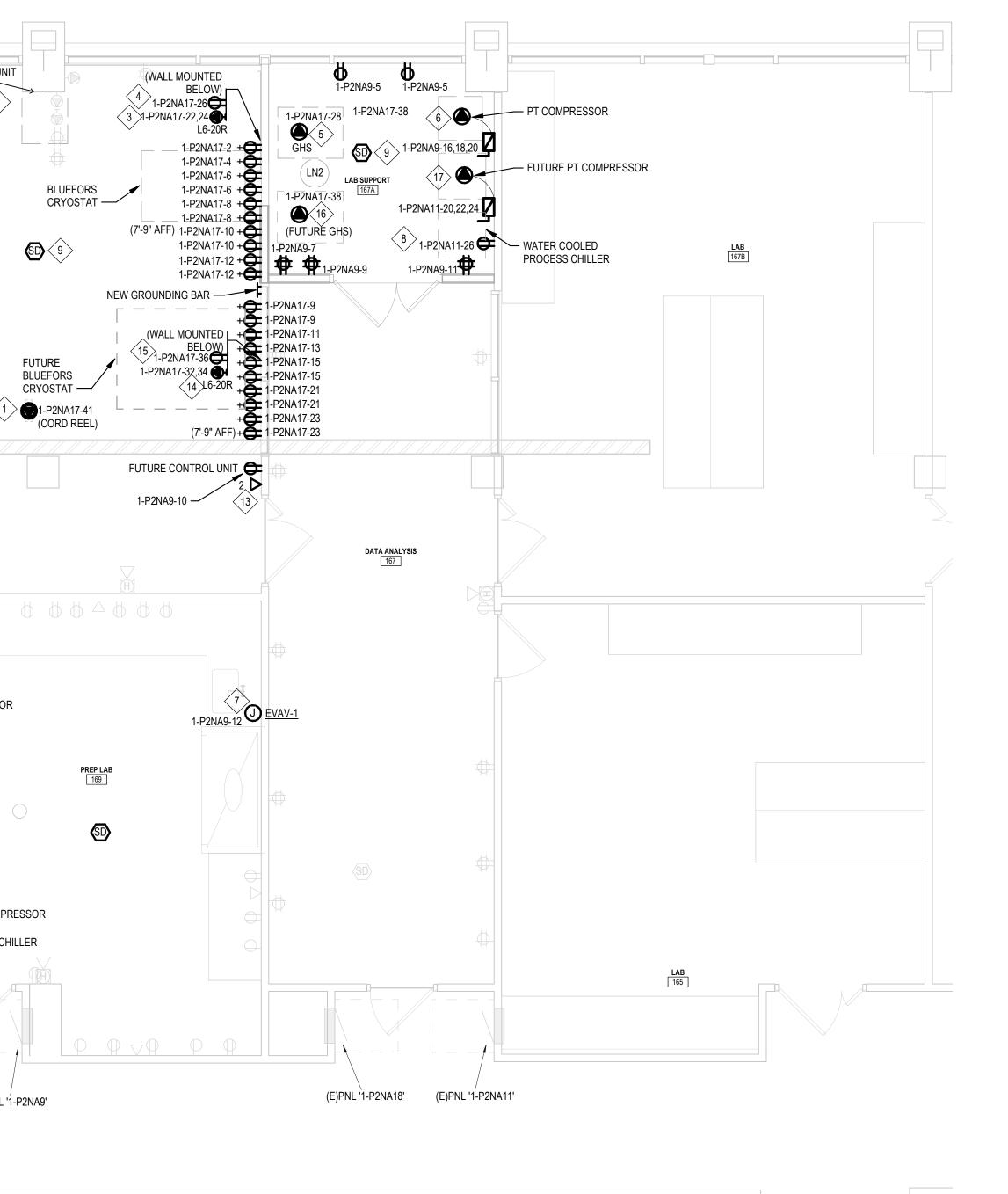
CONTROL UNI 1-P2NA9-8 -169A **LAB** 173A - EXISTING GROUNDING BAR – E BEAM EVAPORATOR 1-P2NA17-3 🛨+(46" AFF) 1-P2NA17-1-P2NA17-1-P2NA17-7 1-P2NA17-7 <12>**1** 1-P2NA7-10,12,14 1-P2NA7-33 🗗 1-P2NA7-33 🝎+ - NEW GROUNDING BAR 1-P2NA7-35 🝎+ 1-P2NA7-35 🝎+ - CRYO PUMP COMPRESSOR 1-P2NA17-1 + (46" AFF) 1-P2NA9-14,16 RECIRCULATING CHILLER LAB 173 (E)PNL '1-P2NA7' (E)PNL '1-P2NA17' (E)PNL '1-P2NA9'

FIRST FLOOR POWER AND SYSTEMS PLAN - NEW WORK SCALE: 1/4" = 1'-0"

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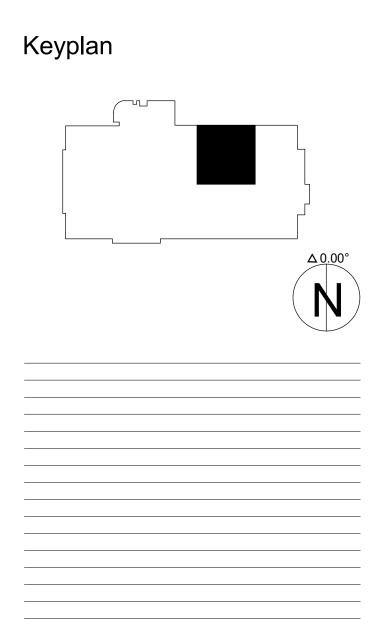
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🇳 M<sup>a</sup>kim*&* CREEL 4300 Edwards Mill Road Suite 200 Raleigh, North Carolina 27612 Phone: (919) 233-8091, Fax: (919) 233-8031 NC License# F-1222 www.mckimcreed.com







Project Number: 22057.03 Status & Date: 12/20/2024

Sheet Title:

A ELECTRICAL NEW WORK PLAN - POWER & SPECIAL SYSTEMS Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: 713 NC State Project ID Number: 202435062 SCO # 24-28212-01A

PRINT IN COLOR Sheet Number:



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	LIG	HTING COMP

METHOD OF COMPLIANCE: PRESCRIPTIVEX_PERFORMANCEENE	ERGY COST BUDGET
LIGHTING SCHEDULE	
LAMP TYPE REQUIRED IN FIXTURE	SEE LIGHTING SCHEDULE
NUMBER OF LAMPS IN FIXTURE	SEE LIGHTING SCHEDULE
BALLAST TYPE USED IN THE FIXTURE	SEE LIGHTING SCHEDULE
NUMBER OF BALLASTS IN FIXTURE	SEE LIGHTING SCHEDULE
TOTAL WATTAGE PER FIXTURE	SEE LIGHTING SCHEDULE
TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED	962W SPECIFIED/2,359W ALLOWED
TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED	N/A

ADDITIONAL PRESCRIPTIVE ENERGY CONSERVATION MEASUR REDUCED LIGHTING POWER DENSITY OPTION \_\_\_\_\_YES\_\_\_ WATTAGE SPECIFIED IS LESS THAN 90% OF THE WATTAGE ALLOWED YES

ELECTRICAL DESIGNER STATEMENT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENTS OF THE NORTH CAROLINA STATE BUILDING CODE, VOLUME X-ENERGY.

> NAME: XING ZHOU

ELECTRICAL ENGINEER TITLE:

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# 3. EXISTING ELECTRICAL PANELBOARDS SHALL REMAIN. PANELBOARDS AND ASSOCIATED CIRCUITS SHALL BE MODIFIED AS NOTED IN THE DRAWINGS. 4. IN AREAS OF REMOVAL OF WALL AND CEILING MOUNTED DEVICES, CONTRACTOR SHALL REPAIR, PATCH AND CLEAN WALLS, WALL BASES, AND CEILING AS REQUIRED TO MATCH EXISTING FINISHES. 5. REFER TO DRAWING E001 AND E002 FOR GENERAL PROJECT NOTES, SYMBOLS & ABBREVIATIONS. 6. REFER TO DRAWING E500 FOR ELECTRICAL DETAILS. <u>NEW WORK LIGHTING KEY NOTES</u>

1. LIGHTING CIRCUIT(S) SHALL BE #12 PHASE, #12N, AND #12G IN ¾" CONDUIT UNLESS NOTED OTHERWISE. FOR CIRCUIT(S) EXCEEDING THE LENGTHS NOTED IN THE PLANS AND SPECS, UPSIZE ACCORDINGLY. (TYPICAL FOR ALL SPACES). EC SHALL RE-USE EXISTING CIRCUITING IN THE ROOM TO SERVE NEW LIGHTING. PROVIDE SUPPORT AND MOUNT TO AVOID EXISTING DUCTWORK AND BLUEFOR EQUIPMENT. 2. LIGHTING CONTROL INSTALLATION SHALL INCLUDE CONTROLS, DATA CABLING, AND 0-10V DIMMING WIRING, ETC. AS NECESSARY FOR COMPLETE AND FUNCTIONAL INSTALLATION. (TYPICAL FOR ALL SPACES). ALL LIGHTING SHALL BE CONTROLLED (NORMAL AND EMERGENCY).

3. LIGHTING CONTROL BASIS OF DESIGN: POWER PACK FOR NORMAL POWER LUMINARIES SHALL BE ACUITY nLIGHT nPP16D EFP; POWER PACK FOR EMERGENCY POWER LUMINARIES SHALL BE ACUITY nLIGHT nPP16D ER EFP; OCCUPANCY SENSORS SHALL BE ACUITY ILIGHT IN PDT 10 RJB; SWITCHES SHALL BE ACUITY nLIGHT nPODMA DX WH. EQUIVALENT PRODUCTS BY HUBBELL IS ACCEPTABLE. (TYPICAL FOR ALL SPACES)

4. ALL EMERGENCY LIGHTING FIXTURES SHALL BE CIRCUITED TO THE NEAREST HALLWAY EMERGENCY LIGHTS CIRCUITED TO PANEL '0-L4EA' LOCATED IN THE BASEMENT. EC TO FIELD VERIFY EMERGENCY LIGHTING CIRCUIT NUMBER AND CONNECT NEW LIGHTS TO THIS CIRCUIT.

# PNL '1-P2NA7'

## FIRST FLOOR LIGHTING PLAN - NEW WORK 1 SCALE: 1/4" = 1'-0"

## 2018 NORTH CAROLINA BUILDING CODE - ENERGY CONSERVATION IPLIANCE

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			ELEC	TRICAL L
TYPE	DESCRIPTION	MANUFACTURER	ALTERNATE MANUFACTURERS	
А	RECESSED 2x4 LAY-IN LED PANEL	LITHONIA	CURRENT, COOPER LIGHTING	ST
AE	RECESSED 2x4 LAY-IN LED PANEL WITH ON GENERATOR	LITHONIA	CURRENT, COOPER LIGHTING	ST
В	4' LINEAR LED PENDANT	LITHONIA	CURRENT, COOPER LIGHTING	GRD-LSL-
EX	LED EXIT SIGN - SINGLE FACE	LITHONIA	CURRENT, COOPER LIGHTING	

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# INTERIOR LIGHTING POWER ALLOWANCE PER NCECC 405.4.2

WATTS/SQFT

1.81

1.81

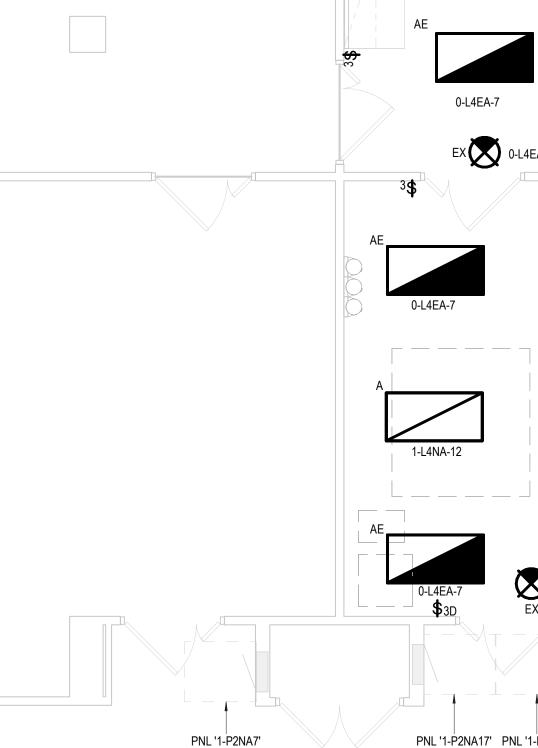
1.43

1.81

	INTERIOR I	LIGHTING POV	VER (NEW)
ROOM #	ROOM NAME	AVG. (FC)	IES RECOMMENDED AGV. (FC)
L69A	LAB	50.1	50-75
L69	PREP LAB	64.4	50-75
L67	DATA ANALYSIS	64.8	50-75
L69B	LAB SUPPORT	43.9	30-50
		-	

SPACE NAME LAB 169A PREP LAB 169 DATA ANALYSIS 167 LAB SUPPORT 169B

RENOVATED. SPACE BY SPACE ALLOWANCE



NEW WORK GENERAL NOTES 1. EXISTING CIRCUIT NUMBERING IN FIELD IS INCONSISTENT BETWEEN DEVICE LABELING, SCHEDULE IN PANEL DOOR, AND RECORD DRAWINGS THEREFORE THE LABLING ON THE FLOOR PLANS SHALL BE CONFIRMED BY EC. CONTRACTOR SHALL TRACE CIRCUITS UTILIZING CIRCUIT TRACERS FOR ALL CIRCUITS IN THE AREA OF WORK. CONTRACTOR SHALL DOCUMENT EXISTING CIRCUITING IN PREPARATION FOR DEMOLITION WORK AND TO FACILITATE NEW WORK INCLUDING UPDATED LABELING AS REQUIRED PER THE SPECIFICATIONS.

2. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY AND COORDINATE ALL EXISTING CONDITIONS, LOCATIONS, AND CIRCUITING OF ALL EXISTING ELECTRICAL (POWER,

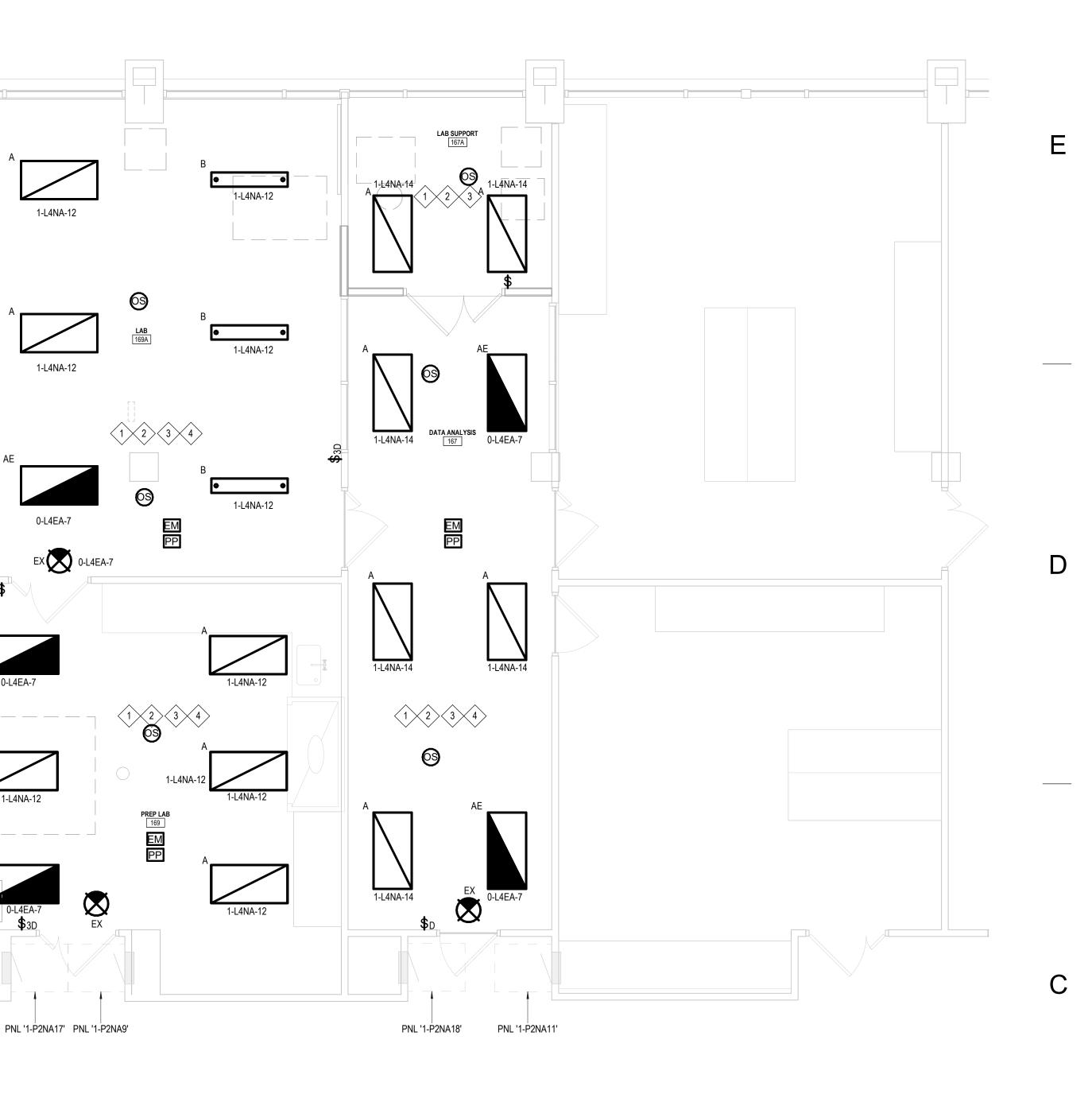
DEMOLITION/CONSTRUCTION INCLUDING EQUIPMENT LOCATED IN ADJACENT AREAS SERVED BY CIRCUITING LOCATED IN THESE SPACES. THE CONTRACTOR SHALL VISIT THE JOB SITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS PRIOR TO BID

LIGHTING, SPECIAL SYSTEMS, ETC.) EQUIPMENT LOCATED IN AREAS OF

AND ANY WORK.

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#### CAL LIGHTING FIXTURE SCHEDULE

				LAMP			MINIMUM	
CATALOG NUMBER	MOUNTING	VOLTAGE	WATTS	TYPE	COLOR TEMP	LUMENS	C.R.I.	REMARKS
TAK 2X4 6000LM 80CRI 40K COL MVOLT	Recessed	277 V	50 W	LED	4000	6000	85	DIMMABLE
TAK 2X4 6000LM 80CRI 40K COL MVOLT	Recessed	277 V	50 W	LED	4000	6000	85	DIMMABLE
L-4-MSL4-80CRI-40K-ID1500LMF-80/20/MINI1-Z T-277	PENDANT	277 V	36 W	LED	4000K	6000	80	DIMMABLE
EDG-1-G-EL	CEILING	277 V	3 W	LED	NA	NA	NA	NA

TOTAL WATTS ALLOWED(W)

927.1

735.4

505.1

191.8

	INTERIOF	R LIGHTING	POWE	ER (NEW)
	LUMINAIRE TYPE	WATTS(W)	QTY	TOTAL WATTS(W
	A	50.2	12	603
	AE	50.2	5	251
	В	36	3	108
				962

2359.4 Note (\*): 0.9 IS PER NCECC 406.3.2 REDUCE LIGHTING POWER DENSITY BASED ON AREA BEING

AREA(SQFT)

512.21

406.3

353.25

105.94

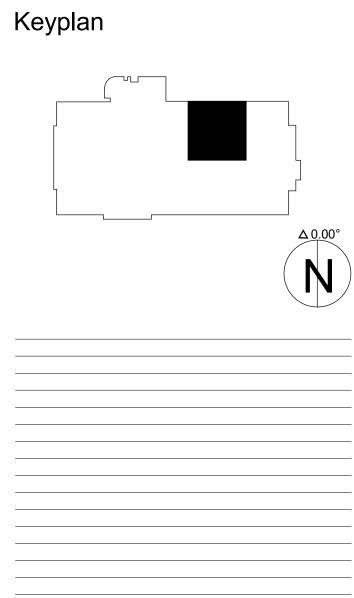
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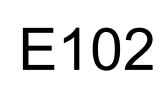
Project Number: 22057.03 Status & Date: 12/20/2024

Sheet Title: A ELECTRICAL NEW WORK PLAN

- LIGHTING

Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: 713 NC State Project ID Number: 202435062 SCO # 24-28212-01A

PRINT IN COLOR Sheet Number:



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	SERVED FROM: ENCLOSURE RATING: MOUNTING:	NEMA	1		MAII	RE RA	TING:	100/3	DARI	)	1	P21	VOLTA VOLTA	•	v):	208 120 CORR	IDOR	١	HASE: NIRE:	-	22	,000 MINIMUM RMS SYMMETRICAL AIC R	
CIR.	LOAD			LOAD	KVA)			PHASE G	CND	BRKR		BRKR	PHASE	G C	ND			LOAD	(KVA)			LOAD	С
NO.	DESCRIPTION	LTG	H/C	мот	КІТ	REC	MISC	SIZE SIZI	IN.	RTG		RTG	SIZE S	SIZE I	N.	LTG	H/C	мот	КІТ	REC	MISC	DESCRIPTION	N
1	SPECIAL RECEPTACLES					1.00		EXISTI		30/2	Α	20/1 20/1	EXIS	STING								SPARE (OFF)	
3	SPECIAL RECEPTACLES					1.00			IG	30/2	В	20/1	EXIS	STING								SPARE (OFF)	
5	SPECIAL RECEPTACLES					1.00		EVICTI		30/2	С	20/1	EXIS	STING								SPARE (OFF)	
7	SPECIAL RECEPTACLES					1.00		EXISTI	IG	30/2	Α	20/1	EXIS	STING								SPARE (OFF)	
9	EXHAUST HOOD						0.50	EXISTI	١G	20/1	В	/-/1			//		///	///	///	$\langle / /$		SPACE / / / /	
11	EXHAUST HOOD						0.50	EXISTI	IG	20/1	С	/-11			//		///	///	///	///		SPACE	
13	WIREWAY					0.54		EXISTI	IG	20/1	A	/-/1			//	$\overline{//}$	///	///		(//		SPACE	
15	WIREWAY					0.54		EXISTI	IG	20/1	В	-/1						<u> </u>			1	SPACE	
17	WIREWAY					0.54		EXISTI	IG	20/1	С	-/1										SPACE	:
19	WIREWAY ////////////////////////////////////	///	///	///	///	0.36		ЕХІЯТИ	IG /	20/1	Α	-/1										SPACE	
21	WIREWAY	$\overline{///}$	$\overline{//}$	///	///	0.36		ЕХІЯТИ	IG /	20/1	В	-/1										SPACE	
23	WIREWAY /////	$\overline{///}$	$\overline{//}$	///	///	0.36		ЕХІЗТИ	ig /	20/1	С	-/1										SPACE	
25	WIREWAY ////////////////////////////////////	$\overline{///}$		///		0.36		EXISTI	ig /	20/1		-/1										SPACE	
27	WIREWAY			<u> </u>		0.54		EXISTI	ÍG	20/1		-/1										SPACE	
29	WIREWAY					0.36		EXISTI	IG	20/1		-/1										SPACE	
31	QUAD RECEPTACLES					0.72		EXISTI	١G	20/1												SPACE	:
	QUAD RECEPTACLES					0.72		EXISTI		20/1												SPACE	
	QUAD RECEPTACLES					0.72		EXISTI	IG	20/1												SPACE	:
	SPARE (OFF)							EXISTI		20/1	Α	-/1										SPACE	:
	SPARE (OFF)							EXISTI	-	20/1												SPACE	
41	SPARE (OFF)							EXISTI	IG	20/1	C	-/1										SPACE	4
	PANELBOARD NOTES: 1. EXISTING PANEL IS GE 2. EXISTING LOADS ARE I 3. ITEMS IN HATCH DENG LARGEST MOTOR (KVA):	BASED O DTES DEI	N ESTI MOLIT	IMATE	5.		LIGHT HEAT MOTO KITCH RECE	IEN PTACLES ELLANEOUS	NÚOUS NG	5	( ( ( 1	ONNE 0.00 0.00 0.00 0.00 0.12 1.00	<u>CTED</u>	DEMA 0.00 0.00 0.00 10.00 1.00 11.00	) ) ) 6 )	. L		PHA PHA	SE A SE B SE C . DEM/	98. 93. AND A	.37% 74% 88% MPS x	31 1.0737	
			-								_					LAPC				HASE A		32.96	

