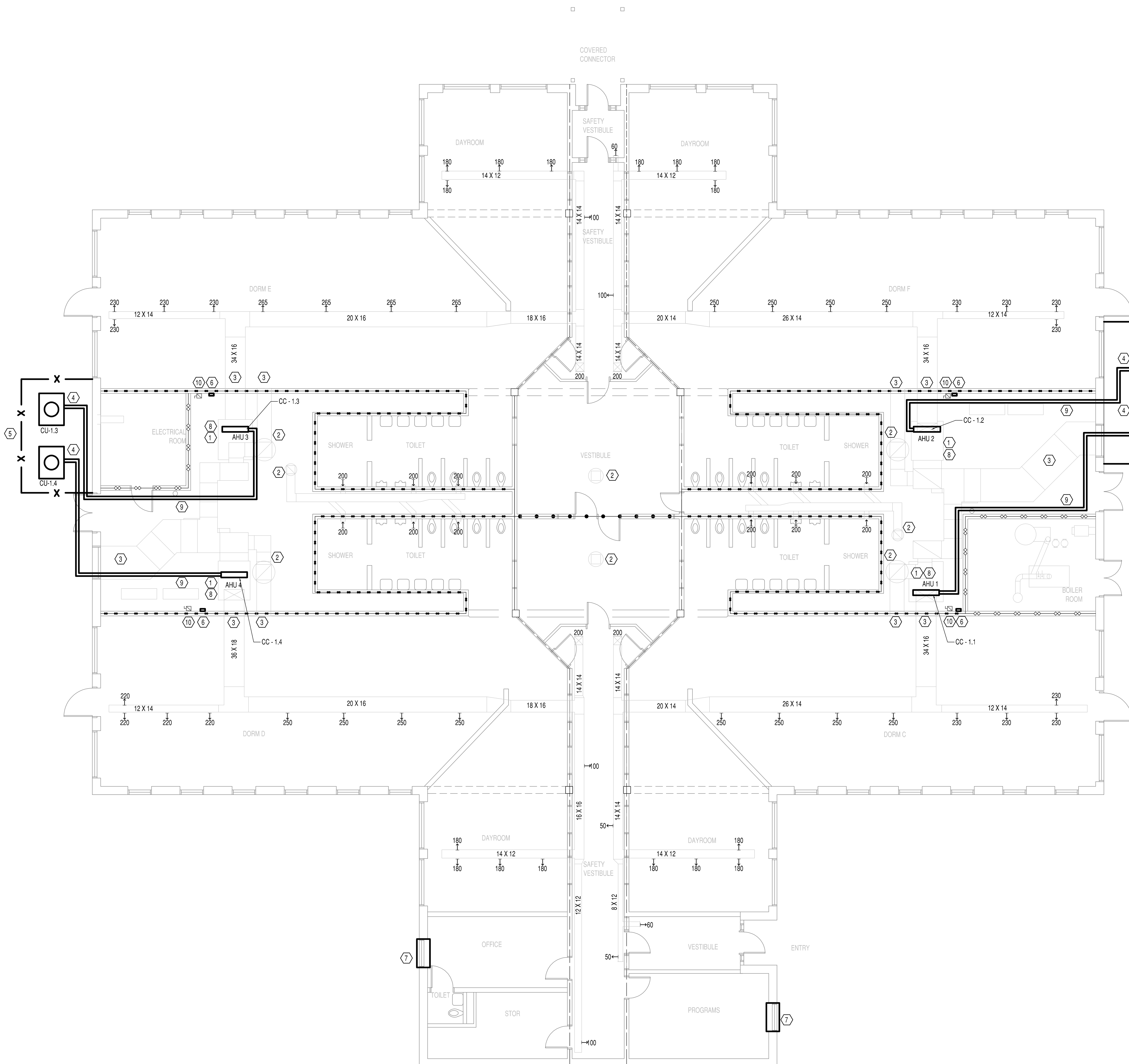


A1 / M-101 MECHANICAL PLAN BUILDING #1041

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

PROJECT NORTH

MECHANICAL SHEET KEYNOTES:

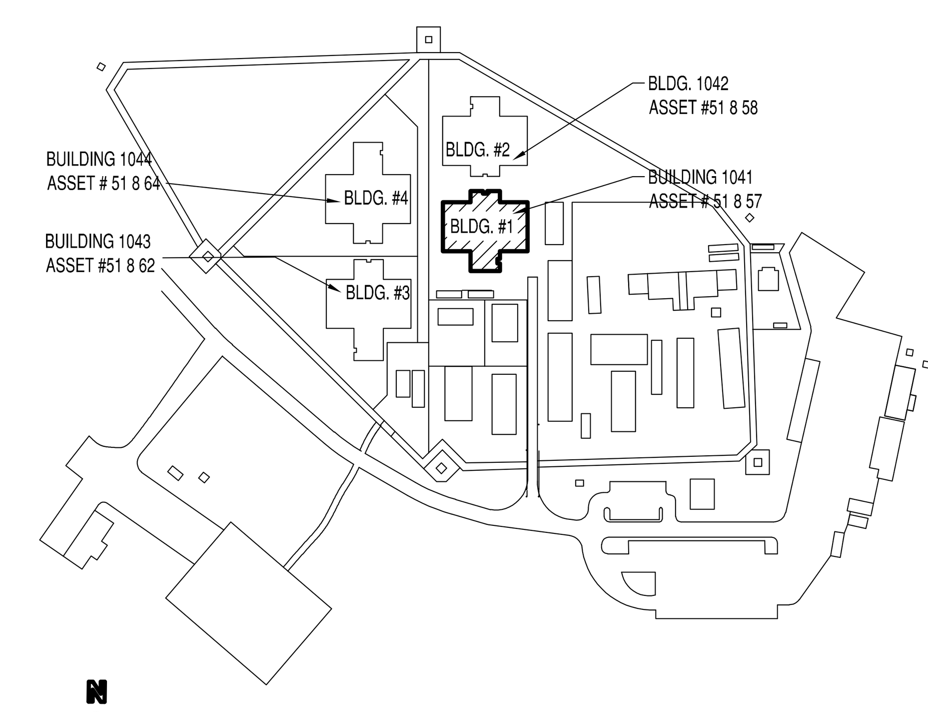
1. EXISTING AIR HANDLING UNIT SHALL REMAIN. DX COOLING COIL SHALL BE INSTALLED IN EXISTING AIR HANDLING UNIT. PROVIDE CONDENSATE TRAP AND DRAIN TO NEARBY EXISTING FLOOR DRAIN. SEE DETAIL ON M-501 FOR COIL INSTALLATION.
2. EXISTING FAN AND ANY ASSOCIATED DUCTWORK AND GRILLES SHALL REMAIN.
3. EXISTING INSULATED SUPPLY, RETURN, AND OUTSIDE AIR DUCTWORK AND ASSOCIATED GRILLES SHALL REMAIN. ALL FIRE DAMPERS THROUGH RATED WALLS SHALL REMAIN. INDICATED AIRFLOWS ARE FOR STAGE 2 COOLING.
4. NEW CONDENSING UNIT ON NEW CONCRETE PAD.
5. 8' TALL CHAIN LINK FENCE BY CONTRACTOR WITH 4' GATE. COORDINATE GATE LOCATION WITH OWNER.
6. EXISTING BUILDING AUTOMATION CONTROL FOR AHU AND SMOKE PURGE FAN CONTROL. EXISTING FIRE ALARM RELAYS TO REMAIN. REPLACE EXISTING TWO SPEED STARTERS WITH NEW VFDS.
7. EXISTING THROUGH WALL UNIT SHALL REMAIN.
8. DX COOLING AND AHU CONTROLS. SEE SHEET M-502 FOR CONTROL SCHEMATIC, POINTS LIST, AND SEQUENCE OF OPERATIONS.
9. NEW REFRIGERANT PIPING FROM CONDENSING UNITS TO AHU COOLING COILS. SIZED PER MANUFACTURER'S RECOMMENDATIONS.
10. EXISTING DISCONNECT SWITCH AND WIRING BACK TO THE PANEL SHALL REMAIN. WIRING FROM DISCONNECT SWITCH TO EXISTING STARTER SHALL BE REMOVED. MECHANICAL CONTRACTOR SHALL INSTALL NEW WIRING FROM EXISTING DISCONNECT SWITCH TO NEW VFD AND FROM NEW VFD TO NEW 5 HP, 480V MOTOR. 3-#12 CU AWG, 1-#12 CU AWG GROUND IN $\frac{3}{4}$" CONDUIT. DISCONNECT SWITCHES SHALL HAVE PHENOLIC WARNING LABELS STATING "WARNING: DO NOT OPEN UNDER LOAD."

MECHANICAL SCOPE OF WORK

1. ADD NEW DX COOLING COILS IN EXISTING AIR HANDLING UNITS.
2. PROVIDE NEW CONDENSING UNITS AND ASSOCIATED REFRIGERANT PIPING TO NEW DX COOLING COILS.
3. EXISTING UNITS HAVE TWO SPEED MOTORS AND FACE/BYPASS DAMPERS FOR SMOKE PURGE OPERATION. REMOVE EXISTING TWO SPEED STARTER AND MOTOR AND PROVIDE NEW VFD, MOTOR, BELTS, AND PULLEYS. REMOVE FACE DAMPER LINKAGE AND ACTUATOR AND LOCK IN OPEN POSITION. PROVIDE NEW BYPASS DAMPER ACTUATOR.
4. PROVIDE POST-INSTALLATION TEST AND BALANCE TO VERIFY TOTAL SUPPLY AIRFLOW AT SMOKE PURGE MODE AND GRILLE AIRFLOW AT "NORMAL MODE" . NORMAL MODE AIRFLOW SHOWN ON THESE PLANS. SEE SCHEDULE FOR OTHER AIRFLOW SETPOINTS.
5. BALANCE AIR DISTRIBUTION AND OUTSIDE AIR AT "NORMAL" MODE OF OPERATION.
6. BALANCE EXISTING TOILET EXHAUST TO 600 CFM PER POD, 1200 CFM PER FAN.
7. CONNECT NEW SENSORS, ACTUATORS, VFD'S, WIRING, CONDUIT TO EXISTING BUILDING AUTOMATION SYSTEM FOR A COMPLETE AND OPERATIONAL SYSTEM. ALL CONTROLLERS AND VFD'S TO BE BACNET COMPATIBLE AND COMMUNICATE TO EXISTING JACE OVER CAMPUS INTRANET.

