



ISSUE / REVISION	DATE
ROOF - BIDDING & PLAN REVIEW	09/27/2024
PROJECT NO.	24013.000

DEMOLITION PLAN - ROOF PLAN - BASE BID

A1R-1

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ROOF INSULATION REPLACEMENT

INCLUDE THE AREAS LISTED BELOW IN BASE BID FOR REPLACEMENT OF ROOF INSULATION. INCLUDE STRUCTURAL CEMENTITIOUS WOOD FIBER ROOF PANEL REPLACEMENT FOR AREA A. THE AMOUNTS LISTED ARE ESTIMATES BASED ON INSPECTION OF EXISTING ROOF CONDITIONS. ADDITIONAL AREAS EXCEEDING AREAS LISTED WILL BE COMPENSATED PER UNIT PRICES INDICATED IN BID.

- A = 6,500 SF
- B = 2,100 SF
- C = 1,300 SF
- D = 1,100 SF
- E = 750 SF

TOTALS
= 11,750 SF

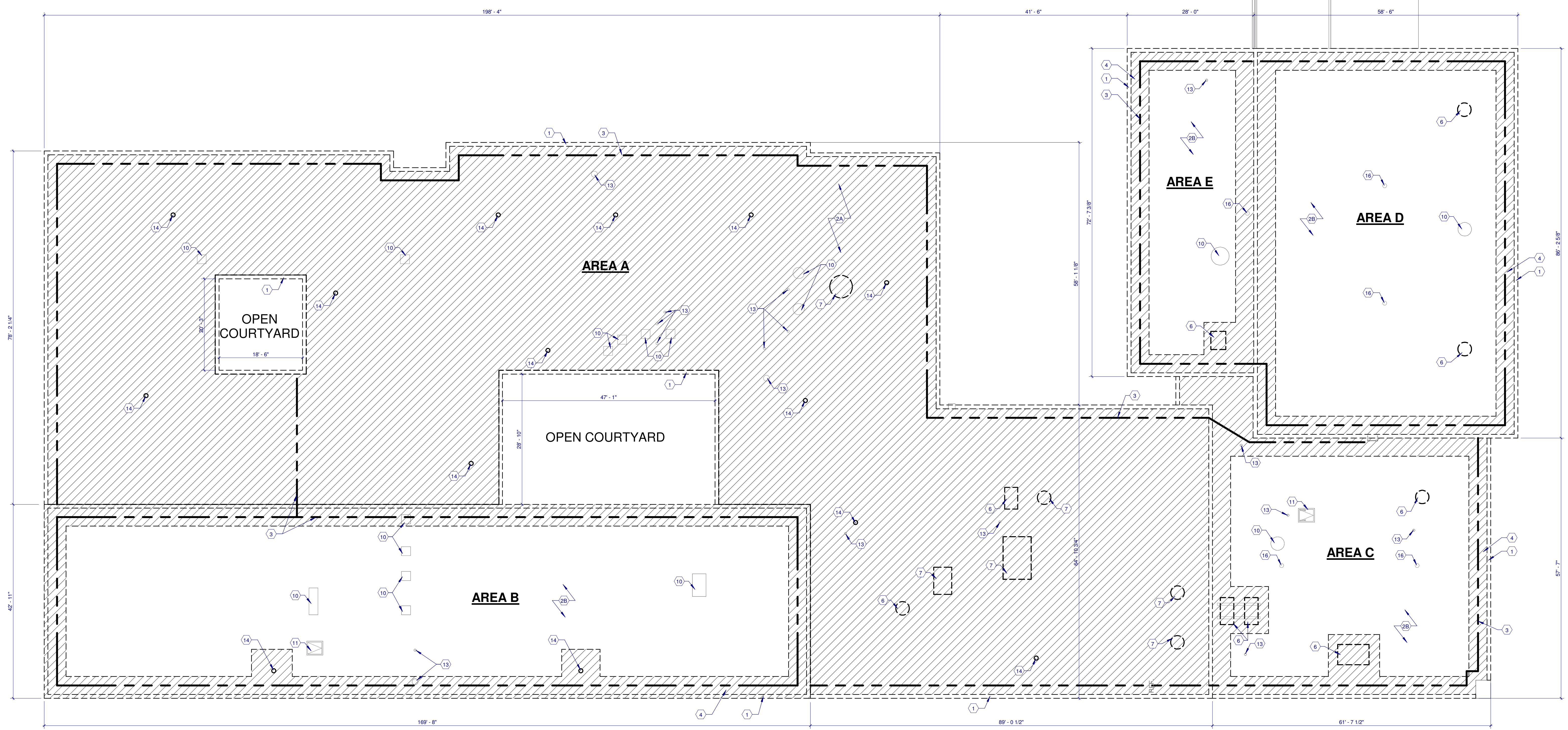
GENERAL NOTES

1. MAINTAIN BUILDING IN WEATHERTIGHT CONDITION AT ALL TIMES.
2. NOTIFY ARCHITECT PRIOR TO DEMOLITION IF ITEM INDICATED TO BE REMOVED IS SUSPECTED AS STRUCTURAL ELEMENT.
3. ALL STRUCTURAL MEMBERS ARE TO REMAIN AND BE PROTECTED UNLESS OTHERWISE NOTED.
4. TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO ADJACENT AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE INCURRED.
5. ALL DEMOLITION ACTIVITIES SHALL BE COORDINATED WITH THE OWNER TO MINIMIZE DISRUPTION OF NORMAL DAILY ACTIVITIES IN THE PROJECT AREA.
6. ALL DEMOLISHED ITEMS ARE TO REMAIN THE PROPERTY OF THE OWNER AT THEIR DISCRETION. ALL ITEMS NOT RETAINED BY THE OWNER SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR. IN ADDITION, SEE CODED NOTES FOR ITEMS TO BE REMOVED AND TURNED OVER TO THE OWNER.
7. RESUPPORT EXISTING CONDUIT, PIPING AND EQUIPMENT TO REMAIN AS REQUIRED DUE TO DEMOLITION.
8. PATCH ALL EXISTING ADJACENT INTERIOR FINISHES TO REMAIN AS UNDISTURBED BY THE DEMOLITION TO MATCH ADJACENT SURFACES.
9. FILL AND LEVEL ALL HOLES AFTER REMOVAL OF PIPES, DUCTS, CONDUIT AND OTHER PENETRATING ITEMS. MAINTAIN REQUIRED FIRE RATINGS.

CODED NOTES

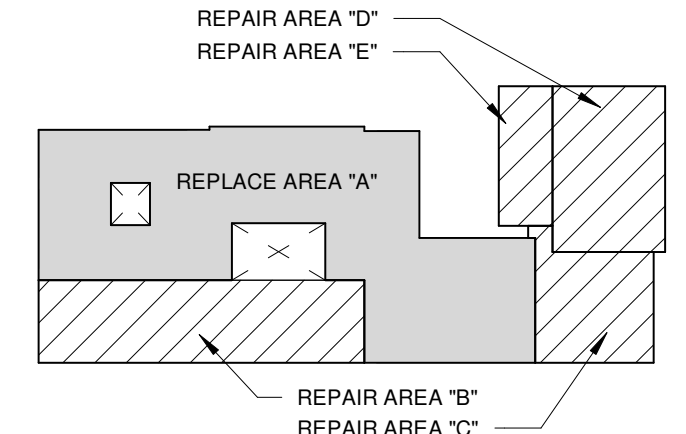
NOTE: ALL CODED NOTES MAY NOT APPEAR ON EVERY SHEET

- 1 EXISTING COPING AND BLOCKING TO BE REMOVED AND PREP FOR REPLACEMENT REMOVE BLOCKING DOWN TO TOP OF MASONRY WALL. REFER TO DETAILS FOR INSTALLATION OF ANCHOR BOLTS IN EXISTING WALL.
- 2A THIS ROOF AREA IS COMPRISED OF STRUCTURAL CEMENTITIOUS WOOD FIBER ROOF PANELS WITH RIGID INSULATION AND FIBERBOARD INSULATION ROOF MEMBRANE TO BE REMOVED IN ITS ENTIRETY. EXAMINE ROOF INSULATION FOR WATER DAMAGE AS WELL AS UNDERSIDE OF ROOF. REMOVE AREAS OF STRUCTURAL CEMENTITIOUS WOOD FIBER ROOF COMPROMISED BY WATER INFILTRATION OR SUFFERING FROM SEVERE DEFLECTION. REPLACE ROOF PANELS AND INSULATION TO MATCH ADJACENT. REFER TO NEW WORK.
- 2B THIS ROOF AREA IS COMPRISED OF METAL DECK WITH RIGID INSULATION AND FIBERBOARD INSULATION ROOF MEMBRANE TO BE REMOVED TO EXTENTS INDICATED. EXAMINE ROOF INSULATION FOR WATER DAMAGE. REMOVE AND REPLACE INSULATION IF COMPROMISED BY WATER INFILTRATION ONLY WHERE ROOF INSULATION EXPOSED AS PART OF REPAIR. REFER TO NEW WORK.
- 2C ALTERNATE: THIS ROOF AREA IS COMPRISED OF METAL DECK WITH RIGID INSULATION AND FIBERBOARD INSULATION ROOF MEMBRANE TO BE REMOVED IN ITS ENTIRETY. EXAMINE ROOF INSULATION FOR WATER DAMAGE. REMOVE AND REPLACE INSULATION IF COMPROMISED BY WATER INFILTRATION. REFER TO NEW WORK.
- 3 EXISTING LIGHTNING PROTECTION TO BE REMOVED. PATCH ROOF AS NEEDED.
- 4 PORTION OF EXISTING ROOFING TO BE REMOVED AND REPLACED. REFER TO DETAILS.
- 6 EXISTING MECHANICAL EQUIPMENT TO BE REMOVED. EXTEND NEW ROOF ONTO CURB PER DETAILS AND PROVIDE TEMPORARY CAP FOR INSTALLATION OF NEW MECHANICAL EQUIPMENT IN NEXT PHASE.
- 7 EXISTING MECHANICAL EQUIPMENT TO BE REMOVED. REPAIR ROOF AS NEEDED.
- 8 EXISTING COPING AND BLOCKING REMOVED AS PART OF BASE BID.
- 9 THIS ROOF AREA REPLACED IN BASE BID WORK.
- 10 EXISTING MECHANICAL EQUIPMENT TO REMAIN.
- 11 EXISTING ROOF HATCH TO REMAIN.
- 12 EXISTING ROOF HATCH TO BE REMOVED AND PREPARE FOR NEW ROOF HATCH.
- 13 EXISTING SANITARY STACK VENT TO REMAIN.
- 14 REMOVE EXISTING ROOF DRAIN AND MAINTAIN PIPING FOR NEW ROOF DRAIN.
- 16 EXISTING ROOF DRAIN TO REMAIN.
- 17 MECHANICAL EQUIPMENT REPLACED AS PART OF INTERIOR PROJECT BASE BID.
- 18 ROOF DRAIN REPLACED UNDER BASE BID.

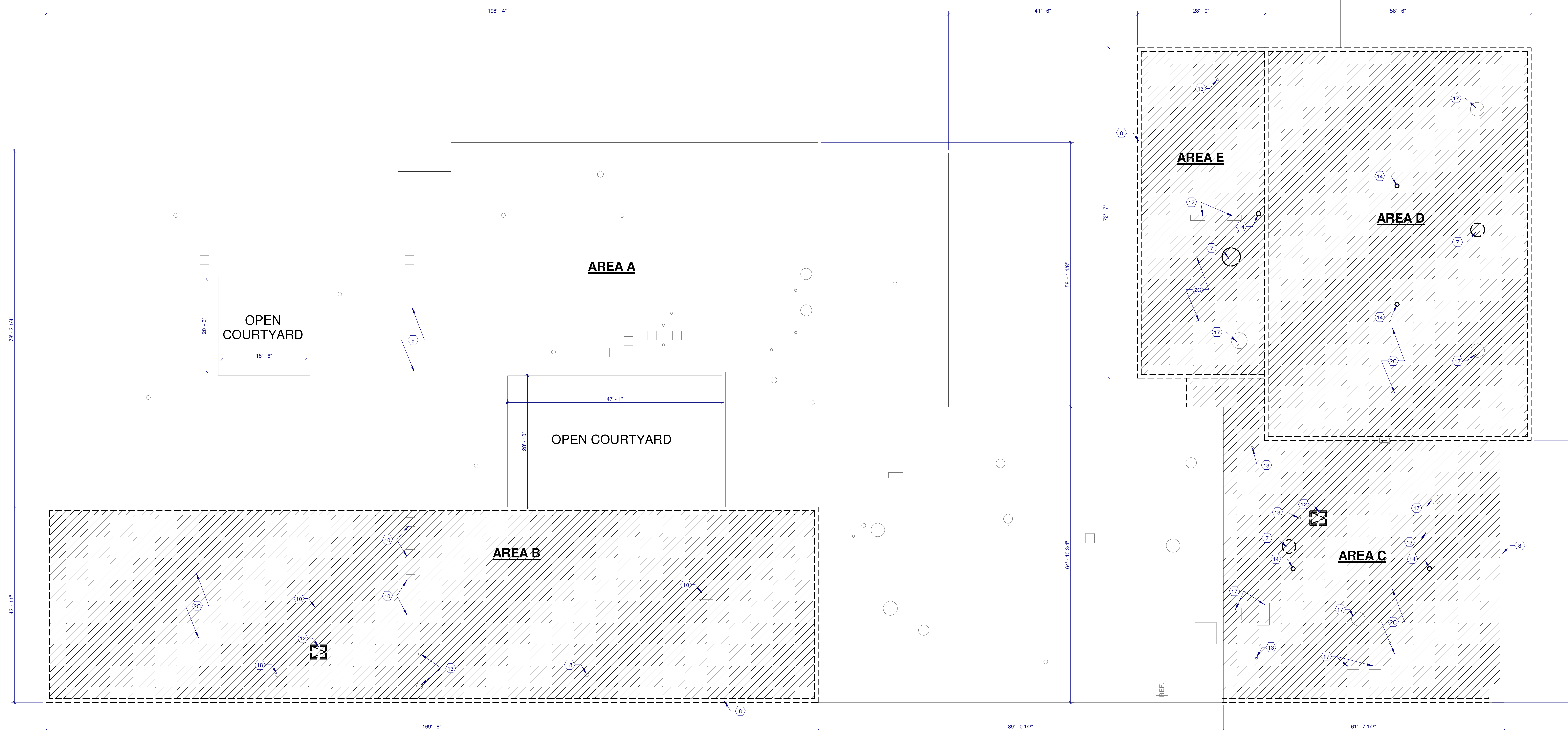


1 DEMOLITION ROOF PLAN
SCALE: 3/32" = 1'-0"

ROOF KEY PLAN

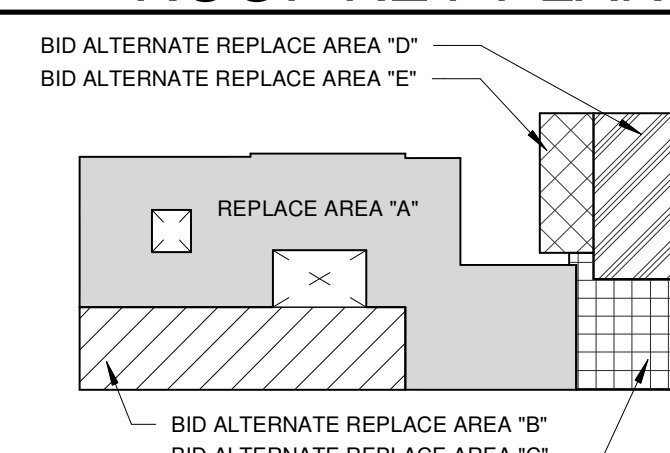


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1 DEMOLITION ROOF PLAN - BID ALTERNATE
SCALE: 3/32" = 1'-0"

ROOF KEY PLAN



PROJECT NO. 24013.000
DEMOLITION PLAN - ROOF PLAN - BID ALTERNATE

A1R-2

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CARROLL COUNTY BOARD OF COMMISSIONERS
CARROLL COUNTY OFFICE RENOVATION
211 MOODY AVE SW
CARROLLTON OHIO 44615

330.434.4464
www.hasenstabinc.com



CODED NOTES

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- EXISTING COPING AND BLOCKING TO BE REMOVED AND PREP FOR REPLACEMENT REMOVE BLOCKING DOWN TO TOP OF MASONRY WALL. REFER TO DETAILS FOR INSTALLATION OF ANCHOR BOLTS IN EXISTING WALL.
- THIS ROOF AREA IS COMPRISED OF STRUCTURAL CEMENTITIOUS WOOD FIBER ROOF PANELS WITH RIGID INSULATION AND FIBERBOARD INSULATION ROOF MEMBRANE TO BE REMOVED IN ITS ENTIRETY. EXAMINE ROOF INSULATION FOR WATER DAMAGE AS WELL AS UNDERSIDE OF ROOF. REMOVE AREAS OF STRUCTURAL CEMENTITIOUS WOOD FIBER ROOF COMPROMISED BY WATER INFILTRATION OR SUFFERING FROM SEVERE DEFLECTION. REPLACE ROOF PANELS AND INSULATION TO MATCH ADJACENT. REFER TO NEW WORK.
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- EXISTING MECHANICAL EQUIPMENT TO BE REMOVED. REPAIR ROOF AS NEEDED.
- EXISTING COPING AND BLOCKING REMOVED AS PART OF BASE BID.
- THIS ROOF AREA REPLACED IN BASE BID WORK.
- EXISTING MECHANICAL EQUIPMENT TO REMAIN.
- EXISTING ROOF HATCH TO REMAIN.
- EXISTING ROOF HATCH TO BE REMOVED AND PREPARE FOR NEW ROOF HATCH.
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- REMOVE EXISTING ROOF DRAIN AND MAINTAIN PIPING FOR NEW ROOF DRAIN.
- EXISTING ROOF DRAIN TO REMAIN.
- MECHANICAL EQUIPMENT REPLACED AS PART OF INTERIOR PROJECT BASE BID.
- ROOF DRAIN REPLACED UNDER BASE BID.

GENERAL NOTES

- MAINTAIN BUILDING IN WEATHERTIGHT CONDITION AT ALL TIMES.
- NOTIFY ARCHITECT PRIOR TO DEMOLITION IF ITEM INDICATED TO BE REMOVED IS SUSPECTED AS STRUCTURAL ELEMENT.
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ROOF INSULATION REPLACEMENT

INCLUDE THE AREAS LISTED BELOW IN BASE BID FOR REPLACEMENT OF ROOF INSULATION. INCLUDE STRUCTURAL CEMENTITIOUS WOOD FIBER ROOF PANEL REPLACEMENT FOR AREA A. THE AMOUNTS LISTED ARE ESTIMATES BASED ON INSPECTION OF EXISTING ROOF CONDITIONS. ADDITIONAL AREAS EXCEEDING AREAS LISTED WILL BE COMPENSATED PER UNIT PRICES INDICATED IN BID.

A = INCLUDED IN BASE BID
 B = 3,800 SF
 C = 1,700 SF
 D = 2,200 SF
 E = 1,217 SF

TOTALS
 = 8,917 SF



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GENERAL INFO &
TYPICAL ROOF
DETAILS

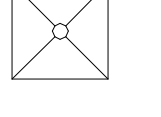
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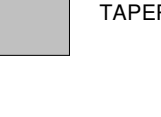
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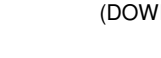
GENERAL NOTES

1. INSTALL WALKWAY PRODUCTS IN LOCATIONS INDICATED. DO NOT CONTINUE WALKWAYS ACROSS CRICKET VALLEYS. HOLD WALKWAYS BACK FROM VALLEYS AS SHOWN IN TYPICAL DETAILS TO PERMIT WATER TO FLOW UNIMPEDED.
2. ROOF PENETRATIONS INDICATED HERE HAVE BEEN COORDINATED WITH MECHANICAL, ELECTRICAL, AND PLUMBING FOR DESIGN INTENT. REFER TO MEP DRAWINGS FOR A COMPLETE INDICATION OF ALL OPENINGS AND PENETRATIONS REQUIRED. CONTRACTOR SHALL COORDINATE FINAL EXTENT, NUMBER AND LOCATION OF ALL OPENINGS AND PENETRATIONS WITH MECHANICAL, PLUMBING & ELECTRICAL CONTRACTOR(S).
3. FLASH AND TERMINATE ROOFING AT PENETRATIONS, EDGES, PARAPETS, ETC. PER MFG. AND MANUFACTURERS WRITTEN RECOMMENDATIONS UNLESS NOTED OTHERWISE. FLASHING AND TERMINATIONS SHALL OCCUR EIGHT INCHES (8") ABOVE ROOF MEMBRANE, MINIMUM.
4. PROVIDE ROOF INSULATION SADDLES AT ALL SUPPORTS, EQUIPMENT AND PENETRATIONS TO FACILITATE ROOF DRAINAGE.

LEGEND

 SINGLE ROOF DRAIN SUMP

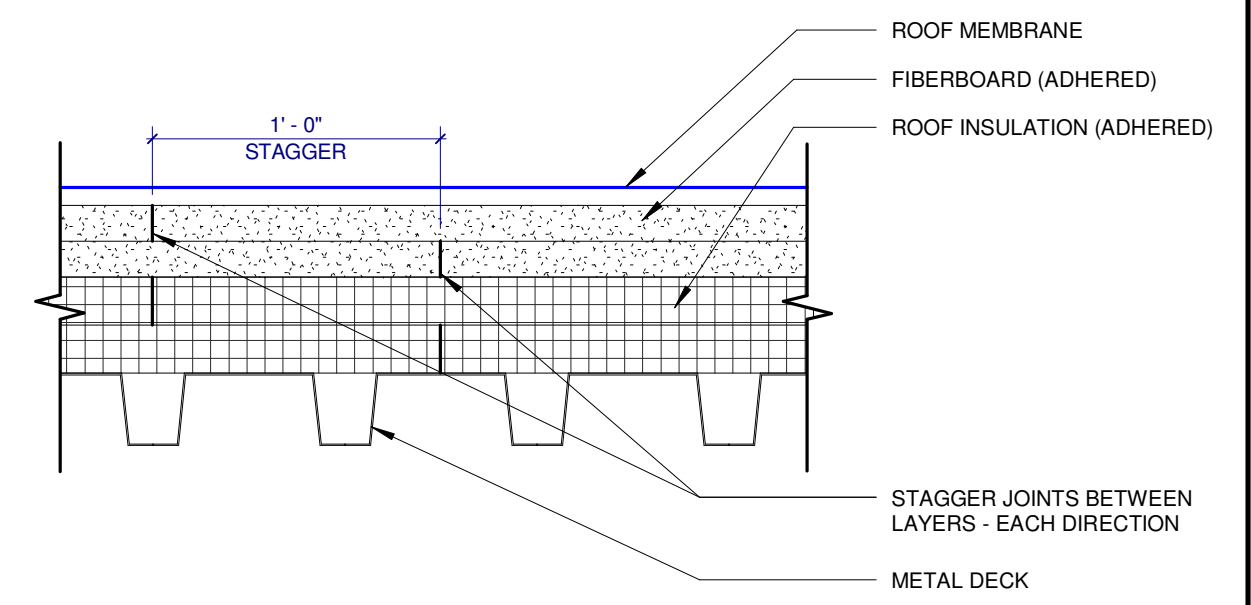
 TAPERED INSULATION

 SLOPE DIRECTION (DOWN)

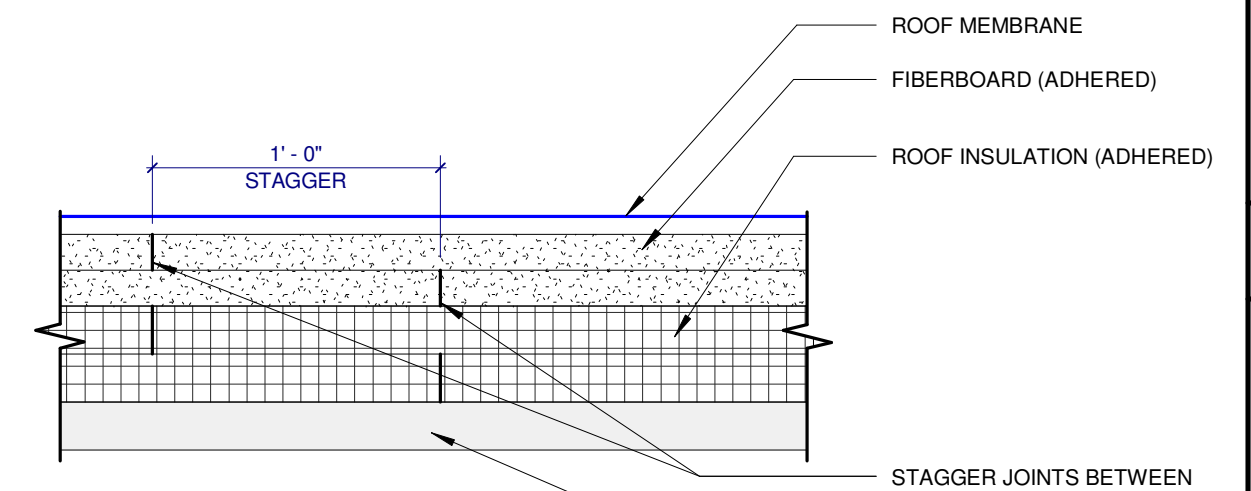
NOTE:
REFER TO MEP DRAWINGS FOR ALL SYMBOLS RELATED TO ROOF MOUNTED MECHANICAL, ELECTRICAL, AND PLUMBING COMPONENTS. NOTIFY ARCHITECT OF ANY DISCREPANCY BETWEEN DISCIPLINES PRIOR TO INSTALLATION.

