

GENERAL NOTES:

1. SCOPE OF WORK:

WORK INCLUDED UNDER THIS SECTION IS SUBJECT TO THE CONTRACT AGREEMENT, GENERAL CONDITIONS, AND CONTRACT DRAWINGS. PROVIDE ALL MATERIAL, LABOR, SUPERVISION, EQUIPMENT AND APPURTENANCES REQUIRED TO COMPLETE WORK AS SPECIFIED ON CONTRACT DRAWINGS, INCLUDING BUT NOT LIMITED TO:

- * RETAIN THE SERVICES OF A CERTIFIED BALANCING CONTRACTOR AND OBTAIN AIR FLOW MEASUREMENTS FOR SUPPLY, RETURN AND EXHAUST SYSTEMS IN PLISS BE USED TO VERIFY THE OPERATION OF EXISTING SYSTEMS FOR FINAL BALANCING.
- * DEMOLISH AND REMOVE EXISTING CEILING IN LOCKER ROOM AND R&D LABORATORY AREAS AND REDISTRIBUTE AIR TO ACCOMMODATE NEW ROOM LAYOUT.
- * DEMOLISH TWO (2) EXISTING LABORATORY FUME HOODS AND ASSOCIATED EXHAUST FANS, COMPRESSED AIR, ETC. LOCATED IN R&D LABORATORIES. TURN OVER TO FACILITY MANAGEMENT FOR STORAGE AND FUTURE REUSE/REINSTALLATION.
- * PROVIDE NEW SUPPLY GRILLS, EXHAUST GRILLS AND RETURN GRILLS TO ACCOMMODATE NEW CEILING LAYOUTS. PROVIDE AN ALLOWANCE FOR NEW SHEETMETAL BRANCH DUCTWORK, FLEX DUCT, DAMPERS, INSULATION, ETC, AS REQUIRED FOR A COMPLETE INSTALLATION.
- * UPON INSTALLATION ALL SYSTEMS SHALL BE REBALANCED TO THE AIR FLOWS INDICATED ON THE PLANS.
- * ALL MATERIAL AND WORKMANSHIP SHALL BE OF THE BEST QUALITY AND SHALL BE INSTALLED IN ACCORDANCE WITH THE BEST PERFORMANCE OF THE TRADE.

2. PERMITS AND FEES:

THE CONTRACTOR SHALL FILE ALL NECESSARY DRAWINGS, SECURE AND PAY ALL FEES FOR PERMITS, LICENSES, INSPECTIONS AND ROYALTIES WITH FEDERAL, STATE, COUNTY AND LOCAL AUTHORITIES HAVING JURISDICTION OVER THIS WORK AS WELL AS WITH INSURANCE AND LOCAL UTILITY COMPANIES IF THEIR APPROVAL IS REQUIRED. THE CONTRACTOR SHALL DELIVER ALL PERMITS, APPROVALS, AND CERTIFICATES OF INSPECTION FOR HIS WORK TO THE OWNER'S REPRESENTATIVE, WITHOUT ADDITIONAL COST, BEFORE REQUESTING FINAL PAYMENT FOR THE WORK.

3. DRAWINGS, SURVEYS AND MEASUREMENTS:

CONTRACT DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. THEY DO NOT INDICATE ALL OFFSETS, BENDS, ACCESS PANELS AND SIMILAR ITEMS WHICH MAY BE REQUIRED. THEY ARE NOT TO BE SCALED. THE ENGINEERING DRAWINGS AND DETAILS SHALL BE EXAMINED FOR EXACT LOCATION OF FIXTURES AND EQUIPMENT. WHERE THEY ARE NOT DEFINITELY LOCATED, THIS INFORMATION SHALL BE OBTAINED FROM THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL FOLLOW DRAWINGS IN LAYING OUT WORK AND CHECK DRAWINGS OF OTHER TRADES TO VERIFY CLEARANCE IN SPACES IN WHICH WORK WILL BE INSTALLED, AND TO COORDINATE LOCATION OF ALL DUCTWORK, PIPING, EQUIPMENT AND OTHER MECHANICAL ITEMS TO AVOID INTERFERENCE WITH THE WORK OF OTHER TRADES. THE CONTRACTOR SHALL INVESTIGATE STRUCTURAL CONDITIONS, ARCHITECTURAL FINISHES, CEILING HEIGHTS, AND ALL EXISTING CONDITIONS AFFECTING HIS WORK AND PROVIDE ALL NECESSARY OFFSETS, TRANSITIONS, FITTINGS, ACCESS PANELS AND SIMILAR ACCESSORIES THAT MAY BE REQUIRED. MAINTAIN MAXIMUM CLEARANCES, WITH AT LEAST 7'-FT HEADROOM AND 3 FT WALKWAYS, AT ALL POINTS. WHERE CLEARANCES, HEADROOM OR WALKWAYS APPEAR INADEQUATE, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH INSTALLATION.

IF DIRECTED BY OWNER'S REPRESENTATIVE, THE CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE REASONABLE MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES OR FOR PROPER EXECUTION OF THE WORK.

UNDER NO CIRCUMSTANCES SHALL THE MECHANICAL WORK OBSTRUCT THE CODE-REQUIRED ACCESS SPACE FOR ELECTRICAL PANELS AND DEVICES.

THE CONTRACTOR SHALL BASE ALL MEASUREMENTS, BOTH HORIZONTAL AND VERTICAL, FROM ESTABLISHED BENCHMARKS. ALL WORK SHALL AGREE WITH THESE ESTABLISHED LINES AND LEVELS. VERIFY ALL MEASUREMENTS AT SITE AND CHECK THE CORRECTNESS OF THESE MEASUREMENTS AS RELATED TO THE WORK.

SHOULD THE CONTRACTOR DISCOVER ANY DISCREPANCY BETWEEN ACTUAL MEASUREMENTS AND THOSE INDICATED ON THE DRAWINGS THAT PREVENTS FOLLOWING THE CONTRACT DRAWINGS AND SPECIFICATIONS, HE SHALL NOTIFY THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH FURTHER WORK.

THE CONTRACTOR SHALL IMMEDIATELY AND BEFORE PROCEEDING WITH THE WORK NOTIFY THE ENGINEER, IN WRITING, IF ANY INCONSISTENCY IS FOUND BETWEEN THE SPECIFICATIONS AND THE DRAWINGS. THE OWNER'S REPRESENTATIVE WILL RESOLVE ALL INCONSISTENCIES AND ADVISE THE CONTRACTOR TO PROCEED WITH THE WORK ACCORDINGLY.

WHERE CONSTRUCTION IN EXISTING FACILITIES IS INVOLVED, THE CONTRACTOR SHALL SURVEY EXISTING FACILITIES TO CONFIRM ALL EXISTING CONDITIONS AND DIMENSIONS, WHETHER INDICATED ON THE DRAWINGS OR NOT. BEFORE ORDERING ANY MATERIAL OR DOING ANY WORK, THE CONTRACTOR SHALL VERIFY ALL MEASUREMENTS IN THE FIELD AND HE SHALL BE RESPONSIBLE FOR THE CORRECTNESS OF THESE MEASUREMENTS. THE FINAL LOCATION OF ALL DUCTWORK, PIPING AND EQUIPMENT SHALL BE FIELD VERIFIED BY THE CONTRACTOR TO AVOID ALL INTERFERENCES.

UNLESS SPECIFICALLY OTHERWISE NOTED, THIS CONTRACTOR SHALL DO ALL CUTTING AND PATCHING NECESSARY FOR THE INSTALLATION OF HIS WORK. ALL PATCHING SHALL MATCH EXISTING ADJACENT SURFACES.

NO EXTRA COMPENSATION WILL BE ALLOWED ON ACCOUNT OF ANY DIFFERENCES BETWEEN ACTUAL DIMENSIONS AND THOSE INDICATED ON THE DRAWINGS, OR FOR ANY EXISTING CONDITIONS OR OBSTRUCTIONS NOT INDICATED ON DRAWINGS. ANY DIFFERENCES THAT MAY BE FOUND SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR CONSIDERATION BEFORE PROCEEDING WITH THE WORK.

4. CUTTING, PATCHING AND PENETRATIONS:

THE CONTRACTOR SHALL FURNISH ALL INFORMATION BY DRAWINGS OR IN WRITING, FOR THE SIZE AND LOCATION OF ALL REQUIRED OPENINGS, CHASES OR OTHER PROVISIONS FOR HIS WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUBMIT SUCH INFORMATION TO THE OWNER'S REPRESENTATIVE AND THE GENERAL CONTRACTOR IN AMPLE TIME FOR SUCH PROVISIONS TO BE MADE. CUTTING AND PATCHING IN EXISTING CONSTRUCTION SHALL BE DONE BY THIS CONTRACTOR. ALL PATCHING SHALL BE DONE WITH APPROVED MATERIALS AND SHALL MATCH EXISTING ADJACENT SURFACES. PIPING AND DUCTWORK PENETRATIONS THROUGH WALLS, FLOORS AND CEILINGS SHALL BE SEALED BY THE CONTRACTOR. THE TYPE OF SEAL USED SHALL BE COORDINATED WITH THE TYPE OF CONSTRUCTION BEING PENETRATED, I.E. FIRE-RATED, SMOKE-RATED, COMBINATION SMOKE-FIRE RATED, OR NON-RATED PARTITION. CONTRACTOR SHALL PROVIDE FIRE STOPS FOR ALL PIPING AND DUCTWORK PENETRATIONS WITH UL RATED ASSEMBLIES, USING APPLICABLE U.S.C THERMOFIBER SMOKE AND FIRE LIFE SAFETY INSULATION SYSTEMS OR APPROVED EQUAL.

5. MISCELLANEOUS STEEL, SUPPORTS AND ACCESSORIES:

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY LUMBER, STEEL ANGLES, CHANNELS, PLATES, PIPE, RODS, NUT, BOLTS, ETC., AS SHOWN ON PLANS, AS SPECIFIED OR AS MAY BE REQUIRED FOR COMPLETE AND PROPERLY SUPPORTED INSTALLATION OF DUCTWORK AND EQUIPMENT. ALL EQUIPMENT PADS INDICATED ON THE DRAWINGS SHALL BE PROVIDED BY THIS CONTRACTOR UNLESS NOTED OTHERWISE.

CONTRACTOR SHALL CONFIRM EXACT STRUCTURAL REQUIREMENTS FOR THE MOUNTING OF ALL EQUIPMENT AND DUCTWORK. ALL MOUNTING AND SUPPORT DETAILS INDICATED ON MECHANICAL DRAWINGS ARE INTENDED TO CONVEY A GENERAL MEANS OF SUPPORT, NOT THE SPECIFIC DETAILS. SUBMIT SHOP DRAWING DETAILS FOR APPROVAL OF MECHANICAL AND STRUCTURAL ENGINEER(S), ALSO SEE SPECIFICATIONS.

6. APPROVALS AND REQUIRED SHOP DRAWINGS:

CONTRACTOR SHALL SUBMIT FOR APPROVAL DETAILED SHOP DRAWINGS, COMPLETELY COORDINATED WITH ALL OTHER TRADES, OF ALL EQUIPMENT, MATERIALS, INSTALLATION AND SUPPORT DETAILS REQUIRED. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL FOUR (4) COPIES SHOP DRAWINGS, ENGINEERING DATA AND CATALOG INFORMATION PRIOR TO ORDERING, FOR ALL MECHANICAL EQUIPMENT AND MATERIALS TO BE ORDERED.

- * THESE SHOP DRAWINGS SHALL INCLUDE PERFORMANCE DATA FOR VAV BOXES AND AIR DEVICES, PLUS THE FOLLOWING CONSTRUCTION OR INSTALLATION DRAWINGS, DIAGRAMS AND DETAILS:
- * AUTOMATIC TEMPERATURE CONTROLS, INCLUDING ELECTRIC WIRING DIAGRAMS AND DESCRIPTION OF EACH FUNCTION.
- * LAYOUTS SHOWING LOCATION AND SIZE OF ALL OPENINGS IN FLOORS, WALLS, ROOFS AND CEILINGS.
- * DETAILS OF SUPPLEMENTARY STRUCTURAL STEEL SUPPORTS, HANGERS AND EQUIPMENT PADS. SHOP DRAWINGS AND WIRING DIAGRAMS MUST BE SUBMITTED FOR ALL EQUIPMENT BEFORE PURCHASING EVEN IF CONTRACTOR INTENDS TO SUBMIT SPECIFIED EQUIPMENT OR LAYOUTS SHOWN ON DRAWINGS. WHERE SHOP DRAWINGS OR SUBMITTED SPECIFICATIONS DEVIATE SIGNIFICANTLY FROM THE CONTRACT DRAWINGS OR SPECIFICATIONS, THE POINTS OF DIFFERENCE SHALL BE CLEARLY NOTED. THE CONTRACTOR SHALL MAKE ALL CORRECTIONS REQUIRED FOR SHOP DRAWINGS AND RESUBMIT BEFORE FINAL APPROVAL CAN BE GIVEN. TAG NUMBERS, DRAWINGS AND SPECIFICATION REFERENCES SHALL BE NOTED ON ALL SUBMISSIONS. WHERE MULTIPLE SELECTIONS OR OPTIONS ARE SHOWN ON A SUBMITTAL, THE CONTRACTOR SHALL MARK ALL THOSE THAT APPLY. FAILURE TO COMPLY WITH THESE INSTRUCTIONS WILL BE SUFFICIENT REASON TO RETURN ANY SUBMITTALS TO THE CONTRACTOR WITHOUT APPROVAL.

7. SUBSTITUTIONS:

WHERE THE CONTRACTOR PROPOSES TO USE AN ITEM OF EQUIPMENT OTHER THAN THAT SPECIFIED OR DETAILED ON THE CONTRACT DRAWINGS, WHICH REQUIRES ANY REDESIGN OF THE STRUCTURE, PARTITIONS, FOUNDATIONS, PIPING, WIRING OR ANY OTHER PART OF THE MECHANICAL OR ARCHITECTURAL LAYOUT, ALL SUCH REDESIGN, AND ALL NEW DRAWINGS AND DETAILING REQUIRED, SHALL BE PREPARED BY THE CONTRACTOR AT HIS OWN EXPENSE AND APPROVED BY THE OWNER'S REPRESENTATIVE. ANY AND ALL COSTS OF REVISIONS SHALL BE BORNE BY THE CONTRACTOR, WHERE SUCH APPROVED SUBSTITUTIONS REQUIRE A DIFFERENT QUANTITY OR ARRANGEMENT OF THE PIPING SYSTEM, WIRING, CONDUIT, OR EQUIPMENT FROM THAT SPECIFIED OR INDICATED ON THE DRAWINGS, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SUCH PIPING CHANGES, STRUCTURAL SUPPORTS, INSULATION, CONTROLLERS, MOTORS, MOTOR STARTERS, ELECTRICAL WIRING AND CONDUIT, AND ANY OTHER EQUIPMENT OR APPURTENANCES REQUIRED BY THE SYSTEM, AT NO ADDITIONAL COST TO THE OWNER.

8. RECORD DRAWINGS:

RECORD DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AND SHALL INDICATE IN RED LINE THE ACTUAL INSTALLED LOCATION OF ALL EQUIPMENT, PIPING, VALVES, ACCESS DOORS AND ALL TAGGED ITEMS. UPON COMPLETION OF THE MECHANICAL INSTALLATION, THE CONTRACTOR SHALL CAREFULLY TRANSFER THE AS-BUILT DATA TO NEW, CLEAN PRINTS OF THE MECHANICAL DRAWINGS. ALL CONCEALED AND BURIED WORK SHALL BE LOCATED BY DIMENSIONS AND THE RESULTING DRAWINGS SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR APPROVAL AS PART OF THE FINAL ACCEPTANCE OF THE INSTALLATION.

9. MECHANICAL REFERENCE SYMBOLS:

STANDARD GRAPHIC SYMBOLS ARE IN ACCORDANCE WITH ASHRAE 2017 FUNDAMENTALS HANDBOOK – CHAPTER 38, UNLESS NOTED OTHERWISE ON CONTRACT DRAWINGS.

10. CODES, LAWS AND ORDINANCES:

ALL WORK PERFORMED UNDER THIS SECTION SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE 2020 MECHANICAL CODE OF NEW YORK STATE, AS WELL AS THE LATEST EDITION OF ALL FEDERAL, STATE AND LOCAL CODES, LAWS, ORDINANCES, RULES AND REGULATIONS OF ALL PUBLIC AUTHORITIES HAVING JURISDICTION OVER THIS WORK. ANY OWNER'S INSURANCE COMPANY RECOMMENDATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK IS HEREBY INCORPORATED INTO AND MADE PART OF THIS SPECIFICATION. ALL MATERIAL AND EQUIPMENT FOR THE ELECTRICAL PORTIONS OF THE MECHANICAL SYSTEMS SHALL BEAR THE APPROVAL LABEL OR SHALL BE LISTED BY THE UNDERWRITER'S LABORATORIES (UL), EVERY SAFETY PROVISION SHALL BE OBSERVED AS REQUIRED BY APPLICABLE BUILDING, LABOR AND HEALTH CODES, ORDINANCES, RULES AND REGULATIONS, AS WELL AS BY OSHA STANDARDS, WHICHEVER IS MOST STRINGENT. CONTRACTOR SHALL COMPLY WITH ALL LOCAL UTILITY COMPANY'S REQUIREMENTS AS WELL AS ANY SPECIFIC OWNER'S REGULATIONS RELATING TO THIS WORK. ALL WORK PERFORMED UNDER THIS CONTRACT SHALL COMPLY WITH ALL APPLICABLE ENVIRONMENTAL REGULATIONS AND OSHA REQUIREMENTS. THE BIDDERS SHALL INFORM THE ENGINEER OF ALL DISCREPANCIES THAT HE OBSERVES BETWEEN THESE CODES, LAWS, ORDINANCES AND REGULATIONS AND THE SPECIFICATIONS AND DRAWINGS PERTAINING TO THIS WORK, IN WRITING, IN HIS BID. THE BIDDER SHALL INCLUDE IN HIS BID PRICE ANY LABOR, MATERIALS, SERVICES, APPARATUS AND DRAWINGS NECESSARY TO COMPLY WITH THESE CODES, LAWS, ORDINANCES, AND REGULATIONS IF HEREIN SPECIFIED OR SHOWN.