												_												
	SERVED FROM: ENCLOSURE RATING: MOUNTING:	NEMA	1		MAI	RE RA N BRE	TING:	PANE 100 100/3 MCB	-	<u>ARD</u>		1	-P2N	VOLT.		L-N):	208 120 CORR		١	HASE: WIRE:	-	22	,000 MINIMUM RMS SYMMETRICAL AIC RA	TING
CIR.	LOAD			LOAD	(KVA)			PHASE	HASE G CND BRKE		BRKR	1 [	BRKR	PHASE	G	CND			LOAD	(KVA)			LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	мот	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	мот	KIT	REC	MISC	DESCRIPTION	NO.
1						1.00						A	20/1	EX	ISTING	3		-					SPARE (OFF)	2
3	SPECIAL RECEPTACLES					1.00		EX EX	ISTING	i	30/2		20/1	EX	ISTING	G							SPARE (OFF)	4
5						1.00							20/1	EX	ISTING	G							SPARE (OFF)	6
7	SPECIAL RECEPTACLES					1.00		EX	ISTING	i	30/2		20/1		ISTING								SPARE (OFF)	8
9	EXHAUST HOOD						0.50	FX	ISTING	i İ	20/1		-, -			-						5.76	()	10
11	EXHAUST HOOD						0.50		ISTING		20/1		60/3	4	10	1						5.76	E-BEAM EVAPORATOR	12
	WIREWAY					0.54	0.00		ISTING		20/1			•		-						5.76		14
15	WIREWAY					0.54			ISTING		20/1		-/1									0.70	SPACE	16
-	WIREWAY					0.54			ISTING		20/1												SPACE	18
19	SPARE (OFF)					0.0.		27			20/1		-/1										SPACE	20
21	SPARE (OFF)										20/1		-/1										SPACE	22
23	SPARE (OFF)										20/1												SPACE	24
25	SPARE (OFF)										20/1		-/1										SPACE	26
27	WIREWAY					0.54		FY	ISTING		20/1												SPACE	28
	WIREWAY					0.34			ISTING		20/1		-/1										SPACE	30
-	QUAD RECEPTACLES					0.72			ISTING		20/1												SPACE	32
	E-BEAM RCPTS. 169					1.00			ISTING		20/1												SPACE	34
	E-BEAM RCPTS. 169					1.00			ISTING		20/1												SPACE	36
	SPARE (OFF)								ISTING		20/1												SPACE	38
39	SPARE (OFF)							EX	ISTING		20/1												SPACE	40
41	SPARE (OFF)							EX	ISTING	ì	20/1	С	-/1										SPACE	42
	2. EXISTING LOADS ARE E 3. ITEMS IN BOLD DENOT	KISTING PANEL IS GE A LINE SERIES. LIGH KISTING LOADS ARE BASED ON ESTIMATES. HEA EMS IN BOLD DENOTE NEW WORK. MO KITC REC						AD TOTALS (KVA): GHTING/CONTINUOUS ATING/COOLING DTORS TCHEN CEPTACLES SCELLANEOUS				( ( ( ( ( (	<u>DNNEC</u> ).00 ).00 ).00 ).00 ).24 8.28 7.52	TED	0. 0. 0. 9. 18	1AND 00 00 00 24 3.28 7.52		ARGES	PHA PHA PHA TOTAL	SE A SE B SE C DEMA ALANC	ALANC 98.3 101. 99.8 AND AN CE PHA HASE A	33% 82% 35% VIPS x SE %:	76 1.0182 <b>77.78</b>	

	SERVED FROM: ENCLOSURE RATING: MOUNTING:	NEMA	1		MAII	N BRE		100 100/3 MCB	Α					VOLTAG VOLTAG LOCAT	E (L-N):	120	RIDOR	١	HASE: WIRE:	-	22	,000 MINIMUM RMS SYMMETRICAL AIC RA	
CIR.	LOAD			LOAD (I				PHASE		CND	BRKR	1 [		PHASE G					(KVA)			LOAD	CI
NO.	DESCRIPTION	LTG	H/C	мот	KIT		MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE SIZ		LTG	H/C	мот	КІТ	REC	MISC	DESCRIPTION	N
1	SPECIAL RECEPT.					1.00		FX	ISTING	9	20/2	Α		EXIST						0.36		QUAD RECEPT.	2
3						1.00				5	20,2	B		EXIST						0.36		QUAD RECEPT.	4
5	SPECIAL RECEPT.					1.00		EV	ISTING	2	30/2	C A	30/2	EXIST						1.00		SPECIAL RECEPT.	6
7	SFECIAL RECEPT.					1.00		L		J	30/2			EXIST	ING					1.00		SFLCIAL NECLF I.	8
9	SPECIAL RECEPT.					1.00		EV	ISTING	-	30/2	B C	30/2	EXIST	ING					1.00		SPECIAL RECEPT.	1
11	SPECIAL RECEPT.					1.00		E7		3	50/2	С	50/2	EXIST	ING					1.00		SPECIAL RECEPT.	1
13						1.00		-		~	20/2	A B	20/2	EXIST	ING					1.00			1
15	SPECIAL RECEPT.					1.00		EX	ISTING	J	30/2			EXIST	ING					1.00		SPECIAL RECEPT.	1
17	QUAD RECEPT.					0.36		ΕX		3	20/1 20/1	С	45/0	EXIST	ING					1.00			1
19	RECEPTACLES					0.72		ΕX		3	20/1	Α	15/2	EXIST	ING					1.00		SPECIAL RECEPT.	2
21	QUAD RECEPT.					0.36		ΕX		G	20/1	в			////	//	///	///	///	///	///	///////////////////////////////////////	/ 2
23	QUAD RECEPT.					0.36			ISTING		20/1 20/1	С	30/2	exist	ING	$\langle / /$		1//		///	///	SPECIAL RECEPT. (OFF)	2
25	WIREWAY					0.54					20/1	Δ			///			///		///			2
27	WIREWAY					0.36				-	20/1 20/1	B	30/2	exist	ING	$\langle / /$		$\langle / /$		///		SPECIAL RECEPT. (OFF)	2
29	WIREWAY					0.54				-	20/1	c	20/1	EXIST	ING		- / /			0.18	( / /	CORD REEL	3
31	WIREWAY					0.36			ISTING		20/1	Ā	20/1	ÉXIST		17	///	77	///	77	///	SPARE (OFF)	/ 3
33	QUAD RECEPT.					0.36		ΕX	ISTING	G	20/1	В	20/1	/ ÉXIST			///	(//	///	///		SPARE (OFF)	3
35	CORD REEL					0.18		ΕX	ISTING	G	20/1	С	20/1	/ EXIST	ING /	///	///	1//	//	///	//	SPARE (OFF)	3
37	QUAD RECEPT.					0.36		EΧ	ISTING	G	20/1	Α	20/1	EXIST,		$\langle / /$	///	///	///	///		SPARE (ØFF)	3
39	QUAD RECEPT.					0.36			ISTING		20/1	В	20/1	EXIST	ING							SPARE (OFF)	4
41	CORD REEL					0.18		EΧ	ISTING	<u>G</u>	20/1	С	-/1									SPACE	4
	PANELBOARD NOTES: 1. EXISTING PANEL IS GE 2. EXISTING LOADS ARE E 3. ITEMS IN HATCH DENC LARGEST MOTOR (KVA):	BASED O DTES DEI	N ESTI MOLIT	MATES	5.		LIGHT HEAT MOTO KITCH RECE	IEN PTACLE ELLANE	ONTIN OLING	luous	i	2	ONNE 0.00 0.00 0.00 0.00 21.94 0.00 21.94		EMAND 0.00 0.00 0.00 0.00 15.97 0.00 15.97		ARGES	PHA PHA PHA TOTAL	SE A SE B SE C DEMA	ALANC 114. 92.9 92.9 AND AN CE PHA HASE A	.04% 98% 98% MPS x .SE %:	44 1.1404 <b>50.55</b>	

	SERVED FROM: ENCLOSURE RATING: MOUNTING:	NEMA	1		MAII	N BREA	AKER:	100 100/3 MCB	Α				VOLT VOLT LOO		L-N):	208 120 CORR	IDOR 1	W	ASE: /IRE:	-	22	,000 MINIMUM RMS SYMMETRICAL AIC RAT	ING
IR.	LOAD			LOAD (	KVA)			PHASE	G	CND	BRKR	BRKR	PHASE	G	CND			LOAD (	KVA)			LOAD	CI
ю.	DESCRIPTION	LTG	H/C	мот	КІТ	REC	MISC	SIZE	SIZE	IN.	RTG	RTG	SIZE	SIZE	IN.	LTG	H/C	мот	KIT	REC	MISC	DESCRIPTION	N
1	E-BEAM RECEPT. 169					0.50		12	12	3/4	20/1 A	20/1	12	12	3/4					0.50		CRYO RECEPT. 169A	2
3	E-BEAM RECEPT. 169					0.50		12	12	3/4	20/1 B	20/1	12	12	3/4					0.50		CRYO RECEPT. 169A	4
5	E-BEAM RECEPT. 169					1.00		12	12	3/4	20/1 0	20/1	12	12	3/4					1.00		CRYO RECEPT. 169A	6
7	E-BEAM RECEPT. 169					1.00		12	12	3/4	20/1 A	20/1	12	12	3/4					1.00		CRYO RECEPT. 169A	8
9	CRYO RECEPT. 169A					1.00		12	12	3/4	20/1 B		12	12						1.00		CRYO RECEPT. 169A	1
11	CRYO RECEPT. 169A					0.50		12	12	3/4	20/1 C	20/1	12	12						1.00		CRYO RECEPT. 169A	1
13	CRYO RECEPT. 169A					0.50		12	12	3/4	20/1 A	00/0	EΣ	(ISTIN)	G					1.00			1
15	CRYO RECEPT. 169A					1.00		12	12	3/4	20/1 E	30/2	EΣ	ISTIN	G					1.00		SPECIAL RECEPT.	1
17	QUAD RECEPT.					0.36		ΕX	ISTIN		20/1 0		ΕX	ISTIN	G					1.00			1
19	RECEPTACLES					0.72		ΕX	ISTIN	G	20/1 4		ΕX	ISTIN	G					1.00		SPECIAL RECEPT.	2
21	CRYO RECEPT. 169A					1.00		12	12	3/4	20/1 B				~ / ~						1.00		2
23	CRYO RECEPT. 169A					1.00		12	12	3/4	20/1 C	20/2	12	12	3/4						1.00	MAGNET PSU	2
25	WIREWAY					0.54		ΕX	(ISTIN)	G	20/1 A		12	12	3/4						1.20	MAGNET CONTROLLER	2
27	WIREWAY					0.36		ΕX	ISTIN	G	20/1 <b>B</b>		12	12	3/4						1.80	GHS	2
29	WIREWAY					0.54		ΕX	ISTIN	G	20/1 0		EΣ	ISTIN						0.18		CORD REEL	3
31	WIREWAY					0.36		ΕX	(ISTIN)	G	20/1 A		12	12	3/4						1.00	FUTURE MAGNET PSU	3
	QUAD RECEPT.					0.36			(ISTIN)		20/1 <b>E</b>				•						1.00		3
	CORD REEL					0.18			(ISTIN)		20/1 0		12	12								FUTURE MAGNET CONT.	3
	WIREWAY					0.36			ISTIN		20/1 A			12							1.80	FUTURE GHS	3
	WIREWAY					0.36			ISTIN		20/1 B		EΣ		G							SPARE (OFF)	4
41	CORD REEL					0.18		EX	ISTIN	G	20/1	-/1										SPACE	4
	<u>PANELBOARD NOTES:</u> 1. EXISTING PANEL IS GE 2. EXISTING LOADS ARE E 3. ITEMS IN BOLD DENOT	BASED O	N EST	IMATES	5.		LIGH <sup>-</sup> HEAT MOT KITCH RECE	HEN PTACLE	ONTIN OLIN S	iuous		CONNE 0.00 0.00 0.00 0.00 21.50	<u>CTED</u>	0 0 0 15	<u>1AND</u> .00 .00 .00 .00 5.75			PHAS PHAS PHAS OTAL	SE A SE B SE C DEMA	ALANC 109. 103. 87.(	33% 62% 05% MPS x	71	
	LARGEST MOTOR (KVA):		-				MISC TOTA	ELLANE	UUS		_	<u>10.00</u> 31.50			).00 5.75		ARGEST					1.0933	-
																LARG	EST UNI	BALAN	ICE PH	HASE A	MPS:	78.15	

2

Α

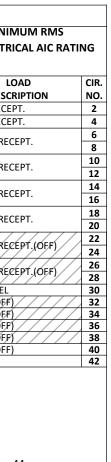
5

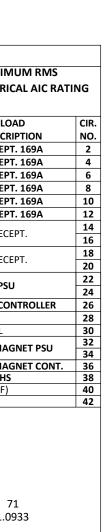
4 3

LOAD	CIR.
CRIPTION	NO.
F)	2
F)	4
F)	6
F)	8
/////	10
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	42