ROOF SYSTEM TYPES

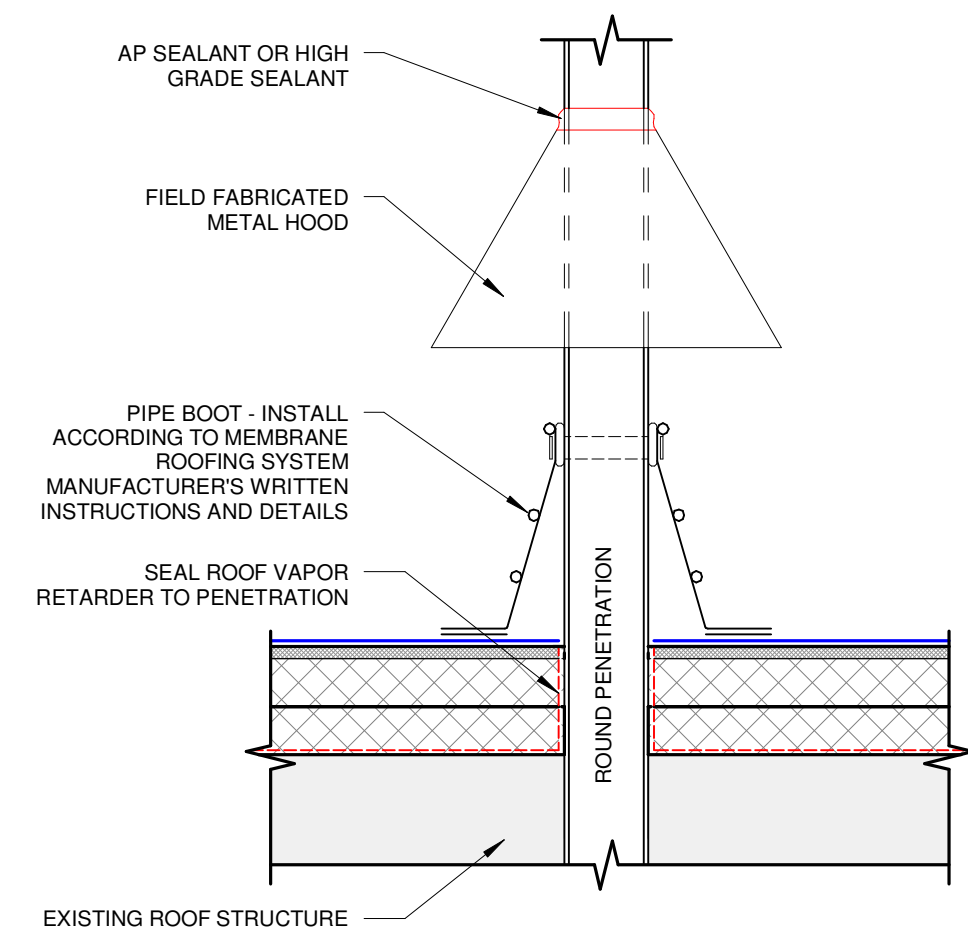
NOTE: NOT ALL SYSTEMS MAY BE USED. SEE ROOF PLANS, DETAILS, & PROJECT MANUAL.



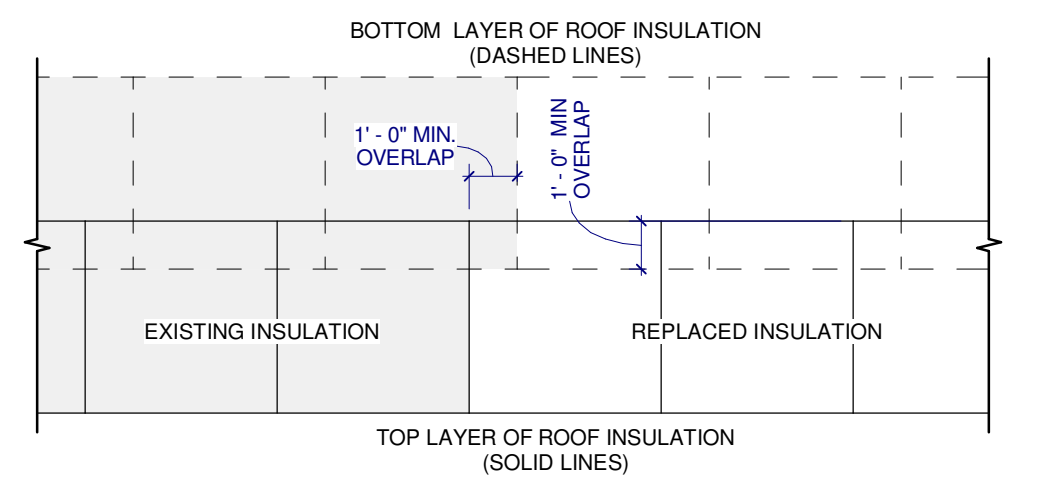
ROOF SYSTEM ON METAL DECK



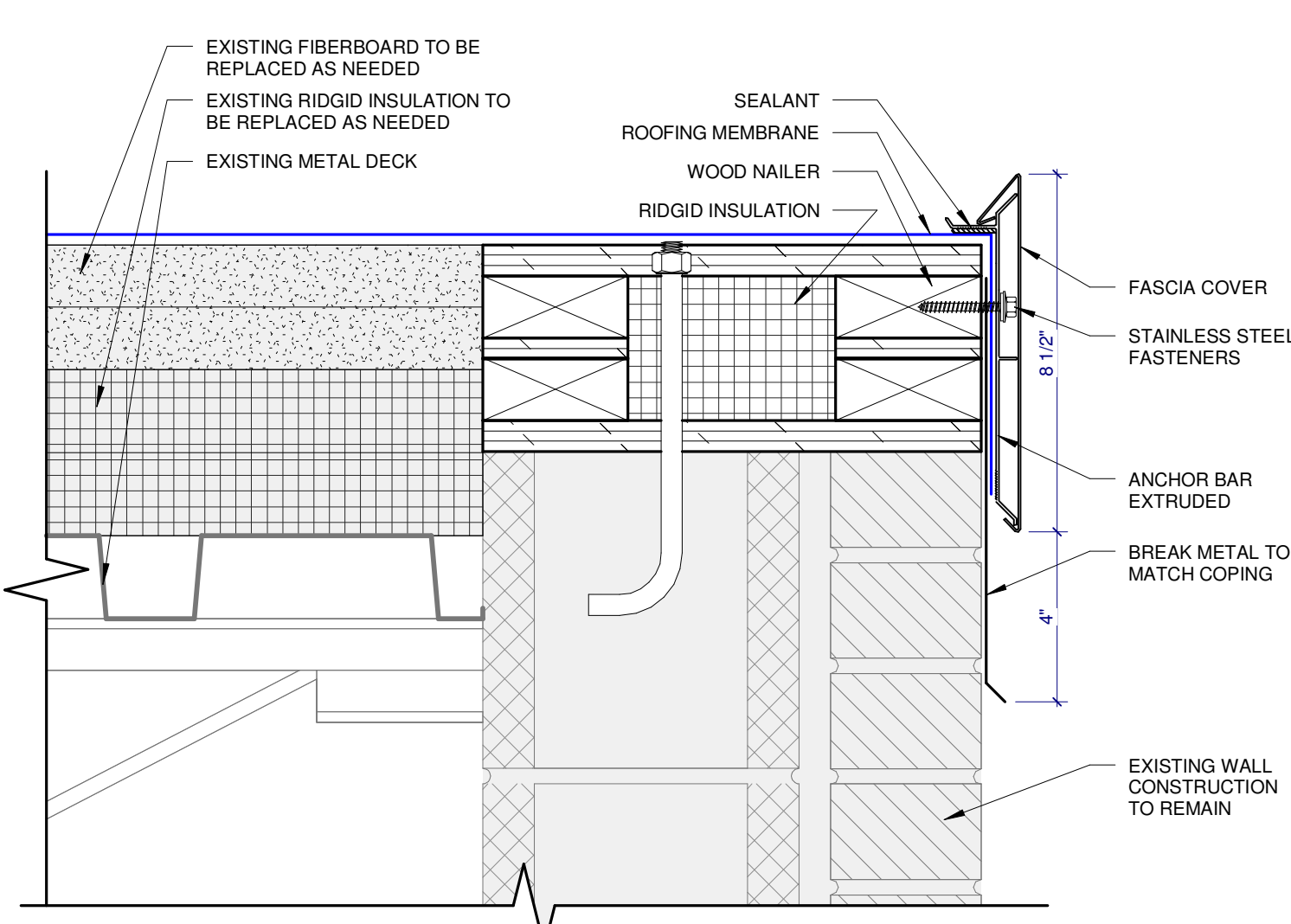
ROOF SYSTEM ON CEMENTITIOUS WOOD FIBER BOARD



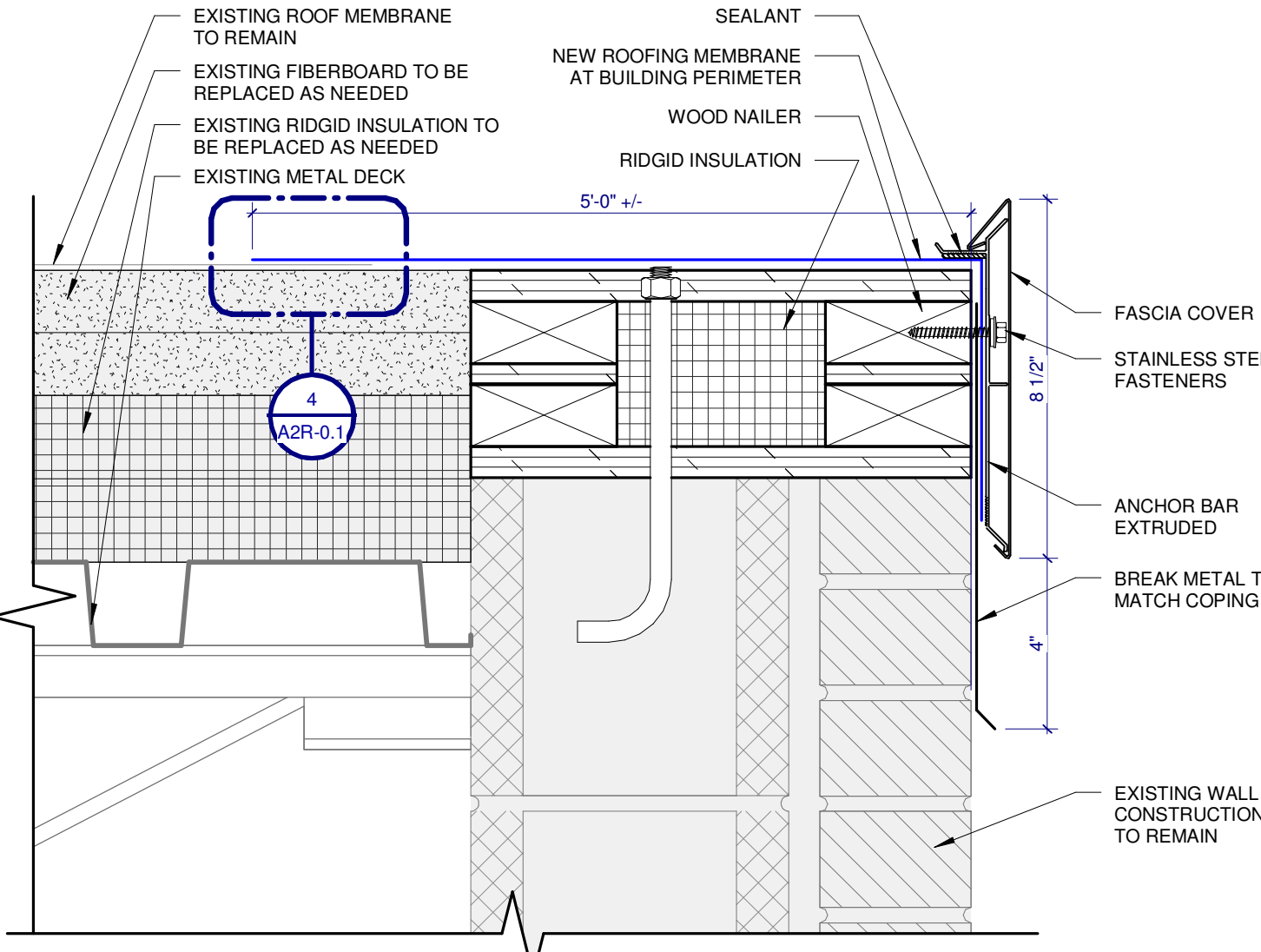
12 PIPE PENETRATION - TYPICAL
SCALE: 1 1/2" = 1'-0"



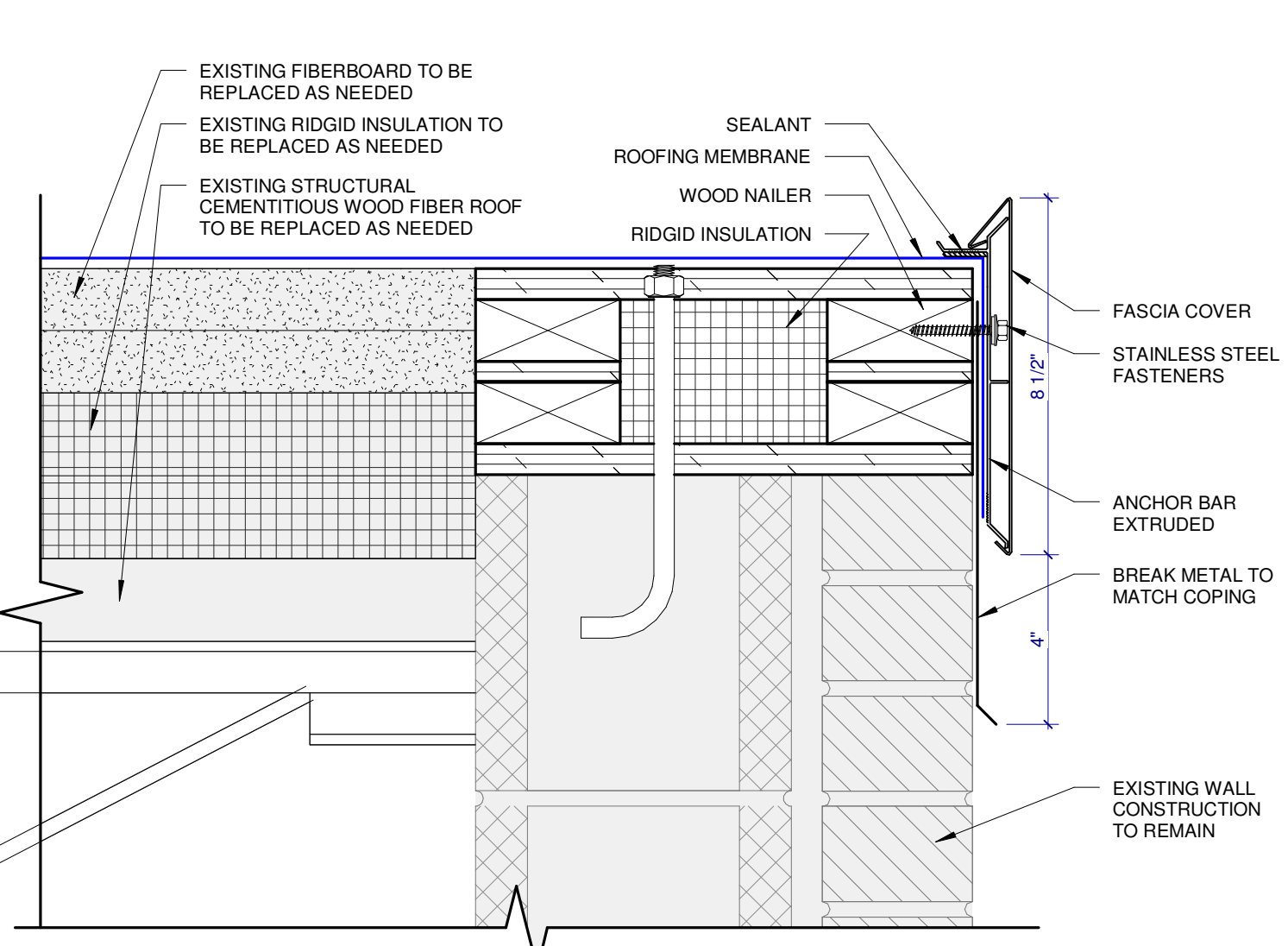
13 LAYERED INSULATION JOINT AT REPLACEMENT
SCALE: 1/4" = 1'-0"



11 COPING DETAIL AT METAL DECK - BID ALTERNATE
SCALE: 3" = 1'-0"

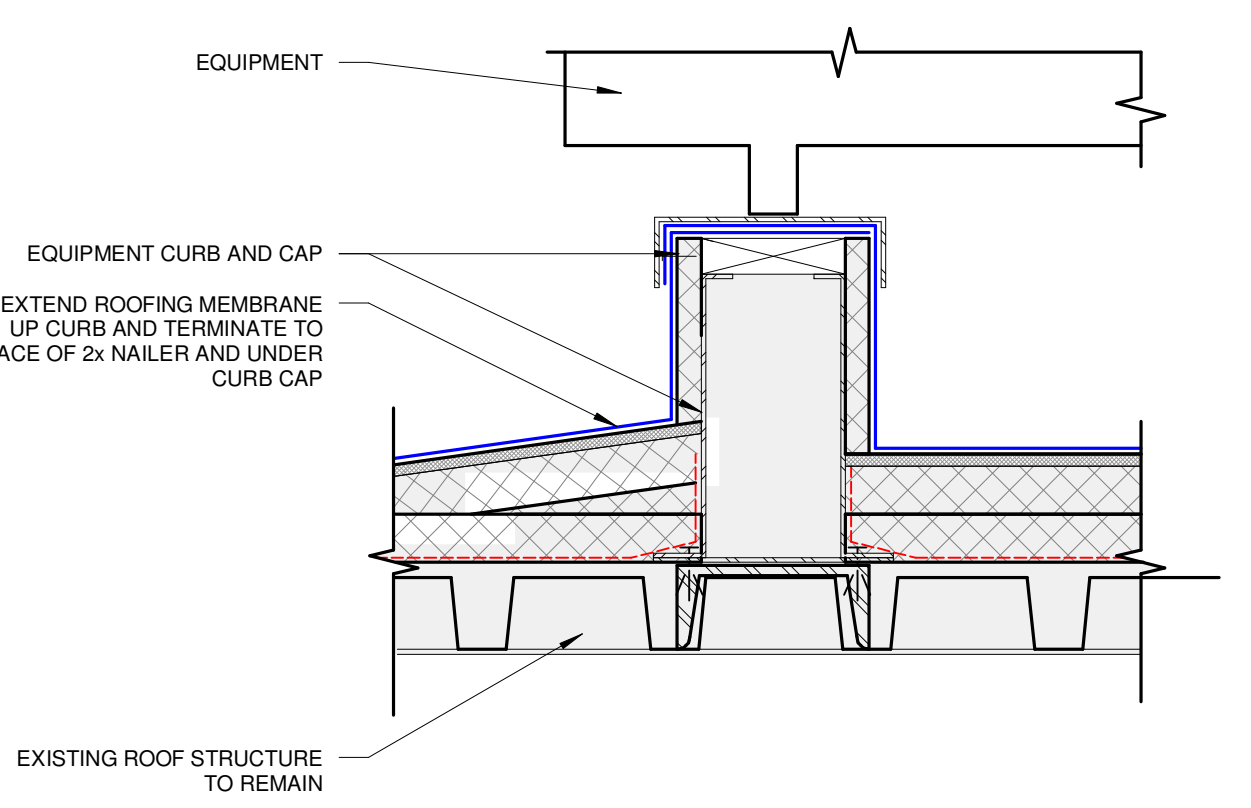


10 COPING DETAIL AT METAL DECK
SCALE: 3" = 1'-0"

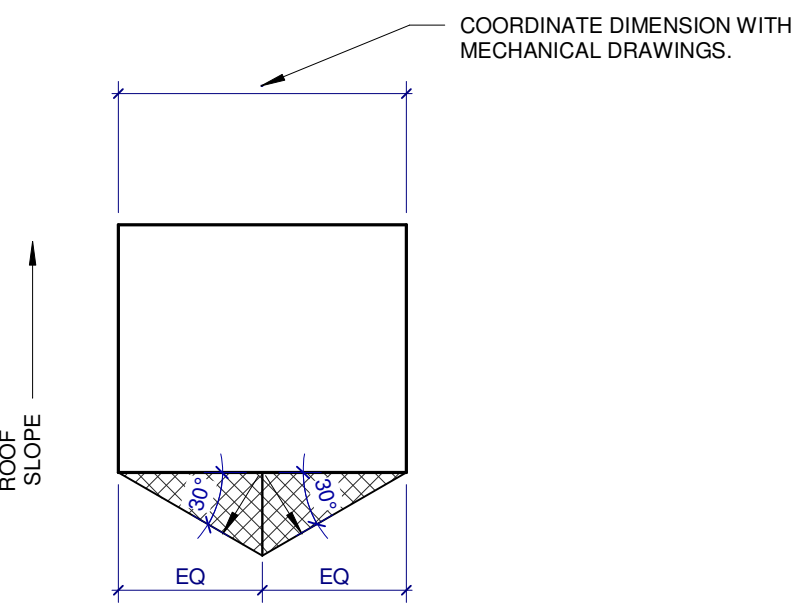


9 COPING DETAIL AT STRUCTURAL CEMENTITIOUS WOOD FIBER
SCALE: 3" = 1'-0"

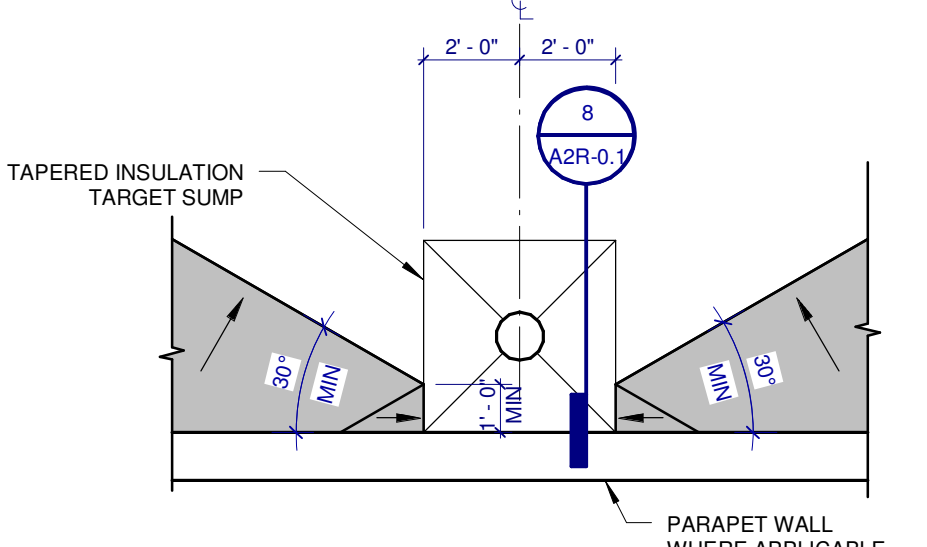
NOTE:
IF RAIL CURB IS INSTALLED PERPENDICULAR TO ROOF SLOPE, FLOW OF WATER INSTALL A CRICKET ON THE HIGH SIDE OF THE RAIL - TYPICAL.



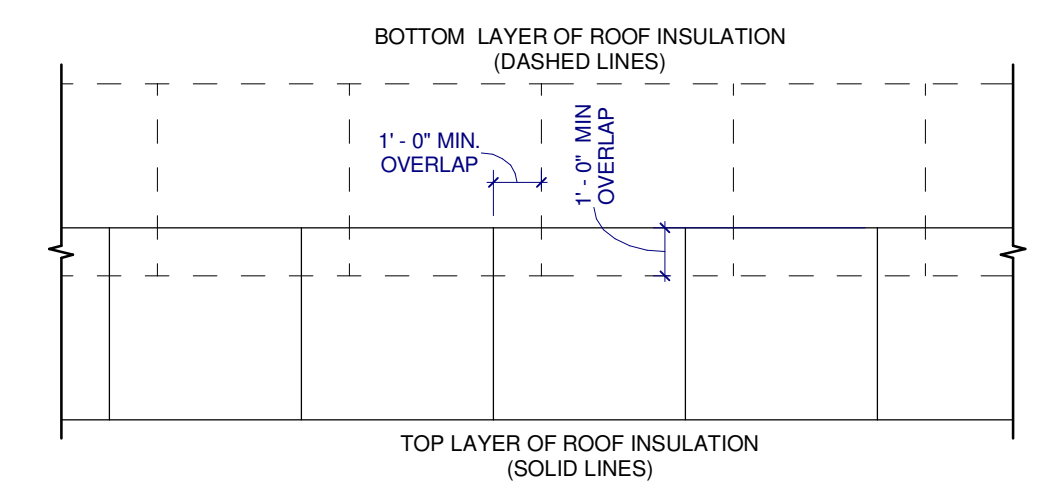
8 RAIL CURB
SCALE: 1 1/2" = 1'-0"



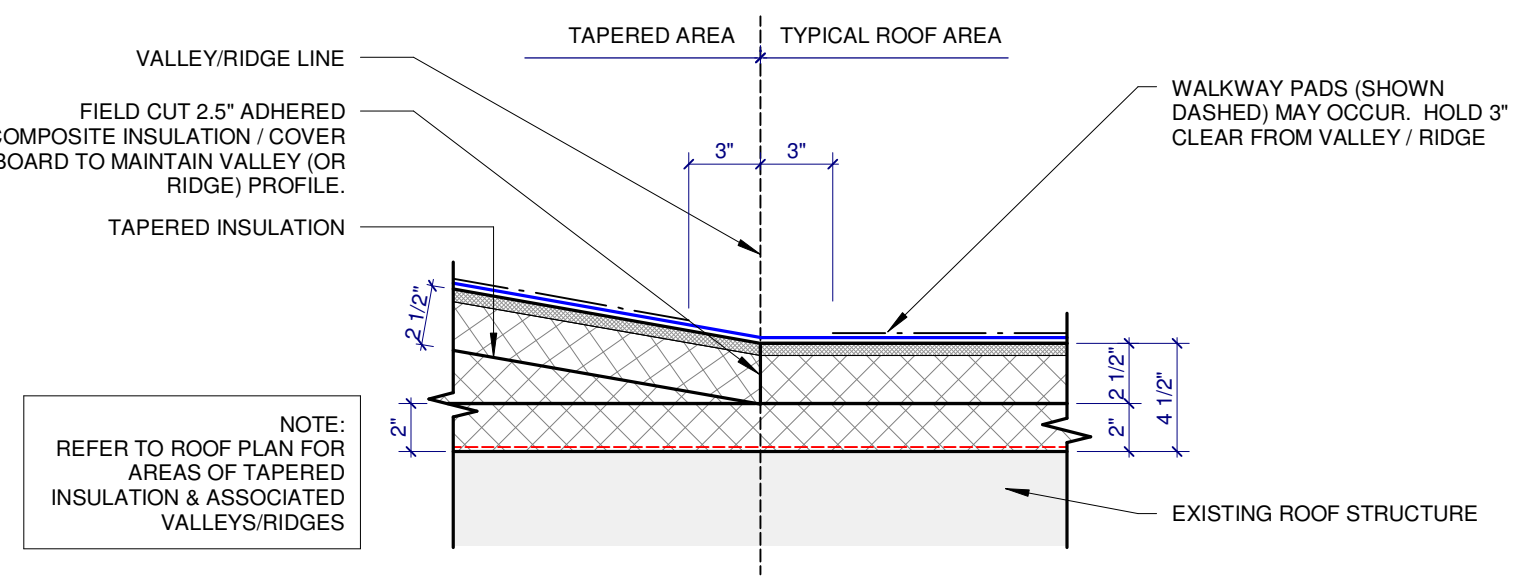
7 ROOF PENETRATION TAPERED INSULATION
SCALE: 1/2" = 1'-0"



