NATIONAL INSTITUTES OF HEALTH
BETHESDA, MARYLAND, U.S.A.

FINAL SUBMISSION

DEPARTMENT OF HEALTH & HUMAN SERVICES
U.S. PUBLIC HEALTH SERVICE

NIH BUILDING 4 - REPLACE AHUs 3, 4, & 4A

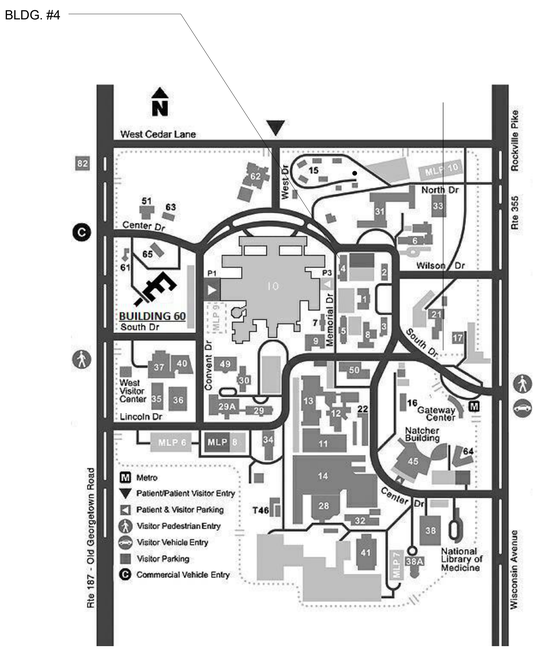
WORK REQUEST NUMBER: C112354

GES PROJECT NO. 2430-66105

VICINITY MAP



CAMPUS PLAN



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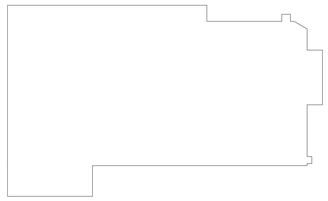
FP NOTES

1. CONSTRUCTION SITE MUST BE SEPARATED FROM SURROUNDING AREAS IN ACCORDANCE WITH NFPA 241 SECTION 4.13.4 AND DFM ADMINISTRATIVE INTERPRETATION 22-2.
2. DFM SHALL BE CONTACTED TO PERFORM WALL AND CEILING CLOSE-INS AND FINAL OCCUPANCY INSPECTION.

KEY PLAN



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SEAL

STATE OF MARYLAND — KANIKA SHARMA — No. 29080 — PROFESSIONAL ENGINEER

REVISIONS

MARK	DATE	DESCRIPTION
1	05/13/25	35% CD SUBMISSION
2	07/15/25	65% CD SUBMISSION
3	10/30/25	100% CD SUBMISSION
4	05/13/26	FINAL SUBMISSION

CONTRACTORS

A/E CON. NO.	75N99020D00010
A/E TASK NO.	75N99024F0002
CONS. CONTR.	
CONS. WORK	
PRIME A/E	Salas O'Brien
SUB A/E	
CONSTR. CON.	

BUILDING

FACILITY CODE	
BUILDING NO.	BUILDING 4
NAME	NIH
STREET	9000 ROCKVILLE PIKE
CITY	BETHESDA
STATE/ZIP	MARYLAND, 20892
OTHER	
BUILDING NO.	N/A

PROJECT

SPB TASK NO.	C112354
PROJ. OFFICER	KANIKA SHARMA
PROJ. MGR.	ANIL GIRI
SUBMISSION	FINAL SUBMISSION
SUB. DATE	05/13/2026
WRK REQ. NO.	C112354

PROJECT TITLE: NIH BUILDING 4 - REPLACE AHUs 3, 4, & 4A

DRAWING TITLE: GENERAL COVER SHEET

NIH National Institutes of Health
OFFICE OF RESEARCH FACILITIES

DRAWING

DESIGNED BY	ID
DRAWN BY	CC
CHECKED BY	AG
FILE NAME	GENERAL COVER SHEET

DRAWING NO.

G001

SHEET OF TOTAL SHEET

CODES AND STANDARDS

THE FOLLOWING CODES AND STANDARDS, INCLUDING ALL SPECIFICATIONS REFERENCED WITHIN, APPLY TO THE DESIGN AND CONSTRUCTION OF THIS PROJECT.

1. GENERAL:
   a. INTERNATIONAL BUILDING CODE, 2024
   b. INTERNATIONAL EXISTING BUILDING CODE, 2024
   c. ASCE 7-22, "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES"

2. CONCRETE:
   a. ACI 301-20, "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE"
   b. ACI 318-22, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"

MATERIALS

ITEM		NOTES	MIN STRENGTH
1.	CAST-IN-PLACE CONCRETE:		
	a. EQUIPMENT PADS	NLWT	F'c=4,000 PSI
2.	CONC & MASONRY REINF:		
	a. BARS	ASTM A615, GRADE 60	Fy=60,000 PSI
	b. WWF	ASTM A185	Fy=65,000 PSI

GENERAL NOTES

1. ALL ELEVATIONS ARE REFERENCED TO RECORD DRAWINGS.
2. ALL DETAILS, SECTIONS, AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS, UNO.
3. DO NOT SCALE DRAWINGS.
4. NO CHANGE IN SIZE, DIMENSION OR POSITION OF STRUCTURAL ELEMENTS SHALL BE MADE WITHOUT THE APPROVAL OF THE COTR.
5. FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE STARTING CONSTRUCTION AND/OR SUBMITTING SHOP DRAWINGS. ANY DISCREPANCIES SHALL BE REPORTED TO THE COTR.
6. REFER TO ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR DIMENSIONS AND LOCATIONS OF OPENINGS, INSERTS, DEPRESSIONS, EQUIPMENT PADS, DRIPS, REVEALS, FINISHES, AND OTHER SUCH PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.
7. SUBMIT DIMENSIONED COORDINATED SHOP DRAWINGS SHOWING THE LOCATIONS OF ALL SLEEVES AND OPENINGS REQUIRED BY ALL TRADES THROUGH STRUCTURAL ELEMENTS. ANY ADDITIONAL OPENINGS NOT SHOWN ON SHOP DRAWINGS WILL REQUIRE WRITTEN APPROVAL OF THE COTR.
8. TAKE ALL MEASURES NECESSARY TO PROTECT EXISTING AND NEW UTILITIES AND BUILDINGS AND ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE DURING CONSTRUCTION. RESTORATION OF DAMAGED AREAS SHALL BE TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.
9. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR DETAILED INFORMATION REGARDING FINISHES, FIREPROOFING, WATERPROOFING, LOCATIONS OF MASONRY AND DRYWALL NON-LOAD BEARING PARTITIONS, EXTERIOR FACE OF BUILDING, ETC.
10. DO NOT REPRODUCE ANY PORTION OF THE STRUCTURAL CONTRACT DRAWINGS FOR RESUBMITTAL AS SHOP DRAWINGS. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.

DESIGN LOADS

1. DEAD LOAD — SELF WEIGHT — ACTUAL

CAST-IN-PLACE CONCRETE

1. CONC COVER OVER ALL REINF SHALL BE AS FOLLOWS, UNO:
   a. SURFACES CAST AGAINST & PERMANENTLY EXPOSED TO EARTH OR WEATHER = 3"
   b. SURFACES EXPOSED TO EARTH OR WEATHER AFTER PLACEMENT:
      1) #5 & SMALLER BARS = 1 1/2"
      2) #6 & LARGER BARS = 2"
   c. SURFACES NOT EXPOSED TO EARTH OR WEATHER:
      1) SLABS AND WALLS = 3/4"
      2) BEAMS, COLUMNS, & SIMILAR ELEMENTS (COVER TO STIRRUPS & TIES) = 1 1/2"
2. DOWELS SHALL MATCH AND BE LAP SPLICED WITH THE MAIN REINF, UNO.
3. FIELD BENDING OF REINF PARTIALLY EMBEDDED IN CONC IS NOT PERMITTED UNLESS INDICATED ON THE DWGS OR APPROVED IN WRITING BY THE COTR.
4. SPLICE REINF BARS PER ACI 318, CLASS B, TENSION LAP SPLICES, UNO.
5. WWF SHALL BE LAP SPLICED PER ACI 318 AND TIED SECURELY.
6. WELDING OF REINF IS NOT PERMITTED UNLESS INDICATED OR APPROVED IN WRITING BY THE COTR.

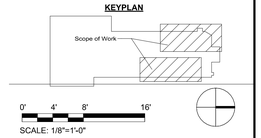
DRILLED-IN ANCHORS

1. EPOXY-ANCHORED SYSTEMS FOR CONCRETE:
   HIT-RE 500V3 ADHESIVE SYSTEM — HILTI, TULSA, OK
2. ALTERNATE SYSTEM EQUIVALENT TO OR EXCEEDING THE PROPERTIES OF THE SYSTEM ABOVE WILL BE CONSIDERED.
3. INSTALL ANCHORS TO MEET THE REQUIREMENTS INDICATED IN THE DRAWINGS, THE CURRENT I.C.B.O. REPORT, AND THE MANUFACTURER'S RECOMMENDATIONS.
4. LOCATE REINFORCING STEEL IN EXISTING CONCRETE OR MASONRY PRIOR TO DRILLING HOLES FOR ANCHORS. DO NOT CUT EXISTING REINFORCING WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.
5. MINIMUM DISTANCE FROM FREE EDGE OF CONCRETE TO ANCHOR SHALL BE 12", UNO.
6. ONCE ADHESIVE HAS BEEN PLACED, CONNECTION MEMBERS SHALL NOT BE INSTALLED NOR BOLTS DISTURBED UNTIL SUFFICIENT CURING TIME AS SPECIFIED BY ADHESIVE ANCHOR MANUFACTURER HAS ELAPSED.

ABBREVIATIONS

ACI	AMERICAN CONCRETE INSTITUTE	ICRI	INTERNATIONAL CONC REPAIR INSTITUTE
ADD'L	ADDITIONAL		
AE	AIR-ENTRAINED	JT	JOINT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	K	KIP
		LBS	POUND
ARCH	ARCHITECTURAL	LLH	LONG LEG HORIZ
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	LLV	LONG LEG VERT
		LTWT	LIGHT WEIGHT
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS	MAX	MAXIMUM
		MANUF	MANUFACTURER
AWS	AMERICAN WELDING SOCIETY	MECH	MECHANICAL
B/	BOTTOM OF	MEP	MECH/ELECT/PLUMBING
BLDG	BUILDING	MIN	MINIMUM
BM	BEAM	MPH	MILES PER HOUR
BOT	BOTTOM	MTL	METAL
BP	BASE PLATE	NLWT	NORMAL WEIGHT
CLR	CLEAR	(N)	NEW
CLSM	CONTROLLED LOW STRENGTH MATERIAL	O.C.	ON CENTER
CMU	CONCRETE MASONRY UNIT	OPNG	OPENING
COL	COLUMN	OPP	OPPOSITE
CONC	CONCRETE	PL	PLATE
CONT	CONTINUOUS	PSF	POUNDS PER SQUARE FOOT
DIA	DIAMETER	PSI	POUNDS PER SQUARE INCH
DN	DOWN	REINF	REINFORCING
DWG	DRAWING	REQ'D	REQUIRED
EA	EACH	RO	ROUGH OPENING
EF	EACH FACE	SCHED	SCHEDULE
ELECT	ELECTRICAL	SIM	SIMILAR
ELEV	ELEVATION	SOG	SLAB-ON-GRADE
EMBED	EMBEDMENT	STD	STANDARD
EQ	EQUAL	STJ	STEEL JOIST INSTITUTE
EQUIP	EQUIPMENT	STL	STEEL
EW	EACH WAY	STRUCT	STRUCTURAL
(E)	EXISTING	T/	TOP
EX	EXISTING	TOF	TOP OF FOOTING
EXP	EXPANSION	THK	THICK
FNDN	FOUNDATION	TMS	THE MASONRY SOCIETY
FT	FEET	TYP	TYPICAL
FTG	FOOTING	UNO	UNLESS NOTED OTHERWISE
FP	FIRE PROTECTION	VERT	VERTICAL
GALV	GALVANIZE	VIF	VERIFY IN FIELD
H	HIGH	WD	WOOD
HK	HOOK	WP	WORK POINT
HORIZ	HORIZONTAL	WWF	WELDED WIRE FABRIC

KEYPLAN



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

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SEAL

PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 58654, WITH EXPIRATION DATE OF 12/14/2027



REVISIONS

MARK	DATE	DESCRIPTION
1	05/13/2025	35% CD SUBMISSION
2	07/15/2025	65% CD SUBMISSION
3	10/29/2025	100% CD SUBMISSION
4	05/13/2026	FINAL SUBMISSION

CONTRACTORS

A/E CON. NO.	75N99020D00010
A/E TASK NO.	75N99024F0002
CONS. CONTR.	
CONS. WORK PRIME A/E	Salas O'Brien
SUB A/E CONSTR. CON.	
FACILITY CODE	

BUILDING

BUILDING NO.	BUILDING 4
NAME	NIH
STREET	9000 ROCKVILLE PIKE
CITY	BETHESDA
STATE/ZIP	MARYLAND, 20892
OTHER BUILDING NO.	N/A

PROJECT

SPB TASK NO.	C112354
PROJ. OFFICER	KANIKA SHARMA
PROJ. MGR.	ANIL GIRI
SUBMISSION	FNAL SUBMISSION
SUB. DATE	05/13/2026
WRK REQ. NO.	C112354

PROJECT TITLE: NIH BUILDING 4 - REPLACE AHUs 3, 4, & 4A

DRAWING TITLE: GENERAL STRUCTURAL NOTES

National Institutes of Health
OFFICE OF RESEARCH FACILITIES

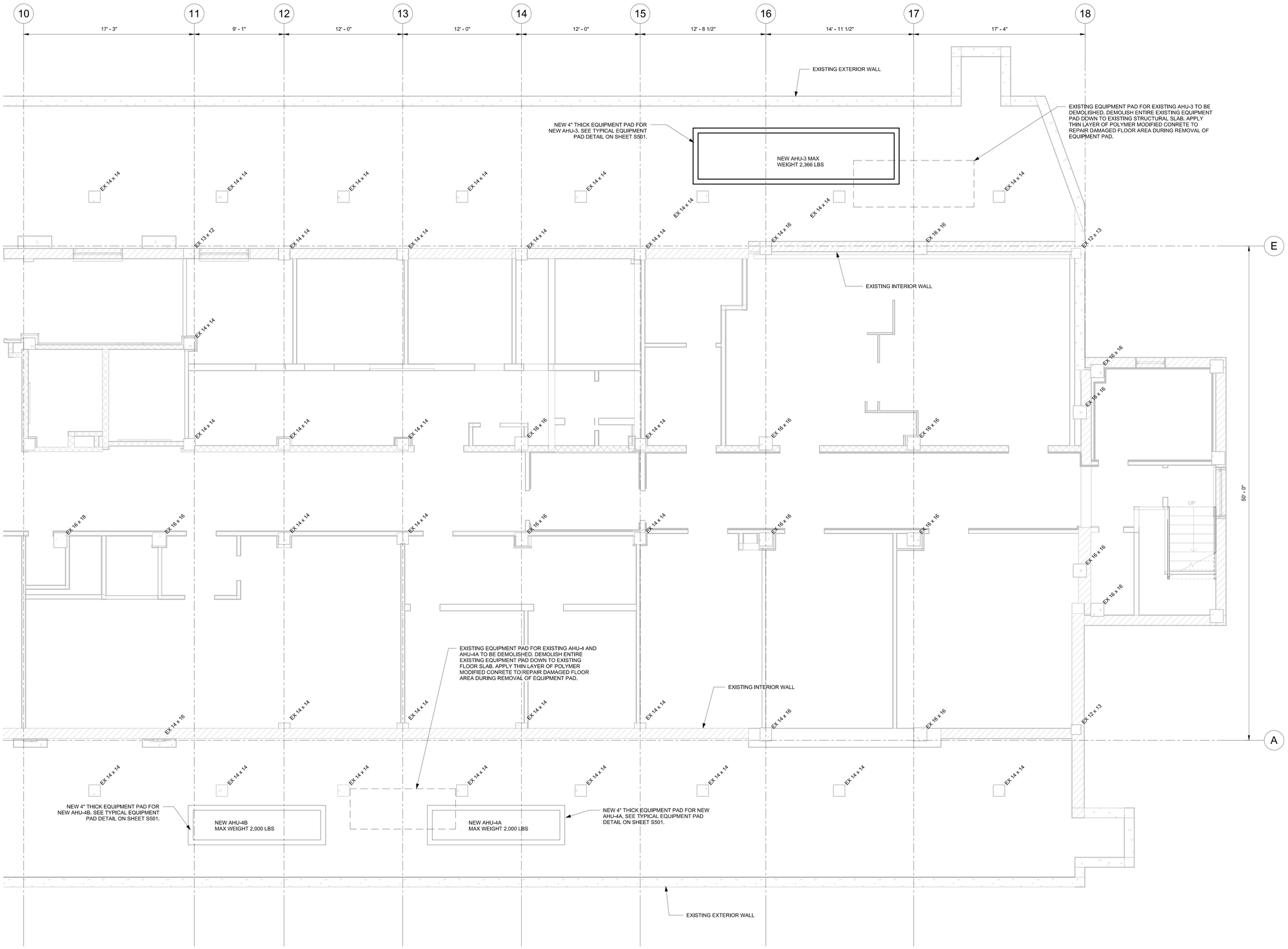
DRAWING

DESIGNED BY	AM
DRAWN BY	DM
CHECKED BY	APU
FILE NAME	GENERAL STRUCTURAL NOTES

DRAWING NO.

S001

SHEET OF TOTAL SHEET



1 B2 LEVEL PARTIAL FLOOR PLAN
1/4" = 1'-0"

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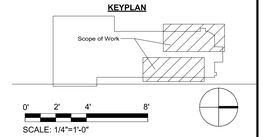
NOTES:
1. EXISTING FINISHED B2 LEVEL FLOOR ELEVATION = 285'-0".
2. EXISTING B2 LEVEL FLOOR IN AREA OF AHU-3, AHU-4A AND AHU-4B IS A 5" THICK SLAB ON GRADE WITH STEEL FABRIC REINFORCING.
3. ALL STRUCTURAL FRAMING, DIMENSIONS, AND ELEVATIONS WERE TAKEN FROM RECORD DRAWINGS.
4. ALL STRUCTURAL MEMBER SIZES, DIMENSIONS TO EXISTING ELEMENTS, AND ELEVATIONS SHOULD BE VERIFIED IN FIELD.
5. ALL EXISTING CONSTRUCTION IS SHOWN IN HALFTONE.
6. SEE MEP DRAWINGS FOR LOCATION AND SIZE OF EQUIPMENT.
7. SEE ARCHITECTURAL, MECHANINCAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR DIMENSIONS AND LOCATIONS OF OPENINGS, INSERTS, DEPRESSIONS, EQUIPMENT PADS, DRIPS, REVEALS, FINISHES, AND OTHER SUCH PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.

KEYPLAN



SCALE: 1/4"=1'-0"

DEPARTMENT OF HEALTH & HUMAN SERVICES, USA

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STATE OF MARYLAND — OMAR P. ALI — 58654 — PROFESSIONAL ENGINEER
5-13-2026

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A/E CON. NO.	75N99020D00010
A/E TASK NO.	75N99024F0002
CONS. CONTR.	
CONS. WORK PRIME A/E	Salas O'Brien
SUB A/E CONSTR. CON.	

