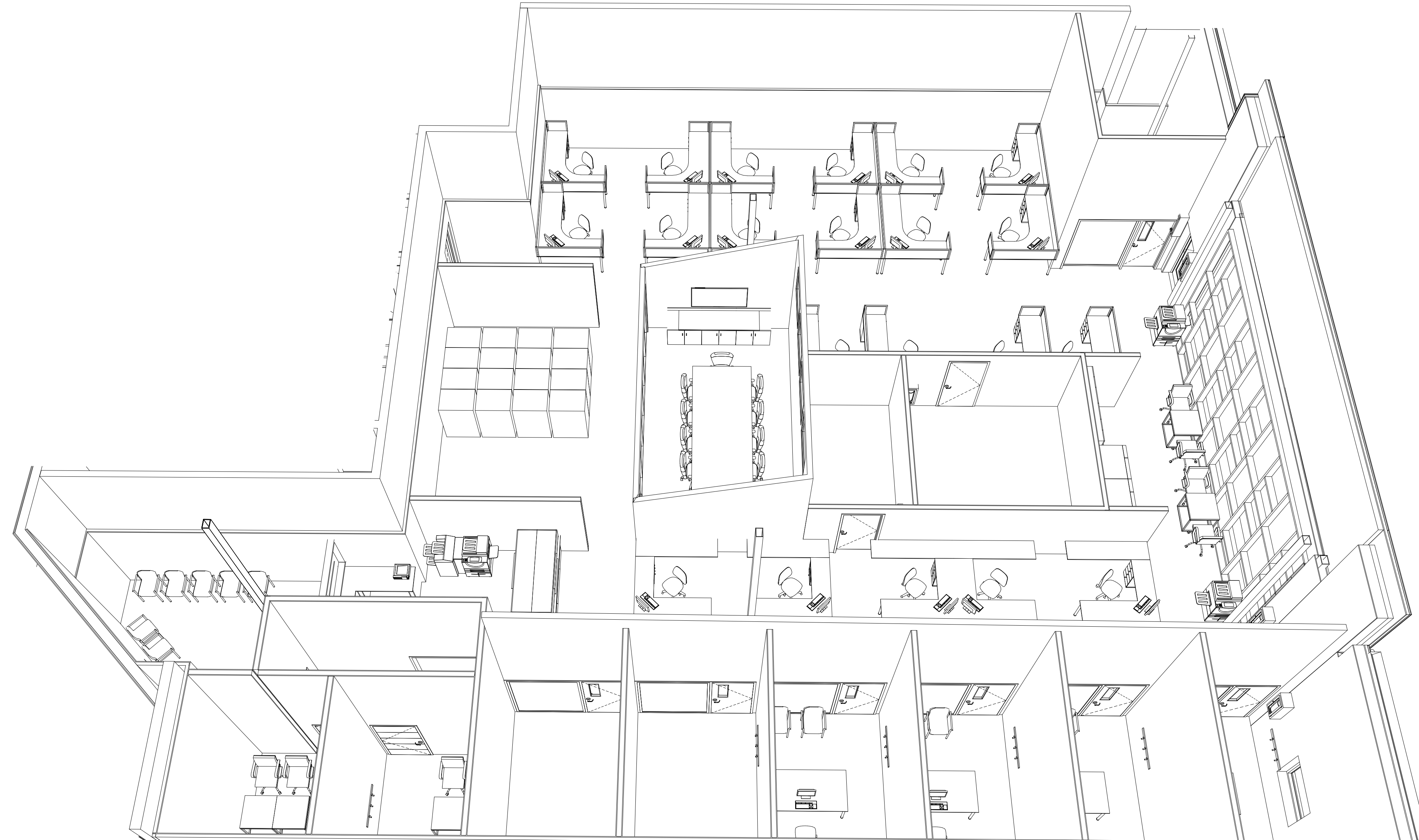
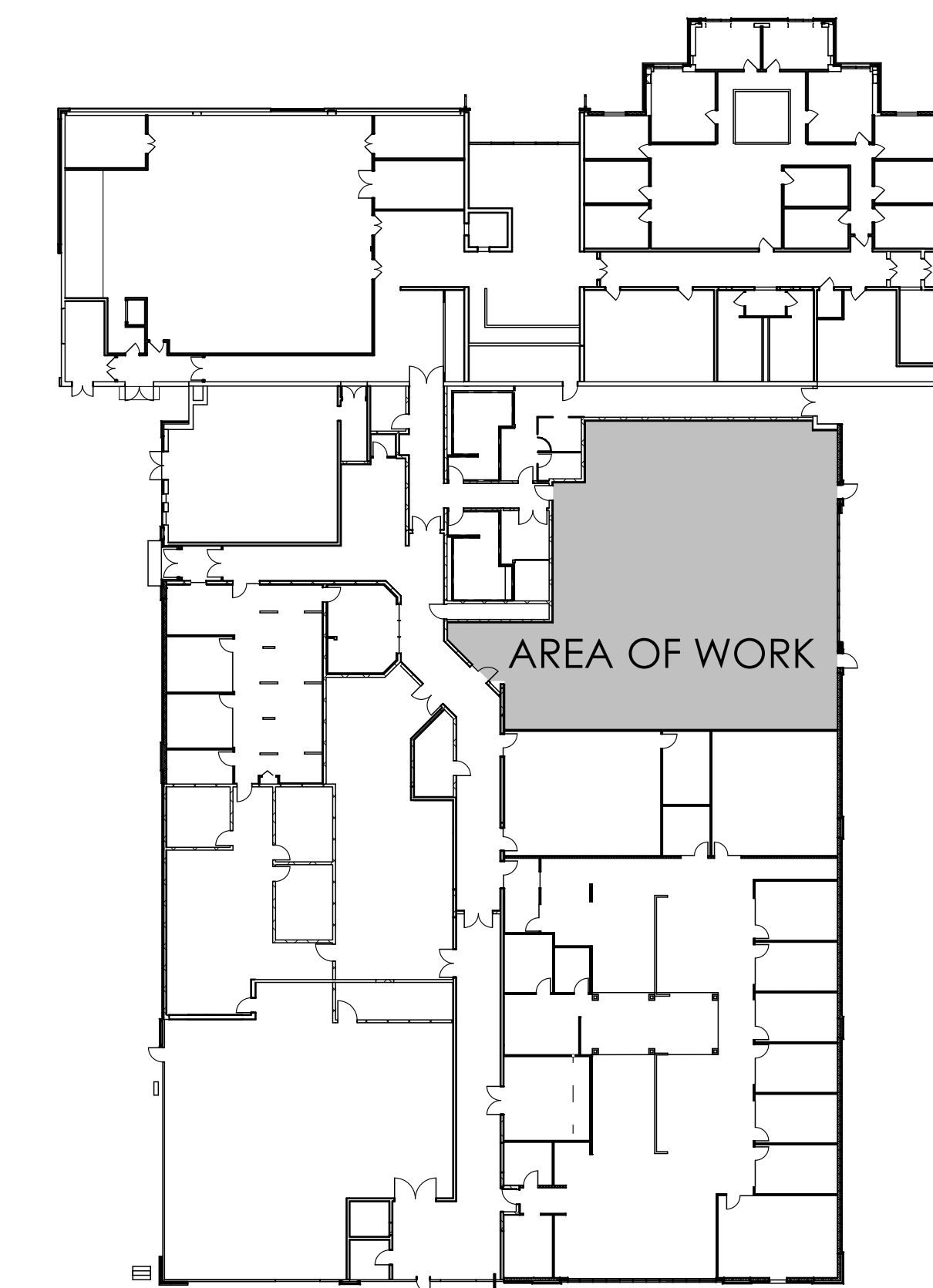


USDA FIT-OUT

1238 COUNTY WELFARE ROAD LEESPORT, PA 19533



ISOMETRIC VIEW



KEYPLAN

GENERAL NOTES

- EACH PRIME CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK OR PURCHASING ANY MATERIALS. VERIFY LAYOUT IN RELATION TO PROPERTY LINES, BENCH MARKS, OR OTHER FIXED CONDITIONS AND REPORT DISCREPANCIES TO ARCHITECT IMMEDIATELY UPON DISCOVERY.
- NOTIFY ARCHITECT OF DISCREPANCIES REGARDING THE CONTRACT DOCUMENTS OR DESIGN INTENT IMMEDIATELY UPON DISCOVERY. CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK OR RELATED WORK.
- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE WORK SITE IN A CLEAN AND ORDERLY MANNER AND ALLOW FOR SAFE USE OF PREMISES BY THE OWNER AND VISITORS.
- EACH PRIME CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, SITE SAFETY, EROSION AND SEDIMENTATION CONTROL, AND COORDINATING WITH THE WORK OF OTHER TRADES.
- GENERAL CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH COUNTIES APPROVED POINT OF CONTACT.
- ALL REFUSE SHALL BE THE RESPONSIBILITY OF EACH PRIME CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF-SITE IN A LEGAL MANNER.
- SKILLED WORKERS: EACH PRIME CONTRACTOR SHALL PROVIDE WORKERS EXPERIENCED IN THE TRADES AND ACTIVITIES TO BE PERFORMED AND BE FAMILIAR WITH THE PRODUCTS, MATERIALS, AND FINISHES INVOLVED IN THE SCOPE OF WORK OF THIS PROJECT.
- EACH PRIME CONTRACTOR SHALL PATCH ALL DISTURBED AREAS TO MATCH EXISTING, AND REPAIR OR REPLACE ANY DAMAGE TO THE SITE CAUSED BY CONSTRUCTION.
- GENERAL CONTRACTOR SHALL PLAN THE SCHEDULE OF ACTIVITIES TO MAINTAIN THE SECURITY OF THE BUILDING THROUGHOUT THE CONSTRUCTION PROCESS. GENERAL CONTRACTOR SHALL LOCK AND SECURE PROJECT AREA AT THE END OF EACH WORK DAY.
- GENERAL CONTRACTOR TO ENSURE THAT ALL WORK AREAS, INCLUDING THOSE ON ROOFS, SHALL BE IN COMPLIANCE WITH OSHA STANDARDS AND REQUIREMENTS, INCLUDING ANY FLAGGING, TIE-OFFS, AND TEMPORARY BARRIERS.