RATED PARTITION LEGEND

- 4 HR FIRE WALL
- 3 HR FIRE WALL
- 2 HR FIRE WALL
- 4 HR FIRE BARRIER
- 3 HR FIRE BARRIER
- 2 HR FIRE BARRIER
- 1 HR FIRE BARRIER
- 1 HR FIRE PARTITION
- 2 HR SMOKE BARRIER
- 1 HR SMOKE BARRIER
- SMOKE PARTITION



KEY PLAN

NOT TO SCALE

NORTH CAROLINA DEPARTMENT OF ADULT CORRECTION
2020 YONKERS ROAD
4216 MSC
RALEIGH, N.C. 27699-4216
TEL (919) 733-2126
FAX (919) 716-3978

NC Department of Adult Correction — PROTECTION • INNOVATION • REHABILITATION
CENTRAL ENGINEERING — Plan • Design • Construct

NORTH CAROLINA PROFESSIONAL SEAL 27744 ENGINEER MATTHEW S. HARPER

02.08.2024 ISSUED FOR CONSTRUCTION

NO	DATE	REVISION

DRAWN BY: RMS/MLB
DESIGNED BY: MSH
CHECKED BY: MSH
CADD DWG NO: JO4408-M-101
JOB ORDER NO: 4408
PLOT DATE:

JOHNSTON CORRECTIONAL CENTER

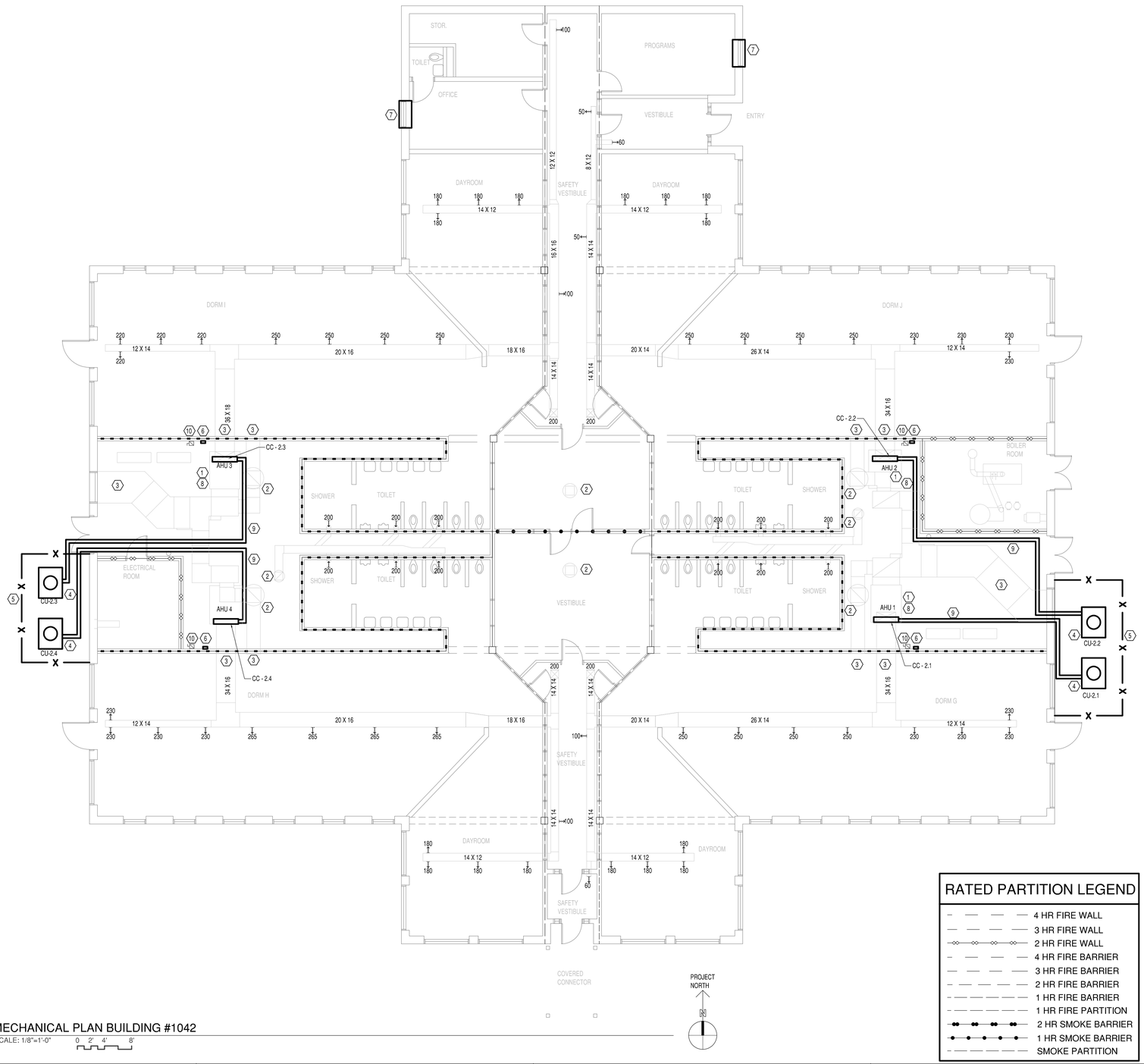
2465 US-70
SMITHFIELD, NORTH CAROLINA
27577