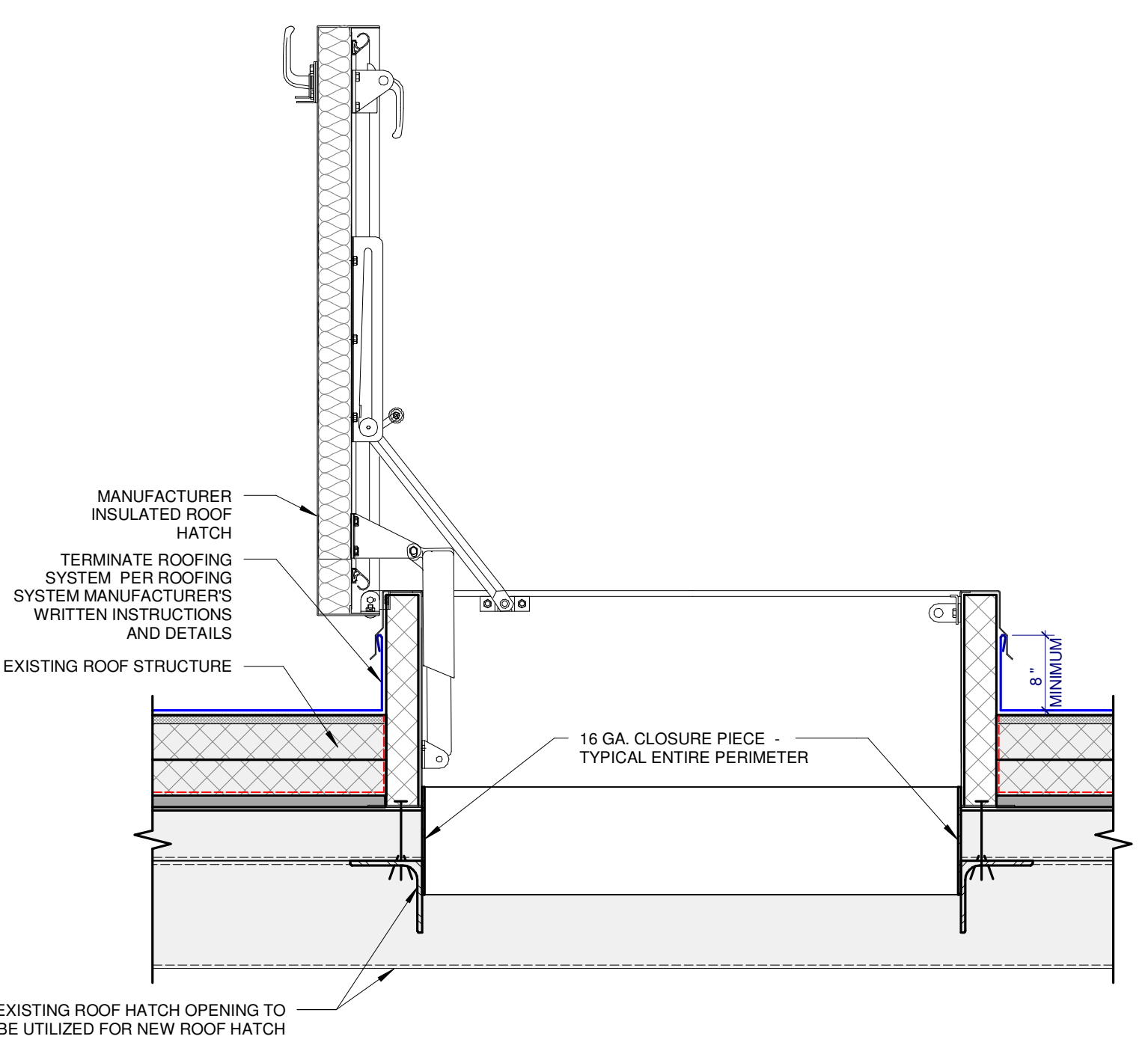
6 CRICKET ADJACENT TO PARAPET
SCALE: 1/4" = 1'-0"



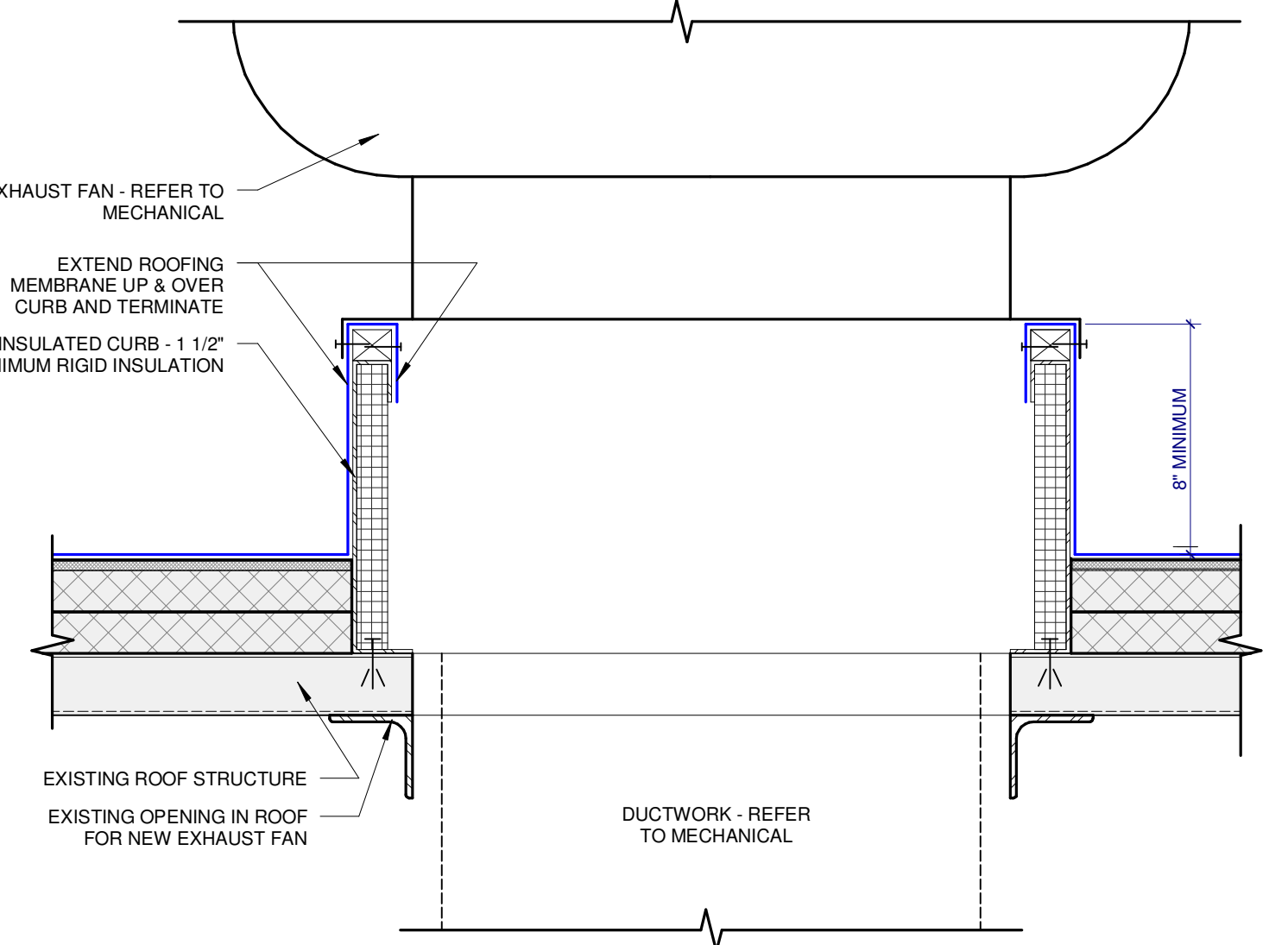
5 LAYERED INSULATION JOINT PLAN
SCALE: 1/4" = 1'-0"



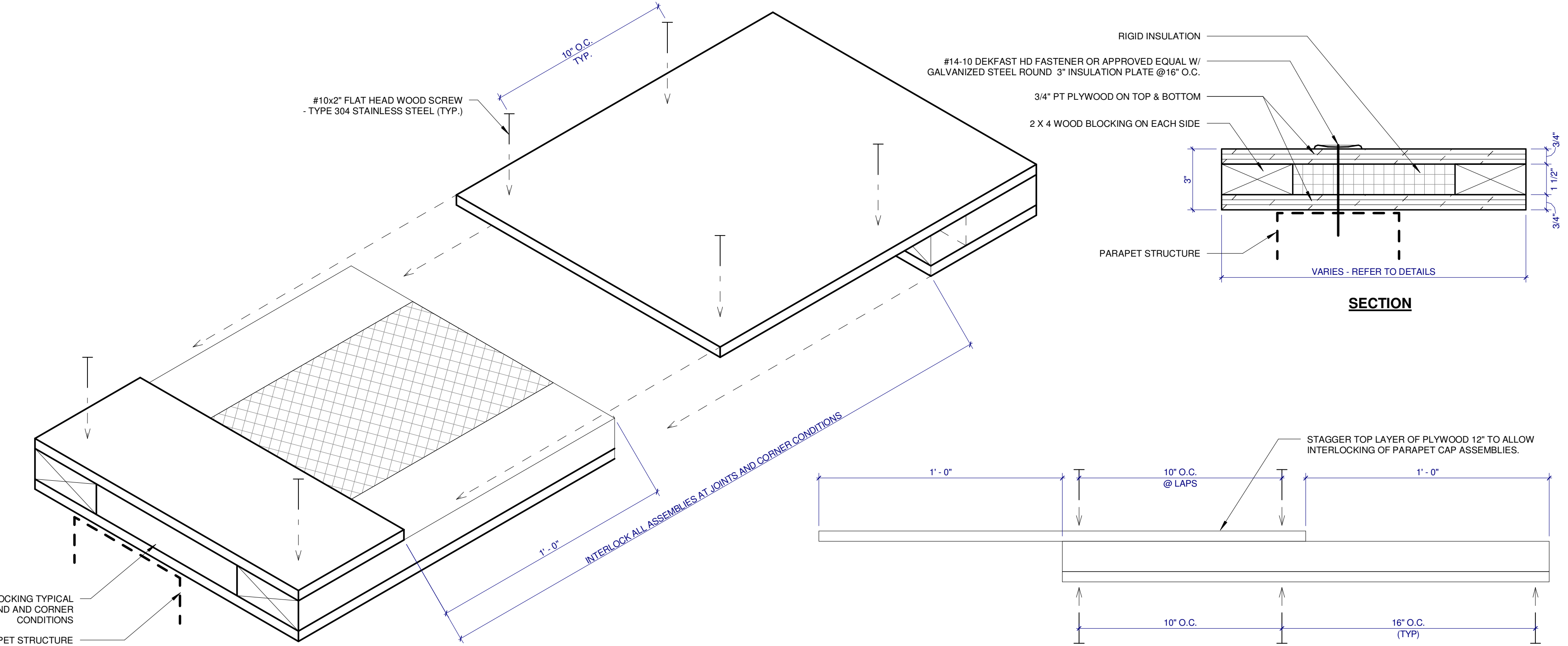
4 TAPERED INSULATION VALLEY/RIDGE
SCALE: 1 1/2" = 1'-0"



3 ROOF HATCH
SCALE: 1 1/2" = 1'-0"



2 EXHAUST FAN
SCALE: 1 1/2" = 1'-0"



1 PARAPET BLOCKING ASSEMBLY
SCALE: 3" = 1'-0"

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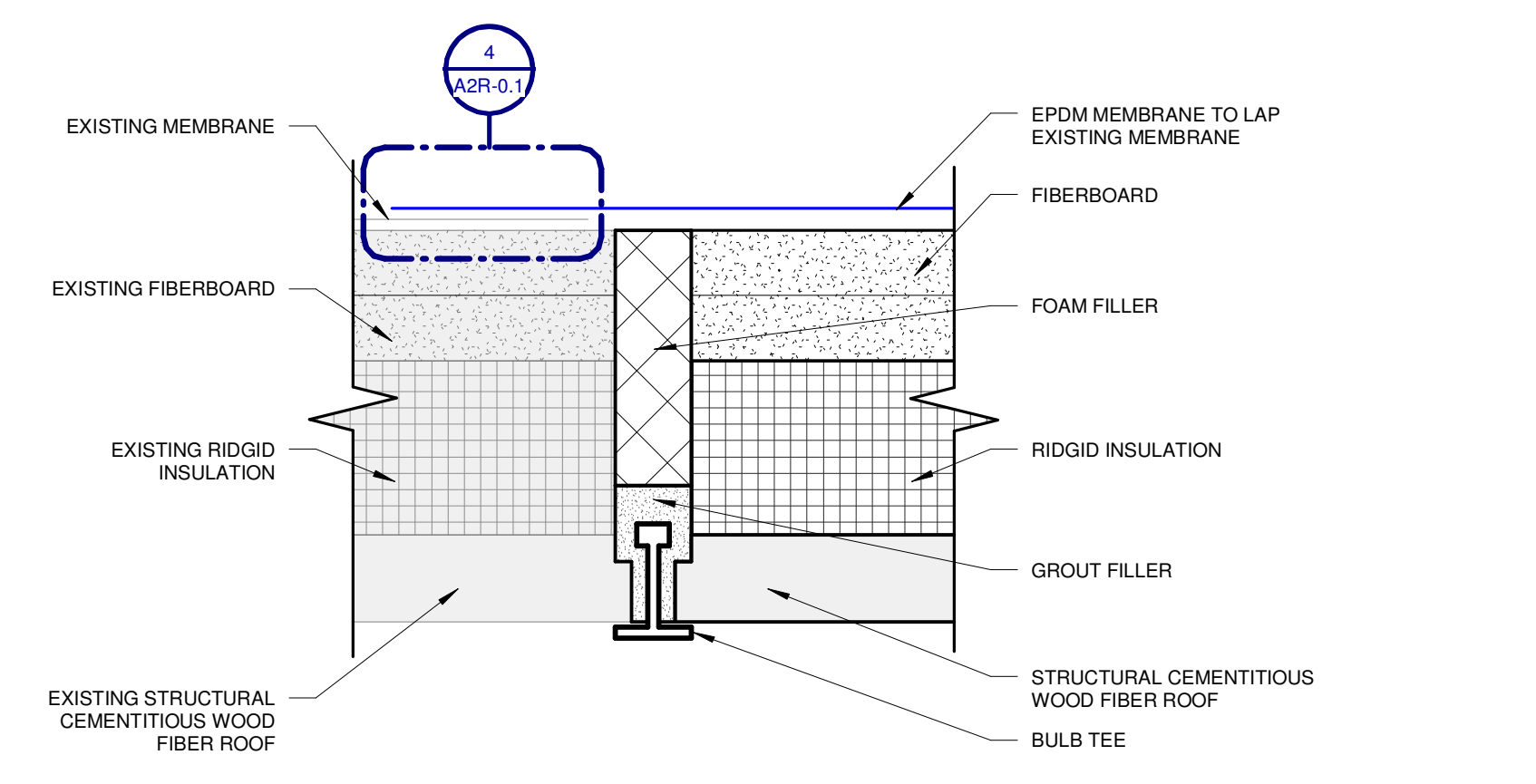


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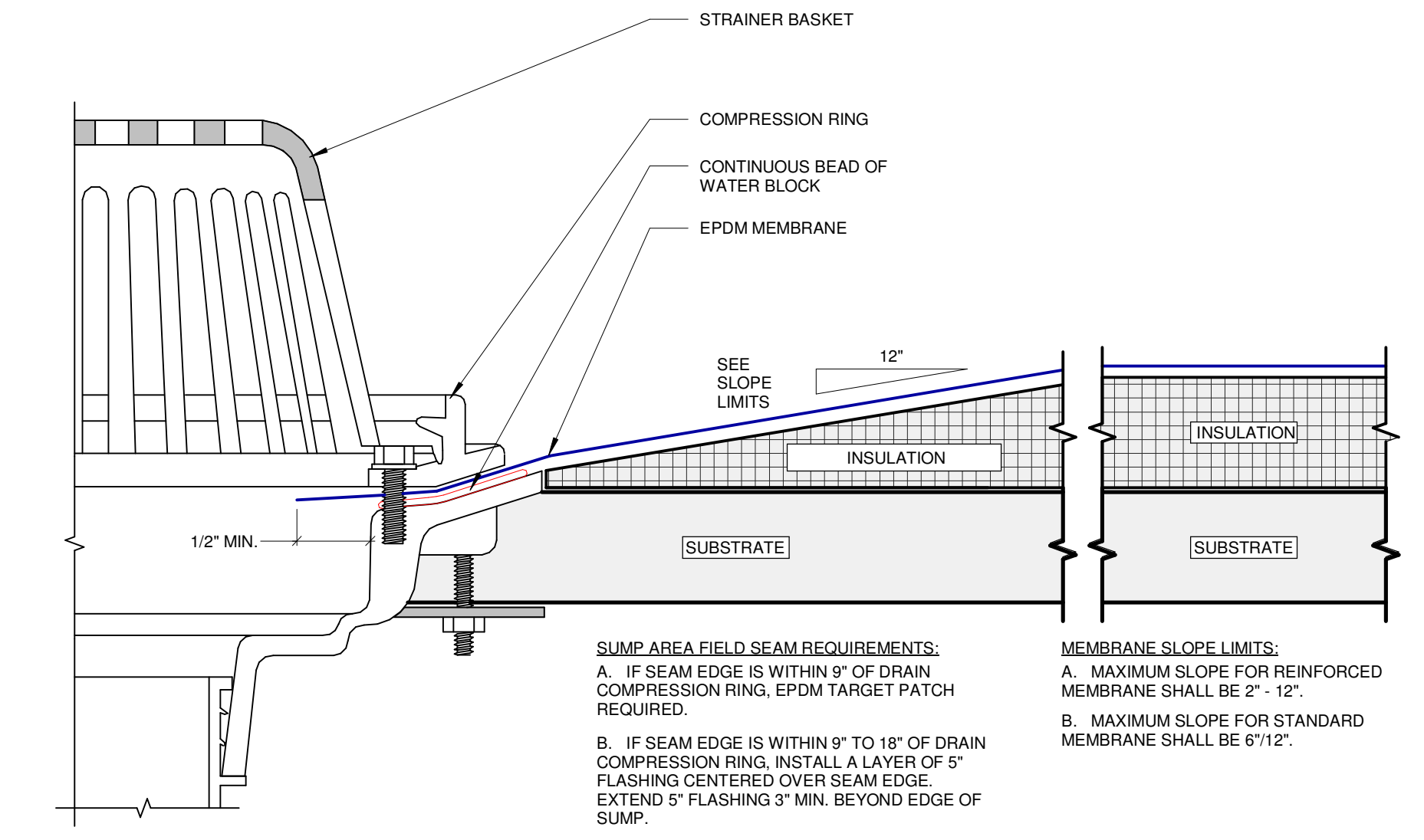
PROJECT NO. 24013.000

GENERAL INFO & TYPICAL ROOF DETAILS

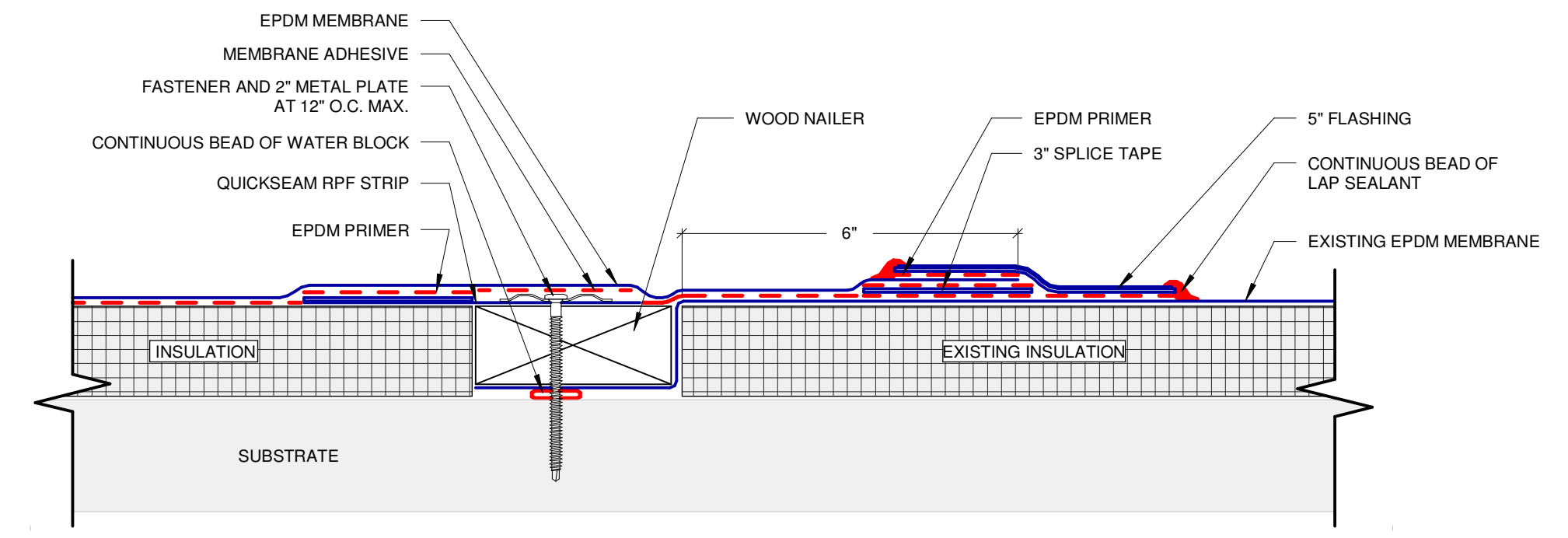
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NO. 2024



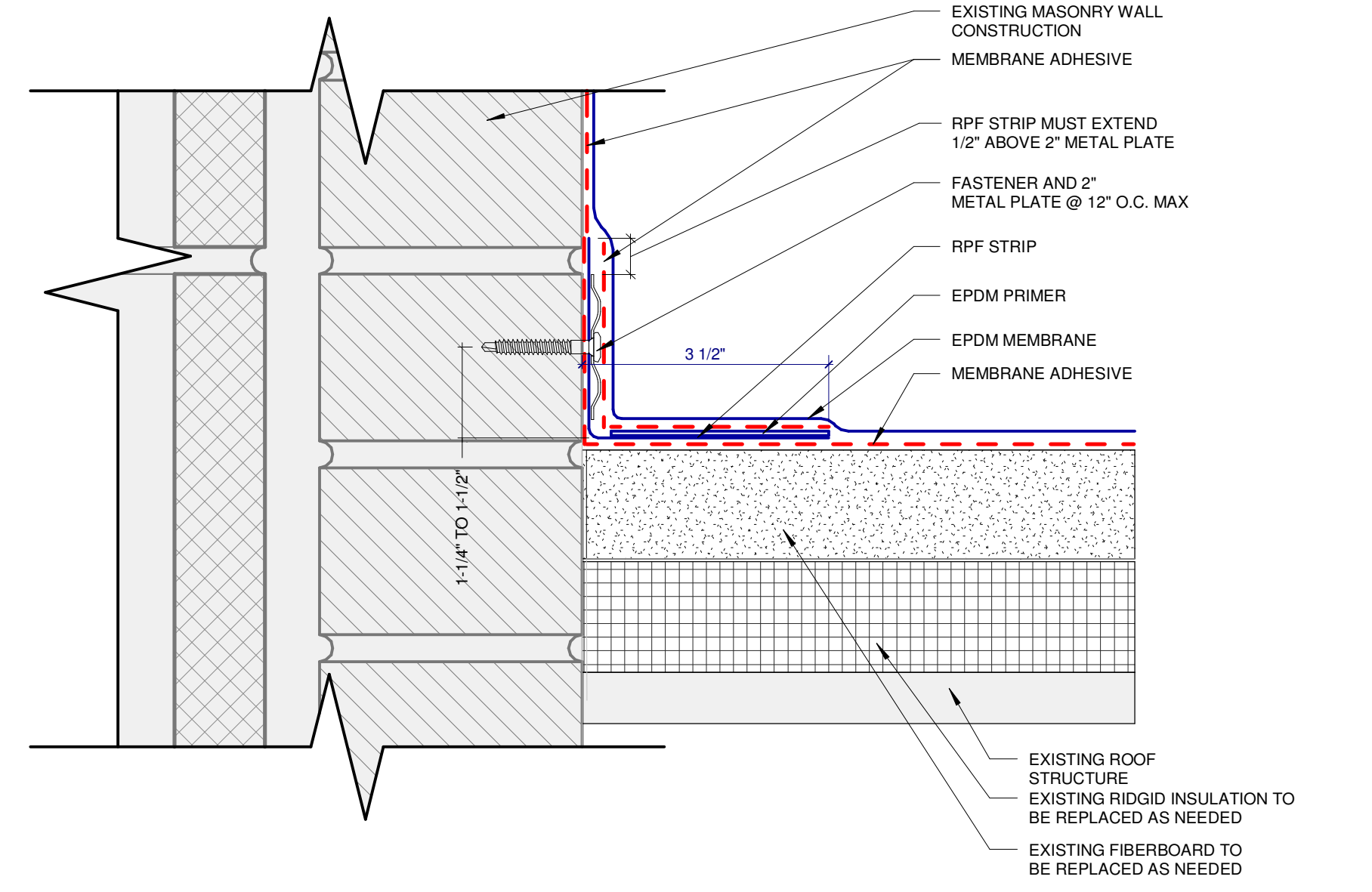
12 STRUCTURAL CEMENTITIOUS WOOD FIBER ROOF AT TEE
SCALE: 3" = 1'-0"