NOTE TO BIDDER

- SPECIFICATION BOOK PREPARED FOR THE AG CENTER FACILITY UPGRADE PROJECT IS TO BE UTILIZED FOR THIS PROJECT. IF REQUIRED, ADDITIONAL SPECIFICATIONS WILL BE PROVIDED AS PART OF THIS WORK.

PROJECT DRAWING LIST

GENERAL & CODE INFO	
A-001	GENERAL INFORMATION
A-002	LIFE SAFETY PLAN
PLANS	
A-101	PARTITION PLAN
A-102	KEYNOTE PLAN
A-103	FURNITURE PLAN
ENLARGED PLANS	
A-401	ENLARGED PLAN
A-402	INTERIOR ELEVATIONS
DETAILS	
A-501	DETAILS
SCHEDULES & DIAGRAMS	
A-601	DOOR SCHEDULE
FINISH PLANS	
A-701	REFLECTED CEILING PLAN
A-702	FINISH PLAN
PLUMBING DRAWINGS	
P-101	PLUMBING PLAN
MECHANICAL DRAWINGS	
H-002	HVAC COVER SHEET
H-200	HVAC LAYOUT
H-200D	HVAC DEMO LAYOUT
ELECTRICAL DRAWINGS	
E-001	ELECTRICAL LEGEND & ABBREVIATIONS
E-103	ELECTRICAL LIGHTING PLAN
E-203	ELECTRICAL POWER & SYSTEMS PLAN
E-302	SPECIAL SYSTEMS DIAGRAMS & DETAILS
E-501	ELECTRICAL SINGLE LINE DIAGRAM
E-503	ELECTRICAL PANEL SCHEDULES

MG ARCHITECTS
 ESTABLISHED 1920
 ARCHITECTURAL DESIGN
 INTERIOR DESIGN
 CODE ANALYSIS
 PLANNING SERVICES
 REPORTS AND STUDIES
 ENGINEERING SERVICES
 HISTORIC PRESERVATION

955 BERKSHIRE BLVD., SUITE 101
 WYOMISSING, PA 19610
 610.376.4927
 www.MG-Architects.com

PROJECT #:
22-0012

PROFESSIONAL SEAL

JIM A. SARRO AIA, LEED AP BD+C
 JIMS@MG-Architects.com

COUNTY OF BERKS
 REX LEVENGOOD, DIR. OF FAC. & OPS
 633 COURT STREET
 READING, PA 19601
 610.478.6201 X6220
 RLEVENGOOD@CountyOfBerks.gov

BERKS COUNTY AGRICULTURAL CENTER
USDA FIT-OUT
 1238 COUNTY WELFARE ROAD LEESPORT, PA 19533

ISSUED

DATE: ISSUED 8/17/23

ID	DESCRIPTION	DATE

PROJ. MGR.: JIM SARRO
 P.M. e-MAIL: JIMS@MG-Architects.com
 DRAWN BY: DK, SG, BB, JS
 CLIENT PROJ #:

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

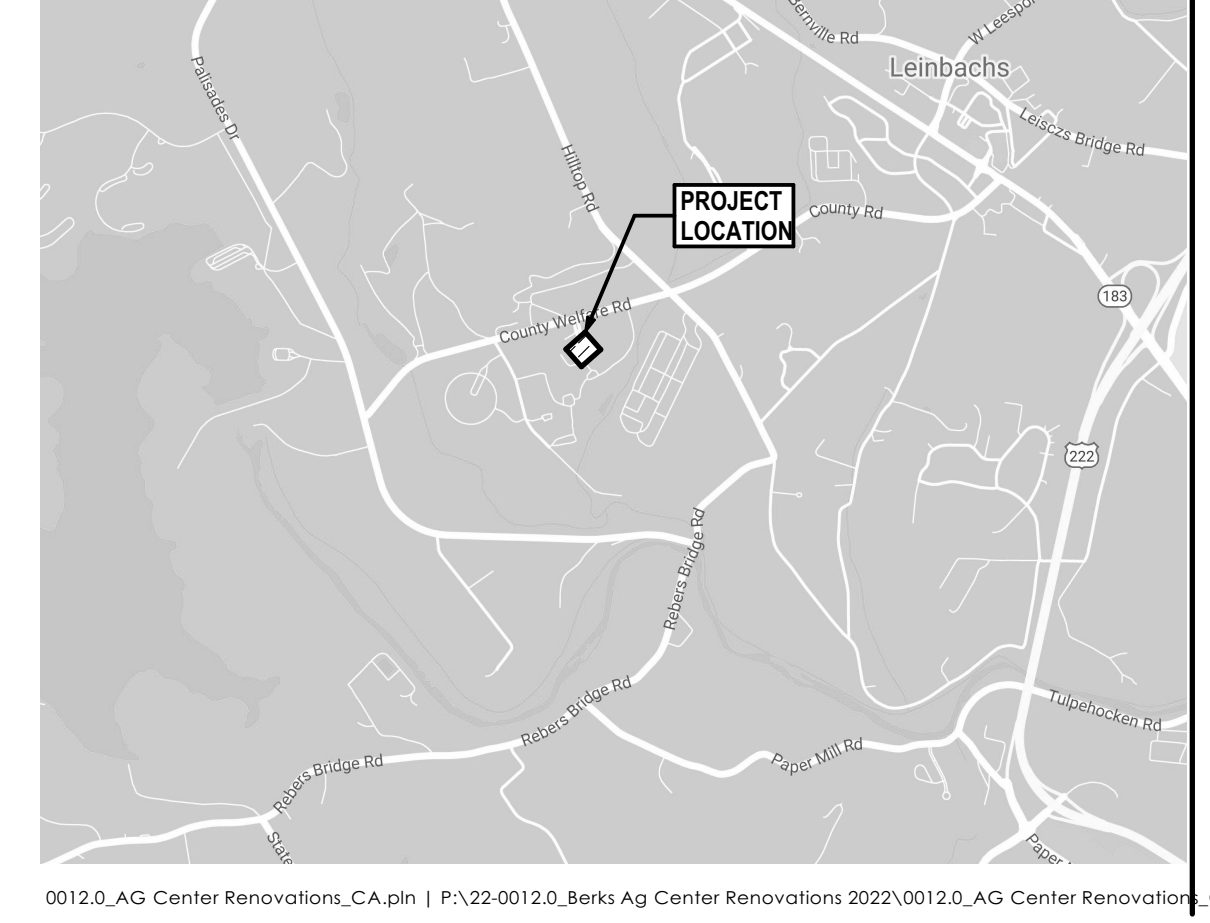
BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING

1

SHEET TITLE:
GENERAL INFORMATION

A-001

LOCATION MAP



PROJECT DIRECTORY

OWNER
 COUNTY OF BERKS
 633 COURT STREET READING PA 19601
 CONTACT: REX LEVENGOOD
 PHONE: 610.478.6201 FAX: 610.478.6363
 EMAIL: RLEVENGOOD@CountyOfBerks.gov

ARCHITECT
 MG ARCHITECTS, LTD.
 955 BERKSHIRE BLVD, SUITE 101 WYOMISSING PA 19610
 PHONE: 610.376.4927
 CONTACT: JIM A. SARRO AIA, LEED AP BD+C
 EMAIL: JIMS@MG-Architects.com

MECHANICAL & ELECTRICAL ENGINEER
 SYSTEMS DESIGN ENGINEERING, INC.
 1032 JAMES DRIVE LEESPORT, PA 19533
 CONTACT: STEVE GRIBB
 PHONE: 610.916.8538
 EMAIL: S.GRIBB@SDEI.NET

GRAPHIC SYMBOLS

KEYNOTE IDENTIFIERS

KEYNOTE: SEE KEYNOTE LEGEND ON DRAWING'S LAYOUT

ALTERNATE KEYNOTE: SEE KEYNOTE LEGEND ON DRAWING'S LAYOUT

ROOM DESIGNATION

OFFICE: ROOM NAME, ROOM NUMBER, ENLARGED PLAN REFERENCE

WALL TYPE MARKER (SEE PARTITION LEGEND)

WINDOW MARKER

SKYLIGHT MARKER

DOOR IDENTIFIERS

DOOR IDENTIFIER (ELEVATIONS/SECTIONS)

DOOR IDENTIFIER (PLANS)

DOOR IDENTIFIER (PLANS) - 6" TYPICAL UNLESS OTHERWISE NOTED

ELEVATION / SECTION MARKER

INDICATES ELEVATION LOCATION ON SHEET

INDICATES SHEET ON WHICH DRAWING IS SHOWN

SECTION / DETAIL MARKER

INDICATES SECTION LOCATION ON SHEET

INDICATES SHEET ON WHICH DRAWING IS SHOWN

DETAIL / ENL. PLAN MARKER

INDICATES DETAIL LOCATION ON SHEET

INDICATES SHEET ON WHICH DETAIL IS SHOWN

INTERIOR ELEVATION MARKER

INDICATES ELEVATION LOCATION ON SHEET

INDICATES SHEET ON WHICH ELEVATION IS SHOWN

DRAWING REVISION MARKER

CLOUD DENOTES CURRENT REVISION ISSUE

REVISION NO.