11. COORDINATION WITH OTHER TRADES:

THE CONTRACTOR SHALL GIVE FULL COOPERATION TO OTHER TRADES AND SHALL FURNISH ANY INFORMATION NECESSARY TO PERMIT THE WORK OF ALL TRADES TO BE INSTALLED SATISFACTORILY AND WITH THE LEAST POSSIBLE INTERFERENCE OR DELAY. WHERE THE WORK OF THIS CONTRACTOR WILL BE INSTALLED CLOSE TO OR WILL INTERFERE WITH THE WORK OF OTHER TRADES, HE SHALL ASSIST IN WORKING OUT SPACE CONDITIONS TO MAKE A SATISFACTORY ADJUSTMENT. IF SO DIRECTED BY THE OWNER'S REPRESENTATIVE, THE CONTRACTOR SHALL PREPARE COMPOSITE WORKING DRAWINGS, PLANS AND SECTIONS, AT A SUITABLE SCALE NOT LESS THAN 1/4" = 1'-0", CLEARLY SHOWING HOW HIS WORK IS TO BE INSTALLED IN RELATION TO THE WORK OF OTHER TRADES. IF THE CONTRACTOR INSTALLS HIS WORK BEFORE COORDINATING WITH OTHER TRADES, HE SHALL MAKE THE NECESSARY CHANGES IN HIS WORK TO CORRECT THE CONDITION WITHOUT EXTRA CHARGE. THE CONTRACTOR SHALL FURNISH TO THE OTHER TRADES, AS REQUIRED, ALL NECESSARY TEMPLATES, PATTERNS, SETTING PLANS AND SHOP DETAILS FOR THE PROPER INSTALLATION OF THE WORK AND FOR THE PURPOSE OF COORDINATING ADJACENT WORK. ALL WORK SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER TO AVOID UNDUE DISRUPTION TO THE OCCUPANCY AND OPERATION OF THE EXISTING FACILITIES. ANY DISRUPTION OR INTERRUPTION OF PRIMARY SERVICES SHALL BE PERFORMED ONLY AT TIME AS DIRECTED AND APPROVED BY THE ENGINEER.

12. ACCESSIBILITY:

THE CONTRACTOR SHALL USE THE EXISTING CHASES, DOUBLE PARTITIONS, HUNG CEILING SPACES FOR PIPING INSTALLATION. COORDINATE NEW WORK WITH ALL OTHER TRADES AND PROVIDE SUFFICIENT ACCESSIBILITY TO ALL NEW AND EXISTING DUCTWORK AND MECHANICAL EQUIPMENT. HE SHALL COOPERATE WITH THE GENERAL CONTRACTOR AND ALL OTHER CONTRACTORS WHOSE WORK IS IN THE SAME SPACE, AND SHALL ADVISE THE GENERAL CONTRACTOR OF HIS REQUIREMENTS. SUCH SPACES AND CLEARANCES SHALL, HOWEVER, BE KEPT TO THE MINIMUM SIZE REQUIRED. CONTRACTOR SHALL LOCATE ALL EQUIPMENT THAT MUST BE SERVICED, OPERATED OR MAINTAINED IN FULLY ACCESSIBLE POSITIONS. IF REQUIRED FOR BETTER ACCESSIBILITY, FURNISH ACCESS DOORS FOR THIS PURPOSE. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ALLOW FOR BETTER ACCESSIBILITY, AND ANY CHANGE SHALL BE APPROVED.

13. DEMOLITION AND SALVAGE:

THE CONTRACTOR SHALL IDENTIFY THE EQUIPMENT AND PIPING TO BE REMOVED AND MARK THEM ACCORDINGLY. THE CONTRACTOR SHALL DISCONNECT AND REMOVE ONLY THE EQUIPMENT, MATERIALS, FIXTURES AND CONNECTIONS NO LONGER REQUIRED AS SHOWN ON THE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF THE WORK. UNLESS OTHER WISE INDICATED OR DIRECTED, ALL MATERIALS AND EQUIPMENT REMOVED SHALL BECOME THE CONTRACTOR'S PROPERTY AS APPROVED BY THE OWNER AND SHALL BE IMMEDIATELY REMOVED FORM THE PREMISES.

14. PROTECTION OF WORK:

THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE ALL OF HIS WORK, MATERIAL AND EQUIPMENT FROM DAMAGE DURING THE CONSTRUCTION PERIOD. ALL OPENINGS FOR DUCTWORK OR EQUIPMENT SHALL BE SECURELY CLOSED AND SEALED TO PREVENT ANY OBJECTS, DEBRIS OR RAIN FROM ENTERING. ALL INSULATION MATERIAL SHALL BE KEPT DRY AT ALL TIMES. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE THAT IS DUE TO FAILURE TO PROPERLY PROTECT PIPE, DUCT AND EQUIPMENT OPENINGS DURING CONSTRUCTION AND THE GUARANTEE PERIOD. AFTER COMPLETION OF WORK, AND PERIODICALLY DURING CONSTRUCTION.

15. CLEANUP:

THE CONTRACTOR SHALL CLEAN ALL AREAS OF DEBRIS AND RUBBISH, WHICH HAVE BEEN LEFT BY HIMSELF OR HIS SUBCONTRACTORS. THE CONTRACTOR SHALL IMMEDIATELY REMOVE WATER PRESENT IN ANY AREA, DUE TO LEAKING FITTINGS, BROKEN PIPE, ETC., CAUSED BY DEFECTIVE MATERIALS OR IMPROPER INSTALLATION. INTERNAL AND EXTERNAL AREAS OF ALL EQUIPMENT MUST BE CLEANED OF ALL CONSTRUCTION DUST AND DEBRIS PRIOR TO FINAL INSPECTION. ALL SCRATCHES ON PAINTED SURFACES SHALL BE TOUCHED UP TO MATCH.

16. GENERAL COMPLETION, MATERIALS AND RESPONSIBILITY

ALL MATERIALS, APPARATUS, AND EQUIPMENT REQUIRED FOR THIS WORK, EXCEPT AS EXPRESSLY SPECIFIED OTHERWISE, SHALL BE NEW, OF FIRST CLASS QUALITY, AND SHALL BE FURNISHED, DELIVERED, ERECTED AND CONNECTED AND FINISHED IN EVERY DETAIL, AND SHALL BE SELECTED AND ARRANGED AS TO FIT PROPERLY INTO THE BUILDING SPACES. WHERE NO SPECIFIC KIND OR QUALITY OF MATERIAL IS GIVEN, A FIRST CLASS STANDARD ARTICLE, AS APPROVED BY THE OWNER'S REPRESENTATIVE, SHALL BE FURNISHED. THE CONTRACTOR SHALL FURNISH THE SERVICES OF AN EXPERIENCED SUPERINTENDENT, WHO SHALL BE IN CONSTANT CHARGE OF THE INSTALLATION AND ALL SKILLED WORKMEN, HELPERS AND LABOR REQUIRED TO UNLOAD, TRANSFER, ERECT, CONNECT, ADJUST, START, OPERATE AND TEST EACH ITEM. ALL EQUIPMENT AND MATERIAL SHALL BE INSTALLED WITH THE APPROVAL OF THE ENGINEER, IN ACCORDANCE WITH THE WRITTEN RECOMMENDATIONS OF THE MANUFACTURERS. THIS INCLUDES THE PERFORMANCE OF SUCH TESTS THAT THE MANUFACTURER RECOMMENDS.

17. GUARANTEE AND SERVICE:

THE ENTIRE INSTALLATION SHALL BE GUARANTEED AND SERVICED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE INSTALLATION BY OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL, DURING THE PERIOD OF THE GUARANTEE, REPLACE OR REPAIR AT HIS OWN EXPENSE, EVERY PIECE OF EQUIPMENT OR MATERIAL THAT IS FOUND TO BE DEFECTIVE. THE REPLACEMENT OR REPAIRS SHALL BE DONE AS SOON AS NOTIFIED. THE CONTRACTOR SHALL ALSO REPAIR ALL DAMAGE TO SURROUNDING WORK CAUSED BY FAILURE, REPAIRS, OR REPLACEMENT OF THE DEFECTIVE EQUIPMENT OR MATERIAL.

18. DEMONSTRATION AND OPERATING INSTRUCTIONS:

THE CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF A PORTFOLIO CONTAINING THE COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL SYSTEMS, AS-BUILT DRAWINGS, EQUIPMENT CUTS, MAKE/MODEL OF FITTINGS AND FIXTURES, NAME, ADDRESS AND TELEPHONE NUMBER OF MANUFACTURERS AND THEIR LOCAL SERVICE REPRESENTATIVES, COPIES OF GUARANTEES, AND REPLACEMENT PARTS LISTS. THE CONTRACTOR SHALL FURNISH THE SERVICE OF A COMPETENT PERSON THOROUGHLY FAMILIAR WITH THE OPERATION OF THE INSTALLED SYSTEM TO INSTRUCT THE OWNER'S PERSONNEL IN THE PROPER OPERATION, MAINTENANCE, AND CONTROL OF ALL SYSTEMS.

19. AUTOMATIC TEMPERATURE CONTROLS:

- THE ATC CONTRACTOR SHALL PROVIDE A NEW WEB BASED NETWORK AND UPGRADE THE EXISTING SYSTEM CONTROLLERS TO INTEGRATE THE EXISTING SYSTEM.
- THE BUILDING MANAGEMENT SYSTEM SHALL BE ACCESSIBLE VIA THE LOCAL AND REMOTE TCP/IP NETWORK CONNECTION.
- THE ATC CONTRACTOR SHALL PROVIDE ALL NEW CUSTOMIZED 3-D WEB-BASED GRAPHICS ON A SINGLE WEB BASED GRAPHIC USER INTERFACE. INCORPORATE ALL OF THE NEW DDC CONTROLLERS INTO ONE SEAMLESS AND COMPLETELY FUNCTIONAL SYSTEM.
- THE ATC CONTRACTOR SHALL PROVIDE NEW BACNET NETWORK COMMUNICATIONS WIRING AND INTEGRATION. THE HONEYWELL WEBS-8000 BUILDING MANAGEMENT SYSTEM SHALL INTEGRATE ALL OF THE DDC CONTROLLERS INTO ONE SEAMLESS AND COMPLETELY FUNCTIONAL SYSTEM.

20. TESTING, ADJUSTING AND BALANCING:

THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO SET THE MINIMUM OUTSIDE AIR REQUIREMENTS OF NEW AND EXISTING MECHANICAL EQUIPMENT AS PER NEW AND/OR EXISTING SETPOINTS. COORDINATE ALL OUTSIDE AIR REQUIREMENTS WITH EXISTING EQUIPMENT AND MODIFY AIRFLOWS ACCORDINGLY.

THE MECHANICAL CONTRACTOR SHALL INCLUDE AS PART OF THE BALANCING, THE SERVICES OF A FACTORY AUTHORIZED SERVICE TECHNICIAN TO MAKE REQUIRED ADJUSTMENTS SO THAT THE INSTALLED EQUIPMENT CAN DELIVER THE AIR FLOW RATE AS INDICATED ON THE CONTRACT DOCUMENT AND/OR THE SEQUENCE OF OPERATION.

ABBREVIATIONS:

Ø	DIAMETER
°C	DEGREES CELSIUS
°F	DEGREES FAHRENHEIT
P	DELTA PRESSURE
AC	AIR CONDITION
ACCU	AIR COOLED CONDENSING UNIT
AC/HR	AIR CHANGES PER HOUR
AD	AIR DEVICE
AFF	ABOVE FINISH FLOOR
AMB	AMBIENT
AMPS	AMPERES
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AR	AIR REGISTER
ARR	ARRANGEMENT
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR-CONDITIONING ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATC	AUTOMATIC TEMPERATURE CONTROLS
db	DECIBELS
dBa	DECIBELS ADJUSTED
BDD	BACK DRAFT DAMPER
BHP	BRAKE HORSEPOWER
BI	BACKWARD INCLINED
BMS	BUILDING MANAGEMENT SYSTEM
BOD	BOTTOM OF DUCT
BTU	BRITISH THERMAL UNIT
CAP	CAPACITY
CAV	CONSTANT AIR VOLUME
CFM	CUBIC FEET PER MINUTE
CMSTR	COMPRESSOR
CONP	CONSTRUCTION
CONT	CONTINUED
CU.FT.	CUBIC FEET
CV	CONSTANT VOLUME
D	DEPTH
DB	DRY BULB
DIA	DIAMETER
DISCH	DISCHARGE
DDC	DIRECT DIGITAL CONTROL
DN	DOWN
DWG	DRAWING
DX	DIRECT EXPANSION
(E)	EXISTING TO REMAIN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EQ	EQUAL
ESP	EXTERNAL STATIC PRESSURE
EXT	EXTERNAL
°F	DEGREES FAHRENHEIT
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FPM	FEET PER MINUTE
FT	FEET
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HEPA	HIGH EFFICIENCY PARTICULATE ARRESTING
HAZ	HAZARDOUS
HVAC	HEATING, VENTILATION & AIR CONDITIONING
HC	HEATING COIL
HT	HEIGHT
HZ	HERTZ
IEER	INTEGRATED ENERGY EFFICIENCY RATIO
IMC	INTERNATIONAL MECHANICAL CODE
IN	INCH
INWG	INCHES OF WATER GAUGE
L	LENGTH
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LWA	LEVEL, WEIGHTED AVERAGE
MAT	MATERIAL
MAX	MAXIMUM
MBH	THOUSAND BTU/HOUR
MCA	MINIMUM CIRCUIT AMPS
MFR	MANUFACTURER
MHP	MOTOR HORSEPOWER
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
NA	NOT APPLICABLE
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NC	NOISE CRITERIA
NEG	NEGATIVE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NIC	NOT IN CONTRACT
No.	NUMBER
NOM.	NOMINAL
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
O.C.	ON CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PD	PRESSURE DROP
PH	PHASE
POS	POSITIVE
PREP	PREPARATION
PRESS	PRESSURE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
(Q)	QUANTITY
(R)	DEMOLISH AND REMOVE
RA	RETURN AIR
REF	REFRIGERANT
REQ	REQUIRED
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RLA	RELIEF AIR
RPM	REVOLUTIONS PER MINUTE
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SENS	SENSIBLE
SF	SUPPLY FAN
SP	STATIC PRESSURE
SQ.FT.	SQUARE FOOT; SQUARE FEET
STD	STANDARD

TEMP	TEMPERATURE
TOT.	TOTAL
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UL	UNDERWRITER'S LABORATORY
V	VOLTS
VDC	VOLTS – DIRECT CURRENT
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
V.I.F.	VERIFY IN FIELD
WB	WET BULB
WMS	WIRE MESH SCREEN
WT	WEIGHT

LEGEND:

	TYPE OF EQUIPMENT
	EQUIPMENT DESIGNATION NUMBER
	TYPE OF DEVICE
	AIRFLOW (CFM)
	NECK DIAMETER (IN.)
	FLEXIBLE DUCT (5'-0" MAX.)
	TRANSFER AIR
	SQUARE TO ROUND TRANSITION
	REDUCING DUCT TRANSITION
	BRANCH DUCT TAKE-OFF (WITH VOLUME DAMPER)
	DUCT SMOKE DETECTOR
	POINT OF CONNECTION
	POINT OF REMOVAL
	DIRECTION OF FLOW
	DUCT SIZE, FIRST DIMENSION IS SIDE SHOWN
	DUCT SECTION, POSITIVE PRESSURE
	FIRST DIMENSION IS TOP
	DUCT SECTION, NEGATIVE PRESSURE
	RETURN/EXHAUST UP
	RETURN/EXHAUST DOWN
	CHANGE OF ELEVATION RISE (R) DROP (D)
	ACCESS DOORS, VERTICAL OR HORIZONTAL
	TRANSITION
	DUCT ELBOW WITH TURNING VANES
	NEW WORK
	EXISTING WORK TO REMAIN
	EXISTING WORK TO BE REMOVED
	THERMOSTAT
	DUCT DESIGN PRESSURE
	DEMOLITION NOTE SYMBOL
	SHEET NOTES
	REVISION
	ITEMS INCLUDED UNDER REVISION

PROJECT COORDINATION NOTES:

1. SEE DWG. T02 FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS, SYMBOLS AND LEGENDS.
2. SEE GENERAL NOTES #19, 20 AND 21 ON DWG. T02 FOR MANDATORY SUBCONTRACTOR REQUIREMENTS.
3. SEE DWG. T01 FOR LOCATION OF FIRE RATED ASSEMBLIES.

0	ISSUED FOR BID AND CONSTRUCTION	LG	24 SEPT 21
REV	REVISION DESCRIPTION	BY	DATE
	EI Associates ARCHITECTS & ENGINEERS, PC 8 RIDGEDALE AVENUE CEDAR KNOLLS NJ 07927-973.775.7777		
GAETANO P. CIPRIANO, P.E.	PROFESSIONAL ENGINEER LICENSE NO. NY 064215-1	MECHANICAL	
SCALE	AS NOTED	PROJECT	EIA DRAWING NO.
DRAWN BY:		INSTRUMENTATION LABORATORY LOCKER ROOM EXPANSION ORANGEBURG NEW YORK	M00
DESIGNED BY:			
CHECKED BY:			
APPROVED BY:			
PROJECT MANAGER:		TITLE	CLIENT DWG. NO. ----- EIA PROJECT NO. EG8577.03

GENERAL MECHANICAL NOTES:

1. THE PURPOSE OF THESE DRAWINGS IS TO INDICATE THE SCOPE OF THE NEW MECHANICAL WORK IN THIS AREA. ALL NEW WORK SHALL BE COORDINATED WITH ACTUAL FIELD CONDITIONS ENCOUNTERED.

2. THE CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT AND MATERIALS FOR COMPLETE REMOVAL AND RELOCATION FOR THIS PROJECT.

3. ALL WORK SHALL CONFORM TO CODES AND THE REQUIREMENTS OF FEDERAL, STATE, AND LOCAL REGULATORY AGENCIES HAVING JURISDICTION.

4. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH GOOD TRADE PRACTICE AND IN ACCORDANCE WITH APPLICABLE MANUFACTURER'S RECOMMENDATIONS.

5. THE CONTRACTOR SHALL VISIT THE SITE TO UNDERSTAND THE GENERAL NATURE AND COMPLEXITY OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONDITIONS AFFECTING THE WORK. IF THERE ARE ANY DISCREPANCIES OR QUESTIONS, THE CONTRACTOR SHALL BRING IT TO THE ENGINEER'S ATTENTION PRIOR TO BID AWARD.

6. WORK TO BE DONE SHALL BE INCLUSIVE. ANY WORK NOT SPECIFICALLY CALLED OR SHOWN FOR, BUT REASONABLY IMPLIED, INCLUDING CUTTING, PATCHING, PAINTING, RESTORATION OF EXISTING SURFACES TO REMAIN, AND REPAIR OF DAMAGES CAUSED DURING CONSTRUCTION SHALL BE PROVIDED BY THE CONTRACTOR.

7. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL WORK WITH SUBCONTRACTORS DURING CONSTRUCTION.

8. EXISTING HVAC EQUIPMENT THAT INTERFERES WITH NEW ARRANGEMENT SHALL BE REMOVED, RE-INSTALLED, RELOCATED, RE-ROUTED, EXTENDED OR ABANDONED, AS REQUIRED, TO SUIT NEW ARRANGEMENT.

9. SHOULD REMOVAL, RELOCATION, OR REROUTING OF ANOTHER TRADES WORK BE REQUIRED TO ACCOMMODATE HVAC WORK, THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR THAT WORK AND SHALL PAY ALL REQUIRED COSTS. WORK SHALL BE PERFORMED BY MECHANICS SKILLED IN THE PARTICULAR TRADE INVOLVED.

10. EXISTING EQUIPMENT, BUILDING AREA OR SURFACES DAMAGED SHALL BE REPLACED OR RESTORED TO ITS ORIGINAL CONDITION.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ALL STRUCTURAL ELEMENTS.

12. THE WORD "PROVIDE" MEANS TO FURNISH AND INSTALL.

13. (E) DESIGNATES EXISTING EQUIPMENT AND DEVICES THAT SHALL REMAIN.

14. GENERAL CONTRACTOR TO PROVIDE ALL NECESSARY SHORING AND BRACING SO AS NOT TO UNDERMINE EXISTING STRUCTURE. TAKE ALL NECESSARY MEASURES TO PREVENT COLLAPSE OF WALLS, SLABS, ETC.