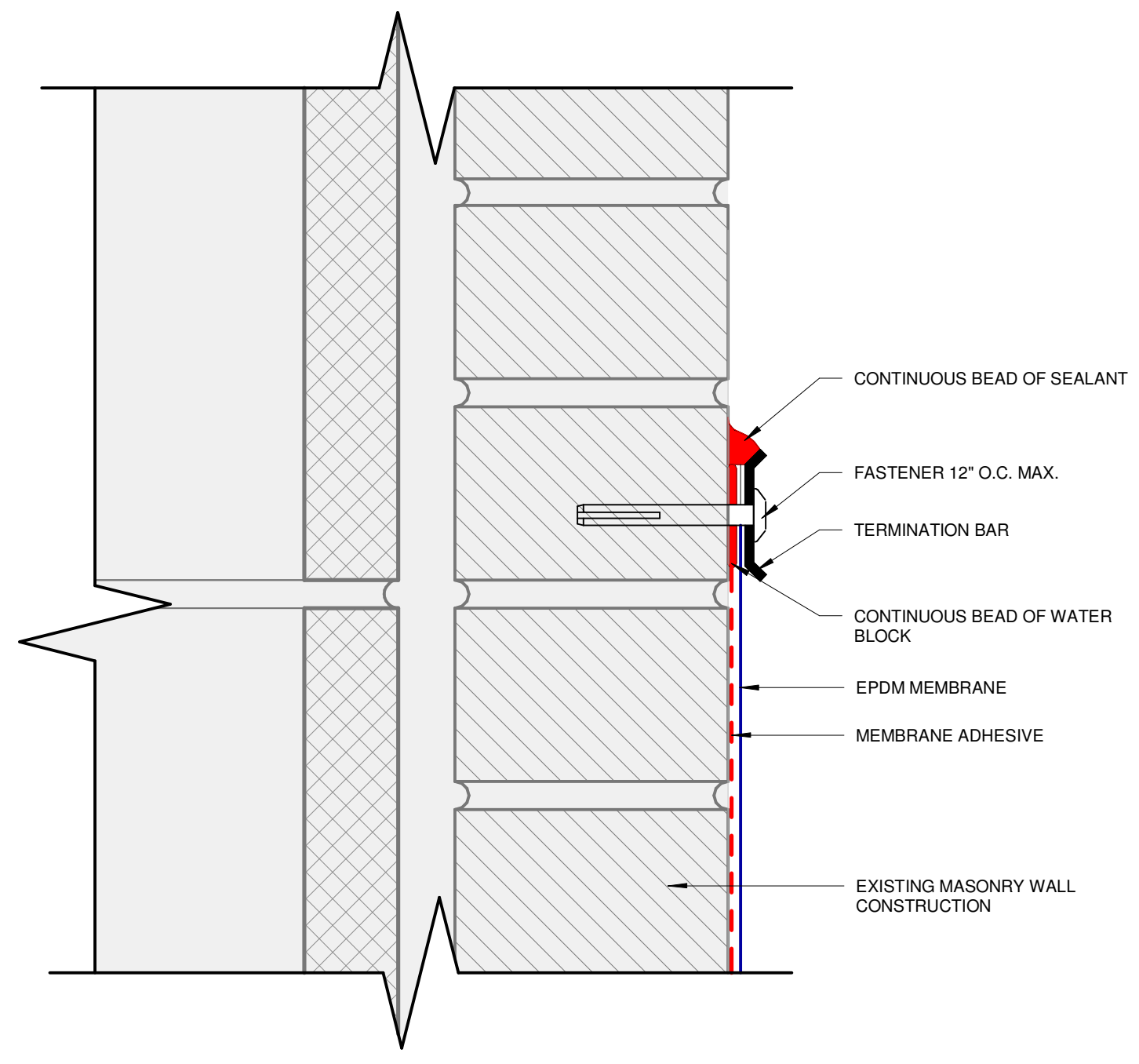
8 ROOF DRAIN
SCALE: 6" = 1'-0"



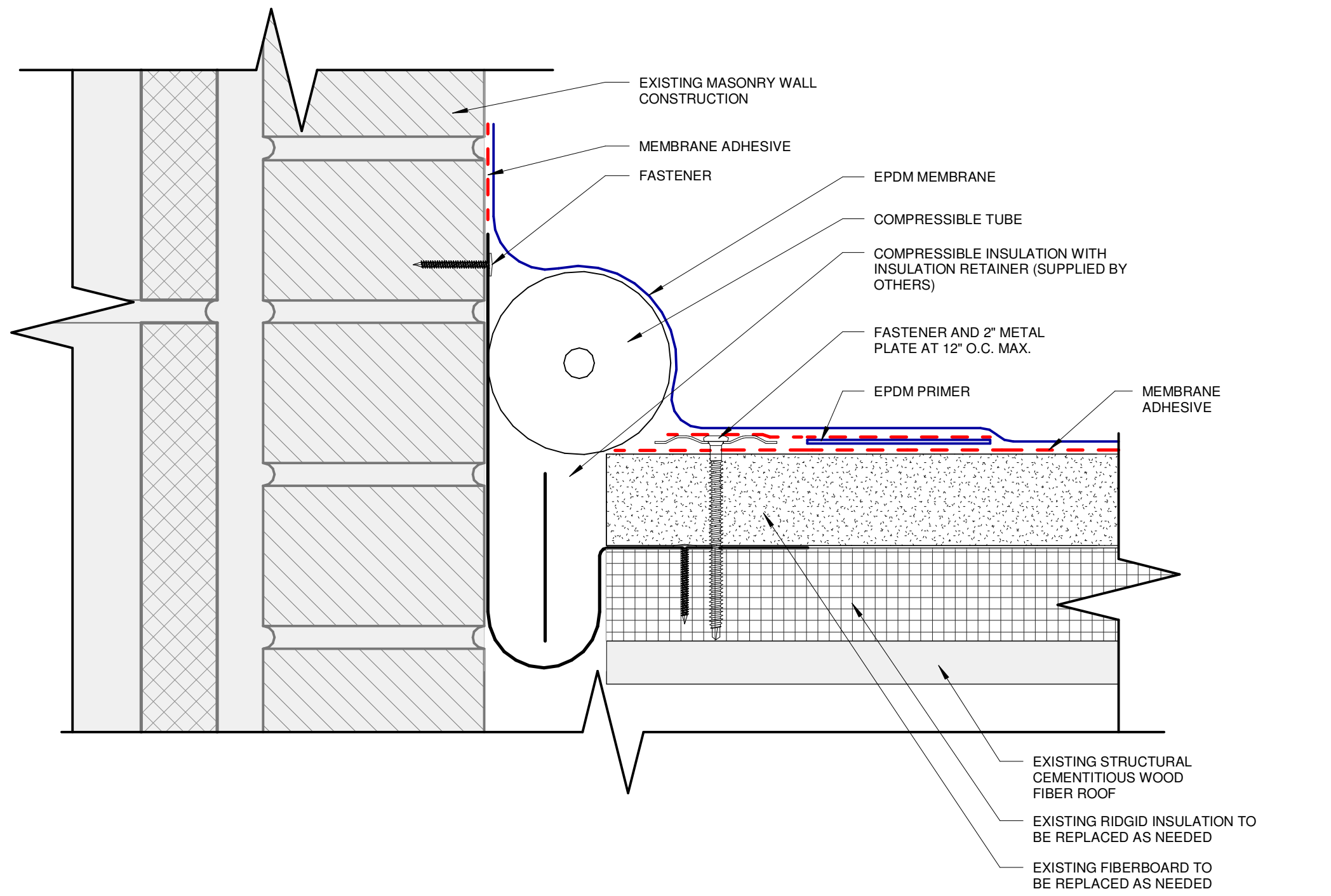
5 TIE-IN EPDM SYSTEM TO EXISTING EPDM SYSTEM
SCALE: 6" = 1'-0"



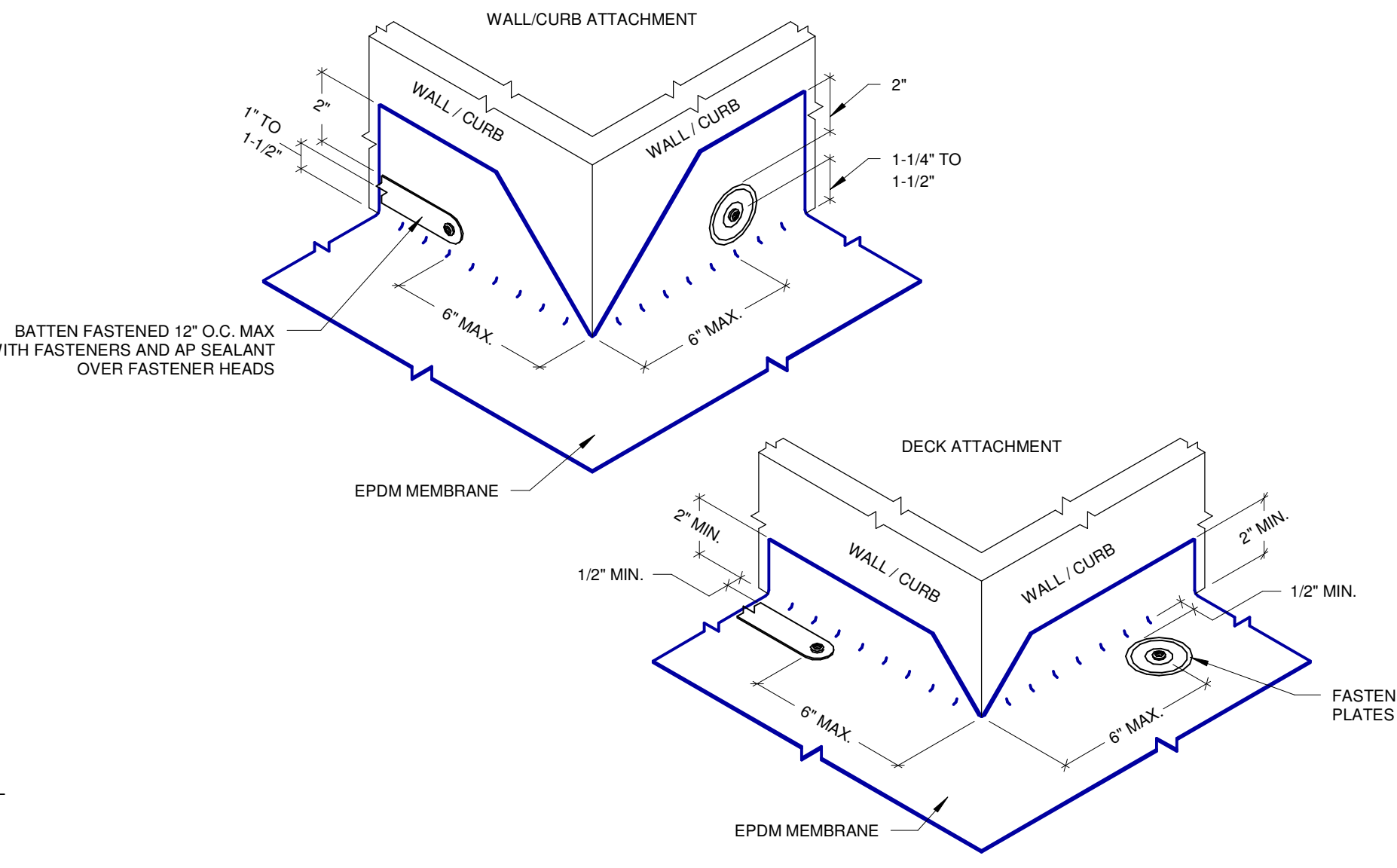
1 BASE TIE-IN
SCALE: 6" = 1'-0"



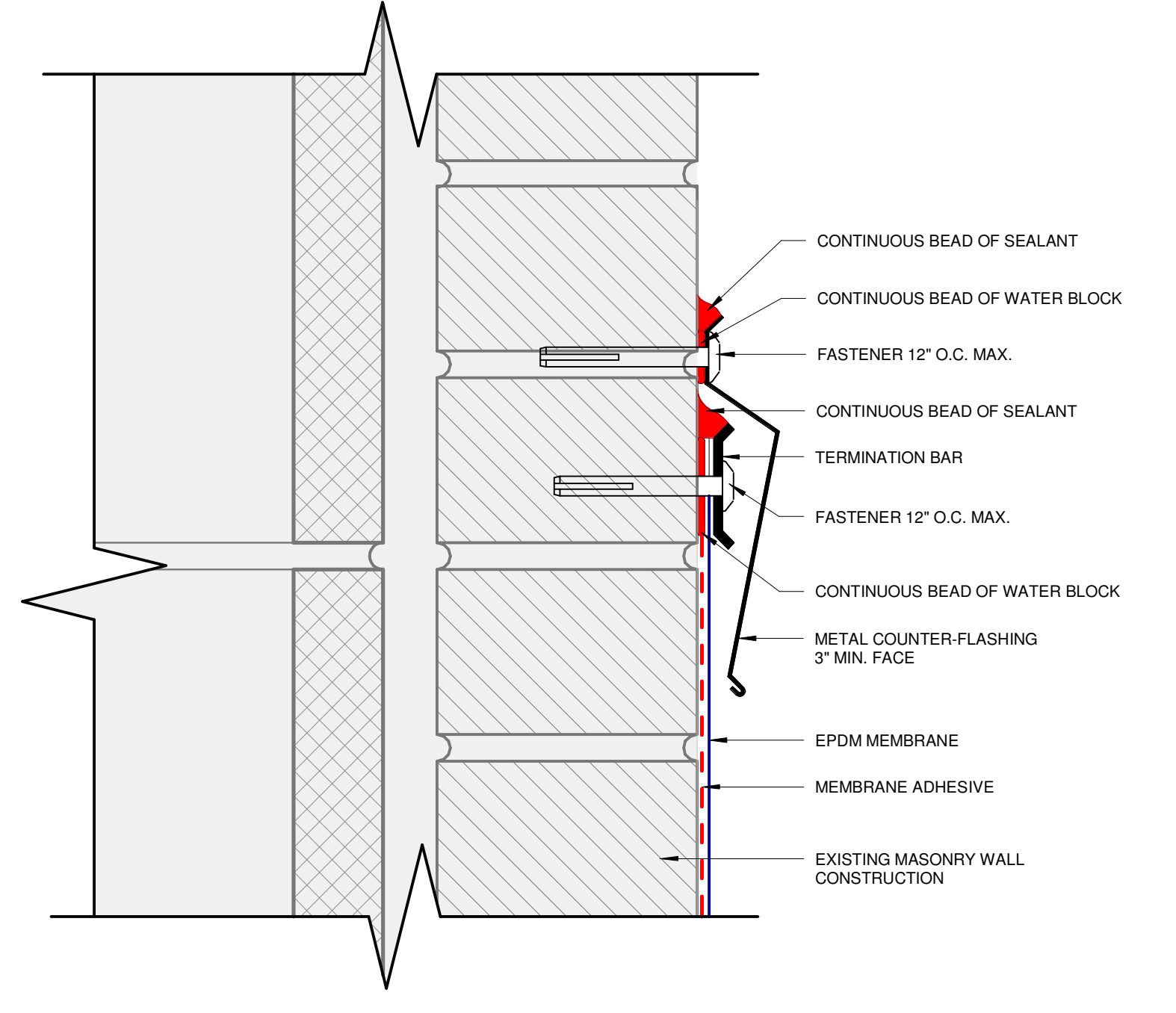
9 TRANSITION WITH TERMINATION BAR
SCALE: 6" = 1'-0"



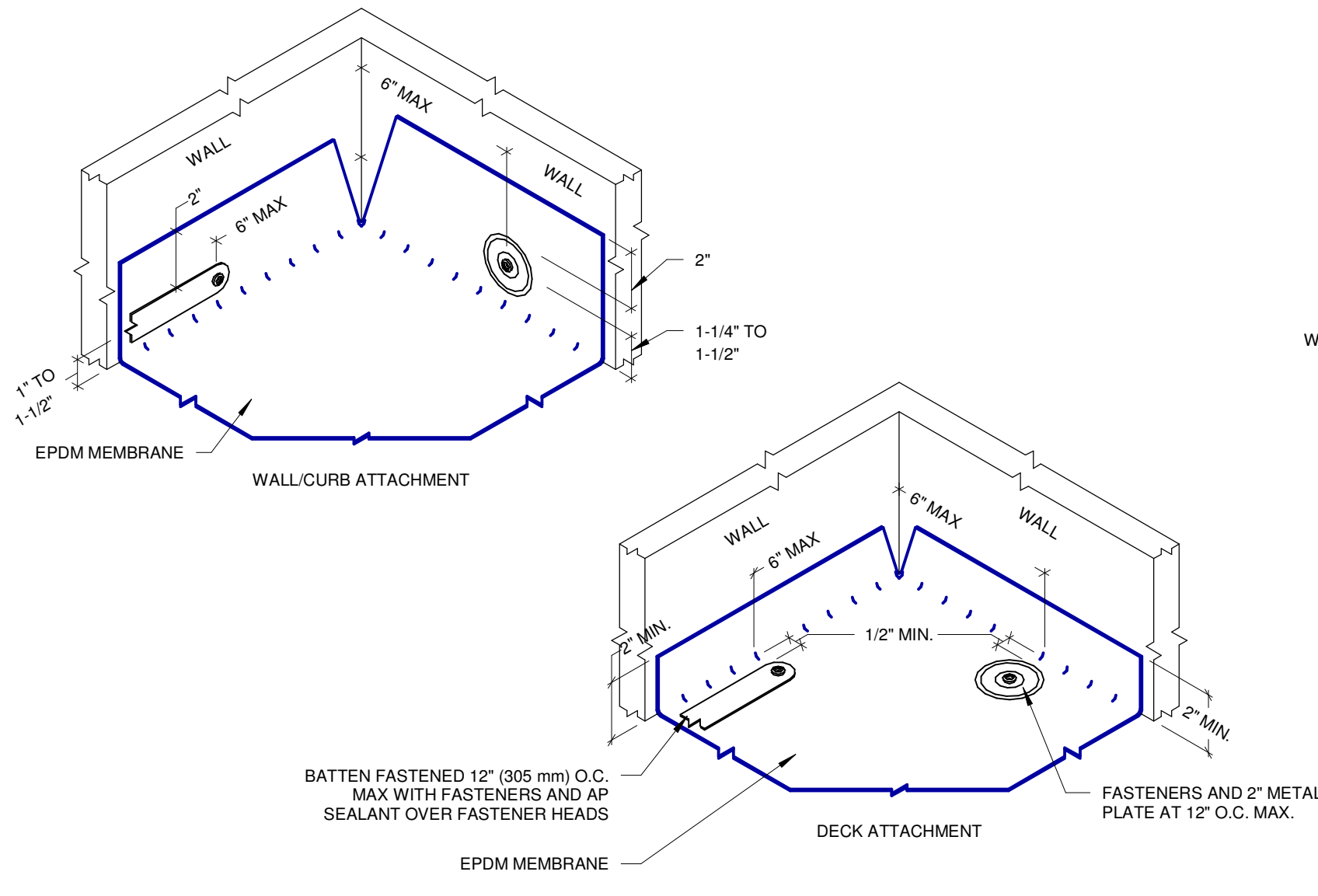
6 EXPANSION JOINT - ROOF TO WALL
SCALE: 6" = 1'-0"



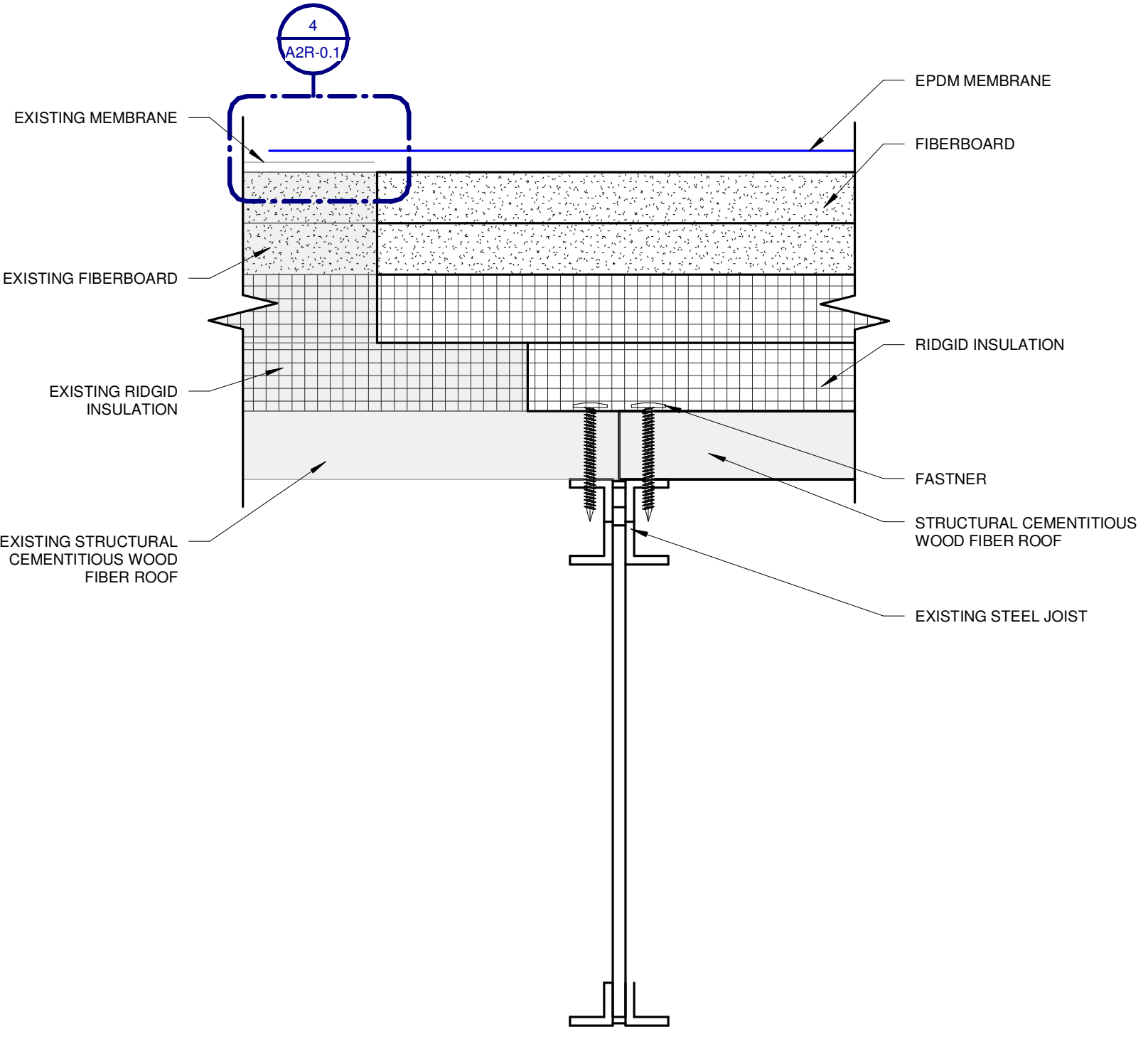
2 MEMBRANE SECUREMENT AT OUTSIDE CORNER
SCALE: 6" = 1'-0"



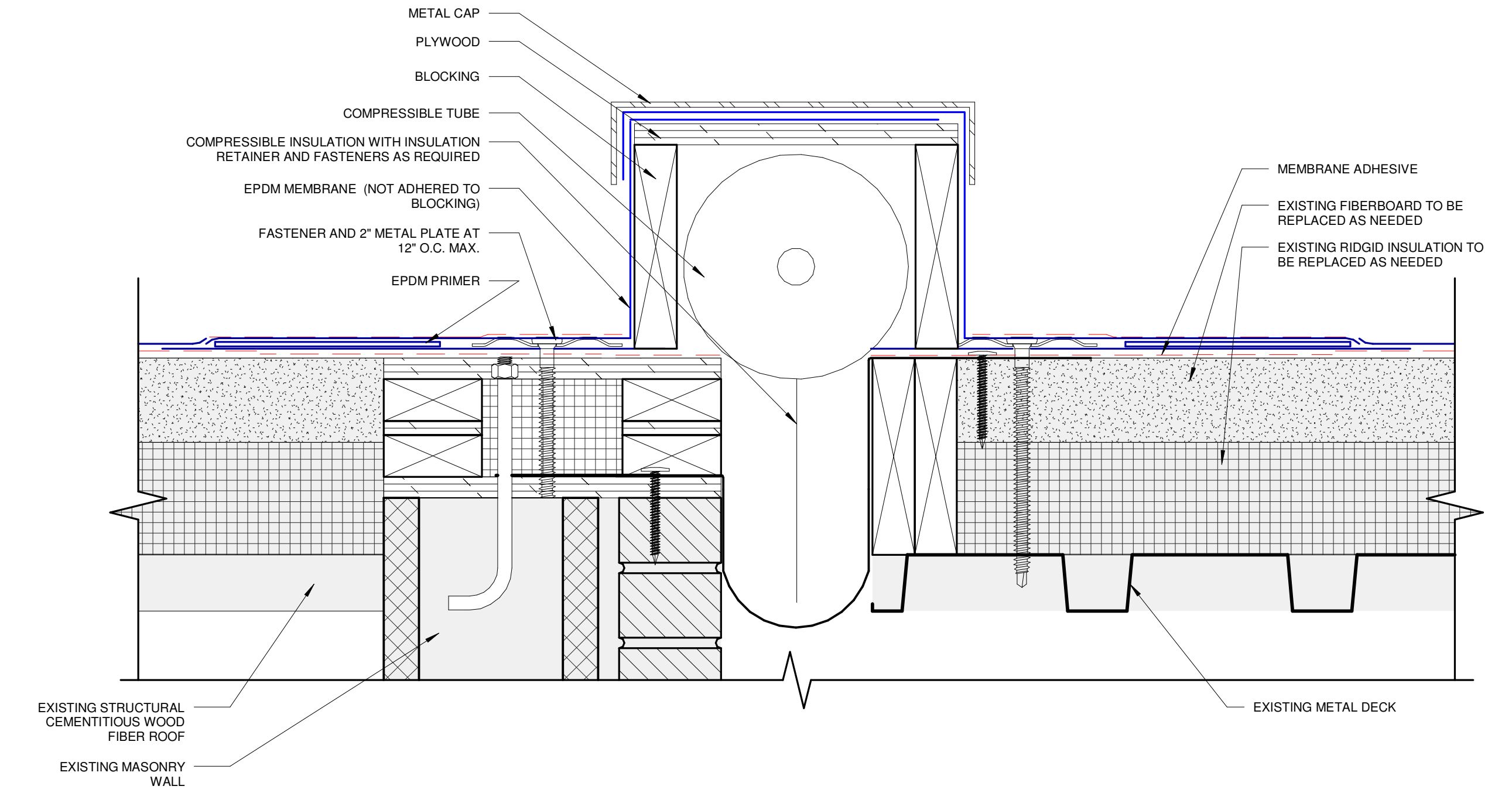
10 TERMINATION - SURFACE MOUNTED COUNTER FLASHING
SCALE: 6" = 1'-0"