PAST REVISION MARKER (REFERENCE ONLY)

ABBREVIATIONS

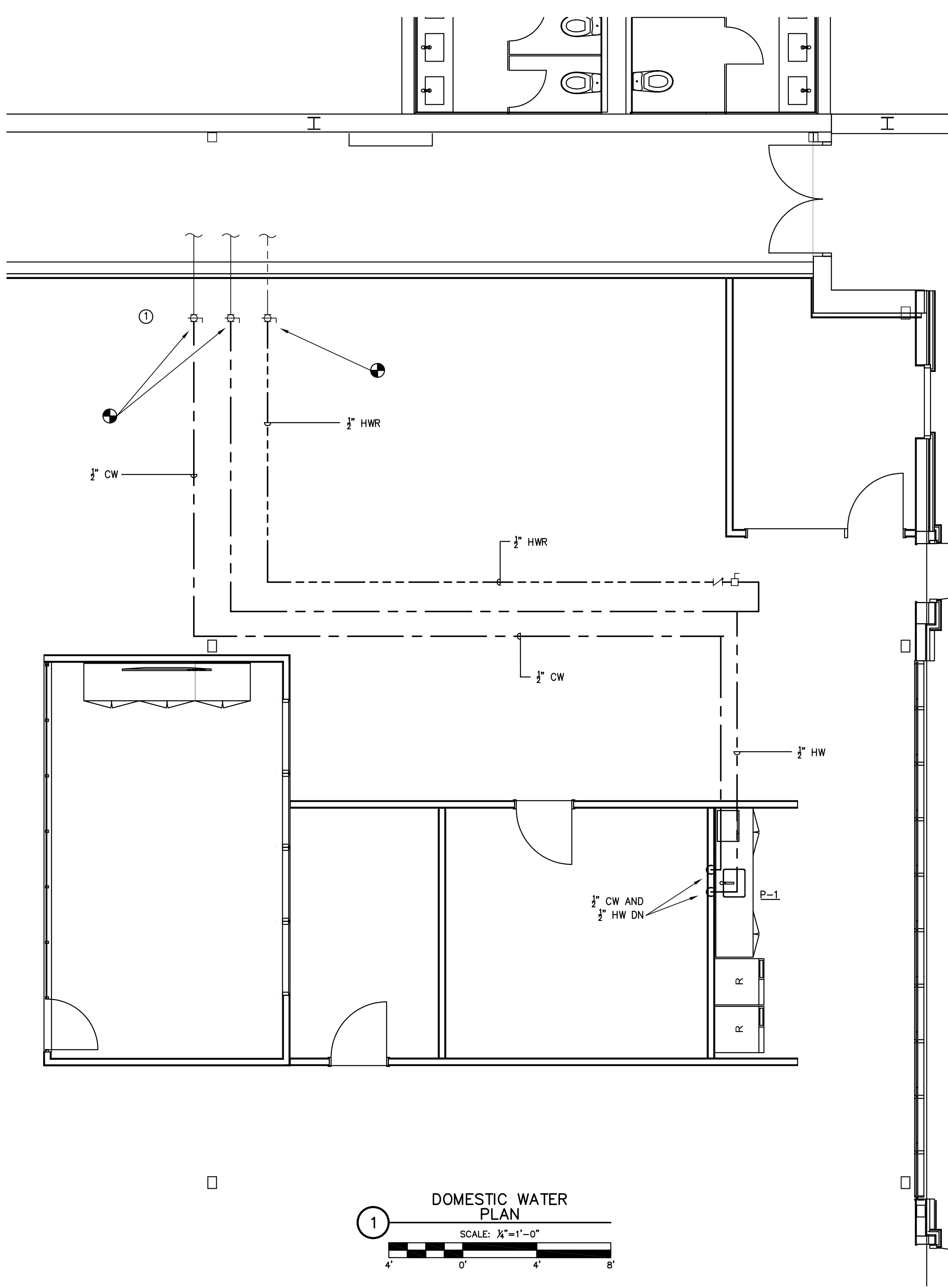
A.D.	AREA DRAIN	DWG.	DRAWING	HORZ.	HORIZONTAL	PL LAM	PLASTIC LAMINATE	U.L.	UNDERWRITERS
ABV.	ABOVE	DN.	DOWN	HT.	HEIGHT	QTY.	QUANTITY	LABORATORIES	
ADA	ACCESSIBLE / AMERICANS WITH DISABILITIES ACT	DEPT.	DEPARTMENT	INSUL.	INSULATION / INSULATING	R	RISER	VEST.	VESTIBULE
ADJ.	ADJUSTABLE	DBL.	DOUBLE	ID.	INSIDE DIAMETER	R.W.C.	RAIN WATER CONDUCTOR	V.C.T.	VINTL COMPOSITION TILE
A.G.R.	AREA OF REFUGE	DR.	DOOR	INCAND.	INCANDESCENT	REIN.	REINFORCING / REINFORCED	W/	WITH
ALUM.	ALUMINUM	EQ.	EQUAL	JAN.	JANITOR	R.O.	ROUGH OPENING	W.C.	WATER CLOSET
ALT.	ALTERNATE	EQ.	EQUAL	JT.	JOINT	POUNDS	POUNDS	WD	WOOD
A.F.F.	ABOVE FINISHED FLOOR	E.C.	ELECTRICAL CONTRACTOR	LAV.	LAVATORY	REFL.	REFLECTED	&	AND
A.C.	ACOUSTIC / ACOUSTICAL	ELEV.	ELEVATOR	LAM.	LAMINATE	REC.	RECESSED	@	AT
A.F.	ALUMINUM FACE	ELEC.	ELECTRIC / ELECTRICAL	L.P.	LOW POINT	RAD.	RADIUS	±	PLUS OR MINUS
APPRX.	APPROXIMATE / APPROXIMATELY	EXP.	EXPANSION	MAX.	MAXIMUM	ST.	STREET	°	DEGREE
BD.	BOARD	EXT.	EXTERIOR	MAN.	MANUFACTURER / MANUFACTURED	SIM.	SIMILAR	∠	ANGLE
BLK.	BLOCK / BLOCKING	E.A.	EACH	MTL.	METAL	STL.	STEEL	∪	CHANNEL
BLDG.	BUILDING	F.D.	FLOOR DRAIN	MIR.	MIRROR	SQ.	SQUARE	#	NUMBER
B.O.	BOTTOM OF	F.E.	FIRE EXTINGUISHER CABINET	MIR.	MIRRORED	SAN.	SANITARY	□	SQUARE
B.O.S.	BOTTOM OF STEEL	F.E.C.	FIRE EXTINGUISHER CABINET	MTD.	MOUNTED	SUSP.	SUSPENDED	⊙	ROUND / DIAMETER
CAB.	CABINET	F.O.	FACE OF	M.O.	MASONRY OPENING	STD.	STANDARD	∅	CENTER LINE
C.C.	CENTER-TO-CENTER	FIN.	FINISH / FINISHED	MISC.	MISCELLANEOUS	SPEC.	SPECIFICATION	∩	PLATE
C.L.G.	CENTER LINE	FUR.	FLOOR	M.E.C.	MISCELLANEOUS	TEL.	TELEPHONE	∩	PLATE
CLOS.	CLOSET	F.O.	FACE OF	N.I.C.	NOT IN CONTRACT	T.O.	TOP OF	∩	PLATE
C.M.	CONSTRUCTION MANAGER	FT.	FEET / FOOT	NO.	NUMBER	T.O.S.	TOP OF STEEL	∩	PLATE
CMU	CONCRETE MASONRY UNIT	FLUR.	FLOOR	N.T.S.	NOT TO SCALE	T.O.W.	TOP OF WALL	∩	PLATE
C.J.	CONTROL JOINT	F.P.	FACE OF	O.C.	ON CENTER	TOL.	TOLERANCE	∩	PLATE
CONC.	CONCRETE	GALV.	GALVANIZED	O.D.	OUTSIDE DIAMETER	TYP.	TYPICAL	∩	PLATE
CORR.	CORRIDOR	GA.	GAUGE	OPP.	OPPOSITE	THK.	THICK	∩	PLATE
COL.	COLUMN	G.C.	GENERAL CONTRACTOR	OPG.	OPENING	TMP.	TEMPERED	∩	PLATE
CONT.	CONTINUE / CONTINUOUS	HR.	HOUR	P.C.	PLUMBING CONTRACTOR	T.S.G.	TEMPERED SAFETY GLASS	∩	PLATE
CONTR.	CONTRACTOR	H.P.	HIGH POINT	P.F.	PANEL FACE	U.O.N.	UNLESS OTHERWISE NOTED	∩	PLATE
DIA.	DIAMETER	HVAC	HEAT, VENTILATION, AIR-CONDITIONING	PR.	PAIR	U.O.N.	UNLESS OTHERWISE NOTED	∩	PLATE
DTL.	DETAIL			P.T.	PRESSURE TREATED			∩	PLATE