15. EACH CONTRACTOR IS TO TAKE ALL NECESSARY MEASURES TO PREVENT DAMAGE TO ANY ADJACENT PROPERTY, PERSONS.

16. EACH CONTRACTOR IS TO COORDINATE ALL INDICATED DEMOLITION WITH NEW CONSTRUCTION TO ENSURE PROPER LOCATION AND DIMENSIONS OF DEMOLISHED AREAS.

17. DURING DEMOLITION AND REMOVAL, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT, IN WRITING, OF ANY UNEXPECTED OR UNUSUAL CONDITIONS.

18. CUTTING SHALL BE PERFORMED BY HAND OR SMALL POWER TOOLS; HOLES AND SLOTS CUT NEAT AND TO SIZE REQUIRED, WITH MINIMUM DISTURBANCE OF ADJACENT WORK; CUT HOLES IN CONCRETE FOR PIPES AND CONDUIT WITH CORE DRILLS OF PROPER SIZES. OPENINGS SHALL BE COVERED TEMPORARILY WHEN NOT IN USE AND PATCHED AS SOON AS WORK IS INSTALLED.

19. REPAIR AND PAINT ALL SURFACES DAMAGED BY DEMOLITION OR INSTALLATION OF NEW WORK TO MATCH ADJACENT AREAS.

20. REPAINTING OF AFFECTED AREAS OR SURFACES SHALL MATCH COLOR AND TEXTURE OF EXISTING PAINTED SURFACES, UNLESS OTHERWISE INDICATED.

21. FILL IN ALL HOLES IN EXISTING TILE, GLAZED BLOCK WALLS, OR TERRAZZO FLOORING RESULTING FROM EXISTING EQUIPMENT REMOVAL WITH EPOXY PUTTY – A+B EPOXY PUTTY BY REZOLIN, LLC. OR EQUAL– SMOOTH AND PAINT TO MATCH EXISTING FINISH.

22. REINSTALL ACOUSTICAL CEILING TILES AND GRID SYSTEM MEMBERS TO MATCH AREAS NOT REMOVED DURING DEMOLITION. REUSE STORED TILES AND GRID SYSTEM AS MUCH AS POSSIBLE. PROVIDE NEW MEMBERS WHEREVER NECESSARY TO MATCH EXISTING.

23. ALL EXPOSED PIPING SHALL BE PROVIDED WITH PVC JACKET OVER INSULATION.

24. ALL THERMOSTATS LOCATED IN CLASSROOMS AND ANY PUBLIC AREA SHALL BE PROVIDED WITH PROTECTIVE COVER GUARD.
25. THE CONTRACTOR SHALL PROVIDE ALL ADDITIONAL LABOR AND MATERIALS TO PROPERLY BALANCE ALL MOTORS AND FANS IN RTU'S AS REQUIRED TO BALANCE FANS TO AIR FLOW RATES SHOWN ON CONTRACT DOCUMENTS.

26. THE CONTRACTOR SHALL FIELD VERIFY EXISTING VOLTAGES AND PHASES OF ALL EQUIPMENT TO BE REPLACED THAT WILL BE REUSING EXISTING CIRCUITS PRIOR TO PROVIDING EQUIPMENT SUBMITTALS, RELEASE FOR FABRICATION AND PURCHASING OF EQUIPMENT. IF NEW EQUIPMENT IS PURCHASED PRIOR TO CONFIRMING EXISTING CIRCUIT VOLTAGES AND PHASES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ANY ADDITIONAL COSTS AND EXPENSES ASSOCIATED WITH NEW CIRCUITING AND/OR PURCHASE OF NEW EQUIPMENT.

27. THE CONTRACTOR SHALL COORDINATE AND INSTALL ALL NEW ROOF TOP EQUIPMENT WITH EXISTING AND NEW STRUCTURAL MEMBERS. SEE STRUCTURAL DRAWINGS AND ACTUAL FIELD CONDITIONS. PROVIDE ALL ADDITIONAL REQUIRED STRUCTURAL SUPPORTS, HARDWARE AND ASSOCIATED APPURTENANCES.

28. THE CONTRACTOR SHALL PROVIDE ISOLATION BETWEEN ALL DISSIMILAR METALS AND MATERIALS.

29. VERIFY ALL EXISTING PIPE SIZES WHERE NEW PIPES ARE TO BE RECONNECTED TO EXISTING PRIOR TO CONSTRUCTION AND PROVIDE NEW PIPES OF SIZES TO MATCH EXISTING.

30. PROVIDE ISOLATION VALVES AT ALL TAKE OFFS FROM MAINS ON HEATING HOT WATER PIPING.

31. PROVIDE ISOLATION VALVES FOR PIPING AT ALL NEW EQUIPMENT. ISOLATION VALVES SHALL BE SAME SIZE AS LINE SERVED. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

32. COORDINATE ALL EQUIPMENT AND CONTROLS WITH THE ATC CONTRACTOR.

33. ALL NEW THERMOSTATS AND SPACE TEMPERATURE SENSORS SHALL BE MOUNTED IN ACCORDNACE WITH ADA HEIGHT REQUIREMENTS.

34. MOTORS FOR FANS EQUAL TO OR GREATER THAN 1/12 HP AND LESS THAN 1 HP SHALL BE ELECTRONICALLY-COMMUTATED MOTORS OR HAVE A MINIMUM EFFICIENCY OF 70%. THESE MOTORS SHALL ALSO BE SPEED ADJUSTABLE FOR EITHER BALANCING OR REMOTE CONTROL.

GENERAL DEMOLITION NOTES:

1. THE PURPOSE OF THESE DRAWINGS IS TO INDICATE THE SCOPE OF THE MECHANICAL DEMOLITION WORK TO PERMIT THE INSTALLATION OF NEW WORK. COORDINATE DEMOLITION WORK WITH BOTH NEW WORK AND THE ACTUAL FIELD CONDITIONS ENCOUNTERED.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SITE REMOVAL OF THOSE MATERIALS NOT INTENDED FOR REUSE AND FOR PROPER DISPOSAL OF MATERIALS.

3. THE CONTRACTOR SHALL REMOVE ALL EXISTING HEATING HOT WATER PIPING, VALVES, AND CONTROLS, AND ASSOCIATED APPURTENANCES AS INDICATED ON PLANS OR AS REQUIRED TO FACILITATE WORK. THIS INCLUDES ALL HWS AND HWR PIPING EXPOSED AND ABOVE CEILINGS.

4. EXISTING EQUIPMENT AND MATERIALS NOT DESIRED BY THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROMPTLY REMOVED FROM THE SITE. EQUIPMENT AND MATERIALS DESIRED BY THE OWNER SHALL BE DELIVERED BY THE CONTRACTOR TO THE LOCATION DESIGNATED BY THE OWNER.

5. EXISTING MECHANICAL WORK THAT IS TO REMAIN WHEN EXISTING STRUCTURE ON WHICH IT IS INSTALLED IS TO BE MODIFIED OR REMOVED SHALL BE PROPERLY SUPPORTED INPLACE UNTIL WORK OF ALL TRADES IS COMPLETE. REINSTALL THE HVAC WORK ON NEW STRUCTURE, AS REQUIRED.

6. PATCH EXISTING FINISHED SURFACES AND BUILDING COMPONENTS USING NEW MATERIALS MATCHING EXISTING MATERIALS IN LOCATIONS WHERE EXISTING EQUIPMENT WAS REMOVED, OR REMOVED AND REPLACED WITH NEW EQUIPMENT WHICH HAS DIFFERENT DIMENSIONS THAN THE REMOVED EQUIPMENT.

7. CONTRACTOR SHALL VERIFY AND IDENTIFY THE EXISTING PIPING SERVICES BEFORE REMOVAL TO AVOID REMOVAL OF ANY PIPING SERVICES REQUIRED TO REMAIN.

8. THE PIPING & DUCTWORK SHOWN ARE DIAGRAMMATIC ONLY, ADDITIONAL PIPING AND PIPING DEVICES (I.E. VALVES, ELBOWS ETC.) NOT SHOWN ON THE DRAWINGS EXIST AND SHALL BE REMOVED AT NO ADDITIONAL COST TO THE OWNER.

9. NO SYSTEM, NATURAL GAS (SHOWN ON PLUMBING DRAWINGS), WATER OR ELECTRICAL SHALL BE SHUTDOWN WITHOUT PRIOR REVIEW WITH THE OWNERS PROJECT MANAGER TO CONFIRM THAT AREAS TO REMAIN IN OPERATION CAN BE AFFECTED BY A SHUTDOWN. SUFFICIENT ADVANCE NOTICE MUST BE GIVEN TO THE OWNERS PROJECT MANAGER INDICATING WHEN THE PROPOSED SHUTDOWN WILL OCCUR, AND FOR HOW LONG A PERIOD OF TIME. INTENT OF ANY SHUTDOWN NOTIFICATION MUST BE GIVEN 72 HOURS PRIOR TO SHUTDOWN.

10. EXISTING CEILINGS ARE LAY-IN TYPE UNLESS OTHERWISE NOTED. REMOVE AS REQUIRED TO COMPLETE WORK. REINSTALL TILES AFTER WORK HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

11. ALL EXISTING DOORS WITH TRANSFER AIR GRILLES SHALL REMAIN UNLESS OTHERWISE NOTED.

12. (E) DESIGNATES EXISTING EQUIPMENT AND DEVICES THAT SHALL REMAIN.

13. (R) DESIGNATES EXISTING EQUIPMENT AND DEVICES THAT SHALL BE DEMOLISHED AND REMOVED.

14. ALL CONTROLS DEMOLITION SHALL BE CAREFULLY COORDINATED WITH THE ATC CONTRACTOR.

CONSTRUCTION DEMOLITION NOTES:

1. REMOVE AND STORE FOR FUTURE USE ANY ACOUSTICAL CEILING TILES AND GRID SYSTEM MEMBERS WHEREVER NECESSARY IN ORDER TO FACILITATE INSTALLATION OF NEW EQUIPMENT. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION FOR CEILING WORK.

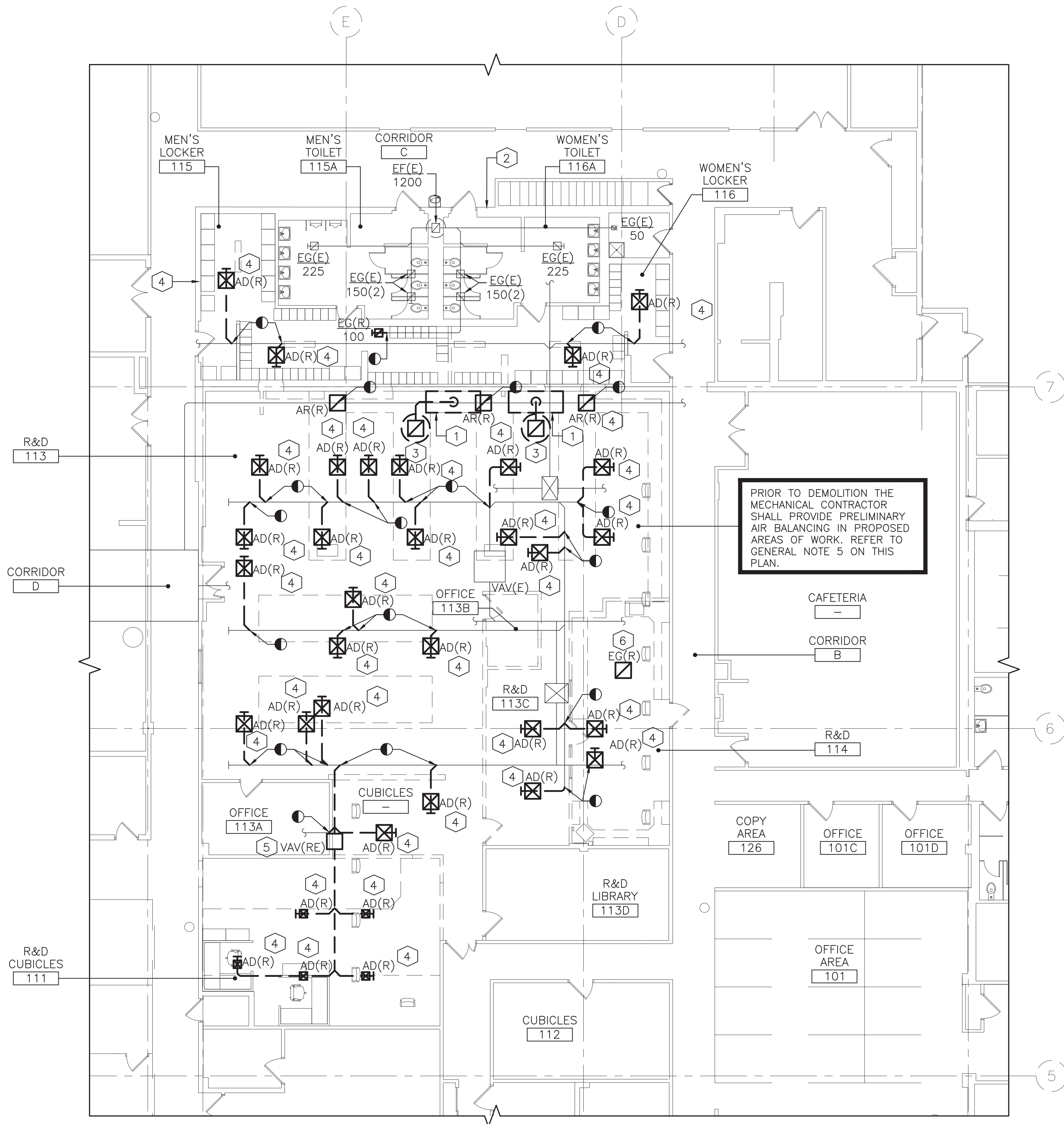
2. REMOVE ANY LOOSE OR DAMAGED PAINT OR, IF NECESSARY, PLASTER LOCATED BEHIND ANY EXISTING RADIATORS OR OTHER EQUIPMENT BEING REMOVED. PATCH AND PAINT TO MATCH EXISTING ADJACENT WALL SURFACES.

3. REMOVE ANY LOOSE OR DAMAGED FLOOR TILES LOCATED BELOW OR ADJACENT TO EQUIPMENT BEING REMOVED. PATCH WITH VINYL TILES TO MATCH EXISTING FLOOR.

4. REMOVE AND DISCARD ALL EXISTING BLOCKING USED TO SUPPORT EXISTING EQUIPMENT WHICH WILL NO LONGER BE REQUIRED FOR THE NEW EQUIPMENT BEING INSTALLED.

0	ISSUED FOR BID AND CONSTRUCTION	LG	24 SEPT 21
REV	REVISION DESCRIPTION	BY	DATE
<div><div><div>EI</div><div>ARCHITECTURE ENGINEERING PLANNING</div></div><div><div>EI Associates</div><div>ARCHITECTS & ENGINEERS, PC</div><div>8 RIDGEDALE AVENUE•CEDAR KNOLLS NJ 07927•973.775.7777</div></div></div>			
GAETANO P. CIPRIANO, P.E.		PROFESSIONAL ENGINEER LICENSE NO. NY 064215-1	MECHANICAL
SCALE AS NOTED	PROJECT INSTRUMENTATION LABORATORY LOCKER ROOM EXPANSION ORANGEBURG NEW YORK	EIA DRAWING NO. <div>M01</div>	
DRAWN BY: DESIGNED BY: CHECKED BY: APPROVED BY: PROJECT MANAGER:	TITLE GENERAL DEMOLITION & CONSTRUCTION NOTES	CLIENT DWG. NO. - - - - -	EIA PROJECT NO. EG8577.03

PLAN
NORTH



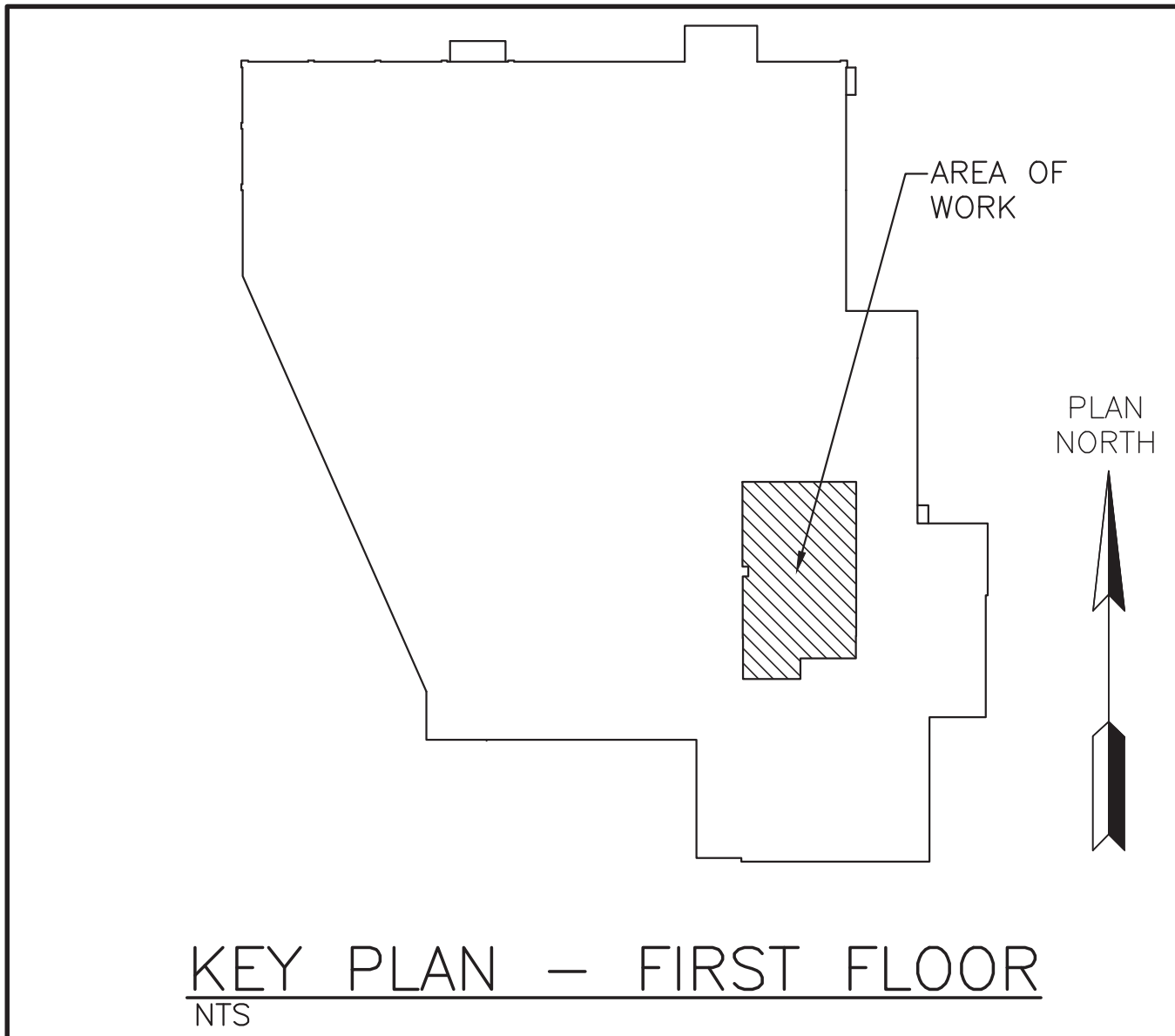
FIRST FLOOR DEMOLITION PLAN 1
1/8"=1'-0" MD11