NO.         DESCRIPTION         LTG         H/C         MOT         KIT         REC         MISC         SIZE         SIZE         IN.         RTG         RTG         SIZE         SIZE         IN.           1         QUAD RECEPTACLES         0.36         EXISTING         20/1         A         20/1         EXISTING           3         QUAD RECEPTACLES         0.36         EXISTING         20/1         B         20/1         EXISTING           5         QUAD RECEPTACLES         0.36         EXISTING         20/1         C         EXISTING           7         QUAD RECEPTACLES         0.36         EXISTING         20/1         A         //1           9         REGEPTACLES         0.36         EXISTING         20/1         A         //1           1         GUAD RECEPTACLES         0.36         EXISTING         20/1         A         /1<		SERVED FROM: ENCLOSURE RATING: MOUNTING:	NEMA	1		MAI	RE RA N BRE	TING:	PANELBO 100 a 100/3 MCB	JARI	)	1	P2	VOLT		(L-L): (L-N): )N:		IDOR		HASE: WIRE:	-	22	,000 MINIMUM RMS SYMMETRICAL AIC RA	
1       QUAD RECEPTACLES       0.36       EXISTING       20/1       A       20/1       EXISTING         3       QUAD RECEPTACLES       0.36       EXISTING       20/1       B       20/1       EXISTING         5       QUAD RECEPTACLES       0.36       EXISTING       20/1       C       20/1       EXISTING         7       QUAD RECEPTACLES       0.36       EXISTING       20/1       R       /1         9       BARDSTRECEPTACLES       0.36       EXISTING       20/1       R       /1         9       BARDSTRECEPTACLES       0.36       EXISTING       20/1       R       /1         11       EXISTING       20/1       R       /1       /1       /1       /1         13       WIREWAY       0.36       EXISTING       20/1       R       /1       /1         15       WIREWAY       0.36       EXISTING       20/1       R       /1       /1         14       WIREWAY       0.36       EXISTING       20/1       R       /1       /1         16       WIREWAY       0.36       EXISTING       20/1       R       /1       /1         17       WIREWAY       0.36		-				<u> </u>	1			-				-	-	CND				(KVA)			LOAD	CIR
3         QUAD RECEPTACLES         0.36         EXISTING         20/1         B         20/1         EXISTING           7         QUAD RECEPTACLES         0.36         EXISTING         20/1         C         20/1         EXISTING           7         QUAD RECEPTACLES         0.36         EXISTING         20/1         A         /1           9         EXAMOST MODO         20/1         B         /2         //2           11         EXHAUST MODO         20/1         B         /2         //2           13         WIREWAY         0.36         EXISTING         20/1         B         /2           15         WIREWAY         0.36         EXISTING         20/1         A         /2           19         WIREWAY         0.36         EXISTING         20/1         A         /2           21         WIREWAY         0.36         EXISTING         20/1         A         /2           23         WIREWAY         0.36         EXISTING         20/1         A         /1         /2           25         WIREWAY         0.36         EXISTING         20/1         A         /1         /2           26         WIREWAY			LTG	H/C	мот	КІТ	-	MISC		-					_		LTG	H/C	мот	КІТ	REC	MISC	DESCRIPTION	NC
S       QUAD RECEPTACLÉS       0.36       EXISTING       20/1       C       20/1       EXISTING         9       EXIADST HODOR       0.36       EXISTING       20/1       A       /1       /1         9       EXIAUST HODOR       0.36       EXISTING       20/1       A       /1       /1         11       EXIAUST HODOR       0.36       EXISTING       20/1       C       /1       /1         13       WIREWAY       0.36       EXISTING       20/1       C       /1       /1         15       WIREWAY       0.36       EXISTING       20/1       A       /1       /1         14       WIREWAY       0.36       EXISTING       20/1       A       /1       /1         17       WIREWAY       0.36       EXISTING       20/1       A       /1		-																					SPARE(OFF)	2
7       OUAD RECEPTACLES       0.36       EXISTING       20/1       A       /1/         9       EXIAUST MODO       0/36       EXISTING       20/1       B       /1/         11       EXIAUST MODO       0/36       EXISTING       20/1       C       /1/         13       WIREWAY       0.36       EXISTING       20/1       A       /1/         15       WIREWAY       0.36       EXISTING       20/1       A       /1/         17       WIREWAY       0.36       EXISTING       20/1       A       /1/         17       WIREWAY       0.36       EXISTING       20/1       A       /1/         19       WIREWAY       0.36       EXISTING       20/1       A       /1/         21       WIREWAY       0.36       EXISTING       20/1       A       /1/         23       WIREWAY       0.36       EXISTING       20/1       A       /1																							SPARE(OFF)	4
9         EXAMUST VGQQ         20/1         B         -/1           11         EXEMUST VGQQ         20/1         C         -/1           11         EXEMUST VGQQ         20/1         C         -/1           13         WIREWAY         0.36         EXISTING         20/1         A         -/1           15         WIREWAY         0.36         EXISTING         20/1         B         -/1           19         WIREWAY         0.36         EXISTING         20/1         A         -/1           21         WIREWAY         0.36         EXISTING         20/1         A         -/1           19         WIREWAY         0.36         EXISTING         20/1         A         -/1           23         WIREWAY         0.36         EXISTING         20/1         A         -/1           24         WIREWAY         0.36         EXISTING         20/1         A         -/1           25         WIREWAY         0.36         EXISTING         20/1         A         -/1           25         WIREWAY         0.36         EXISTING         20/1         A         -/1           26         WIREWAY         0.36 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>E</td><td>XISTIN</td><td>G</td><td></td><td></td><td></td><td></td><td></td><td></td><td>SPARE(OFF)</td><td>6</td></t<>														E	XISTIN	G							SPARE(OFF)	6
11       EXEMSISTING       20/1       C       -/1         13       WIREWAY       0.36       EXISTING       20/1       A       -/1         15       WIREWAY       0.36       EXISTING       20/1       B       -/1         17       WIREWAY       0.36       EXISTING       20/1       C       -/1         19       WIREWAY       0.36       EXISTING       20/1       C       -/1         19       WIREWAY       0.36       EXISTING       20/1       A       -/1         21       WIREWAY       0.36       EXISTING       20/1       A       -/1         23       WIREWAY       0.36       EXISTING       20/1       A       -/1         23       WIREWAY       0.36       EXISTING       20/1       A       -/1         24       WIREWAY       0.36       EXISTING       20/1       A       -/1         25       WIREWAY       0.36       EXISTING       20/1       A       -/1         25       WIREWAY       0.18       EXISTING       20/1       B       -/1       I         26       SPARE(OFF)        EXISTING       20/1       A       <			/././.				0,36/									[]]		/ / /			///		/SPACE / / / /	8
13       WIREWAY       0.36       EXISTING       20/1       A       -/1         15       WIREWAY       0.36       EXISTING       20/1       B       -/1         17       WIREWAY       0.36       EXISTING       20/1       A       -/1         17       WIREWAY       0.36       EXISTING       20/1       C       -/1         19       WIREWAY       0.36       EXISTING       20/1       A       -/1         21       WIREWAY       0.36       EXISTING       20/1       A       -/1         23       WIREWAY       0.36       EXISTING       20/1       A       -/1         25       WIREWAY       0.36       EXISTING       20/1       A       -/1         24       WIREWAY       0.36       EXISTING       20/1       A       -/1         25       WIREWAY       0.36       EXISTING       20/1       A       -/1       Image: Composition of the stand							もばん									///		///			///		/SPACE/////	10
15         WIREWAY         0.36         EXISTING         20/1         B         /1           17         WIREWAY         0.36         EXISTING         20/1         C         -/1           19         WIREWAY         0.36         EXISTING         20/1         A         -/1           21         WIREWAY         0.36         EXISTING         20/1         A         -/1           23         WIREWAY         0.36         EXISTING         20/1         C         -/1           23         WIREWAY         0.36         EXISTING         20/1         A         -/1           24         WIREWAY         0.36         EXISTING         20/1         A         -/1           25         WIREWAY         0.36         EXISTING         20/1         A         -/1           27         WIREWAY         0.18         EXISTING         20/1         B         -/1         Z           29         SPARE(OFF)         EXISTING         20/1         A         -/1         Z           31         SPARE(OFF)         EXISTING         20/1         A         -/1         Z           37         SPACE         I         I         I	1 /	EXHAVST/HOOP///////		X///			0.36		///EX18710	iG///						[ ] ]		/ / /			///		SPACE /////	/ 12
17       WIREWAY       0.36       EXISTING       20/1       C       -/1         19       WIREWAY       0.36       EXISTING       20/1       A       -/1         21       WIREWAY       0.36       EXISTING       20/1       B       -/1         23       WIREWAY       0.36       EXISTING       20/1       C       -/1         23       WIREWAY       0.36       EXISTING       20/1       C       -/1         24       WIREWAY       0.36       EXISTING       20/1       C       -/1         25       WIREWAY       0.36       EXISTING       20/1       A       -/1         25       WIREWAY       0.36       EXISTING       20/1       A       -/1         26       PARE(OFF)        EXISTING       20/1       A       -/1       2         29       SPARE(OFF)        EXISTING       20/1       A       -/1       3       3       SPACE        EXISTING       20/1       A       -/1       3       3       SPACE         -/1       A       -/1       3       3       SPACE         -/1       A       -/1<	3 \	WIREWAY					0.36		EXISTIN	IG					$\langle / \rangle$	///		///	//	V /	X / /		SPACE	14
19         WIREWAY         0.36         EXISTING         20/1         A         -/1           21         WIREWAY         0.36         EXISTING         20/1         B         -/1           23         WIREWAY         0.36         EXISTING         20/1         C         -/1           23         WIREWAY         0.36         EXISTING         20/1         C         -/1           25         WIREWAY         0.36         EXISTING         20/1         A         -/1           27         WIREWAY         0.36         EXISTING         20/1         A         -/1           29         SPARE(OFF)         0.18         EXISTING         20/1         C         -/1           31         SPARE(OFF)         EXISTING         20/1         A         -/1         I           33         SPARE(OFF)         EXISTING         20/1         A         -/1         I           33         SPACE         I         EXISTING         20/1         A         -/1         I           37         SPACE         I         I         I         I         I         I         I         I           1         SPACE         I	5 \	WIREWAY					0.36		EXISTIN	IG	20/1	В	/-/1		$\langle / \rangle$	$\langle / \rangle$		//	//		///		SPACE	16
21         WIREWAY         0.36         EXISTING         20/1         B         -/1           23         WIREWAY         0.36         EXISTING         20/1         C         -/1         -/1           25         WIREWAY         0.36         EXISTING         20/1         A         -/1         -/1           27         WIREWAY         0.36         EXISTING         20/1         A         -/1         -/1           29         SPARE(OFF)         0.18         EXISTING         20/1         C         -/1         -/1           31         SPARE(OFF)         EXISTING         20/1         A         -/1         -/1         -/1         -/1           33         SPARE(OFF)         EXISTING         20/1         B         -/1 <t< td=""><td>7 \</td><td>WIREWAY</td><td></td><td></td><td></td><td></td><td>0.36</td><td></td><td>EXISTIN</td><td>IG</td><td>20/1</td><td>C</td><td>/-/1</td><td></td><td><math>\langle / \rangle</math></td><td>///</td><td></td><td>///</td><td><math>\langle / /</math></td><td>V/</td><td>X / /</td><td>V/</td><td>SPACE</td><td>18</td></t<>	7 \	WIREWAY					0.36		EXISTIN	IG	20/1	C	/-/1		$\langle / \rangle$	///		///	$\langle / /$	V/	X / /	V/	SPACE	18
23         WIREWAY         0.36         EXISTING         20/1         C         -/1           25         WIREWAY         0.36         EXISTING         20/1         A         -/1         Image: constraint of the second sec	9 \	WIREWAY					0.36		EXISTIN	IG				$\langle / / \rangle$	$\langle / \rangle$	///		///			$\langle / /$		SPACE	20
25         WIREWAY         0.36         EXISTING         20/1         A         -/1         0           27         WIREWAY         0.18         EXISTING         20/1         B         -/1         0           29         SPARE(OFF)         0.18         EXISTING         20/1         C         -/1         0           31         SPARE(OFF)         0.18         EXISTING         20/1         A         -/1         0           33         SPARE(OFF)         0         EXISTING         20/1         A         -/1         0           35         SPACE         0         EXISTING         20/1         A         -/1         0           37         SPACE         0         0         -/1         C         -/1         0           39         SPACE         0         0         -/1         B         -/1         0           41         SPACE         0         0         0.00         0.00         0.00         0.00           2. EXISTING LOADS ARE BASED ON ESTIMATES.         LOAD TOTALS (KVA):         CONNECTED         DEMANE           3. ITEMS IN HATCH DENOTES DEMOLITION.         MOTORS         0.00         0.00         0.00	1 \	WIREWAY					0.36		EXISTIN	IG	20/1	B	/-/1		$\langle / \rangle$	///		///			$\langle / /$		SPACE	/ 22
25         WIREWAY         0.36         EXISTING         20/1         A         -/1         0           27         WIREWAY         0.18         EXISTING         20/1         B         -/1         0           29         SPARE(OFF)         0.18         EXISTING         20/1         C         -/1         0           31         SPARE(OFF)         0         0         EXISTING         20/1         A         -/1         0           33         SPARE(OFF)         0         0         EXISTING         20/1         A         -/1         0           34         SPARE(OFF)         0         0         EXISTING         20/1         A         -/1         0           35         SPACE         0         0         EXISTING         20/1         B         -/1         0           37         SPACE         0         0         0         0         -/1         0         0           39         SPACE         0         0         0         -/1         0         0         0         0         0           1.         EXISTING PANEL IS GE A LINE SERIES.         LIGHTING/CONTINUOUS         0.00         0.00         0.00	3 \	WIREWAY					0.36		EXISTIN	IG	20/1	С	-/1							1	1		SPACE	24
29         SPARE(OFF)         EXISTING         20/1         C         -/1           31         SPARE(OFF)         EXISTING         20/1         A         -/1	5 \	WIREWAY					0.36		EXISTIN	IG													SPACE	26
29         SPARE(OFF)         EXISTING         20/1         C         -/1           31         SPARE(OFF)         EXISTING         20/1         A         -/1	7 \	WIREWAY					0.18		EXISTIN	IG	20/1	В	-/1										SPACE	28
33         SPARE(OFF)         EXISTING         20/1         B         -/1         Image: Constraint of the second	9 9	SPARE(OFF)							EXISTIN	IG													SPACE	30
35         SPACE         -/1         C         -/1         A           37         SPACE         -/1         A         -/1         A         -/1         A           39         SPACE         -/1         A         -/1         B         -/1         A           41         SPACE         -/1         C         -/1         C         -/1         C           1. EXISTING PANEL IS GE A LINE SERIES.         LIGHTING/CONTINUOUS         0.00         0.00         0.00           2. EXISTING LOADS ARE BASED ON ESTIMATES.         HEATING/COOLING         0.00         0.00         0.00           3. ITEMS IN HATCH DENOTES DEMOLITION.         MOTORS         0.00         0.00         0.00	1 5	SPARE(OFF)							EXISTIN	IG													SPACE	32
37       SPACE       -/1       A       -/1       A         39       SPACE       -/1       B       -/1       B       -/1         41       SPACE       -/1       CONNECTED       DEMANE         1. EXISTING PANEL IS GE A LINE SERIES.       LIGHTING/CONTINUOUS       0.00       0.00         2. EXISTING LOADS ARE BASED ON ESTIMATES.       HEATING/COOLING       0.00       0.00         3. ITEMS IN HATCH DENOTES DEMOLITION.       MOTORS       0.00       0.00	3 5	SPARE(OFF)							EXISTIN	IG													SPACE	34
39       SPACE       -/1       B       -/1       D         41       SPACE       -/1       C       -/1       C       -/1       D         41       SPACE       -/1       C       -/1       C       -/1       D       D         41       SPACE       -/1       C       -/1       C       -/1       C       D         1.       EXISTING PANEL IS GE A LINE SERIES.       LIGHTING/CONTINUOUS       0.00       0.00       0.00         2.       EXISTING LOADS ARE BASED ON ESTIMATES.       HEATING/COOLING       0.00       0.00       0.00         3.       ITEMS IN HATCH DENOTES DEMOLITION.       MOTORS       0.00       0.00       0.00																							SPACE	36
41       SPACE       -/1       C       -/1       C       DEMANE         PANELBOARD NOTES:       1. EXISTING PANEL IS GE A LINE SERIES.       LIGHTING/CONTINUOUS       0.00       0.00       0.00         2. EXISTING LOADS ARE BASED ON ESTIMATES.       HEATING/COOLING       0.00       0.00       0.00         3. ITEMS IN HATCH DENOTES DEMOLITION.       MOTORS       0.00       0.00       0.00																							SPACE	38
PANELBOARD NOTES:LOAD TOTALS (KVA):CONNECTEDDEMANE1. EXISTING PANEL IS GE A LINE SERIES.LIGHTING/CONTINUOUS0.000.002. EXISTING LOADS ARE BASED ON ESTIMATES.HEATING/COOLING0.000.003. ITEMS IN HATCH DENOTES DEMOLITION.MOTORS0.000.00KITCHEN0.000.00																							SPACE	40
1. EXISTING PANEL IS GE A LINE SERIES.LIGHTING/CONTINUOUS0.000.002. EXISTING LOADS ARE BASED ON ESTIMATES.HEATING/COOLING0.000.003. ITEMS IN HATCH DENOTES DEMOLITION.MOTORS0.000.00KITCHEN0.000.000.00	1 5	SPACE									-/1	C	-/1										SPACE	42
RECEPTACLES 4.86 4.86 MISCELLANEOUS 0.00 0.00	-	1. EXISTING PANEL IS GE 2. EXISTING LOADS ARE E	BASED O	N ESTI	MATE	S.		LIGHT HEAT MOTO KITCH RECE	TING/CONTI ING/COOLIN ORS HEN PTACLES	NUOUS IG	5		0.00 0.00 0.00 0.00 4.86	<u>CTED</u>	0 0 0 0 4	.00 .00 .00 .00 .86			PHA PHA PHA TOTAL	<u>OAD B</u> SE A SE B SE C DEM BALAN	111 100 88. AND A	.11% .00% 89% MPS x	13 1.1111	
LARGEST MOTOR (KVA): TOTAL 4.86 4.86	I	LARGEST MOTOR (KVA):		-										-					-		-		14.99	

	SERVED FROM: ENCLOSURE RATING: MOUNTING:	NEMA	1		MAI	N BREA	KER:	100 100/3 MCB	Α					VOLT/ VOLT/ LOC	-	L-N):		IDOR	v	iase: Vire:	-	22	,000 MINIMUM RMS SYMMETRICAL AIC RATI	ING
CIR.	LOAD			LOAD	(KVA)			PHASE	-	CND	BRKR	BR		PHASE	-	CND			LOAD	(KVA)			LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	мот	КІТ		MISC			IN.	RTG	RT		SIZE			LTG	H/C	мот	КІТ	REC	MISC	DESCRIPTION	NO.
1	QUAD RECEPTACLES					0.36		EX	ISTING	3	20/1			EX	ISTING	G							SPARE(OFF)	2
3	QUAD RECEPTACLES					0.36		EX	ISTING	3	20/1	<b>3</b> 20,	)/1	EX	ISTING	3							SPARE(OFF)	4
5	RECPTS. LAB SUPPORT 167	1				0.36		EX	ISTING	3	20/1	C 20	)/1	EX	ISTING	G							SPARE(OFF)	6
7	<b>RECPTS. LAB SUPPORT 167</b>	1				0.36		EX	ISTING	3	20/1	A 20	)/1	12	12	3/4						1.20	<b>CONTROL UNIT LAB 169A</b>	8
9	<b>RECPTS. LAB SUPPORT 167</b>	1				0.36		EX	ISTING	3	20/1	3 20	)/1	12	12	3/4						1.20	FUTURE CONTROL UNIT 169	9A 10
11	RECPTS. LAB SUPPORT 167	۱				0.36		EX	ISTING	3	20/1	C 20	)/1	12	12	3/4						0.50	VAV-SNORKEL- LAB 169	12
13	WIREWAY					0.36		EX	ISTING	3	20/1	<u>م</u> ا	12	42	4.2							1.00		14
15	WIREWAY					0.36			ISTING		20/1		)/Z	12	12	3/4						1.00	RECIRC CHILLER	16
	WIREWAY					0.36			ISTING		20/1											5.04		18
19	WIREWAY					0.36			ISTING		20/1		)/3	6	10	3/4						5.04	FUTURE BLUEFOR PT	20
21	WIREWAY					0.36			ISTING		20/1			-		-, -						5.04	COMPR.	22
	WIREWAY					0.36			ISTING		20/1	_	/1										SPACE	24
	WIREWAY					0.36			ISTING		20/1												SPACE	26
	WIREWAY					0.18			ISTING		20/1												SPACE	28
	SPARE(OFF)					0.20			ISTING		20/1												SPACE	30
	SPARE(OFF)								ISTING	-	20/1												SPACE	32
	SPARE(OFF)								ISTING		20/1												SPACE	34
35	SPACE										-/1 (	c -/	/1										SPACE	36
37	SPACE										-/1												SPACE	38
	SPACE										-/1 I												SPACE	40
41	SPACE										-/1	C -/	/1										SPACE	42
	PANELBOARD NOTES: 1. EXISTING PANEL IS GE / 2. EXISTING LOADS ARE B LARGEST MOTOR (KVA):	ASED O	-		5.		LIGH HEAT MOT KITCH RECE	HEN PTACLES ELLANE	ONTIN OLING	UOUS		CON 0.00 0.00 0.00 4.86 20.0 24.8	0 0 0 0 6 02	<u>TED</u>	0. 0. 0. 4. 20	1 <u>AND</u> 00 00 00 00 86 0.02 88	_ L	ARGES	PHA: PHA: PHA: TOTAL	SE A SE B SE C DEMA ALANC	ALANC 109. 106. 84.1 ND AN CE PHA	00% 83% 16% VIPS x SE %:	69 1.0900 <b>75.28</b>	7





3

2

	SERVED FROM: ENCLOSURE RATING: MOUNTING:	NEMA	1		MAI		AKER:	100 100/3 MCB	A				VOLT	TAGE ( 'AGE ( CATIO	L-N):	208 120 CORF	RIDOR	١	HASE: WIRE:	-	22	,000 MINIMUM RMS SYMMETRICAL AIC RA	TING
CIR.	LOAD			LOAD (	<u> </u>			PHASE		CND	BRKR	BRKR	-		CND				(KVA)			LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	мот	KIT	REC	MISC	SIZE	SIZE	IN.	RTG	RTG		SIZE		LTG	H/C	мот	КІТ	REC	MISC	DESCRIPTION	NO.
1	SPECIAL RECEPT.(OFF)							FXI	STING		30/2	A 20/1 B 20/1		XISTIN								SPARE (OFF)	2
3								270	51110					XISTIN								SPARE (OFF)	4
5	SPECIAL RECEPT.(OFF)							EXI	STING		30/2	20/1	E	XISTIN	G							SPARE (OFF)	6
7	STECIAL RECEIPT.(OTT)								51110		<i> </i>									1.00			8
9	SPECIAL RECEPT.					1.00		EVI	STING		30/2	<b>3</b> 0/3	E	XISTING	G					1.00		SPECIAL RECEPT.	10
11	SPECIAL RECEPT.					1.00			31110		50/2	2								1.00			12
13	WIREWAY					0.72		EXI	STING		20/1	1								1.00			14
15	WIREWAY (OFF)							EXI	STING		20/1 E	30/3	E	XISTING	G					1.00		SPECIAL RECEPT.	16
17	QUAD RECEPT.					0.36		EXI	STING		20/1 (									1.00			18
19	QUAD RECEPT.					0.36		EXI	STING		20/1	1/-1/1	///	$\langle / \rangle$	///	$\overline{//}$	///	$\langle / /$	///	///	///	SPACE	20
21	QUAD RECEPT.					0.36		EXI	STING		20/1	3/-11	///	$\times$	///			$\langle / /$		///		SPACE	22
23	QUAD RECEPT.					0.36		EXI	STING		20/1	:/-/1	X//	$\times$	///			$\langle / /$	///	///		SPACE	24
25	RECEPT.					0.18		EXI	STING			1/-1/1	X//	$\times$	///			//		///		SPACE	26
27	WIREWAY					0.72		EXI	STING		20/1											SPACE	28
29	WIREWAY					0.72		EXI	STING		20/1											SPACE	30
31	FUMEHOOD					0.36		EXI	STING		20/1	-/1										SPACE	32
33	CORD REEL					0.36		EXI	STING		20/1 E	<b>B</b> -/1										SPACE	34
35	HVAC CONTROL					0.18			STING		20/1 0	2 -/1										SPACE	36
37	SPARE (OFF)								STING		20/1	<b>\</b> -/1										SPACE	38
39	SPARE (OFF)							EXI	STING		20/1	8 -/1										SPACE	40
41	SPACE										-/1 (	2 -/1										SPACE	42
	PANELBOARD NOTES: 1. EXISTING PANEL IS GE 2. EXISTING LOADS ARE E 3. ITEMS IN HATCH DENC LARGEST MOTOR (KVA):	BASED O DTES DEI	N ESTI MOLIT	IMATES	S.		LIGH <sup>-</sup> HEAT MOT KITCH RECE	HEN PTACLES ELLANEC	NTINU	Jous	_	CONNE 0.00 0.00 0.00 0.00 12.68 0.00 12.68	<u>CTED</u>	0. 0. 0. 11 0.	<u>1AND</u> .00 .00 .00 1.34 .00		ARGES	PHA PHA PHA TOTAL	OAD B SE A SE B SE C DEMA BALANG	85. 105 109 AND AI	65% .05% .31% MPS x ASE %:	31 1.0931 <b>34.41</b>	

	ENCLOSURE RATING: MOUNTING:		1		MAI		AKER:	100 100/3 MCB	Α				VOLT	TAGE ( TAGE ( CATIO	L-N):	208 120 CORR		PHASE: WIRE:	-	22	,000 MINIMUM RMS SYMMETRICAL AIC RA	TING
IR.	LOAD			LOAD (				PHASE		CND	BRKR		PHASE		CND			D (KVA)			LOAD	CI
0.	DESCRIPTION	LTG	H/C	мот	KIT	REC	MISC	SIZE	SIZE	IN.	RTG	RTG				LTG	H/C MOT	КІТ	REC	MISC	DESCRIPTION	N
1	SPECIAL RECEPT.(OFF)							EV	ISTING	2	30/2	<b>A</b> 20/1	E	XISTIN	G						SPARE (OFF)	1
3	SPECIAL RECEPT.(OFF)								1311100	3	50/2	<b>B</b> 20/1	E	XISTIN	G						SPARE (OFF)	4
5								ГV		_		C 20/1	E	XISTIN	G						SPARE (OFF)	(
7	SPECIAL RECEPT.(OFF)							EX	ISTING	כ	30/2	4							1.00			1
9						1.00				_		<b>B</b> 30/3	E	XISTIN	G				1.00		SPECIAL RECEPT.	1
1	SPECIAL RECEPT					1.00		EX	ISTING	5	30/2	c							1.00			1
13	WIREWAY					0.72		FX	ISTING	<b>i</b>	20/1	_							1.00			1
-	WIREWAY (OFF)					0.72			ISTING	-		B 30/3	F	XISTIN	G				1.00		SPECIAL RECEPT.	1
-	QUAD RECEPT.					0.36			ISTING	-	20/1		-		•				1.00			1
	QUAD RECEPT.					0.36			ISTING		20/1							-	1.00	5.04		2
-	QUAD RECEPT.					0.36			ISTING	-		B 50/3	6	10	3/4			+		5.04	BLUEFOR PT COMPR.	2
	QUAD RECEPT.					0.36			ISTING	-			U U	10	3/-					5.04	BEDER OK FIT COMPIK.	2
-	RECEPT.					0.30			ISTING		- 1	A 15/1	12	12	3/4					0.83	WATER COOLED CHILLER	
-	WIREWAY					0.18			ISTING		20/1		12	12	3/4					0.85	SPACE	2
	WIREWAY					0.72			ISTING	-	20/1										SPACE	3
	FUMEHOOD (NOTE 4)					0.72			ISTING		20/1							+			SPACE	3
	CORD REEL					0.36			ISTING		20/1	<b>3</b> -/1						-			SPACE	3
	HVAC CONTROL					0.18			ISTING		20/1							+			SPACE	3
	SPARE (OFF)					0.10			ISTING	-	20/1	Δ -/1									SPACE	3
	SPARE (OFF)								ISTING		20/1							+			SPACE	4
	SPACE									_		C -/1									SPACE	4
	PANELBOARD NOTES: 1. EXISTING PANEL IS GE 2. EXISTING LOADS ARE E 3. ITEMS IN BOLD DENOT 4. EXISTING BREAKER IS C LARGEST MOTOR (KVA):	BASED O TE NEW N GFCI TYP	N ESTI WORK E BREA	MATES	5.		LIGHT HEAT MOTO KITCH RECE	IEN PTACLES ELLANE(	OLING	UOUS		CONNE 0.00 0.00 0.00 12.68 15.95 28.63	<u>CTED</u>	0 0 0 11 15	<u>1AND</u> .00 .00 .00 1.34 5.95	- L	PH PH PH	LOAD B ASE A ASE B ASE C L DEMA BALANG	99. 99. 101 AND AI	43% 34% .23% MPS x	76 1.0123	

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# HANBURY

www.hanbury.design 310 S West Street, Suite 100 Raleigh, NC 27601 +1 919 301 0202

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Client North Carolina State University 851 Main Campus Drive Raleigh, NC, 12612

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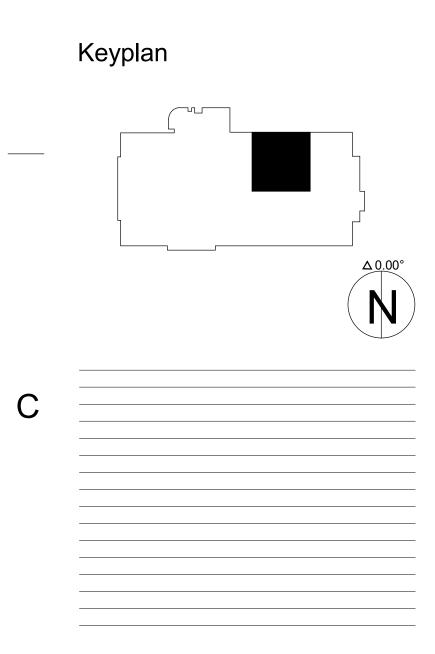
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Consultants McKim & Creed 4300 Edwards Mill Road, Suite 200 Raleigh, NC 27612 919.233.8091 www.mckimcreed.com

S MGKIM& CREED 4300 Edwards Mill Road Suite 200 Raleigh, North Carolina 27612 Phone: (919) 233-8091, Fax: (919) 233-8031 NC License# F-1222 www.mckimcreed.com







Project Number: 22057.03 Status & Date: 12/20/2024

Sheet Title:

A ELECTRICAL PANEL

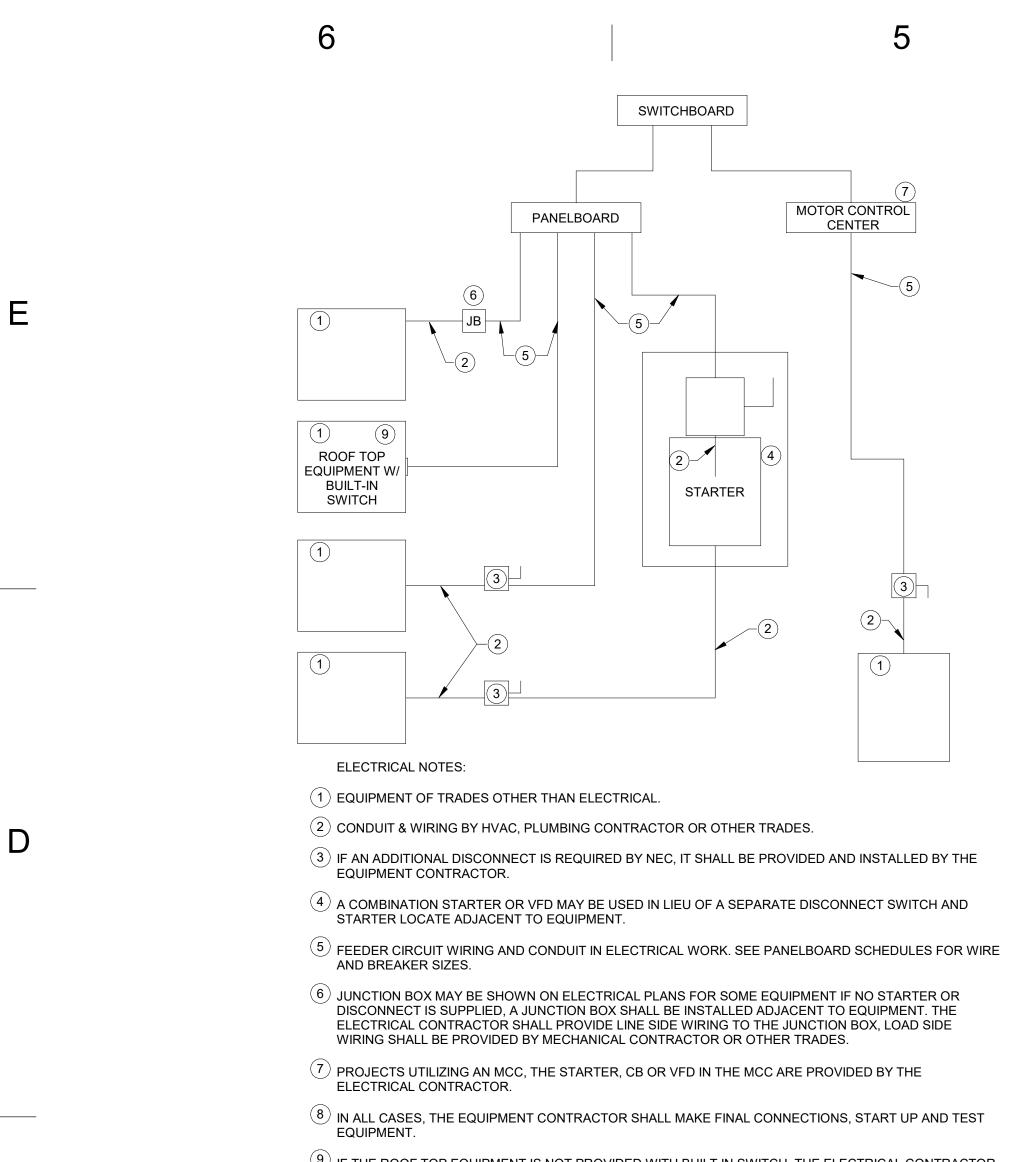
SCHEDULES

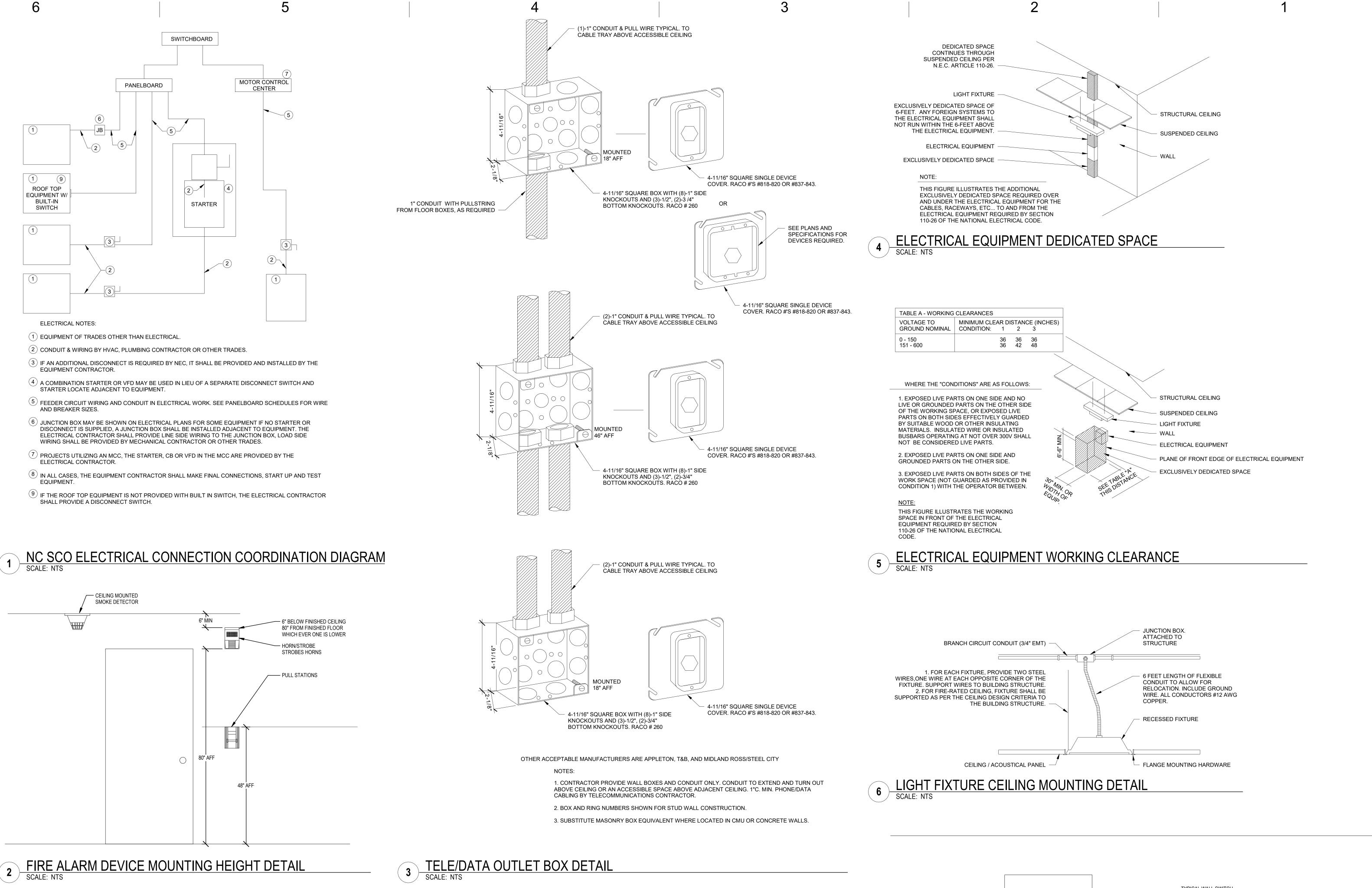
Project Name: **RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III** Building No: **713** NC State Project ID Number: **202435062** SCO # **24-28212-01A** 

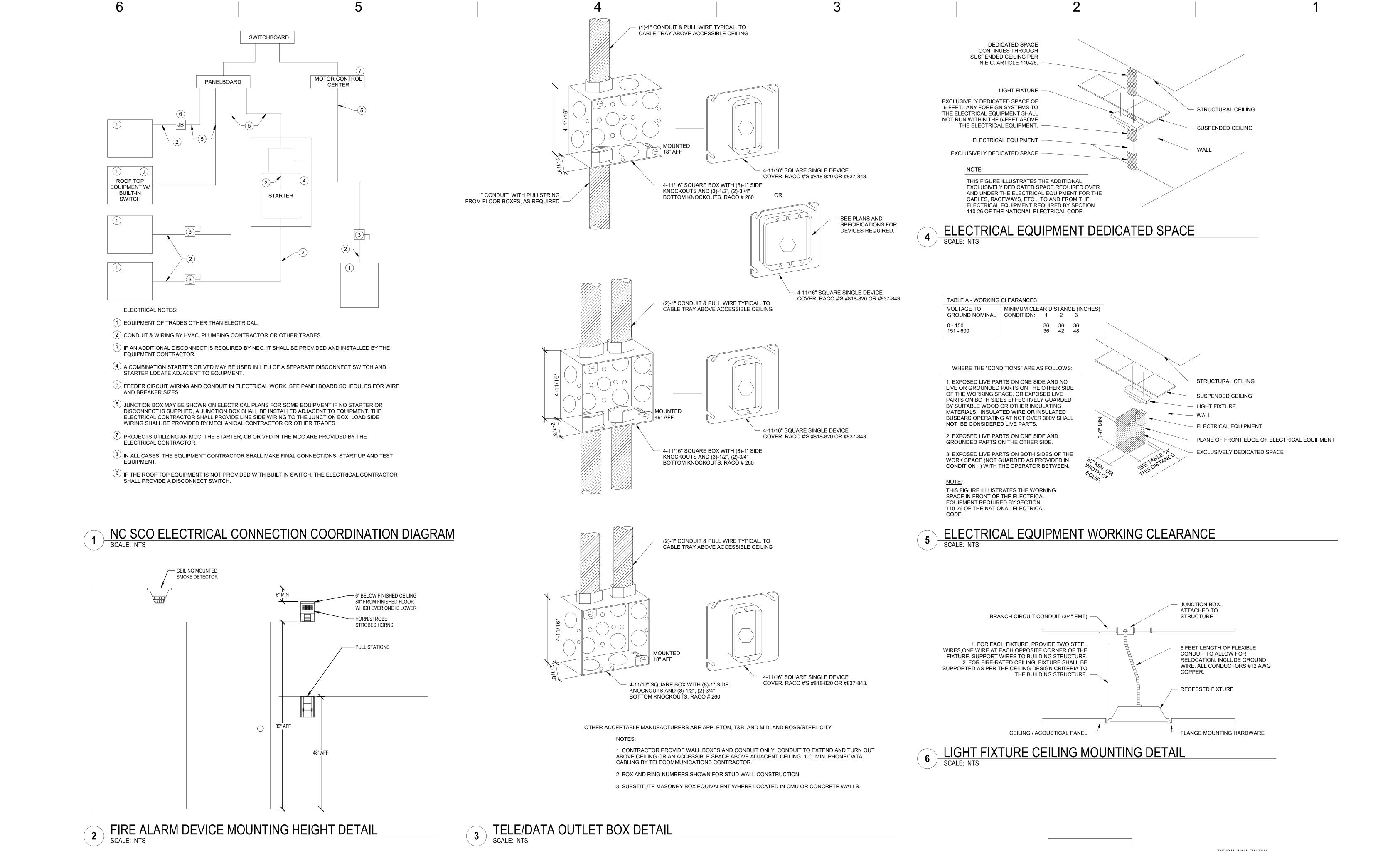
PRINT IN COLOR Sheet Number:

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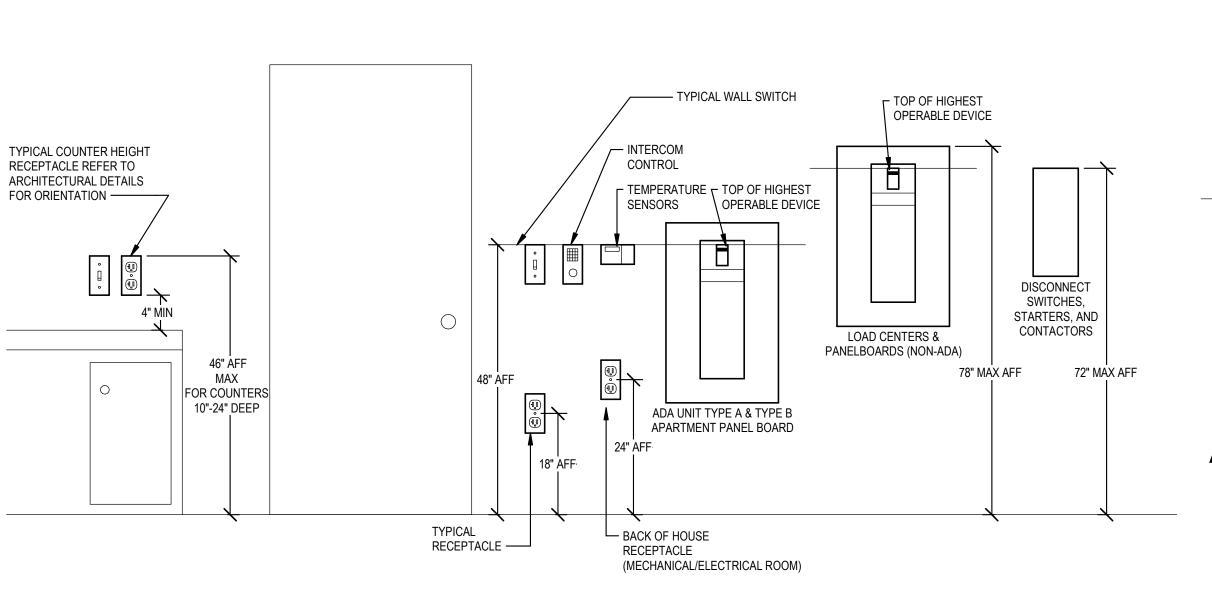
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7 DEVICE MOUNTING HEIGHT DETAIL SCALE: NTS



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PRINT IN COLOR Sheet Number:

Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: 713 NC State Project ID Number: 202435062 SCO # 24-28212-01A

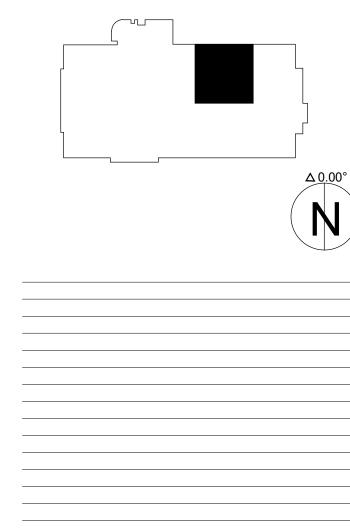
A ELECTRICAL DETAILS

Sheet Title:

Project Number: 22057.03 Status & Date: 12/20/2024







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	PLUMBING SYM	IBOLS	
		↔ <sup>HB</sup>	HOSE BIBB
	ROP	- WH	WALL HYDRANT
		NFWH	NON-FREEZE WALL HYDRANT
——— AV ———	- ACID VENT		MEDICAL COMPRESSED AIR OUTLET
AW	- ACID WASTE	-	MEDICAL VACUUM OUTLET W/SLIDE
<u> </u>	- COLD WATER		OXYGEN OUTLET
CA	COMPRESSED AIR	а гн	FIRE HYDRANT
DI		О мн	MANHOLE
— — FD — —	EXISTING TO BE REMOVED     FOUNDATION DRAIN	GV	GAS VALVE BOX
G	GAS	₩ ₩	WATER VALVE BOX
<b>— —</b> GW <b>— —</b>	GREASE LADEN WASTE BELOW GRADE	• AD	
GW	GREASE LADEN WASTE ABOVE GRADE	• AD • FD	AREA DRAIN (No. indicates type)
	HOT WATER SUPPLY (120°)	_	FLOOR DRAIN (No. indicates type)
140°	<ul> <li>HOT WATER RETURN (120°)</li> <li>HOT WATER SUPPLY (140°)</li> </ul>	FS FS	FLOOR SINK (No. indicates type)
	HOT WATER RETURN (140°)	⊘ RD	
——————————————————————————————————————	INSTRUMENT AIR	• <sup>CO</sup>	
——————————————————————————————————————	LABORATORY AIR	₽ <sup>wha</sup>	
LV	- LABORATORY VACUUM		
		AVTR	
——— LPG ——— ——— MCA ———	LIQUEFIED PETROLEUM GAS (PROPANE)     MEDICAL COMPRESSED AIR	CSS	CLINIC SERVICE SINK
MVAC	MEDICAL VACUUM / SUCTION	DD	DECK DRAIN (No. indicates type)
N	<ul> <li>NITROGEN GAS</li> </ul>	DF	DRINKING FOUNTAIN (No. indicates type)
NO	NITROUS OXIDE GAS	ES	EMERGENCY SHOWER
ORC	- OVERFLOW RAIN CONDUCTOR	ES/EW	EMER SHOWER/EYEWASH COMBINATION
<u> </u>	MEDICAL OXYGEN GAS	EEW	EMERGENCY EYEWASH
PS	PRESSURE SANITARY SEWER	EWC	ELECTRIC WATER COOLER (No. indicates typ
PD	PUMP DISCHARGE	EX	EXISTING
		IMOB	ICE MAKER OUTLET BOX (No. indicates type)
— — SAN — —	SANITARY SEWER BELOW GRADE	L	LAVATORY (No. indicates type)
SAN	SANITARY SEWER ABOVE GRADE	MR	MOP RECEPTOR
v	- SANITARY VENT PIPING	MV	MIXING VALVE (No. indicates type)
ST	STORM SEWER ABOVE GRADE	NFRH	NON-FREEZE ROOF HYDRANT
— — st — —	<ul> <li>STORM SEWER BELOW GRADE</li> <li>TEMPERED WATER</li> </ul>	NFWH	NON-FREEZE WALL HYDRANT
VAC		ORC	OVERFLOW RAIN CONDUCTOR
	WASTE ANESTHETIC GAS DISPOSAL	RD	ROOF DRAIN (No. indicates type)
		S	COUNTER SINK (No. indicates type)
AIR VENT	——I岱—— Plug valve	SAN	SANITARY
•	₽.G.	SH	SHOWER (No. indicates type)
BALANCING \	/ALVE PRESSURE GAUGE	UR	URINAL (No. indicates type)
- BFP - BACKFLOW P		V	VENT
	REGULATING VALVE	V.C.	VALVE CABINET
		VTR	VENT THRU ROOF
		W	WASTE
	/ALVE RELIEF VALVE	WC	WATER CLOSET (No. indicates type)
		WMSD	WASHING MACHINE SUPPLY & DRAIN
CAPPED CON		Z.V.B.	MEDICAL GAS ZONE VALVE BOX
		$\bullet$	CONNECT TO EXISTING PIPING
	e	÷	
GAS PRESSU REGULATOR	RE T THERMOMETER		
GATE VALVE			
	E VALVE IN RISER		

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APPLICABLE ORDINANCES, CODES AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION. ALL PLUMBING WORK SHALL BE INSPECTED AND APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL NECESSARY FEES AND PERMITS, INCLUDING THE CERTIFICATE OF PLUMBING INSPECTION.
B. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION SAFETY. ARCHITECT AND/OR ENGINEER SHALL ASSUME NO RESPONSIBILITY FOR WORKMAN'S, OR PEDESTRIAN'S SAFETY. NOTHING IN THE CONTRACT DOCUMENTS SHALL BE CONSTRUED TO INSTRUCT PROCEDURES OR COMPONENTS FOR PROJECT SAFETY.

PLUMBING SYSTEM NOTES

A. ALL PLUMBING WORK SHALL BE IN ACCORDANCE WITH ALL

C. NOTHING CONTAINED IN THE CONTRACT DOCUMENTS SHALL BE CONSTRUED TO CONFLICT WITH ANY NATIONAL, STATE, MUNICIPAL, OR LOCAL LAWS OR REGULATIONS GOVERNING THE WORK INDICATED OR SPECIFIED. ALL SUCH REQUIREMENTS SHALL BE SATISFIED BY THE PLUMBING CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.

D. WHERE A CONFLICT ARISES BETWEEN PLANS, SPECIFICATIONS, DETAILS, SCHEDULES, APPLICABLE CODES OR REGULATIONS; THE MOST STRINGENT SHALL APPLY.

E. THE CONTRACT DOCUMENTS ARE COMPRISED OF DRAWINGS AND SPECIFICATIONS. EACH PLUMBING BIDDER SHALL VISIT SITE TO DETERMINE EXISTING CONDITIONS PRIOR TO SUBMITTING BID PROPOSAL. BIDS SHALL BE BASED ON THE COMPLETE EXAMINATION OF THE DRAWINGS, SPECIFICATIONS AND EXISTING CONDITIONS. NO CONSIDERATION WILL BE GIVEN ANY CONTRACTOR WHO FAILS TO DO

F. THE WORK UNDER THIS CONTRACT SHALL INCLUDE THE FURNISHING OF ALL NECESSARY MATERIALS, TOOLS, AND LABOR FOR A COMPLETE, AND WORKING INSTALLATION AS DEFINED BY THE PLANS AND SPECIFICATIONS. THE PLUMBING CONTRACTOR SHALL WARRANT THE WORK INDICATED AND SPECIFIED. THE WORK SHALL FUNCTION AS INTENDED, BE COMPLETE IN ALL DETAILS, AND SHALL INCLUDE ALL INDICATED, SPECIFIED, OR REQUIRED ACCESSORIES FOR A FUNCTIONING SYSTEM.

G. PLUMBING CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES.

H. CONTRACTOR SHALL REMOVE DEMOLITION DEBRIS COMPLETELY. CONTRACTOR SHALL SCHEDULE WITH THE CONSTRUCTION MANAGER THE TIME, LOCATION, ELEVATOR AND HAULING ROUTE. I. THE PLUMBING CONTRACTOR SHALL CLEAN UP ALL DEBRIS AT THE

END OF EACH WORK DAY. J. HORIZONTAL DRAINAGE PIPING SHALL BE INSTALLED IN UNIFORM ALIGNMENT AT UNIFORM SLOPES NOT LESS THAN 1/4 INCH PER FOOT FOR THREE (3) INCH DIAMETER AND LESS, AND NOT LESS THAN 1/8 INCH PER FOOT FOR DIAMETERS OF FOUR (4) INCHES OR MORE.

K. ALL PIPING IS SCHEMATIC; SUPPORTS, UNIONS, VIBRATION ISOLATION, VALVES, INSULATION, ETC. SHALL BE AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.

L. ALL PIPING IS TO BE CONCEALED IN WALLS OR ABOVE CEILING UNLESS NOTED OTHERWISE.

M. THE PLUMBING CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR PRIOR TO AND FOR SCHEDULING ANY INTERRUPTION OF ANY BUILDING UTILITY.

N. ALL EQUIPMENT PROVIDED OR INSTALLED BY THIS CONTRACTOR SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

O. ALL PIPING SHALL BE RUN AT THE INVERTS INDICATED. WHERE ELEVATIONS ARE NOT INDICATED, COORDINATE THE PIPE ROUTING WITH THE DUCT ROUTING INDICATED ON THE MECHANICAL PLANS, AS WELL AS ALL OTHER TRADES.

P. FINAL LOCATION OF ALL PLUMBING FIXTURES, SINKS, ELECTRIC WATER COOLERS, CLEANOUTS, AND THE LIKE, SHALL BE VERIFIED AND COORDINATED WITH THE ARCHITECTURAL DRAWINGS.

Q. ALL WORK SHOWN ON THE PLUMBING DRAWINGS SHALL BE BY THE PLUMBING CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE.

R. ALL SANITARY PIPING CONNECTIONS TO FIXTURES SHALL BE SIZED AS SCHEDULED. ALL OTHER SANITARY PIPING SHALL BE 4" UNLESS NOTED OTHERWISE.

S. ALL SANITARY INVERTS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO INSTALLATION.

T. PROVIDE CLEANOUTS AT LEAST EVERY 100 FT IN SANITARY PIPING IN ADDITION TO THOSE SHOWN ON THE DRAWINGS. PROVIDE A CLEANOUT AT EACH CHANGE IN DIRECTION OF 90 DEGREES IN A SINGLE FITTING.

U. PROVIDE A CLEAN OUT AT EACH CHANGE IN DIRECTION GREATER THEN 45 DEGREES.

V. ALL VENT PIPING CONNECTIONS TO FIXTURES SHALL BE SIZED AS SCHEDULED. ALL OTHER VENT PIPING SHALL BE 2" UNLESS NOTED OTHERWISE.