GENERAL PLUMBING NOTES

- A. GENERAL PLUMBING NOTES
- PROVIDE ALL LABOR AND MATERIALS NEEDED FOR A COMPLETE AND PROPERLY OPERATIONAL PLUMBING SYSTEM.
 - THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF WORK TO BE PERFORMED. THE DRAWINGS ARE NOT INTENDED TO SHOW EXACT LOCATIONS OR TO SHOW EVERY PIPE, FITTING, VALVE OR APPURTENANCE REQUIRED FOR A COMPLETE INSTALLATION. DO NOT SCALE LOCATION DIMENSIONS FROM THESE DRAWINGS.
 - THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL EXISTING CONDITIONS AND DIMENSIONS AND FOR COORDINATION OF HIS WORK WITH THAT OF OTHER TRADES. PERFORM WORK IN AN ORDERLY MANNER AND WITH THE LEAST POSSIBLE INTERFERENCE.
 - WORK SHALL CONFORM TO OR MEET THE REQUIREMENTS OF THE MOST CURRENT ENFORCED EDITION OF:
 - INTERNATIONAL BUILDING CODE
 - INTERNATIONAL PLUMBING CODE
 - NEC (NFPA 70)
 - ALL FEDERAL, STATE, AND LOCAL CODES AND ORDINANCES.
 - ALL MATERIALS, EQUIPMENT, AND DEVICES SHALL, AS A MINIMUM, MEET THE REQUIREMENTS OF UL WHERE UL REQUIREMENTS ARE ESTABLISHED FOR THOSE ITEMS. ALL ITEMS SHALL BE CLASSIFIED BY UL AS SUITABLE FOR THE PURPOSE USED.
 - WHERE PIPES OR CONDUIT PENETRATE FIRE RATED OR SMOKE RATED BARRIERS (WALLS, FLOORS, AND CEILINGS), SEAL PENETRATIONS IN ACCORDANCE WITH NFPA 90A WITH UL LISTED FIRE STOPPING SYSTEM. SEE ARCHITECTURAL DRAWINGS FOR FIRE RATED CEILING, FLOOR AND PARTITION LOCATIONS.
 - ALL EQUIPMENT AND MATERIALS INCORPORATED IN THIS WORK SHALL BE NEW UNLESS NOTED OTHERWISE AND SHALL BE CURRENT PRODUCTS BY MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SUCH PRODUCTS.
 - ALL FACTORY APPLIED COATINGS AND FINISHES SHALL BE PROVIDED WITHOUT RUST, SCRATCHES, OR DENTS.
 - PROVIDE OWNER WITH CERTIFICATES OF FINAL INSPECTIONS AND ACCEPTANCE FROM THE AUTHORITY HAVING JURISDICTION.
- B. COORDINATION REQUIREMENTS
- COORDINATE LOCATION AND INSTALLATION OF PLUMBING WORK WITH OTHER TRADES TO AVOID CONFLICTS AND INTERFERENCES. MODIFICATIONS DUE TO FIELD CONDITIONS SHALL BE COMPLETELY RESOLVED BY CONTRACTOR IN ACCORDANCE WITH RECOMMENDATIONS OF THE ARCHITECT/OWNER.
 - COORDINATE FINAL LOCATIONS OF PLUMBING EQUIPMENT WITH ARCHITECTURAL PLANS.
 - PROVIDE TO THE GENERAL CONTRACTOR, DIMENSIONED LOCATIONS AND SIZE OF ALL REQUIRED FLOOR AND WALL OPENINGS. PROVIDE FOR INSTALLATION OF SLEEVES AND FRAMING AS REQUIRED.
 - CUTTING AND PATCHING WORK SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR.
- C. PLUMBING INSTALLATION REQUIREMENTS
- INSTALL ALL EQUIPMENT AND MATERIAL IN ACCORDANCE WITH MANUFACTURERS PRINTED INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS. MAINTAIN CLEARANCES FOR CLEARANCE ACCESS TO MAINTAIN AND SERVICE EQUIPMENT, VALVES AND CONTROL.
 - ALL INSTALLATION AND WORK SHALL BE PERFORMED IN A NEAT, WORKMANLIKE MANNER SO AS NOT TO DAMAGE ANY SURFACES, EQUIPMENT, OR MATERIALS.
 - MOTOR OPERATED EQUIPMENT SHALL BE ISOLATED FROM THE BUILDING STRUCTURE BY THE INSTALLATION OF APPROVED VIBRATION HANGERS OR SUPPORTS.
 - ALL EQUIPMENT AND PIPING ABOVE THE CEILING AND OR RIGHT TO BUILDING STRUCTURE, SHALL BE SUPPORTED IN AN APPROVED MANNER FROM THE BUILDING STRUCTURE ABOVE.
 - PROVIDE PIPE ESCUTCHEONS AT ALL EXPOSED PENETRATIONS OF FLOOR, WALLS AND CEILINGS.
 - PIPE SIZES ARE IN INCHES UNLESS NOTED OTHERWISE.
 - RUNOUTS TO EQUIPMENT SHALL BE SIZED AS INDICATED AND INCREASED OR REDUCED AT POINT OF FINAL CONNECTION TO EQUIPMENT.
 - ALL SYSTEMS SHALL BE TESTED FOR PROPER OPERATION IN ACCORDANCE WITH APPLICABLE CODE OR REGULATION.
 - SEAL ALL PIPE PENETRATIONS THROUGH WALLS AND FLOORS WATERTIGHT.

PLUMBING SPECIFICATIONS

- DOMESTIC WATER**
 - DOMESTIC WATER DISTRIBUTION PIPE MATERIAL SHALL BE PER TABLE 605.4 "WATER DISTRIBUTION PIPE" ON THIS DRAWING.
 - DOMESTIC WATER PIPE FITTINGS SHALL BE PER TABLE 605.5 "PIPE FITTINGS" ON THIS DRAWING.
- SANITARY DRAINAGE**
 - SANITARY AND VENT PIPE MATERIAL ABOVE GROUND SHALL BE PER TABLE 702.1 "ABOVE GROUND DRAINAGE AND VENT PIPE" ON THIS DRAWING. SANITARY AND VENT PIPE MATERIAL BELOW GROUND SHALL BE PER TABLE 702.2 "UNDERGROUND BUILDING DRAINAGE AND VENT PIPING" ON THIS DRAWING. SLOPE SANITARY PIPING PER TABLE 704.1 "SLOPE OF HORIZONTAL DRAINAGE PIPE" ON THIS DRAWING.
 - SANITARY AND VENT PIPE FITTINGS SHALL BE PER TABLE 702.4 "PIPE FITTINGS" ON THIS DRAWING.
- DOMESTIC WATER PIPE INSULATION**
 - INSULATE ALL DOMESTIC HOT WATER, HOT WATER RETURN, AND COLD WATER PIPES WITH 1" ARMAFLEX OR FIBERGLASS WITH A MINIMUM R-VALUE 3.0 OR R-VALUE PER AUTHORITY HAVING JURISDICTION. INSTALL INSULATION PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE WITH BLACK FINISH.
- DISINFECTION OF POTABLE WATER SYSTEM**
 - POTABLE WATER SYSTEM SHALL BE CLEANED AND DISINFECTED PER THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.



DRAWING NOTES:

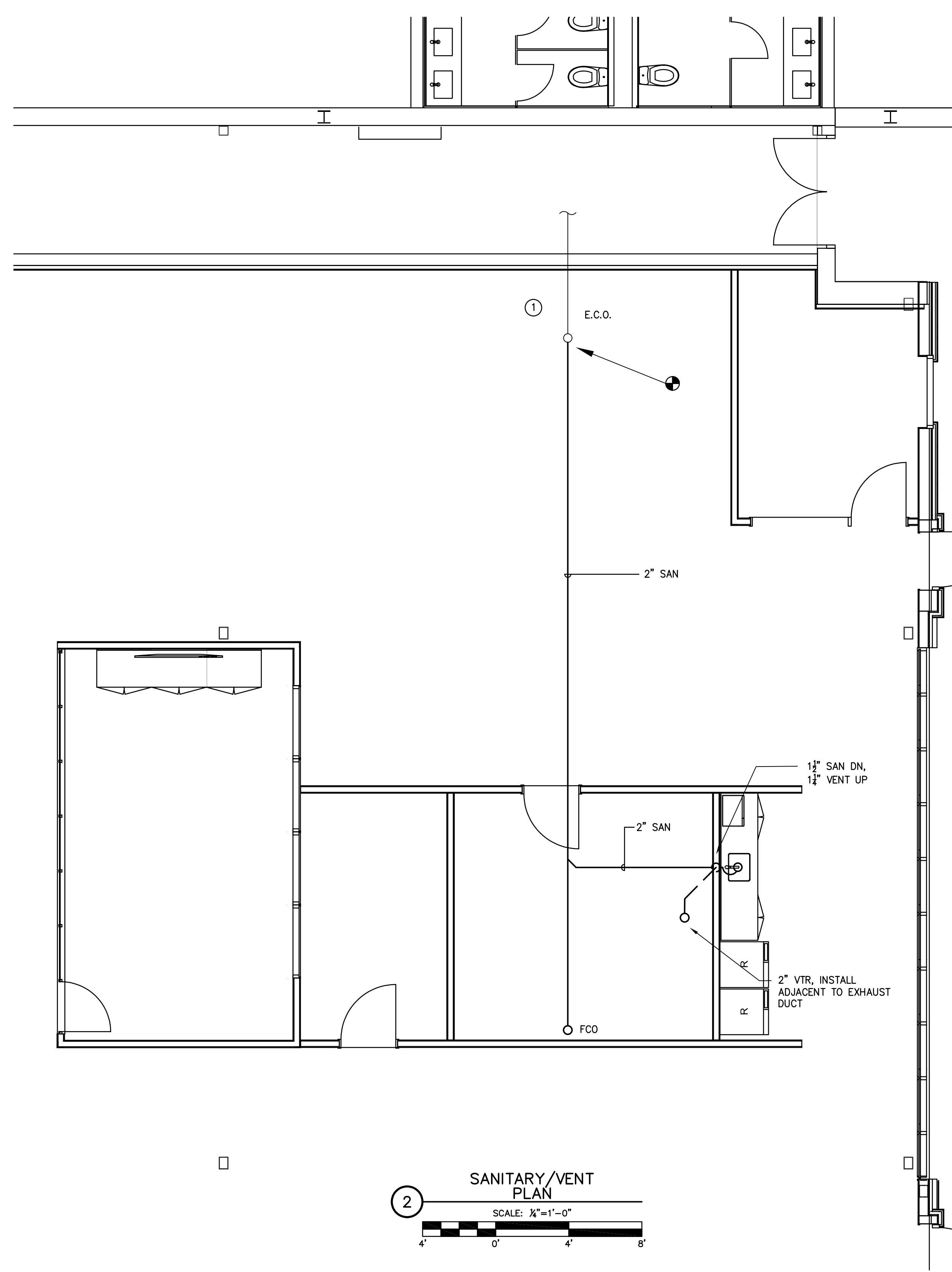
- CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING HOT WATER, COLD WATER, AND HOT WATER RETURN LINES. CONTRACTOR SHALL CONNECT NEW COLD WATER, HOT WATER, AND HOT WATER RETURN LINES TO EXISTING HOT WATER, COLD WATER, AND HOT WATER RETURN LINES.

MARK	FIXTURE	MANUFACTURER	MODEL	CW	HW	DRAIN	VENT	REMARKS
P-1	DOUBLE BOWL SINK	ELKAY	LRAD33196SPD	1/2"	1/2"	1 1/2"	1 1/4"	ADA COMPLIANT, STAINLESS STEEL, DOUBLE BOWL, DROP-IN SINK. PROVIDE WITH DECK MOUNT, 3-HOLE, ADA COMPLIANT FAUCET, MODEL LK1000CR.

- NOTES:
- CONTRACTOR SHALL REVIEW ALL CONTRACTOR FURNISHED PLUMBING FIXTURES WITH OWNER PRIOR TO PURCHASE.
 - CONTRACTOR SHALL FURNISH AND INSTALL STOPS ON SUPPLY LINES TO ALL FIXTURES.
 - CONTRACTOR SHALL FURNISH AND INSTALL ACCESS DOORS FOR ALL VALVES AS REQUIRED.
 - ALL EXPOSED PIPING UNDER ADA ACCESSIBLE COUNTERTOP SINKS AND LAVATOIRES SHALL BE INSULATED AND PROTECTED WITH PREFABRICATED MOLDED COVERS AS MANUFACTURED BY PLUMEREX OR EQUIVALENT.