BUILDING

FACILITY CODE	
BUILDING NO.	BUILDING 4
NAME	NIH
STREET	9000 ROCKVILLE PIKE
CITY	BETHESDA
STATE/ZIP	MARYLAND, 20892
OTHER BUILDING NO.	N/A

PROJECT

SPB TASK NO.	C112354
PROJ. OFFICER	KANIKA SHARMA
PROJ. MGR.	ANIL GIRI
SUBMISSION	FINAL SUBMISSION
SUB. DATE	05/13/2026
WRK REQ. NO.	C112354

PROJECT TITLE
NIH BUILDING 4 - REPLACE AHUs 3, 4, & 4A

DRAWING TITLE
B2 LEVEL PARTIAL FLOOR PLAN

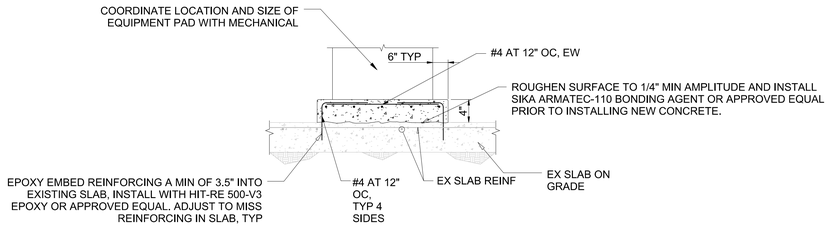
NIH
National Institutes of Health
OFFICE OF RESEARCH FACILITIES

DRAWING

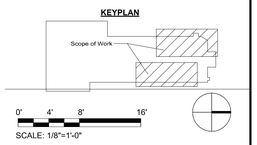
DESIGNED BY	AM
DRAWN BY	AM
CHECKED BY	APU
FILE NAME	B2 LEVEL PARTIAL FLOOR PLAN

DRAWING NO.
S101

SHEET OF TOTAL SHEET



1 Typical Equipment Pad on Existing SOG
NOT TO SCALE



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SUBMISSION	FINAL SUBMISSION
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PROJECT TITLE: NIH BUILDING 4 - REPLACE AHUs 3, 4, & 4A

DRAWING TITLE: TYPICAL DETAILS

NIH
National Institutes of Health
OFFICE OF RESEARCH FACILITIES

DRAWING

DESIGNED BY	AM
DRAWN BY	AM
CHECKED BY	APU
FILE NAME	TYPICAL DETAILS

DRAWING NO.
S-501

SHEET OF TOTAL SHEET

MECHANICAL GENERAL NOTES

GENERAL

1. THE INTENT OF THESE DRAWINGS IS TO PROVIDE COMPLETE AND PROPERLY FUNCTIONING HVAC SYSTEMS. PROVIDE ALL LABOR AND MATERIAL NECESSARY TO ACHIEVE SUCH ENDS. CONTRACTOR IS OBLIGATED TO EXAMINE PLANS, ANY OBSERVED FAULTS OR AMBIGUITY IN THESE PLANS SHALL BE CALLED TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE IMMEDIATELY, SO THAT THE MATTER MAY BE RESOLVED PRIOR TO SUBMISSION OF BIDS. BY SUBMISSION OF BID, THE CONTRACTOR SHALL ACKNOWLEDGE ACCEPTANCE OF THESE PLANS AS AN ADEQUATE DEFINITION OF THE SCOPE OF WORK AND EXTRA COST CLAIMS BASED ON INADEQUACY OF PLANS WILL NOT BE CONSIDERED.

2. THE ELECTRICAL CONTRACTOR IS REQUIRED TO PROVIDE POWER FOR ALL MECHANICAL EQUIPMENT. DURING BID PERIOD AND AGAIN PRIOR TO EQUIPMENT ORDERING, THE (GENERAL CONTRACTOR AND THE) MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR TO VERIFY THAT ALL EQUIPMENT ARE POWERED, AND PROPER VOLTAGE/WIRING/CAPACITY IS PROVIDED. IN THE EVENT OF REQUIREMENTS AMBIGUITY OR CONFLICT BETWEEN TRADES, THE CONTRACTOR IS REQUIRED TO GENERATE AN RFI ADDRESSING THE ISSUE AND REQUESTING CLARIFICATION. FAILURE TO DO SO WILL NEGATE HIS RIGHT FOR A CHANGE ORDER OR REQUEST FOR ADDITIONAL FUNDS DURING CONSTRUCTION RELATING TO THIS ISSUE.

3. ALL WORK ON THIS PROJECT SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST APPLICABLE CODES AND REGULATIONS.

4. THESE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO DEPICT THE GENERAL LOCATION OF HVAC SYSTEM COMPONENTS. CONSULT THE ARCHITECTURAL PLANS FOR PROPER DIMENSIONS AND LOCATION OF EQUIPMENT.

5. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF HVAC WORK WITH EXISTING CONDITIONS AND THE WORK OF OTHER TRADES. MINOR DEVIATIONS FROM THE PLANS MAY BE MADE TO AVOID MINOR CONFLICTS. WHEN MAJOR CONFLICTS ARE APPARENT, THE ARCHITECT SHALL BE ADVISED IMMEDIATELY, AND AFFECTED WORK SHALL NOT BE INSTALLED UNTIL THE CONFLICT HAS BEEN RESOLVED.

6. THE CONTRACTOR SHALL OBTAIN AND PAY FOR PERMITS AND ARRANGE FOR INSPECTIONS BY LOCAL AUTHORITIES HAVING JURISDICTION.

7. PROVIDE OPENINGS IN BUILDING CONSTRUCTION FOR PASSAGE OF PIPING AND DUCTWORK. DO NOT PENETRATE STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL OF ARCHITECT AND STRUCTURAL ENGINEER. VERIFY SLAB PENETRATION LOCATIONS PRIOR TO PROCEEDING WITH WORK IN ORDER TO LOCATE OBSTRUCTIONS EMBEDDED IN SLAB. SUBMIT DRAWINGS OF ALL SLAB PENETRATIONS FOR LANDLORD/ARCHITECT/ENGINEER APPROVAL PRIOR TO PROCEEDING WITH WORK.

8. PROVIDE FIRE DAMPERS AT ALL PENETRATIONS INTO FIRE RATED STRUCTURE, SUCH AS FIRE RATED PARTITIONS, ETC. ALL FIRE DAMPERS SHALL BEAR THE U.L. LABEL.

9. ALL NECESSARY ALLOWANCES AND PROVISIONS SHALL BE MADE BY THIS CONTRACTOR FOR BEAMS, COLUMNS OR OTHER OBSTRUCTIONS OF THE BUILDING OR THE WORK OF OTHER CONTRACTORS, WHETHER OR NOT SAME IS INDICATED. WHERE NECESSARY TO AVOID OBSTRUCTIONS THE DUCTS SHALL BE TRANSFORMED, DIVIDED, OFFSET, RAISED OR LOWERED WITH THE REQUIRED FREE AREA BEING MAINTAINED WHILE MAINTAINING DESIGNED CEILING HEIGHTS.

10. PROVIDE FLEXIBLE DUCT CONNECTIONS WHEREVER DUCTWORK CONNECTS TO VIBRATING EQUIPMENT. CONSTRUCT FLEXIBLE CONNECTIONS OF NEOPRENE-COATED FLAMEPROOF FABRIC CRIMPED INTO DUCT FLANGES FOR ATTACHMENT TO DUCT AND EQUIPMENT. MAKE AIRTIGHT JOINT. PROVIDE ADEQUATE JOINT FLEXIBILITY TO ALLOW FOR THERMAL, AXIAL, TRANSVERSE, AND TORSIONAL MOVEMENT, AND ALSO CAPABLE OF ABSORBING VIBRATIONS OF CONNECTED EQUIPMENT.
    A. PROVIDE FLEXIBLE CONNECTORS AT THE INLET AND OUTLET CONNECTION FOR EACH FAN AND AIR HANDLING UNIT.
    B. EACH FLEXIBLE CONNECTOR SHALL ALLOW 1" OF FREE MOVEMENT AND SHALL BE COMPLETELY AIR TIGHT.
    C. PROVIDE NEOPRENE COATED GLASS FABRIC MATERIAL, MINIMUM 30 OZ. PER SQUARE YARD.
    D. CONTRACTOR SHALL BRACE DUCTWORK (AS REQUIRED) AT ALL FLEXIBLE CONNECTORS TO ENSURE THAT DUCTWORK IS KEPT IN ALIGNMENT.

11. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

12. CONTROLS: THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY WIRING, TRANSFORMERS, CONTROLS, HARDWARE, FITTINGS, PARTS AND ACCESSORIES INCLUDING ALL SAFETY DEVICES REQUIRED FOR PROPER INSTALLATION AND OPERATION OF SYSTEM IN ACCORDANCE WITH ALL LOCAL CODE REQUIREMENTS. THE CONTROLS CONTRACTOR SHALL PROVIDE ELECTRICAL POWER TO ALL CONTROL DEVICES AND EQUIPMENT FROM THE NEAREST POWER SOURCE INDICATED FOR CONTROLS POWER AND IDENTIFIED ON ELECTRICAL DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL VOLTAGE AND POWER REQUIREMENTS AND COORDINATE WITH ALL TRADES AS REQUIRED. CONTROLS SUCH AS THERMOSTATS/SENSORS OF AHUS, FCUS, UNIT HEATERS, VAV BOXES, DUCT REHEAT COILS, ETC., SHALL BE PROVIDED BY THE UNIT MANUFACTURER AND INSTALLED/WIRED BY THIS CONTRACTOR UNLESS OTHERWISE INDICATED. FOR DDC APPLICATION THESE DEVICES SHALL BE DDC READY. INTERLOCK AND CONDITIONAL OPERATION OF SYSTEMS (FANS, MOTORS, ETC.), SHALL BE PROVIDED/INSTALLED BY THE CONTRACTOR VIA CURRENT RELAYS ON THE MOTOR STARTER AND LOW VOLTAGE CONTROL WIRING. PROVIDE 24VOLT TRANSFORMER, SWITCHES, THERMOSTATS (IF THERMOSTATIC CONTROL IS REQUIRED) AND WIRING FOR A COMPLETE INSTALLATION THAT MEETS THE DESIGN INTENT OF THE SYSTEM OPERATION.

13. PROVIDE MOTOR STARTERS, ELECTRICAL DISCONNECTS, TRANSFORMERS, CONTROL WIRING AND ALL OTHER REQUIRED ACCESSORIES NECESSARY FOR AUTOMATIC OPERATION OF MECHANICAL EQUIPMENT.

14. THERMOSTAT SHALL BE INSTALLED ON THE WALL 48" ABOVE FINISHED FLOOR WHERE SHOWN ON THE FLOOR PLANS, COORDINATE W/ ARCHITECT.

15. MECHANICAL CONTRACTOR SHALL THOROUGHLY CLEAN HIS WORK AREA DAILY. MECHANICAL CONTRACTOR SHALL ALSO REMOVE ALL TRASH AFTER WORK COMPLETION.

16. WHERE EXISTING FIELD CONDITIONS ARE DIFFERENT THAN SHOWN, THE CONTRACTOR SHALL ADVISE THE ENGINEER OF DISCREPANCIES WHICH WILL AFFECT THE PROPOSED WORK PRIOR TO BEGINNING WORK.

17. SYMBOLS SHOWN ON SCHEDULES DEFINE TYPE OF EQUIPMENT ONLY. CONTRACTOR IS RESPONSIBLE FOR RESEARCHING DRAWINGS FOR EXACT QUANTITIES REQUIRED OF EACH TYPE.

18. PRIOR TO INSTALLATION OF NEW WORK, CONTRACTOR SHALL VERIFY THAT ALL DUCTWORK, EQUIPMENT, PIPING, ETC., SHALL BE FREE FROM INTERFERENCE WITH EXISTING CONDITIONS. WHERE CONFLICTS OCCUR, CONTRACTOR SHALL IMMEDIATELY CONTACT THE OWNER. WHERE THE WORK OF VARIOUS TRADES WILL BE INSTALLED IN CLOSE PROXIMITY TO ONE ANOTHER, OR WHERE THERE IS EVIDENCE THAT THE WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, THE CONTRACTOR SHALL ASSIST IN WORKING OUT SPACE CONDITIONS TO MAKE A SATISFACTORY ADJUSTMENT. IF THE CONTRACTOR ALLOWS ONE TRADE TO INSTALL HIS WORK BEFORE COORDINATING WITH WORK OF OTHER TRADES, THE CONTRACTOR SHALL MAKE NECESSARY CHANGES TO CORRECT THE CONDITION WITHOUT EXTRA CHARGE.

19. THE CONTRACTOR SHALL LOCATE ALL EQUIPMENT WHICH MUST BE SERVICED, OPERATED, MAINTAINED IN FULLY ACCESSIBLE POSITION. EQUIPMENT SHALL INCLUDE, BUT NOT BE LIMITED TO, VALVES, TRAPS, CLEANOUTS, MOTORS, CONTROLLERS, DRAIN POINTS, ETC. IF REQUIRED FOR ACCESSIBILITY, FURNISH ACCESS DOORS FOR THIS PURPOSE. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ALLOW FOR BETTER ACCESSIBILITY.

20. ALL EQUIPMENT WHICH REQUIRES INTERFACE WITH THE ELECTRICAL TRADE, SUCH AS CONTROLLING DEVICES, DISCONNECT SWITCHES, MOTORS, ETC., SHALL BE FULLY COORDINATED BETWEEN ALL TRADES.

21. LOCATION OF SWITCHES FOR EXHAUST FANS SHALL BE COORDINATED WITH LIGHT SWITCHES AND THERMOSTATS AND ALL LOCATIONS SHALL BE APPROVED BY THE ARCHITECT. BATHROOM EXHAUST FAN SWITCHES SHALL BE INTERLOCKED WITH BATHROOM LIGHT SWITCHES.

22. ALL WORK TO BE GUARANTEED FOR TWO YEAR AGAINST LABOR AND MATERIALS. ANY DEFECTIVE MATERIALS OR WORKMANSHIP, AS WELL AS DAMAGE TO THE WORK OF ALL TRADES RESULTING FROM SAME, SHALL BE REPLACED OR REPAIRED AS DIRECTED FOR THE DURATION OF THE GUARANTEE PERIOD. TIME FOR THIS GUARANTEE SHALL BEGIN FROM THE DATE OF ACCEPTANCE OF THE COMPLETE WORK BY THE OWNER OR HIS APPOINTED REPRESENTATIVE. NOTE: THESE GUARANTEES SHALL BE SUBMITTED TO THE TENANT AND/OR BUILDING OWNER FOR RECORD PURPOSES.

23. AS USED IN DRAWINGS AND SPECIFICATIONS FOR MECHANICAL WORK, CERTAIN NON-TECHNICAL WORDS SHALL BE UNDERSTOOD TO HAVE SPECIFIC MEANINGS AS FOLLOWS REGARDLESS OF INDICATIONS TO THE CONTRARY IN THE GENERAL CONDITION OR OTHER DOCUMENTS GOVERNING THE MECHANICAL WORK.

"FURNISH" - PURCHASE AND DELIVER TO THE PROJECT SITE COMPLETE WITH EVERY NECESSARY APPURTENANCE AND SUPPORT, ALL AS PART OF THE MECHANICAL WORK. PURCHASING SHALL INCLUDE PAYMENT OF ALL SALES TAXES AND OTHER SURCHARGES AS MAY BE REQUIRED TO ASSURE THAT PURCHASED ITEMS ARE FREE OF ALL LIENS, CLAIMS OR ENCUMBRANCES.

"INSTALL" - UNLOAD AT THE DELIVERY POINT AT THE SITE AND PERFORM EVERY OPERATION NECESSARY TO ESTABLISH SECURE MOUNTING AND CORRECT OPERATION AT THE PROPER LOCATION IN THE PROJECT, ALL AS PART OF THE MECHANICAL WORK.

"PROVIDE" - "FURNISH" AND "INSTALL".

"NEW" - MANUFACTURED WITHIN THE PAST TWO YEARS AND NEVER BEFORE USED.

24. PASSAGES OF PIPES, CONDUITS, BUS DUCTS, CABLES, WIRES, AIR DUCTS, PNEUMATIC DUCTS AND SIMILAR BUILDING SERVICE EQUIPMENT THROUGH FIRE BARRIERS SHALL HAVE THE SPACE BETWEEN THE PENETRATING ITEM AND FIRE BARRIER FILLED WITH MATERIAL CAPABLE OF MAINTAINING THE FIRE RESISTANCE RATING OF THE FIRE BARRIER PRODUCT. PRODUCT USED MUST MEET TEST METHODS BY ASTM E814 OR NFPA 251 FOR FIRE RATING.

25. ALL MATERIAL, EQUIPMENT AND ACCESSORIES, FURNISHED AND INSTALLED SHALL BE NEW AND EQUAL TO OR SURPASS THE QUALITY OF SIMILAR MATERIALS AS SCHEDULES. ALL MATERIALS, EQUIPMENT AND METHODS SHALL BE AS SPECIFIED IN THE BASE BUILDING CONTRACT DOCUMENTS UNLESS NOTED OTHERWISE.

26. SCOPE OF WORK DOES NOT INCLUDE ANY FIRE-RATED PENETRATIONS OR ALTERATIONS TO EXISTING FIRE PROTECTION OR LIFE SAFETY SYSTEMS.

27. POWDER-ACTIVATED TOOLS REQUIRE WRITTEN APPROVAL BY THE PROJECT OFFICER AND PRESENTED UPON REQUEST WHEN IN USE. USE OF THESE TOOLS ALSO REQUIRES PROOF OF LICENSING AND TRAINING WHICH MUST ALSO BE PROVIDED UPON REQUEST. CONTRACTOR SHALL PROVIDE A LOG OF "WHO, WHAT, WHERE AND WHEN" FOR ANY POWER OR POWDER ACTIVATED TOOLS THAT WILL BE USED. EXAMPLES OF SUCH TOOLS INCLUDE: GAS, AIR, OR ELECTRICALLY POWERED TOOLS SUCH AS NAIL-GUNS, RAM TOOLS, OR ANY OTHER TOOL THAT CAN PROPEL A PROJECTILE AND MIGHT BE WEAPONIZED. THE LOG SHALL BE CONTINUALLY UPDATED DURING CONSTRUCTION, MADE AVAILABLE UPON REQUEST, AND PROVIDED TO THE PROJECT OFFICER AT WORK COMPLETION.

DEMOLITION

1. ANY DISCOVERED DISCREPANCY BETWEEN THE CONTRACT DOCUMENTS AND ACTUAL SITE CONDITIONS MAY BE BROUGHT TO THE ARCHITECT/ENGINEER'S ATTENTION PRIOR TO BID FOR CLARIFICATION. AFTER A CONTRACT IS EXECUTED CONTRACTOR SHALL SUBMIT A REQUEST FOR INFORMATION.

2. THE REQUIRED DEMOLITION SHALL NOT BE LIMITED TO THAT PORTION SHOWN ON THE PLANS ALONE, BUT SHALL INCLUDE ALL NECESSARY WORK COINCIDENTAL THERETO AND/OR WORK INDICATED ELSEWHERE ON THE DRAWINGS OR IN THE SPECIFICATIONS.

3. CONTRACTOR SHALL NOT VIOLATE THE PHYSICAL SECURITY OF THE BUILDING DURING DEMOLITION OR ASSOCIATED OPERATIONS. SECURITY SHALL BE CLOSELY COORDINATED WITH THE OWNER'S REPRESENTATIVE.

4. CONTRACTOR SHALL SCHEDULE ALL WORK, INCLUDING INTERRUPTION OF EXISTING UTILITIES, WITH THE OWNER, PRIOR TO STARTING WORK. CONTRACTOR SHALL NOTE THAT THE BUILDING SHALL BE OCCUPIED AND IN USE DURING THE PERIOD OF TIME THIS CONTRACT IS BEING PERFORMED.

5. DEMOLITION SHALL GENERALLY BE ARRANGED TO AGREE WITH THE ACCOMPLISHMENT OF WORK UNDER THE VARIOUS PHASES AND IN COORDINATION WITH THE REQUIRED MODIFICATIONS.

6. DO NOT ALTER THE EXISTING SYSTEMS WHICH ARE LOCATED IN AREAS NOT IN SCOPE OF WORK UNLESS SPECIFICALLY INDICATED. PROTECT EXISTING SYSTEMS WITHIN THE LIMITS OF WORK WHICH ARE TO BE RETAINED. ANY DAMAGE TO THE EXISTING SYSTEMS DUE TO CONTRACTOR NEGLIGENCE SHALL BE REPAIRED AND/OR REPLACED TO ITS ORIGINAL CONDITION TO THE COMPLETE SATISFACTION OF THE OWNER, AND AT NO COST TO THE OWNER.

7. UNLESS OTHERWISE NOTED, ALL FIXTURES/EQUIPMENT INDICATED TO BE REMOVED SHALL ALSO HAVE ALL ASSOCIATED PIPING REMOVED BACK TO THE NEAREST HORIZONTAL MAIN, RISER, OR STACK CONNECTION AND CAPPED IN A CONCEALED LOCATION.

8. UNLESS OTHERWISE INDICATED, EXISTING PIPING TO REMAIN FOLLOWING REMOVAL OF ADJACENT PORTIONS OF PIPING SHALL BE CAPPED/PLUGGED IN A CONCEALED LOCATION OR MADE READY FOR EXTENSION UNDER NEW WORK. FOR AREAS WITHOUT AN EXISTING CEILING IN WHICH A NEW CEILING WILL NOT BE INSTALLED, THE PIPING SHALL BE CAPPED/PLUGGED IN A LOCATION TO PROVIDE THE MAXIMUM POSSIBLE HEADROOM. UNDER NO CIRCUMSTANCE MAY AN EXISTING PIPE BE LEFT OPEN.