JOHNSTON CI - AIR CONDITIONING INSTALLATION

SCO ID # 23-26346-01A

MECHANICAL PLAN
BUILDING #1041

M-101



A1 M-102 MECHANICAL PLAN BUILDING #1042
SCALE: 1/8"=1'-0" 0 2' 4' 8'

MECHANICAL SHEET KEYNOTES:

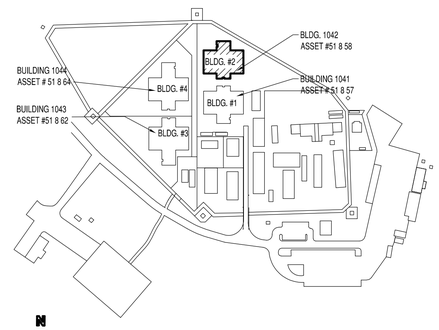
1. EXISTING AIR HANDLING UNIT SHALL REMAIN. DX COOLING COIL SHALL BE INSTALLED IN EXISTING AIR HANDLING UNIT. PROVIDE CONDENSATE TRAP AND DRAIN TO NEARBY EXISTING FLOOR DRAIN. SEE DETAIL ON M-501 FOR COIL INSTALLATION.
2. EXISTING FAN AND ANY ASSOCIATED DUCTWORK AND GRILLES SHALL REMAIN.
3. EXISTING INSULATED SUPPLY, RETURN, AND OUTSIDE AIR DUCTWORK AND ASSOCIATED GRILLES SHALL REMAIN. ALL FIRE DAMPERS THROUGH RATED WALLS SHALL REMAIN. INDICATED AIRFLOWS ARE FOR STAGE 2 COOLING.
4. NEW CONDENSING UNIT ON NEW CONCRETE PAD.
5. 8' TALL CHAIN LINK FENCE BY CONTRACTOR WITH 4' GATE. COORDINATE GATE LOCATION WITH OWNER.
6. EXISTING BUILDING AUTOMATION CONTROL FOR AHU AND SMOKE PURGE FAN CONTROL. EXISTING FIRE ALARM RELAYS TO REMAIN. REPLACE EXISTING TWO SPEED STARTERS WITH NEW VFDS.
7. EXISTING THROUGH WALL UNIT SHALL REMAIN.
8. DX COOLING AND AHU CONTROLS. SEE SHEET M-502 FOR CONTROL SCHEMATIC, POINTS LIST, AND SEQUENCE OF OPERATIONS.
9. NEW REFRIGERANT PIPING FROM CONDENSING UNITS TO AHU COOLING COILS. SIZED PER MANUFACTURER'S RECOMMENDATIONS.
10. EXISTING DISCONNECT SWITCH AND WIRING BACK TO THE PANEL SHALL REMAIN. WIRING FROM DISCONNECT SWITCH TO EXISTING STARTER SHALL BE REMOVED. MECHANICAL CONTRACTOR SHALL INSTALL NEW WIRING FROM EXISTING DISCONNECT SWITCH TO NEW VFD AND FROM NEW VFD TO NEW 5 HP, 480V MOTOR, 3-#12 CU AWG, 1-#12 CU AWG GROUND IN $\frac{3}{4}$" CONDUIT. DISCONNECT SWITCHES SHALL HAVE PHENOLIC WARNING LABELS STATING "WARNING: DO NOT OPEN UNDER LOAD."