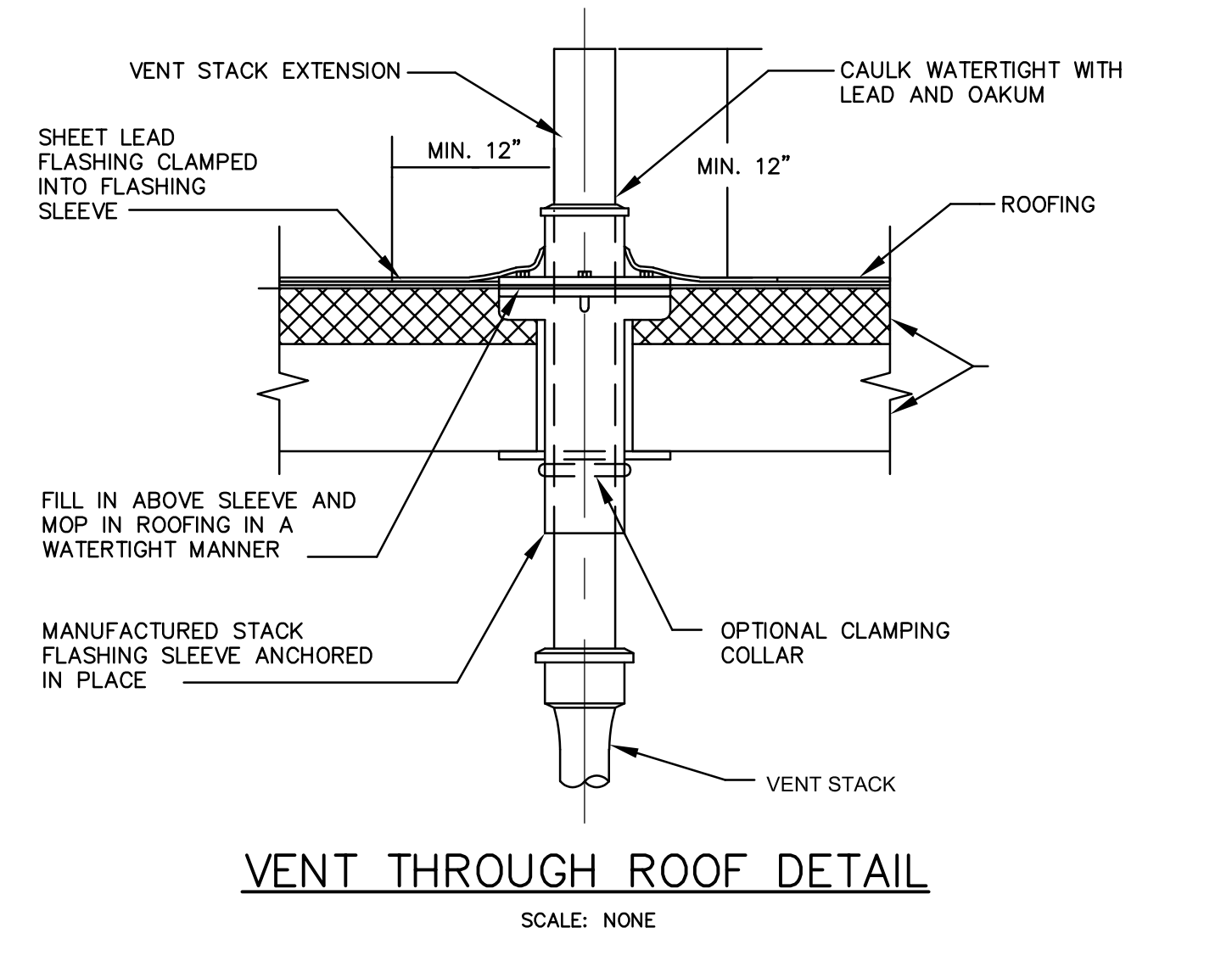
PLUMBING LEGEND

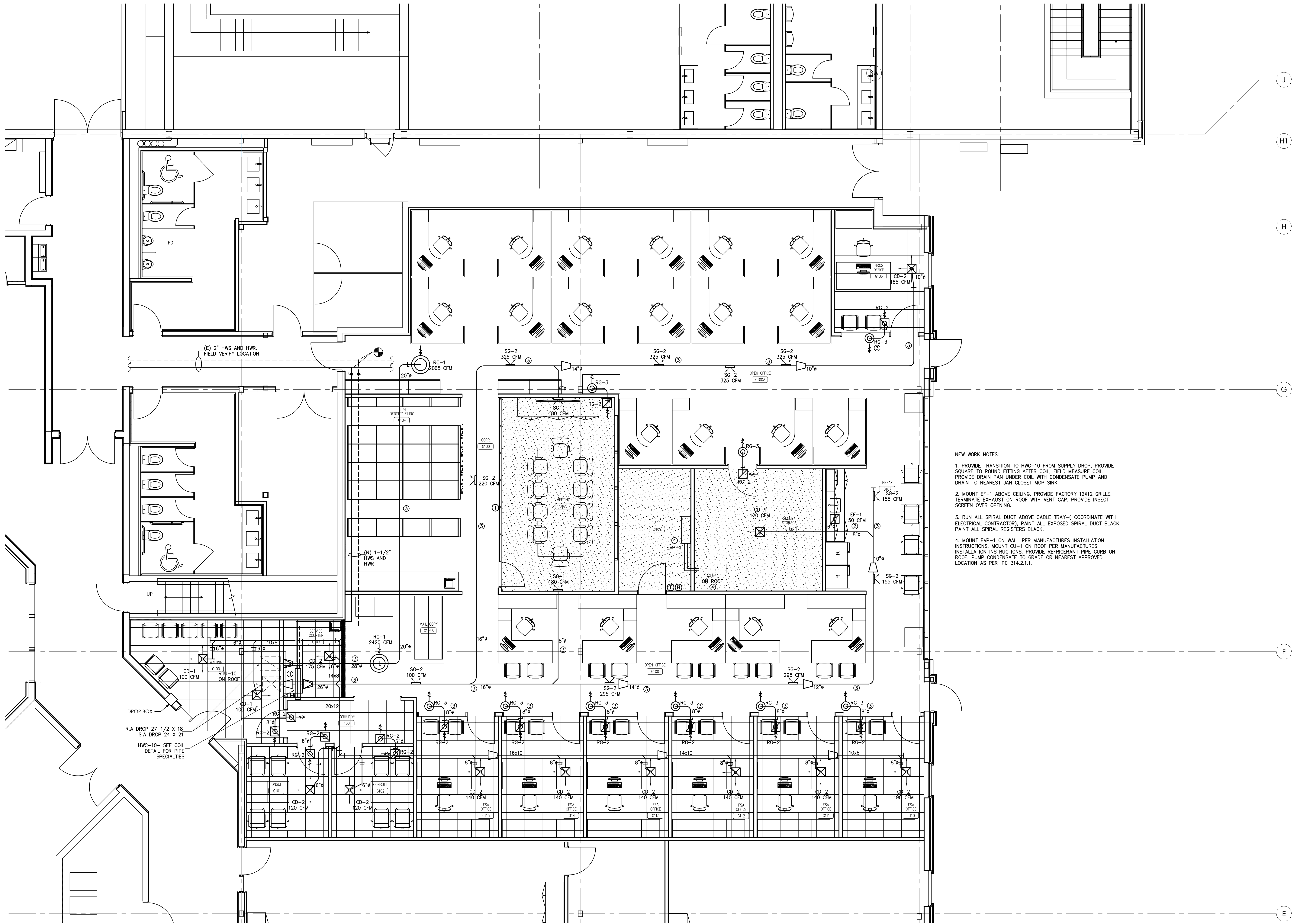
-----	DOMESTIC COLD WATER PIPING	⊕	POINT OF NEW CONNECTION TO EXISTING
-----	DOMESTIC HOT WATER SUPPLY PIPING	Ⓢ	KEYED DRAWING NOTE
-----	DOMESTIC HOT WATER RETURN PIPING	DN	DOWN
-----	SANITARY DRAIN PIPING - BELOW GRADE	CW	COLD WATER
-----	SANITARY DRAIN PIPING - ABOVE GRADE	HW	HOT WATER
-----	VENT PIPING - ABOVE GRADE	W	WASTE
-----	PIPE DROP	□	BALANCING VALVE (CIRCUIT SETTER)
-----	PIPE RISE	~	CHECK VALVE
-----	FIXTURE DRAIN WITH P-TRAP	⊕	BALL VALVE
-----	FLOOR CLEANOUT		



DRAWING NOTES:

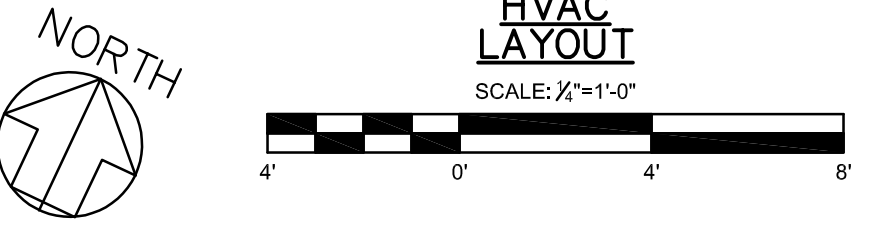
- CONTRACTOR SHALL FIELD VERIFY LOCATION AND INVERT OF EXISTING CLEAN OUT SERVING THIS SPACE. CONTRACTOR SHALL CONNECT NEW SANITARY LINE TO EXISTING SANITARY LINE.





NEW WORK NOTES:

1. PROVIDE TRANSITION TO HWC-10 FROM SUPPLY DROP, PROVIDE SQUARE TO ROUND FITTING AFTER COIL, FIELD MEASURE COIL. PROVIDE DRAIN PAN UNDER COIL WITH CONDENSATE PUMP AND DRAIN TO NEAREST JAN CLOSET MOP SINK.
2. MOUNT EF-1 ABOVE CEILING, PROVIDE FACTORY 12X12 GRILLE. TERMINATE EXHAUST ON ROOF WITH VENT CAP. PROVIDE INSECT SCREEN OVER OPENING.
3. RUN ALL SPIRAL DUCT ABOVE CABLE TRAY-(COORDINATE WITH ELECTRICAL CONTRACTOR), PAINT ALL EXPOSED SPIRAL DUCT BLACK. PAINT ALL SPIRAL REGISTERS BLACK.
4. MOUNT EVP-1 ON WALL PER MANUFACTURES INSTALLATION INSTRUCTIONS, MOUNT CU-1 ON ROOF PER MANUFACTURES INSTALLATION INSTRUCTIONS. PROVIDE REFRIGERANT PIPE CURB ON ROOF. PUMP CONDENSATE TO GRADE OR NEAREST APPROVED LOCATION AS PER IPC 314.2.1.1.



ISSUED	
DATE: ISSUED 08/17/23	08/17/23
REVISION	ISSUE FOR BID

PROJ. MGR.: Stephen Gribb, P.E.
 P.M. e-MAIL: s.gribb@sdei.net
 DRAWN BY: B.S.
 CLIENT PROJ #: -

SCALE: 1/4" = 1'-0"
 1
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SHEET TITLE:
HVAC LAYOUT

H200

CABLE TRAY NOTES

- LADDER CABLE TRAYS**
- A. BASIS-OF-DESIGN PRODUCT, SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCT INDICATED ON DRAWINGS OR COMPARABLE PRODUCT BY ONE OF THE FOLLOWING:
1. ALLED TUBE A CONDUIA T700 INTERNATIONAL LTD. CO.
 2. CHALFANT MANUFACTURING COMPANY.
 3. BLAKE, INC. (DESIGN BASE)
 4. HON-SYSTEMS, INC.
 5. MP HUSKY.
- B. DESCRIPTION
1. CONFIGURATION: TWO I-BEAM SIDE RAILS WITH TRANSVERSE RINGS WELDED TO SIDE RAILS.
 2. RING SPACING: 4 INCHES O.C.
 3. RADIUS-FITTING RING SPACING: 9 INCHES AT CENTER OF TRAYS WIDTH.
 4. MINIMUM CABLE-BEARING SURFACE FOR RINGS: 1/8-INCH WITH RADIUS EDGES.
 5. NO PORTION OF THE RINGS SHALL PROTRUDE BELOW THE BOTTOM PLANE OF SIDE RAILS.
 6. STRUCTURAL PERFORMANCE OF EACH RING: CAPABLE OF SUPPORTING A MAXIMUM CABLE LOAD, WITH A SAFETY FACTOR OF 1.5, PLUS A 200-LB CONCENTRATED LOAD, WHEN TESTED ACCORDING TO NEMA VE I.
 7. MINIMUM ISABLE LOAD DEPTH: 4 INCHES.
 8. STRAIGHT SECTION LENGTHS: 10 FEET, EXCEPT WHERE SHORTER LENGTHS ARE REQUIRED TO FACILITATE TRAY ASSEMBLY.
 9. WIDTH: 12 INCHES AND 18 INCHES, UNLESS OTHERWISE INDICATED ON DRAWINGS.
 10. FITTING MINIMUM RADIUS: 12 INCHES.
 11. SPlicing ASSEMBLIES: BOLTED TYPE USING SERRATED FLANGE LOCKNUTS.
 12. HARDWARE AND FASTENERS: ASTM F 593 AND ASTM F 594 STAINLESS STEEL, TYPE 316.
 13. SPLICE PLATE CAPACITY: SPLICES LOCATED WITHIN SUPPORT SPAN SHALL NOT EXCEED RATED LOADING CAPACITY OF CABLE TRAY.

- MATERIALS AND FINISHES**
- A. ALUMINUM
1. MATERIALS: ALLOY 6063-T6 ACCORDING TO ANSI H9514 35M FOR EXTRUDED COMPONENTS, AND ACCORDING TO ANSI H9514 35M FOR FABRICATED PARTS.
 2. HARDWARE: STAINLESS STEEL, TYPE 316, ASTM F 593 AND ASTM F 594.
- CABLE TRAY ACCESSORIES**
- A. FITTINGS: TEES, CROSSSES, RISERS, ELBOWS, AND OTHER FITTINGS AS INDICATED, OF SAME MATERIALS AND FINISHES AS CABLE TRAY.
- B. BARRIER STRIPS: SAME MATERIALS AND FINISHES AS FOR CABLE TRAY.
- C. CABLE TRAY SUPPORTS AND CONNECTORS, INCLUDING BONDING JUMPERS, AS RECOMMENDED BY CABLE TRAY MANUFACTURER.

- MARKING SIGNS**
- A. LETTERING: 1/2-INCH HIGH BLACK LETTERS ON YELLOW BACKGROUND WITH LEGEND "WARNING: NOT TO BE USED AS WALKWAY, LADDER, OR SUPPORT FOR LADDERS OR PERSONNEL."
- SOURCE QUALITY CONTROL**
- A. Testing: Test and inspect cable traps according to NEMA VE I.