9. UNLESS OTHERWISE INDICATED, ALL FIXTURES, EQUIPMENT, PIPING, AND ACCESSORIES WHICH HAVE TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT SITE AS SOON AS POSSIBLE.

10. "CONCEALED LOCATION" IS DEFINED AS BEING ABOVE FINISHED CEILING, BELOW FINISHED FLOOR, OR WITHIN FINISHED WALL OR PARTITION. SEE ARCHITECTURAL PLANS FOR FINISH INFORMATION.

11. COPPER AND STEEL PIPING SHALL BE CAPPED USING COMMERCIALLY MANUFACTURED "CAPS". CAST IRON SOIL PIPE SHALL BE PLUGGED USING COMMERCIALLY MANUFACTURED "BLIND PLUGS". CAP/PLUG INSTALLATION SHALL BE IN ACCORDANCE WITH NEW WORK INSTALLATION PROCEDURES. CRIMPING OF TUBING IS NOT ACCEPTABLE.

12. ALL EXISTING TO REMAIN PIPING SHALL BE COORDINATED WITH THE MECHANICAL DUCTWORK, AND IF REQUIRED PIPING SHALL BE REMOVED AND RELOCATED TO BETTER LOCATION.

13. IF MOLD OR ASBESTOS IS ENCOUNTERED STOP ALL WORK IN THE AFFECTED AREA AND NOTIFY NIH IMMEDIATELY.

14. ANY EXISTING ELECTRONIC SECURITY DEVICES (E.G. CARD READERS, CAMERAS, ALARM SYSTEM), CABLING, ETC. THAT NEED TO BE MOVED, MODIFIED, REMOVED MUST BE PERFORMED BY A SECURITY CONTRACTOR TRAINED/CERTIFIED BY THE SYSTEM MANUFACTURER TO PERFORM WORK ON THE NIH SECURITY SYSTEMS. ALSO, CONTACT THE NIH DIVISION OF PHYSICAL SECURITY MANAGEMENT (DPS) TO COORDINATE WITH THE APPROPRIATE SYSTEM OWNER TO ENSURE NECESSARY SYSTEM CONFIGURATION MANAGEMENT ACTIONS ARE PERFORMED.

DOUBLE LINE DUCTWORK

- 300x150 — RECTANGULAR DUCT (FIRST FIGURE IS FOR SIDE SHOWN, SECOND FIGURE IS FOR SIDE NOT SHOWN)
- 300∅ — ROUND DUCT
- 300x150 — FLAT OVAL DUCT (FIRST FIGURE IS FOR SIDE SHOWN, SECOND FIGURE IS FOR SIDE NOT SHOWN)
- FLOW DIRECTION ARROW
- FLEX DUCT CONNECTION
- VD — VOLUME DAMPER
- M — MOTORIZED DAMPER
- B — BACK DRAFT DAMPER
- FD — FIRE DAMPER
- FSD — COMBINATION FIRE/SMOKE DAMPER
- SD — SMOKE DAMPER
- DUCT TRANSITION, ROUND OR FLAT OVAL TO RECTANGULAR
- DUCT TRANSITION, RECTANGULAR TO ROUND OR FLAT OVAL
- DUCT TRANSITION, RECTANGULAR, ROUND, OR FLAT OVAL
- R— — INCLINED RISE W/ RESPECT TO AIR FLOW, RECTANGULAR
- — D — INCLINED DROP W/ RESPECT TO AIR FLOW, RECTANGULAR
- R— — INCLINED RISE W/ RESPECT TO AIR FLOW, ROUND OR FLAT OVAL
- — D — INCLINED DROP W/ RESPECT TO AIR FLOW, ROUND OR FLAT OVAL
- SPS — STATIC PRESSURE SENSOR
- H — HUMIDIFIER
- AD — ACCESS DOOR IN DUCT

- 90° ELBOW, RECTANGULAR WITHOUT TURING VANES
- 45° ELBOW, RECTANGULAR
- 90° ELBOW, ROUND OR FLAT OVAL (SMOOTH OR 5 PIECE ELBOWS)
- MITERED 90° ELBOW, ROUND OR FLAT OVAL
- 90° ELBOW, RECTANGULAR WITH TURING VANES
- 45° ELBOW, ROUND OR FLAT OVAL (SMOOTH OR 3 PIECE ELBOWS)
- VD — DIVIDED FLOW FITTING
- VD — TAP-IN BRANCH, RECTANGULAR
- BRANCH DUCT, CONICAL LATERAL FITTING, ROUND OR FLAT OVAL
- BRANCH DUCT, CONICAL TEE FITTING, ROUND OR FLAT OVAL
- BRANCH DUCT, "Y" FITTING, ROUND OR FLAT OVAL
- 90° ELBOW TURNED UP, RECTANGULAR [SUPPLY]
- 90° ELBOW TURNED DOWN, RECTANGULAR [SUPPLY]
- 90° ELBOW TURNED UP, RECTANGULAR RETURN
- 90° ELBOW TURNED DOWN, RECTANGULAR RETURN
- 90° ELBOW TURNED UP, RECTANGULAR EXHAUST
- 90° ELBOW TURNED DOWN, RECTANGULAR EXHAUST
- 90° ELBOW TURNED UP ROUND, FLAT OVAL SIMILAR SUPPLY / RETURN / EXHAUST
- 90° ELBOW TURNED DOWN ROUND, FLAT OVAL SIMILAR SUPPLY / RETURN / EXHAUST
- CEILING DIFFUSER (CD) OR GRILLE (CG) [SUPPLY]
- CEILING REGISTER (CR) OR GRILLE (CG) [RETURN OR EXHAUST]
- CEILING DIFFUSER (ARROWS INDICATE THROW DIRECTIONS)
- CEILING DIFFUSER (ARROWS INDICATE THROW DIRECTIONS)

ACCESSORIES

- BDD — BACKDRAFT DAMPER
- VOLUME DAMPER
- FD — FIRE DAMPER
- FSD — FIRE/SMOKE DAMPER
- SD — SMOKE DAMPER
- M — MOTORIZED DAMPER

EQUIPMENT

- VAV TERMINAL UNIT WITH REHEAT COIL
- VAV TERMINAL UNIT - COOLING ONLY
- FPT TERMINAL UNIT WITH REHEAT
- ELECTRICAL VAV TERMINAL UNIT (WITH ANNOTATOR OPTIONAL)
- SUPPLY DIFFUSER
- RETURN GRILLE
- EXHAUST REGISTER

SYMBOLS

- EXISTING TO REMAIN
- EXISTING TO BE REMOVED
- NEW WORK
- POINT OF CONNECTION NEW TO EXISTING
- LIMIT OF DEMOLITION
- CO2 — CARBON DIOXIDE SENSOR (MOUNT 48" AFF)
- CO — CARBON MONOXIDE SENSOR
- H — HUMIDISTAT (MOUNT 48" AFF)
- T — THERMOSTAT (MOUNT 48" AFF)
- SD — SMOKE DETECTOR
- DETAIL
- RISER
- SECTION

FP NOTES

CONSTRUCTION SITE MUST BE SEPARATED FROM SURROUNDING AREAS IN ACCORDANCE WITH NFPA 241 SECTION 4.13.4 AND DFM ADMINISTRATIVE INTERPRETATION 22-2.

DFM SHALL BE CONTACTED TO PERFORM WALL AND CEILING CLOSE-INS AND FINAL OCCUPANCY INSPECTION.

GENERAL PIPING

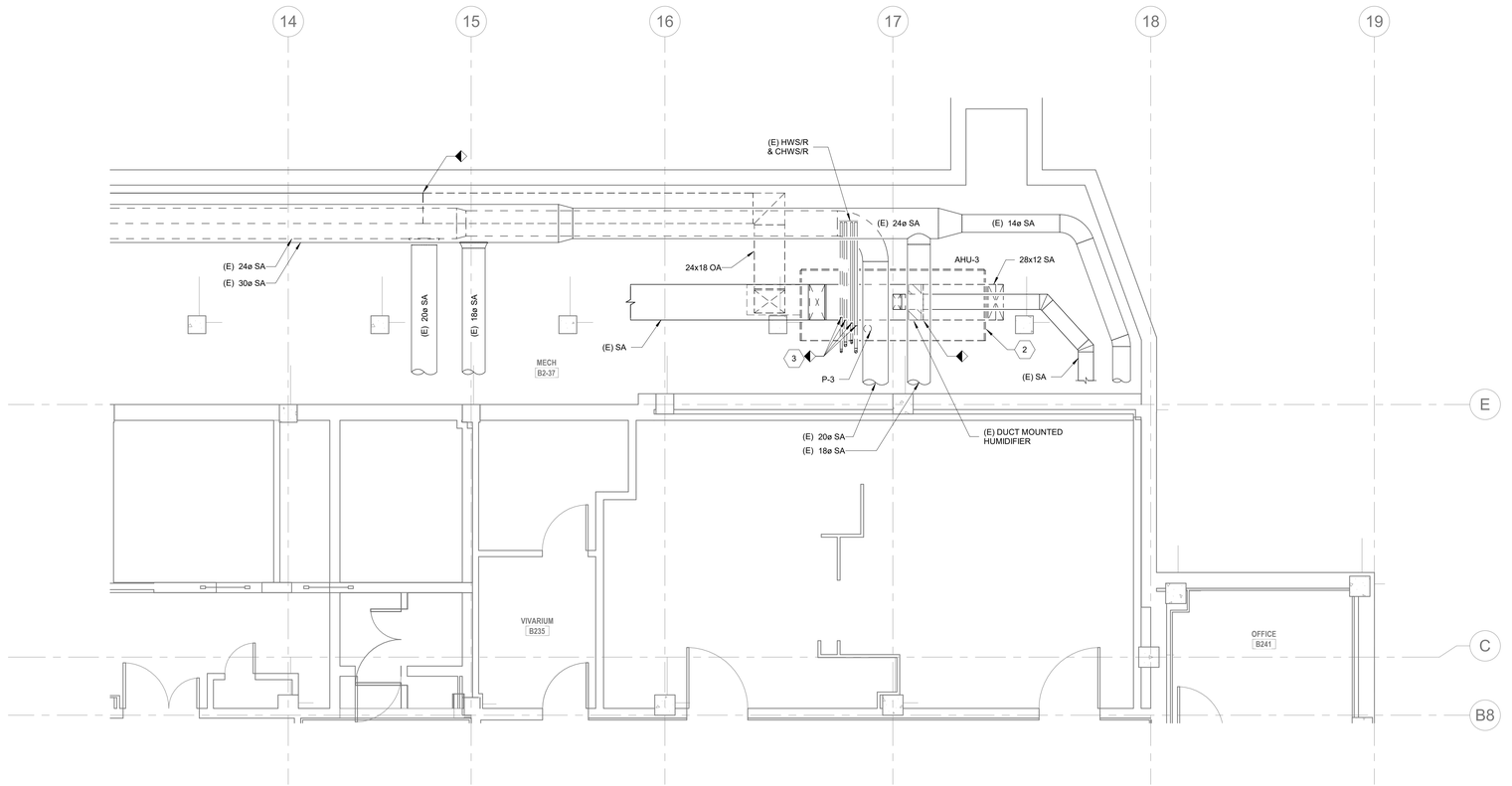
- AUTOMATIC AIR VENT
- DIRECTION OF PIPE PITCH
- FD — FLOOR DRAIN
- FLOW DIRECTION
- MANUAL AIR VENT
- PIPE CONTINUES
- BFW — BOILER FEEDWATER
- CA — COMPRESSED AIR
- CD — CONDENSATE DRAIN
- CHR — CHILLED WATER RETURN
- CHS — CHILLED WATER SUPPLY
- CR — CONDENSER WATER RETURN
- CS — CONDENSER WATER SUPPLY
- CW — CITY WATER
- D — DRAIN
- DTR — DUAL TEMPERATURE RETURN
- DTS — DUAL TEMPERATURE SUPPLY
- FOR — FUEL OIL RETURN
- FOS — FUEL OIL SUPPLY
- FOV — FUEL OIL VENT
- HPR — HIGH PRESSURE CONDENSATE RETURN
- HPS — HIGH PRESSURE STEAM SUPPLY
- HWR — HOT WATER RETURN
- HWS — HOT WATER SUPPLY
- LPR — LOW PRESSURE CONDENSATE RETURN
- LPS — LOW PRESSURE STEAM SUPPLY
- MPR — MEDIUM PRESSURE CONDENSATE RETURN
- MPS — MEDIUM PRESSURE STEAM SUPPLY
- PCR — PUMPED CONDENSATE RETURN
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION

PIPE FITTINGS/VALVES

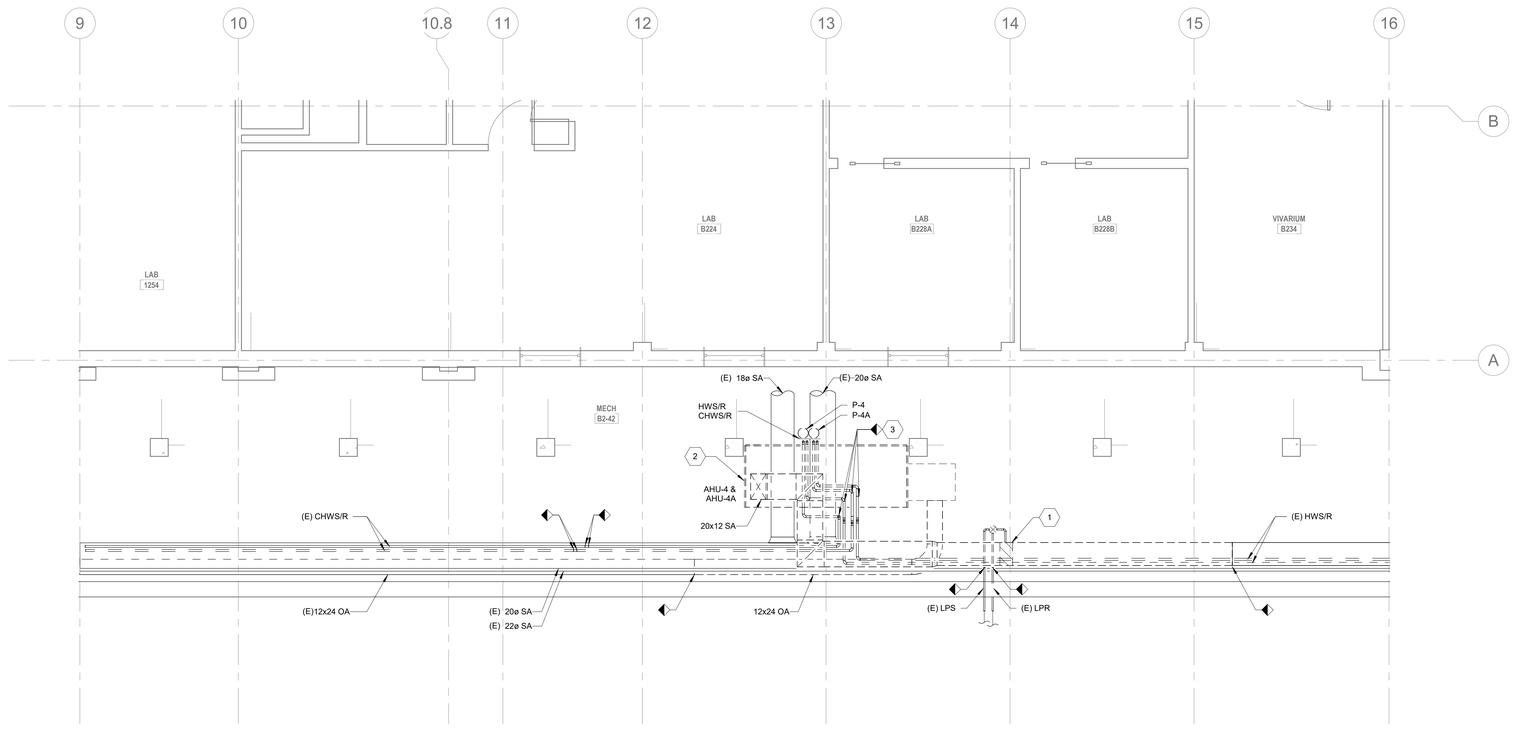
- FLANGE CONNECTION
- FLEXIBLE CONNECTOR
- PIPE CONNECTION - BOTTOM
- PIPE CONNECTION - TOP
- PIPE DOWN
- PIPE END CAP
- PIPE REDUCER - CONCENTRIC
- PIPE REDUCER - ECCENTRIC
- PIPE UP
- UNION CONNECTION
- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- GLOBE VALVE
- SHUT-OFF VALVE
- PRESSURE REDUCING VALVE
- SAFETY — RELIEF VALVE
- SOLENOID VALVE
- VALVE IN RISER
- Y STRAINER
- Y STRAINER (WITH VALVE)
- 2-WAY AUTOMATIC CONTROL VALVE
- 3-WAY AUTOMATIC CONTROL VALVE
- PRESSURE GAUGE WITH GAUGE COCK
- THERMOMETER
- STEAM TRAP ASSEMBLY
- MOISTURE SEPARATOR

ABBREVIATIONS

AABC	ASSOCIATED AIR BALANCE
AAV	AUTOMATIC AIR VENT
ABV	ABOVE
AC	AIR CONDITIONING UNIT
ACT	ACOUSTICAL CEILING TILE
AD	ACCESS DOOR
ADDT'L	ADDITIONAL
ADJ	ADJUST
AFC	ABOVE FINISHED CEILING
AFCP	AIR FLOW CONTROL PANEL
AFF	ABOVE FINISHED FLOOR
AFM	AIR FLOW MEASURING STATION
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AMB	AMBIENT
AMT	AMOUNT
APD	AIR PRESSURE DROP
ARCH'T	ARCHITECT
ARI	AMERICAN REFRIGERATION
AS	AIR SEPARATOR
ASHRAE	AMERICAN SOCIETY OF AIR CONDITIONING ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATU	AIR TERMINAL UNIT
AUTO	AUTOMATIC
B	BOILER
BAL	BALANCE/ING
BCU	BUILDING CONTROL UNIT
BHP	BOILER HORSEPOWER/BRAKE
BOP	BOTTOM OF PIPE
BLDG	BUILDING
BLW	BELOW
BOS	BOTTOM OF STEEL
BPD	BACK PRESSURE DAMPER
BTUH	BRITISH THERMAL UNIT PER HOUR
CA	COMBUSTION AIR
CAD	CEILING AIR DIFFUSER
CAL	COMBUSTION AIR LOUVER
CAP	CAPACITY
CAV	CONSTANT AIR VOLUME
CC	COOLING COIL
CF	CENTRIFUGAL FAN
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CO	CLEAN OUT
CONC	CONCRETE
COND	CONDITIONING
CONN	CONNECT/ION/CTION
CONT	CONTINUATION
CP	CIRCULATING PUMP
CSR	CEILING SUPPLY REGISTER
CU	CONDENSING UNIT
CV	CONTROL VALVE
CW	COLD WATER
DB	DRY BULB
dB	DECIBEL
DDC	DIRECT DIGITAL CONTROL
ΔP	PRESSURE DROP
DIA	DIAMETER
DIFF	DIFFERENCE
DISC SW	DISCONNECT SWITCH
DN	DOWN
DP	DEW POINT
DTL	DETAIL
DWG	DRAWING
DX	DIRECT EXPANSION
(E)	EXISTING TO REMAIN
EA	EXHAUST AIR/EACH
EAL	EXHAUST AIR LOUVER
EAR	EXHAUST AIR REGISTER
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ECON	ECONOMIZER
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
ELEV	ELEVATION
ELL	ELBOW
ENT	ENTERING
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ESP	EXTERNAL STATIC PRESSURE
EST	ESTIMATED
ETR	EXISTING TO REMAIN
EWH	ELECTRIC WALL HEATER
EWT	ENTERING WATER
EXH	EXHAUST
°F	DEGREES FAHRENHEIT
FC	FLEXIBLE CONNECTION
FD	FIRE DAMPER
FFE	FINISHED FLOOR ELEVATION
FLA	FULL LOAD AMP
FLEX	FLEXIBLE
FLG	FLANGE
FLR	FLOOR
FM	FACTORY MUTUAL
FPM	FEET PER MINUTE
FT	FEET
FT WG	FEET OF WATER GAUGE
GA	GAUGE
GAL	GALLONS
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
H	HEIGHT
HD	HEAD
HP	HORSEPOWER
HVAC	HEATING, VENTILATION & AIR
HZ	HERTZ
IN	INCHES
INSUL	INSULATE/INSULATION
IWG	INCHES WATER GAUGE
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LB	POUND
LBG	LINEAR BAR GRILLE
LB/HR	POUNDS PER HOUR
LRA	LOCKED ROTOR AMP
LWT	LEAVING WATER TEMPERATURE
M	MOTORIZED DAMPER
MA	MIXED AIR
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBH	ONE THOUSAND BTUH
MC	MECHANICAL CONTRACTOR
MCC	MOTOR CONTROL CENTER
MD	MANUAL DAMPER
MECH	MECHANICAL
MER	MECHANICAL EQUIPMENT ROOM
MFGR	MANUFACTURER
MIN	MINIMUM
MUA	MAKE-UP AIR
MUAU	MAKE-UP AIR UNIT
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED/NOISE CRITERIA
NEC	NATIONAL ELECTRICAL CODE
NG	NATURAL GAS
NO	NUMBER/NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAF	OUTSIDE AIR FAN
OAL	OUTSIDE AIR LOUVER
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER/POWER
OCC	OCCUPIED
OF	OVERFLOW
OPP	OPPOSITE
ORIG	ORIGINAL
O&M	OPERATION AND MAINTENANCE
P	PUMP
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PDCV	PRESSURE DIFFERENTIAL CONTROL
PH	PHASE
PRV	PRESSURE REDUCING VALVE
PPH	POUNDS PER HOUR
PRESS	PRESSURE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
R	RELOCATED
RA	RETURN AIR
RAG	RETURN AIR GRILLE
RAR	RETURN AIR REGISTER
REF	REFER/REFERENCE
REG	REGISTER
RF	RETURN/RELIEF FAN
RLA	RATED LOAD AMP
RLAD	RETURN LINEAR AIR DIFFUSER
RM	ROOM
RPC	RECIRCULATING CHILLED WATER PUMP
RPH	RECIRCULATING HOT WATER PUMP
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SAG	SUPPLY AIR GRILLE
SAR	SUPPLY AIR REGISTER
SC	SHADING COEFFICIENT
SD	SMOKE DAMPER/SPLITTER DAMPER
SDC	SOUND DIGITAL CONTROLLER
SEER	SEASONAL ENERGY EFFICIENCY
SF	SUPPLY FAN
SIM	SIMILAR
SLAD	SLOT LINEAR AIR DIFFUSER
SMACNA	SHEET METAL AND AIR
SO	SCREENED OPENING
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SQ FT	SQUARE FEET
SQ IN	SQUARE INCHES
SRV	STEAM RELIEF VENT
SS	STAINLESS STEEL
STL	STEEL
STN	SECTION
SUSP	SUSPENSION
SWR	SIDE WALL REGISTER
SYM	SYMBOL
T	THERMOSTAT
TCC	TEMPERATURE CONTROL
TD	TEMPERATURE DIFFERENCE
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TOS	TOP OF STEEL
TOT	TOTAL
TP	STEAM TRAP
TSP	TOTAL STATIC PRESSURE
TV	TURNING V