GENERAL NOTES:

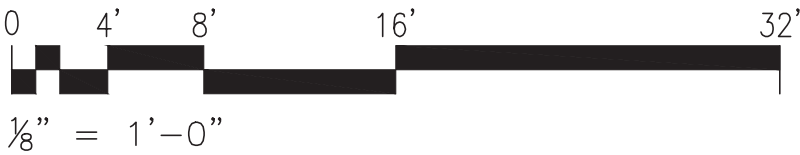
- SEE M00 SERIES DWGS FOR GENERAL NOTES, ABBREVIATIONS, & LEGEND.
- EVERYTHING PRESENTED ON THIS PLAN IS EXISTING UNLESS OTHERWISE INDICATED.
- THE EXISTING BUILDING WILL REMAIN FULLY OCCUPIED AND FUNCTIONAL THROUGHOUT THE DEMOLITION AND CONSTRUCTION PHASE OF THE PROJECT. COORDINATE ALL DEMOLITION WORK AND PHASING WITH OWNER. ALL WORK SHALL BE DONE DURING NORMAL BUSINESS HOURS. ANY WORK REQUIRING THE SHUT-DOWN OF SPECIFIC AREAS FOR EXTENDED PERIODS AND/OR WORK DONE DURING NON-BUSINESS HOURS SHALL BE COORDINATED WITH THE OWNER A MINIMUM OF TWO WEEKS PRIOR TO THE COMMENCEMENT OF WORK AND INCLUDED IN THE BID DOCUMENTS AS AN OVERTIME LINE ITEM.
- USE OF THE BUILDING ELEVATORS AND COORDIRS FOR THE REMOVAL/HANDLING OF EQUIPMENT SHALL BE AT THE DIRECTION OF FACILITY MANAGEMENT AND COORDINATED ACCORDINGLY.
- PRIOR TO DEMOLITION THE MECHANICAL CONTRACTOR SHALL RETAIN THE SERVICES OF A CERTIFIED BALANCING CONTRACTOR TO TAKE AIRFLOW MEASUREMENTS OF EXISTING SUPPLY, RETURN AND EXHAUST SYSTEMS CURRENTLY SERVING THE LOCKER ROOMS 115, 116, TOILETS 115A, 116A, R&D LAB 113 AND SURROUNDING WORK AREAS. AIRFLOW MEASUREMENTS SHALL BE SUBMITTED IN REPORT FORMAT TO THE ENGINEER OF RECORD IN AN EFFORT TO VERIFY THE EXISTING BUILDING PERFORMANCE AND FOR FUTURE BALANCING DATA.
NOTE: IN THE CASE THAT EXISTING AIR FLOW QUANTITIES DO NOT MEET THE REQUIRED AIR FLOW RATE AND/OR THERE IS AN INDICATION ANTIQUATED AND/OR DEFECTIVE EQUIPMENT THE BALANCING CONTRACTOR SHALL INDICATE ALL DEFICIENCIES IN THE REPORT FOR REVIEW BY THE ENGINEER AND OWNER. EQUIPMENT SHALL BE REPAIRED/REPLACED AS REQUIRED PENDING ENGINEERS/OWNERS RECOMMENDATIONS AND APPROVAL.
- PRIOR TO STARTING DEMOLITION WORK PROTECT ALL EXISTING FURNITURE, FLOOR AND WALL FINISHES, OFFICE EQUIPMENT, ETC. WITH FIRE RETARDENT PLASTIC SHEETING, MASONITE AND DROP CLOTHS. CONTRACTOR SHALL PROVIDE ALL MATERIALS, TEMPORARY BARRIERS AND VENTILATION FANS AS TO MAINTAIN A CLEAN AND SAFE WORK ENVIRONMENT.
- THE CONTRACTOR SHALL MAINTAIN SHALL EGRESS PATHS THROUGHOUT CONSTRUCTION.
- CONTRACTOR SHALL REMOVE EXISTING CEILING TILES TO ALLOW FOR THE DEMOLITION OF EXISTING DIFFUSERS AND FLEX DUCT AS WELL AS ANY WORK INVOLVED WITH THE CLEANING OF THE EXISTING DUCTWORK AND MODIFICATION OF BRANCH DUCTS TO ACCOMMODATE NEW DAMPER INSTALLATION. TILES SHALL BE STORED IN A SAFE PLACE FOR REINSTALLATION AFTER NEW WORK HAS BEEN COMPLETED AND INSPECTED. REPAIR ANY DAMAGED CEILING GRID AND REPLACE DAMAGED CEILING TILES IN KIND AS REQUIRED TO ACCOMMODATE DIFFUSER REPLACEMENT. REFER TO DRAWING M11 FOR NEW WORK IN THIS AREA.

DEMOLITION NOTES:

- EXISTING FUME HOOD, CONTROLS, EXHAUST FANS, AND ALL ASSOCIATED DUCTWORK AND APPURTENANCES TO BE REMOVED. CONTRACTOR SHALL TURN OVER EXISTING FUME HOODS TO OWNER FOR STORAGE AND REUSE. PATCH AND REPAIR EXISTING SURFACES TO MATCH ADJACENT SURFACES. SEE M11 FOR REINSTALLED FUME HOOD.
NOTE: MECHANICAL CONTRACTOR SHALL COORDINATE THE REMOVAL OF ALL PLUMBING FIXTURES, COMPRESSED, AIR, DEIONIZED WATER AND/OR ACID WASTE PIPING WITH PLUMBER. REFER TO PLUMBING PLANS FOR DETAIL.
- MECHANICAL CONTRAQCTOR TO REBALANCE EXISTING EXHAUST GRILLS IN THESE AREAS TO ACCOMMODATE NEW LAYOUT. SEE NEW WORK PLAN FOR DETAIL.
- EXISTING FUME HOOD EXHAUST FANS LOCATED ON ROOF TO BE REMOVED AND DISCARDED. CONTRACTOR SHALL TEMPORARILY CAP AND WATERPROOF EXISTING ROOF CURBS FOR MODIFICATION. COORDINATE DISCONNECT OF POWER WITH ELECTRICAL CONTRACTOR. SEE DRAWING M11 AND M15 FOR NEW CEILING AND ASSOCIATED ROOF WORK IN THIS AREA.
- DISCONNECT AND REMOVE EXISTING 24X24 AND 12X12 LAY-IN TYPE DIFFUSERS AND ASSOCIATED FLEX DUCT BACK TO MAIN/BRANCH CONNECTION. CLEAN EXISTING DUCTWORK AND PREP ASSOCIATED BRANCH DUCT FOR THE INSTALLATION OF NEW MANUAL BALANCING DAMPERS. REFER TO DRAWING M11 FOR NEW WORK IN THIS AREA (TYPICAL AS SHOWN).
- REMOVE AND RELOCATE EXISTING VAV TO NEW LOCATION SHOWN ON DWG M11.
- REMOVE AND CAP EXISTING EXHAUST GRILLE AND DUCT.



KEY PLAN - FIRST FLOOR NTS			
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EI ARCHITECTURE ENGINEERING PLANNING		EI Associates ARCHITECTS & ENGINEERS, PC 8 RIDGEDALE AVENUE CEDAR KNOLLS NJ 07927*973.775.7777	
GAETANO P. CIPRIANO, P.E.		PROFESSIONAL ENGINEER LICENSE NO. NY 064215-1	MECHANICAL
SCALE AS NOTED	PROJECT INSTRUMENTATION LABORATORY LOCKER ROOM EXPANSION ORANGEBURG NEW YORK	EIA DRAWING NO. MD11	
DRAWN BY: [signature]	DESIGNED BY: [signature]	CHECKED BY: [signature]	APPROVED BY: [signature]
PROJECT MANAGER:		CLIENT DWG. NO. - - - - - EIA PROJECT NO. EG8577.03	




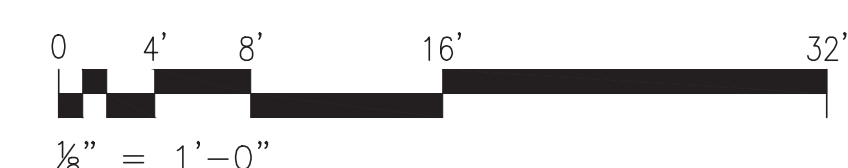


1. SEE M00 SERIES DWGS FOR GENERAL NOTES, ABBREVIATIONS, & LEGEND.
2. SEE M40 SERIES DWGS FOR DETAILS.
3. SEE M40 SERIES DRAWINGS FOR EQUIPMENT SCHEDULES.
4. IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO SURVEY THE EXISTING CONDITIONS AND VERIFY ALL DUCTWORK SIZES, DIFFUSER QUANTITIES, LOCATIONS, AND NECK CONNECTIONS AS WELL AS THE EXISTENCE OF VOLUME DAMPERS PRIOR TO PURCHASE OF MATERIALS OR FABRICATION OF DUCTWORK.
5. THE EXISTING BUILDING WILL REMAIN FULLY OCCUPIED AND FUNCTIONAL THROUGHOUT THE DEMOLITION AND CONSTRUCTION PHASE OF THE PROJECT. COORDINATE ALL NEW WORK AND PHASING WITH OWNER. ALL WORK SHALL BE DONE DURING NORMAL BUSINESS HOURS. ANY WORK REQUIRING THE SHUT-DOWN OF SPECIFIC AREAS FOR EXTENDED PERIODS AND/OR WORK DONE DURING NON-BUSINESS HOURS SHALL BE COORDINATED WITH THE OWNER A MINIMUM OF TWO WEEKS PRIOR TO THE COMMENCEMENT OF WORK AND INCLUDED IN THE BID DOCUMENTS AS AN OVERTIME LINE ITEM.
6. USE OF THE BUILDING ELEVATORS AND COORIDORS FOR THE REMOVAL/HANDLING OF EQUIPMENT SHALL BE AT THE DIRECTION OF FACILITY MANAGEMENT AND COORDINATED ACCORDINGLY.
7. PRIOR TO STARTING NEW WORK PROTECT ALL EXISTING FURNITURE, FLOOR AND WALL FINISHES, OFFICE EQUIPMENT, ETC. WITH FIRE RETARDANT PLASTIC SHEETING, MASONITE AND DROP CLOTHS. CONTRACTOR SHALL PROVIDE ALL MATERIALS, TEMPORARY BARRIERS AND VENTILATION FANS AS TO MAINTAIN A CLEAN AND SAFE WORK ENVIRONMENT.
8. CONTRACTOR SHALL PROVIDE A LOWANOTE FOR THE MATERIALS AND LABOR ASSOCIATED WITH REPAIR OF ANY AREAS DAMAGED DURING CONSTRUCTION AND/OR THE REPLACEMENT OF ANY DAMAGED CEILING GRID OR CEILING TILES.
9. CONTRACTOR SHALL PROVIDE FOR A MINIMUM OF 10'-0" OF NEW BRANCH DUCTWORK W/ HANGERS AND FITTINGS, A MANUAL DAMPER AND 5'-0" OF FLEX DUCT FOR EACH DIFFUSER BEING REPLACED.
10. ALL NEW BRANCH DUCTWORK SHALL BE SEALED AND INSULATED BACK TO THE MAIN WITH A FOIL FACED FIBERGLASS INSULATION TO MATCH EXISTING CONDITIONS (TYPICAL FOR ALL).
11. CONTRACTOR SHALL PROVIDE FOR THE MATERIALS AND LABOR ASSOCIATED WITH THE INSTALLATION OF AN ADDITIONAL 5 DIFFUSERS PER FLOOR AND ALL ASSOCIATED DUCTWORK, HANGERS, DAMPERS, INSULATION, ETC. IN THE CASE THAT EXISTING CONSTRUCTION CONDITIONS DEViate FROM THE DESIGN DOCUMENTS.
12. UPON FINAL DIFFUSER INSTALLATION THE ENTIRE SYSTEM SHALL BE REBALANCED BY A CERTIFIED BALANCING CONTRACTOR TO MATCH THE AIRFLOW RATES INDICATED ON THE PLANS AND SCHEDULES. THE BALANCING REPORT SHALL INCLUDE THE MAXIMUM AND MINIMUM AIR FLOW RATES FOR THE SUPPLY, RETURN AND EXHAUST. A FINAL COPY OF THE REPORT SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL.
13. MECHANICAL CONTRACTOR SHALL COORDINATE FINAL DIFFUSER LOCATIONS AND FUME HOOD DUCT PENETRATIONS WITH ARCHITECTURAL REFLECTED CEILING PLAN AND SPRINKLER SHOP DRAWINGS PRIOR TO BID/CONSTRUCTION AS TO PROVIDE A UNIFORM LAYOUT.

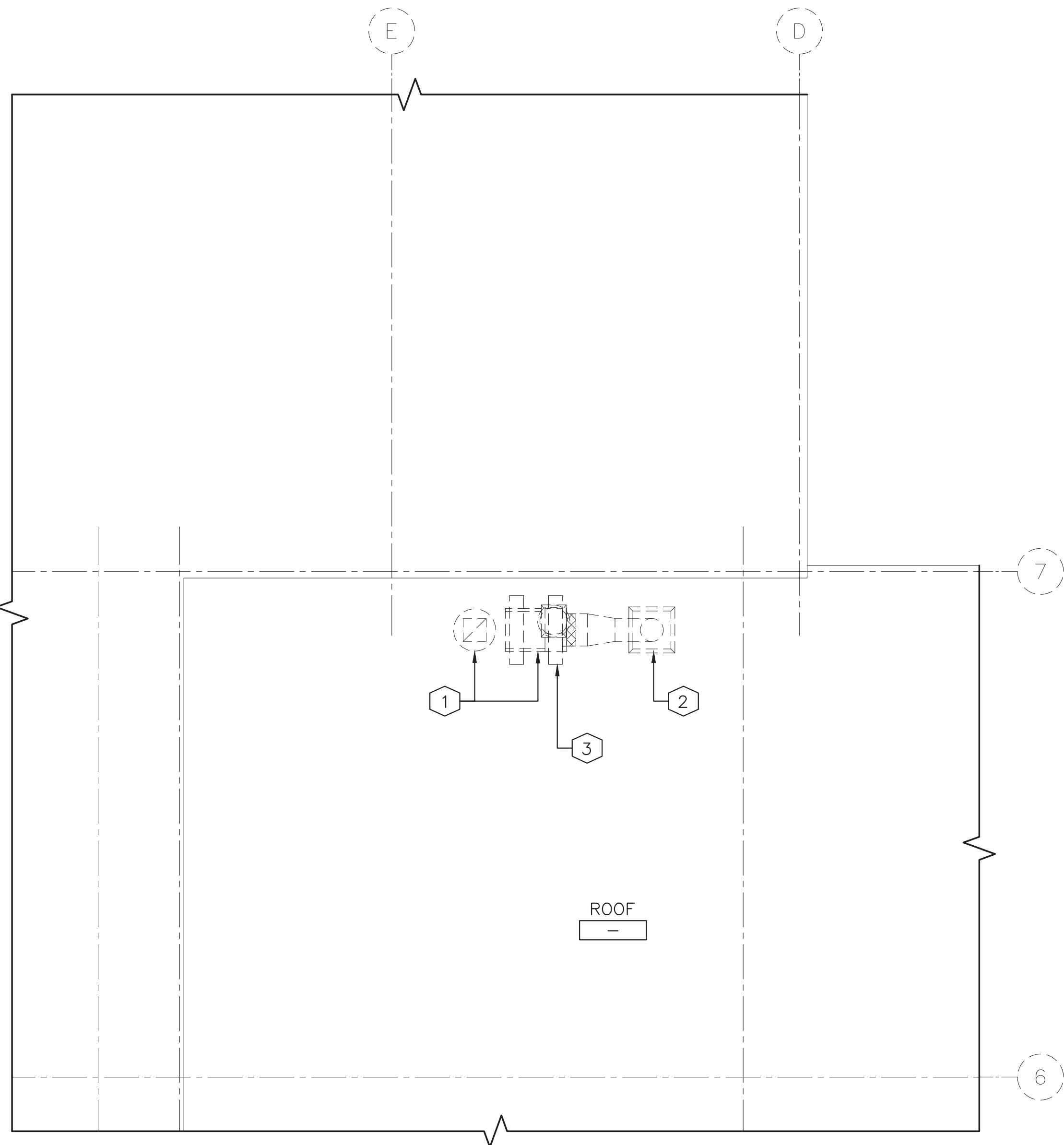
- ① MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL NEW 24x24 LAY-IN DIFFUSERS WITH ADDITIONAL BRANCH DUCTWORK AND BALANCING DAMPER AS PER GENERAL NOTES 8&9 ON THIS PLAN. REFER TO M60 FOR DIFFUSER TYPE/FINISH (TYPICAL).
- ② MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL NEW 24X24 LAY-IN RETURN AIR GRILLES FOR PLENUM RETURNS, IN THE CASE THAT RETURN AIR DIFFUSERS ARE HARD TO INSTALL, THE MECHANICAL CONTRACTOR SHALL PROVIDE, FOR 20"x0" OF 12" BRANCH DUCTWORK OR EQUIVALENT RECTANGULAR SIZE TO CONNECT TO EXISTING MAINS. REFER TO M40 FOR DIFFUSER TYPE/FINISH (TYPICAL).
- ③ REINSTALL EXISTING VAV IN LOCATION SHOWN. PROVIDE TRANSITION FITTINGS AND MODIFY EXISTING DUCTWORK AS REQUIRED TO ACCOMMODATE INSTALLATION.
- ④ PROVIDE NEW EXHAUST GRILLE OF SIZE AND CAPACITIES SCHEDULED ALONG WITH ASSOCIATED DUCTWORK UP TO NEW EXHAUST FANS ON ROOF.
- ⑤ COORDINATE THE INSTALLATION OF NEW EXHAUST DUCTWORK AND GRILLS WITH ARCHITECTURAL REFLECTED CEILING PLAN AND MODIFY LAYOUT AS REQUIRED FOR A UNIFORM LAYOUT.
- ⑦ 16" DUCT UP THRU ROOF. COORDINATE EXACT SIZE AND LOCATION OF ROOF PENETRATION WITH STRUCTURAL PLANS AND ROOFING CONTRACTOR PRIOR TO CONSTRUCTION.
- ⑦ 20" DUCT UP THRU ROOF. COORDINATE EXACT SIZE AND LOCATION OF ROOF PENETRATION WITH STRUCTURAL PLANS AND ROOFING CONTRACTOR PRIOR TO CONSTRUCTION.