- CABLE TRAY INSTALLATION**
- A. INSTALL CABLE TRAYS ACCORDING TO NEMA VE 2.
- B. INSTALL CABLE TRAYS AS A COMPLETE SYSTEM, INCLUDING FASTENERS, HOLD-DOWN CLIPS, SUPPORT SYSTEMS, BARRIER STRIPS, ADJUSTABLE HORIZONTAL AND VERTICAL SPLICE PLATES, ELBOWS, REDUCERS, TEES, CROSSSES, CABLE BRACKET, ADMITTERS, COVERS, AND BONDING.
- C. INSTALL CABLE TRAYS SO THAT THE TRAY IS ACCESSIBLE FOR CABLE INSTALLATION AND ALL SPLICES ARE ACCESSIBLE FOR INSPECTION AND ADJUSTMENT.
- D. REMOVE BURRS AND SHARP EDGES FROM CABLE TRAYS.
- E. JOIN ALUMINUM CABLE TRAY WITH SPLICE PLATES USE FOUR SQUARE-NECK CARRIAGE BOLTS AND LOCKNUTS.
- F. FASTEN CABLE TRAY SUPPORTS TO BUILDING STRUCTURE AND INSTALL SEISMIC RESTRAINTS.
- G. DESIGN FASTENERS AND SUPPORTS TO CARRY CABLE TRAY, THE CABLES, AND A CONCENTRATED LOAD OF 200 LB. COMPLY WITH REQUIREMENTS IN SECTION 280204 WANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS. COMPLY WITH SEISMIC-RESTRAINT DETAILS ACCORDING TO SECTION 280248 VIBRATION AND SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS.
- H. PLACE SUPPORTS SO THAT SPANS DO NOT EXCEED MAXIMUM SPANS ON SCHEDULES AND PROVIDE CLEARANCES SHOWN ON DRAWINGS. INSTALL INTERMEDIATE SUPPORTS WHEN CABLE HEIGHT EXCEEDS THE LOAD-CARRYING CAPACITY OF THE TRAY RINGS.
- I. CONTRACT SUPPORTS FROM CHANNEL MEMBERS, THEREAD RODS, AND OTHER APPURTENANCES FURNISHED BY CABLE TRAY MANUFACTURER. ARRANGE SUPPORTS IN TRIANGLE OR WALL BRACKET FORM AS REQUIRED BY APPLICATION. PROVIDE ADDITIONAL TRIANGLE SUPPORTS AS REQUIRED TO SUPPORT LUMINAIRE PENDANTS REFER TO DETAIL DRAWING E-02.
- J. SUPPORT END ASSEMBLY TO PREVENT TWISTING FROM ECCENTRIC LOADING.
- K. LOCATE AND INSTALL SUPPORTS ACCORDING TO NEMA VE 2. DO NOT INSTALL MORE THAN ONE CABLE TRAY SPLICE BETWEEN SUPPORTS.
- L. MAKE CONNECTIONS TO EQUIPMENT WITH FLANGED FITTINGS FASTENED TO CABLE TRAYS AND TO EQUIPMENT. SUPPORT CABLE TRAYS INDEPENDENT OF FITTINGS. DO NOT CARRY HEIGHT OF CABLE TRAYS ON EQUIPMENT ENCLOSURE.
- M. MAKE CHANGES IN DIRECTION AND ELEVATION USING MANUFACTURER'S RECOMMENDED FITTINGS.
- N. MAKE CABLE TRAY CONNECTIONS USING MANUFACTURER'S RECOMMENDED FITTINGS.
- O. SEAL PENETRATIONS THROUGH FIRE AND SMOKE BARRIERS. COMPLY WITH REQUIREMENTS IN SECTION 07843 PENETRATION FIRESTOPPING.
- P. INSTALL CAPPED METAL SLEEVES FOR FUTURE CABLES THROUGH FIRESTOP-SEALED CABLE TRAY PENETRATIONS OF FIRE AND SMOKE BARRIERS.
- Q. INSTALL CABLE TRAYS WITH ENOUGH WORKSPACE TO PERMIT ACCESS FOR INSTALLING CABLES.
- R. INSTALL WARNING SIGNS IN VISIBLE LOCATIONS ON OR NEAR CABLE TRAYS AFTER CABLE TRAY INSTALLATION. THE ENTIRE CABLE TRAY SYSTEM SHALL BE PAINTED BLACK TO MATCH THE OPEN SPACE CEILING. PAINT-COORDINATE WITH THE GENERAL CONTRACTOR.

- CABLE TRAY GROUNDING**
- A. GROUND CABLE TRAYS ACCORDING TO NFPA TO UNLESS ADDITIONAL GROUNDING IS SPECIFIED. COMPLY WITH REQUIREMENTS IN SECTION 280206 "GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS."
- B. CABLE TRAYS WITH ELECTRICAL POWER CONDUCTORS SHALL BE BONDED TOGETHER WITH SPLICE PLATES LISTED FOR GROUNDING PURPOSES OR WITH LISTED BONDING JUMPERS.
- C. WHEN USING BONDING JUMPERS FOR BONDING CABLE TRAYS AS A GROUNDING CONDUCTOR, COMPLETELY REMOVE COATING AT ALL SPLICE CONTACT POINTS OR GROUND CONNECTOR ATTACHMENT. AFTER COMPLETING SPLICE-TO-GROUNDING-BOLT ATTACHMENT, REPAIR THE COATED SURFACES WITH COATING MATERIALS RECOMMENDED BY CABLE TRAY MANUFACTURER.
- D. BOND CABLE TRAYS TO POWER SOURCE FOR CABLES CONTAINED WITHIN WITH BONDING CONDUCTORS SIZED ACCORDING TO NFPA 70, ARTICLE 250.222, "SIZE OF EQUIPMENT GROUNDING CONDUCTORS."

- CABLE INSTALLATION**
- A. INSTALL CABLES ONLY WHEN EACH CABLE TRAY RUN HAS BEEN COMPLETED AND INSPECTED.
- B. FASTEN CABLES ON HORIZONTAL RINGS WITH CABLE CLAMPS OR CABLE TIES ACCORDING TO NEMA VE 2. TIGHTEN CLAMPS ONLY ENOUGH TO SECURE THE CABLE, WITHOUT INDENTING THE CABLE JACKET. INSTALL CABLE TIES WITH A TOOL THAT EXERCISES AN AUTOMATIC PRESSURE-LIMITING DEVICE.
- C. FASTEN CABLES ON VERTICAL RINGS TO CABLE TRAYS EVERY 12 INCHES.
- D. FASTEN AND SUPPORT CABLES THAT PASS FROM ONE CABLE TRAY TO ANOTHER OR DROP FROM CABLE TRAYS TO EQUIPMENT ENCLOSURES. FASTEN CABLES TO THE CABLE TRAY AT THE POINT OF EXIT AND SUPPORT CABLES INDEPENDENT OF THE ENCLOSURE. THE CABLE LENGTH BETWEEN CABLE TRAYS OR BETWEEN CABLE TRAY AND ENCLOSURE SHALL BE NO MORE THAN 12 INCHES.
- E. IN EXISTING CONSTRUCTION REMOVE INACTIVE OR DEAD CABLES FROM CABLE TRAYS.

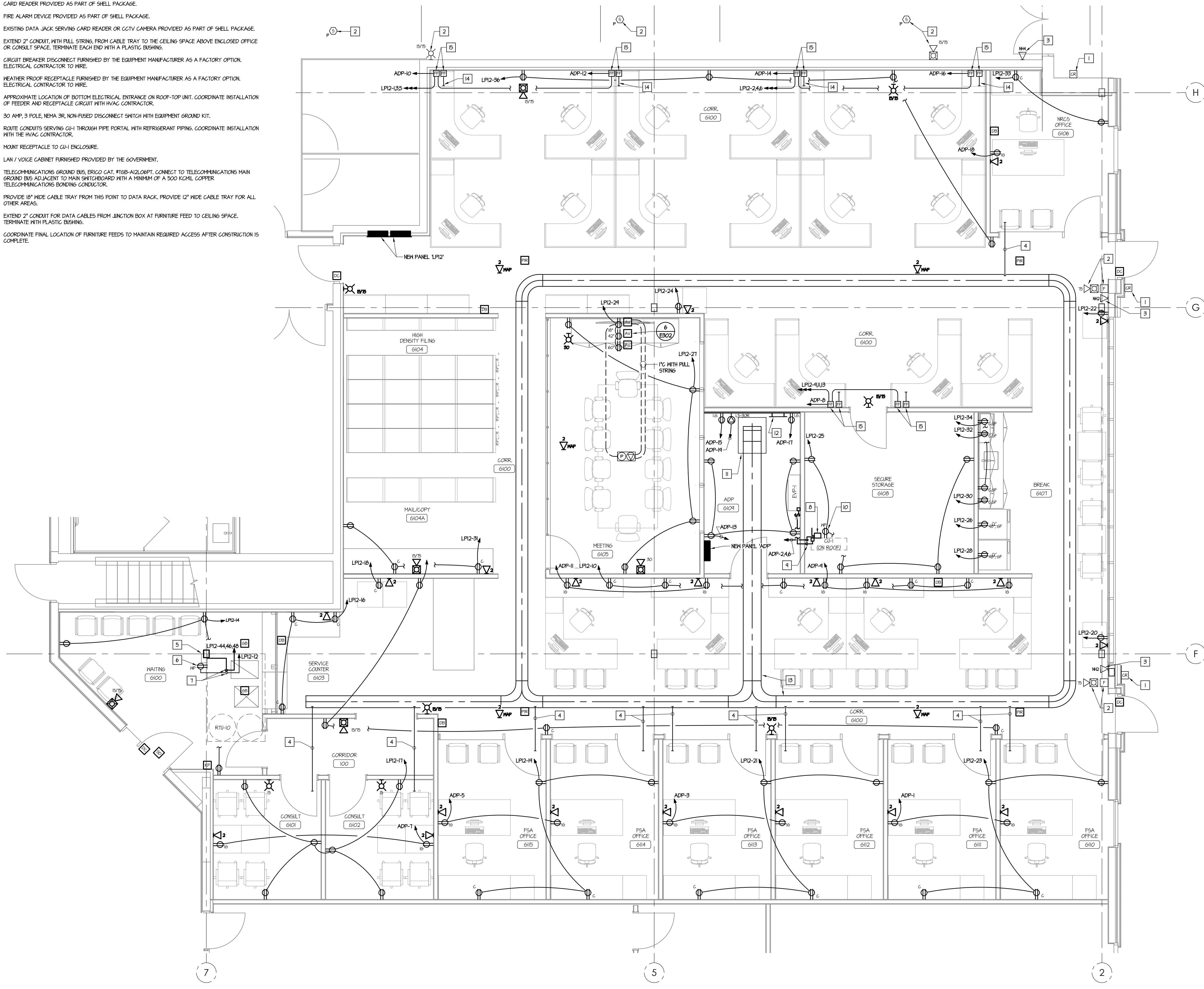
- CONNECTIONS**
- A. REMOVE PAINT FROM ALL CONNECTION POINTS BEFORE MAKING CONNECTIONS. REPAIR PAINT AFTER THE CONNECTIONS ARE COMPLETED.
- B. CONNECT RACKWAYS TO CABLE TRAYS ACCORDING TO REQUIREMENTS IN NEMA VE 2.