MECHANICAL SCOPE OF WORK

1. ADD NEW DX COOLING COILS IN EXISTING AIR HANDLING UNITS.
2. PROVIDE NEW CONDENSING UNITS AND ASSOCIATED REFRIGERANT PIPING TO NEW DX COOLING COILS.
3. EXISTING UNITS HAVE TWO SPEED MOTORS AND FACE/BYPASS DAMPERS FOR SMOKE PURGE OPERATION. REMOVE EXISTING TWO SPEED STARTER AND MOTOR AND PROVIDE NEW VFD, MOTOR, BELTS, AND PULLEYS. REMOVE FACE DAMPER LINKAGE AND ACTUATOR AND LOCK IN OPEN POSITION. PROVIDE NEW BYPASS DAMPER ACTUATOR.
4. PROVIDE POST-INSTALLATION TEST AND BALANCE TO VERIFY TOTAL SUPPLY AIRFLOW AT SMOKE PURGE MODE AND GRILLE AIRFLOW AT "NORMAL MODE" . NORMAL MODE AIRFLOW SHOWN ON THESE PLANS. SEE SCHEDULE FOR OTHER AIRFLOW SETPOINTS.
5. BALANCE AIR DISTRIBUTION AND OUTSIDE AIR AT "NORMAL" MODE OF OPERATION.
6. BALANCE EXISTING TOILET EXHAUST TO 600 CFM PER POD, 1200 CFM PER FAN.
7. CONNECT NEW SENSORS, ACTUATORS, VFD'S, WIRING, CONDUIT TO EXISTING BUILDING AUTOMATION SYSTEM FOR A COMPLETE AND OPERATIONAL SYSTEM. ALL CONTROLLERS AND VFD'S TO BE BACNET COMPATIBLE AND COMMUNICATE TO EXISTING JACE OVER CAMPUS INTRANET.

RATED PARTITION LEGEND

- 4 HR FIRE WALL
- 3 HR FIRE WALL
- 2 HR FIRE WALL
- 4 HR FIRE BARRIER
- 3 HR FIRE BARRIER
- 2 HR FIRE BARRIER
- 1 HR FIRE BARRIER
- 1 HR FIRE PARTITION
- 2 HR SMOKE BARRIER
- 1 HR SMOKE BARRIER
- SMOKE PARTITION



N
KEY PLAN
NOT TO SCALE

Department of Adult Correction
PROTECTION • INNOVATION
REHABILITATION
CENTRAL ENGINEERING
Plan • Design • Construct

NORTH CAROLINA DEPARTMENT OF ADULT CORRECTION
2020 YONKERS ROAD
4216 MSC
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FAX (919) 716-3978

NORTH CAROLINA PROFESSIONAL SEAL 27744 ENGINEER MATTHEW S. HARPER

02.08.2024 ISSUED FOR CONSTRUCTION

NO	DATE	REVISION

DRAWN BY:	RMS/MLB
DESIGNED BY:	MSH
CHECKED BY:	MSH
CADD DWG NO:	JO4408-M-101
JOB ORDER NO:	4408
PLOT DATE:	

JOHNSTON CORRECTIONAL CENTER

2465 US-70
SMITHFIELD, NORTH CAROLINA
27577

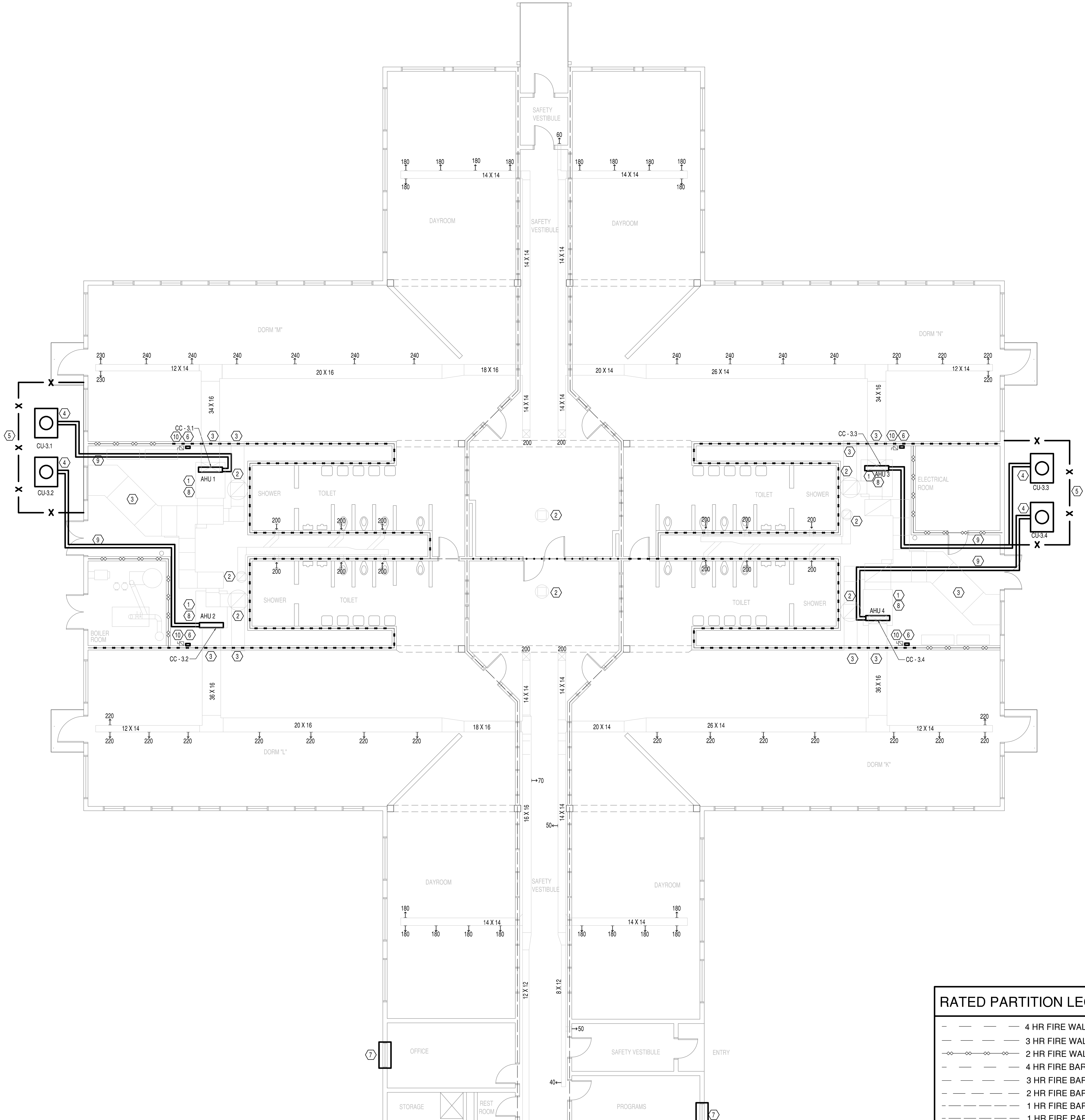
JOHNSTON CI - AIR CONDITIONING INSTALLATION