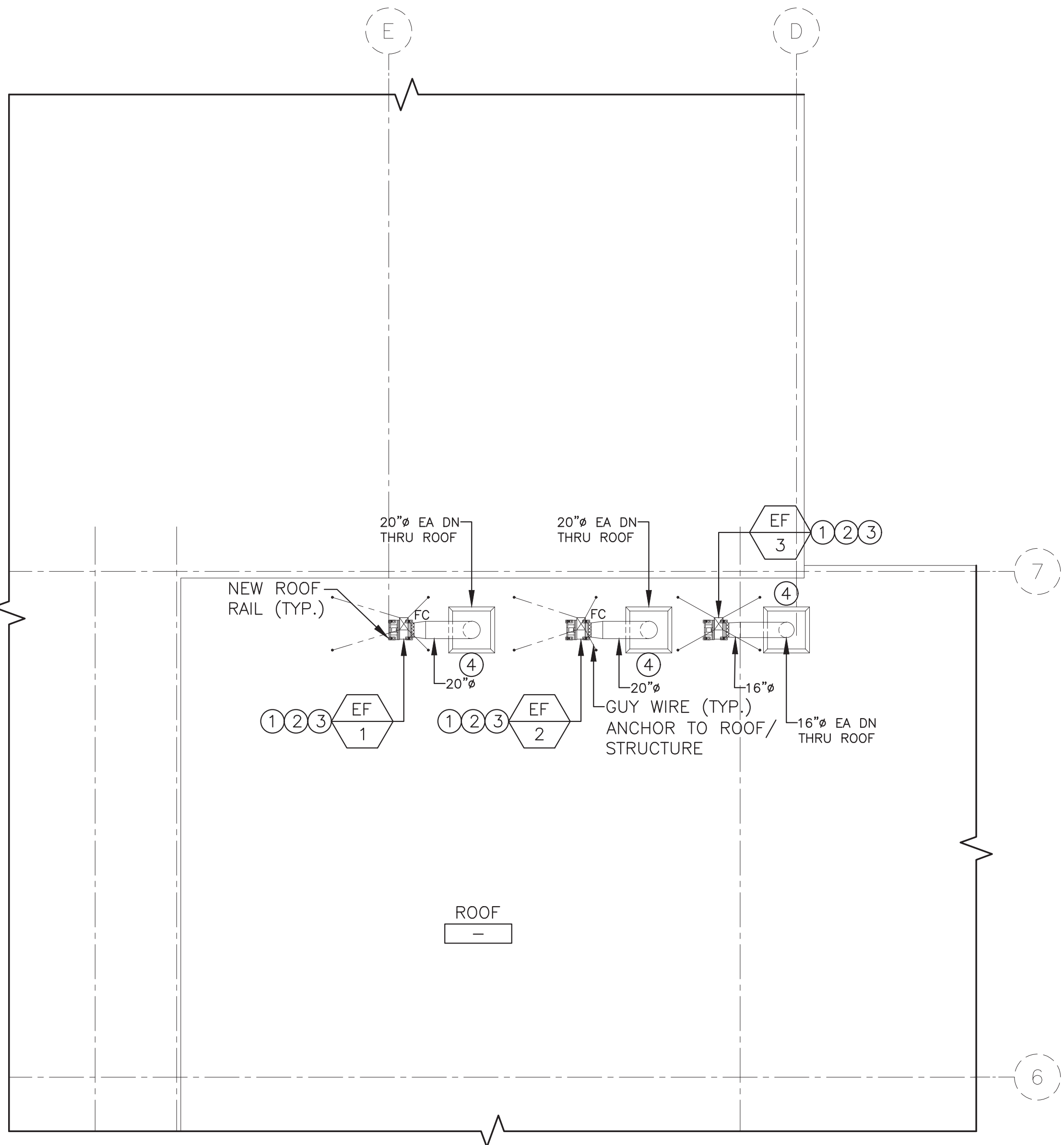
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GAETANO P. CIPRIANO, P.E.			MECHANICAL	
PROJECT			EIA DRAWING NO.	
SCALE AS NOTED				
DRAWN BY:	PFC	INSTRUMENTATION LABORATORY LOCKER ROOM EXPANSION ORANGEBURG NEW YORK		
DESIGNED BY:	PFC			
CHECKED BY:	PFC			
APPROVED BY:				
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FIRST FLOOR PLAN - NEW WORK			EG8577.03	
			EIA PROJECT NO. EG8577.03	



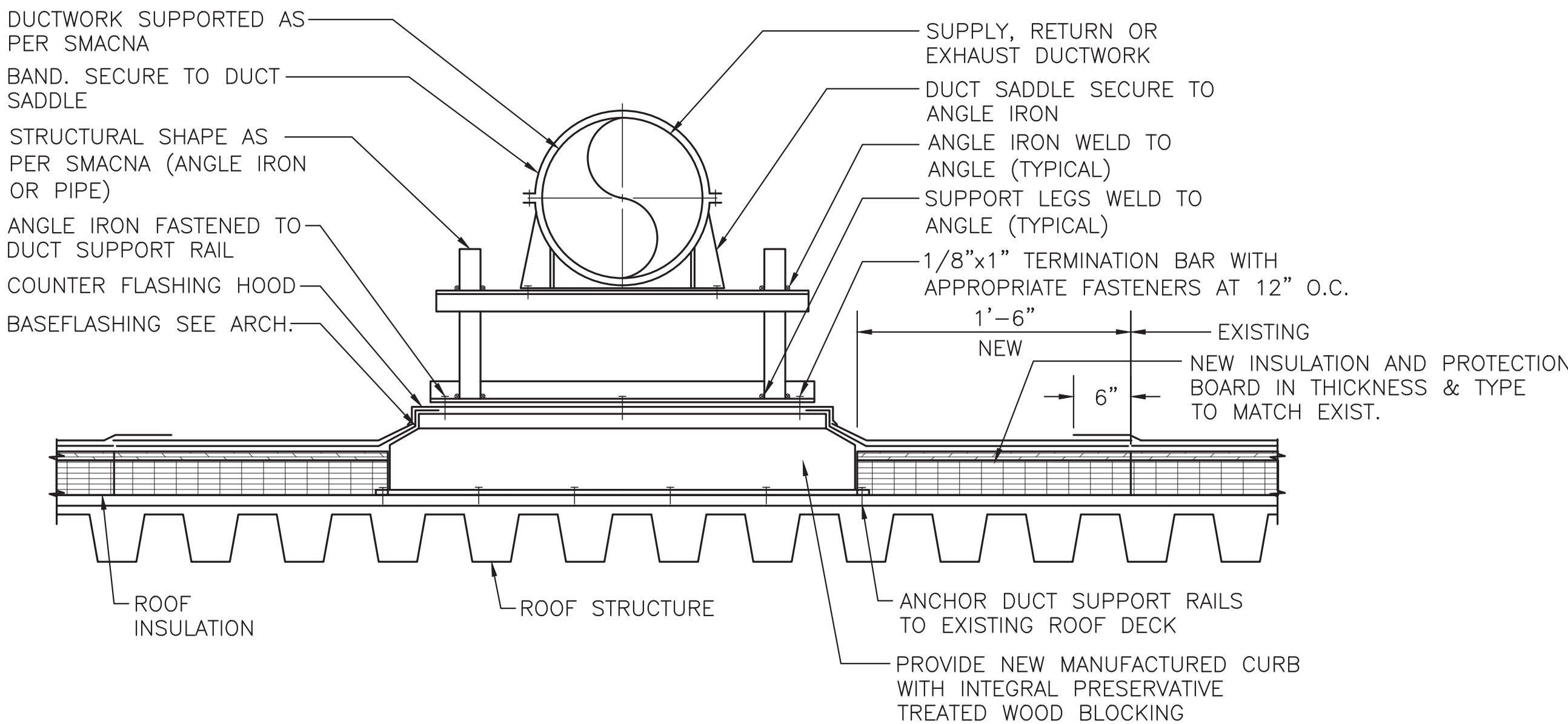
PLAN NORTH



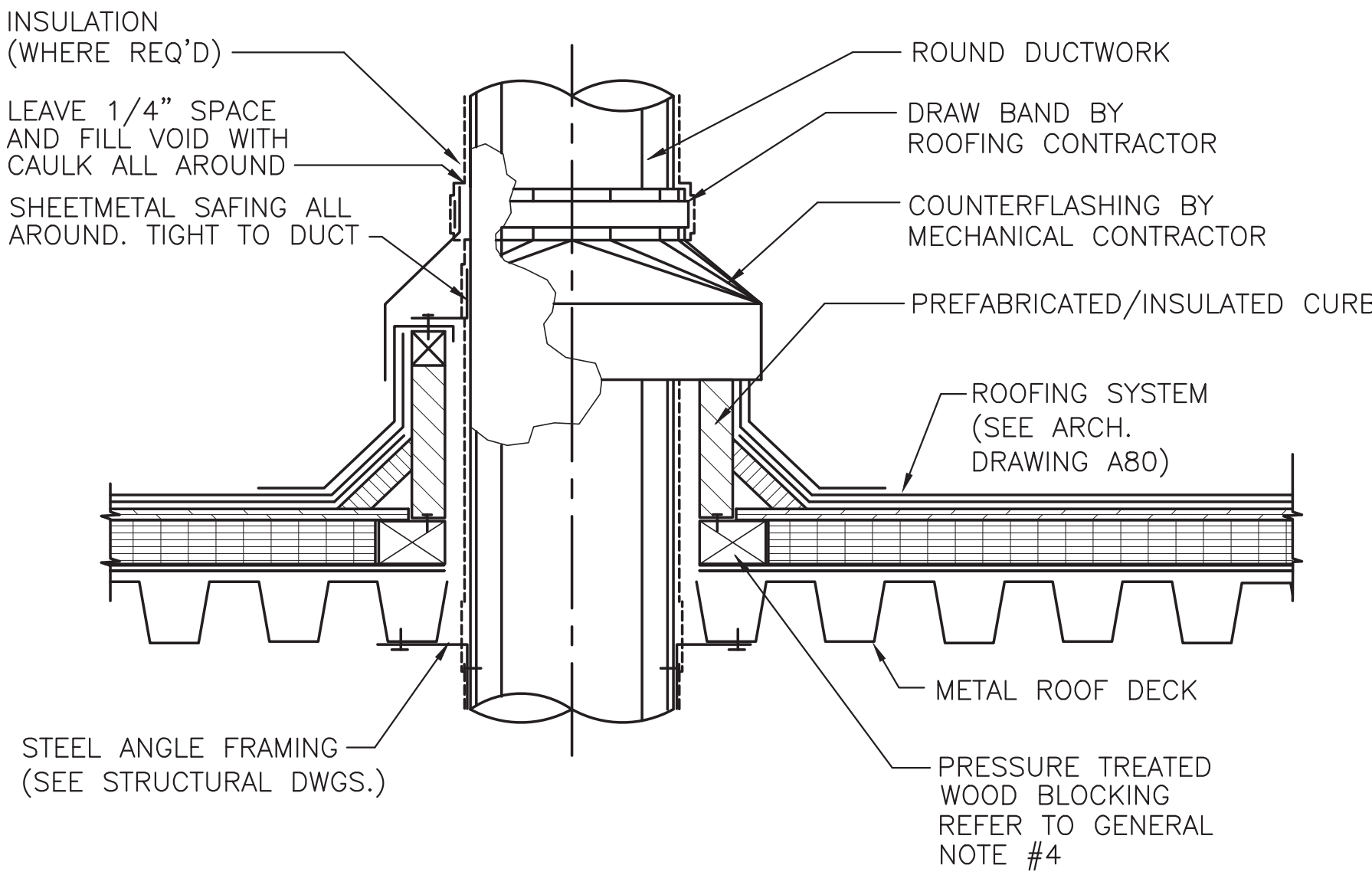
PARTIAL ROOF AREA — DEMOLIOTION PLAN 1
1/8"=1'-0" M15



PARTIAL ROOF AREA — NEW WORK PLAN 2
1/8"=1'-0" M15



ROUND DUCT SUPPORT ON ROOF DETAIL 3
NTS M15



NOTES:

1. ALL ROOF CURBS SHALL BE SUPPLIED AND INSTALLED/FLASHED BY THE ROOFING CONTRACTOR UNLESS OTHERWISE. COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR AND EXISTING STRUCTURAL MEMBERS.
2. THE ROOFING CONTRACTOR SHALL FLASH ALL ROOFING CURBS AS TO MAINTAIN ROOF INTEGRITY AND ALL EXISTING WARRANTIES.
3. ALL WOOD BLOCKING/NAILERS SHALL BE SUPPLIED AND INSTALLED BY THE ROOFING CONTRACTOR.
4. FOR WOOD BLOCKING INFORMATION REFER TO ROOF DETAILS AND COORDINATE WITH ARCHITECTURAL PLAN A15.
5. MODIFY EXISTING AND/OR PROVIDE NEW ROOF OPENINGS AS REQUIRED FOR INSTALLATION OF NEW ROOF CURBS. COORDINATE INSTALLATION WITH ALL OTHER TRADES PRIOR TO CONSTRUCTION.

ROUND DUCT THROUGH ROOF PENETRATION DETAIL 4
NTS M15

GENERAL NOTES:

1. SEE M00 SERIES DWGS FOR GENERAL NOTES, ABBREVIATIONS, & LEGEND.
2. SEE M40 SERIES DWGS FOR DETAILS.
3. SEE M60 SERIES DWGS FOR EQUIPMENT SCHEDULES.
4. SEE A15 DWG FOR ROOF EQUIPMENT INSTALLATION DETAILS.

DEMOLITION NOTES:

- 1 DEMOLISH AND REMOVE EXISTING EXHAUST FANS AND ASSOCIATED DUCTWORK. EXISTING CURB TO BE TEMPORARILY CAPPED AND WATERPROOFED FOR THE INSTALLATION ON NEW ROOF CURB.
- 2 EXISTING DUCTWORK AND ASSOCIATED DUCT SUPPORTS TO BE REMOVED. EXISTING ROOF SURFACE SHALL BE PREPPED AND PATCHED AS REQUIRED FOR THE INSTALLATION OF NEW EQUIPMENT RAILS. COORDINATE ROOF WORK WITH ARCHITECT AND ROOFING CONTRACTOR.
- 3 DEMOLISH AND REMOVE EXISTING EQUIPMENT RAILS. PREP AND PATCH ROOFING SURFACE TO ACCOMMODATE NEW WORK. SEE NEW WORK PLAN ON THIS DRAWING FOR PROPOSED LAYOUT.

SHEET NOTES:

- 1 THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR, BUT NOT LIMITED TO THE FOLLOWING:
A. RIGGING OF ON-SITE EQUIPMENT.
B. COORDINATION WITH THE UNIT VENDOR FOR FIELD PRE-START CHECKS AND INSPECTIONS.
C. THE CONTRACTOR AND EQUIPMENT VENDOR SHALL CHECK EQUIPMENT DELIVERED TO THE JOB SITE AND ISSUE REPORT TO THE OWNER AND MANUFACTURER FOR ANY CHANGES REQUIRED WITHIN ONE WEEK AFTER EQUIPMENT IS RECEIVED.

IF SUCH REPORT IS NOT ISSUED WITHIN ONE WEEK, IT SHALL BE ASSUMED NO DISCREPANCIES, SHORTAGES, OR LACK OF DATA HAS BEEN FOUND.

HANDLING OF NEW ROOFTOP MECHANICAL EQUIPMENT ON-SITE, INCLUDING DELIVERY, OFF-LOADING AND STORAGE TO BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.

- 2 PROVIDE NEW EXHAUST FAN OF SIZE AND CAPACITIES SCHEDULED. ALL NEW EXHAUST DUCTS SHALL BE SEALED AND INSULATED FROM EQUIPMENT CONNECTIONS TO ROOF PENETRATION. PROVIDE TRANSITION FITTINGS AS REQUIRED TO ACCOMMODATE NEW INSTALLATION. COORDINATE ALL POWER AND CONTROL WIRING WITH ELECTRICIAN AND CONTROLS CONTRACTOR PRIOR TO BID/CONSTRUCTION.
- 3 NEW EXHAUST FANS TO BE INSTALLED ON A 18" EQUIPMENT RAILS W/ 1" NEOPRENE VIBRATION ISOLATION PADS TO BE INSTALLED BETWEEN THE EQUIPMENT RAILS AND FAN. ALL EQUIPMENT SHALL BE SECURELY FASTENED TO THE RAILS AND RAILS SECURELY FASTENED TO THE STRUCTURE USING GALV. STEEL FASTENERS. COORDINATE FINAL INSTALLATION DETAIL WITH STRUCTURAL PLANS, ARCHITECTURAL PLANS AND ROOFING CONTRACTOR PRIOR TO INSTALLATION.
- 4 PROVIDE ROOF OPENING AND NEW 30"x30" PREFABRICATED AND INSULATED CURB ASSEMBLY WITH FLASHING COLLAR TO ACCOMMODATE NEW DUCT PENETRATIONS. ROOF CURB SHALL BE SIMILAR TO THOSE MANUFACTURED BY PATE INDUSTRIES OR THYBAR CORPORATION. COORDINATE INSTALLATION WITH EXISTING STRUCTURAL MEMBERS, ARCHITECTURAL DETAILS AND ROOFING CONTRACTOR PRIOR TO CONSTRUCTION.