1 MD101 **B2 FLOOR DEMOLTIION HVAC PLAN - ENLARGED 1**
1/4" = 1'-0"



2 MD101 **B2 FLOOR DEMOLTIION HVAC PLAN - ENLARGED 2**
1/4" = 1'-0"

GENERAL NOTES

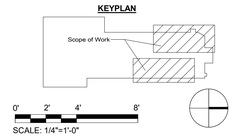
1. REFER TO M001 FOR GENERAL NOTES, SYMBOL LEGEND, AND LIST OF ABBREVIATIONS.
2. REFER TO TYPICAL DETAILS FOR DUCTWORK, PIPING, AND EQUIPMENT INSTALLATION.
3. ALL EQUIPMENT SHALL BE INSTALLED AT A MINIMUM 10'-0" FROM ROOF EDGES.
4. AHU-4A SHALL BE REPLACED WHILE AHU-4B CONTINUES TO SERVE THE SPACE. THE CONTRACTOR SHALL ENSURE CONTINUOUS OPERATION CAN BE MAINTAINED THROUGH THE USE OF ISOLATION DAMPERS AND VALVES.

KEYNOTES

1 DEMOLISH THE DUCT MOUNTED STEAM HUMIDIFIER, WITH ASSOCIATED PIPING, LPS/R PIPING WITH STEAM TRAP, CONDENSATE PIPING, SUPPORTS, AND APPURTENANCES. PREPARE THE LPS AND LPR FOR THE NEW CONNECTION TO AHU-4A AND AHU-4B. CAP THE CONDENSATE PIPE AT THE WALL PENETRATION.

2 DEMOLISH AHU WITH ASSOCIATED DUCTWORK, PIPING, RECIRCULATING PUMP(S), CONTROLS, APPURTENANCES, CONCRETE PAD, AND SUPPORTS. PREPARE DUCTWORK AND PIPING FOR CONNECTION TO THE NEW AHU.

3 CONTRACTOR TO PROVIDE NEW ISOLATION VALVES UPSTREAM OF THE TIES POINT FOR CHWS/R AND HWS/R.



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DEPARTMENT OF HEALTH & HUMAN SERVICES-USA

A/E Name and Address
Salas O'Brien
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BETHESDA, MARYLAND 20817
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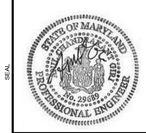


REVISIONS

MARK	DATE	DESCRIPTION
1	05/13/25	35% CD SUBMISSION
2	07/15/25	65% CD SUBMISSION
3	10/30/25	100% CD SUBMISSION
4	05/13/26	FINAL SUBMISSION

CONTRACTORS

A/E CON. NO.	75N99020D00010
A/E TASK NO.	75N99024F0002
CONS. CONTR.	
CONS. WORK	
PRIME A/E	Salas O'Brien
SUB A/E	
CONSTR. CON.	

BUILDING

FACILITY CODE	
BUILDING NO.	BUILDING 4
NAME	NIH
STREET	9000 ROCKVILLE PIKE
CITY	BETHESDA
STATE/ZIP	MARYLAND, 20892
OTHER BUILDING NO.	N/A

PROJECT

SPB TASK NO.	C112354
PROJ. OFFICER	KANIKA SHARMA
PROJ. MGR.	ANIL GIRI
SUBMISSION	FINAL SUBMISSION
SUB. DATE	05/13/2026
WRK REQ. NO.	C112354

PROJECT TITLE
NIH BUILDING 4 - REPLACE AHUs 3, 4, & 4A

DRAWING TITLE
LEVEL B2 DEMOLITION HVAC PLAN

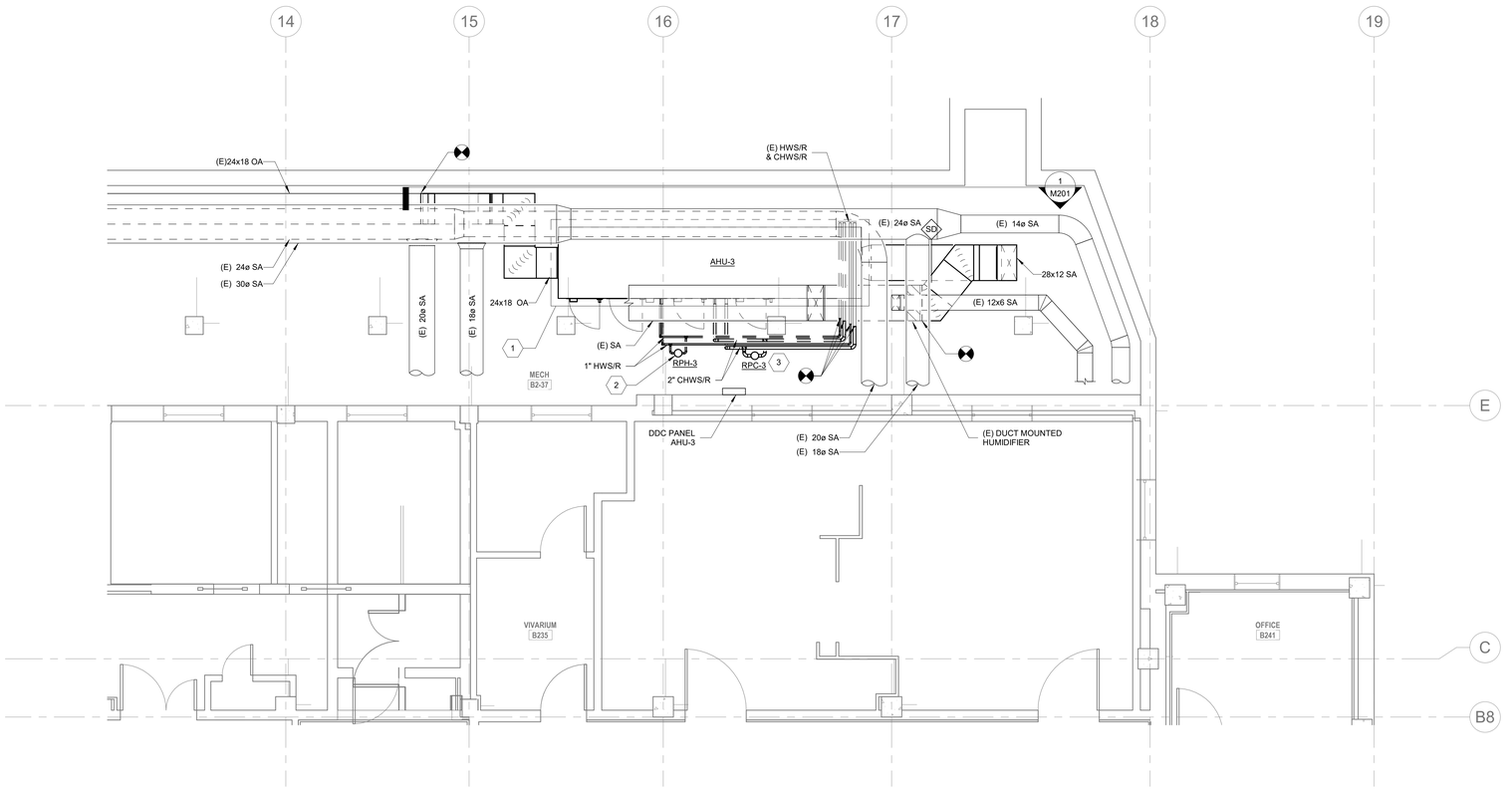
National Institutes of Health
OFFICE OF RESEARCH FACILITIES

DRAWING

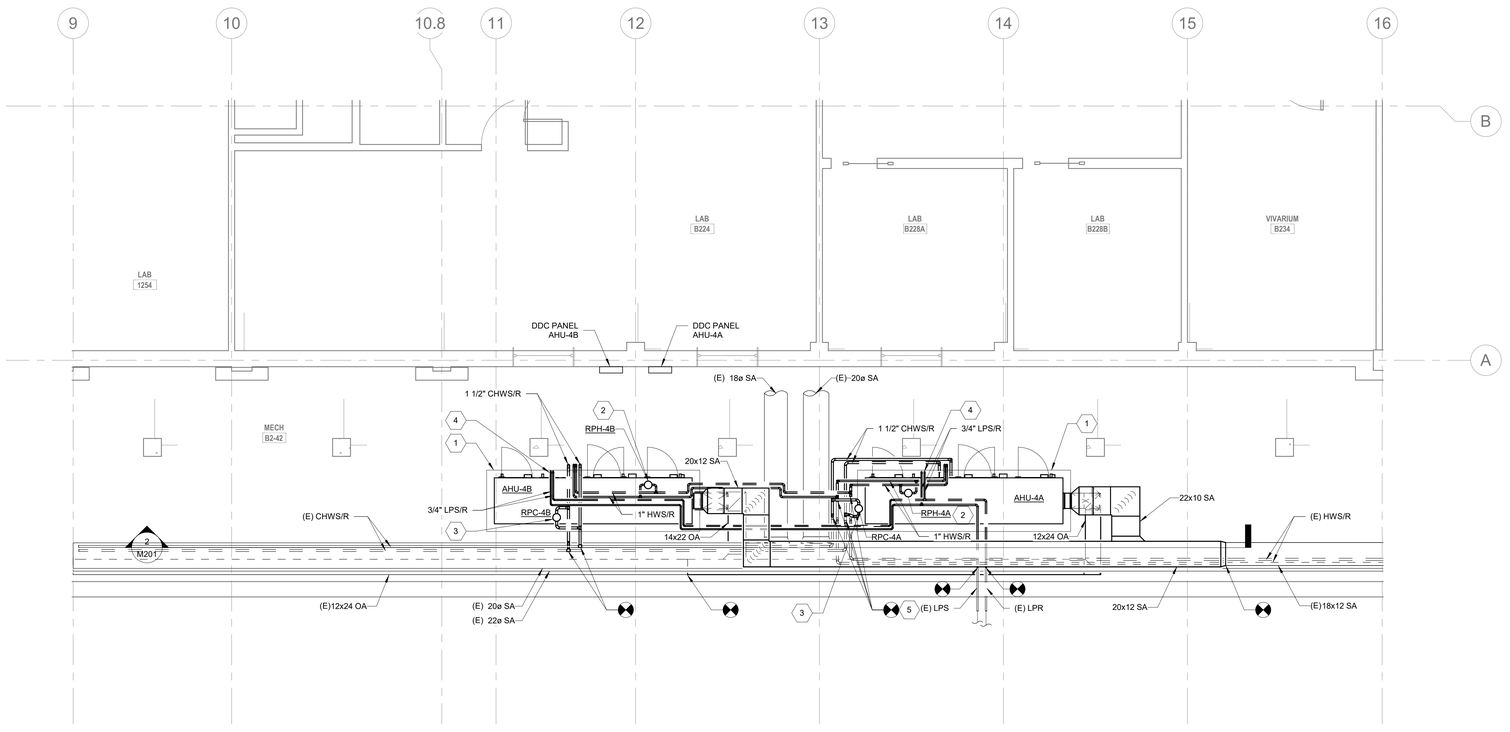
DESIGNED BY	ID
DRAWN BY	CC
CHECKED BY	AG
FILE NAME	LEVEL B2 DEMOLITION HVAC PLAN

DRAWING NO.
MD101

SHEET OF TOTAL SHEET



1 M101 **B2 FLOOR HVAC PLAN - ENLARGED 1**
1/4" = 1'-0"



2 M101 **B2 FLOOR HVAC PLAN - ENLARGED 2**
1/4" = 1'-0"

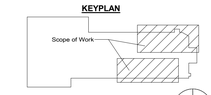
GENERAL NOTES

1. REFER TO M001 FOR GENERAL NOTES, SYMBOL LEGEND, AND LIST OF ABBREVIATIONS.
2. REFER TO TYPICAL DETAILS FOR DUCTWORK, PIPING, AND EQUIPMENT INSTALLATION.
3. ALL EQUIPMENT SHALL BE INSTALLED AT A MINIMUM 10'-0" FROM ROOF EDGES.
4. AHU-4A SHALL BE REPLACED WHILE AHU-4B CONTINUES TO SERVE THE SPACE. THE CONTRACTOR SHALL ENSURE CONTINUOUS OPERATION CAN BE MAINTAINED THROUGH THE USE OF ISOLATION DAMPERS AND VALVES.

KEYNOTES

1 INSTALL AHU ON NEW 4" THICK CONCRETE PAD. EXTEND THE CONCRETE PAD 6" BEYOND THE FOOTPRINT OF EACH AHU. SEE S101 FOR MORE DETAIL.
2 SEE M501, DETAIL #1 FOR PIPING CONNECTION.
3 SEE M501, DETAIL #4 FOR PIPING CONNECTION.
4 SEE M501, DETAIL #6 FOR PIPING CONNECTION.
5 CONTRACTOR TO PROVIDE NEW ISOLATION VALVES UPSTREAM OF THE TIES POINT FOR CHWS/R AND HWS/R.

KEYPLAN



0' 2' 4' 8'
SCALE: 1/4"=1'-0"

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REVISIONS

MARK	DATE	DESCRIPTION
1	05/13/25	35% CD SUBMISSION
2	07/15/25	65% CD SUBMISSION
3	10/30/25	100% CD SUBMISSION
4	05/13/26	FINAL SUBMISSION

CONTRACTORS

A/E CON. NO.	75N99020D00010
A/E TASK NO.	75N99024F0002
CONS. CONTR.	
CONS. WORK PRIME A/E	Salas O'Brien
SUB A/E	
CONSTR. CON.	

BUILDING

FACILITY CODE	
BUILDING NO.	BUILDING 4
NAME	NIH
STREET	9000 ROCKVILLE PIKE
CITY	BETHESDA
STATE/ZIP	MARYLAND, 20892
OTHER BUILDING NO.	N/A

PROJECT

SPB TASK NO.	C112354
PROJ. OFFICER	KANIKA SHARMA
PROJ. MGR.	ANIL GIRI
SUBMISSION	FINAL SUBMISSION
SUB. DATE	05/13/2026
WRK REQ. NO.	C112354

PROJECT TITLE: NIH BUILDING 4 - REPLACE AHUs 3, 4, & 4A

DRAWING TITLE: LEVEL B2 HVAC PLAN

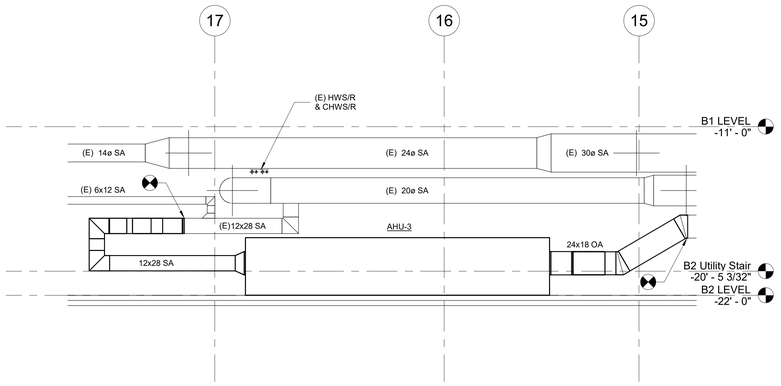
NIH
National Institutes of Health
OFFICE OF RESEARCH FACILITIES

DRAWING

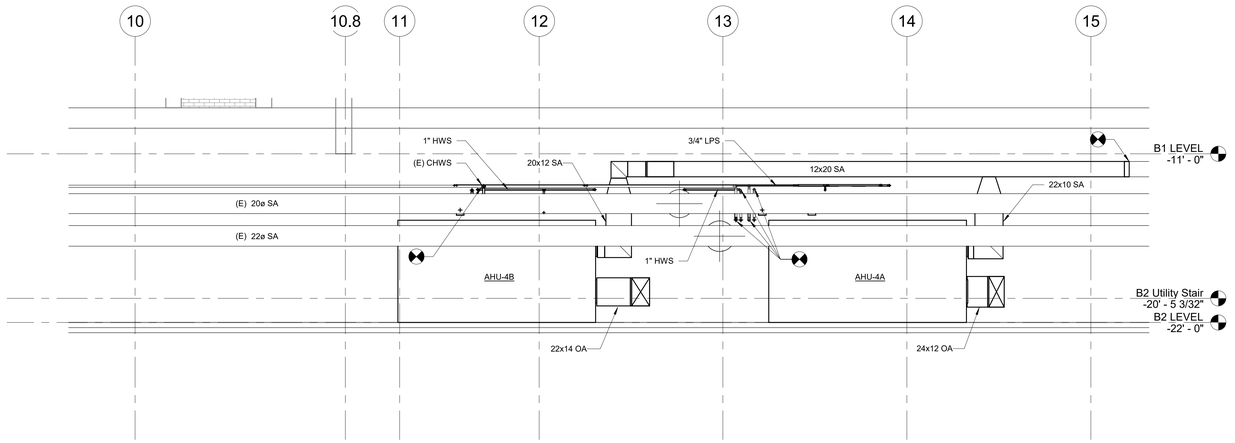
DESIGNED BY	ID
DRAWN BY	CC
CHECKED BY	AG
FILE NAME	LEVEL B2 HVAC PLAN

DRAWING NO.
M101

SHEET OF TOTAL SHEET

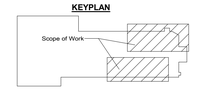


1 M201 **AHU-3 Section**
1/4" = 1'-0"



2 M201 **AHU-4A & AHU-4B Section**
1/4" = 1'-0"

KEYPLAN



0' 2' 4' 8'
SCALE: 1/4"=1'-0"

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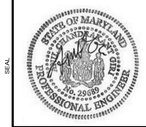

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CONTRACTORS

A/E CON. NO.	75N99020D00010
A/E TASK NO.	75N99024F0002
CONS. CONTR.	
CONS. WORK	
PRIME A/E	Salas O'Brien
SUB A/E	
CONSTR. CON.	