- FIELD QUALITY CONTROL**
- A. PERFORM THE FOLLOWING TESTS AND INSPECTIONS:
1. AFTER INSTALLING CABLE TRAYS AND AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, SURVEY FOR COMPLIANCE WITH REQUIREMENTS.
 2. VISUALLY INSPECT CABLE ISOLATION FOR DAMAGE. CORRECT SHARP CORNERS, PROTRUDENCES IN CABLE TRAYS, VIBRATIONS, AND THERMAL EXPANSION AND CONTRACTION CONDITIONS, WHICH MAY CAUSE OR HAVE CAUSED DAMAGE.
 3. VERIFY THAT THE NUMBER, SIZE, AND VOLTAGE OF CABLES IN CABLE TRAYS DO NOT EXCEED THAT PERMITTED BY NFPA 70. VERIFY THAT COMMUNICATIONS OR DATA-PROCESSING CIRCUITS ARE SEPARATED FROM POWER CIRCUITS BY BARRIERS OR ARE INSTALLED IN SEPARATE CABLE TRAYS.
 4. VERIFY THAT THERE ARE NO INTRODUCING ITEMS SUCH AS PIPES, HANGERS, OR OTHER EQUIPMENT IN THE CABLE TRAY.
 5. REMOVE DUST DEPOSITS, INDUSTRIAL PROCESS MATERIALS, TRASH OF ANY DESCRIPTION, AND ANY BLOCKAGE OF TRAY VENTILATION.
 6. VISUALLY INSPECT EACH CABLE TRAY JOINT AND EACH GROUND CONNECTION FOR MECHANICAL CONTINUITY. CHECK BOLTED CONNECTIONS BETWEEN SECTIONS FOR CORROSION. CLEAN AND RETORQUE IN SUSPECT AREAS.
 7. CHECK FOR IMPROPERLY SIZED OR INSTALLED BONDING JUMPERS.
 8. CHECK FOR MISSING, INCORRECT, OR DAMAGED BOLTS, BOLT HEADS, OR NUTS. WHEN FOUND, REPLACE WITH SPECIFIED HARDWARE.
 9. PERFORM VISUAL AND MECHANICAL CHECKS FOR ADEQUACY OF CABLE TRAY GROUNDING. VERIFY THAT ALL TAKEOFF RACKWAYS ARE BONDED TO CABLE TRAYS. TEST ENTIRE CABLE TRAY SYSTEM FOR CONTINUITY. MAXIMUM ALLOWABLE RESISTANCE IS 0.1 OHM.
- B. PREPARE TEST AND INSPECTION REPORTS.

- PROTECTION**
- A. PROTECT INSTALLED CABLE TRAYS AND CABLES.
1. INSTALL TEMPORARY PROTECTION FOR CABLES IN OPEN TRAYS TO SAFEGUARD EXPOSED CABLES AGAINST FALLING OBJECTS OR DEBRIS DURING CONSTRUCTION. TEMPORARY PROTECTION FOR CABLES AND CABLE TRAYS CAN BE CONSTRUCTED OF HOOD OR METAL MATERIALS AND SHALL REMAIN IN PLACE UNTIL THE RISK OF DAMAGE IS OVER.
 2. REPAIR DAMAGE TO GALVANIZED FINISHES WITH ZINC-RICH PAINT RECOMMENDED BY CABLE TRAY MANUFACTURER.
 3. REPAIR DAMAGE TO PAINT FINISHES WITH MATCHING TOUCH-UP COATINGS RECOMMENDED BY CABLE TRAY MANUFACTURER.

KEYED DRAWING NOTES

1. CARD READER PROVIDED AS PART OF SHELL PACKAGE.
2. FIRE ALARM DEVICE PROVIDED AS PART OF SHELL PACKAGE.
3. EXISTING DATA JACK SERVING CARD READER OR CCTV CAMERA PROVIDED AS PART OF SHELL PACKAGE.
4. EXTEND 2" CONDUIT WITH PULL STRING FROM CABLE TRAY TO THE CEILING SPACE ABOVE ENCLOSED OFFICE OR CONSULT SPACE. TERMINATE EACH END WITH A PLASTIC BUSHING.
5. CIRCUIT BREAKER DISCONNECT FURNISHED BY THE EQUIPMENT MANUFACTURER AS A FACTORY OPTION. ELECTRICAL CONTRACTOR TO WIRE.
6. WEATHER PROOF RECEPTACLE FURNISHED BY THE EQUIPMENT MANUFACTURER AS A FACTORY OPTION. ELECTRICAL CONTRACTOR TO WIRE.
7. APPROXIMATE LOCATION OF BOTTOM ELECTRICAL ENTRANCE ON ROOF-TOP UNIT. COORDINATE INSTALLATION OF FEEDER AND RECEPTACLE CIRCUIT WITH HVAC CONTRACTOR.
8. 30 AMP, 3 POLE, NEMA 3R, NON-FUSED DISCONNECT SWITCH WITH EQUIPMENT GROUND KIT.
9. ROUTE CONDUITS SERVING QH THROUGH PIPE PORTAL WITH REFRIGERANT PIPING. COORDINATE INSTALLATION WITH THE HVAC CONTRACTOR.
10. MOUNT RECEPTACLE TO QH-1 ENCLOSURE.
11. LAN / VOICE CABINET FURNISHED PROVIDED BY THE GOVERNMENT.
12. TELECOMMUNICATIONS GROUND BUS, ERGO CAT, FIBER-ADJ-LOOPT, CONNECT TO TELECOMMUNICATIONS MAIN GROUND BUS ADJACENT TO MAIN SWITCHBOARD WITH A MINIMUM OF A 500 KGML COPPER TELECOMMUNICATIONS BONDING CONDUCTOR.
13. PROVIDE 18" WIDE CABLE TRAY FROM THIS POINT TO DATA RACK. PROVIDE 12" WIDE CABLE TRAY FOR ALL OTHER AREAS.
14. EXTEND 2" CONDUIT FOR DATA CABLES FROM JUNCTION BOX AT FURNITURE FEED TO CEILING SPACE. TERMINATE WITH PLASTIC BUSHING.
15. COORDINATE FINAL LOCATION OF FURNITURE FEEDS TO MAINTAIN REQUIRED ACCESS AFTER CONSTRUCTION IS COMPLETE.



POWER AND SYSTEMS PLAN

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



MG ARCHITECTS ESTABLISHED 1920

ARCHITECTURAL DESIGN
INTERIOR DESIGN
CODE ANALYSIS
PLANNING SERVICES
REPORTS AND STUDIES
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955 BERKSHIRE BLVD., SUITE 101
WYOMISSING, PA 19610
610.376.4927
www.MG-Architects.com

PROJECT #:
22-0012

CONSULTANT
SDE SYSTEMS DESIGN ENGINEERING, INC.

1100 W. 10TH STREET, SUITE 100
PHILADELPHIA, PA 19107
610.478.6201
www.sdeinc.com

PROJECT #:
23-0995-0139

PROJECT #:
23-0995-0139
PROFESSIONAL SEAL

Stephen Gribb, P.E.
s.gribb@sdeinc.com

COUNTY OF BERKS
REX LEVENGOOD, DIR. OF FAC. & OPS
433 COURT STREET
READING, PA 19601
610.478.6201 X6220
RLEVENGOOD@CountyOfBerks.gov

BERKS COUNTY AGRICULTURAL CENTER

USDA FIT-OUT

1238 COUNTY WELFARE ROAD
LEESPORT, PA 19533

ISSUED

DATE: ISSUED 8/17/23

REV	DESCRIPTION	DATE

PROJ. MGR.: Stephen Gribb, P.E.
P.M. @-MAIL: s.gribb@sdeinc.com
DRAWN BY: S. Goodman
CLIENT PROJ #:

SHEET NO. 1
BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING

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ELECTRICAL POWER & SYSTEMS PLAN

E-203