0 4' 8' 16' 32'
1/8" = 1'-0"

KEY PLAN — FIRST FLOOR
NTS

AREA OF WORK

PLAN NORTH

0	ISSUED FOR BID AND CONSTRUCTION	LG	24 SEPT 21
REV	REVISION DESCRIPTION	BY	DATE

EI Associates
ARCHITECTS & ENGINEERS, PC
8 RIDGEDALE AVENUE • CEDAR KNOLLS NJ 07927 • 973.775.7777

GAETANO P. CIPRIANO, P.E. PROFESSIONAL ENGINEER
LICENSE NO. NY 064215-1

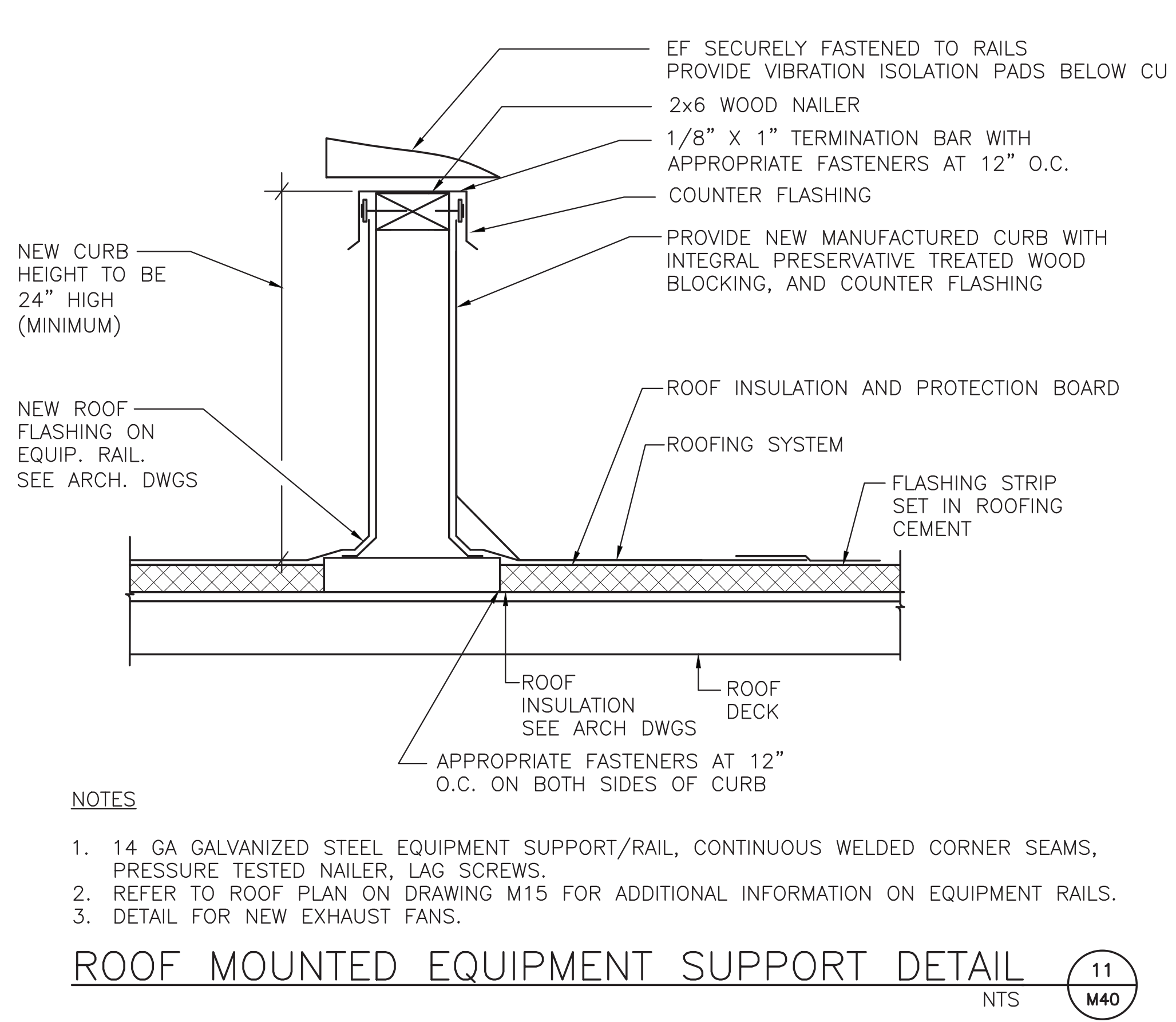
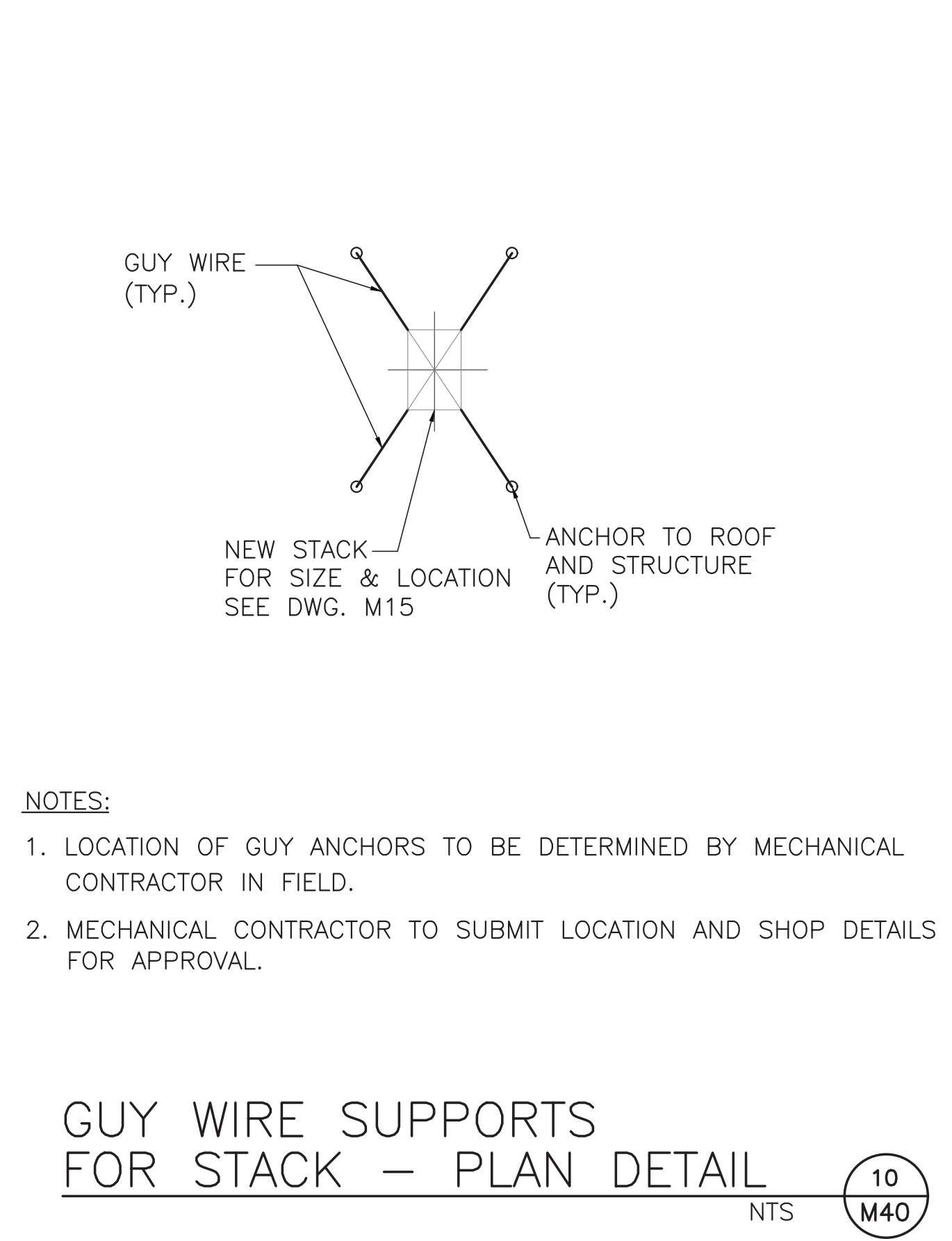