W. PROVIDE 1/4 TURN STOP VALVES AT ALL FIXTURES. X. PROVIDE APPROPRIATE BACKFLOW PREVENTION DEVICES WHERE REQUIRED BY CODE.

Y. SEE SPECIFICATION SECTION 011000 FOR TIMING OF ALL WORK AND COORDINATE.

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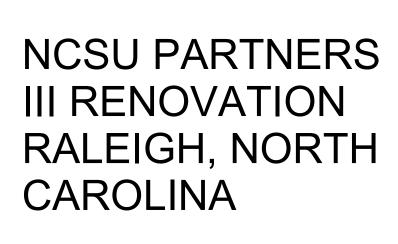
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A PLUMBING DATA SHEET

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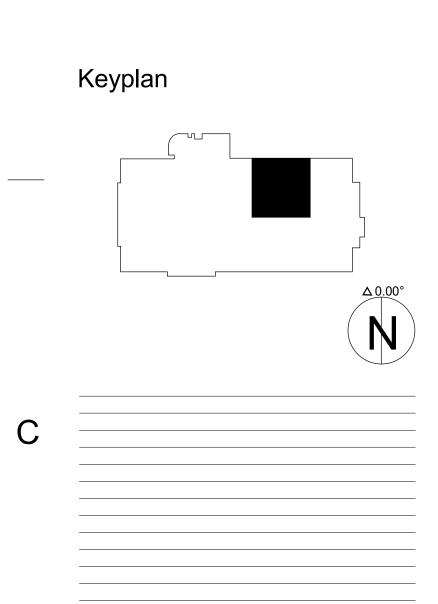




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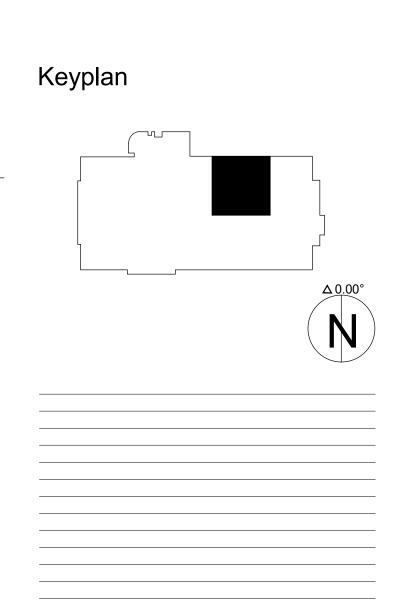
A PLUMBING WORK

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	6 FIRE PROTECTION GENERAL NOTES:	<b>5</b>	FIRE P	ROTECI	FION SP	ECIFICA	TION - GE	NERAL		-4	
E	<ol> <li>THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO PROVIDE A COMPLETE FIRE PROTECTION SYSTEM FOR THE PROPOSED PROJECT. THE SYSTEMS PROVIDED SHALL CONFORM TO THE DETAILS STATED IN THE SPECIFICATIONS AND SHOWN ON THE DRAWINGS. ITEMS OR WORK NOT SHOWN OR SPECIFIED, BUT REQUIRED FOR A COMPLETE FIRE PROTECTION SYSTEM, SHALL BE PROVIDED AND SHALL CONFORM TO ACCEPTED TRADE PRACTICES, LOCAL CODES, AND GOVERNING AUTHORTIES.</li> <li>DO NOT SCALE DRAWINGS. BECAUSE OF THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE OFFSETS, FITTINGS, VALVES OR SIMILAR ITEMS WHICH MAY BE REQUIRED TO MAKE A COMPLETE OPERATING SYSTEM. CAREFULLY INVESTIGATE CONDITIONS AFFECTING WORK. INSTALL WORK IN SUCH A MANNER THE INTERFERENCES BETWEEN PIPING, CONDUIT, DUCTS, EQUIPMENT, ARCHITECTURAL AND STRUCTURAL FEATURES ARE AVOIDED. PROVIDE ITEMS THAT MAY BE REQUIRED TO MEET THE CONDITIONS AT THE BUILDING, WITHOUT ADDITIONAL COSTS TO THE OWNER.</li> <li>SPRINKLER CONTRACTORS SHALL HAVE SUFFICIENT EXPERTISE (MINIMUM OF 5 YEARS) IN THE TYPE OF CONSTRUCTION TO REALIZE THE EXTENT OF THE WORK REQUIRED. THEREFORE, IT SHOULD BE OBVIOUS TO ANY PRUDENT FIRM WITH EXPERIENCE IN THIS FILED THAT THESE DOCUMENTS MAY NOT EXPLICITLY DISCLOSE FINAL DETAILS. HOWEVER, CONTRACTORS SHALL HAVE THE EXPERTISE NECESSARY TO INCLUDE NECESSARY APPOINTMENTS.</li> <li>FIRE PROTECTION BRANCH LINES SHALL BE SLOPED TO DRAIN BACK TO CROSS MAINS. THE CROSS MAINS SHALL BE SLOPED TO DRAIN BACK TO BULK MAINS OR MAIN RISER. INSTALL AUXILIARY DRAINS WHERE TRAPPED PIPING RUNS ARE UNAVOIDABLE. THE SPRINKLER SYSTEM SHALL BE FULLY DRAINABLE.</li> <li>UNLESS OTHER VISE NOTED, ALL PIPING IS OVERHEAD, TIGHT TO UNDERSIDE OF FLOOR SLAB WITH SPACE FOR INSULATION AND HANGERS AS REQUIRED.</li> <li>INSTALL PIPING SO THAT VALVES ARE ACCESSIBLE. VALVE STEMS SHALL BE VERTICAL, POINTING UP. ADJUST VALVES FOR SMOOTH AND EASY OPERATION.</li> <li>COORDINATE ALL WORK WITH WORK OF OTHER TRADES SHOWN ON OTHER DRAWINGS.</li> <li>PROVIDE APPROVED FIRESAFING AT ALL</li></ol>	<ol> <li>HYDRAULIC CALCULAT BASED FIRE PTOECTIC</li> <li>PROVIDE SAFETY FAC</li> <li>SPRINKLERS SHALL BE</li> <li>SPRINKLER HEADS LO FOR USE WITH THE MC</li> <li>PIPING FOR WET SYST 53/A, GRADE B, WITH T</li> <li>FITTINGS: MALLEABLE</li> <li>PIPING 2-1/2 INCHES A WITH GROOVED MECH APPROVED FOR FIRE S</li> <li>ALL EXPOSED SPRINKI</li> </ol>	IN SYSTEMS TOR OF 1 PSI FM APPROV CATED IN ARI DDEL OF SPR EMS 2 INCHE HREADED OF IRON OR CAS ND ABOVE: SI ANICAL JOIN SERVICE.	GUIDELINE STATIC PF ED AND SF EAS OF IMF INKLER, WF S AND UNE S AND UNE ST IRON SC CHEDULE 1 TS AND FIT	ES AND PO RESSURE, HALL NOT I PACT SHAL HERE NOT DER SHALL C ENDS. CREWED, A CREWED, A 10 PIPING, TING FRO	LICIES. 10 PSI RES NCLUDE "C LL BE PROV ED ON DRA . BE: SCHEI ASTM-A-47 A SEAMLESS M THE SAW	DUAL PRES -RING" SEA (IDED WITH WINGS. DULE 40 PIP AND ASME E B, BLACK STI IE MANUFAC	SSURE, AND LS. PROTECTIV ING, BLACK 3-16.3 EEL, ROLL G CTURER, UL	10% RESIDU E WIRE GUA STEEL, SEA ROOVED, AS LISTED AND	ial Flow. RDS Liste Mless, As STM-A-135, FM	D TM
	11. COORDINATE THE EXACT LOCATION OF ALL FIRE PROTECTION EQUIPMENT AND DEVICES WITH GENERAL CONTRACTOR PRIOR TO ROUGH-IN AND INSTALLATION.										
	<ol> <li>REFER TO FIRE PROTECTION DRAWINGS FOR LOCATION OF EQUIPMENT AND SPRINKLER HEADS. THE SPRINKLER CONTRACTOR SHALL COORDINATE EXACT PLACEMENT OF SPRINKLER HEADS WITH ARCHITECTURAL AND ELECTRICAL DRAWINGS.</li> </ol>										_
	13. NEW HEADS SHALL BE CONNECTED TO EXISTING BRANCHES AND MAINS IN THE VCINITY, VERIFY EXACT LOCATION IN			_	-	-		-			
П	FIELD. 14. FOLLOW THE FIRE PROTECTION INSTALLATION REQUIREMENTS BASED UPON THE 2002 EDITION OF NFPA 13, NFPA 14. NEPA 20, AND 2003 INTERNATIONAL DUILDING CODES	NOMINAL PIPE SIZE	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6
D	<ol> <li>NFPA 20, AND 2003 INTERNATIONAL BUILDING CODES.</li> <li>CONTRACTOR SHALL HYDRAULICALLY DESIGN THE SPRINKLER SYSTEM BASED ON THE WATER FLOW AND UNDEAULUS DESCRIPTION FOR SOODE OF WORK FINAL SPACING AND LOCATIONS FOR THE SPRINKLER</li> </ol>	SCH. 40 GALV. STEEL	5' 6"	6' 0"	6' 6"	7' 0"	8' 0"	9' 0"	10' 0"	N/A	N
	HYDRAULIC PRESSURE PROJECTED FOR SCOPE OF WORK. FINAL SPACING AND LOCATIONS FOR THE SPRINKLER HEADS, PIPE SIZING, AND PIPE ROUTING WILL BE BY THE SPRINKLER CONTRACTOR AND VERIFIED BY HYDRAULIC CALCULATIONS.	THREADABLE LIGHTWALL	N/A	12' 0"	12' 0"	12' 0"	12' 0"	12' 0"	12' 0"	N/A	N
	16. DESIGN STANDARDS: CURRENT EDITION OF IBC, INTERNATIONAL BUILDING CODE 2009, STATE OF PENNSYLVANIA FIRE CODE, NFPA 13 STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, NFPA 14 STANDARD FOR THE INSTALLATION OF STANDPIPES AND HOSE SYSTEMS, LOCAL AUTHORITY HAVING JURISDICTION, AND CURRENT INSURANCE CARRIER STANDARDS AND RECOMMENDATIONS.	STEEL PIPE (10/ 40) THE UNSUPPORTED LENG SHALL NOT EXCEED 36" F							15' 0" LINE	15' 0"	15
	17. INSURANCE CARRIER: THE SPRINKLER CONTRACTOR SHALL VERIFY PROVIDER WITH THE GENERAL CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.										
	<ol> <li>DESIGN: ORDINARY HAZARD GROUP 1 DENSITY AREA FOR LABORATORY SPACES: 0.15 GPM PER SQ. FT. OVER 1500 SQ. FT. (PER NFPA 13). HEADS SHALL HAVE 15'-0" MAXIMUM HEAD SPACING, AND A MAXIMUM COVERAGE AREA OF 130 SQ. FT. PER HEAD BASED UPON HYDRAULIC CALCULATION. AREA REDUCTION PER NFPA 13 SECTION 11.2.3.2.3.1.</li> </ol>			TRAPEZ	ZE INSTALL						
	19. ALL SYSTEM COMPONENTS SHALL BE UL LISTED.	SPAN OF TRAPEZE (Schedule 10)		1"	1-1/4"	1-1/2"	NAL PIPE SI	ZE SUPPOR 2-1/2"	3"	4"	6"
	20. THE SPRINKLER CONTRACTOR SHALL SUBMIT THREE (3) COPIES OF DRAWINGS AND CALCULATIONS TO THE INSURANCE CARRIER AND LOCAL AUTHORITY OF JURISDICTION FOR APPROVAL PRIOR TO COMMENCEMENT OF	1 FT. 6 IN.		1"	1"	1"	1"	1"	1"	1-1/4"	1-1/4"
	WORK. 21. THE FIRE PROTECTION DRAWINGS SHOW THE GENERAL INTENT OF THE FIRE SUPPRESSION SYSTEM. THE	2 FT. 0 IN.		1"	1"	1"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/2"
	SPRINKLER CONTRACTOR SHALL HYDRAULICALLY CALCULATE AND PROVIDE A FULLY SPRINKLED BUILDING AND SHALL MAKE THE APPROPRIATE ADJUSTMENTS TO THE PIPE RUNS AND SPRINKLER HEAD LOCATIONS INDICATED ON THE DRAWINGS TO COORDINATE WITH ALL TRADES WHILE MEETING ALL STATE OF OHIO CODE REQUIREMENTS.	2 FT. 6 IN.	1-*	1/4" 1	-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/2"	2"
	22. THE SPRINKLER CONTRACTOR SHALL RETAIN NICET LEVEL III CERTIFIED DESIGN TO CREATE ALL FINAL SPRINKLER SHOP DRAWINGS. DRAWINGS SHALL REFERENCE NICET CERTIFICATION NUMBER AND DESIGN SIGNATURE.	3 FT. 0 IN.		-		1-1/4"	1-1/4"	1-1/2"		1-1/2"	2"
	23. THE SPRINKLER CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT FOR REVIEW PRIOR TO ORDERING OR PURCHASING ANY FIRE PROTECTION EQUIPMENT. SUBMITTALS SHALL CONTAIN SPRINKLER	4 FT. 0 IN. 5 FT. 0 IN.		1/2" 1 <sup>.</sup> 2"	-1/2"	1-1/2" 2"	1-1/2" 2"	2"	2" 2"	2" 2-1/2"	2-1/2" 2-1/2"
С	DRAWINGS, CALCULATIONS, MATERIALS AND ACCESSORIES. DRAWINGS SHALL BE STAMPED WITH A REGISTERED PROFESSIONAL ENGINEER'S SEAL, DRAWINGS SHALL BE 1/4" SCALE MINIMUM.	6 FT. 0 IN.		2"	2"	2 2"	2"	_		2-1/2	3"
	24. THE SPRINKLER CONTRACTOR SHALL COORDINATE SPACE REQUIREMENTS WITH ALL TRADES PRIOR TO COMMENCEMENT OF WORK.	7 FT. 0 IN.		2"	2"		2-1/2"			2-1/2"	3"
	25. ALL SPRINKLER PIPING SHALL BE SUPPORTED BY THE BUILDING STRUCTURE, PIPES SHALL NOT SUPPORT FROM CEILING TILES, CEILING SUPPORT STRUCTURES, OR OTHER PIPES.	8 FT. 0 IN.	2-*	1/2" 2	-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"
	26. FIRE PROTECTION BRACH LINES SHALL BE SLOPED BACK TO THE MAIN OR LOW POINT FOR POSITIVE DRAINAGE. INSTALL AUXILIARY DRAINS WHERE NECESSARY WHERE PIPING MAY BE TRAPPED WITHOUT RESOLUTION. THE	9 FT. O IN.	2-*	1/2" 2	-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"	4"
	SPRINKLER SYSTEM SHALL BE FULLY DRAINABLE. 27. THE SPRINKLER CONTRACTOR SHALL COORDINATE EXACT PLACEMENT OF SPRINKLER HEADS WITH THE	10 FT. 0 IN.	2-7	1/2" 2	-1/2"	2-1/2"	2-1/2"	2-1/2"	3"	3"	4"
	ARCHITECTURAL DRAWINGS AND ELECTRICAL DRAWINGS. 28. NO SPRINKLER PIPING SHALL BE LOCATED IN ELECTRICAL ROOMS.			דיא ח	רו ^י		י א רו די	- <b>v</b>			
	<ol> <li>FIRE PROTECTION PIPING IS TO BE ABOVE THE CEILING UNLESS NOTED OTHERWISE; PROVIDE HANGERS ACCORDING TO NFPA SPACING CRITERIA, THE CONTRACTOR SHALL PROVIDE ANY ADDITIONAL SUPPLEMENTAL STEEL REQUIRED TO ACCOMMODATE HANGER SPACING DISTANCES.</li> </ol>	DATE OF TEST: JUNE 20		<u>ran I</u>	<u>FLU</u>		<u>ST DA1</u>	A			
	30. THE SPRINKLER CONTRACTOR SHALL PROVIDE ANY NECESSARY FIRE STOPPING MATERIALS I.E., SEALANTS OR CAULKING AS REQUIRED IN THE DESIGN FOR THE SYSTEM.	TEST PERFORMED BY: N		ES & ENGIN	IEERING S	ERVICES					
	31. ALL PIPING AND SPRINKLER HEADS SHOWN ARE FOR BIDDING PURPOSES ONLY. FINAL SPACING OF THE SPRINKLER HEADS WILL BE LOCATED BY THE CONTRACTOR AND VERIFIED BY HYDRAULIC CALCULATIONS. FINAL PIPE SIZING					YDRANT			RE HYDR		I
	AND ROUTING WILL BE DETERMINED BY THE CONTRACTOR AND VERIFIED BY HYDRAULIC CALCULATIONS.	LOCATION		SOU		CANT 842			DRANT 74		I
	32. THE SPRINKLER SYSTEM SHALL BE TESTED UPON COMPLETION TO THE REQUIREMENTS OF NFPA-13 AND TO ANY OTHER AUTHORITY HAVING JURISDICTION (THE MOST STRINGENT SHALL BE APPLICABLE).	STATIC PRESSUR	E (PSI)			J. DUIL			PSI		I
		RESIDUAL PRESU	RF (PSI)					80	PSI		

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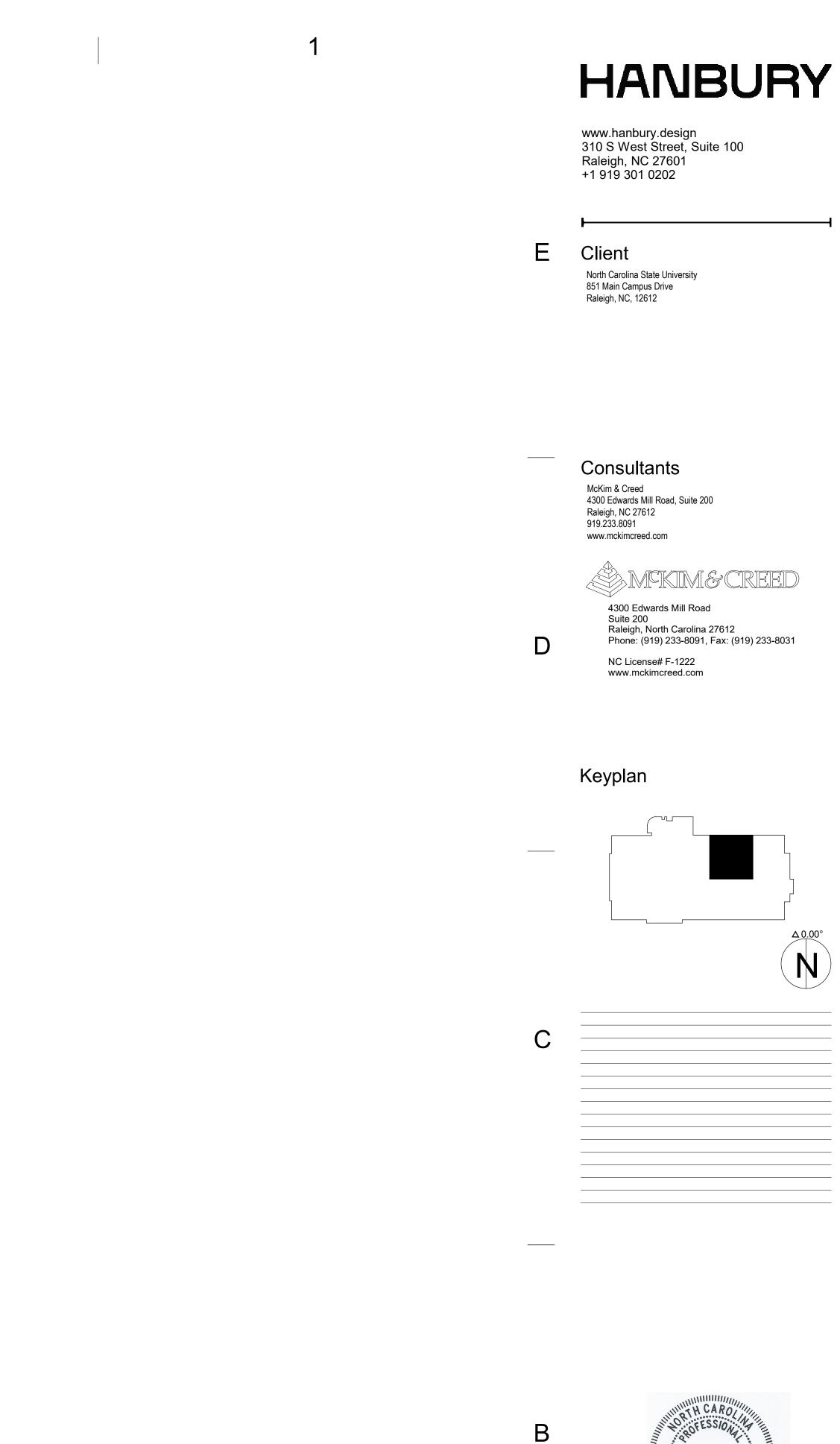
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	FIRE PROTECTION SYMBOLS
——F—— ——SPR—— ——DW —— ——DP—— ——D——	FIRE PROTECTION PIPING (STANDPIPE) SPRINKLER PIPING (WET SYSTEM) DOMESTIC COLD WATER SPRINKLER PIPING (DRY SYSTEM) DRAIN PIPING
	OS & Y GATE VALVE W/ TAMPER SWITCH
	BUTTERFLY VALVE WITH TAMPER SWITCH
	PRESSURE SWITCH
	FLOW SWITCH CHECK VALVE
—- <sup>2</sup> —	STRAINER
—-Ifi—	BUTTERFLY VALVE
	BACKFLOW PREVENTER (BFP)
<u>—</u> ნი	DRAIN VALVE WITH CAP AND CHAIN
> ズ	(FDC) FIRE DEPARTMENT SIAMESE CONNECTION STANDPIPE HOSE VALVE CONNECTION
o	ELBOW TURNED UP
	ELBOW TURNED DOWN
<b></b>	DIRECTION OF FLOW
	DIRECTION OF SLOPE
	CAPPED PIPING
	PRESSURE GAUGE
	REDUCER
⊢	UNION OR FLANGED CONNECTION
—б—	BALL VALVE
۲	CONCEALED SPRINKLER HEAD
o	RECESSED PENDANT HEAD
×	UPRIGHT PENDANT SPRINKLER HEAD
▼	SIDEWALL SPRINKLER HEAD
$\mathbf{x}_{D}$	DRY UPRIGHT SPRINKLER HEAD
▼ <sub>D</sub>	DRY SIDEWALL SPRINKLER HEAD
$\oplus$	DENOTES CONNECT TO EXISTING
	DENOTES POINT OF DISCONNECTION
$\langle \! \times \! \rangle$	KEYED NOTE DESIGNATOR

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# PRINT IN COLOR Sheet Number: FP001

SHEET Project Name: **RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III** Building No: **713** NC State Project ID Number: **202435062** SCO **# 24-28212-01A** 

A FIRE PROTECTION DATA

Sheet Title:

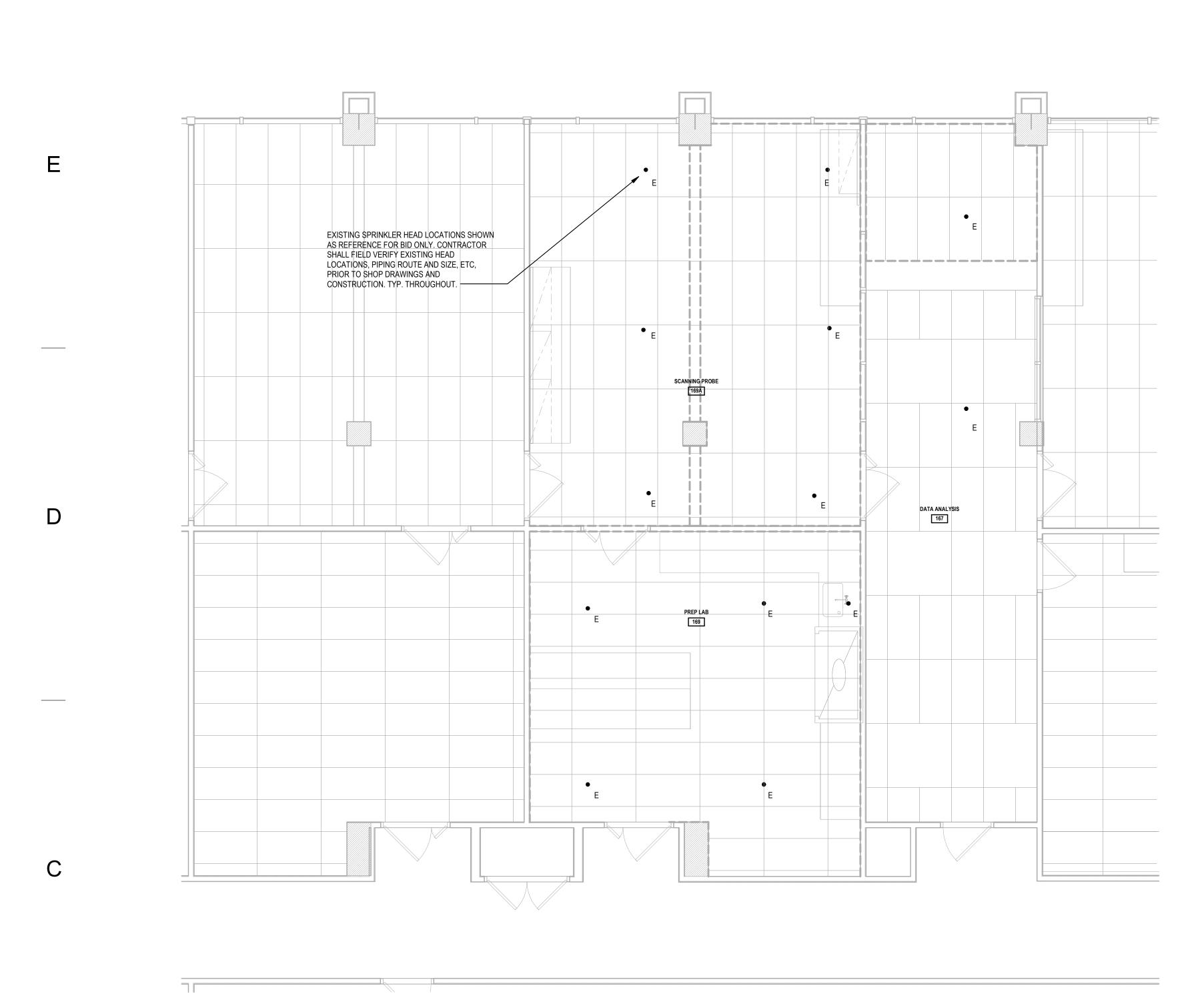
Project Number: 22057.03

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Status & Date: 12/20/2024

NCSU PARTNERS **III RENOVATION** RALEIGH, NORTH CAROLINA





1 FIRST FLOOR SPRINKLER PLAN - DEMOLITION SCALE: 1/4" = 1'-0"

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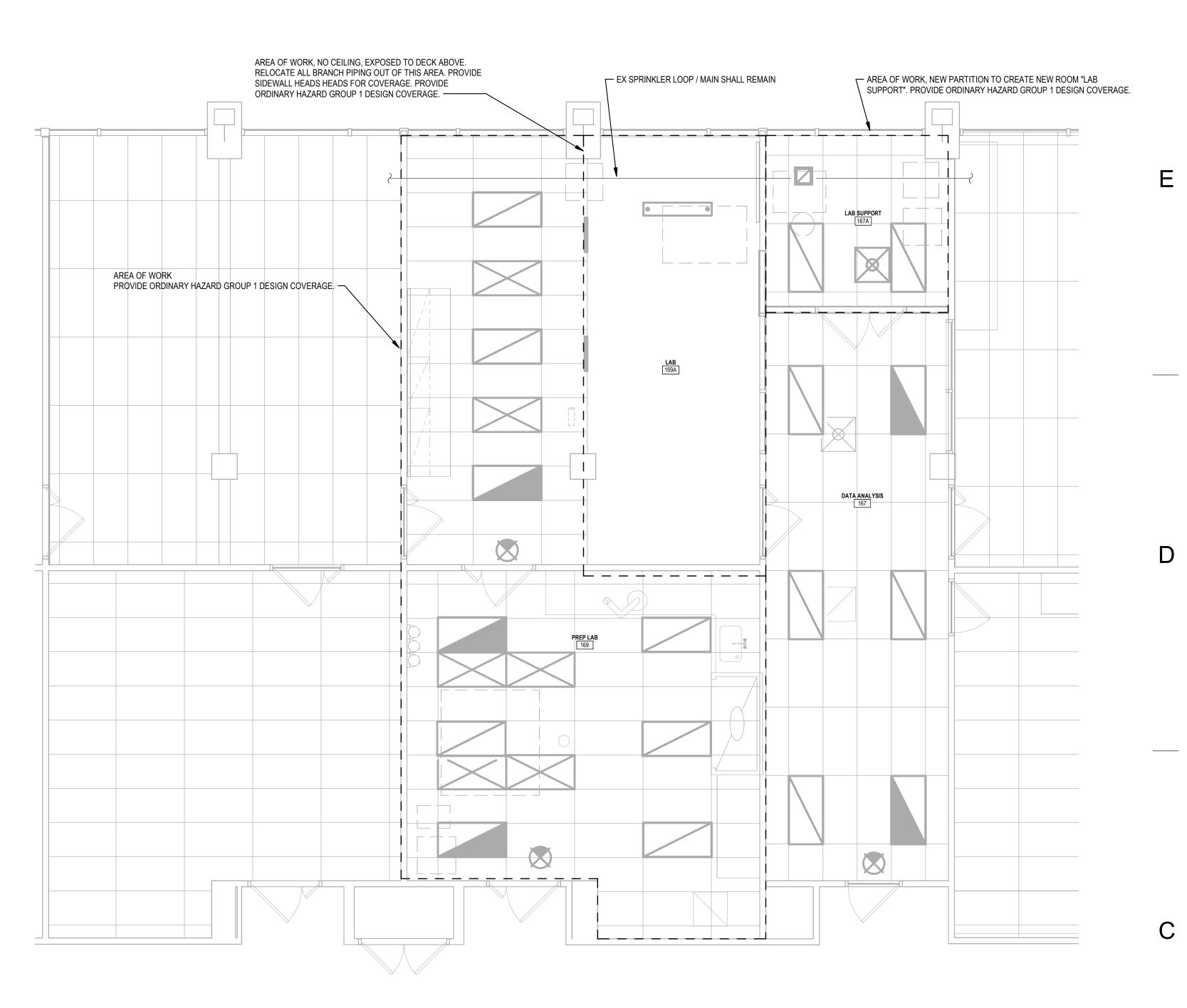
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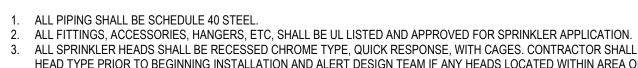
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GENERAL NOTES



RESPONSE. 4. CONTRACTOR SHALL CONFIRM EXISTING SPRINKLER HEAD LOCATIONS, PIPE SIZES, AND ROUTING IN FIELD. BRANCH PIPING SHALL BE ROUTED AS HIGH AS POSSIBLE ABOVE CEILINGS.

5. CONTRACTOR SHALL PROVIDE HYDRAULIC CALCULATIONS TO CONFIRM COMPLIANCE WITH DESIGN.

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## 3. ALL SPRINKLER HEADS SHALL BE RECESSED CHROME TYPE, QUICK RESPONSE, WITH CAGES. CONTRACTOR SHALL VERIFY EXISTING SPRINKLER HEAD TYPE PRIOR TO BEGINNING INSTALLATION AND ALERT DESIGN TEAM IF ANY HEADS LOCATED WITHIN AREA OF WORK ARE NOT QUICK

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# PRINT IN COLOR Sheet Number: FP201

Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: **713** NC State Project ID Number: **202435062** SCO # **24-28212-01A** 

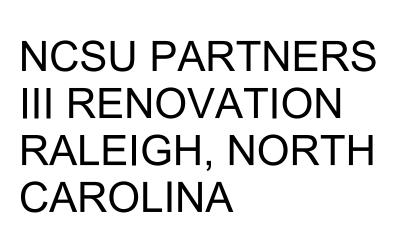
Sheet Title: A FIRE PROTECTION PLAN

Project Number: 22057.03 Status & Date: 12/20/2024

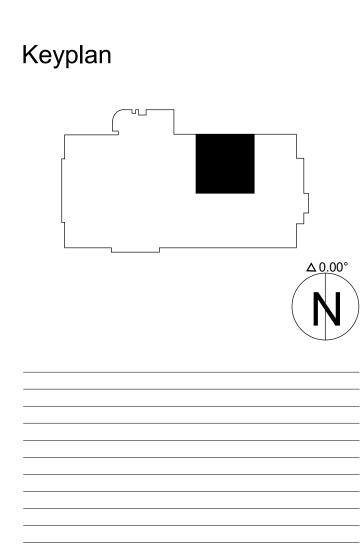
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Suite 200

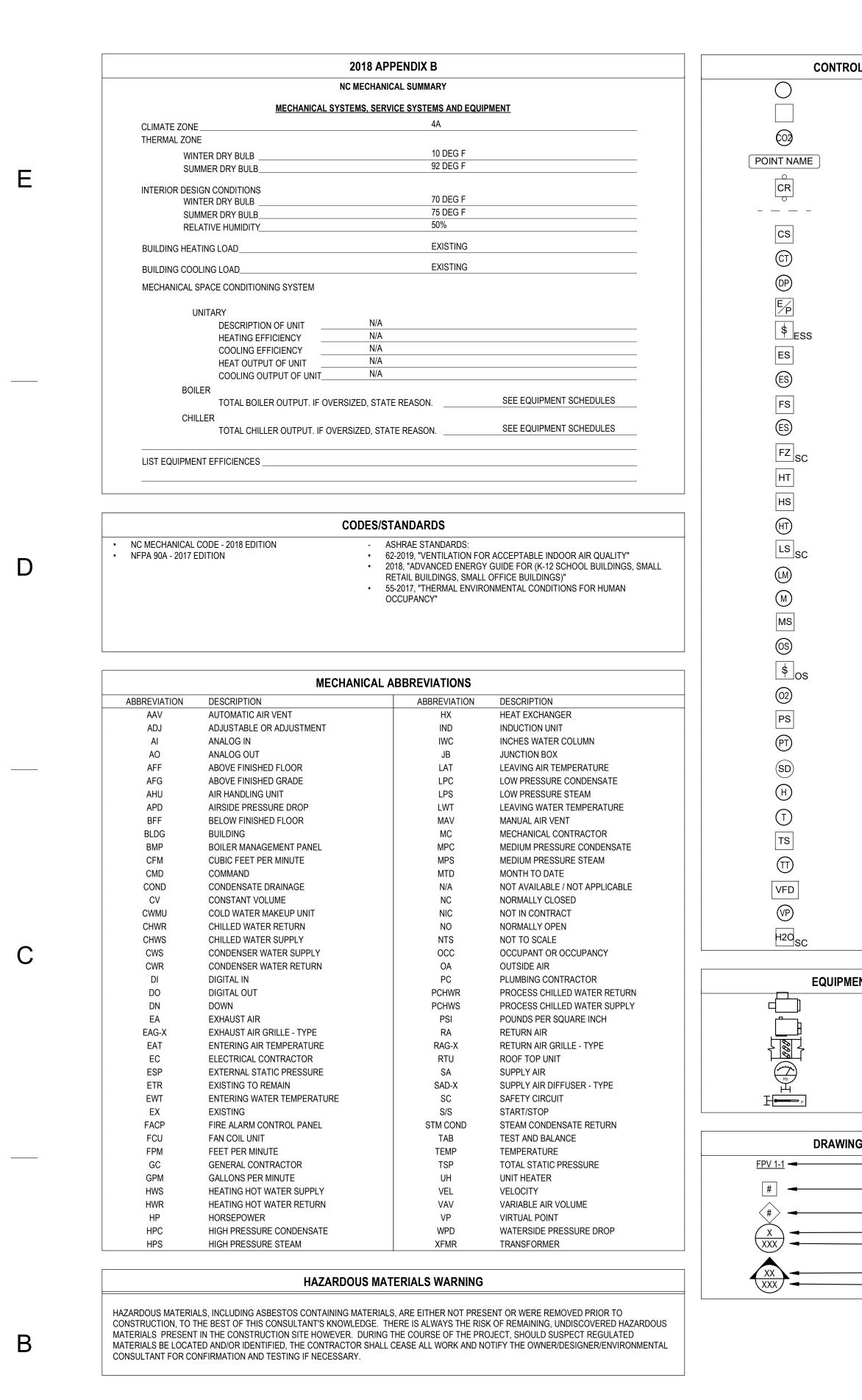
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TERMINAL SCHEDULE

5

DLS LEGEND	MECHAN	NICAL LEGEND
ANALOG POINT	O	LIMIT OF DEMOLITION
DIGITAL POINT	$\bullet$	POINT OF CONNECTION TO EXISTING
CARBON DIOXIDE SENSOR	$\boxtimes$	SUPPLY DIFFUSER
CONTROL POINT		RETURN GRILLE
CONTROL RELAY		EXHAUST GRILLE
CONTROL WIRING	×	BEACON STROBE LIGHT FOR HVAC ALARM SYSTEMS
CURRENT SWITCH		MANUAL VOLUME CONTROL DAMPER
CURRENT TRANSMITTER		BACKDRAFT DAMPER
DIFFERENTIAL PRESSURE TRANSMITTER		MOTORIZED AIR DAMPER (PNEUMATIC
ELECTRO-PNEUMATIC TRANSDUCER		VERTICAL FIRE DAMPER (WITH ACCESS DOOR AND SLEEVE)
EMERGENCY STOP SWITCH		HORIZONTAL FIRE DAMPER (WITH ACCESS DOOR AND SLEEVE)
END SWITCH		COMBINATION FIRE SMOKE DAMPER (PNEUMATIC $\nabla$ - ELECTRIC $\nabla$ )
ENTHALPY SELECTOR		MOTORIZED SMOKE DAMPER
FLOW SWITCH		SOUND ATTENUATOR TAG - MARK (X)
FLOW TRANSMITTER		AIRFLOW MEASURING STATION TAG - MARK (X)
FREEZESTAT		RADIATION DAMPER FOR RATED CEILINGS
HIGH TEMPERATURE SWITCH		CONSTANT AIRFLOW REGULATOR
HUMIDITY SWITCH	SD anov	SMOKE DETECTOR
HUMIDITY TRANSMITTER		DIFFUSER/GRILLE TAG SIZE
LEVEL SWITCH	- 2 BOX	CFM
LIGHT METER		DIFFUSER/GRILLE TAG SIZE
MOTOR OPERATED DAMPER		AIRFLOW DIRECTION
MOTOR STARTER	∽	SUPPLY REGISTER OR GRILLE
OCCUPANCY SENSOR	∽	EXHAUST OR RETURN GRILLE
OVERRIDE SWITCH	↓ 10x10 →	RECTANGULAR DUCTWORK
OXYGEN SENSOR	<u> 8"∅</u>	ROUND DUCTWORK
PRESSURE SWITCH		EXISTING DUCTWORK
PRESSURE TRANSMITTER	\$77777 <del>7</del> 7	DUCTWORK TO BE DEMOLISHED
SMOKE DETECTOR		FLEXIBLE DUCTWORK (INSULATED)
SPACE RELATIVE HUMIDITY TRANSMITTER	$\square$	DUCT ACCESS DOOR
SPACE TEMPERATURE TRANSMITTER	UP 🗔 DN	SUPPLY DUCT (UP & DOWN)
TIME SWITCH	UP 🗁 DN	EXHAUST DUCT (UP & DOWN)
TEMPERATURE TRANSMITTER	UP DN	RETURN DUCT (UP & DOWN)
VARIABLE FREQUENCY DRIVE		EXISTING PIPING TO REMAIN
VELOCITY PRESSURE TRANSMITTER		PIPING TO BE DEMOLISHED
WATER DETECTION SWITCH	$\bowtie$	ISOLATION VALVE
	Ā	GATE VALVE
	∑ <b>¤</b> ()	GLOBE VALVE
VAV BOX	Ř-с	GATE VALVE WITH 3/4" HOSE ADAPTER
FAN POWERED VAV BOX	$\overrightarrow{\lor}$	CHECK VALVE
HYDRONIC COIL	IĮI	BUTTERFLY VALVE
PRESSURE GAUGE	ļ <b>∮</b> ]	BALL VALVE
THERMOMETER	ĸ	BALANCING VALVE
G SYMBOLS	Ř	RELIEF VALVE
- EQUIPMENT TAG	Ę	WYE STRAINER
	b≱(	BOILER DRAIN VALVE
NEW WORK KEYED NOTE	X	PRESSURE REGULATING VALVE
- DETAIL NUMBER		CONTROL VALVE (2-WAY)
DRAWING NUMBER		CONTROL VALVE (3-WAY)
	⊠	TEST PLUG (PRESSURE/TEMPERATURE)
	—– <b>Э</b>	PIPING DOWN
	—0	PIPING UP
	-0-	TEE UP
		TEE DOWN
	∽]	CAPPED PIPING
		IN LINE TRIPLE DUTY VALVE
		AUTOMATIC AIR VENT
		MANUAL AIR VENT

	VA	RIABLI	EAIR	VOLUME SCH	IEDULE		
TAG	AREA (ROOMS)	CF	-M	INLET DUCT	BASIS OF	DESIGN	NOTES
TAG	SERVED	MAX	MIN	SIZE	MANUF	MODEL	NOTES
EVAV-1	SNORKEL, EBEAM	450	450	8	TITUS	DESV	ALL
24V CONT	L MODULATE TO MAINTA ROL POWER SHALL BE PI RMER SIZE WITH CONTRO	ROVIDED	) FROM DOR.		ER BOX. COOF	RDINATE 24V W	VIRE SIZE ANI

6	ENERAL NOTES
_	
1.	THE DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES. THE SCALE, WHEN INDICATED IS INTENDED FOR GENERAL REFERENCE ONLY.
2.	THE MECHANICAL CONTRACTOR SHALL MAKE A COMPLETE REVIEW OF THE PROJECT PLANS, SCHEDULES, AND DETAILS PRIOR TO INSTALLATION OF THE MECHANICAL
	SYSTEMS AND REVIEW ANY CONFLICTS WITH THE ENGINEER.
3.	ALL WORK SHALL CONFORM TO ALL LOCAL, STATE, AND NATIONAL CODES. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN
	RECOMMENDATIONS. ANY EQUIPMENT OR MATERIAL DEVIATIONS FROM THAT
	SPECIFIED OR DETAILED ON THIS DRAWING SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER. ALL PROPOSED EQUIPMENT DEVIATIONS SUBMITTED SHALL
	BE SIMILAR BOTH IN QUALITY AND CAPACITY TO THAT EQUIPMENT SPECIFIED.
4.	DESIGN IS BASED ON THE MANUFACTURER AND MODEL SCHEDULED OR THE FIRST MANUFACTURER LISTED IN THE DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL
	BEAR ANY AND ALL COSTS FOR ALTERING ANY OTHER CONTRACT OR SUB-CONTRACT
	RESULTING FROM THE USE OF ANY MANUFACTURER OR MODEL OTHER THAN THE DESIGN BASIS INCLUDING LISTED EQUALS.
5.	PRIOR TO CONSTRUCTION, FABRICATING DUCTWORK, ORDERING EQUIPMENT, ETC., THE
	CONTRACTOR SHALL FIELD VERIFY SPACE LIMITATIONS AT THE JOB SITE AND COORDINATE WITH OTHER TRADES.
6.	ALL MATERIALS, EQUIPMENT AND PRODUCTS INCORPORATED IN THE WORK UNDER THE CONTRACT SHALL BE NEW, OF A SUITABLE GRADE FOR THE PURPOSES INTENDED, AND
	TO THE EXTENT POSSIBLE, STANDARD PRODUCTS OF THE VARIOUS MANUFACTURES
	EXCEPT WHERE SPECIAL CONSTRUCTION OR PERFORMANCE FEATURES ARE CALLED FOR. THEY SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S
	REQUIREMENTS.
7.	ALL MATERIALS AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S
	REQUIREMENTS.
8.	THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED BY THEIR ACTIONS. SUCH DAMAGE SHALL BE RETURNED TO ORIGINAL NORMAL WORKING
	CONDITION, SUBJECT TO ACCEPTANCE OF THE OWNER AND ENGINEER, WITHOUT EXTRA
9.	COST TO THE OWNER. THE MECHANICAL CONTRACTOR SHALL KEEP THEIR WORK SITE AND ALL ACCESS
	POINTS OF THE BUILDING FREE OF RUBBISH AND WASTE MATERIAL. ALL ROOF OPENINGS IN THE BUILDING REQUIRED FOR THE MECHANICAL CONTRACT SHALL BE
	PROVIDED BY THE GENERAL CONTRACTOR. ALL FRAMING AROUND OPENINGS SHALL BE
	BY THE GENERAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL COORDINATE SIZE OF OPENINGS AND LOCATION OF OPENINGS WITH THE GENERAL CONTRACTOR. ALL
	ROOF CURBS AND ROOF SUPPORT RAILS FOR MECHANICAL EQUIPMENT INSTALLED ON
	THE ROOF SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
10.	ALL OPENINGS IN WALLS AS REQUIRED BY THE MECHANICAL SYSTEM IN THE BUILDING
	SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. IT IS THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE SIZE AND LOCATION OF ALL
11	OPENINGS WITH THE GENERAL CONTRACTOR AT THE JOB SITE IN A TIMELY MANNER. REFER TO ARCHITECTURAL DRAWINGS, AS AVAILABLE, FOR LOCATIONS OF ALL RATED
11.	WALL AND FLOOR ASSEMBLIES. PROVIDE FIRE DAMPERS AND/OR U.L. LISTED
	ASSEMBLIES AND/OR SEALANTS PER DRAWINGS, SPECIFICATIONS, AND APPLICABLE CODES AT ALL PENETRATIONS.
12.	THE MECHANICAL CONTRACTOR SHALL FURNISH ACCESS DOORS FOR ALL GYPSUM
	BOARD CEILINGS AT VOLUME DAMPERS, EQUIPMENT, MOTOR OPERATED DAMPERS, FIRE DAMPERS, BALANCING DEVICES OR OTHER ITEMS REQUIRING BALANCING OR
	SERVICE. ACCESS DOORS SHALL BE INSTALLED BY THE GENERAL CONTRACTOR. SEE
	PLANS AND GENERAL CONSTRUCTION SPECIFICATIONS FOR ACCESS DOOR REQUIREMENTS.
13.	MECHANICAL CONTRACTOR SHALL PROVIDE 6" HIGH HOUSEKEEPING PADS UNDER MAJOR MECHANICAL EQUIPMENT (I.E. CHILLERS) AND 4" HIGH HOUSEKEEPING PADS
	UNDER ALL OTHER FLOOR MOUNTED EQUIPMENT UNLESS NOTED OTHERWISE. PADS
	SHALL EXTEND BEYOND EQUIPMENT BY THE SAME DIMENSION AS THE HEIGHT OF THE PAD, UNLESS NOTED OTHERWISE.
14.	ALL PIPING AND DUCTWORK (EXCEPT IN MECHANICAL ROOMS, BOILER ROOM, ETC.)
15.	SHALL BE CONCEALED UNLESS OTHERWISE SHOWN OR NOTED. DO NOT INSTALL PIPING OR DUCTWORK OVER ANY ELECTRICAL SWITCHGEAR; SEE
	MECHANICAL DETAIL SHEET(S).
16.	MC SHALL BLANK OFF UNUSED PORTIONS OF LOUVERS WITH DOUBLE WALL INSULATED PANELS.
17.	REFER TO SPECIFICATIONS FOR EQUIPMENT STARTUP PROCEDURES AND REQUIREMENTS.
	REQUIREMENTS.
18	DUCTWORK DUCT SIZES SHOWN ON PLANS ARE FREE AREA DIMENSIONS. CONTRACTOR SHALL
	INCREASE SIZES AS NECESSARY TO ACCOMMODATE LINING, IF SPECIFIED.
19.	BEFORE FABRICATING OR INSTALLING DUCTWORK, COORDINATE DUCT LOCATIONS WITH THE ELECTRICAL CONTRACTOR'S PANELS, CONDUIT AND RECESSED LIGHT FIXTURES,
	PLUMBING PIPING, AND ALL STRUCTURAL MEMBERS. THESE DRAWINGS ARE
	DIAGRAMMATIC AND ARE NOT SHOP DRAWINGS. ALL OFFSETS AND TRANSITIONS REQUIRED FOR THIS PROJECT MAY NOT BE SHOWN ON THESE DRAWINGS; HOWEVER,
20	THEY SHALL BE PROVIDED WITHOUT CHANGE TO THE BID CONTRACTS. BEFORE FABRICATING OR INSTALLING DUCTWORK, COORDINATE FINAL LOCATION OF
20.	CEILING GRILLES, REGISTERS AND DIFFUSERS WITH REFLECTED CEILING PLANS AND
21	ELECTRICAL LIGHTING PLANS. ALL SURFACES SEEN THOUGH GRILLES AND DIFFUSERS SHALL BE PAINTED MATTE
	BLACK.
22.	CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO KEEP ACCESS TO THE VOLUME DAMPERS WITHIN THE LAY-IN CEILING OR EXPOSED AREAS.
23.	PROVIDE FLEXIBLE CONNECTIONS TO ALL AIR MOVING EQUIPMENT.