BUILDING

FACILITY CODE	
BUILDING NO.	BUILDING 4
NAME	NIH
STREET	9000 ROCKVILLE PIKE
CITY	BETHESDA
STATE/ZIP	MARYLAND, 20892
OTHER	
BUILDING NO.	N/A

PROJECT

SPB TASK NO.	C112354
PROJ. OFFICER	KANIKA SHARMA
PROJ. MGR.	ANIL GIRI
SUBMISSION	FINL SUBMISSION
SUB. DATE	05/13/2026
WRK REQ. NO.	C112354

PROJECT TITLE
NIH BUILDING 4 - REPLACE AHUs 3, 4, & 4A

DRAWING TITLE
MECHANICAL SECTIONS

National Institutes of Health
OFFICE OF RESEARCH FACILITIES

DRAWING

DESIGNED BY	ID
DRAWN BY	CC
CHECKED BY	AG
FILE NAME	MECHANICAL SECTIONS

DRAWING NO.
M201

SHEET OF TOTAL SHEET

AIR HANDLING UNIT SCHEDULE

			FAN DATA						CHILLED WATER COOLING COIL										HOT WATER PREHEAT COIL								STEAM HUMIDIFIER						AIR FILTER DATA				
											AIR DATA					CHILLED WATER DATA						AIR DATA			HEATING HW DATA													
											EAT (°F)		LAT (°F)										EAT	LAT														
ID	SERVICE	LOCATION	CFM (TOTAL OA)	EXT. S.P. (IN W.G.)	TOTAL S.P. (IN W.G.)	FACE VELOCITY (FPM)	MOTOR HP	V/PH	TOTAL (MBH)	MAX FACE VELOCITY (FPM)	DB	WB	DB	WB	MAX APD (IN W.G.)	GPM	EWT (°F)	LWT (°F)	MAX WPD (FT W.G.)	TOTAL MBH	MAX FACE VELOCITY (FPM)	(°F)	(°F)	MAX APD (IN W.G.)	GPM	EWT (°F)	LWT (°F)	MAX WPD (FT W.G.)	ENTERING CONDITIONS DB (°F) / %RH	LEAVING CONDITIONS DB (°F) / %RH	NON-WETTING DISTANCE (IN)	STEAM LOAD (LBS/HR)	VALVE SIZE / Cv (IN)	STEAM PRESSURE (PSI)	PRE FILTER (MERV)	FINAL FILTER (MERV)	WEIGHT (LBS)	BASIS OF DESIGN	REMARKS
AHU-3	CAGEWASH & PROCEDURE ROOM	MECH B219A	3300	1.10	4.0	1000	5	480/3	281	452	95	78.3	53.77	53.77	1.03	37.4	45	60	8.95	167	452	11	57.72	0.08	18.0	200	180	4.97	- / -	- / -	-	-	-	-	8	14	2593	INGENIA	1, 2, 3
AHU-4A	ANIMAL HOLDING ROOMS	MECH B200	1650	1.10	4.0	1100	3	480/3	138	495	95	78.3	54.29	54.29	1.20	18.4	45	60	14.89	82	495	11	57.24	0.10	8.9	200	180	1.75	56.6 / 10%	60 / 75.5%	11	53.65	0.5 / 2.9	5	8	14	2000	INGENIA	2, 3, 4
AHU-4B	ANIMAL HOLDING ROOMS	MECH B200	1650	1.10	4.0	1100	3	480/3	138	495	95	78.3	54.29	54.29	1.20	18.4	45	60	14.89	82	495	11	57.24	0.10	8.9	200	180	1.75	56.6 / 10%	60 / 75.5%	11	53.65	0.5 / 2.9	5	8	14	2000	INGENIA	2, 3, 4

NOTES:

1. PROVIDE AHU-3 WITH 2 FANS ARRANGED AS FAN ARRAY WITH ONE FAN AS REDUNDANT.
2. AHUs ARE TO BE CONNECTED TO EMERGENCY POWER.
3. HWS/R IS PROVIDED WITH 40% GLYCOL.
4. PROVIDE FOR STEAM HUMIDIFIER MODULATE VALVE BRONZE INSIDE SS TRIM, STEAM TRAP, AND STRAINER CAST IRON.

RECIRCULATING PUMP SCHEDULE

						ELECTRICAL DATA					
ID	SERVICE	TYPE	GPM	TOTAL HEAD (FT)	FLUID TEMP (°F)	HP	RPM	V/PH	EFFICIENCY	BASIS OF DESIGN (BELL & GOSSETT)	REMARKS
RPC-3	AHU-3	CHILLED WATER	15	25	68	1/6	3300	120/1	35	PL-36	-
RPC-4A	AHU-4A	CHILLED WATER	10	15	68	1/12	2650	120/1	21	PL-30	-
RPC-4B	AHU-4B	CHILLED WATER	10	15	68	1/12	2650	120/1	21	PL-30	-
RPH-3	AHU-3	HOT WATER	10	18	180	1/8	4600	120/1	22	NBF-36	-
RPH-4A	AHU-4A	HOT WATER	8	8	180	1/3	2940	120/1	16	NRF-22	-
RPH-4B	AHU-4B	HOT WATER	8	8	180	1/3	2940	120/1	16	NRF-22	-

STEAM TRAP SCHEDULE

ID	SERVICE	SYSTEM	MINIMUM INLET PRESSURE (PSIG)	TRAP CAPACITY AT DIFFERENTIAL PRESSURE (LBS/HR)	CONDENSATE LOAD WITH SAFETY FATOR (LBS/HR)	TRAP SEAT RATING (PSI)	TYPE	BODY SIZE (IN)	BASIS OF DESIGN (HOFFMAN SPECIALTY)	REMARKS
TP1-4A	AHU-4A	LPR	5	500	84	15	F & T	3/4	FT015H	2, 3
TP2-4A	AHU-4A	LPR	5	-	-	20	BUCKET	1/2 & 3/4	B0020S-2	1, 3, 4
TP3-4B	AHU-4B	LPR	5	500	84	15	F & T	3/4	FT015H	2, 3
TP4-4B	AHU-4B	LPR	5	-	-	20	BUCKET	1/2 & 3/4	B0020S-2	1, 3, 4

NOTES:

1. PRIMED WITH 1/2" WATER LINE.
2. PROVIDE WITH CAST IRON BODY AND COVER SUITABLE TO 175 PSI, SS INTERNALS WITH HARDENED VALVE AND SEAT.
3. INSTALL PER MANUFACTURER RECOMMENDATIONS AND SITE CONDITIONS AFTER DEMOLITION OF OLD DUCT MOUNTED HUMIDIFIER.
4. PROVIDE WITH CAST IRON BODY AND SS BUCKET, LEVER ASSEMBLY, AND STRAINER.

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DEPARTMENT OF HEALTH & HUMAN SERVICES-USA

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STATE OF MARYLAND — ANIL GIRI — No. 29696 — PROFESSIONAL ENGINEER

REVISIONS

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1	05/13/25	35% CD SUBMISSION
2	07/15/25	65% CD SUBMISSION
3	10/30/25	100% CD SUBMISSION
4	05/13/26	FINAL SUBMISSION

CONTRACTORS

A/E CON. NO.	75N99020D00010
A/E TASK NO.	75N99024F0002
CONS. CONTR.	
CONS. WORK	
PRIME A/E	Salas O'Brien
SUB A/E	
CONSTR. CON.	

BUILDING

FACILITY CODE	
BUILDING NO.	BUILDING 4
NAME	NIH
STREET	9000 ROCKVILLE PIKE
CITY	BETHESDA
STATE/ZIP	MARYLAND, 20892
OTHER BUILDING NO.	N/A

PROJECT

SPB TASK NO.	C112354
PROJ. OFFICER	KANIKA SHARMA
PROJ. MGR.	ANIL GIRI
SUBMISSION	FINAL SUBMISSION
SUB. DATE	05/13/2026
WRK REQ. NO.	C112354

PROJECT TITLE: NIH BUILDING 4 - REPLACE AHUs 3, 4, & 4A

DRAWING TITLE: MECHANICAL SCHEDULES

National Institutes of Health
OFFICE OF RESEARCH FACILITIES

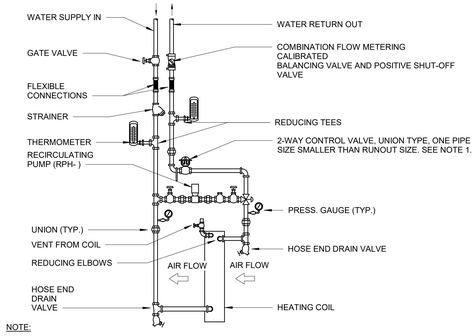
DRAWING

DESIGNED BY	ID
DRAWN BY	CC
CHECKED BY	AG
FILE NAME	MECHANICAL SCHEDULES

DRAWING NO.

M301

SHEET OF TOTAL SHEET

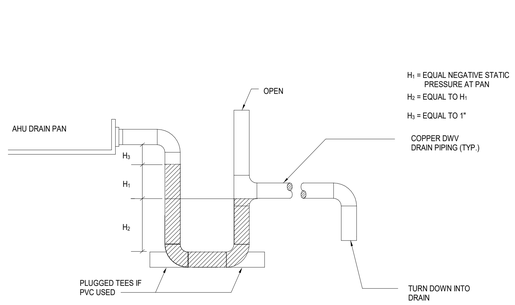


NOTE:

1. CONNECTION OF DISSIMILAR METALS SHALL BE DONE THRU DIELECTRIC UNIONS.
2. LOCATE TILT THERMOMETER DIAL FOR EASE OF READING. PROVIDE ADJUSTABLE ANGLE AS REQUIRED.

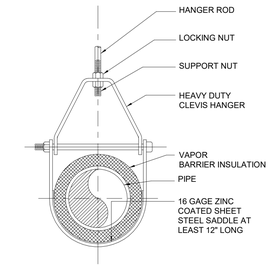
1 HOT WATER COIL PIPING CONNECTION DETAIL

SCALE: NOT TO SCALE



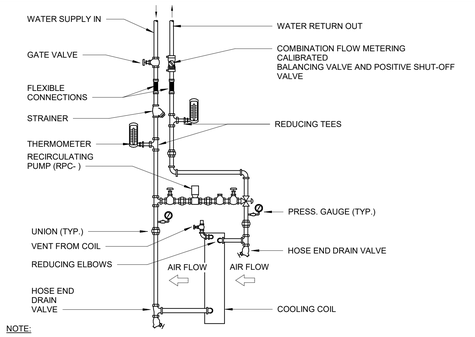
2 DRAW-THROUGH UNIT DRAIN DETAIL

SCALE: NOT TO SCALE



3 CLEVIS PIPE HANGER DETAIL

SCALE: NOT TO SCALE

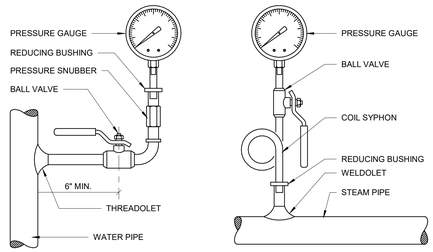


NOTE:

1. CONNECTION OF DISSIMILAR METALS SHALL BE DONE THRU DIELECTRIC UNIONS.
2. LOCATE TILT THERMOMETER DIAL FOR EASE OF READING. PROVIDE ADJUSTABLE ANGLE AS REQUIRED.

4 CHILLED WATER COIL PIPING CONNECTION DETAIL

SCALE: NOT TO SCALE



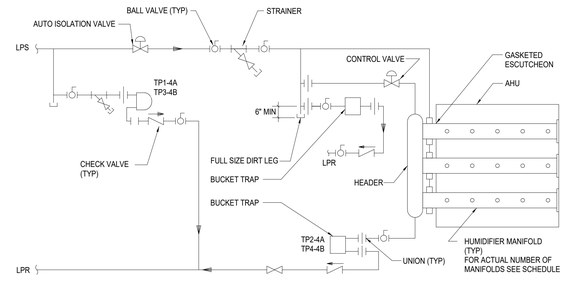
WATER PIPING STEAM PIPING

NOTE:

1. FOR PIPES 1/2" AND SMALLER, USE FITTING INSTEAD OF THREADOLET OR WELDOLET.

5 PRESSURE GAUGE DETAIL

SCALE: NOT TO SCALE

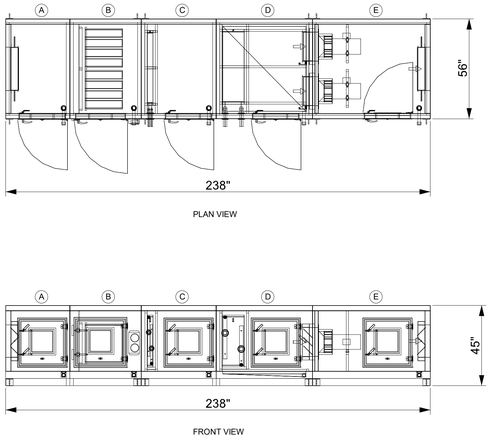


NOTES:

1. WHEN COIL IS INCLUDED IN CASING MOUNTED ON VIBRATION ISOLATOR UNITS, THE RUNOUT PIPING FOR CONNECTIONS TO COIL SHALL BE INSTALLED WITH SWING JOINTS TO ALLOW FOR THE VIBRATION.
2. PIPING SHALL BE INSTALLED IN SUCH MANNER THAT IT WILL NOT BLOCK THE SWING OR USE OF ACCESS DOORS OR PANELS. NEITHER SHALL IT BLOCK THE SERVICING OF FILTERS, VALVES, OR EQUIPMENT.
3. WHERE THE DISTANCE FROM THE INTAKE OF TRAP TO BOTTOM OF COIL IS RESTRICTED, FLOAT AND THERMOSTATIC TRAP CAPACITIES SHALL BE SELECTED ON A LOWER PRESSURE DROP SUITED TO THE DISTANCE BETWEEN BOTTOM OF COIL AND TRAP INLET.

6 AHU HUMIDIFIER PIPING DIAGRAM

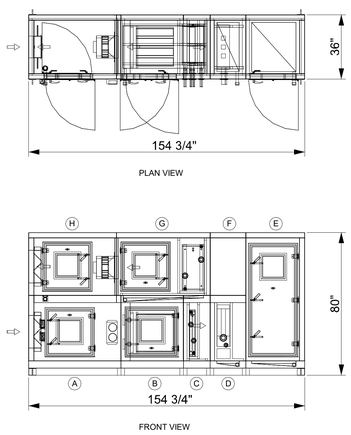
SCALE: NOT TO SCALE



A ACCESS SECTION
B SIDE LOADING FILTER SECTION
C HEATING COIL SECTION - PROPYLENE GLYCOL
D CHILLED WATER COIL SECTION
E SUPPLY FAN SECTION

7 AIR HANDLING UNIT (AHU-3) DETAIL

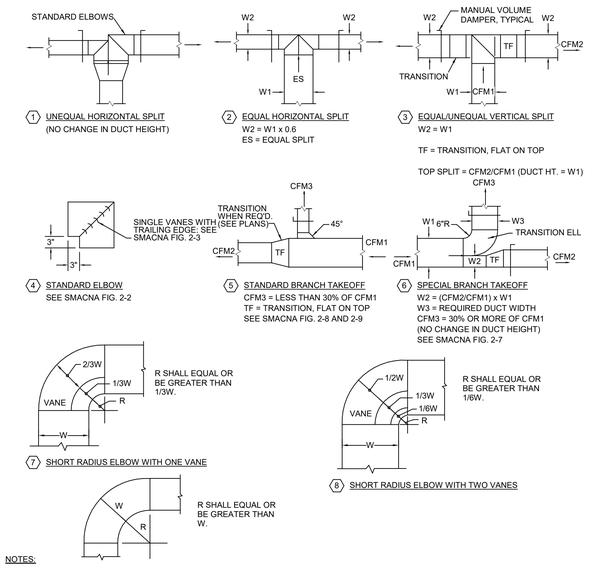
SCALE: NOT TO SCALE



A ACCESS SECTION
B SIDE LOADING FILTER SECTION
C HEATING COIL SECTION - PROPYLENE GLYCOL
D HUMIDIFIER SECTION
E ACCESS SECTION
F SPACER SECTION
G CHILLED WATER COIL SECTION
H SUPPLY FAN SECTION

8 AIR HANDLING UNITS (AHU-4A & AHU-4B) DETAIL

SCALE: NOT TO SCALE



NOTES:

1. REFER TO PLANS FOR SPECIFIC FITTING TYPES.
2. FOR CLARITY, VOLUME DAMPERS ARE NOT INDICATED ON FLOOR PLANS. PROVIDE FOR ALL INSTANCES INDICATED HERE AND AS RECOMMENDED BY CURRENT SMACNA DUCT CONSTRUCTION GUIDELINES.
3. CONTRACTOR TO ENSURE RADIUS ELBOWS SHALL NOT BE SUBSTITUTED WITH 90-DEGREE RECTANGULAR ELBOW WITH VANES. OBTAIN ENGINEERS REVIEW AND APPROVAL IF SPACE LIMITATIONS PRECLUDE RADIUS ELBOWS AS SHOWN ON CONTRACT DRAWINGS PRIOR TO PURCHASE, FABRICATION, AND INSTALLATION. ALL ATTEMPTS SHALL BE MADE TO USE RADIUS ELBOWS IN LIEU OF 90 DEGREE RECTANGULAR.

9 DUCT BRANCH FITTING DETAIL

SCALE: NOT TO SCALE

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DEPARTMENT OF HEALTH & HUMAN SERVICES-USA

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STATE OF MARYLAND — No. 29839 — PROFESSIONAL ENGINEER

REVISIONS

MARK	DATE	DESCRIPTION
1	05/13/25	35% CD SUBMISSION
2	07/15/25	65% CD SUBMISSION
3	10/30/25	100% CD SUBMISSION
4	05/13/26	FINAL SUBMISSION

CONTRACTORS

A/E CON. NO.	75N99020D00010
A/E TASK NO.	75N99024F0002
CONS. CONTR.	
CONS. WORK PRIME A/E	Salas O'Brien
SUB A/E	
CONSTR. CON.	

BUILDING

FACILITY CODE	
BUILDING NO.	BUILDING 4
NAME	NIH
STREET	9000 ROCKVILLE PIKE
CITY	BETHESDA
STATE/ZIP	MARYLAND, 20892
OTHER	
BUILDING NO.	N/A

PROJECT

SPB TASK NO.	C112354
PROJ. OFFICER	KANIKA SHARMA
PROJ. MGR.	ANIL GIRI
SUBMISSION	FINAL SUBMISSION
SUB. DATE	05/13/2026
WRK REQ. NO.	C112354

PROJECT TITLE

NIH BUILDING 4 - REPLACE AHUs 3, 4, & 4A

DRAWING TITLE

MECHANICAL DETAILS

National Institutes of Health
OFFICE OF RESEARCH FACILITIES

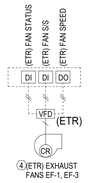
DRAWING

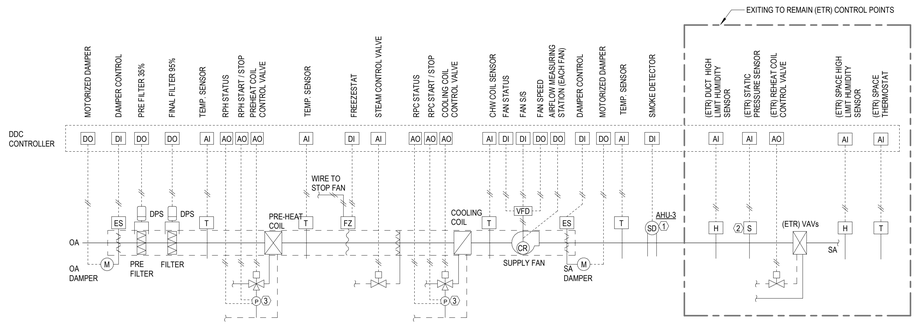
DESIGNED BY	ID
DRAWN BY	CC
CHECKED BY	AG
FILE NAME	MECHANICAL DETAILS

DRAWING NO.