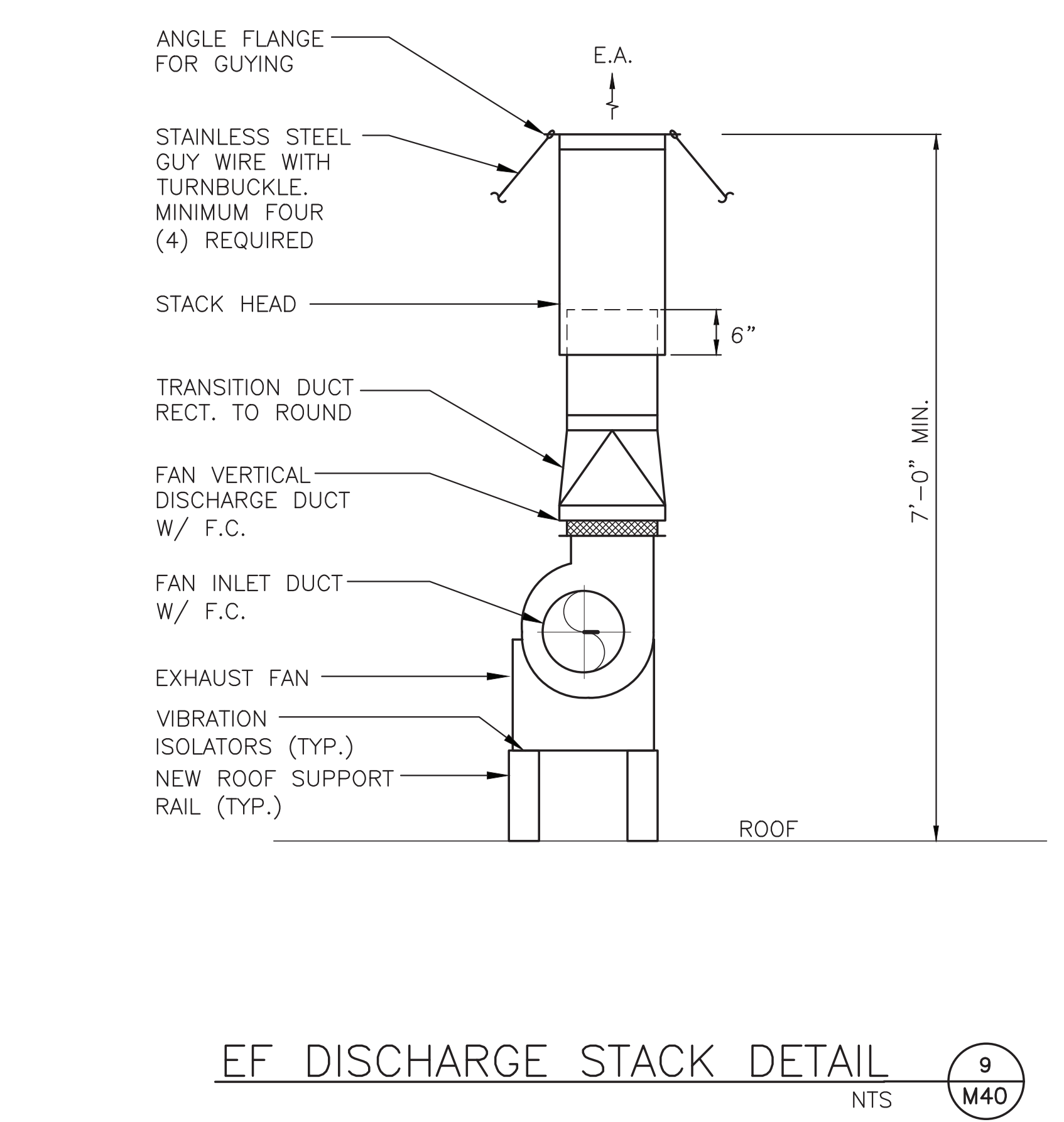
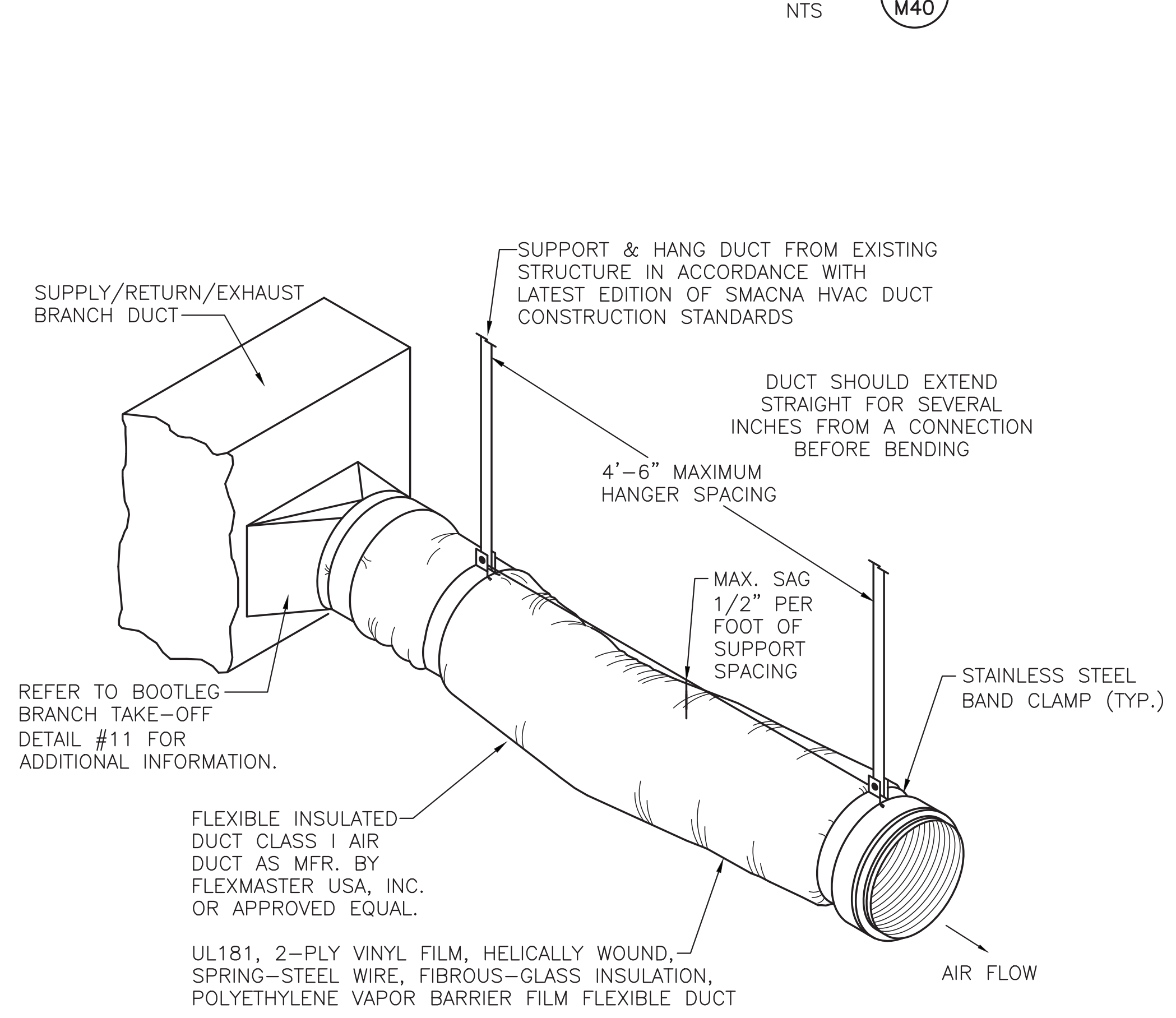
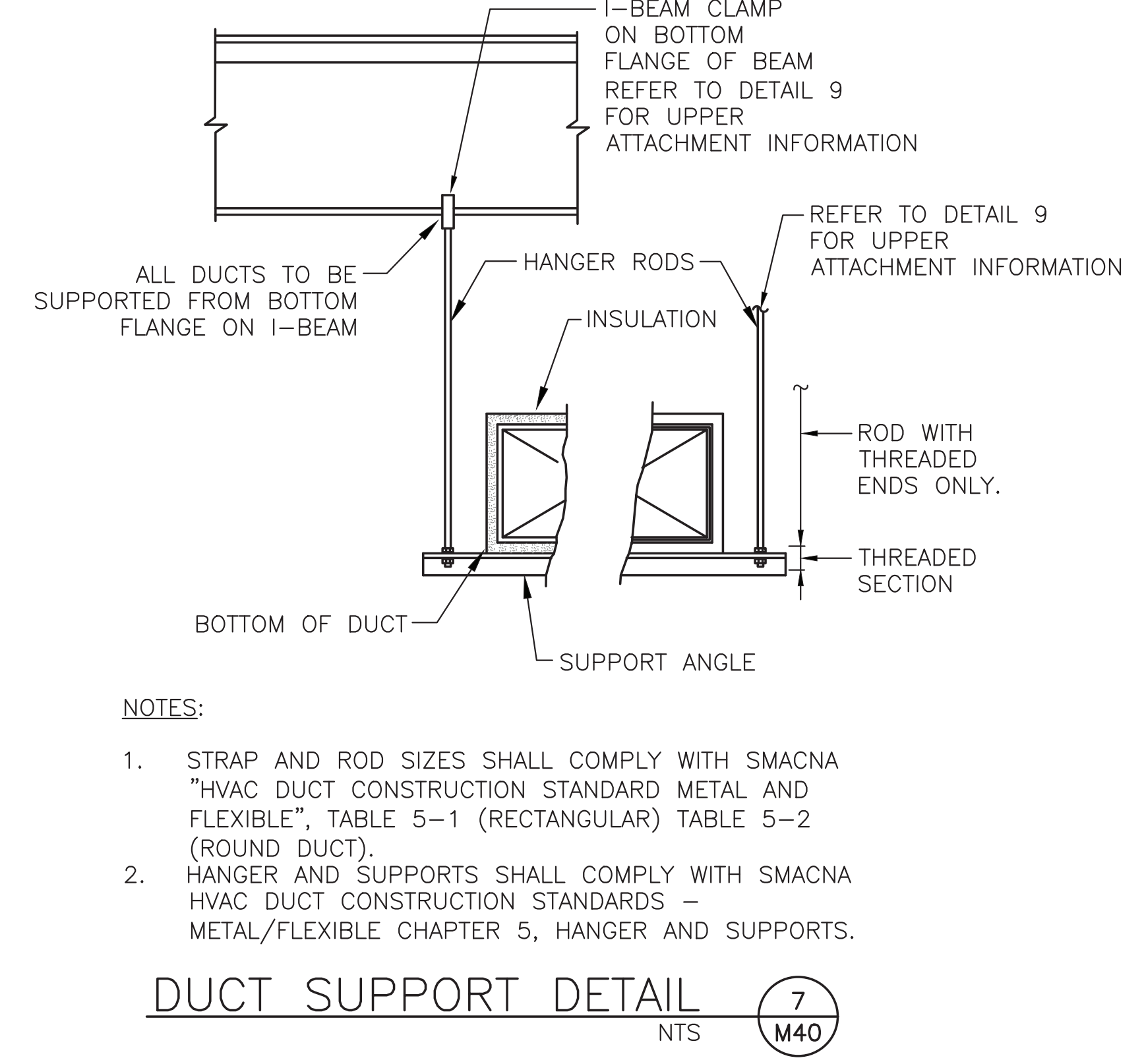
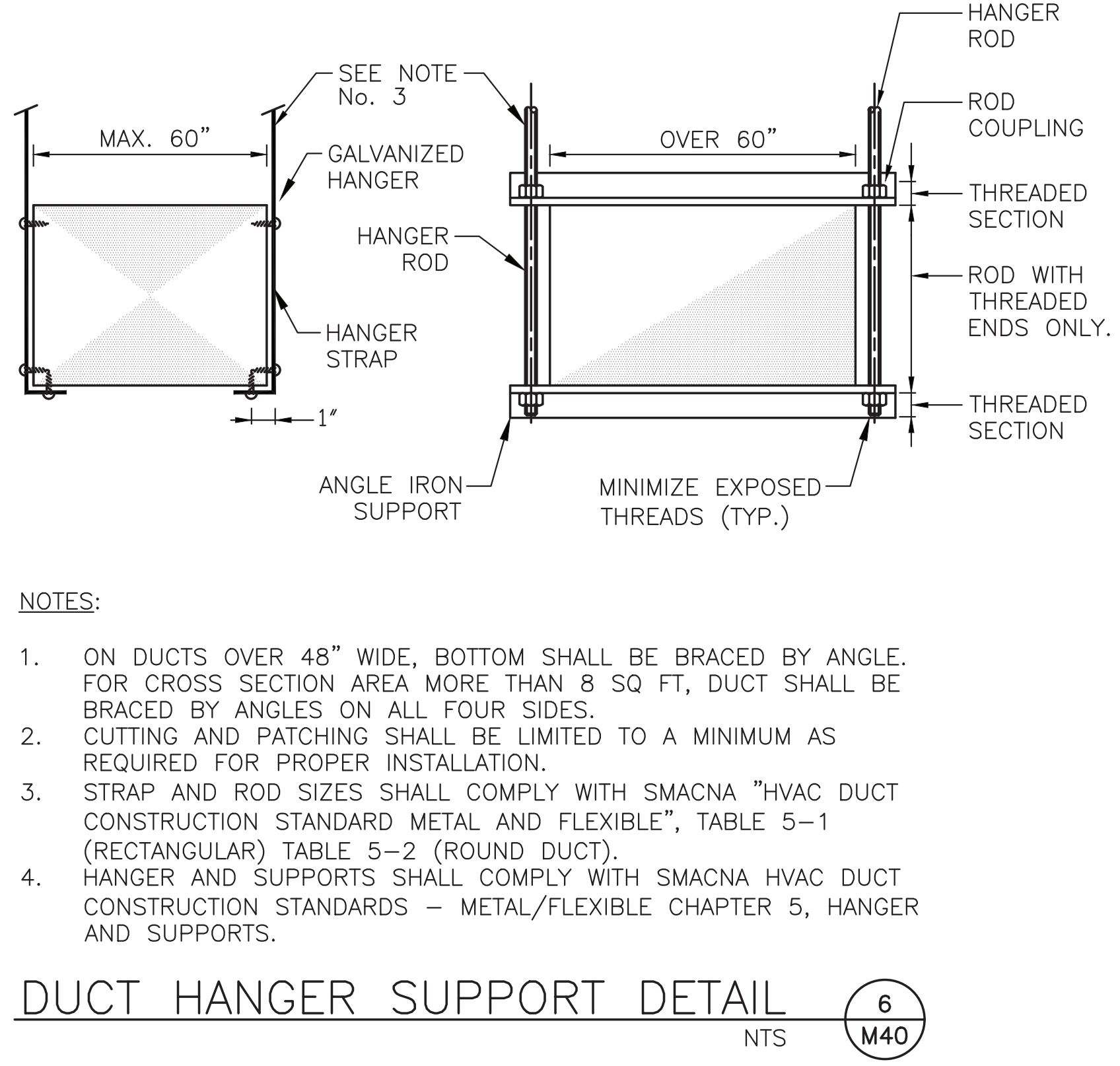
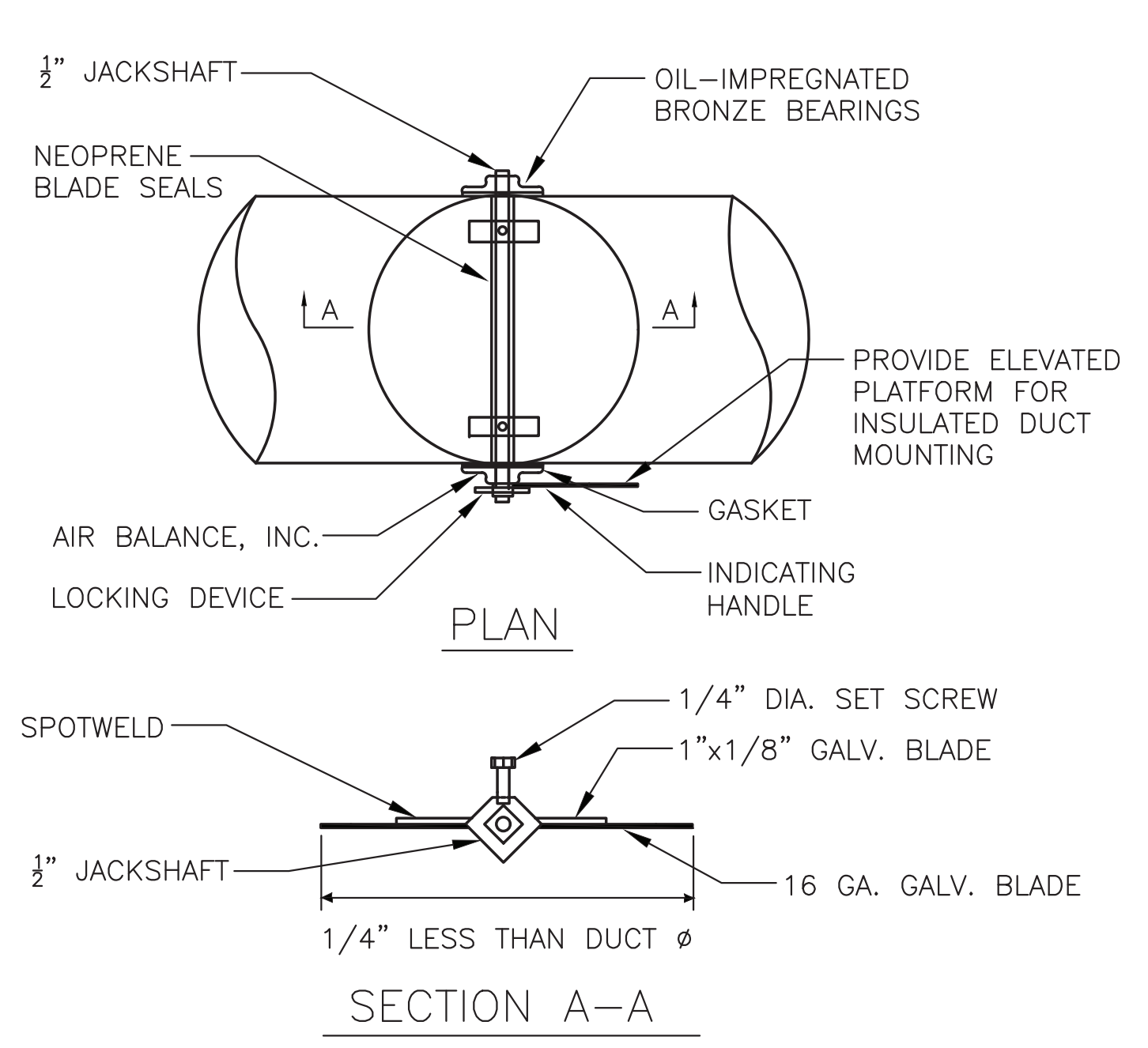
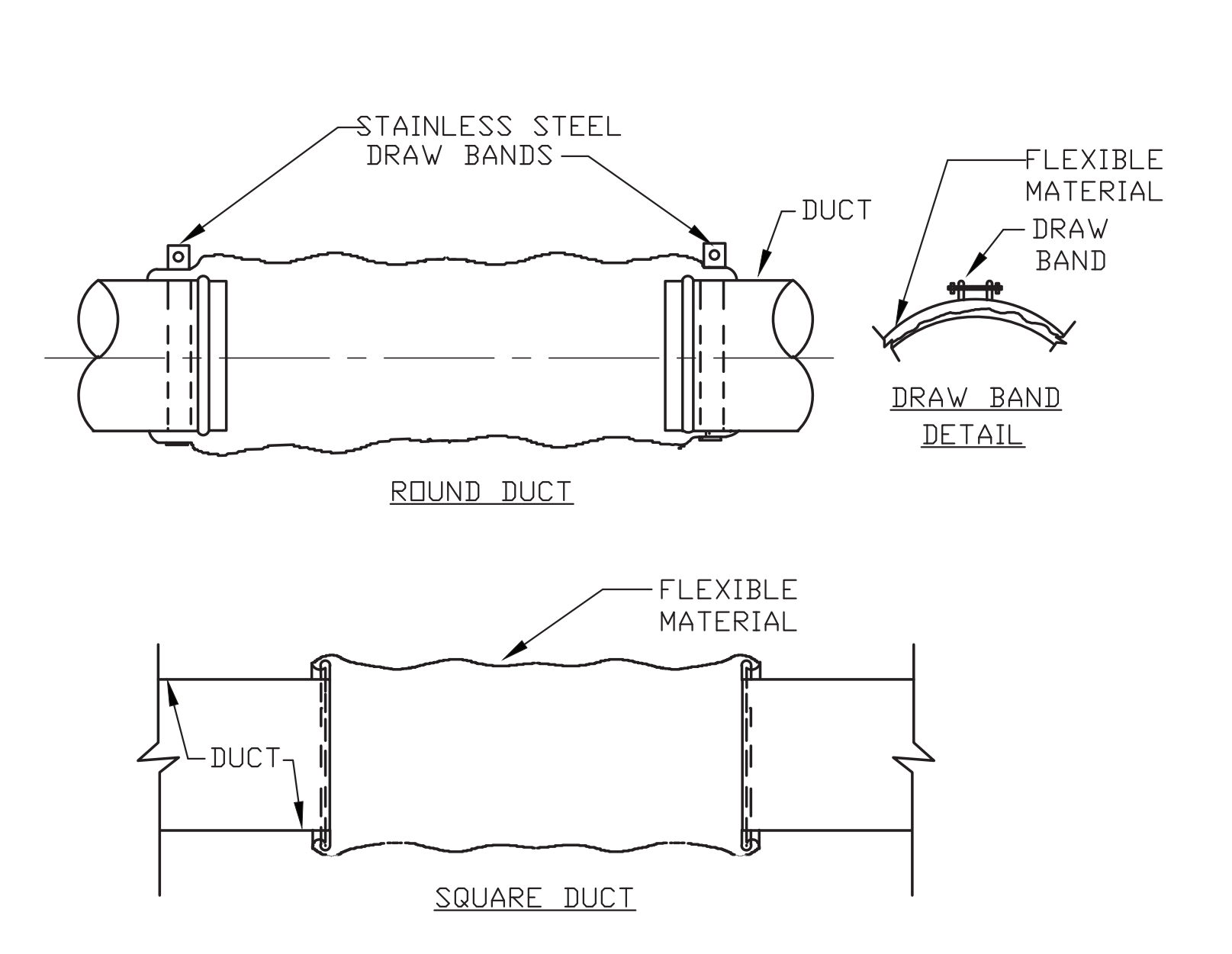
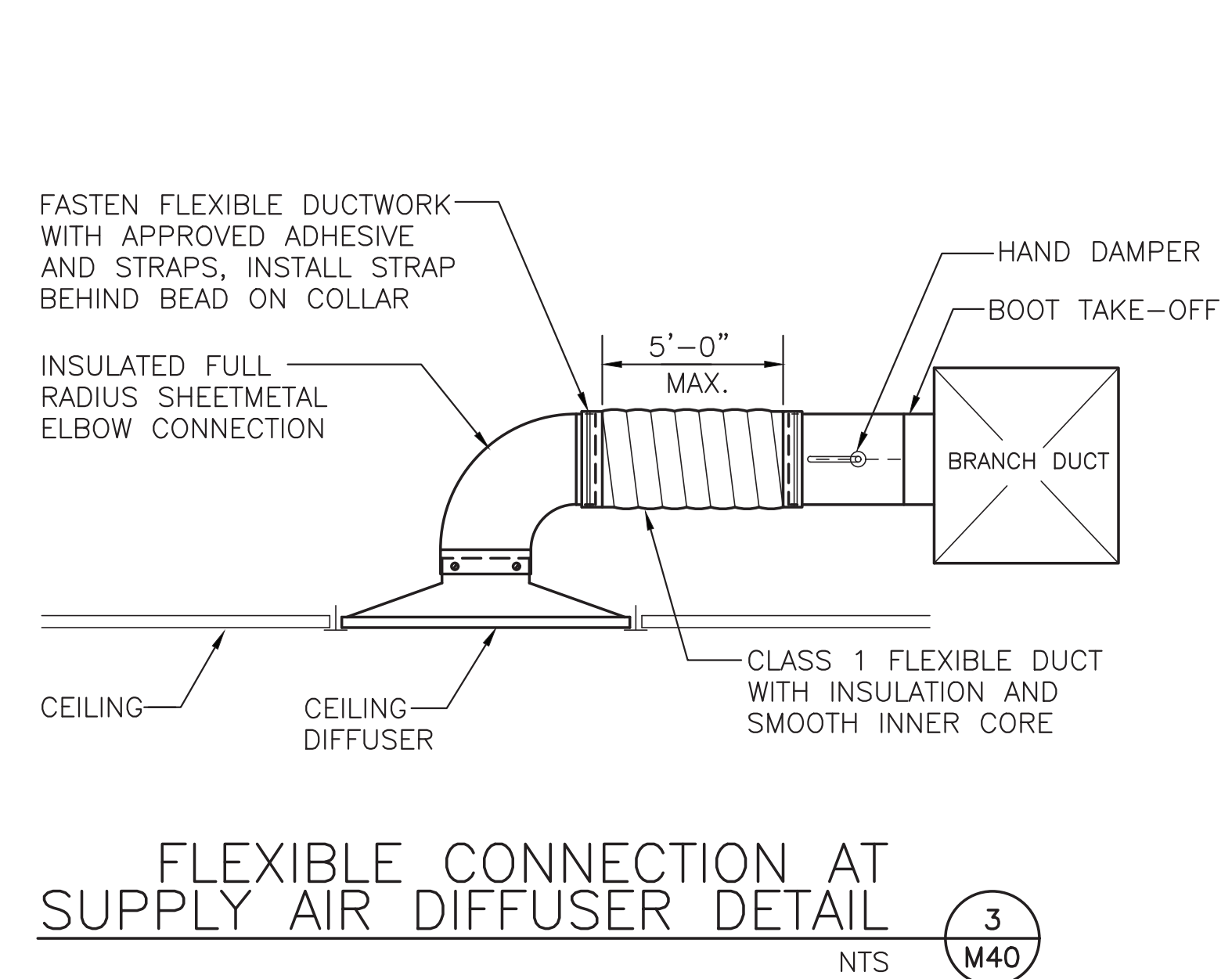
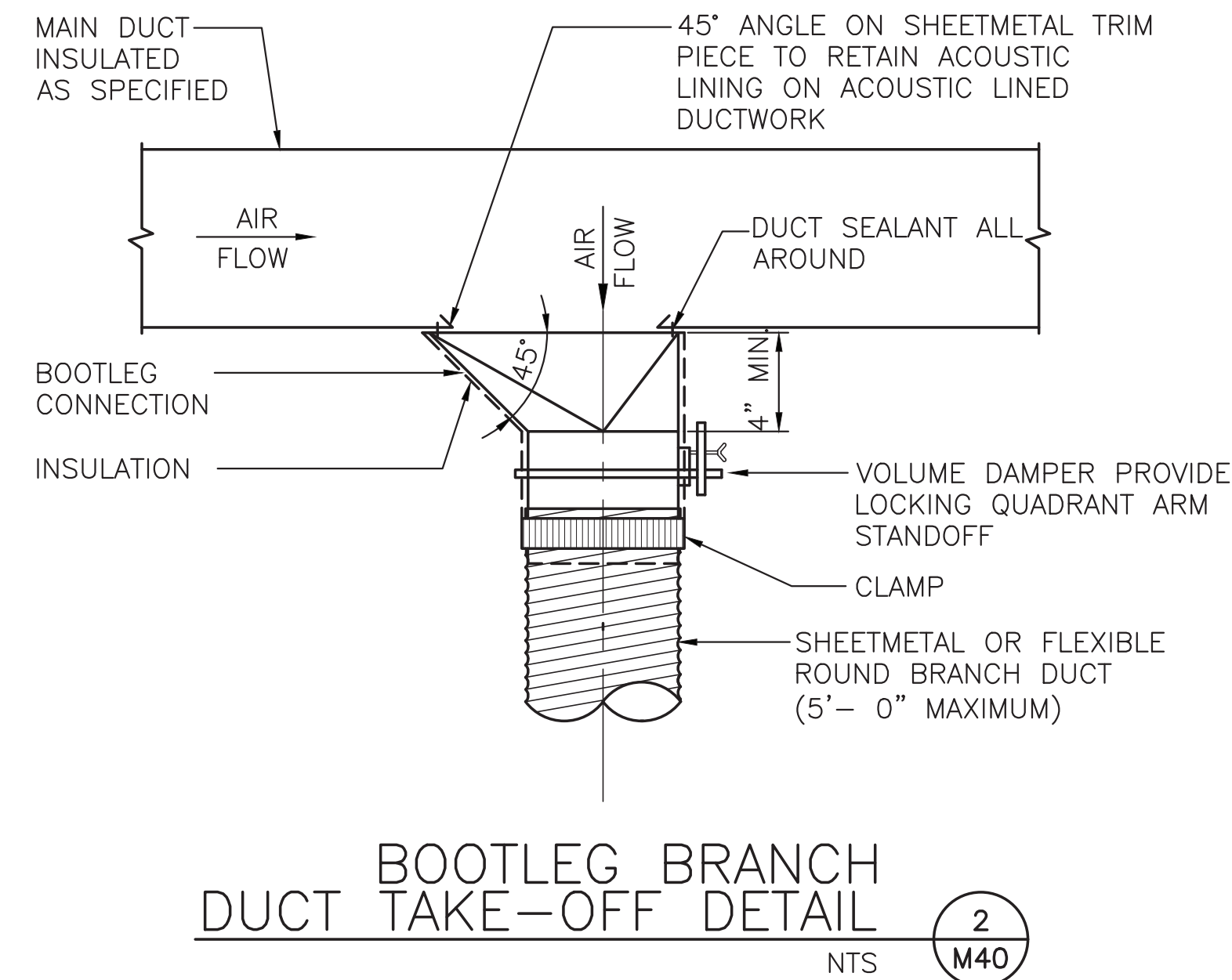
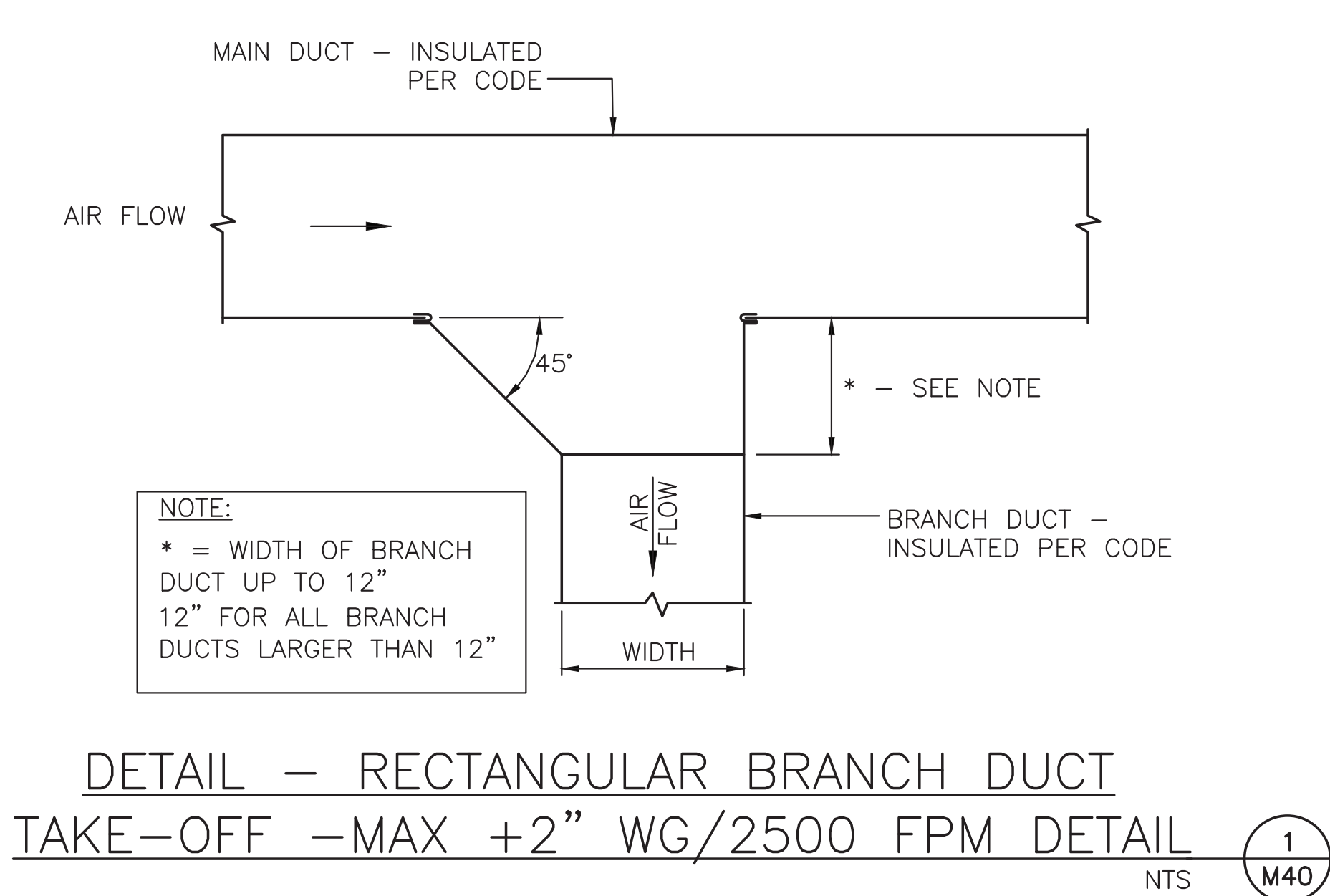
MECHANICAL