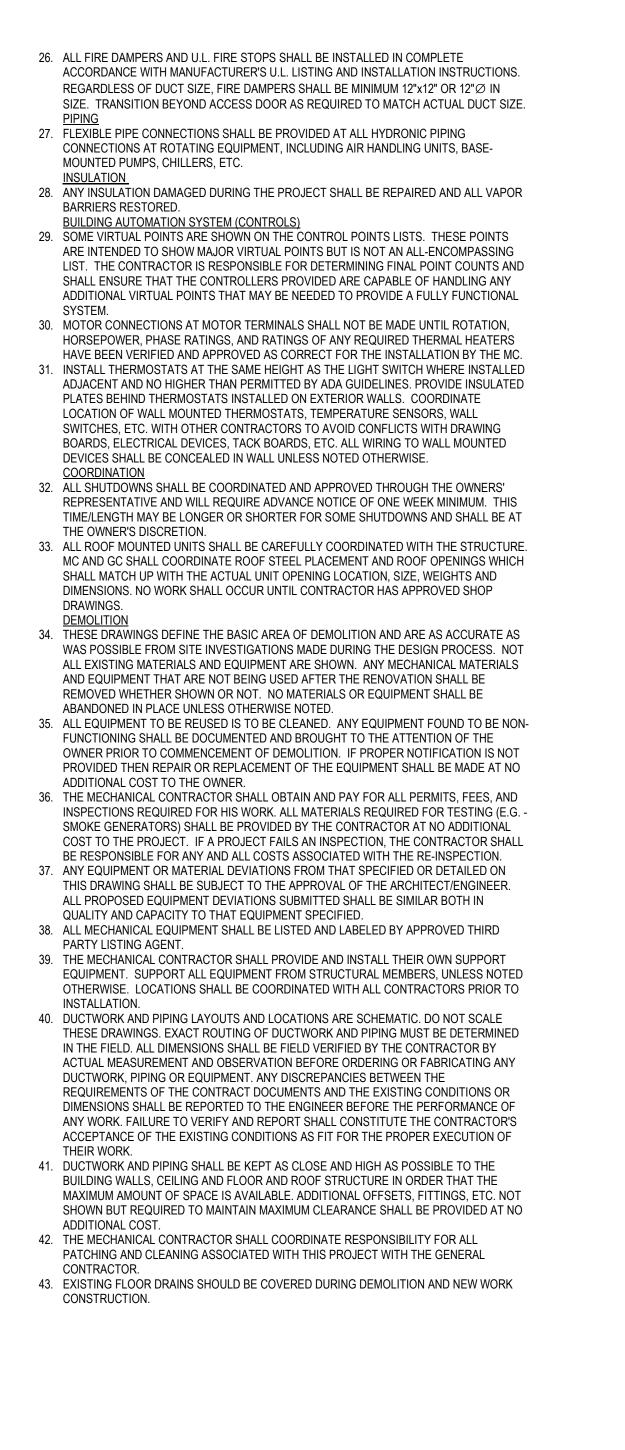
23. PROVIDE FLEXIBLE CONNECTIONS TO ALL AIR MOVING EQUIPMENT. 24. INSTALL DIFFUSERS WITH 3-WAY OR 2-WAY THROW AS REQUIRED TO AVOID BLOWING

DIRECTLY ON THERMOSTATS. 25. MC SHALL CONFIRM ALL CEILING TYPES, HARD OR LAY-IN, INCLUDING NARROW TEE AND REGULAR, PRIOR TO SUBMITTAL OF SHOP DRAWINGS TO ENGINEER. ANY AIR DEVICES REQUIRING REPLACEMENT DUE TO LACK OF MC'S CONFIRMATION SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

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M001 MECHANICAL DAT	A
M100 MECHANICAL DEM	101
M200 MECHANICAL NEV	٧V
M800 MECHANICAL DET	All
M801 AIRFLOW DIAGRA	М

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MECHANICAL SHEET INDEX
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# M001

PRINT IN COLOR Sheet Number:

Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: 713 NC State Project ID Number: 202435062 SCO # 24-28212-01A

Sheet Title: A MECHANICAL DATA SHEET

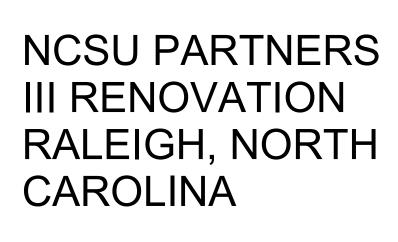
Project Number: 22057.03 Status & Date: 12/20/2024

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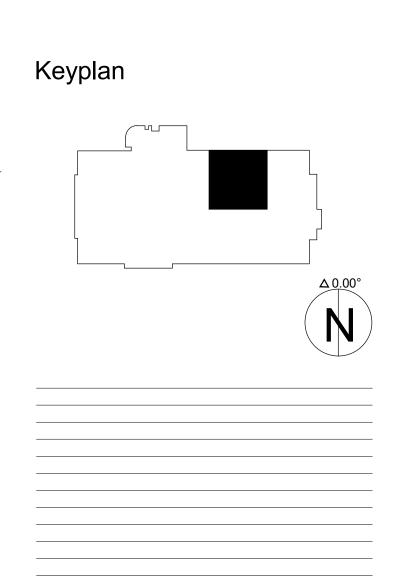
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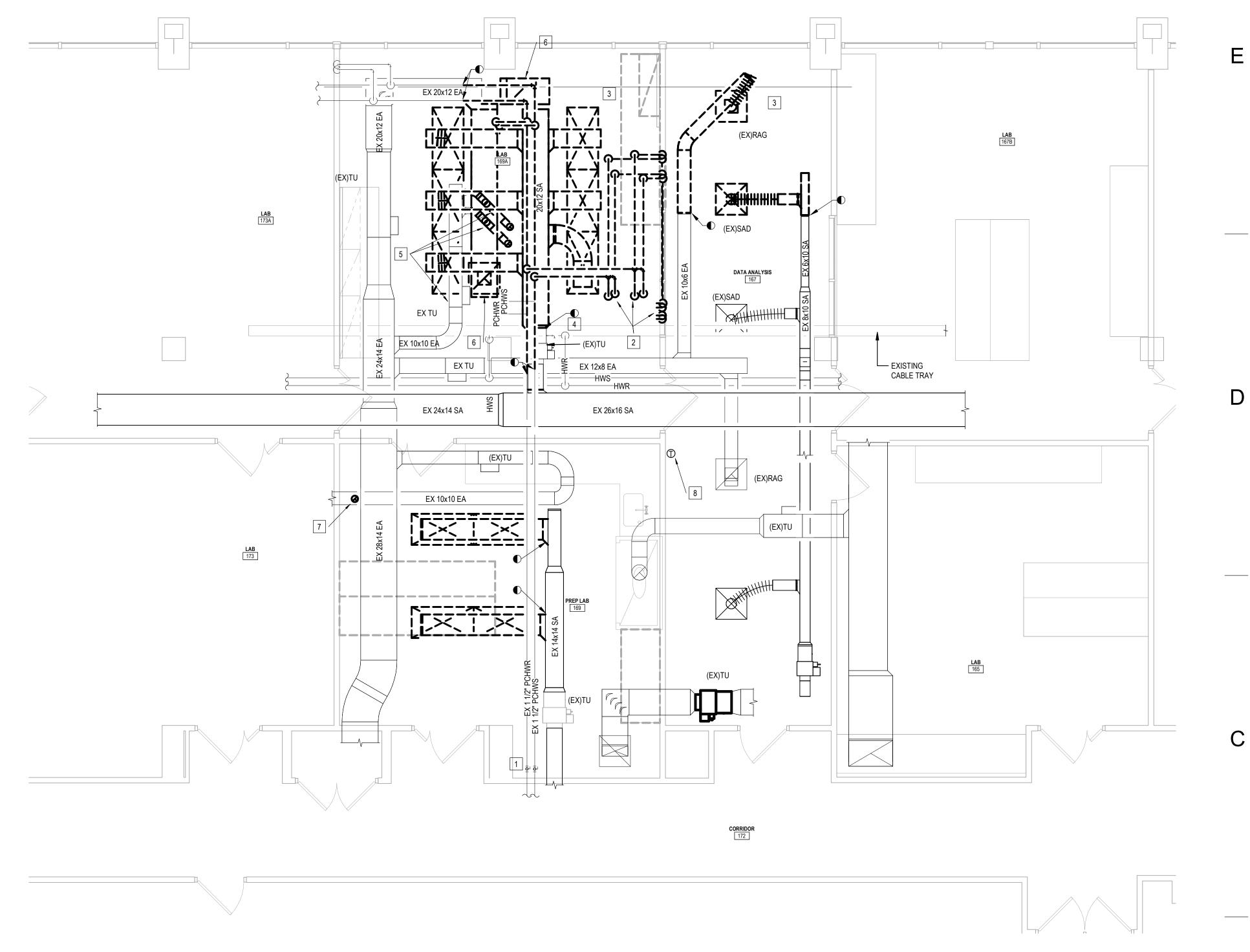
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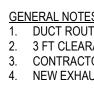
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# 1 FIRST FLOOR MECHANICAL PLAN - DEMOLITION SCALE: 1/4" = 1'-0"

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- # DEMOLITION NOTES
- WORK PLAN.
- SET TO 0 CFM IN BAS.
- EXISTING VAV.

GENERAL NOTES 1. DUCT ROUTING IS DIAGRAMMATIC. CONSTRACTOR SHALL CONFIRM IN THE FIELD ALL EXISTING SYSTEMS PRIOR TO DEMOLITION OR FABRICATION OF DUCTWORK. 2. 3 FT CLEARANCE OF EXISTING VAV CONTROLLERS AND COIL TRIM SHALL BE MAINTAINED. CONTRACTOR SHALL COORDINATE ANY AND ALL SHUTDOWNS OR INTERRUPTIONS TO EXISTING SYSTEM OPERATION WITH OWNER A MINIMUM OF 2 WEEKS IN ADVANCE.
 NEW EXHAUST DUCTWORK CONNECTED TO SNORKELS OR HOODS SHALL BE STAINLESS STEEL CONSTRUCTION.

1. VERIFY LOCATION AND FUNCTION OF EXISTING PCHW ISOLATION VALVES.

2. DEMOLISH ALL PCHW PIPING IN WALL AND BACK TO LIMITS OF DEMOLITION SHOWN ON PLAN. 3. PIPING AND DUCTWORK LOCATED IN AREA OF CEILING TO BE RAISED SHALL BE REMOVED. SEE NEW

4. REMOVE ALL SUPPLY DUCT AND ASSOCIATED DIFFUSERS DOWNSTREAM OF EX TERMINAL UNIT.

5. REMOVE (2) 5"DIA EXHAUST DUCTS BACK TO TAP ON MAIN AND CAP THE TAP. TERMINAL UNIT SHALL BE

6. REMOVE (2) EX EXHAUST GRILLES.

7. REMOVE 5"DIA. TAP THROUGH CEILING AND SEAL OPENING ON EXHAUST MAIN.

8. EXISTING THERMOSTAT TO BE RELOCATED. PROVIDE NEW WIRING FROM RELOCATED STAT TO

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# M100

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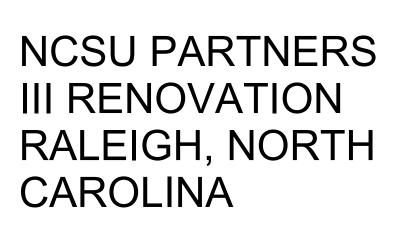
Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: **713** NC State Project ID Number: **202435062** SCO # **24-28212-01A** 

Sheet Title: A MECHANICAL DEMOLITION

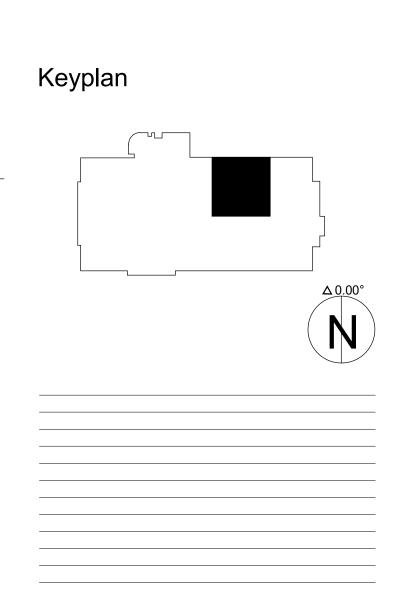
Project Number: 22057.03 Status & Date: 12/20/2024

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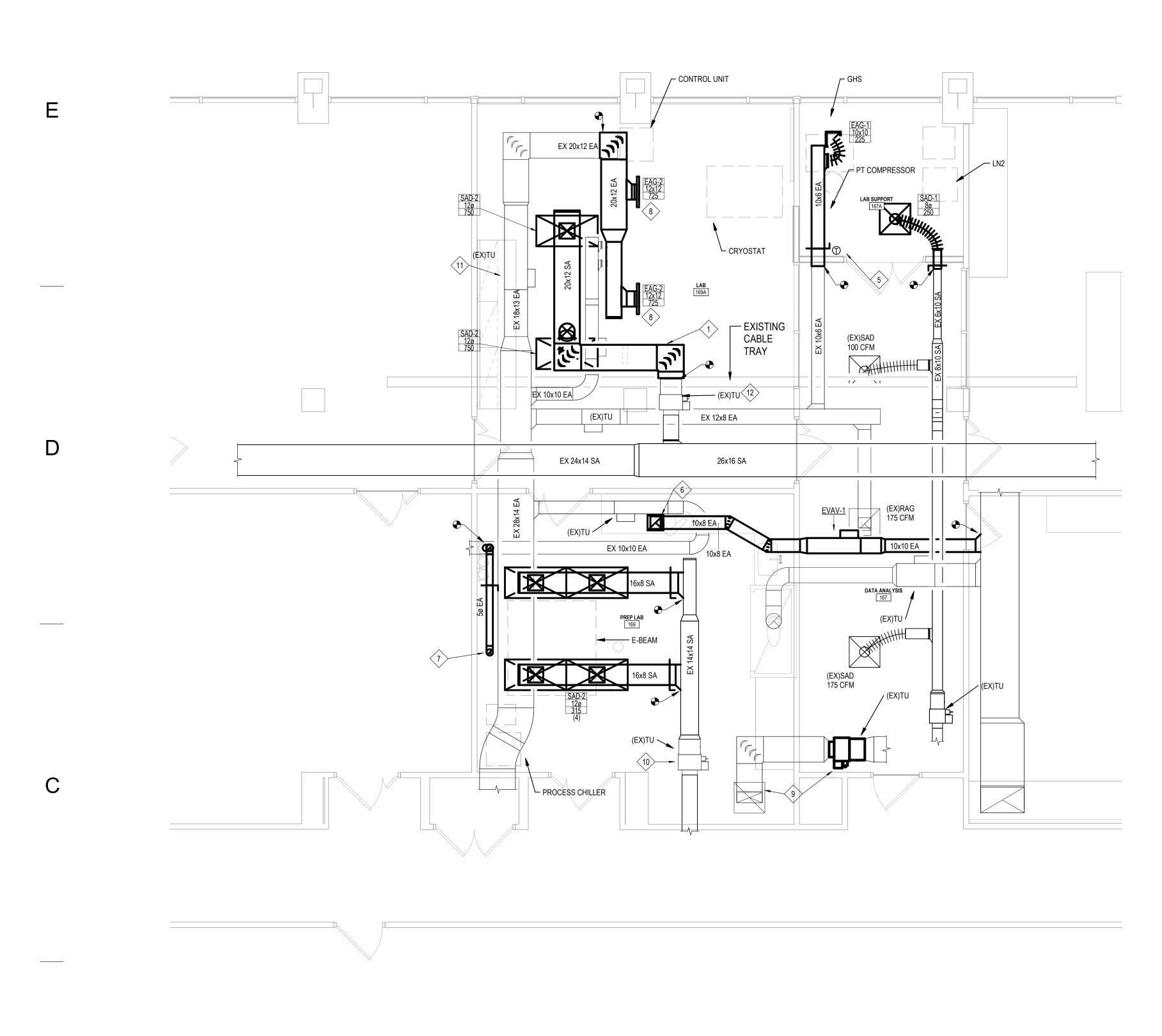
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1 FIRST FLOOR MECHANICAL DUCTWORK - NEW WORK SCALE: 1/4" = 1'-0"

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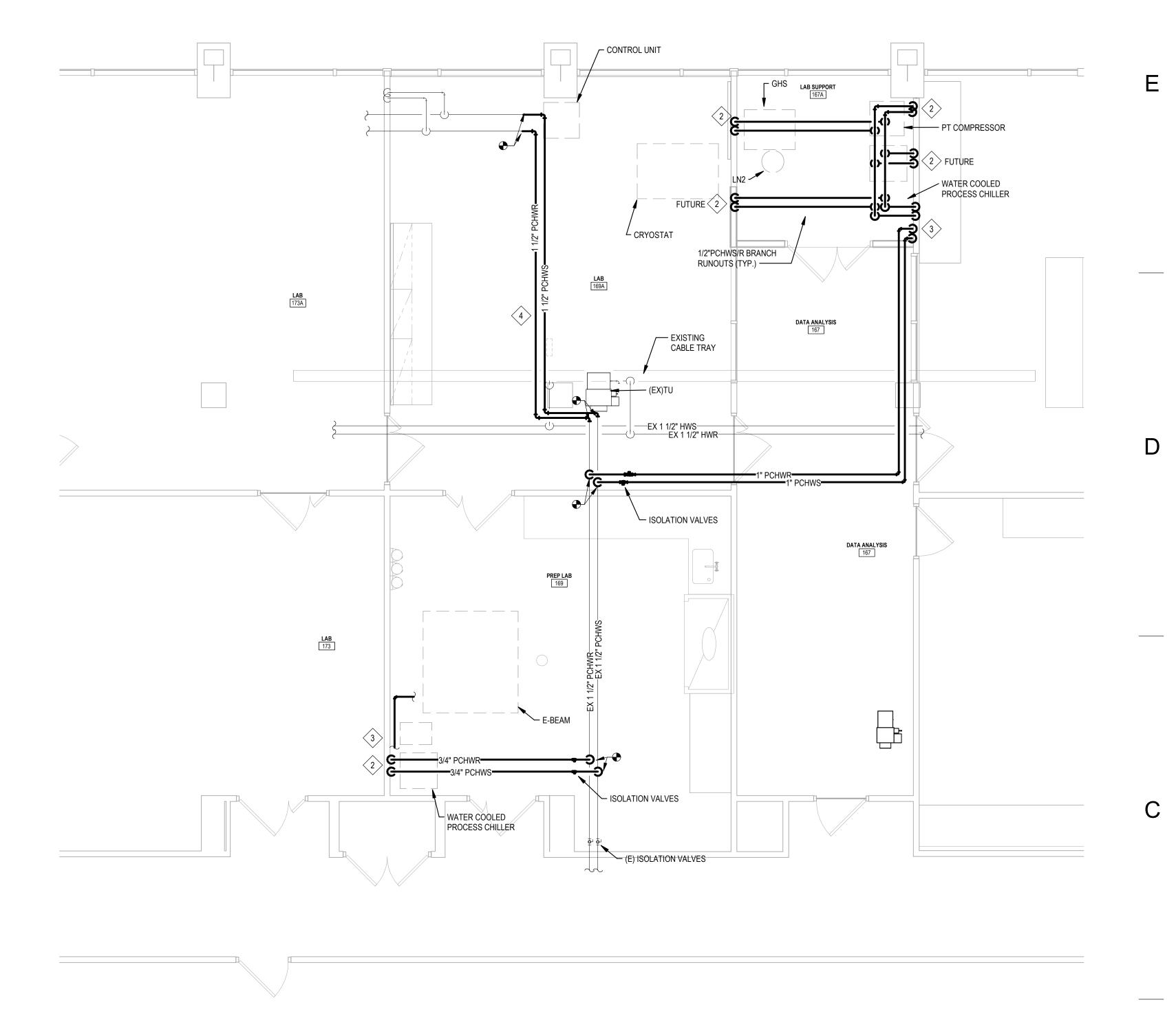
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<u>GEN</u> 1.	NERAL NOTE DUCT ROU SYSTEMS
2.	3 FT CLEAR
3.	CONTRAC <sup>-</sup> SYSTEM O
4.	NEW EXHA
5.	SEE DETAI
6.	BALANCE
#	> NEW WOR
1.	ROUTE DU
2.	ROUTE PC TERMINAT BRANCH W
3.	SEE DETAI
4.	RE-ROUTE
5.	RELOCATE
6.	CONNECT
7.	TERMINAT OTHER SID
8.	SIDEWALL
9.	CHANGE B
10.	CHANGE B
11.	CHANGE B
12.	CHANGE B

3

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# DUTING IS DIAGRAMMATIC. CONSTRACTOR SHALL CONFIRM IN THE FIELD ALL EXISTING IS PRIOR TO DEMOLITION OR FABRICATION OF DUCTWORK.