M501

SHEET OF TOTAL SHEET





1 AIR HANDLING UNIT AHU-3, AHU-4A, AND AHU-4B CONTROL DIAGRAM

SCALE: NOT TO SCALE

SEQUENCE OF OPERATIONS

GENERAL:
UNIT DDC CONTROLLER SHALL INTERFACE WITH THE NIH CAMPUS SIEMENS BMS VIA THE FRONT END SYSTEM THROUGH A WEB-BASED USER INTERFACE. PROVIDE AND COORDINATE WITH NIH CIT FOR NETWORK CONTROL WIRING/CABLING DATA DROPS AND ROUTING AND SHALL BE INSTALLED AT THE DDC PANEL FROM THE NEAREST TELECOM ROOM VIA A NAE. UNIT DDC CONTROLLER SHALL PROVIDE READ/WRITE, ALARM ANNUNCIATION, AND USER ADJUSTABLE SETPOINTS THROUGH THE NIH CAMPUS BMS FRONT END SYSTEM.
THE AIR HANDLING UNIT SHALL BE FULLY CONTROLLED BY THE BAS. THE AIR HANDLING UNIT CONTROL STRATEGIES INCLUDE 24-HOUR A DAY, 7 DAYS A WEEK OPERATION, STATIC PRESSURE CONTROL, PREHEAT, AND COOLING COIL VALVE CONTROL, AND APPROPRIATE SAFETIES AS SPECIFIED BELOW.
THE AIR HANDLING UNIT AHU-4B SERVES AS A FULL BACKUP TO AHU-4A. ALL CONTROL ELEMENTS FOR AHU-4B, INCLUDING ISOLATION DAMPERS, SHALL REMAIN NORMALLY CLOSED. UPON DE-ENERGIZATION OF AHU-4A, AHU-4B SHALL BE FULLY ENERGIZED. AT THAT TIME, THE ISOLATION DAMPERS AND CONTROL VALVES FOR AHU-4A SHALL CLOSE, WHILE THE ISOLATION DAMPERS AND CONTROL VALVES FOR AHU-4B SHALL MODULATE TO THE OPEN POSITION. THE BAS SHALL ROTATE THE OPERATION OF AHU-4A AND AHU-4B ON A MONTHLY BASIS (ADJUSTABLE). IF THE OPERATING AHU FAILS, AN ALARM SHALL BE ANNUNCIATED TO BAS. PROVIDE WITH HOA SWITCH. IN HAND POSITION THE FAN SHALL RUN UNLESS A SAFETY DEVICE TRIPS. PROVIDE CONTROL TO DAMPER TO BE OPEN. IN THE OFF POSITION, THE FAN SHALL STOP AND THE DAMPERS SHUT.

SUPPLY FAN:
THE SUPPLY FANS SHALL BE STARTED BY ISSUING A START COMMAND FROM THE EMCS. THE FAN OPERATION SHALL BE CONTINUOUS. THE 100% OUTSIDE AIR DAMPER SHALL OPEN AND AFTER BEING PROVEN OPEN BY THE END SWITCH, THE SUPPLY FAN SHALL START. THE EMCS SHALL PROVE FAN OPERATION OF THE SUPPLY FAN AND USE THE STATUS INDICATION TO ACCUMULATE RUN TIME.

PREHEAT COIL VALVE:
THE PREHEAT COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN TEMPERATURE SET POINT TO 57.72°F (ADJUSTABLE) FOR AHU-3 AND 57.24°F (ADJUSTABLE) FOR AHU-4A AND AHU-4B.
THE EXISTING TO REMAIN HEATING COIL CIRCULATING PUMP, SHALL ENERGIZE WHENEVER OA TEMPERATURE IS BELOW 50°F (ADJUSTABLE) OR A DEMAND FOR HEAT IS REQUIRED. DE-ENERGIZE ABOVE 55°F (ADJUSTABLE) AND NO DEMAND FOR HEAT. THE PREHEAT VALVE SHALL NEVER BE OPENED CONCURRENTLY WITH THE COOLING COIL VALVE. PROVIDE DEDICATED ANALOG OUTPUT FOR THE PREHEAT VALVE AND PROVIDE SOFTWARE SEQUENCING/INTERLOCK.
THE VALVE SHALL BE FULL-SCALE RANGE.

COOLING COIL VALVE:
NORMALLY CLOSED COIL VALVE SHALL MODULATE VIA A DIRECT ACTING PID LOOP TO MAINTAIN THE SUPPLY AIR TEMPERATURE TO 53.7°F (ADJUSTABLE) FOR AHU-3 AND 54.29°F (ADJUSTABLE) FOR AHU-4A AND AHU-4B.

SUPPLY FAN SPEED:
UPON FAN START, THE VFD SHALL LIMIT ITS ACCELERATION RATE 1% PER SECOND. THE INITIAL STATIC PRESSURE SET POINT SHALL EQUAL 55% OF THE FAN DESIGN STATIC PRESSURE. AN APPROPRIATE AMOUNT OF DERIVATIVE GAIN, OR A RAMP FUNCTION SHALL BE EMPLOYED TO PREVENT AN OVERSHOOT OF THE STATIC PRESSURE SET POINT UPON FAN START-UP. THE SUPPLY FAN SHALL MODULATE IN A REVERSE ACTING PID LOOP TO MAINTAIN SUPPLY DUCT STATIC PRESSURE SET POINT.

HUMIDIFICATION:
SPACE HUMIDITY SENSOR, SET AT 50%, SHALL SEND AN AVERAGING SIGNAL TO CONTROL THE HUMIDIFIER VALVE. A HIGH LIMIT HUMIDISTAT SET AT 65% (ADJUSTABLE) FOR ANIMAL HOLDING AND SHALL, UPON REACHING ITS SET POINT, CLOSE THE CONTROL VALVE AND SEND AN ALARM SIGNAL TO THE BAS. SAME APPLIES FOR THE HUMIDITY SENSOR AT THE HUMIDIFIER.
WHEN OA TEMPERATURE IS BELOW 60°F (ADJUSTABLE) AND THE AIRFLOW IS PROVEN, THE HUMIDIFICATION SYSTEM SHALL BE ENABLED. THE STEAM ISOLATION VALVES SHALL BE OPEN. THE CONTROL VALVE SHALL BE OPENED.
WHEN OA TEMPERATURE IS ABOVE 60°F (ADJUSTABLE) THE HUMIDIFICATION SYSTEM SHALL BE DISABLED AND THE STEAM ISOLATION VALVES SHALL BE CLOSED.

SAFETIES:
UPON OPERATION OF A SMOKE DETECTOR (AHU-3), THE SUPPLY FAN/ DAMPER SHALL BE DE-ENERGIZED VIA A HARDWIRED INTERLOCK, INITIATE A SUPERVISORY SIGNAL AND ACTIVATE A VISIBLE AND AUDIBLE. MANUAL RESET OF THE TRIPPED DEVICE SHALL BE REQUIRED TO RESTART THE SYSTEM.

UPON OPERATION OF A FREEZESTAT (AHU-3,AHU-4A &AHU-4B), THE CORRESPONDING SUPPLY FAN/ DAMPER SHALL BE DE-ENERGIZED VIA A HARDWIRED INTERLOCK, INITIATE A SUPERVISORY SIGNAL AND ACTIVATE A VISIBLE AND AUDIBLE. MANUAL RESET OF THE TRIPPED DEVICE SHALL BE REQUIRED TO RESTART THE SYSTEM.

ON A START SIGNAL TO ANY AIR-MOVING DEVICE, ALL ALARMS MUST BE CLEAR PRIOR TO UNIT START-UP. ALL ALARMS MUST BE AVAILABLE FOR DISPLAY IN THE ECM SYSTEM.

DIFFERENTIAL PRESSURE SWITCH ACROSS FILTER BANK SHALL SEND AN ALARM TO THE BAS SYSTEM WHENEVER 1.2 INCH WATER COLUMN (ADJUSTABLE) IS EXCEEDED.

CONTROL POINTS:
PROVIDE CONTROL INFORMATION TO BE TRENDED IN THE BAS MBC AND AVAILABLE FOR USE IN THE AALAC INFORMATION MANAGER. PROVIDE THE FOLLOWING CONTROL POINTS FOR EACH OF THE ROOMS.

a. (ETR) LIGHTING CONTROL AND STATUS INCLUDING OVERRIDE.
b. TEMPERATURE CONTROL AND READING.
c. HUMIDITY CONTROL AND READING.
d. SUPPLY AND EXHAUST CFM READING.

THE RECIRCULATING PUMP SHALL BE ENERGIZED WHEN THERE IS NO COOLING OR HEATING FLOW AT THE COIL, THE THREE-WAY VALVE HAS CLOSED THE PORT SERVING THE BUILDING LOAD WATER CIRCULATION, AND THE OUTSIDE AIR TEMPERATURE IS 34°F (ADJUSTABLE) OR LOWER.

THE RECIRCULATING PUMP SHALL BE DE-ENERGIZED WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE 34°F (ADJUSTABLE) AND/OR WHEN THE CONTROL VALVE IS OPEN FOR NORMAL COOLING OR HEATING OPERATION.

GENERAL NOTES:

1. THE BAS SHALL BE SIEMENS TECHNOLOGIES, INSTALLED USING THE LATEST SOFTWARE. THE BAS SHALL BE NETWORKED TO THE NIH CAMPUS SERVER USING A LAN CONNECTION TO THE EXISTING MBC IN THE BUILDING. GRAPHICS SHALL BE ADDED TO THE CURRENT SIEMENS APOGEE WORKSTATION IN BUILDING 4 ROOM B3-17,(ENGINEERS OFFICE). THE BAS SHALL BE SET UP TO ALARM VARIOUS APOGEE WORKSTATIONS AS DIRECTED BY BUILDING MAINTENANCE TEAM. CONTRACTOR SHALL SET UP THE INFORMATION MANAGER IN THE ANIMAL FACILITY, TICKET GENERATION TO THE CCMS USING RENO AND THE SIEMENS ALARM MANAGEMENT SYSTEM.
2. AUTOMATIC CONTROLS SHALL BE ELECTRONIC.
3. TRANSFORMERS FOR THE RPC'S SHALL BE CAMPUS STANDARD.
4. PROVIDE AUTOMATIC CONTROLS FOR AHU-3 AND AHU-4 PER SEQUENCE OF OPERATIONS.
5. INDICATED CONTROL DIAGRAM INCLUDES ALL POINTS REQUIRED BY THE DDC SYSTEM FOR CONTROL OF THE UNIT. THE ATC CONTRACTOR SHALL PROVIDE ADDITIONAL POINTS AS REQUIRED FOR A COMPLETE AND FULLY OPERATIONAL SYSTEM IN ACCORDANCE WITH THE SEQUENCE OF OPERATIONS AND MANUFACTURER RECOMMENDATIONS.

KEY NOTE:

1. WIRED TO FIRE ALARM SYSTEM AND FAN STARTER.
2. CONTRACTOR TO FIELD-VERIFY THE CONDITIONS OF THE PRESSURE SENSOR AND REPLACE IT IF IS NOT FUNCTIONING PROPERLY.
3. NEW RECIRCULATING INLINE PUMP.
4. THE EXISTING CONDITIONS SHOWN ON THESE DRAWINGS HAVE BEEN OBTAINED FROM AVAILABLE RECORD DRAWINGS AND GENERAL FIELD SURVEYS. THEY MAY NOT ACCURATELY REFLECT THE ACTUAL NUMBER OF EXHAUST FANS INTERLOCKED WITH THE AHUS. THE CONTRACTOR SHALL FIELD-VERIFY ALL EXHAUST FANS SERVING THE AREAS WITHIN THE SCOPE AND ENSURE THAT ALL CONTROL POINTS ARE INCLUDED IN THE SEQUENCE OF OPERATION TO ENSURE PROPER OPERATION OF THE HVAC SYSTEM.

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PROJECT TITLE: NIH BUILDING 4 - REPLACE AHUs 3, 4, & 4A

DRAWING TITLE: MECHANICAL CONTROLS

National Institutes of Health
OFFICE OF RESEARCH FACILITIES

DRAWING

DESIGNED BY	ID
DRAWN BY	CC
CHECKED BY	AG
FILE NAME	MECHANICAL CONTROLS

DRAWING NO.
M601

SHEET OF TOTAL SHEET

ELECTRICAL NOTES

GENERAL NOTES

1. THE WORK TO BE DONE SHALL INCLUDE THE FURNISHING OF ALL LABOR, MATERIALS, APPLIANCES, EQUIPMENT, TOOLS, TRANSPORTATION, SUPERINTENDENTS AND SERVICES REQUIRED TO CONSTRUCT, INSTALL, AND MODIFY THE ELECTRICAL SYSTEMS AS HEREIN SPECIFIED AND SHOWN ON THESE DRAWINGS FOR A COMPLETE OPERATIONAL SYSTEM. COORDINATE WORK TO BE PERFORMED OR INSTALLED BY OTHERS AFFECTING THE ELECTRICAL WORK, AND PROVIDE AND INSTALL TO ENSURE CLARITY IN COMPOUND ACTIONS ALL NECESSARY ANCHORS, SLEEVES, HANGERS, ETC. FOR ATTACHING OR CONNECTING ELECTRICAL WORK TO RELATED WORK OF OTHER TRADES.
2. ALL ELECTRICAL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE LATEST ADOPTED NATIONAL ELECTRICAL CODE AND ALL OTHER LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.
3. THE DRAWINGS, WHICH CONSTITUTE A PART OF THIS CONTRACT, INDICATE THE GENERAL ARRANGEMENT OF CIRCUITS AND LOCATIONS OF OUTLETS, SWITCHES, PANELBOARDS, CONDUIT AND OTHER WORK. ALL ITEMS NOT SPECIFICALLY MENTIONED HEREIN, THAT ARE NECESSARY TO COMPLETE A WORKING INSTALLATION, SHALL BE INCLUDED AT NO EXTRA COST.
4. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO EXAMINE AND COORDINATE WITH MECHANICAL, AND THE DRAWINGS OF ALL OTHER TRADES IN ORDER TO BECOME FAMILIAR WITH ALL ASPECTS OF THE DESIGN AFFECTING THE ELECTRICAL WORK.
5. ALL ELECTRICAL MATERIALS SHALL BE NEW EXCEPT WHERE SPECIFICALLY NOTED AS EXISTING TO BE REUSED. ALL MATERIAL SHALL BE LISTED BY THE UNDERWRITERS LABORATORIES, INC. (UL). DEFECTIVE OR DAMAGED EQUIPMENT DURING INSTALLATION AND/OR TESTING SHALL BE REPLACED OR REPAIRED IN A MANNER THAT MEETS THE APPROVAL OF THE ARCHITECT AND THE ENGINEER. WHERE APPLICABLE, ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH NEMA STANDARDS.
6. ALL WORK SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE.
7. ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER.
8. INSTALL A FIRE STOP OF ROCKWOOL FIBER OR SILICON FOAM SEALANT TO PROVIDE AN EFFECTIVE BARRIER AGAINST THE SPREAD OF FIRE AND SMOKE WHERE CONDUITS, WIREWAYS, AND OTHER ELECTRICAL RACEWAYS PASS THROUGH FIRE RATED PARTITIONS AND/OR SLABS.
9. ALL CERTIFICATES OF APPROVAL SHALL BE IN TRIPLICATE, DELIVERED TO THE ENGINEER, AND BECOME THE PROPERTY OF THE OWNER.
10. CONTRACTOR SHALL VERIFY ALL EQUIPMENT REQUIREMENTS BEFORE INSTALLING CONDUIT OR CONDUCTORS FROM POWER SOURCE TO EQUIPMENT TERMINATION.
11. PROVIDED ALL CONNECTIONS ARE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL ELECTRICAL CODE REQUIREMENTS, AND THE MAXIMUM UNBALANCED CURRENT IN NEUTRAL DOES NOT EXCEED THE CAPACITY OF THE WIRE, NO MORE THAN 3 SINGLE PHASE CIRCUIT SHALL BE INSTALLED IN ONE RACEWAY. ELIMINATE SPLICES WHEREVER POSSIBLE, AND WHERE NECESSARY, SPLICE IN READILY ACCESSIBLE PULL, JUNCTION OR OUTLET BOX.
12. MODIFICATIONS TO EXISTING PANELBOARDS: THE CONTRACTOR SHALL PROVIDE NEW CIRCUIT BREAKERS AND/OR FUSED SWITCHES AS REQUIRED. NEW EQUIPMENT SHALL MATCH EXISTING INSTALLED EQUIPMENT AND SHALL BE OF THE SAME MANUFACTURER AND TYPE AS SIMILAR EXISTING EQUIPMENT. INTERRUPT RATING OF EQUIPMENT SHALL BE THE SAME AS OF THE EXISTING EQUIPMENT.
13. INTERRUPTION OF ELECTRICAL POWER: THE CONTRACTOR SHALL COORDINATE ALL WORK REQUIRING INTERRUPTION OF ELECTRICAL POWER WITH THE NIH AND SHALL OBTAIN WRITTEN PERMISSION FROM THE BUILDING OWNER PRIOR TO SHUTTING DOWN POWER TO ANY SWITCHBOARD. THE CONTRACTOR SHALL ALSO PROVIDE NOTICE TO ALL OTHER TRADES OF ALL SCHEDULED INTERRUPTIONS OF POWER.
14. SITE VISIT: PRIOR TO SUBMITTING HIS BID, THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL EXISTING CONDITIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN ADVANCE OF ANY CONDITIONS THAT EXIST THAT WOULD PREVENT THE WORK HEREIN SPECIFIED OR SHOWN ON THE DRAWINGS FROM BEING PERFORMED. FAILURE TO SURVEY THE SITE PRIOR TO BID AND START OF CONSTRUCTION WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO INSTALL DESIGN WITHIN THE CONFINES OF THE EXISTING CONDITIONS.
15. GUARANTEE: THE CONTRACTOR SHALL LEAVE THE ENTIRE ELECTRICAL SYSTEM INSTALLED UNDER THIS CONTRACT IN PROPER WORKING ORDER AND SHALL, WITHOUT CHARGE, REPLACE ANY WORK OR MATERIALS WHICH DEVELOP DEFECTS, EXCEPT FROM ORDINARY WEAR AND TEAR, WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. THE BENEFICIAL USE OF THE SYSTEM SHALL NOT CONSTITUTE FINAL ACCEPTANCE. THE ELECTRICAL CONTRACTOR SHALL, DURING THE ONE YEAR GUARANTEE PERIOD, BE RESPONSIBLE FOR THE PROPER REPAIR AND ADJUSTMENTS OF ALL ELECTRICAL SYSTEMS AND EQUIPMENT, APPARATUS, DEVICES, ETC. INSTALLED BY HIM, AND DO ALL WORK NECESSARY TO ENSURE EFFICIENT AND PROPER FUNCTIONING. PRIOR TO THE EXPIRATION OF THE GUARANTEE PERIOD, APPROXIMATELY 11 MONTHS AFTER FINAL ACCEPTANCE OF THIS PROJECT, A POST CONSTRUCTION REVIEW OF THE PROJECT WILL BE MADE.
16. THE CONTRACTOR SHALL FURNISH PERSONNEL TO ASSIST THE OWNER IN THIS REVIEW. ANY ADJUSTMENTS, REPAIRS OR REPLACEMENTS FOUND NECESSARY DURING REVIEW SHALL BE DONE BY THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR, AND SHALL INCUR FINANCIAL RESPONSIBILITY FOR ANY DAMAGES CAUSED BY, OR RESULTING FROM, DEFECTS IN HIS WORK.
18. THE CONTRACTOR SHALL MAINTAIN AT THE SITE, FOR THE OWNER, ONE COPY OF ALL DRAWINGS, ADDENDA, APPROVED SHOP DRAWINGS, REVISIONS AND OTHER MODIFICATIONS, IN GOOD ORDER AND MARKED TO RECORD ALL CHANGES MADE DURING CONSTRUCTION. THE SET OF DRAWINGS AND OTHER INFORMATION SHALL BE DELIVERED TO THE OWNER AND ONE COPY GIVEN TO THE ENGINEER UPON COMPLETION OF WORK.
19. ALL CONDUCTORS SHALL BE COPPER, CONFORMING TO THE LATEST REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, STRANDED FOR NO. 8 AWG AND LARGER, SOLID FOR NO. 10 AWG AND SMALLER.
20. ALL WIRING SHALL BE INSTALLED IN CONDUIT (EMT WITH STEEL COMPRESSION FITTINGS). MINIMUM CONDUIT SIZE SHALL BE 3/4". ALL CONDUIT AND WIRING SHALL BE CONCEALED IN CEILINGS AND/OR WALLS UNLESS SPECIFICALLY NOTED OTHERWISE. CUT CHANNELS IN EXISTING WALLS AS REQUIRED. WHERE WIRING RUNS ARE EXPOSED DUE TO THE LACK OF A NEW FINISHED CEILING, EMT SHALL BE USED. INSTALL ALL CONDUITS IN RUNS THAT ARE PARALLEL AND PERPENDICULAR WITH BUILDING LINES.