SCALE AS NOTED PROJECT
DRAWN BY: PROJECT
DESIGNED BY: PROJECT
CHECKED BY: PROJECT
APPROVED BY: PROJECT
PROJECT MANAGER: PROJECT

INSTRUMENTATION
LABORATORY
LOCKER ROOM EXPANSION
ORANBEBURG NEW YORK

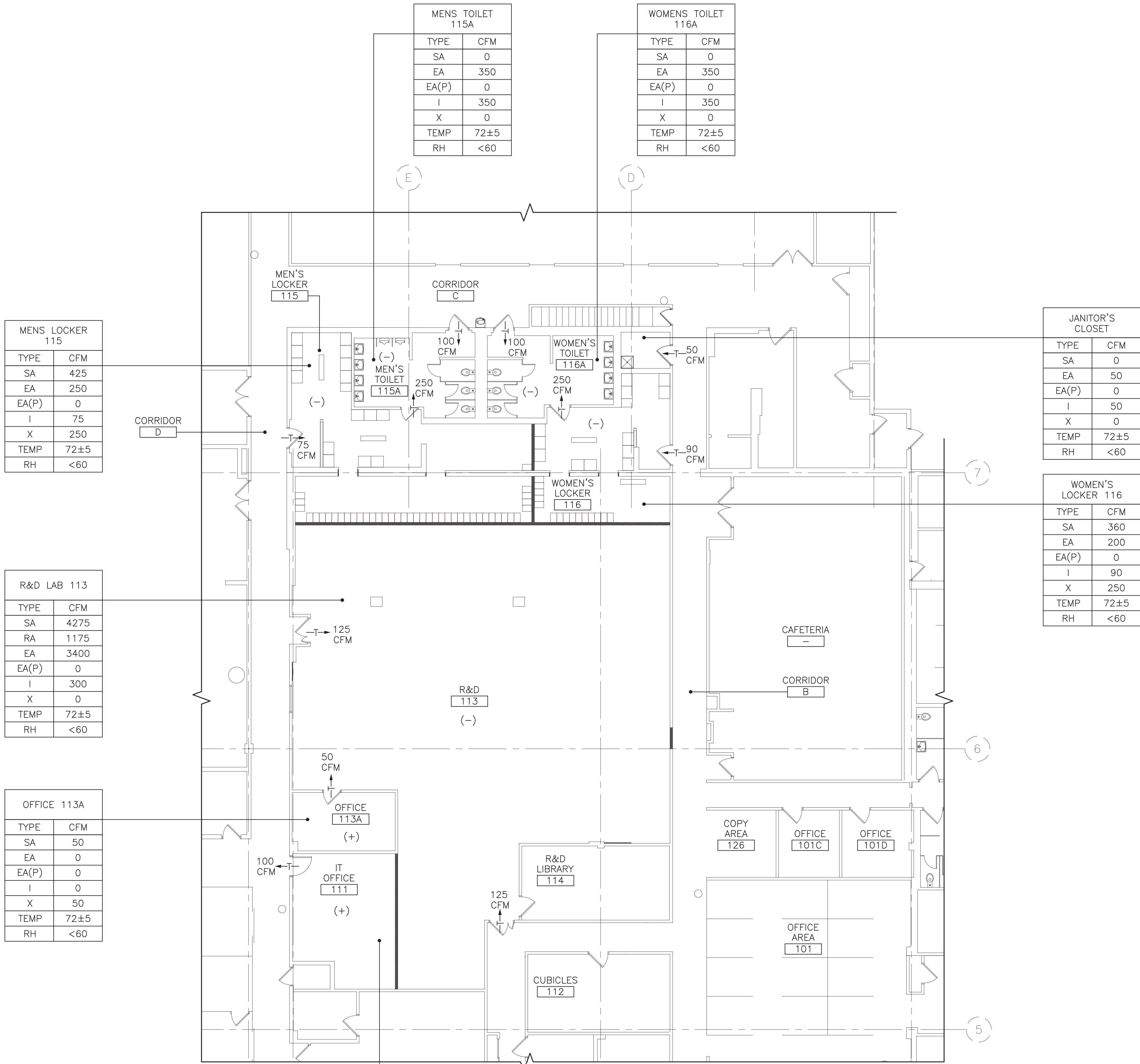
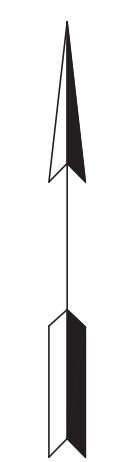
EIA DRAWING NO.
M15

CLIENT DWG. NO.
— — — — —
EIA PROJECT NO.
EG8577.03



FLEXIBLE DUCT SUPPORT DETAIL				9	
				NTS	
NOTES:				M40	
1. REFER TO DIV. 23 MECHANICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.					
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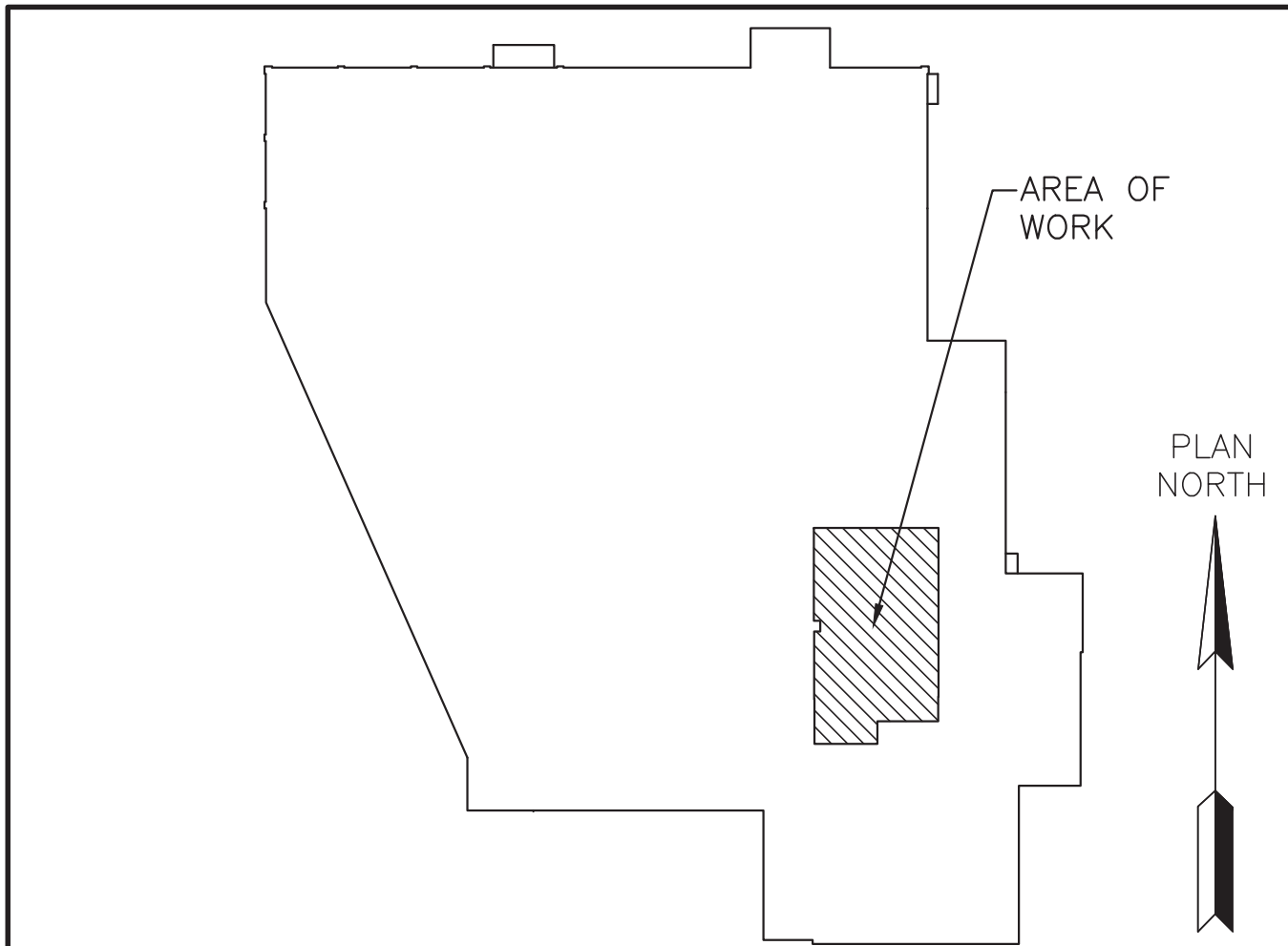
PLAN NORTH



AIR BALANCING DIAGRAM — FIRST FLOOR
NTS (1) M50

PRESSURIZATION LEGEND

- (+) POSITIVELY PRESSURIZED
(-) NEGATIVELY PRESSURIZED
(N) NEUTRAL



KEY PLAN — FIRST FLOOR
NTS

0	ISSUED FOR BID AND CONSTRUCTION	LG	24 SEPT 21
REV	REVISION DESCRIPTION	BY	DATE
EI Associates ARCHITECTS & ENGINEERS, P.C. 8 RIDGEDALE AVENUE • CEDAR KNOLLS NJ 07927 • 973.775.7777		MECHANICAL	
GAETANO P. CIPRIANO, P.E. PROFESSIONAL ENGINEER LICENSE NO. NY 064215-1		EIA DRAWING NO.	
SCALE AS NOTED		PROJECT	
DRAWN BY: PJC 9/24/21		INSTRUMENTATION LABORATORY	
DESIGNED BY: PJC 9/24/21		LOCKER ROOM EXPANSION	
CHECKED BY:		ORANGEBURG NEW YORK	
APPROVED BY:		TITLE	
PROJECT MANAGER:		AIR BALANCE DIAGRAM	
		CLIENT DWG. NO. ---	
		EIA PROJECT NO. EG8577.03	

VENTILATION SCHEDULE								
SPACE	ROOM TYPE	PEOPLE OUTDOOR AIR		AREA OUTDOOR AIR		BREATHING ZONE OUTDOOR AIRFLOW (CFM) $Vbz=Rp*Pz+Az*Ra$	(CFM) VoZ	DESIGN OA (CFM)
		PEOPLE Pz	RATE (CFM/PERSON) Rp	AREA (SQFT) Az	RATE (CFM/SQFT) Ra			
MEN'S LOCKER ROOM 115	LOCKER/DRESSING ROOM	0	0	—	0	—	—	—
WOMEN'S LOCKER ROOM 116	LOCKER/DRESSING ROOM	0	0	—	0	—	—	—
R&D LABORATORY 113	SCIENCE LABORATORY	83	10	3267	0.18	1422	1777	1800
IT OFFICE 111	OFFICE	2	5	320	0.06	30	37.5	45

VENTILATION SCHEDULE NOTES:

1. OUTDOOR AIR IS BEING PROVIDED PER SECTION 403 OF THE 2020 MECHANICAL CODE OF NEW YORK STATE.

EXHAUST VENTILATION SCHEDULE					
SPACE	ROOM TYPE	AREA OUTDOOR AIR		REQUIRED EXHAUST (CFM)	DESIGN EA (CFM)
		AREA (SQFT) Az	RATE (CFM/SQFT) Ra		
MEN'S LOCKER ROOM 115	LOCKER/DRESSING ROOM	714	0.25	179	250
WOMEN'S LOCKER ROOM 116	LOCKER/DRESSING ROOM	412	0.25	103	200
R&D LABORATORY 113	SCIENCE LABORATORY	3267	1.00	3267	3400
MENS TOILET 115A	PUBLIC TOILET	232	70/FIXTURE	350	350
WOMENS TOILET 116A	PUBLIC TOILET	238	70/FIXTURE	210	350

NOTES:

1. MECHANICAL EXHUAIST FOR ALL OTHER SPACES IS PROVIDED IN ACCORDANCE WITH 403 OF THE 2020 MECHANICAL CODE OF NEW YORK STATE.
2. MECHANICAL CONTRACTOR TO REBALANCE EXISTING SYSTEMS TO PROVIDE DESIGN FLOW RATES. PROVIDE BALANCING DAMPERS ON ALL NEW BRANCH DUCTWORK.

FAN SCHEDULE																		
(FURNISHED AND INSTALLED BY CONTRACTOR)																		
TAG	SERVICE	MFR.	MODEL	QTY.	LOCATION	(CFM)	FAN (RPM)	DRIVE	FAN TYPE	CLASS (I, II, III, IV)	ESP (INWG)	MOTOR (HP)	VOLTS/PH/HZ	OP. WT. (LBS)	INLET (dBA)	OUTLET (dBA)	REMARKS	
EF-1&2	R&D 113	GREENHECK	FJI-12-BI-X	2	ROOF	1700	2,074	DIRECT	UTILITY SET	I	1.20	1.0	208/3/60	219	68	74	1-3	
EF-3	FUME HOOD	GREENHECK	FJI-10-BI-X	1	ROOF	1200	2,454	DIRECT	UTILITY SET	I	1.10	1.0	208/3/60	244	91	96	1-3	

REMARKS:

1. PROVIDE VFD CONTROL.
2. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
3. PROVIDE ROOF MOUNTED FLAT BLADE CENTRIFUGAL BLOWER COMPLETE WITH EQUIPMENT SUPPORTS ROOF RAILS, SPRING ISOLATORS, NEMA 3R PREWIRED DISCONNECT SWITCH, PHENOLIC EPOXY POWDER (LIGHT GRAY), ALUMINUM ACCESS DOOR-BOLT. EF-1 AND 2 SHALL BE OPERATED ON A TIME CLOCK CONTROLLER WITH A MANUAL SWITCH OVERRIDE.

VARIABLE FREQUENCY CONTROLLER SCHEDULE																					
(FURNISHED AND INSTALLED BY CONTRACTOR)																					
TAG	UNIT	SERVICE	MOTOR DATA		VFD DATA				COMPONENTS												
			HP	V/PH	EFF.	MIN. OUTPUT AMPS	V/PH	MODEL	ENCLOSURE	HARMONIC PERFORMANCE	VOLTAGE RANGE	REACTOR IMPEDANCE (MIN)	VFD SHORT CIRCUIT RATING	DRIVE ISOLATION FUSES	BYPASS	EMI / RMI FILTERS	BMS INTERFACE	EQUIPMENT	BASIS OF DESIGN	REMARKS	
VFD-1,2,3	—	EF-1,2,3	2	208/3	98%	4.1	208/3	DANFOSS FC102	3R	6 PULSE W/ DC SWINGING CHOKES	+30% TO -35%	5%	65,000 AMPS	Y	2 CONTRATOR W/ SERVICE SWITCH	IEC 61800-3	BACNET VFD AND BYPASS	—	DANFOSS	1-9	

REMARKS:

1. VFD SHALL SEISMICALLY CERTIFIED (IVC 2006 ASC-7-05 / ICC AC-156).
2. PROVIDE MOTOR CURRENT SENSING FOR BYPASS CIRCUIT (INDICATE ON BMS NETWORK).
3. PROVIDE INTEGRAL TIME CLOCK.
4. PROVIDE SENSING FOR "WELDED CONTACTOR" (INDICATE ON BMS NETWORK).
5. PROVIDE SENSING FOR SINGLE PHASE CONDITION IN BYPASS MODE (INDICATE ON BACNET).
6. VFD SHALL HAVE AT LEAST THE NOTED MINIMUM OUTPUT AMPS, USE HIGHER HP RATING IF REQUIRED.
7. VFD SHALL HAVE MINIMUM OF 65KAIC RATING.
8. COORDINATE THE LOCATION OF VFD'S WITH ELECTRICAL CONTRACTOR AND BUILDING MANAGEMENT PRIOR TO INSTTALLATION.
9. PROVIDE NEMA 3R ENCLOSURE FOR OUTDOOR USE.

DIFFUSER/GRILLES/REGISTER SCHEDULE									
(FURNISHED AND INSTALLED BY CONTRACTOR)									
TAG	MFR.	MODEL	TYPE	SYSTEM	AIRFLOW (CFM)	MATERIAL	SIZE (IN.)	NECK SIZE	REMARKS
AD-1	PRICE	ASPD	PLAQUE	SUPPLY	SEE DWG	ALUM	24x24	SEE DWG	1-3
AD-2	PRICE	ASPD	PLAQUE	SUPPLY	SEE DWG	ALUM	12x12	SEE DWG	1-3
AR-1	PRICE	80	EGGCRATE	RETURN	SEE DWG	ALUM	24x24	SEE DWG	1-3
EG-1	PRICE	600	LOUVERED	EXHAUST	SEE DWG	ALUM	12x12	SEE DWG	1-3
EG-2	PRICE	600	LOUVERED	EXHAUST	SEE DWG	ALUM	24x24	SEE DWG	1-3

REMARKS:

1. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS FOR AIR DEVICES.
2. ALL DIFFUSERS, GRILLES, GRATES, AND FRAMES SHALL BE WHITE. COORDINATE MOUNTING, FRAME, AND BOARDERS WITH CEILING SPECIFIED ON THE ARCHITECTURAL DRAWINGS.
3. PROVIDE DIFFUSERS AND GRILLES WITH NECK SIZE SHOWN ON THE MECHANICAL PLANS. PROVIDE BACK PAN AND ROUND OR SQUARE NECK ADAPTERS AS NECESSART TO ACCOMMODATE CONNECTIONS TO FLEX OR HARD DUCTS.

0	ISSUED FOR BID AND CONSTRUCTION	LG	24 SEPT 21
REV	REVISION DESCRIPTION	BY	DATE
<div><div><div>EI</div><div>ARCHITECTURE ENGINEERING PLANNING</div></div><div><div>EI Associates</div><div>ARCHITECTS & ENGINEERS, PC</div><div>8 RIDGEDALE AVENUE•CEDAR KNOLLS NJ 07927•973.775.7777</div></div></div>			
GAETANO P. CIPRIANO, P.E.		PROFESSIONAL ENGINEER LICENSE NO. NY 064215-1	MECHANICAL
SCALE	AS NOTED	PROJECT	EIA DRAWING NO.
DRAWN BY:	PTC 9/24/21	INSTRUMENTATION LABORATORY LOCKER ROOM EXPANSION ORANGEBURG NEW YORK	M60
DESIGNED BY:	UC 9/24/21		
CHECKED BY:			
APPROVED BY:		TITLE	CLIENT DWG. NO. - - - - -
PROJECT MANAGER:		SCHEDULES	EIA PROJECT NO. EG8577.03