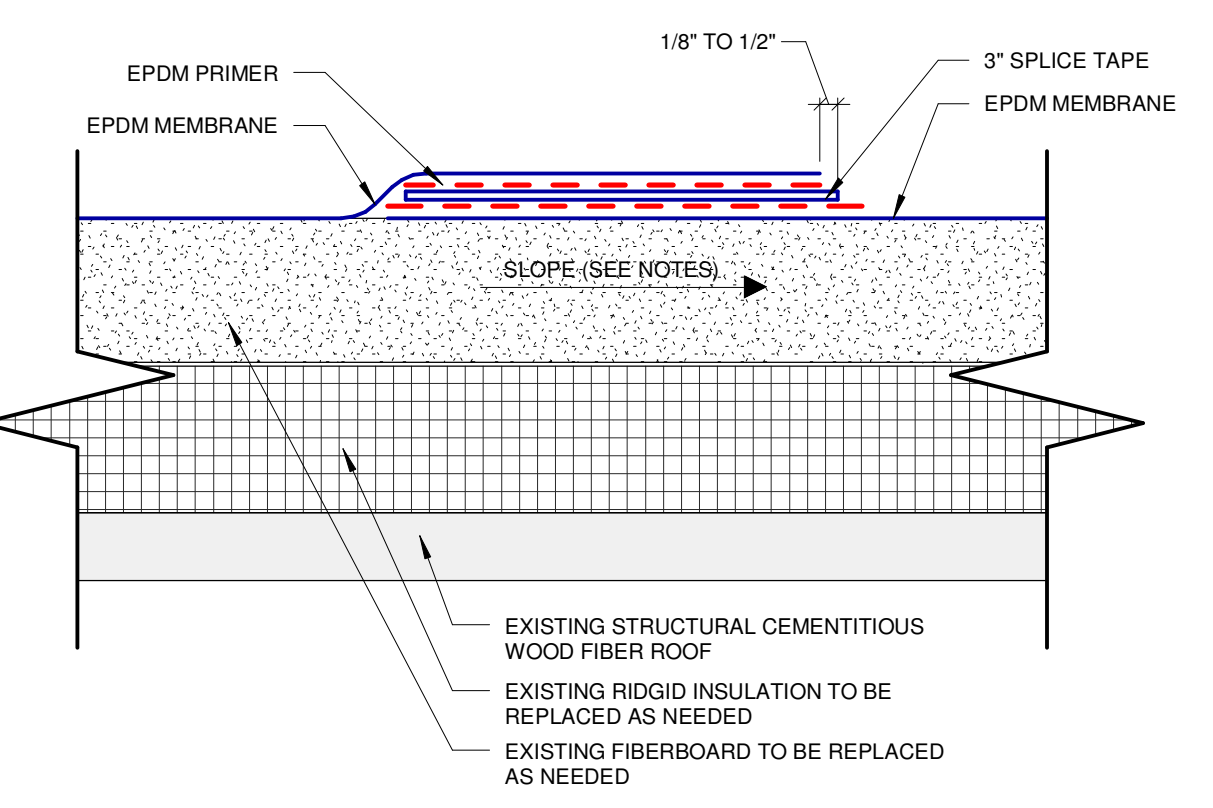
3 MEMBRANE SECUREMENT AT INSIDE CORNER
SCALE: 6" = 1'-0"



11 STRUCTURAL CEMENTITIOUS WOOD FIBER ROOF AT JOIST
SCALE: 3" = 1'-0"



7 EXPANSION JOINT - ROOF TO ROOF
SCALE: 3" = 1'-0"



4 LAP SPLICE
SCALE: 6" = 1'-0"

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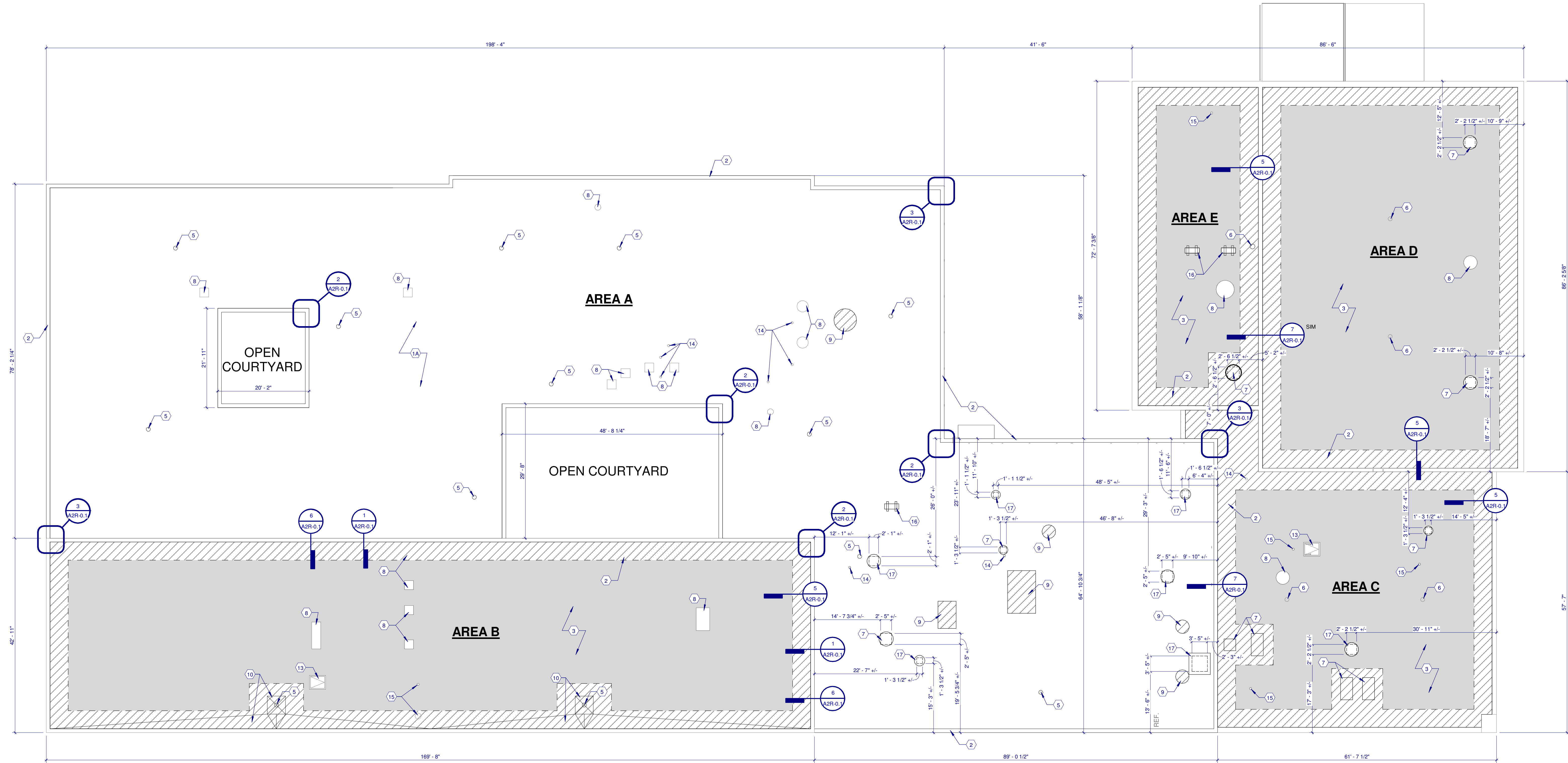
CODED NOTES

NOTE: ALL CODED NOTES MAY NOT APPEAR ON EVERY SHEET

- 1A NEW MEMBRANE ROOF OVER EXISTING ON REPLACED FIBERBOARD INSULATION OVER RIGID INSULATION OVER STRUCTURAL CEMENT FIBER ROOF PANELS. ALIGN WITH INSULATION TO MATCH EXISTING MATERIALS AND THICKNESS WHERE REMOVED DURING DEMOLITION AND DETERMINED TO BE DAMAGED.
- 1B NEW MEMBRANE ROOF OVER EXISTING OR REPLACED FIBERBOARD INSULATION OVER RIGID INSULATION OVER EXISTING METAL DECK.
- 2 NEW PERIMETER BLOCKING AND ROOF MEMBRANE TO BE INSTALLED PER DETAILS.
- 3 EXISTING ROOF TO REMAIN. PROTECT EXISTING ROOF DURING ROOF REPAIR WORK.
- 4 NEW ROOFING AND STRUCTURE INCLUDED IN BASE BID.
- 5 NEW ROOF DRAIN IN EXISTING LOCATION.
- 6 EXISTING ROOF DRAIN TO REMAIN.
- 7 NEW MECHANICAL EQUIPMENT IN FUTURE PHASE. EXTEND ROOF MEMBRANE ONTO CURB PER DETAILS AND PROVIDE TEMPORARY WATERPROOFING CAP. VERIFY CURB LOCATION WITH EXISTING STRUCTURE.
- 8 EXISTING MECHANICAL EQUIPMENT TO REMAIN. EXTEND NEW ROOFING UP TO CURB. SEE DETAILS.
- 9 PATCH DECK (METAL DECK OR STRUCTURAL CEMENT FIBER ROOF PANEL) AND INSTALL INSULATION TO MATCH EXISTING WHERE MECHANICAL EQUIPMENT HAS BEEN REMOVED.
- 10 INSTALL TAPERED INSULATION TO PROVIDE POSITIVE DRAINAGE TO EXISTING ROOF DRAIN.
- 11 MECHANICAL EQUIPMENT REPLACED IN BASE BID.
- 12 NEW ROOF HATCH IN EXISTING LOCATION.
- 13 EXISTING ROOF HATCH TO REMAIN.
- 14 EXISTING SANITARY STACK VENT TO BE TIED IN TO NEW ROOF PER DETAIL.
- 15 EXISTING SANITARY STACK VENT TO REMAIN.
- 16 NEW SPLIT SYSTEM RAILS. COORDINATE OPENINGS WITH MECHANICAL DRAWINGS.
- 17 NEW FAN GRAVITY VENTILATOR ON NEW CURB. COORDINATE WITH MECHANICAL DRAWINGS. VERIFY CURB LOCATION WITH EXISTING STRUCTURE.
- 18 ROOF DRAIN REPLACED IN BASE BID.

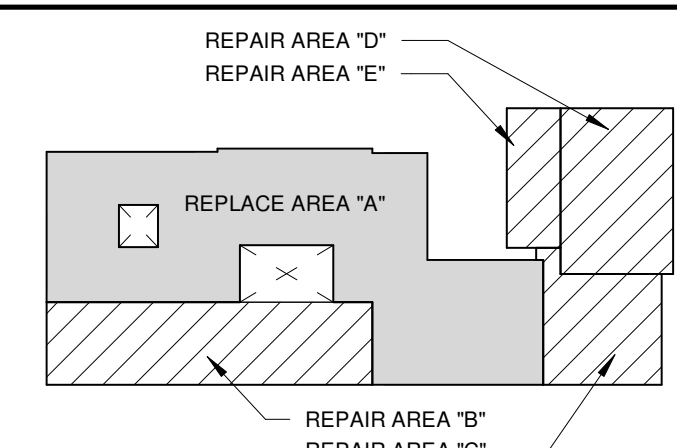


CARROLL COUNTY BOARD OF COMMISSIONERS
CARROLL COUNTY OFFICE RENOVATION
211 MOODY AVE SW
CARROLLTON OHIO 44615



1 ROOF PLAN
SCALE: 3/32" = 1'-0"

ROOF KEY PLAN



ISSUE / REVISION DATE

ISSUE / REVISION	DATE
ROOF - BIDDING & PLAN REVIEW	09/27/2024

PROJECT NO. 24013.000

ROOF PLAN - BASE BID

A2R-1

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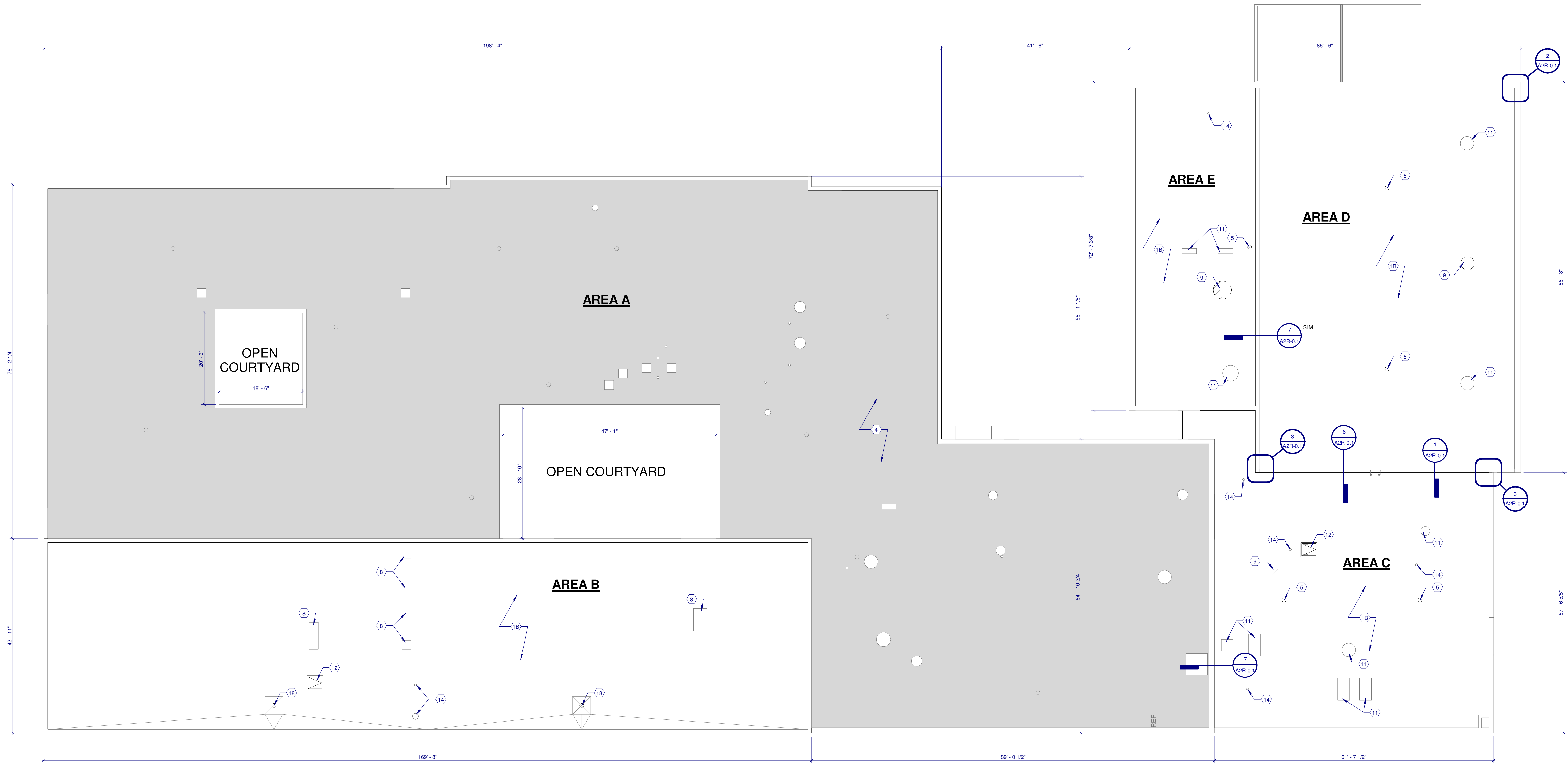
CODED NOTES

NOTE: ALL CODED NOTES MAY NOT APPEAR ON EVERY SHEET

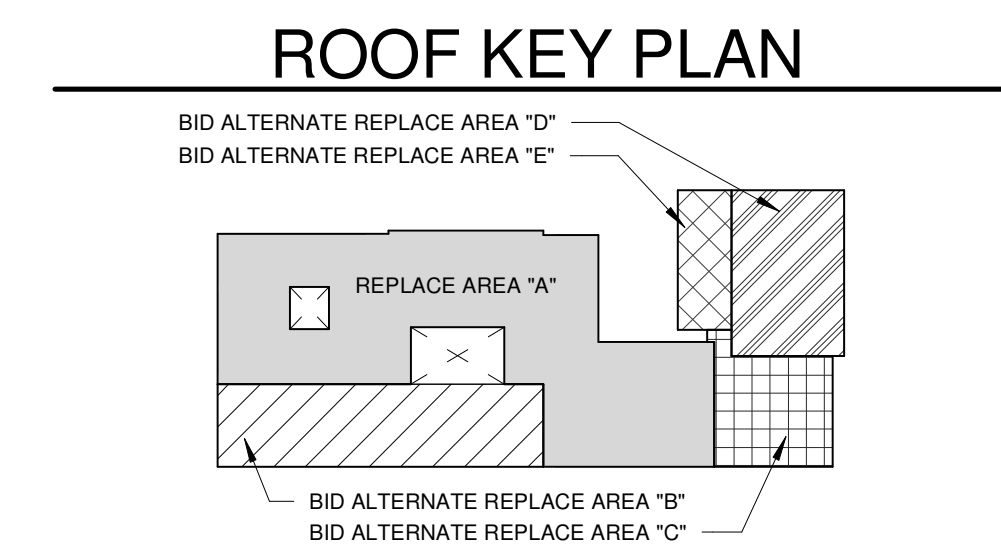
- 1A NEW MEMBRANE ROOF OVER EXISTING OR REPLACED FIBERBOARD INSULATION OVER RIGID INSULATION OVER STRUCTURAL CEMENT FIBER ROOF PANELS. ALIGN WITH INSULATION TO MATCH EXISTING MATERIALS AND THICKNESS WHERE REMOVED DURING DEMOLITION AND DETERMINED TO BE DAMAGED.
- 1B NEW MEMBRANE ROOF OVER EXISTING OR REPLACED FIBERBOARD INSULATION OVER RIGID INSULATION OVER EXISTING METAL DECK.
- 2 NEW PERIMETER BLOCKING AND ROOF MEMBRANE TO BE INSTALLED PER DETAILS.
- 3 EXISTING ROOF TO REMAIN. PROTECT EXISTING ROOF DURING ROOF REPAIR WORK.
- 4 NEW ROOFING AND STRUCTURE INCLUDED IN BASE BID.
- 5 NEW ROOF DRAIN IN EXISTING LOCATION.
- 6 EXISTING ROOF DRAIN TO REMAIN.
- 7 NEW MECHANICAL EQUIPMENT IN FUTURE PHASE. EXTEND ROOF MEMBRANE ONTO CURB PER DETAILS AND PROVIDE TEMPORARY WATERPROOFING CAP. VERIFY CURB LOCATION WITH EXISTING STRUCTURE.
- 8 EXISTING MECHANICAL EQUIPMENT TO REMAIN. EXTEND NEW ROOFING UP TO CURB. SEE DETAILS.
- 9 PATCH DECK (METAL DECK OR STRUCTURAL CEMENT FIBER ROOF PANEL) AND INSTALL INSULATION TO MATCH EXISTING WHERE MECHANICAL EQUIPMENT HAS BEEN REMOVED.
- 10 INSTALL TAPERED INSULATION TO PROVIDE POSITIVE DRAINAGE TO EXISTING ROOF DRAIN.
- 11 MECHANICAL EQUIPMENT REPLACED IN BASE BID.
- 12 NEW ROOF HATCH IN EXISTING LOCATION.
- 13 EXISTING ROOF HATCH TO REMAIN.
- 14 EXISTING SANITARY STACK VENT TO BE TIED IN TO NEW ROOF PER DETAIL.
- 15 EXISTING SANITARY STACK VENT TO REMAIN.
- 16 NEW SPLIT SYSTEM RAILS. COORDINATE OPENINGS WITH MECHANICAL DRAWINGS.
- 17 NEW FAN GRAVITY VENTILATOR ON NEW CURB. COORDINATE WITH MECHANICAL DRAWINGS. VERIFY CURB LOCATION WITH EXISTING STRUCTURE.
- 18 ROOF DRAIN REPLACED IN BASE BID.



CARROLL COUNTY BOARD OF COMMISSIONERS
CARROLL COUNTY OFFICE RENOVATION
 211 MOODY AVE SW
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1 ROOF PLAN - BID ALTERNATE
 SCALE: 3/32" = 1'-0"



ISSUE / REVISION	DATE
ROOF - BIDDING & PLAN REVIEW	09/27/2024

PROJECT NO. 24013.000

ROOF PLAN - BID ALTERNATE

A2R-2

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ISSUE / REVISION	DATE

PROJECT NO. 24013.000

LOWER LEVEL -
PLUMBING PLAN
(DEMOLITION)

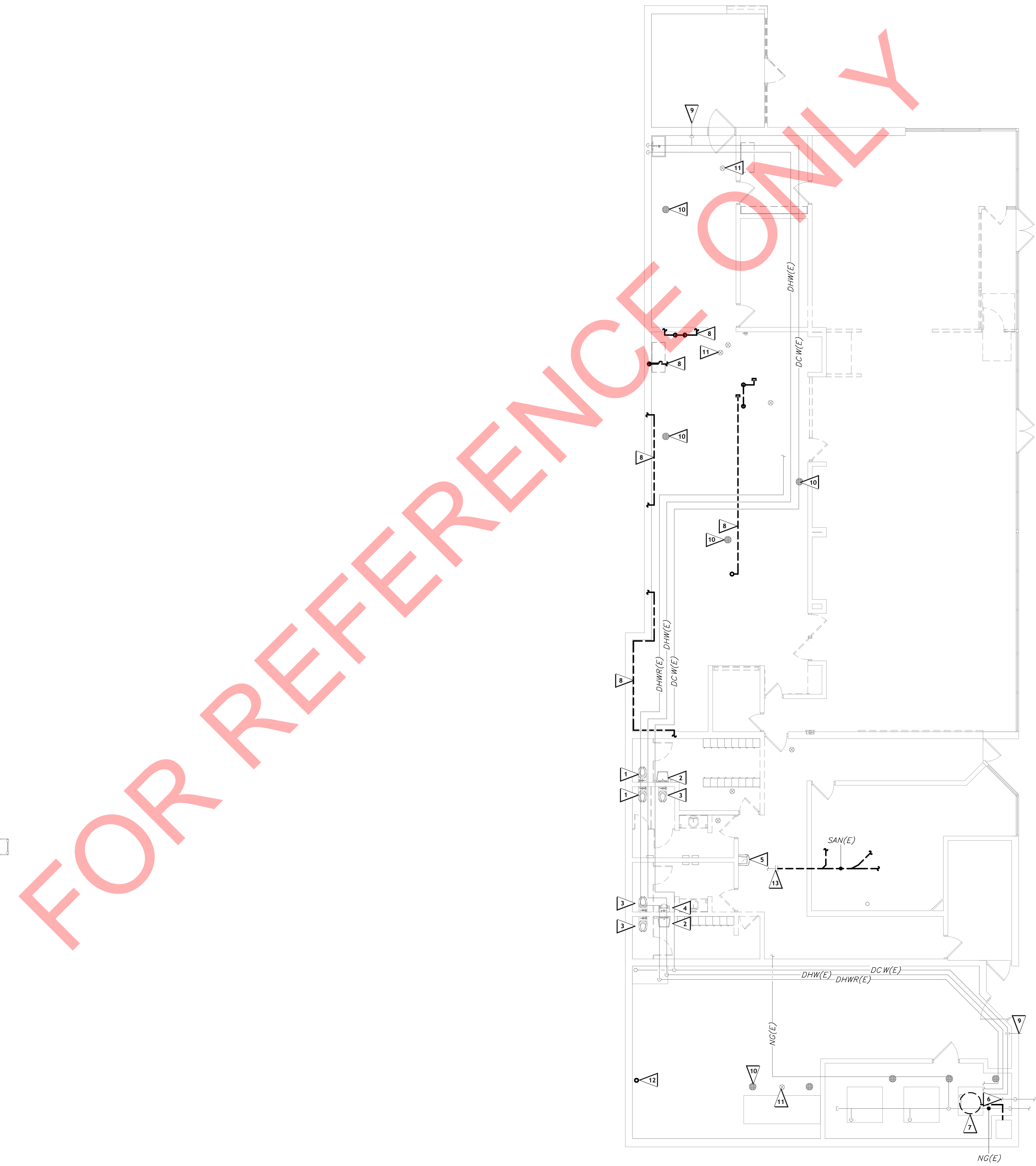
P101

EXISTING SANITARY SYSTEM REQUIREMENTS:
EXISTING SANITARY BEING REUSED TO BE SCOPED, LOCATED/CAMERA'D AND FIELD VERIFIED. REPORT FINDINGS AND LAYOUT TO ENGINEER/ARCHITECT PRIOR TO CONSTRUCTION. ALL EXISTING SANITARY PIPING IN PROJECT AREA TO BE JETTED BACK TO BUILDING SERVICE ENTRANCE.

EXPOSED PIPING PAINTING REQUIREMENTS:
ALL EXPOSED PIPING, EXISTING AND NEW, TO BE PAINTED INSIDE OF PROJECT AREA. COORDINATE FINISHES WITH ARCHITECT. PATCH AND REINSULATE EXISTING PIPING AS REQUIRED TO ALLOW FOR PAINTING APPLICATION. ALL EXPOSED PIPING MUST HAVE PAINT COMPATIBLE SURFACES.

- GENERAL NOTES**
1. THIS PLAN REPRESENTS THE PLUMBING EXISTING CONDITIONS AND THE INTENT OF THE PLUMBING DEMOLITION AND REMOVAL OF THE EXISTING PLUMBING FOR THE REMODELING. THE "PC" SHALL REMOVE AND/OR RELOCATE ALL ITEMS SHOWN 'DARK DASHED' ON THE PLAN. ANY ITEMS SHOWN 'LIGHT SOLID' SHALL REMAIN. ANY ITEMS NOT INDICATED ON PLAN THAT NEED REMOVED OR RELOCATED SHALL BE THE RESPONSIBILITY OF THE "PC".
 2. PIPES WHICH ARE CONCEALED AND THEREFORE INACCESSIBLE MAY BE ABANDONED IN PLACE. HOWEVER, ALL ENDS SHALL BE CAPPED. ABANDONED PIPING MUST NOT INTERFERE WITH NEW CONSTRUCTION AND MUST REMAIN CONCEALED. PATCH WALLS / CEILINGS / FLOORS TO MATCH EXISTING SURFACES.
 3. THE "PC" SHALL CONSULT WITH THE OWNER AS TO THE DISPOSITION OF ALL REMOVED PLUMBING EQUIPMENT (FIXTURES, PIPING, WATER HEATERS, ETC). PLUMBING EQUIPMENT WHICH OWNER DOES NOT DESIRE TO RETAIN SHALL BE REMOVED FROM THE PREMISES BY THE "PC".
 4. THE "PC" SHALL PATCH ALL OPENINGS AND HOLES IN EXISTING WALLS / FLOOR (CAUSED BY HIM/HER IN THE PERFORMANCE OF HIS/HER WORK) TO MATCH THE SURROUNDING SURFACE AND TO MAINTAIN THE FIRE INTEGRITY OF SAID WALLS / FLOOR.
 5. ANY AND ALL ABANDONED PIPING AND EQUIPMENT SHALL BE REMOVED BY THE "PC".
 6. THE "PC" SHALL ENSURE THAT ANY FIXTURES AND EQUIPMENT CALLED FOR TO REMAIN ARE NOT TO BE DISTURBED BY THE DEMOLITION OF ANOTHER FIXTURE. WHERE A BRANCH PIPE IS CALLED TO BE CAPPED AT THE MAIN IT IS THE RESPONSIBILITY OF THE "PC" TO VERIFY THAT THE BRANCH PIPE DOES NOT SERVE ANY OTHER FIXTURES THAT ARE TO REMAIN IN USE.