ARANCE OF EXISTING VAV CONTROLLERS AND COIL TRIM SHALL BE MAINTAINED.

CTOR SHALL COORDINATE ANY AND ALL SHUTDOWNS OR INTERRUPTIONS TO EXISTING OPERATION WITH OWNER A MINIMUM OF 2 WEEKS IN ADVANCE.

#### HAUST DUCTWORK CONNECTED TO SNORKELS OR HOODS SHALL BE STAINLESS STEEL UCTION.

#### AILS FOR MC RESPONSIBILITIES FURNISHING DISCONNECTS FOR EQUIPMENT.

E ALL NEW AND EXISTING GRILLES, DIFFUSERS, ETC, TO AIRFLOWS SHOWN ON PLAN.

#### ORK NOTES

DUCT TO MINIMIZE AMOUNT VISIBLE IN EXPOSED CEILING AREA.

#### PCHW PIPING DOWN FROM CEILING, STUBBING OUT OF WALL AT 36" AFF WITH ESCUTCHEON. ATE WITH VARIABLE AREA FLOW METER WITH INTEGRAL VALVE. SEE DETAILS. PROVIDE EACH

WITH ISOLATION VALVES ABOVE THE CEILING.

## AILS FOR PIPING CONFIGURATION OF PROCESS CHILLER.

E CHW PIPING TO AVOID RAISED CEILING AREA.

#### TED THERMOSTAT. PROVIDE NEW WIRING BACK TOA ASSOCIATED EXISTING VAV. T TO EXHAUST SNORKEL. BALANCE EXHAUST SNORKEL TO 350 CFM

ATE TAP BELOW CEILING, SEE DETAILS. BALANCE TAP TO 100 CFM. RE-BALANCE EXISTING TAP ON

#### SIDE OF WALL TO 100 CFM. LL EXHAUST GRILLES ON VERTICAL FACE OF CEILING PLENUM.

BAS EXHAUST SETPOINTS TO BE MIN/MAX AIRFLOW OF 100/715 CFM. SEQUENCE TO REMAIN

BAS SUPPLY SETPOINT FOR TERMINAL UNIT TO 1260 CFM. SEQUENCE TO REMAIN UNCHANGED. BAS SUPPLY SETPOINT FOR TERMINAL UNIT TO 1450 CFM. SEQUENCE TO REMAIN UNCHANGED. BAS SUPPLY SETPOINT FOR TERMINAL UNIT TO 1500 CFM. SEQUENCE TO REMAIN UNCHANGED.

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# M200

PRINT IN COLOR Sheet Number:

Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: **713** NC State Project ID Number: **202435062** SCO # 24-28212-01A

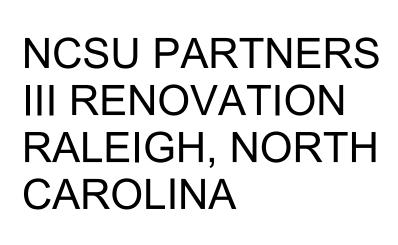
Sheet Title: A MECHANICAL NEW WORK

Project Number: 22057.03 Status & Date: 12/20/2024

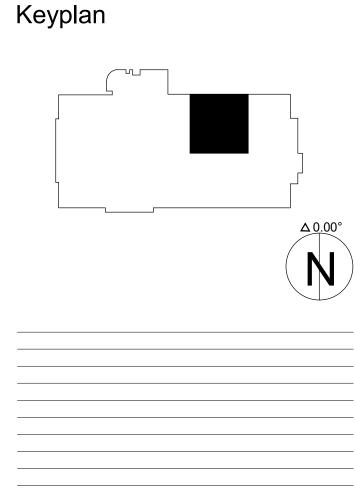
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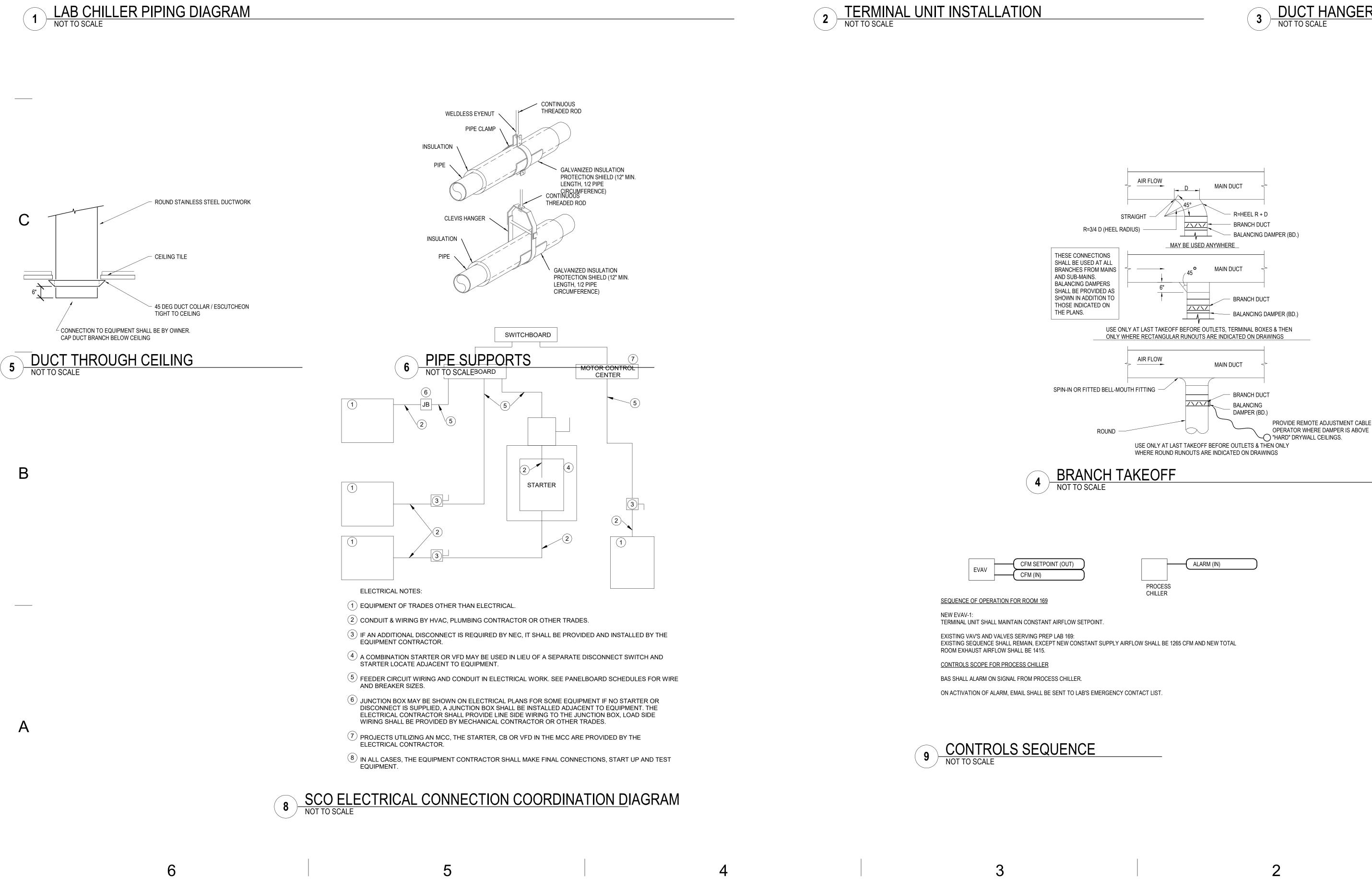
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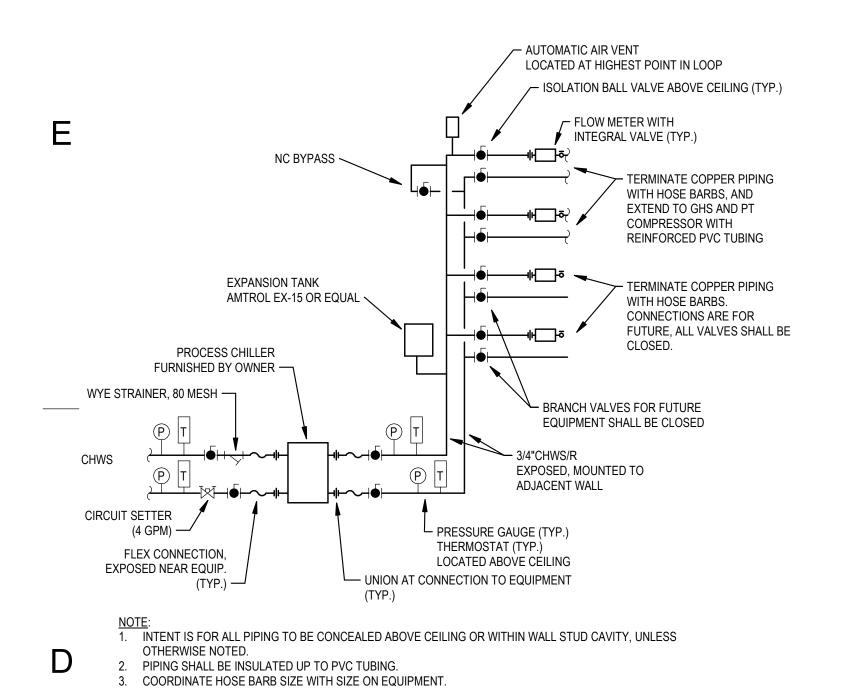
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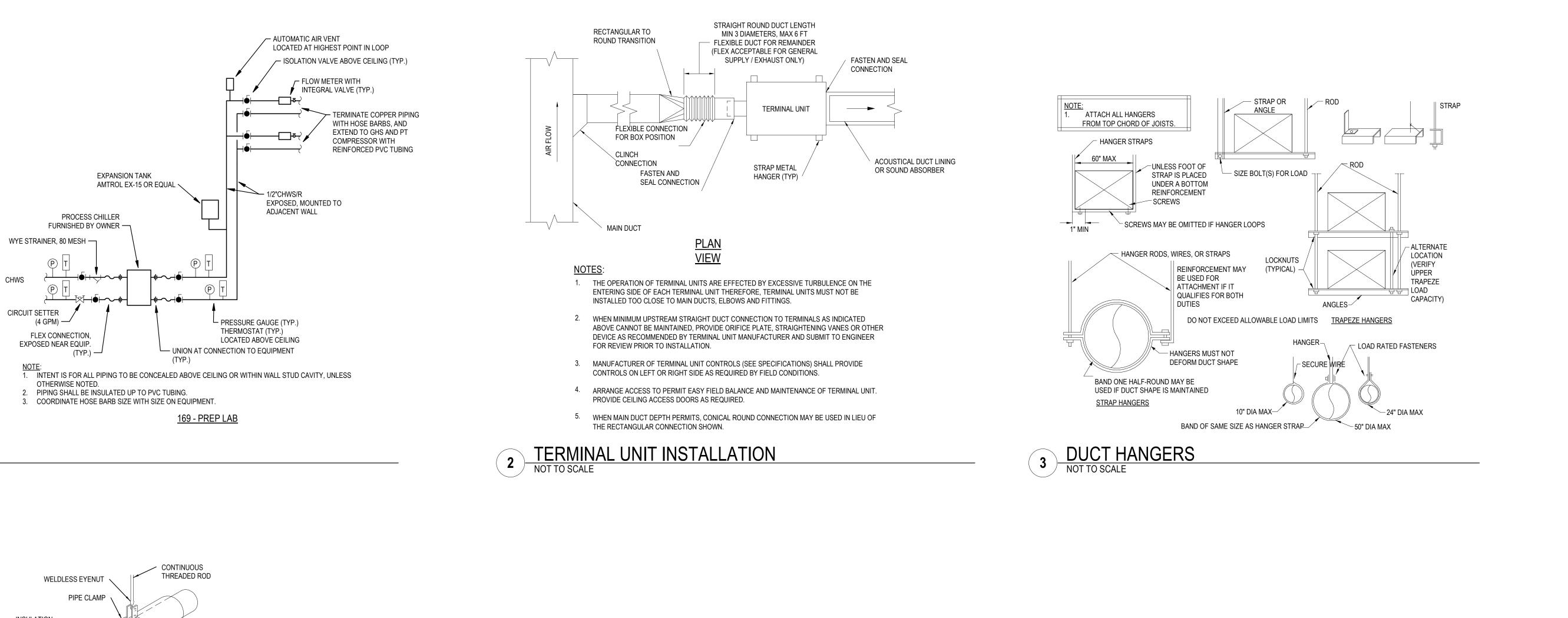
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<u> 167A - LAB SUPPORT CLOSET</u>



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# M800

PRINT IN COLOR Sheet Number:

Project Name: RENOVATION TO LAB 167, 169 & 169A - PARTNERS BUILDING III Building No: 713 NC State Project ID Number: 202435062 SCO # 24-28212-01A

A MECHANICAL DETAILS

Sheet Title:

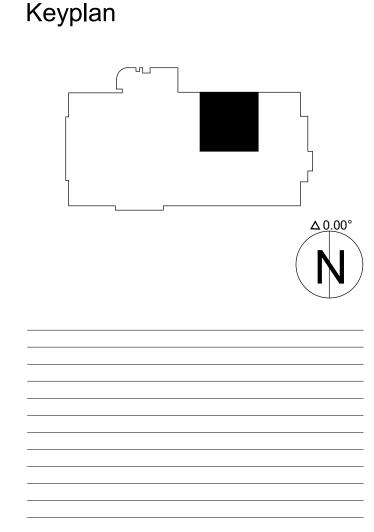
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Project Number: 22057.03 Status & Date: 12/20/2024







919.233.8091 www.mckimcreed.com 🇳 M<sup>a</sup>kim*&* CREEL 4300 Edwards Mill Road Suite 200 Raleigh, North Carolina 27612 Phone: (919) 233-8091, Fax: (919) 233-8031

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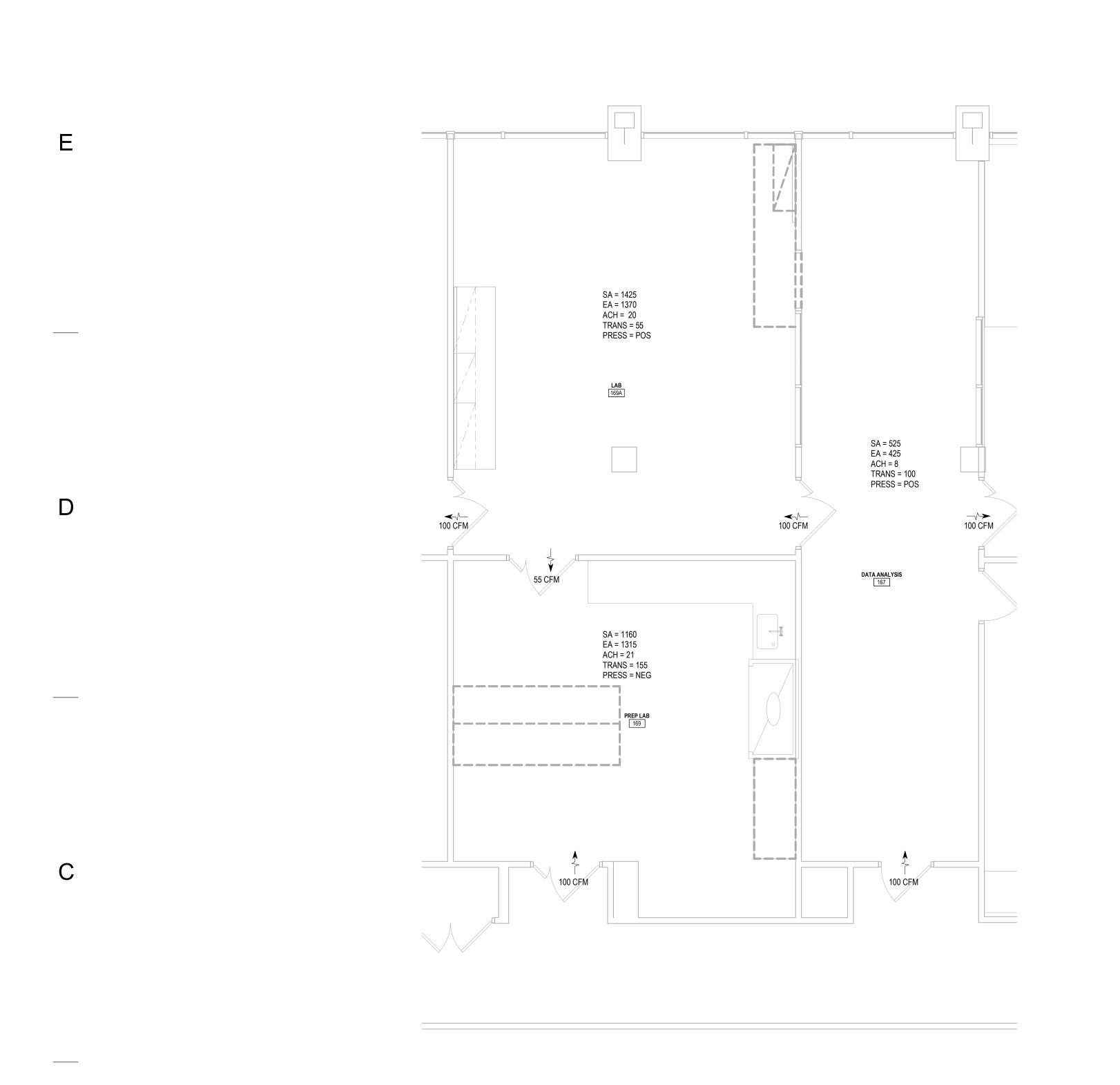
Client North Carolina State University 851 Main Campus Drive Raleigh, NC, 12612

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1 EXISTING AIRFLOW DIAGRAM SCALE: 1/4" = 1'-0"

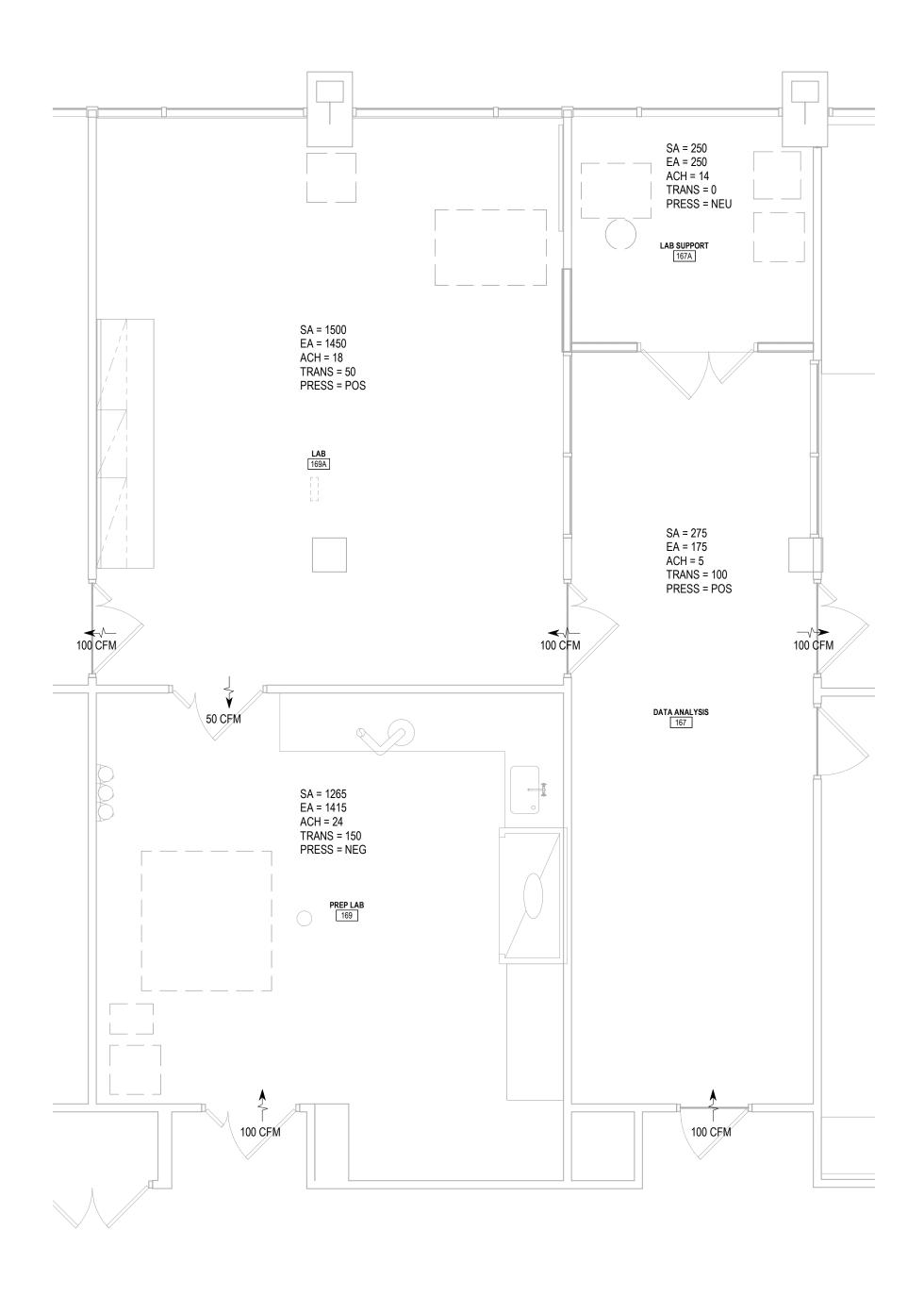
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# M801

PRINT IN COLOR Sheet Number:

Project Name: RENOVATION TO LAB 167, 169 & 169 - PARTNERS BUILDING III Building No: **713** NC State Project ID Number: **202435062** SCO # **24-28212-01A** 

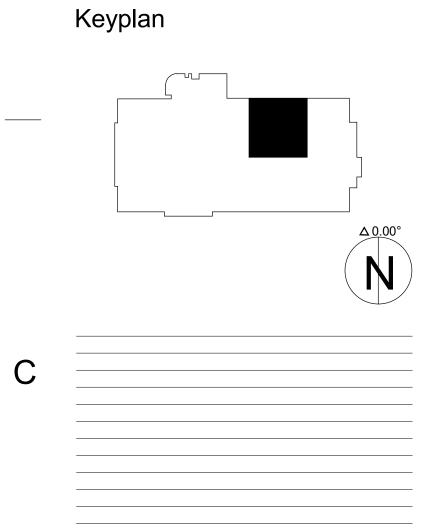
A AIRFLOW DIAGRAM

Sheet Title:

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