ELECTRICAL NOTES

DEMOLITION NOTES

1. ALL EXISTING INSTALLATIONS SCHEDULED FOR REMOVAL, ABANDONMENT, RELOCATION, OR CAPPING SHALL BE COMPLETED BEHIND FINISHED SURFACES. ALL SUCH WORK SHALL BE EXECUTED IN A PERMANENT MANNER. NO ABANDONED CONDUITS SHALL BE LEFT OPEN, AND NO UNUSED CONDUCTORS SHALL BE LEFT IN PLACE WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER.
2. IN ALL AREAS WHERE DEMOLITION WORK OCCURS, PATCH AND REPAIR FINISHES TO MATCH THE NEW OR EXISTING FINISHES THAT ARE TO REMAIN.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF ANY DISCOVERED CONFLICTS BETWEEN EXISTING INSTALLATIONS WHICH ARE NOT SCHEDULED FOR DEMOLITION AND THE NEW WORK INDICATED WITHIN THE CONTRACT DOCUMENTS. SUCH NOTIFICATION SHALL BE ACCOMPANIED WITH A DRAWING DELINEATING THE PROPOSED SOLUTION PRIOR TO STARTING ANY WORK IN THE AFFECTED AREA.
4. THE CONTRACTOR SHALL PROVIDE A PROPOSED SCHEDULE OF DEMOLITION WORK FOR REVIEW BY THE OWNER.
5. ANY ADDITIONAL DEMOLITION WORK DEEMED NECESSARY AND NOT INCLUDED WITHIN THE SCOPE OF THE CONTRACT DOCUMENTS SHALL BE EXECUTED ONLY UPON RECEIPT OF WRITTEN AUTHORIZATION FROM THE OWNER.
6. THE CONTRACTOR SHALL ENSURE CONTINUITY OF POWER TO ALL REMAINING LIGHTING FIXTURES AND POWER EQUIPMENT AFFECTED BY THE DEMOLITION.

DEMOLITION

NOTE: REFER TO DEMOLITION DRAWINGS & NOTES FOR REQUIREMENTS.

(R)	EXISTING TO BE REMOVED.
(E)	EXISTING TO REMAIN.
(ER)	EXISTING TO BE RELOCATED.
(RE)	RELOCATED EXISTING DEVICE IN NEW LOCATION.
- - - -	ITEMS SHOWN DASHED INDICATE EXISTING TO BE REMOVED.
———	LIGHT LINES INDICATE EXISTING TO REMAIN.

ABBREVIATIONS

A, AMP	AMPERES	G, GND	GROUND
AB	ABOVE	GC	GENERAL CONTRACTOR
AC	ALTERNATE CURRENT	GFI	GROUND FAULT INRERRUPTER
AFF	ABOVE FINISHED FLOOR	IG	ISOLATED GROUND
ARCH	ARCHITECTURAL, ARCHITECT	INCAND	INCANDESCENT
BEL	BELOW	KAIC	KILOAMP INTERRUPTING CURRENT
BKR	BREAKER	KVA	KILOVOLT AMPERES
	CONDUIT	KW	KILOWATTS
CEIL	CEILING	LT(S)	LIGHT(S)
CKT	CIRCUIT	M	METER
CM	CENTIMETER	MECH	MECHANICAL
DC	DIRECT CURRENT	MH	MOUNTING HEIGHT
D/S	DISCONNECT SWITCH	MLO	MAIN LUGS ONLY
DISC	DISCONNECT SWITCH	MM	MILLIMETER
DWG	DRAWING	MTD	MOUNTED
EC	ELECTRICAL CONTRACTOR	NEC	NATIONAL ELECTRICAL CODE
EF	EXHAUST FAN	NO.,#	NUMBER
ELEC	ELECTRICAL	NTS	NOT TO SCALE
EM	EMERGENCY	P	POLE
EQUIP	EQUIPMENT	PH	PHASE
EXIST	EXISTING	PNL	PANEL
FA	FIRE ALARM	RECEP	RECEPTACLE
FACP	FIRE ALARM CONTROL PANEL	RM	ROOM
FAAP	FIRE ALARM ANNUNCIATOR PANEL	TELE	TELEPHONE
FIXT	FIXTURE	TYP	TYPICAL
FLA	FULL LOAD AMPERES	UON	UNLESS OTHERWISE NOTED
FLUOR	FLUORESCENT	V	VOLTS
		W	WATTS
		WP	WEATHERPROOF
		W/	WITH

GENERAL

(#)	INDICATES PLAN NOTE.
<#>	INDICATES REVISION. CLOUDED AREA CONTAINS THE REVISION.
[#]	INDICATES ROOM NUMBER.
	BRANCH CIRCUIT HOMERUN
——o	CONDUIT TURNING UP
——●	CONDUIT TURNING DOWN
——→	GROUND

ELECTRICAL LEGEND

POWER

NOTES: REFER TO ARCHITECTURAL DRAWINGS AND ELEVATIONS FOR EXACT LOCATION AND MOUNTING HEIGHTS.

WP:	WEATHER PROOF (NEMA 3R)
IG:	ISOLATED GROUND.
GFI:	GROUND FAULT INTERRUPTER.
(J)	CEILING MOUNTED JUNCTION BOX.
□J	DISCONNECT SWITCH - NON-FUSED.
▨J	FUSED DISCONNECT SWITCH. FUSE SIZE PER PLANS.
⊠J	COMBINATION STARTER/DISCONNECT SWITCH.
VFDJ	VARIABLE FREQUENCY DRIVE.
	WALL MOUNTED 20A DUPLEX RECEPTACLE. (18" AFF UON).
SH	FIRE ALARM HORN AND STROBE.
	UTILITY LIGHTING FIXTURE.
DD	FIRE ALARM DUCT MOUNTED SMOKE DETECTOR.

ELECTRICAL LEGEND

SHEET NAMING LEGEND

DISCIPLINE
"ED" DEMO
"E" NEW WORK

PLAN TYPE
"1" FLOOR PLAN
"2" ENLARGED FLOOR ETC.

E111A

SYSTEM TYPE
"0" SITE
"1" LIGHTING
"2" POWER
"3" FIRE ALARM

SECTOR

FLOOR LEVEL
"0" LOWEST FLOOR
"1" NEXT FLOOR LEVEL ETC.

DRAWING LIST - ELECTRICAL

DRAWING NUMBER	DRAWING TITLE
E001	ELECTRICAL COVER SHEET
ED101	LEVEL B2 DEMOLITION POWER PLAN
E101	LEVEL B2 POWER PLAN
E301	ELECTRICAL SCHEDULES

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PROJ. MGR.	ANIL GIRI
SUBMISSION	FINAL SUBMISSION
SUB. DATE	05/13/2026
WRK REQ. NO.	C112354

PROJECT TITLE: NIH BUILDING 4 - REPLACE AHUs 3, 4, & 4A

DRAWING TITLE: ELECTRICAL COVER SHEET

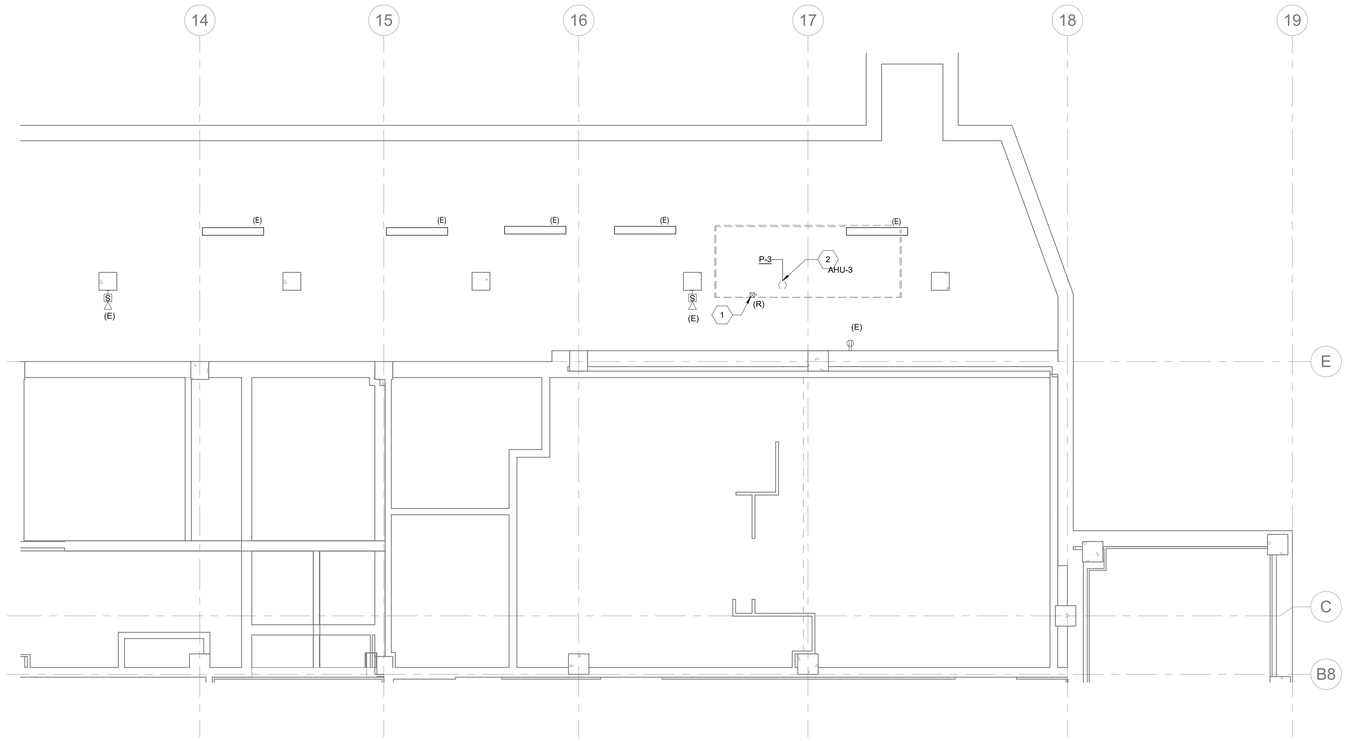
National Institutes of Health
OFFICE OF RESEARCH FACILITIES

DRAWING

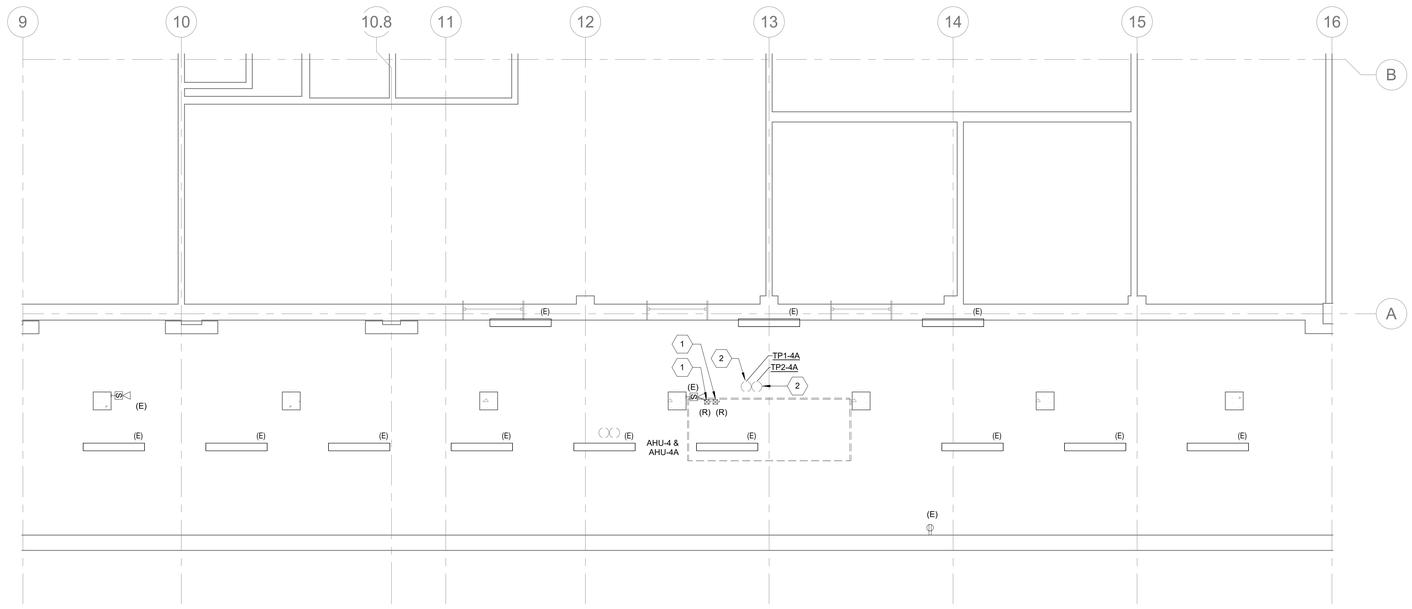
DESIGNED BY	Designer
DRAWN BY	Author
CHECKED BY	Checker
FILE NAME	ELECTRICAL COVER SHEET

DRAWING NO.
E001

SHEET OF TOTAL SHEET



1 ED101 **B2 FLOOR DEMOLITION POWER PLAN - ENLARGED 1**
1/4" = 1'-0"



2 ED101 **B2 FLOOR DEMOLITION POWER PLAN - ENLARGED 2**
1/4" = 1'-0"

GENERAL NOTES

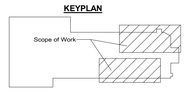
1. REFER TO E001 FOR GENERAL NOTES, SYMBOL LEGEND, AND LIST OF ABBREVIATIONS.
2. ALL LIGHTING AND FIRE ALARM ARE EXISTING TO REMAIN.

KEYNOTES

1 REMOVE EXISTING STARTER MOTOR DISCONNECT SWITCH, CONDUITS AND FEEDERS BACK TO THE SOURCE. MAINTAIN EXISTING CIRCUITING FOR REPLACEMENT MECHANICAL UNIT TAG OUT EXISTING CIRCUIT BREAKER FOR NEW WORK.

2 REMOVE EXISTING RECIRCULATION PUMP, CONDUIT AND FEEDERS BACK TO THE SOURCE. MAINTAIN EXISTING CIRCUITING FOR REPLACEMENT MECHANICAL UNIT TAG OUT EXISTING CIRCUIT BREAKER FOR NEW WORK.

KEYPLAN



0' 2' 4' 8'
SCALE: 1/4"=1'-0"

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A/E Name and LOGO

STRUCTURAL ENGINEER

SEAL

STATE OF MARYLAND
KANIKA SHREE ANIL SHARMA
66472
PROFESSIONAL ENGINEER

REVISIONS

MARK	DATE	DESCRIPTION
1	05/13/25	35% CD SUBMISSION
2	07/15/25	65% CD SUBMISSION
3	10/30/25	100% CD SUBMISSION
4	05/13/26	FINAL SUBMISSION

CONTRACTORS

A/E CON. NO.	75N99020D00010
A/E TASK NO.	75N99024F0002
CONS. CONTR.	
CONS. WORK	
PRIME A/E	Salas O'Brien
SUB A/E	
CONSTR. CON.	

BUILDING

FACILITY CODE	
BUILDING NO.	BUILDING 4
NAME	NIH
STREET	9000 ROCKVILLE PIKE
CITY	BETHESDA
STATE/ZIP	MARYLAND, 20892
OTHER BUILDING NO.	N/A

PROJECT

SPB TASK NO.	C112354
PROJ. OFFICER	KANIKA SHARMA
PROJ. MGR.	ANIL GIRI
SUBMISSION	FINAL SUBMISSION
SUB. DATE	05/13/2026
WRK REQ. NO.	C112354

PROJECT TITLE: NIH BUILDING 4 - REPLACE AHUs 3, 4, & 4A

DRAWING TITLE: LEVEL B2 DEMOLITION POWER PLAN

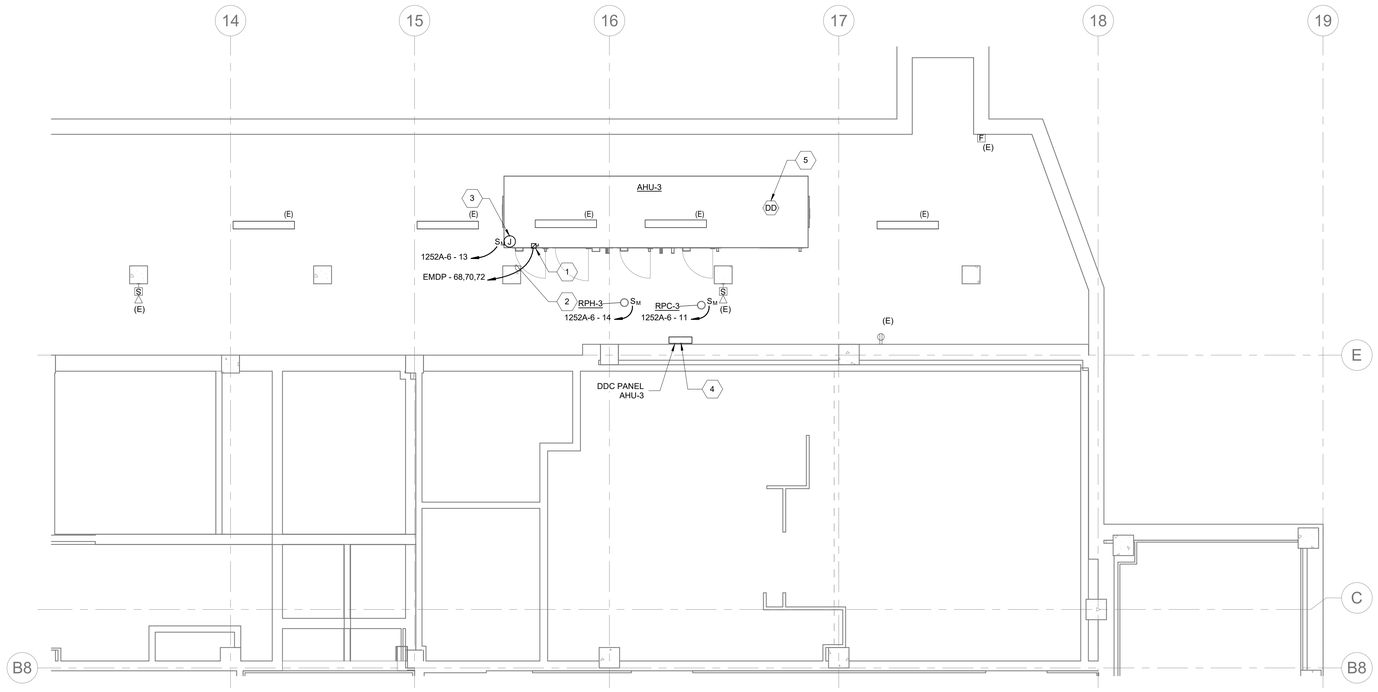
NIH
National Institutes of Health
OFFICE OF RESEARCH FACILITIES

DRAWING

DESIGNED BY	Designer
DRAWN BY	Author
CHECKED BY	Checker
FILE NAME	LEVEL B2 DEMOLITION POWER PLAN