- (THESE NOTES APPLY TO THIS PLAN ONLY)
- REFERENCE NOTES**
1. REMOVE EXISTING WATER CLOSET COMPLETE. REMOVE ASSOCIATED DCW, SAN AND VENT BACK AS REQUIRED FOR INSTALLATION OF NEW FIXTURE IN SAME LOCATION.
 2. REMOVE EXISTING LAV COMPLETE. REMOVE ASSOCIATED DCW, DHW, SAN AND VENT PIPING BACK TO MAINS AND CAP.
 3. REMOVE EXISTING WATER CLOSET COMPLETE. REMOVE ASSOCIATED DCW, SAN AND VENT BACK TO MAINS AND CAP.
 4. REMOVE EXISTING URINAL COMPLETE. REMOVE ASSOCIATED DCW, SAN AND VENT PIPING BACK TO MAINS AND CAP.
 5. EXISTING WATER COOLER TO BE REMOVED AND REPLACED. REMOVE ASSOCIATED PIPING BACK AS REQUIRED TO ALLOW FOR INSTALLATION OF NEW WATER COOLER IN SAME LOCATION.
 6. EXISTING DOMESTIC WATER SERVICE ENTRANCE TO BE REWORKED AS REQUIRED TO ALLOW FOR INSTALLATION OF NEW REDUCED PRESSURE BACKFLOW ASSEMBLY. REVISE LAYOUT AS REQUIRED TO ALLOW FOR INSTALLATION OF NEW BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ REQUIREMENTS. COORDINATE WITH FFC.
 7. EXISTING DOMESTIC WATER HEATER, DOMESTIC HOT WATER RECIRC PUMP AND EXPANSION TANK TO BE REMOVED COMPLETE. REMOVE FLUE BACK TO CHIMNEY AND CAP. REMOVE GAS PIPING AND DCW/DHW/DHWR PIPING BACK AS REQUIRED TO ALLOW FOR CONNECTION TO NEW WATER HEATER AND PUMP. REFER TO DETAIL FOR EXTENTS.
 8. REMOVE ALL EXISTING PIPING SERVING REMOVED KITCHEN EQUIPMENT BACK TO NEAREST ACTIVE MAINS AND CAP. TYPICAL.
 9. EXISTING FROSTPROOF WALL HYDRANT TO REMAIN.
 10. EXISTING FLOOR DRAIN TO REMAIN. REWORK EXISTING VENT PIPING LOCATED IN WALLS BEING ADJUSTED OR REMOVED AS REQUIRED TO REMAIN CONCEALED.
 11. EXISTING FLOOR CLEANOUT. TYPICAL.
 12. EXISTING SAN SERVING SINK ON FLOOR ABOVE. REMOVE BACK TO GRADE AND CAP WITH CLEANOUT. VERIFY BRANCH IS COMPLETELY INACTIVE PRIOR TO REMOVAL.
 13. EXISTING SANITARY PIPING TO BE REMOVED BACK TO POINT INDICATED FOR THE IN AND EXTENSION UNDER NEW WORK. REMOVE ALL DOWNSTREAM PIPING SERVING REMOVED FIXTURES.



LOWER LEVEL - PLUMBING PLAN (DEMOLITION)
SCALE: 1/8" = 1'-0"



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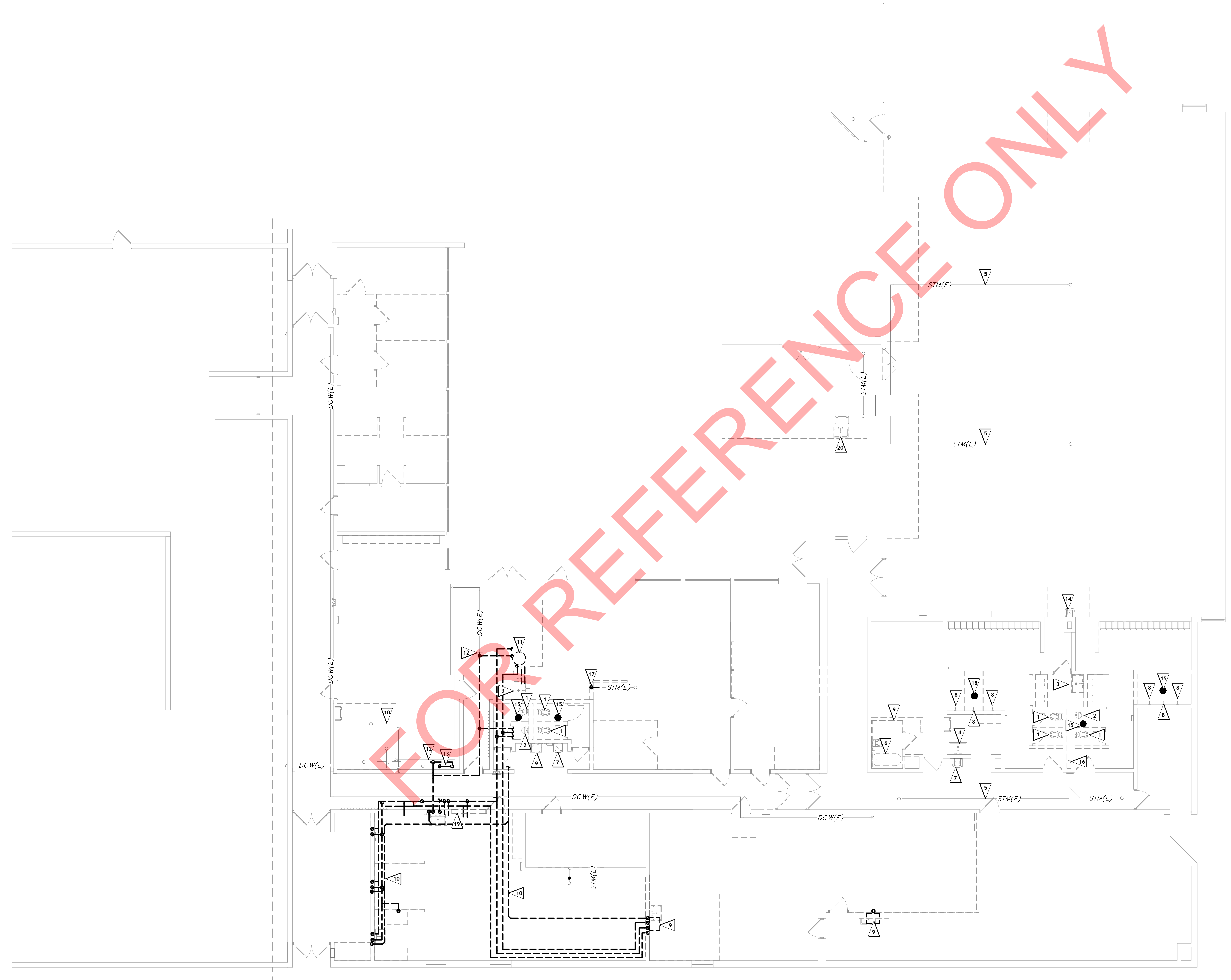


- GENERAL NOTES**
1. THIS PLAN REPRESENTS THE PLUMBING EXISTING CONDITIONS AND THE INTENT OF THE PLUMBING DEMOLITION AND REMOVAL OF THE EXISTING PLUMBING FOR THE REMODELING. THE "PC" SHALL REMOVE AND/OR RELOCATE ALL ITEMS SHOWN 'DARK DASHED' ON THE PLAN. ANY ITEMS SHOWN 'LIGHT SOLID' SHALL REMAIN. ANY ITEMS NOT INDICATED ON PLAN THAT NEED REMOVED OR RELOCATED SHALL BE THE RESPONSIBILITY OF THE "PC".
 2. PIPES WHICH ARE CONCEALED AND THEREFORE INACCESSIBLE MAY BE ABANDONED IN PLACE. HOWEVER, ALL ENDS SHALL BE CAPPED. ABANDONED PIPING MUST NOT INTERFERE WITH NEW CONSTRUCTION AND MUST REMAIN CONCEALED. PATCH WALLS / CEILINGS / FLOORS TO MATCH EXISTING SURFACES.
 3. THE "PC" SHALL CONSULT WITH THE OWNER AS TO THE DISPOSITION OF ALL REMOVED PLUMBING EQUIPMENT (FIXTURES, PIPING, WATER HEATERS, ETC). PLUMBING EQUIPMENT WHICH OWNER DOES NOT DESIRE TO RETAIN SHALL BE REMOVED FROM THE PREMISES BY THE "PC".
 4. THE "PC" SHALL PATCH ALL OPENINGS AND HOLES IN EXISTING WALLS / FLOOR (CAUSED BY HIM/HER IN THE PERFORMANCE OF HIS/HER WORK) TO MATCH THE SURROUNDING SURFACE AND TO MAINTAIN THE FIRE INTEGRITY OF SAID WALLS / FLOOR.
 5. ANY AND ALL ABANDONED PIPING AND EQUIPMENT SHALL BE REMOVED BY THE "PC".
 6. THE "PC" SHALL ENSURE THAT ANY FIXTURES AND EQUIPMENT CALLED FOR TO REMAIN ARE NOT TO BE DISTURBED BY THE DEMOLITION OF ANOTHER FIXTURE. WHERE A BRANCH PIPE IS CALLED TO BE CAPPED AT THE MAIN IT IS THE RESPONSIBILITY OF THE "PC" TO VERIFY THAT THE BRANCH PIPE DOES NOT SERVE ANY OTHER FIXTURES THAT ARE TO REMAIN IN USE.

- REFERENCE NOTES** (THESE NOTES APPLY TO THIS PLAN ONLY)
1. REMOVE EXISTING WATER CLOSET COMPLETE. REMOVE ASSOCIATED DCW, SAN AND VENT BACK TO MAINS AND CAP.
 2. REMOVE EXISTING URINAL COMPLETE. REMOVE ASSOCIATED DCW, SAN AND VENT PIPING BACK TO MAINS AND CAP.
 3. REMOVE EXISTING MOP BASIN COMPLETE. REMOVE ASSOCIATED DCW, DHW, SAN AND VENT PIPING BACK TO MAINS AND CAP.
 4. EXISTING MOP BASIN TO REMAIN.
 5. EXISTING STORM PIPING TO REMAIN.
 6. REMOVE EXISTING BATH TUB COMPLETE. REMOVE ASSOCIATED DCW, DHW, SAN AND VENT PIPING BACK TO MAINS AND CAP.
 7. REMOVE EXISTING WATER COOLER COMPLETE. REMOVE ASSOCIATED DCW, SAN, AND VENT PIPING BACK TO MAINS AND CAP.
 8. REMOVE EXISTING SHOWER COMPLETE. REMOVE ASSOCIATED DCW, DHW, SAN AND VENT PIPING BACK TO MAINS AND CAP.
 9. REMOVE EXISTING SINK COMPLETE. REMOVE PIPING BACK TO MAINS AND CAP.
 10. REMOVE ALL ABANDONED DOMESTIC WATER AND VENT PIPING THIS ROOM BACK TO NEAREST ACTIVE MAINS AND CAP. FIELD VERIFY MAINS INACTIVE PRIOR TO REMOVAL.
 11. EXISTING DOMESTIC WATER HEATER, RECIRC PUMP AND EXPANSION TANK TO BE REMOVED AND REPLACED IN NEW LOCATION UNDER NEW WORK. REMOVE ALL ASSOCIATED PIPING SERVING REMOVED FIXTURES.
 12. REMOVE DCW PIPING BACK TO POINT INDICATED FOR TIE IN AND EXTENSION UNDER NEW WORK.
 13. EXISTING 2" WATER SERVICE TO BE REMOVED BACK TO BELOW GRADE AND CAPPED. COORDINATE WITH WATER DEPT FOR ADDITIONAL REQUIREMENTS FOR SERVICE MODIFICATIONS AND SHUTDOWN. PATCH FLOOR TO MATCH EXISTING SURROUNDING CONSTRUCTION AND REMOVE DOWNSTREAM PIPING BACK TO NEAREST ACTIVE MAIN AND CAP. FIELD VERIFY AND COORDINATE WITH WATER DEPT AND OWNER THAT SERVICE IS INACTIVE PRIOR TO CONSTRUCTION. COORDINATE REMOVAL WITH CARROLLTON WATER DEPT.
 14. EXISTING WATER COOLER TO BE REMOVED AND REPLACED. REMOVE ASSOCIATED PIPING COMPLETE.
 15. EXISTING FLOOR DRAIN TO BE REMOVED AND REPLACED IN SAME LOCATION. REMOVE SAN AND VENT PIPING AND EXTEND NEW AS SHOWN UNDER NEW WORK.
 16. EXISTING STORM PIPING RISER FROM BELOW DROPS IN APPROXIMATELY THIS LOCATION. EXISTING PIPING TO REMAIN AND BE CONCEALED UNDER NEW WORK IN NEW WALL. FIELD VERIFY PRIOR TO CONSTRUCTION. REWORK AS REQUIRED.
 17. EXISTING STORM PIPING RISER TO FLOOR BELOW TO BE REWORKED AS REQUIRED DUE TO REMOVAL OF ASSOCIATED WALL. REFER TO NEW WORK FOR NEW ROUTING REQUIREMENTS.
 18. EXISTING FLOOR DRAIN TO BE REMOVED COMPLETE. REMOVE ASSOCIATED SANITARY AND VENT PIPING BACK TO NEAREST ACTIVE MAINS AND CAP.
 19. EXISTING WASHER BOX TO BE REMOVED COMPLETE. REMOVE PIPING BACK TO NEAREST ACTIVE MAINS AND CAP.
 20. REMOVE EXISTING SINK COMPLETE. REMOVE PIPING BACK AS REQUIRED FOR NEW SINK INSTALLATION IN NEARBY LOCATION.

EXISTING SANITARY SYSTEM REQUIREMENTS:
EXISTING SANITARY BEING REUSED TO BE SCOPED, LOCATED/CAMERA'D AND FIELD VERIFIED. REPORT FINDINGS AND LAYOUT TO ENGINEER/ARCHITECT PRIOR TO CONSTRUCTION. ALL EXISTING SANITARY PIPING IN PROJECT AREA TO BE JETTED BACK TO BUILDING SERVICE ENTRANCE.

EXPOSED PIPING PAINTING REQUIREMENTS:
ALL EXPOSED PIPING, EXISTING AND NEW, TO BE PAINTED INSIDE OF PROJECT AREA. COORDINATE FINISHES WITH ARCHITECT. PATCH AND REINSULATE EXISTING PIPING AS REQUIRED TO ALLOW FOR PAINTING APPLICATION. ALL EXPOSED PIPING MUST HAVE PAINT COMPATIBLE SURFACES.



UPPER LEVEL - PLUMBING PLAN (DEMOLITION)
SCALE: 1/8" = 1'-0"

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ENGINEERING GROUP, LLC
CONSULTING ENGINEERS
3730 Taba Drive, Suite 200
Uniontown, Ohio 44685
330.899.4955 | epic-ee.com

ISSUE / REVISION	DATE

PROJECT NO. 24013.000

UPPER LEVEL - PLUMBING PLAN (DEMOLITION)

P102



ISSUE / REVISION	DATE

PROJECT NO. 24013.000

LOWER LEVEL - PLUMBING WATER/GAS PLAN (NEW WORK)
P201

GENERAL NOTES

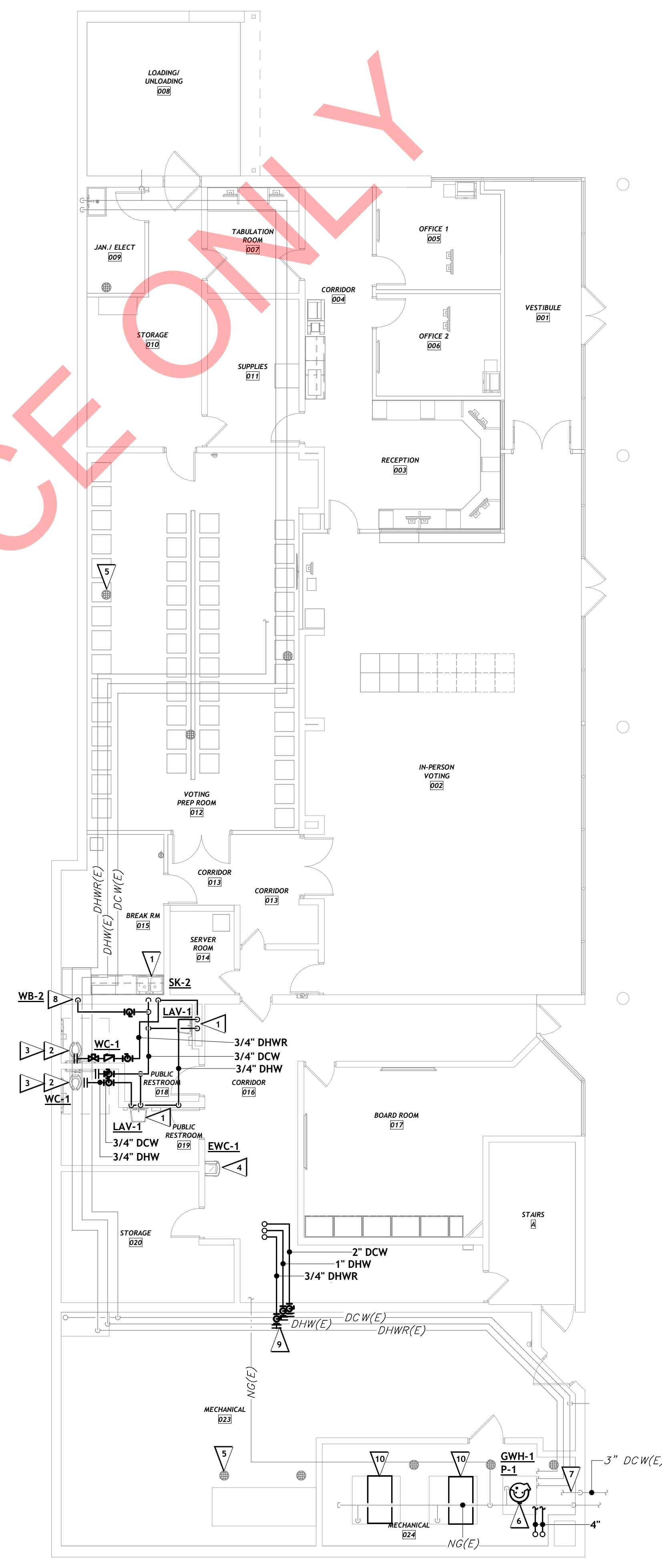
- PLUMBING VENTS SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ALL OUTDOOR AIR INTAKES.
- NATURAL GAS PIPING EXPOSED TO ELEMENTS SHALL BE PAINTED WITH TWO COATS OF RUST PROHIBITED PAINT. COORDINATE FINAL COLOR OF PAINT WITH OWNER AND ARCHITECT. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- PVC PIPING SHALL NOT BE ALLOWED WITHIN A RETURN AIR PLENUM. ALL PIPING UTILIZED IN A RETURN AIR PLENUM IS TO BE LABELED BY THE MANUFACTURER WITH A FLAME-SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS AS TESTED UNDER ASTM E 84.
- REFER TO ARCHITECTURAL PLANS AND DETAILS FOR EXACT DIMENSIONS, ELEVATIONS AND LOCATIONS OF EQUIPMENT AND FIXTURES.
- PLUMBING PIPING INSTALLATION SHALL BE COORDINATED WITH OTHER TRADES AS TO NOT HINDER ACCESS TO EQUIPMENT. INSTALLATION OF PIPING SHALL ENABLE ACCESS TO VALVES ABOVE CEILING WHILE ALLOWING MINIMUM OF 8" CLEAR FOR CEILING REMOVAL.
- REFER TO PLUMBING ISOMETRICS FOR ANY SANITARY AND VENT SIZES NOT INDICATED ON THE PLANS.
- REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR DESIGN REQUIREMENTS OF PENETRATIONS THROUGH STRUCTURAL ELEMENTS.
- THE PLUMBING CONTRACTOR TO VERIFY INVERT ELEVATIONS AND LOCATION OF EXISTING UNDERGROUND SANITARY WASTE PIPING IN FIELD PRIOR TO CONSTRUCTION. NOTIFY OWNER AND ARCHITECT IMMEDIATELY IF DRAINAGE BY GRAVITY CANNOT BE ACHIEVED. DRAWINGS BASED ON ORIGINAL DESIGN DOCUMENTS, CURRENT ELEVATIONS UNKNOWN.
- EXISTING UNDERFLOOR SANITARY IS ASSUMED FROM LOCATION OF EXISTING CLEANOUTS. THE PLUMBING CONTRACTOR SHALL VERIFY EXACT LOCATION OF PIPING PRIOR TO ANY SAW-CUTTING.
- THE PLUMBING CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING NECESSARY TO REPAIR DAMAGE CAUSED BY THE INSTALLATION ACTIVITIES PERFORMED BY THE CONTRACTOR. ALL REPAIRED WALLS, CEILING, FLOORS, ETC... SHALL MATCH EXISTING CONDITIONS.
- FIELD VERIFY EXISTING PIPING ROUTING AND SIZES FOR TIE IN TO SERVE NEW FIXTURES PRIOR TO CONSTRUCTION.

REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)

- NEW LAV/SINK. EXTEND 1/2" DCW AND 1/2" DHW TO LAV/SINK.
- NEW FIXTURE IN APPROXIMATELY SAME LOCATION AS REMOVED. IT IS ACCEPTABLE TO REUSE EXISTING PIPING SERVING REMOVED FIXTURE IF IT IS THE SAME SIZE OR EQUAL TO SPECIFIED SERVING NEW FIXTURE.
- NEW WATER CLOSET. EXTEND 1-1/4" DCW TO WATER CLOSET WITH HAMMER ARRESTOR HAL-1. EXTEND PIPING FROM NEARBY EXISTING MAINS. EXISTING PIPING SIZES TO MATCH OR EXCEED FIXTURE CONNECTION SIZES.
- NEW WATER COOLER IN SAME LOCATION AS REMOVED. RECONNECT TO EXISTING PIPING AS REQUIRED.
- EXISTING FLOOR DRAIN. TYPICAL.
- NEW GAS FIRED DOMESTIC WATER HEATER INSTALLED ON EXISTING CONCRETE HOUSEKEEPING PAD WITH NEW RECIRC PUMP AND EXPANSION TANK. EXTEND DCW, DHW, DHWR AND NG PIPING AND CONNECT PER DETAIL AND MANUFACTURER REQUIREMENTS (APPROX 76 CFH). EXTEND 4" COMBUSTION AIR AND FLUE PIPING AND TERMINATE THROUGH ROOF WITH CONCENTRIC VENTING KIT PER MANUFACTURER REQUIREMENTS.
- EXISTING DOMESTIC WATER SERVICE ENTRANCE TO BE REWORKED AS REQUIRED TO ALLOW FOR INSTALLATION OF NEW REDUCED PRESSURE BACKFLOW ASSEMBLY. REVISE LAYOUT AS REQUIRED TO ALLOW FOR INSTALLATION OF NEW BACKFLOW PREVENTER IN ACCORDANCE WITH AHJ REQUIREMENTS. COORDINATE WITH PPC. PROVIDE BACKFLOW PREVENTER AND VALVES SEPARATELY AS REQUIRED DUE TO LIMITED SPACE FOR INSTALLATION. DO NOT INSTALL IN VERTICAL. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS.
- EXTEND 1/2" DCW PIPING DOWN IN WALL TO WALL BOX.
- TIE INTO EXISTING MAINS AND EXTEND AS SHOWN WITH SHUTOFF VALVES. MODIFY EXISTING MAINS AS REQUIRED TO ALLOW FOR TIE IN. TYPICAL.
- RECONNECT TO EXISTING AND EXTEND NEW 2" NG TO NEW BOILER (APPROX 1500 CFH EACH). CONNECT PER DETAIL AND MANUFACTURER REQUIREMENTS.

EXPOSED PIPING PAINTING REQUIREMENTS:
ALL EXPOSED PIPING, EXISTING AND NEW, TO BE PAINTED INSIDE OF PROJECT AREA. COORDINATE FINISHES WITH ARCHITECT. PATCH AND REINSULATE EXISTING PIPING AS REQUIRED TO ALLOW FOR PAINTING APPLICATION. ALL EXPOSED PIPING MUST HAVE PAINT COMPATIBLE SURFACES.