SCO ID # 23-26346-01A

MECHANICAL PLAN BUILDING #1042

M-102

C:\A~CAD\JOB (Adult Corrections)\Johnston CI 4230\JO4408 JOHNSTON CI - AIR CONDITIONING INSTALLATION\01 Working Documents\4408-M-101-104 MECHANICAL PLANs.dwg mbarnett 02/07/24 - 4:28 P



PROJECT NORTH

A1 / M-103 MECHANICAL PLAN BUILDING #1043

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

MECHANICAL SHEET KEYNOTES:

1. EXISTING AIR HANDLING UNIT SHALL REMAIN. DX COOLING COIL SHALL BE INSTALLED IN EXISTING AIR HANDLING UNIT. PROVIDE CONDENSATE TRAP AND DRAIN TO NEARBY EXISTING FLOOR DRAIN. SEE DETAIL ON M-501 FOR COIL INSTALLATION.
2. EXISTING FAN AND ANY ASSOCIATED DUCTWORK AND GRILLES SHALL REMAIN.
3. EXISTING INSULATED SUPPLY, RETURN, AND OUTSIDE AIR DUCTWORK AND ASSOCIATED GRILLES SHALL REMAIN. ALL FIRE DAMPERS THROUGH RATED WALLS SHALL REMAIN. INDICATED AIRFLOWS ARE FOR STAGE 2 COOLING.
4. NEW CONDENSING UNIT ON NEW CONCRETE PAD.
5. 8' TALL CHAIN LINK FENCE BY CONTRACTOR WITH 4' GATE. COORDINATE GATE LOCATION WITH OWNER.
6. EXISTING BUILDING AUTOMATION CONTROL FOR AHU AND SMOKE PURGE FAN CONTROL. EXISTING FIRE ALARM RELAYS TO REMAIN. REPLACE EXISTING TWO SPEED STARTERS WITH NEW VFDS.
7. EXISTING THROUGH WALL UNIT SHALL REMAIN.
8. DX COOLING AND AHU CONTROLS. SEE SHEET M-502 FOR CONTROL SCHEMATIC, POINTS LIST, AND SEQUENCE OF OPERATIONS.
9. NEW REFRIGERANT PIPING FROM CONDENSING UNITS TO AHU COOLING COILS. SIZED PER MANUFACTURER'S RECOMMENDATIONS.
10. EXISTING DISCONNECT SWITCH AND WIRING BACK TO THE PANEL SHALL REMAIN. WIRING FROM DISCONNECT SWITCH TO EXISTING STARTER SHALL BE REMOVED. MECHANICAL CONTRACTOR SHALL INSTALL NEW WIRING FROM EXISTING DISCONNECT SWITCH TO NEW VFD AND FROM NEW VFD TO NEW 5 HP, 480V MOTOR. 3-#12 CU AWG, 1-#12 CU AWG GROUND IN $\frac{3}{4}$" CONDUIT. DISCONNECT SWITCHES SHALL HAVE PHENOLIC WARNING LABELS STATING "WARNING: DO NOT OPEN UNDER LOAD."