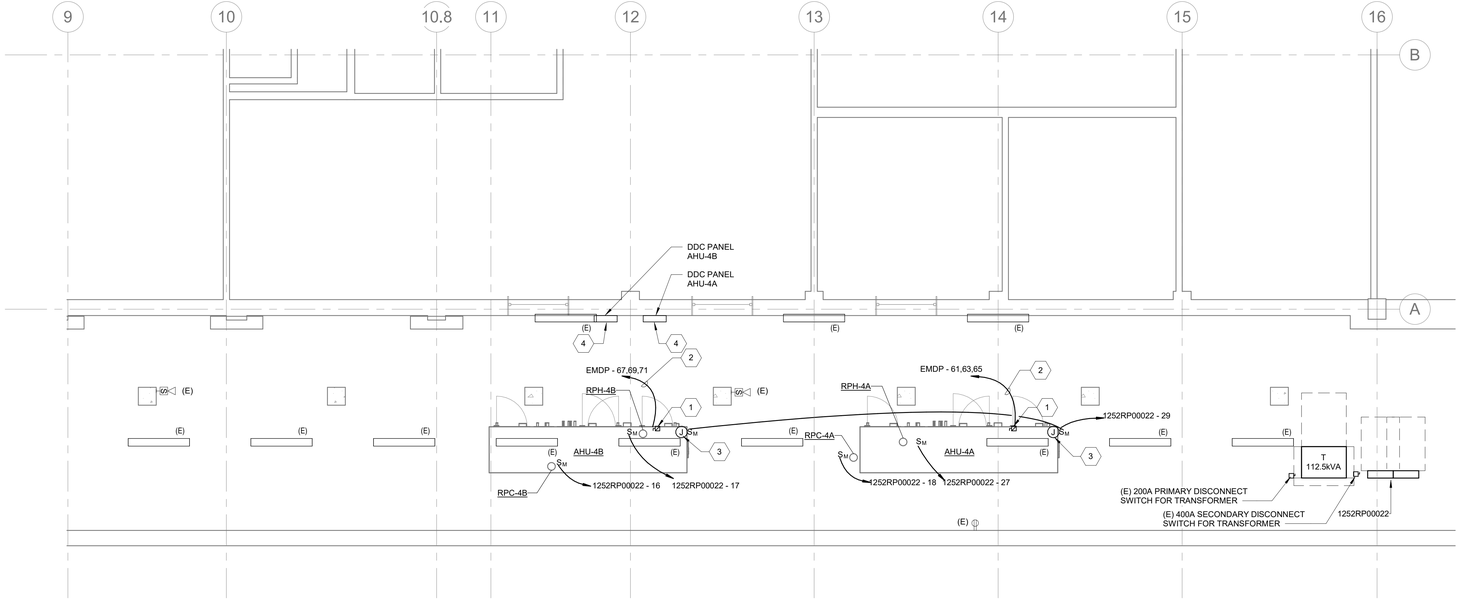
DRAWING NO.
ED101

SHEET OF TOTAL SHEET



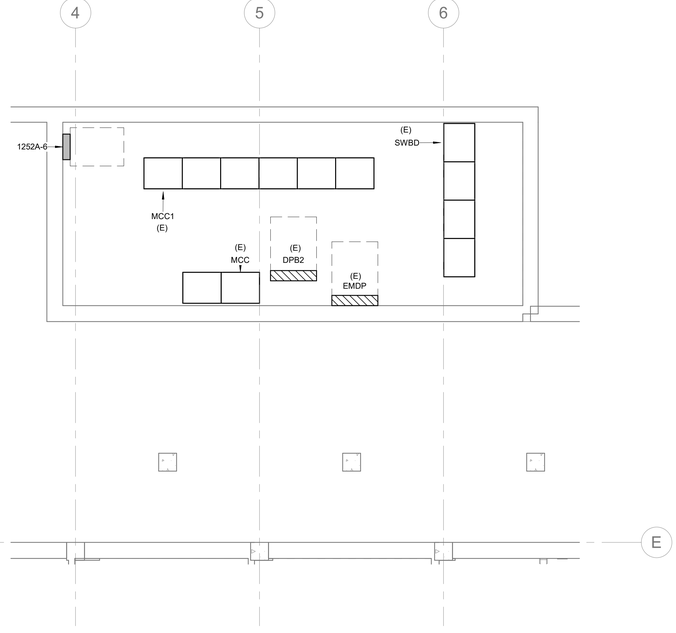
1 E101 B2 FLOOR NEW WORK POWER PLAN - ENLARGED 1

1/4" = 1'-0"



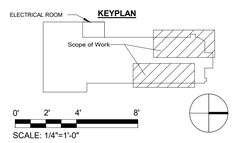
2 E101 B2 FLOOR ELECTRICAL PLAN - ENLARGED 2

1/4" = 1'-0"



3 E101 B2 FLOOR ELECTRICAL ROOM

1/4" = 1'-0"



SCALE: 1/4"=1'-0"

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GENERAL NOTES

1. REFER TO E001 FOR GENERAL NOTES, SYMBOL LEGEND, AND LIST OF ABBREVIATIONS.
2. PROVIDE LOW VOLTAGE COMMUNICATION CABLES FROM EACH DDC TO THE BAS.
3. THE FINAL CONNECTION TO EQUIPMENT SHALL BE MADE USING FLEXIBLE CONDUIT TO ACCOMMODATE VIBRATION, THERMAL EXPANSION, AND EASE OF INSTALLATION.

KEYNOTES

1 PROVIDE 30AMP 3PHASE, 480V DISCONNECT SWITCH FUSED AT 15AMPS. PROVIDE 3/4" CONDUIT FROM DDC TO BAS SYSTEM FOR LV COMMUNICATION.
2 PROVIDE 3#12+1#12G IN 3/4" C.
3 PROVIDE JUNCTION BOX FOR CONNECTION TO AHU INTEGRAL RECEPTACLE AND INTERIOR 120V LIGHTING. PROVIDE STARTER MOTOR SWITCH FOR LOCAL MEANS OF DISCONNECT.
4 REPLACE EXISTING MECHANICAL CONTROL PANEL WITH NEW RECONNECT TO EXISTING CIRCUIT PREVIOUSLY SERVING THE PANEL.
5 CONNECT NEW FIRE ALARM DUCT DETECTOR TO EXISTING FIRE ALARM SYSTEM. THE NEW FIRE ALARM DEVICE SHALL MATCH THE EXISTING FIRE ALARM MANUFACTURER AND BE COMPATIBLE WITH THE SYSTEM.

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REVISIONS

MARK	DATE	DESCRIPTION
1	05/13/25	35% CD SUBMISSION
2	07/15/25	65% CD SUBMISSION
3	10/30/25	100% CD SUBMISSION
4	05/13/26	FINAL SUBMISSION

CONTRACTORS

A/E CON. NO.	75N99020D00010
A/E TASK NO.	75N99024F0002
CONS. CONTR.	
CONS. WORK PRIME A/E	Salas O'Brien
SUB A/E CONSTR. CON.	

BUILDING

FACILITY CODE	
BUILDING NO.	BUILDING 4
NAME	NIH
STREET	9000 ROCKVILLE PIKE
CITY	BETHESDA
STATE/ZIP	MARYLAND, 20892
OTHER BUILDING NO.	N/A

PROJECT

SPB TASK NO.	C112354
PROJ. OFFICER	KANIKA SHARMA
PROJ. MGR.	ANIL GIRI
SUBMISSION	FINAL SUBMISSION
SUB. DATE	05/13/2026
WRK REQ. NO.	C112354

PROJECT TITLE: NIH BUILDING 4 - REPLACE AHUs 3, 4, & 4A

DRAWING TITLE: LEVEL B2 POWER PLAN

National Institutes of Health
OFFICE OF RESEARCH FACILITIES

DRAWING

DESIGNED BY	Designer
DRAWN BY	Author
CHECKED BY	Checker
FILE NAME	LEVEL B2 POWER PLAN

DRAWING NO.

E101

SHEET OF TOTAL SHEET

Panelboard: 1252A-6

Location: | **Distribution System:** 120/208 Wye | **A.I.C. Rating:** 10kAIC
Supply From: | **Phases:** 3 | **Mains Type:** MCB
Mounting: SURFACE | **Wires:** 4 | **Mains Rating:** 100 A
Enclosure: TYPE 1 | **Modifications:** | **MCB Rating:** 100 A

Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.
1	(E) RECEPTACLE	20 A	1	500 / 500			1	20 A	(E) RECEPTACLE	2
3	(E) RECEPTACLE	20 A	1		500 / 500		1	20 A	(E) FCU	4
5						1667 / 3333				6
7	(E) RECEPTACLE INSUCROTARY	20 A	3	1667 / 3333			3	50 A	(E) RECEPTACLE	8
9					1667 / 3333					10
11	**RPC-3 (NOTE 1)**	20 A	1			125 / 500	1	20 A	(E) RECEPTACLE	12
13	**AHU-3 RECEPTACLE AND LIGHT (NOTE 1)**	20 A	1	594 / 94			1	20 A	**RPH-3 (NOTE 2)**	14
15	(E) UPS	20 A	1		500 / 500		1	20 A	(E) RECEPTACLE	16
17	(E) UNIT HEATER	20 A	1			500 / 500	1	20 A	(E) CP	18
		Load Per...		6688 VA	7000 VA	6625 VA				

Load Classification	Connected...	Demand...	Est. Demand	Panel Totals	
EQUIPMENT	500 VA	100.00%	500 VA	TOTAL CONNECTED LOAD:	20313 VA
RECEPTACLE	19000 VA	76.32%	14500 VA	TOTAL ESTIMATED DEMAND:	15938 VA
Mech Loads	813 VA	115.38%	938 VA	TOTAL CONNECTED CURRENT:	56 A
				TOTAL ESTIMATED DEMAND CURRENT	44 A

NOTES:
1. PROVIDE NEW GE 20AMP, 3POLE, 120V, 10KAIC CIRCUIT BREAKER.
2. EXISTING CIRCUIT BREAKER MADE AVAILIBLE AFTER DEMOLITION.

Panelboard: 1252RP00022

Location: | **Distribution System:** 120/208 Wye | **A.I.C. Rating:** 10kAIC
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: SURFACE | **Wires:** 4 | **Mains Rating:** 400 A
Enclosure: TYPE 1 | **Modifications:** | **MCB Rating:**

Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.
1	(E) RECEPTACLE	20 A	1	500 / 500			1	20 A	(E) RECEPTACLE	2
3	(E) RECEPTACLE	20 A	1		500 / 500		1	20 A	(E) FCU-1	4
5	(E) RECEPTACLE	20 A	1			500 / 500	1	20 A	(E) FCU-2	6
7	(E) RECEPTACLE	20 A	1	500 / 500			1	20 A	(E) RECEPTACLE	8
9	(E) RECEPTACLE	20 A	1		500 / 500		1	20 A	(E) RECEPTACLE	10
11						2300 / 500	1	20 A	(E) RECEPTACLE	12
13	(E) EQUIPMENT SURGE	30 A	3	2300 / 500			1	20 A	(E) FCU-3	14
15					2300 / 63		1	20 A	**RPC-4B (NOTE 1)**	16
17	**RPH-4B (NOTE 1)**	20 A	1			250 / 63	1	20 A	**RPC-4A (NOTE 1)**	18
19				1250 / 2500						20
21	(E) RECEPTACLE 6-20R	20 A	2		1250 / 2500		2	40 A	(E) RECEPTACLE 6-50R	22
23						2500 / 2500				24
25	(E) RECEPTACLE 6-20R	40 A	2	2500 / 2500			2	40 A	(E) RECEPTACLE 6-50R	26
27	**RPH-4A**	20 A	1		250 / 0		1	20 A	SPARE	28
29	**AHU-4A/4B RECEPTACLE AND LIGHT**	20 A	1			1000 / 0	1	20 A	SPARE	30
31				4333 / 4333						32
33	(E) EQUIPMENT WIRE MOLD	60 A	3		4333 / 4333		3	60 A	(E) EQUIPMENT WIRE MOLD	34
35						4333 / 4333				36
37				4333 / 4333						38
39	(E) EQUIPMENT WIRE MOLD	60 A	3		4333 / 4333		3	60 A	(E) EQUIPMENT WIRE MOLD	40
41						4333 / 4333				42
43				4333 / 4333						44
45	(E) EQUIPMENT WIRE MOLD	20 A	3		4333 / 4333		3	20 A	(E) EQUIPMENT WIRE MOLD	46
47						4333 / 4333				48
49				1533 / 2300						50
51	(E) EQUIPMENT	20 A	3		1533 / 2300		3	30 A	(E) EQUIPMENT SURGE	52
53						1533 / 2300				54
55	(E) EQUIPMENT	40 A	2	2500 / 500			1	20 A	(E) RECEPTACLE	56
57					2500 / 500		1	20 A	(E) RECEPTACLE	58
59	SPACE AND HARDWARE	--	1			0 / 500	1	20 A	(E) RECEPTACLE	60
61	(E) RECEPTACLE	20 A	1	500 / 500			1	20 A	(E) RECEPTACLE	62
63	(E) RECEPTACLE	20 A	1		500 / 500		1	20 A	(E) RECEPTACLE	64
65	(E) RECEPTACLE	20 A	1			500 / 2300				66
67	(E) RECEPTACLE	20 A	1	500 / 2300			3	30 A	(E) EQUIPMENT	68
69	SPACE AND HARDWARE	--	1		0 / 2300					70
71	SPACE AND HARDWARE	--	1			0 / 0	1	--	SPACE AND HARDWARE	72
73	SPACE AND HARDWARE	--	1	0 / 0			1	--	SPACE AND HARDWARE	74
75	SPACE AND HARDWARE	--	1		0 / 0		1	--	SPACE AND HARDWARE	76
77	SPACE AND HARDWARE	--	1			0 / 0	1	--	SPACE AND HARDWARE	78
79	SPACE AND HARDWARE	--	1	0 / 0			1	--	SPACE AND HARDWARE	80
81	SPACE AND HARDWARE	--	1		0 / 0		1	--	SPACE AND HARDWARE	82
83	SPACE AND HARDWARE	--	1			0 / 0	1	--	SPACE AND HARDWARE	84
		Load Per...		50183 VA	44496 VA	43246 VA				

Load Classification	Connected...	Demand...	Est. Demand	Panel Totals	
EQUIPMENT	1000 VA	100.00%	1000 VA	TOTAL CONNECTED LOAD:	137926 VA
RECEPTACLE	134800 VA	53.71%	72400 VA	TOTAL ESTIMATED DEMAND:	75661 VA
Mech Loads	2126 VA	105.88%	2251 VA	TOTAL CONNECTED CURRENT:	383 A
				TOTAL ESTIMATED DEMAND CURRENT	210 A

NOTES:
1. EXISTING CIRCUIT BREAKER MADE AVAILIBLE AFTER DEMOLITION.

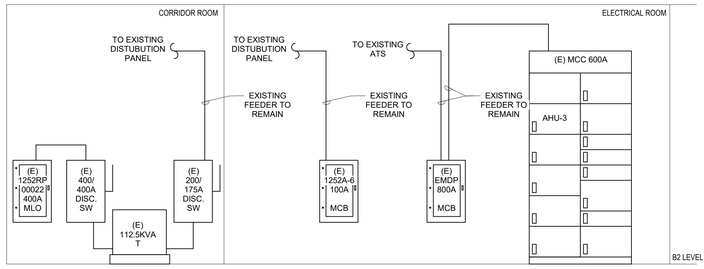
Panelboard: EMDP

Location: | **Distribution System:** 480/277 Wye | **A.I.C. Rating:** 10kAIC
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: SURFACE | **Wires:** 4 | **Mains Rating:** 800 A
Enclosure: TYPE 1 | **Modifications:** | **MCB Rating:** 800 A

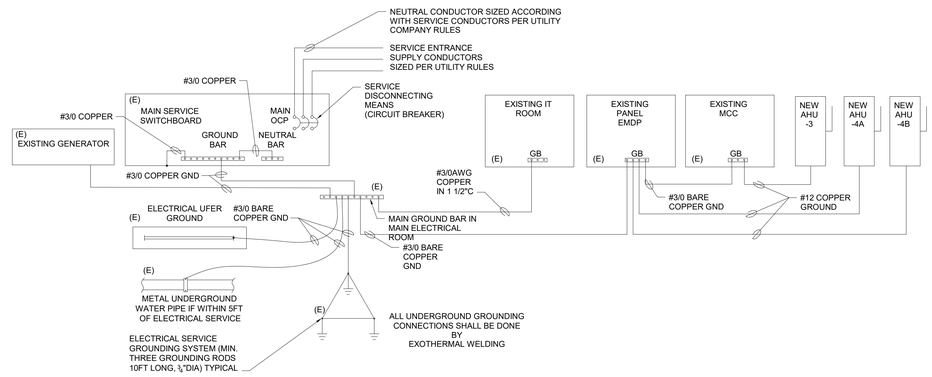
Ckt. No.	Load Description	Trip	Poles	A	B	C	Poles	Trip	Load Description	Ckt. No.
1	SPACE AND HARDWARE	--	1	0 / 0						2
3	SPACE AND HARDWARE	--	1		0 / 0		3	800 A	6 POLE MAIN CIRCUIT BREAKER	4
5	SPACE AND HARDWARE	--	1			0 / 0				6
7	SPACE AND HARDWARE	--	1	0 / 0						8
9	SPACE AND HARDWARE	--	1		0 / 0		3	--		10
11	SPACE AND HARDWARE	--	1			0 / 0				12
13	SPACE AND HARDWARE	--	1	0 / 66667						14
15	SPACE AND HARDWARE	--	1		0 / 66667		3	600 A	(E) MCC	16
17	SPACE AND HARDWARE	--	1			0 / 66667				18
19				15000 / 0						20
21	(E) LV RISER	110 A	3		15000 / 0		3	--		22
23						15000 / 0				24
25				14172 / 53333						26
27	(E) CHWS VFD P-1	100 A	3		14172 / 53333		3	400 A	(E) EDP1	28
29						14172 / 53333				30
31				14172 / 0						32
33	(E) CHWS VFD P-2	100 A	3		14172 / 0		3	--		34
35						14172 / 0				36
37				14172 / 0			1	--	SPACE AND HARDWARE	38
39	(E) CHWS VFD P-3	100 A	3		14172 / 0		1	--	SPACE AND HARDWARE	40
41						14172 / 0	1	--	SPACE AND HARDWARE	42
43				8503 / 0			1	--	SPACE AND HARDWARE	44
45	(E) ELEVATOR	60 A	3		8503 / 0		1	--	SPACE AND HARDWARE	46
47						8503 / 0	1	--	SPACE AND HARDWARE	48
49				8000 / 0			1	--	SPACE AND HARDWARE	50
51	(E) HV RISER	60 A	3		8000 / 0		1	--	SPACE AND HARDWARE	52
53						8000 / 0	1	--	SPACE AND HARDWARE	54
55				167 / 0			1	--	SPACE AND HARDWARE	56
57	(E) SPD	30 A	3		167 / 0		1	--	SPACE AND HARDWARE	58
59						167 / 0	1	--	SPACE AND HARDWARE	60
61				840 / 0			1	--	SPACE AND HARDWARE	62
63	**AHU-4A (NOTE 2)**	15 A	3		840 / 0		1	--	SPACE AND HARDWARE	64
65						840 / 0	1	--	SPACE AND HARDWARE	66
67				840 / 2104						68
69	**AHU-4B (NOTE 2)**	15 A	3		840 / 2104		**3**	**15 A**	**AHU-3 (NOTE 1)**	70
71						840 / 2104				72
		Load Per...		197970 VA	197970 VA	197970 VA				

Load Classification	Connected...	Demand...	Est. Demand	Panel Totals	
Power	384500 VA	100.00%	384500 VA	TOTAL CONNECTED LOAD:	593909 VA
RECEPTACLE	45000 VA	61.11%	27500 VA	TOTAL ESTIMATED DEMAND:	587038 VA
MECH. LOADS (LARGEST @125% + REST @ 100%)	164409 VA	106.46%	175038 VA	TOTAL CONNECTED CURRENT:	714 A
				TOTAL ESTIMATED DEMAND CURRENT	706 A

NOTES:
1. PROVIDE NEW SQUARED 15AMP, 3POLE, 480V, 10KAIC CIRCUIT BREAKER.
2. EXISTING CIRCUIT BREAKER MADE AVAILIBLE AFTER DEMOLITION.



1 E301 **PARTIAL EXISTING ELECTRICAL RISER DIAGRAM**
NTS



2 E301 **EXISTING GROUNDING**
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Seal
STATE OF MARYLAND — STEPHEN ANTHONY — 66472 — PROFESSIONAL ENGINEER

Revisions

MARK	DATE	DESCRIPTION
1	05/13/25	35% CD SUBMISSION
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3	10/30/25	100% CD SUBMISSION
4	05/13/26	FINAL SUBMISSION

Contractors

A/E CON. NO.	75N99020D00010
A/E TASK NO.	75N99024F0002
CONS. CONTR.	
CONS. WORK PRIME A/E	Salas O'Brien
SUB A/E	
CONSTR. CON.	

Building

FACILITY CODE	
BUILDING NO.	BUILDING 4
NAME	NIH
STREET	9000 ROCKVILLE PIKE
CITY	BETHESDA
STATE/ZIP	MARYLAND, 20892
OTHER BUILDING NO.	N/A

Project

SPB TASK NO.	C112354
PROJ. OFFICER	KANIKA SHARMA
PROJ. MGR.	ANIL GIRI
SUBMISSION	FINAL SUBMISSION
SUB. DATE	05/13/2026
WRK REQ. NO.	C112354

NIH BUILDING 4 - REPLACE AHUs 3, 4, & 4A
Project Title

ELECTRICAL SCHEDULES
Drawing Title

NIH National Institutes of Health
OFFICE OF RESEARCH FACILITIES

Drawing

DESIGNED BY	Designer
DRAWN BY	Author
CHECKED BY	Checker
FILE NAME	ELECTRICAL SCHEDULES

DRAWING NO.
E301

SHEET OF TOTAL SHEET