FOR REFERENCE ONLY

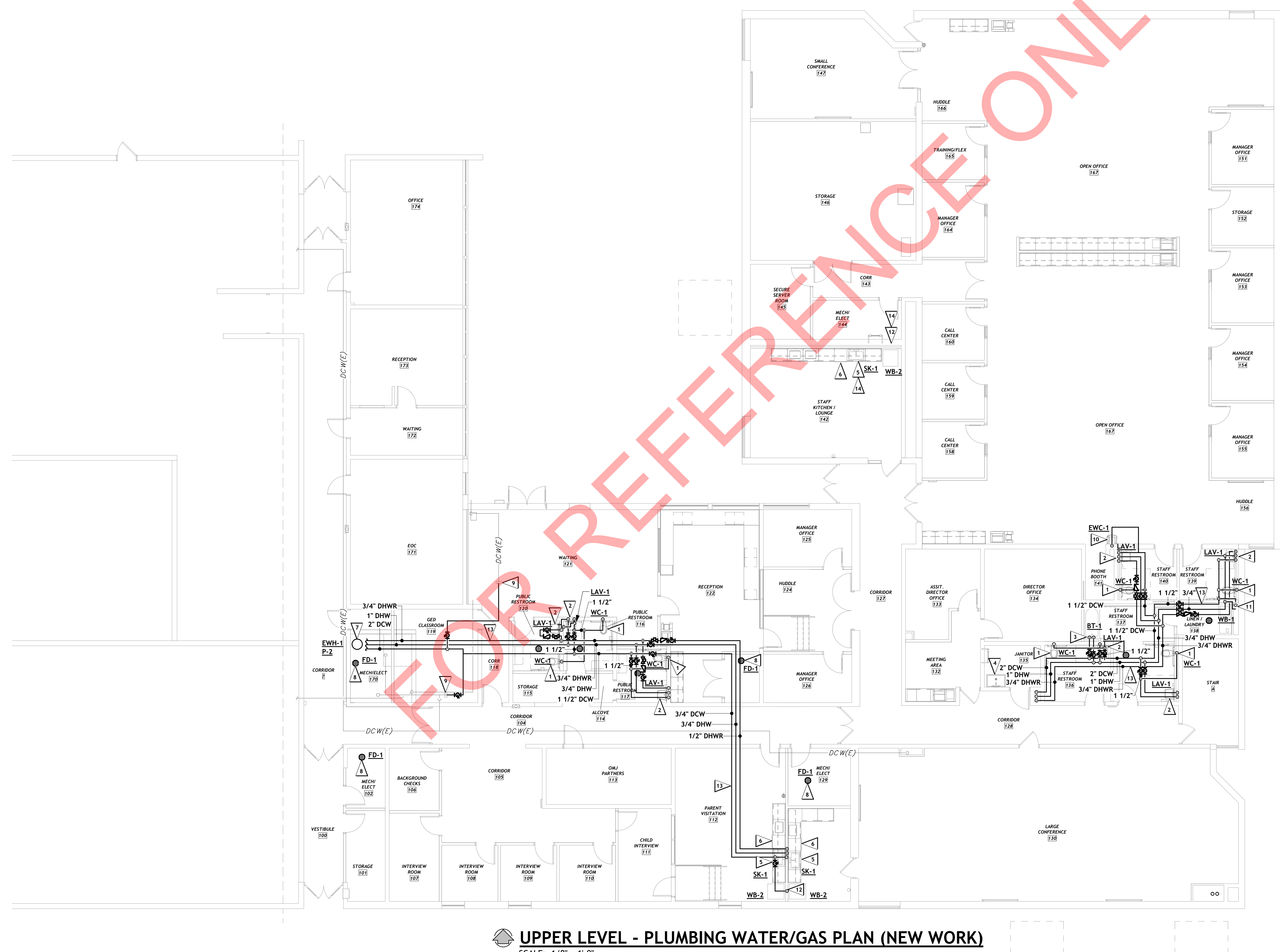


LOWER LEVEL - PLUMBING WATER/GAS PLAN (NEW WORK)
SCALE: 1/8" = 1'-0"



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EXPOSED PIPING PAINTING REQUIREMENTS:
ALL EXPOSED PIPING, EXISTING AND NEW, TO BE PAINTED INSIDE OF PROJECT AREA. COORDINATE FINISHES WITH ARCHITECT. PATCH AND REINSULATE EXISTING PIPING AS REQUIRED TO ALLOW FOR PAINTING APPLICATION. ALL EXPOSED PIPING MUST HAVE PAINT COMPATIBLE SURFACES.



UPPER LEVEL - PLUMBING WATER/GAS PLAN (NEW WORK)
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. PLUMBING VENTS SHALL BE LOCATED A MINIMUM OF 10'-0". FROM ALL OUTDOOR AIR INTAKES.
2. NATURAL GAS PIPING EXPOSED TO ELEMENTS SHALL BE PAINTED WITH TWO COATS OF RUST PROHIBITED PAINT. COORDINATE FINAL COLOR OF PAINT WITH OWNER AND ARCHITECT. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
3. PVC PIPING SHALL NOT BE ALLOWED WITHIN A RETURN AIR PLENUM. ALL PIPING UTILIZED IN A RETURN AIR PLENUM IS TO BE LABELED BY THE MANUFACTURER WITH A FLAME-SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS AS TESTED UNDER ASTM E 84.
4. REFER TO ARCHITECTURAL PLANS AND DETAILS FOR EXACT DIMENSIONS, ELEVATIONS AND LOCATIONS OF EQUIPMENT AND FIXTURES.
5. PLUMBING PIPING INSTALLATION SHALL BE COORDINATED WITH OTHER TRADES AS TO NOT HINDER ACCESS TO EQUIPMENT. INSTALLATION OF PIPING SHALL ENABLE ACCESS TO VALVES ABOVE CEILING WHILE ALLOWING MINIMUM OF 8" CLEAR FOR CEILING REMOVAL.
6. REFER TO PLUMBING ISOMETRICS FOR ANY SANITARY AND VENT SIZES NOT INDICATED ON THE PLANS.
7. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR DESIGN REQUIREMENTS OF PENETRATIONS THROUGH STRUCTURAL ELEMENTS.
8. THE PLUMBING CONTRACTOR TO VERIFY INVERT ELEVATIONS AND LOCATION OF EXISTING UNDERGROUND SANITARY WASTE PIPING IN FIELD PRIOR TO CONSTRUCTION. NOTIFY OWNER AND ARCHITECT IMMEDIATELY IF DRAINAGE BY GRAVITY CANNOT BE ACHIEVED. DRAWINGS BASED ON ORIGINAL DESIGN DOCUMENTS, CURRENT ELEVATIONS UNKNOWN.
9. EXISTING UNDERFLOOR SANITARY IS ASSUMED FROM LOCATION OF EXISTING CLEANOUTS. THE PLUMBING CONTRACTOR SHALL VERIFY EXACT LOCATION OF PIPING PRIOR TO ANY SAW-CUTTING.
10. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING NECESSARY TO REPAIR DAMAGE CAUSED BY THE INSTALLATION ACTIVITIES PERFORMED BY THE CONTRACTOR. ALL REPAIRED WALLS, CEILINGS, FLOORS, ETC., SHALL MATCH EXISTING CONDITIONS.
11. FIELD VERIFY EXISTING PIPING ROUTING AND SIZES FOR TIE IN TO SERVE NEW FIXTURES PRIOR TO CONSTRUCTION.

REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)

- 1 NEW WATER CLOSET. EXTEND 1-1/4" DCW TO WATER CLOSET WITH HAMMER ARRESTOR HA-1.
- 2 NEW LAV. EXTEND 1/2" DCW AND 1/2" DHW TO LAV.
- 3 NEW BATHTUB. EXTEND 1/2" DCW AND 1/2" DHW.
- 4 EXISTING MOP BASIN.
- 5 NEW SINK. EXTEND 1/2" DCW 1/2" DHW TO SINK.
- 6 EXTEND DRAIN LINE FROM DISHWASHER AND CONNECT TO TAIL PIECE OF ADJACENT SINK PRIOR TO TRAP. EXTEND 3/8" DHW TO DISHWASHER.
- 7 NEW ELECTRIC HOT WATER HEATER, RECIRC PUMP AND EXPANSION TANK. EXTEND DCW, DHW AND DHWR PIPING AS SHOWN IN DETAIL.
- 8 NEW FLOOR DRAIN. CUT AND PATCH FLOOR AS REQUIRED. COORDINATE FINAL LOCATION IN ROOM WITH NEARBY EQUIPMENT LOCATIONS.
- 9 TIE INTO EXISTING AND EXTEND AS SHOWN WITH NEW SHUTOFF VALVE.
- 10 NEW WATER COOLER IN SAME LOCATION AS REMOVED. EXTEND NEW 1/2" DCW PIPING AS SHOWN.
- 11 EXTEND 1/2" DCW AND 1/2" DHW PIPING TO WALL BOX PER DETAIL.
- 12 EXTEND 1/2" DCW PIPING DOWN IN WALL TO WALL BOX PER DETAIL.
- 13 ROUTE PIPING IN JOIST SPACE WHERE POSSIBLE.
- 14 TIE INTO NEARBY EXISTING MAINS SERVING REMOVED FIXTURES AND EXTEND TO SERVE NEW.



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PROJECT NO. 24013.000

UPPER LEVEL - PLUMBING WATER/GAS PLAN (NEW WORK)

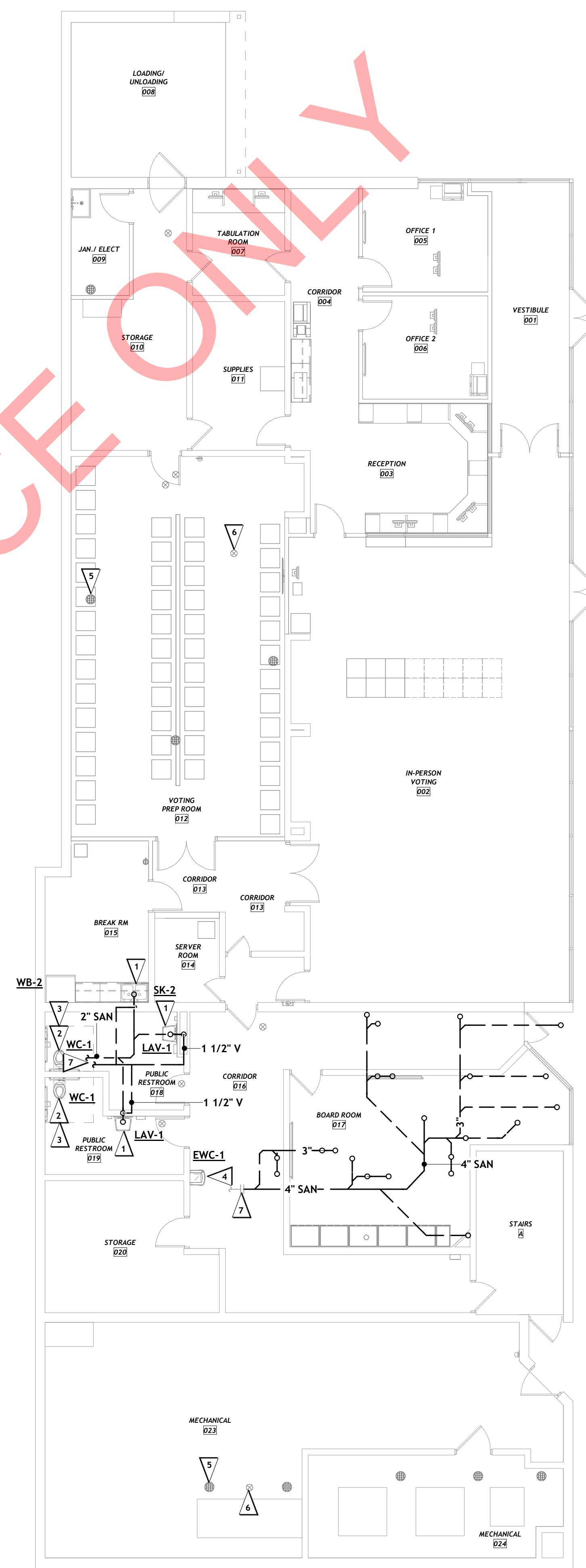
P202



EXISTING SANITARY SYSTEM REQUIREMENTS:
 EXISTING SANITARY BEING REUSED TO BE SCOPED, LOCATED/CAMERA'D AND FIELD VERIFIED. REPORT FINDINGS AND LAYOUT TO ENGINEER/ARCHITECT PRIOR TO CONSTRUCTION. ALL EXISTING SANITARY PIPING IN PROJECT AREA TO BE JETTED BACK TO BUILDING SERVICE ENTRANCE.

EXPOSED PIPING PAINTING REQUIREMENTS:
 ALL EXPOSED PIPING, EXISTING AND NEW, TO BE PAINTED INSIDE OF PROJECT AREA. COORDINATE FINISHES WITH ARCHITECT. PATCH AND REINSULATE EXISTING PIPING AS REQUIRED TO ALLOW FOR PAINTING APPLICATION. ALL EXPOSED PIPING MUST HAVE PAINT COMPATIBLE SURFACES.

FOR REFERENCE ONLY



GENERAL NOTES

1. PLUMBING VENTS SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ALL OUTDOOR AIR INTAKES.
2. NATURAL GAS PIPING EXPOSED TO ELEMENTS SHALL BE PAINTED WITH TWO COATS OF RUST PROHIBITED PAINT. COORDINATE FINAL COLOR OF PAINT WITH OWNER AND ARCHITECT. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
3. PVC PIPING SHALL NOT BE ALLOWED WITHIN A RETURN AIR PLENUM. ALL PIPING UTILIZED IN A RETURN AIR PLENUM IS TO BE LABELED BY THE MANUFACTURER WITH A FLAME-SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS AS TESTED UNDER ASTM E 84.
4. REFER TO ARCHITECTURAL PLANS AND DETAILS FOR EXACT DIMENSIONS, ELEVATIONS AND LOCATIONS OF EQUIPMENT AND FIXTURES.
5. PLUMBING PIPING INSTALLATION SHALL BE COORDINATED WITH OTHER TRADES AS TO NOT HINDER ACCESS TO EQUIPMENT. INSTALLATION OF PIPING SHALL ENABLE ACCESS TO VALVES ABOVE CEILING WHILE ALLOWING MINIMUM OF 8" CLEAR FOR CEILING REMOVAL.
6. REFER TO PLUMBING ISOMETRICS FOR ANY SANITARY AND VENT SIZES NOT INDICATED ON THE PLANS.
7. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR DESIGN REQUIREMENTS OF PENETRATIONS THROUGH STRUCTURAL ELEMENTS.
8. THE PLUMBING CONTRACTOR TO VERIFY INVERT ELEVATIONS AND LOCATION OF EXISTING UNDERGROUND SANITARY WASTE PIPING IN FIELD PRIOR TO CONSTRUCTION. NOTIFY OWNER AND ARCHITECT IMMEDIATELY IF DRAINAGE BY GRAVITY CANNOT BE ACHIEVED. DRAWINGS BASED ON ORIGINAL DESIGN DOCUMENTS, CURRENT ELEVATIONS UNKNOWN.
9. EXISTING UNDERFLOOR SANITARY IS ASSUMED FROM LOCATION OF EXISTING CLEANOUTS. THE PLUMBING CONTRACTOR SHALL VERIFY EXACT LOCATION OF PIPING PRIOR TO ANY SAW-CUTTING.
10. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING NECESSARY TO REPAIR DAMAGE CAUSED BY THE INSTALLATION ACTIVITIES PERFORMED BY THE CONTRACTOR. ALL REPAIRED WALLS, CEILINGS, FLOORS, ETC... SHALL MATCH EXISTING CONDITIONS.
11. FIELD VERIFY EXISTING PIPING ROUTING AND SIZES FOR TIE IN TO SERVE NEW FIXTURES PRIOR TO CONSTRUCTION.

REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)

- 1. NEW LAV/SINK. EXTEND 1-1/2" VENT TO LAV. EXTEND 2" SAN FROM BELOW GRADE. EXTEND 1-1/2" SAN TO LAV.
- 2. NEW FIXTURE IN APPROXIMATELY SAME LOCATION AS REMOVED. IT IS ACCEPTABLE TO REUSE EXISTING PIPING SERVING REMOVED FIXTURE IF IT IS THE SAME SIZE OR EQUAL TO SPECIFIED SERVING NEW FIXTURE. REFER TO SANITARY ISOMETRICS AND MATCH EQUIVALENT FIXTURE PIPING, TRAPPING AND VENTING SHOWN ELSEWHERE IN SYSTEM.
- 3. NEW WATER CLOSET. EXTEND 3" SAN AND 2" VENT TO WATER CLOSET. EXTEND PIPING FROM NEARBY EXISTING MAINS. EXISTING PIPING SIZES TO MATCH OR EXCEED FIXTURE CONNECTION SIZES. CUT AND PATCH FLOOR AS REQUIRED DUE TO SANITARY EXTENSION TO NEW FLOOR MOUNT FIXTURE WHERE REPLACING WALL MOUNT FIXTURE.
- 4. NEW WATER COOLER IN SAME LOCATION AS REMOVED. RECONNECT TO EXISTING PIPING AS REQUIRED.
- 5. EXISTING FLOOR DRAIN. TYPICAL.
- 6. EXISTING FLOOR CLEANOUT. TYPICAL.
- 7. TIE INTO EXISTING NEARBY VENT PIPING. MINIMUM 2". TIE INTO NEARBY EXISTING SANITARY PIPING. MINIMUM 2".

LOWER LEVEL - PLUMBING WASTE PLAN (NEW WORK)
 SCALE: 1/8" = 1'-0"



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LOWER LEVEL - PLUMBING WASTE PLAN (NEW WORK)

P203



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 CONSULTING ENGINEERS
 3730 Toba Drive, Suite 200
 Uniontown, Ohio 44685
 330.899.4955 | epic-eeq.com

FILE: C:\Users\swabst\OneDrive - Epic Engineering Group, LLC\Documents\24002-Carroll County Commissioners Office (MEP)_swabst\DWG\UFRH.rvt
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EXISTING SANITARY SYSTEM REQUIREMENTS:
EXISTING SANITARY BEING REUSED TO BE SCOPED, LOCATED/CAMERA'D AND FIELD VERIFIED. REPORT FINDINGS AND LAYOUT TO ENGINEER/ARCHITECT PRIOR TO CONSTRUCTION. ALL EXISTING SANITARY PIPING IN PROJECT AREA TO BE JETTED BACK TO BUILDING SERVICE ENTRANCE.

EXPOSED PIPING PAINTING REQUIREMENTS:
ALL EXPOSED PIPING, EXISTING AND NEW, TO BE PAINTED INSIDE OF PROJECT AREA. COORDINATE FINISHES WITH ARCHITECT. PATCH AND REINSULATE EXISTING PIPING AS REQUIRED TO ALLOW FOR PAINTING APPLICATION. ALL EXPOSED PIPING MUST HAVE PAINT COMPATIBLE SURFACES.

- GENERAL NOTES**
1. PLUMBING VENTS SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ALL OUTDOOR AIR INTAKES.
 2. NATURAL GAS PIPING EXPOSED TO ELEMENTS SHALL BE PAINTED WITH TWO COATS OF RUST PROHIBITED PAINT. COORDINATE FINAL COLOR OF PAINT WITH OWNER AND ARCHITECT. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
 3. PVC PIPING SHALL NOT BE ALLOWED WITHIN A RETURN AIR PLENUM. ALL PIPING UTILIZED IN A RETURN AIR PLENUM IS TO BE LABELED BY THE MANUFACTURER WITH A FLAME-SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS AS TESTED UNDER ASTM E 84.
 4. REFER TO ARCHITECTURAL PLANS AND DETAILS FOR EXACT DIMENSIONS, ELEVATIONS AND LOCATIONS OF EQUIPMENT AND FIXTURES.
 5. PLUMBING PIPING INSTALLATION SHALL BE COORDINATED WITH OTHER TRADES AS TO NOT HINDER ACCESS TO EQUIPMENT. INSTALLATION OF PIPING SHALL ENABLE ACCESS TO VALVES ABOVE CEILING WHILE ALLOWING MINIMUM OF 8" CLEAR FOR CEILING REMOVAL.
 6. REFER TO PLUMBING ISOMETRICS FOR ANY SANITARY AND VENT SIZES NOT INDICATED ON THE PLANS.
 7. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR DESIGN REQUIREMENTS OF PENETRATIONS THROUGH STRUCTURAL ELEMENTS.
 8. THE PLUMBING CONTRACTOR TO VERIFY INVERT ELEVATIONS AND LOCATION OF EXISTING UNDERGROUND SANITARY WASTE PIPING IN FIELD PRIOR TO CONSTRUCTION. NOTIFY OWNER AND ARCHITECT IMMEDIATELY IF DRAINAGE BY GRAVITY CANNOT BE ACHIEVED. DRAWINGS BASED ON ORIGINAL DESIGN DOCUMENTS, CURRENT ELEVATIONS UNKNOWN.
 9. EXISTING UNDERFLOOR SANITARY IS ASSUMED FROM LOCATION OF EXISTING CLEANOUTS. THE PLUMBING CONTRACTOR SHALL VERIFY EXACT LOCATION OF PIPING PRIOR TO ANY SAW-CUTTING.
 10. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING NECESSARY TO REPAIR DAMAGE CAUSED BY THE INSTALLATION ACTIVITIES PERFORMED BY THE CONTRACTOR. ALL REPAIRED WALLS, CEILINGS, FLOORS, ETC., SHALL MATCH EXISTING CONDITIONS.
 11. FIELD VERIFY EXISTING PIPING ROUTING AND SIZES FOR TIE IN TO SERVE NEW FIXTURES PRIOR TO CONSTRUCTION.

REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)

- 1 NEW WATER CLOSET. EXTEND 3" SAN AND 2" VENT TO WATER CLOSET.
- 2 NEW LAV. EXTEND 1-1/2" VENT TO LAV. EXTEND 2" SAN FROM BELOW GRADE. EXTEND 1-1/2" SAN TO LAV.
- 3 NEW BATHTUB. EXTEND 1-1/2" VENT AND 2" SAN TO BATHTUB.
- 4 EXISTING MOP BASIN.
- 5 NEW SINK. EXTEND 1-1/2" VENT TO SINK. EXTEND 2" SAN FROM BELOW GRADE. EXTEND 1-1/2" SAN TO SINK.
- 6 EXTEND DRAIN LINE FROM DISHWASHER AND CONNECT TO TAIL PIECE OF ADJACENT SINK PRIOR TO TRAP.
- 7 EXISTING STORM PIPING.
- 8 NEW FLOOR DRAIN. EXTEND 3" SAN AND 1-1/2" VENT PIPING TO SERVE FLOOR DRAIN. CUT AND PATCH FLOOR AS REQUIRED. COORDINATE FINAL LOCATION IN ROOM WITH NEARBY EQUIPMENT LOCATIONS.
- 9 EXISTING STORM PIPING RISER TO BE REWORKED AS REQUIRED TO DROP IN NEW WALL TO BELOW GRADE. REWORK ASSOCIATED STORM PIPING BELOW GRADE AS REQUIRED DUE TO RISER MODIFICATIONS. CUT AND PATCH FLOOR TO MATCH EXISTING SURROUNDING CONSTRUCTION.
- 10 NEW WATER COOLER IN SAME LOCATION AS REMOVED. EXTEND NEW 1-1/2" SAN AND VENT PIPING AS SHOWN.
- 11 EXTEND 3" SAN AND 2" VENT PIPING TO WALL BOX PER DETAIL.
- 12 3" SAN PIPING DOWN TO BELOW GRADE AND INTO LOWER LEVEL. SLEEVE AND SEAL AT LOWER LEVEL EXTERIOR WALL. TIE INTO MINIMUM 3" EXISTING SANITARY MAIN IN LOWER LEVEL MECHANICAL ROOM.
- 13 TIE INTO EXISTING SANITARY PIPING BELOW GRADE, MINIMUM SIZE TO BE EQUAL TO OR GREATER THAN NEW PIPE SIZE.
- 14 3" V.T.R.
- 15 EXTEND NEW 3" SAN AND 1-1/2" VENT TO SERVE NEW FLOOR DRAIN IN SAME LOCATION AS REMOVED.
- 16 NEW LAV/SINK. EXTEND 1-1/2" VENT TO LAV. EXTEND 1-1/2" SAN TO LAV.



UPPER LEVEL - PLUMBING WASTE PLAN (NEW WORK)
SCALE: 1/8" = 1'-0"

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CARROLL COUNTY OFFICE RENOVATION
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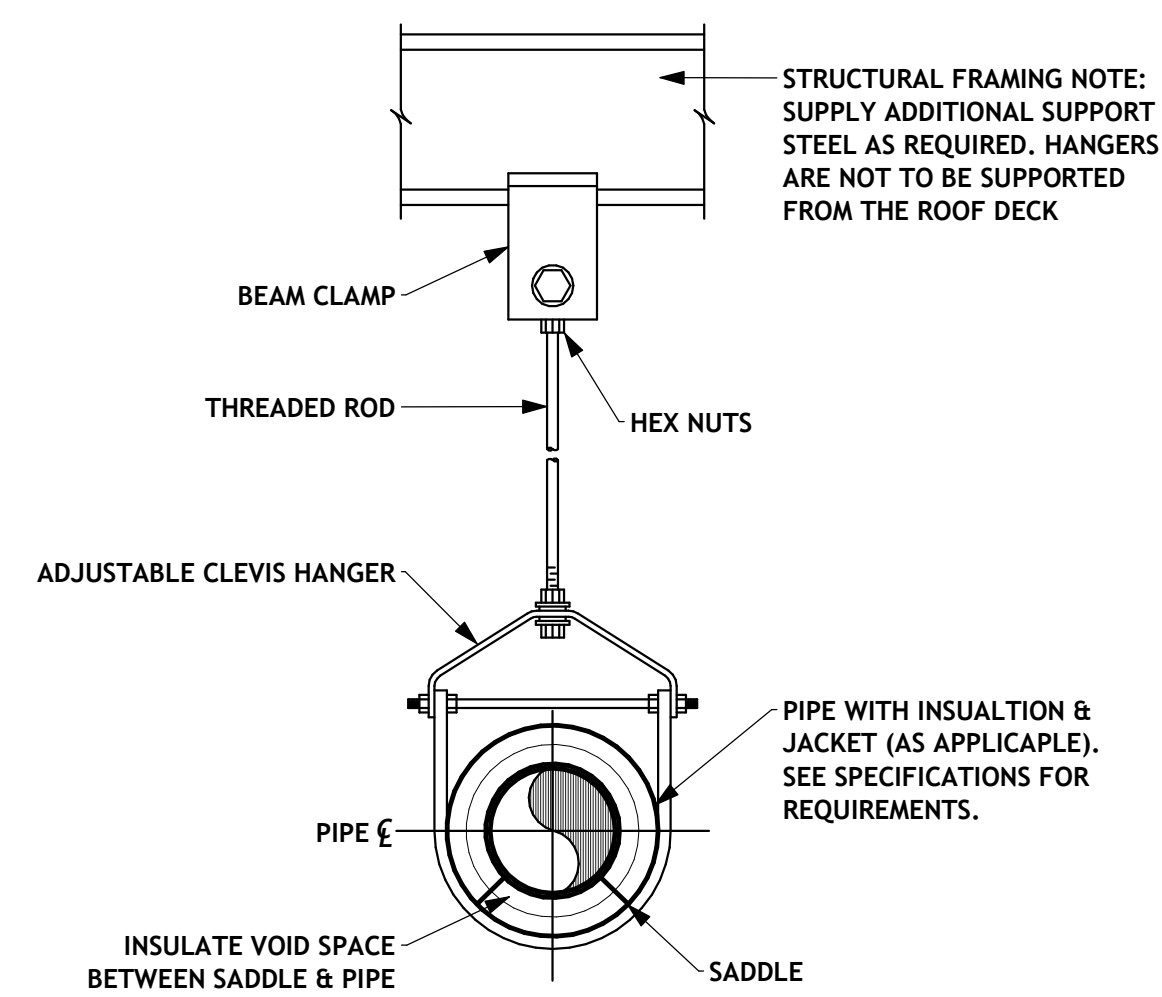
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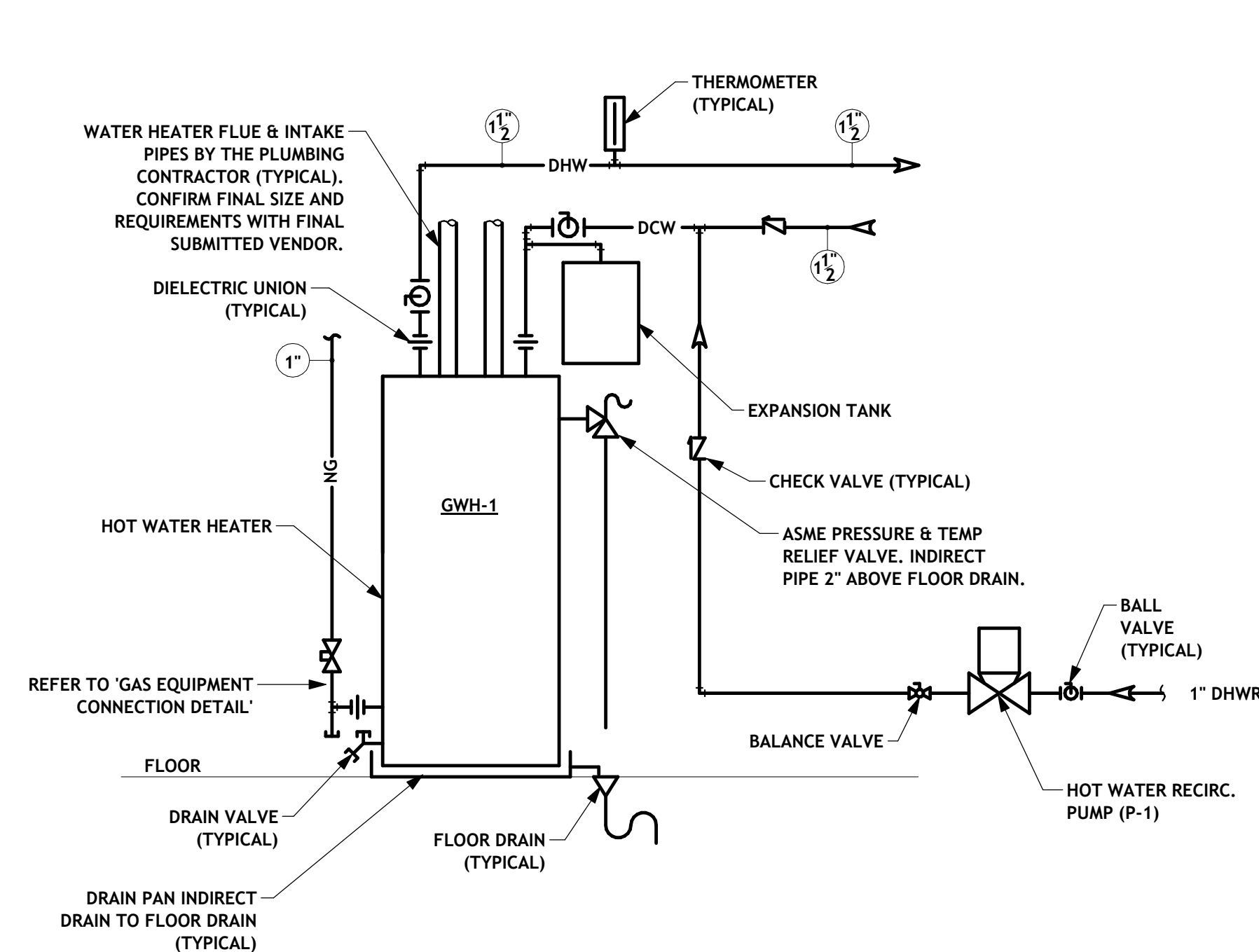
UPPER LEVEL -
PLUMBING WASTE
PLAN (NEW WORK)