MECHANICAL SCOPE OF WORK

1. ADD NEW DX COOLING COILS IN EXISTING AIR HANDLING UNITS.
2. PROVIDE NEW CONDENSING UNITS AND ASSOCIATED REFRIGERANT PIPING TO NEW DX COOLING COILS.
3. EXISTING UNITS HAVE TWO SPEED MOTORS AND FACE/BYPASS DAMPERS FOR SMOKE PURGE OPERATION. REMOVE EXISTING TWO SPEED STARTER AND MOTOR AND PROVIDE NEW VFD, MOTOR, BELTS, AND PULLEYS. REMOVE FACE DAMPER LINKAGE AND ACTUATOR AND LOCK IN OPEN POSITION. PROVIDE NEW BYPASS DAMPER ACTUATOR.
4. PROVIDE POST-INSTALLATION TEST AND BALANCE TO VERIFY TOTAL SUPPLY AIRFLOW AT SMOKE PURGE MODE AND GRILLE AIRFLOW AT "NORMAL MODE" . NORMAL MODE AIRFLOW SHOWN ON THESE PLANS. SEE SCHEDULE FOR OTHER AIRFLOW SETPOINTS.
5. BALANCE AIR DISTRIBUTION AND OUTSIDE AIR AT "NORMAL" MODE OF OPERATION.
6. BALANCE EXISTING TOILET EXHAUST TO 600 CFM PER POD, 1200 CFM PER FAN.
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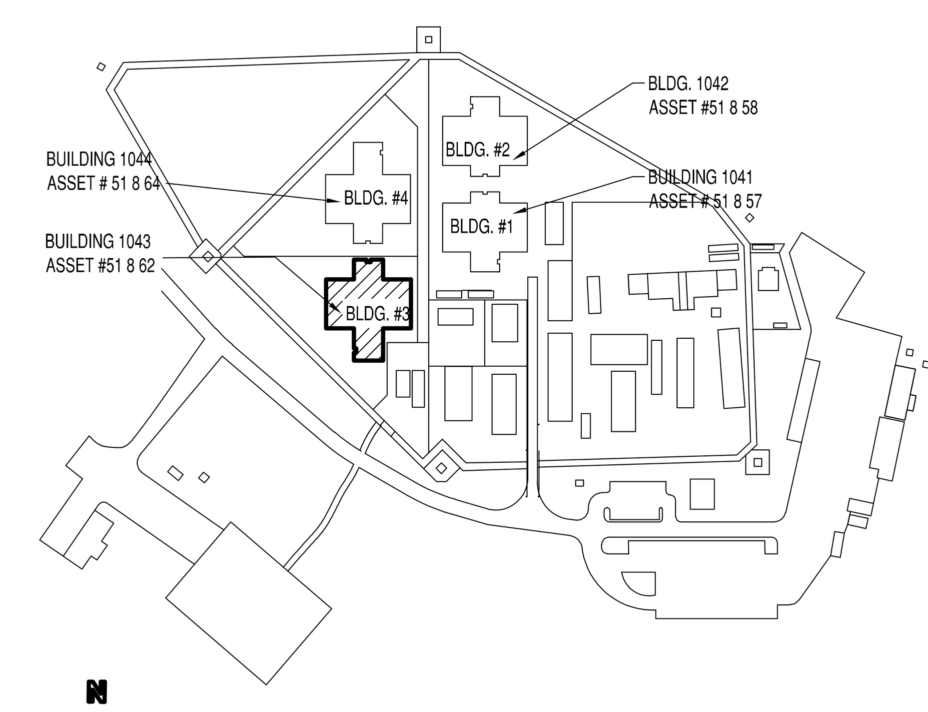
RATED PARTITION LEGEND

- 4 HR FIRE WALL
- 3 HR FIRE WALL
- 2 HR FIRE WALL
- 4 HR FIRE BARRIER
- 3 HR FIRE BARRIER
- 2 HR FIRE BARRIER
- 1 HR FIRE BARRIER
- 1 HR FIRE PARTITION
- 2 HR SMOKE BARRIER
- 1 HR SMOKE BARRIER
- SMOKE PARTITION



KEY PLAN

NOT TO SCALE

NC Department of Adult Correction
PROTECTION • INNOVATION • REHABILITATION
CENTRAL ENGINEERING
Plan • Design • Construct

NORTH CAROLINA DEPARTMENT OF ADULT CORRECTION
2020 YONKERS ROAD
4216 MSC
RALEIGH, N.C. 27699-4216
TEL (919) 733-2126
FAX (919) 716-3978

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 27744 MATTHEW S. HARPER

02.08.2024 ISSUED FOR CONSTRUCTION

NO	DATE	REVISION

DRAWN BY:	RMS/MLB
DESIGNED BY:	MSH
CHECKED BY:	MSH
CADD DWG NO:	JO4408-M-101
JOB ORDER NO:	4408
PLOT DATE:	

JOHNSTON CORRECTIONAL CENTER

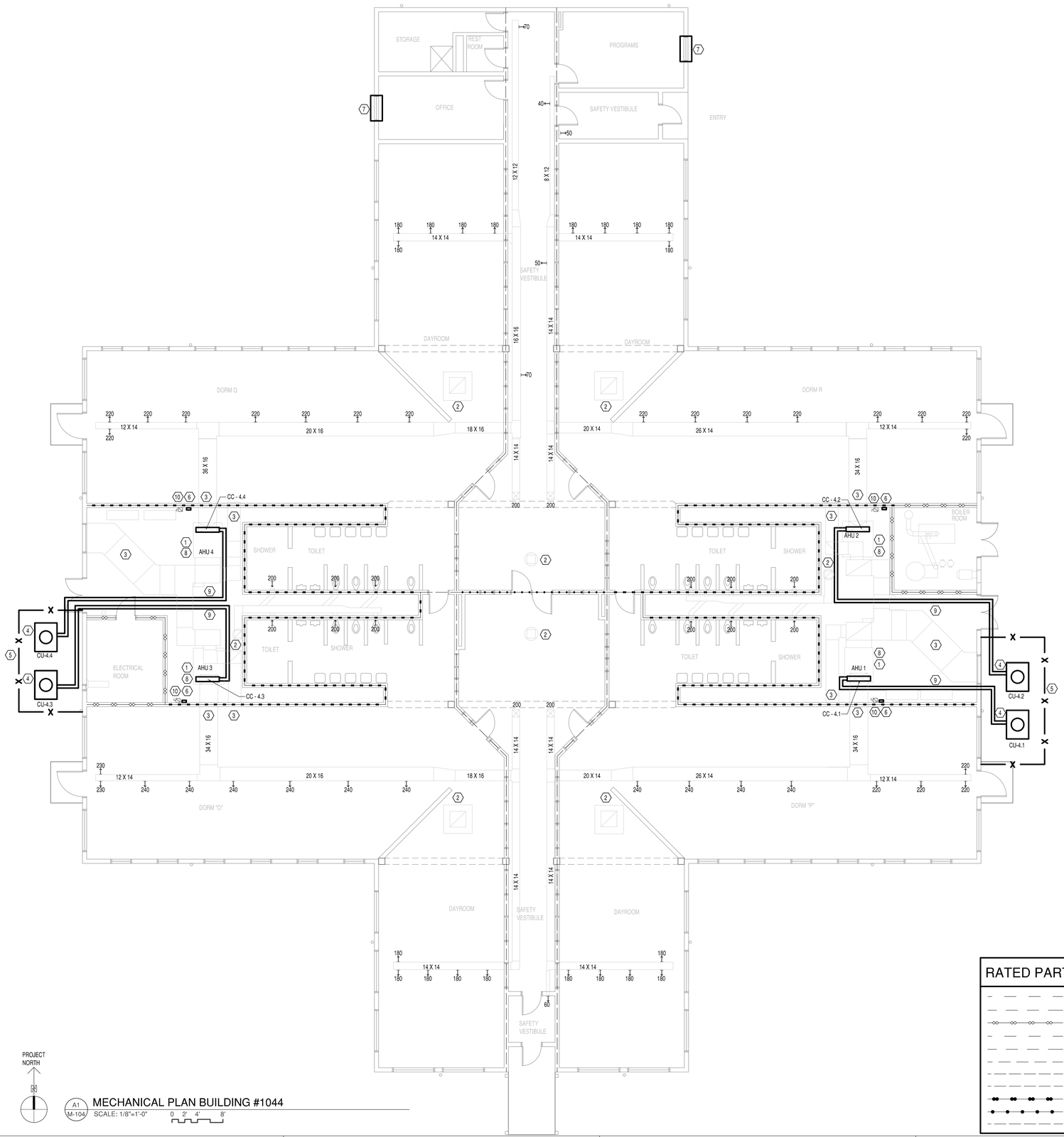
2465 US-70
SMITHFIELD, NORTH CAROLINA
27577

JOHNSTON CI - AIR CONDITIONING INSTALLATION

SCO ID # 23-26346-01A

MECHANICAL PLAN
BUILDING #1043

M-103



A1 / M-104 MECHANICAL PLAN BUILDING #1044
SCALE: 1/8"=1'-0" 0 2' 4' 8'

MECHANICAL SHEET KEYNOTES:

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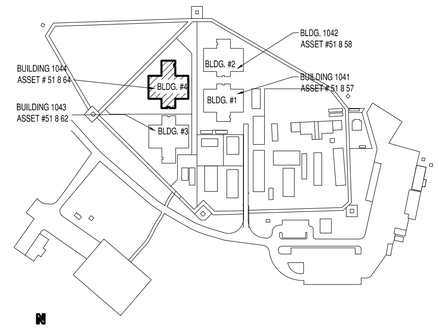
- 1 HR SMOKE BARRIER
- SMOKE PARTITION



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NC Department of Adult Correction
PROTECTION • INNOVATION REHABILITATION
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SMITHFIELD, NORTH CAROLINA
27577

JOHNSTON CI - AIR CONDITIONING INSTALLATION

SCO ID # 23-26346-01A

MECHANICAL PLAN BUILDING #1044

M-104

C:\A--CAD\JOB (Adult Corrections)\Johnston CI 4320\JO4408 JOHNSTON CI - AIR CONDITIONING INSTALLATION\01 Working Documents\V4408-M-101-104 MECHANICAL PLANS.dwg mbonnett 02/07/24 - 4:31 P