P204

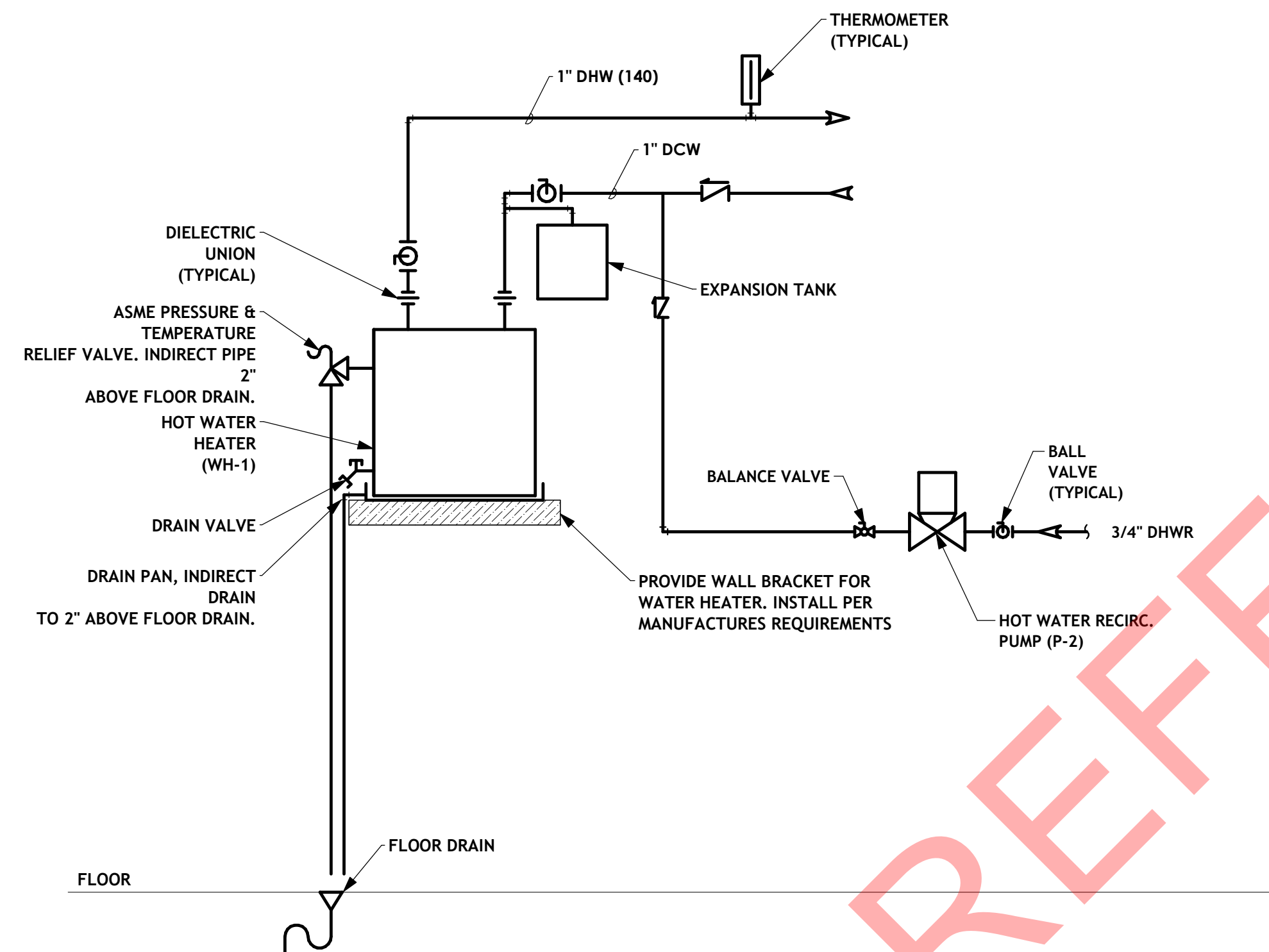




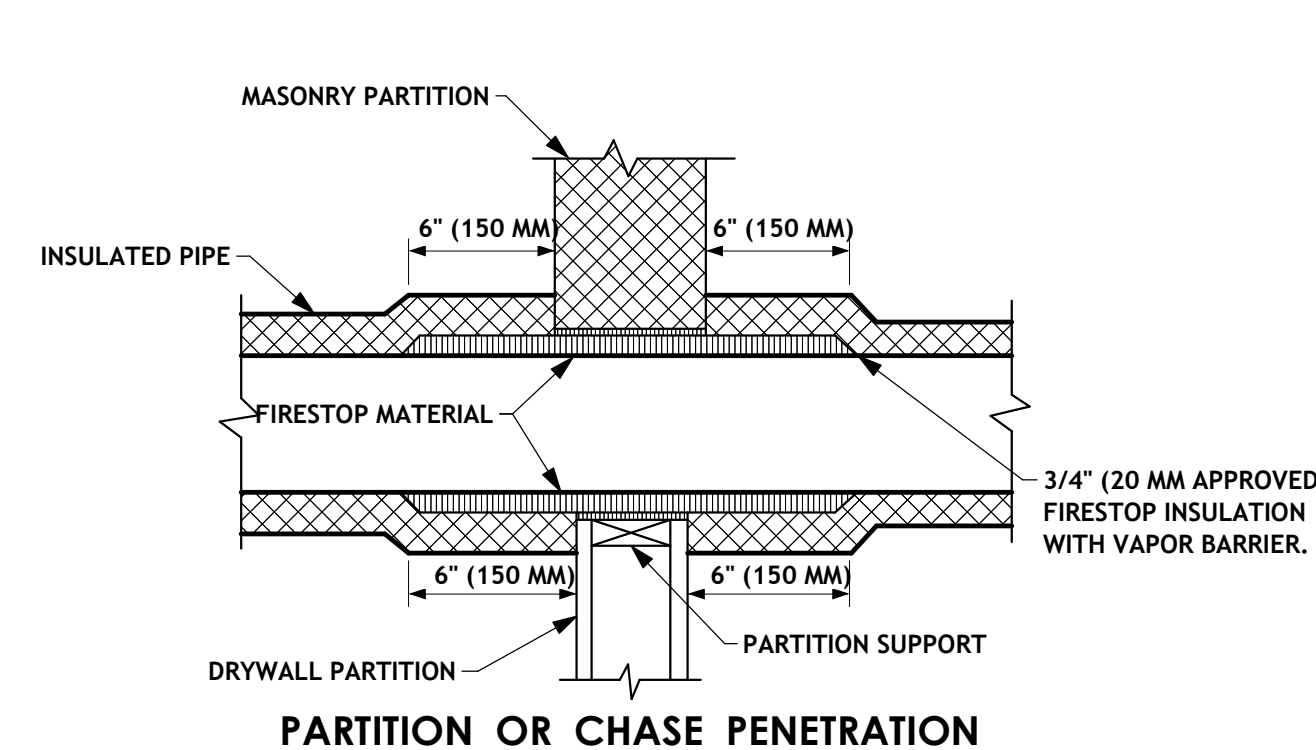
CLEVIS HANGER PIPE SUPPORT - PLUMBING
NOT TO SCALE



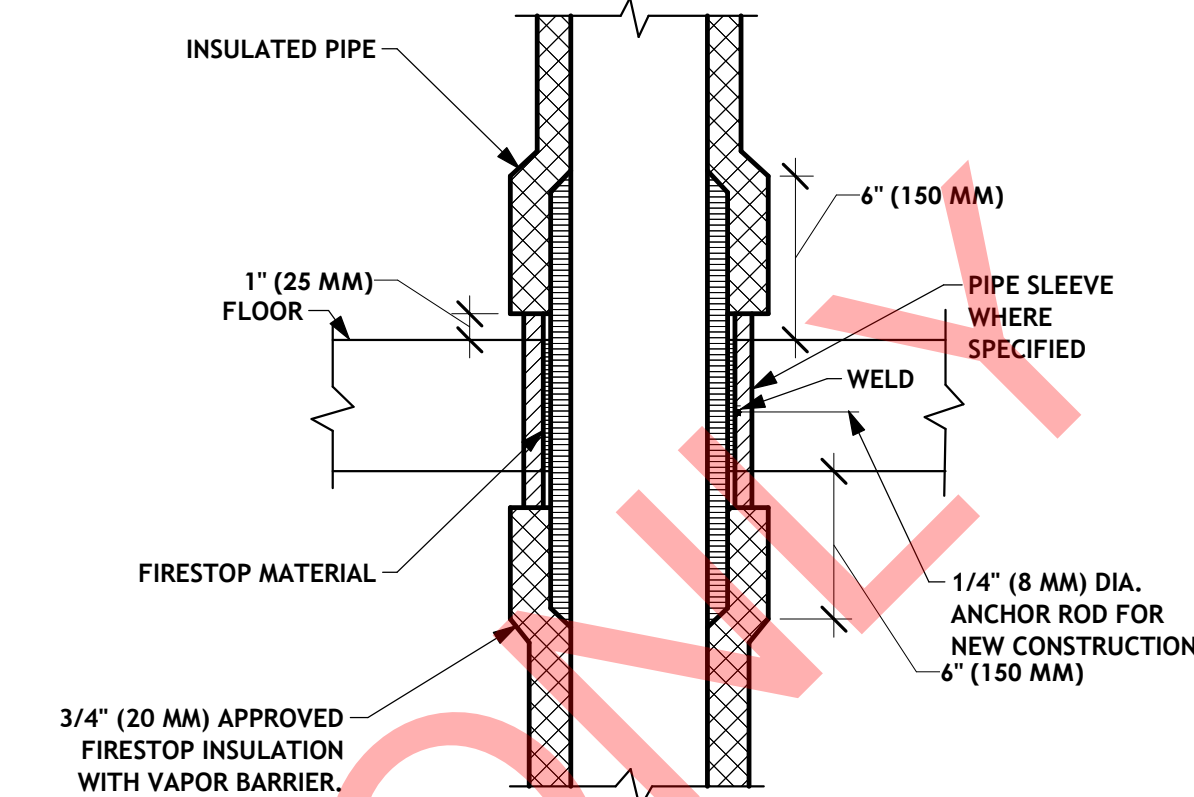
GAS FIRED DOMESTIC WATER HEATER SCHEMATIC
NOT TO SCALE



ELECTRIC DOMESTIC WATER HEATER SCHEMATIC
NOT TO SCALE



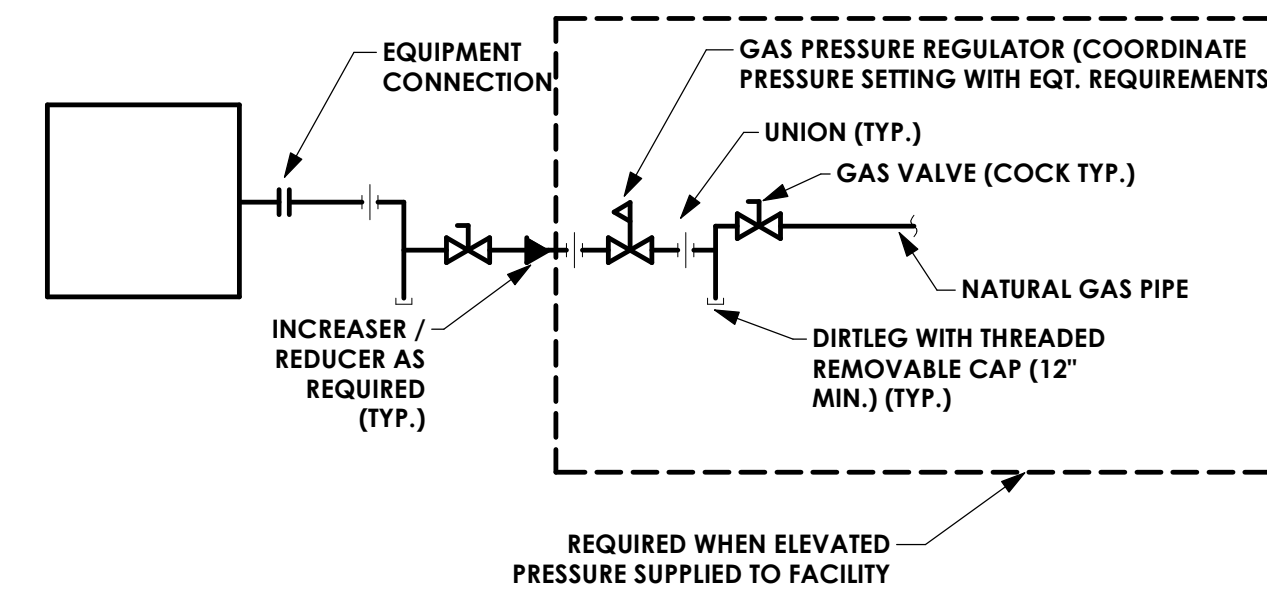
PARTITION OR CHASE PENETRATION



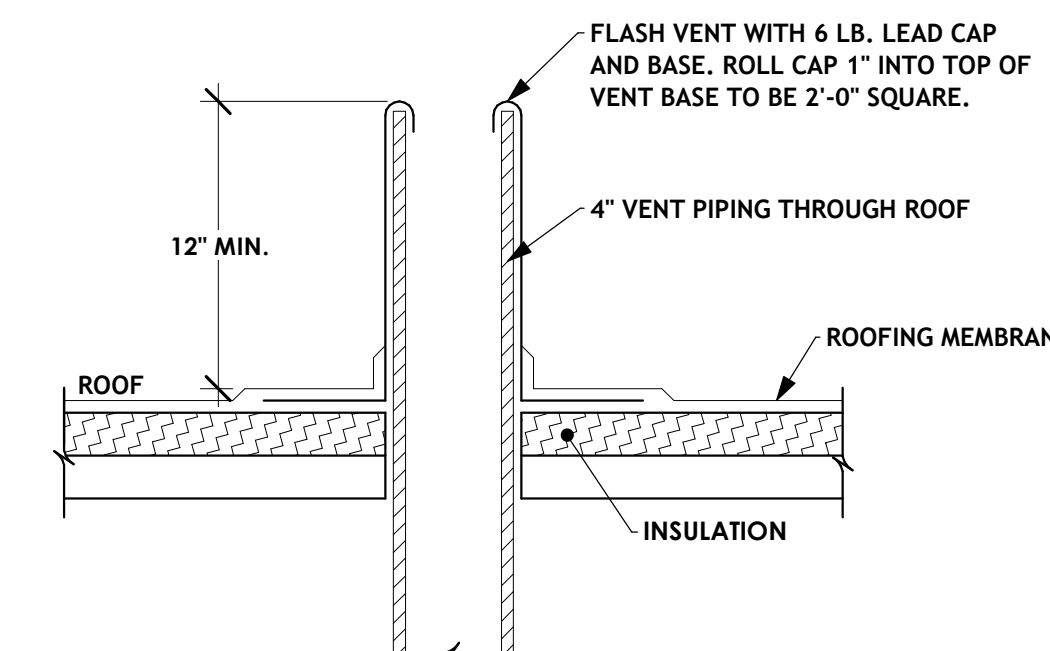
FLOOR OR DECK PENETRATION

NOTE:
1. APPLICABLE TO PENETRATIONS OF ALL FIRE RATED MEMBRANES, IN ACCORDANCE WITH NFPA 101. REFER TO SPECIFICATIONS SECTION 07270, FIRE STOPPING SYSTEMS.
2. SYSTEM NO. C-AJ-1009

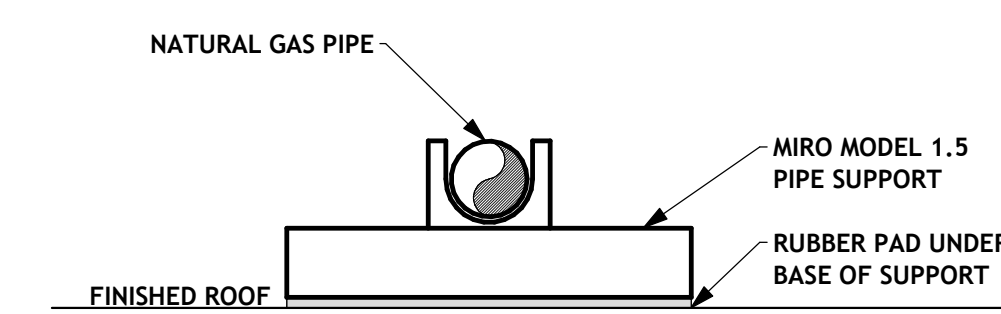
PIPE PENETRATION OF FIRE / SMOKE BARRIERS
NOT TO SCALE



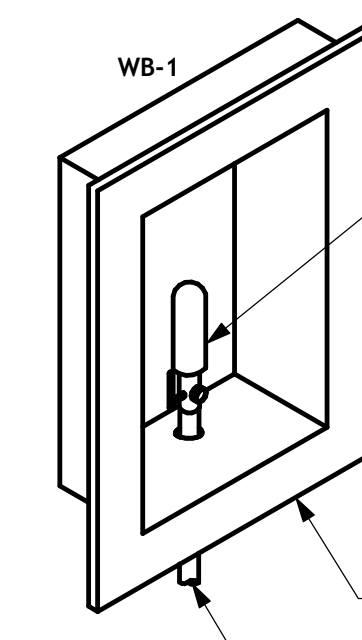
GAS EQUIPMENT CONNECTION DETAIL
NOT TO SCALE



VENT THROUGH ROOF DETAIL
NOT TO SCALE

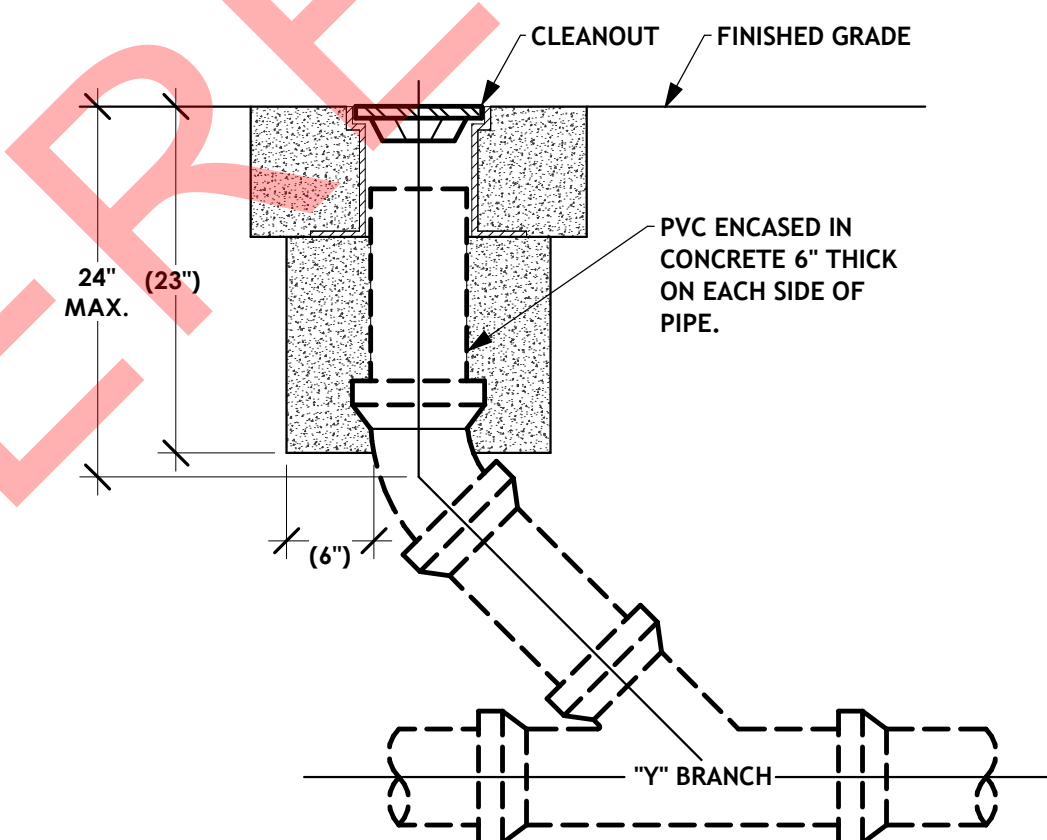


ROOF PIPE SUPPORT DETAIL
NOT TO SCALE

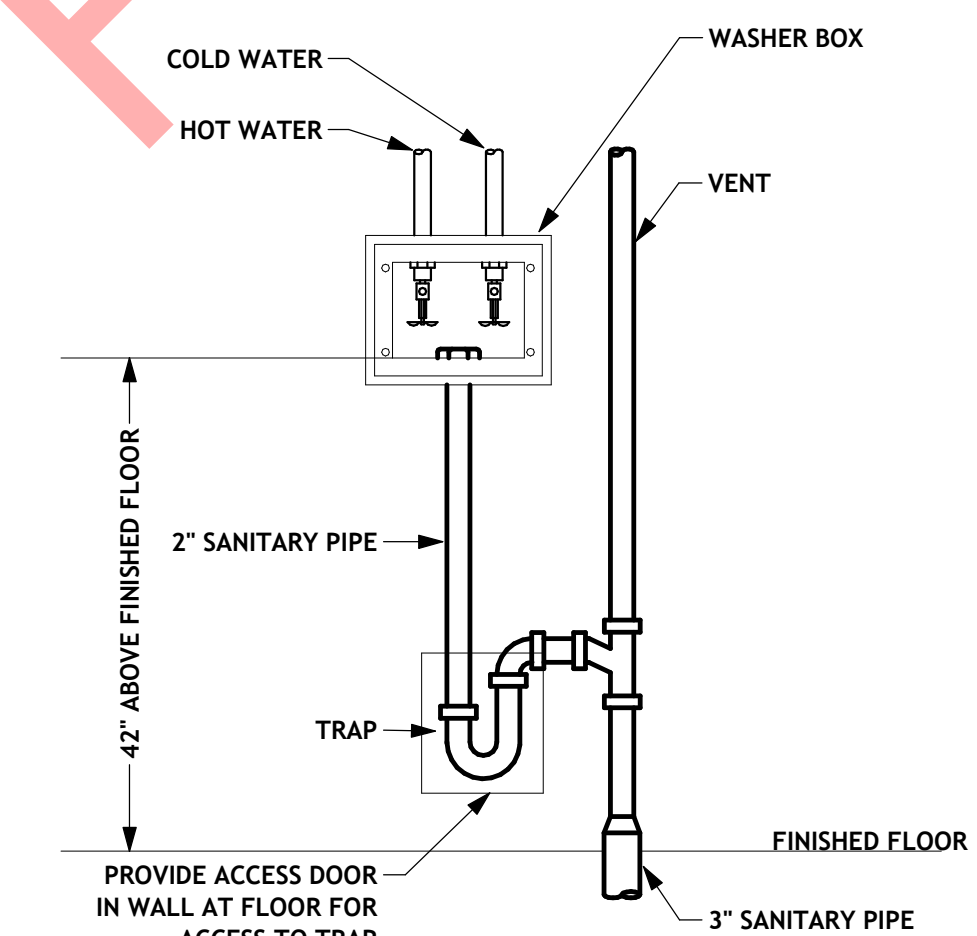


WB-SUPPLY BOX
NOT TO SCALE

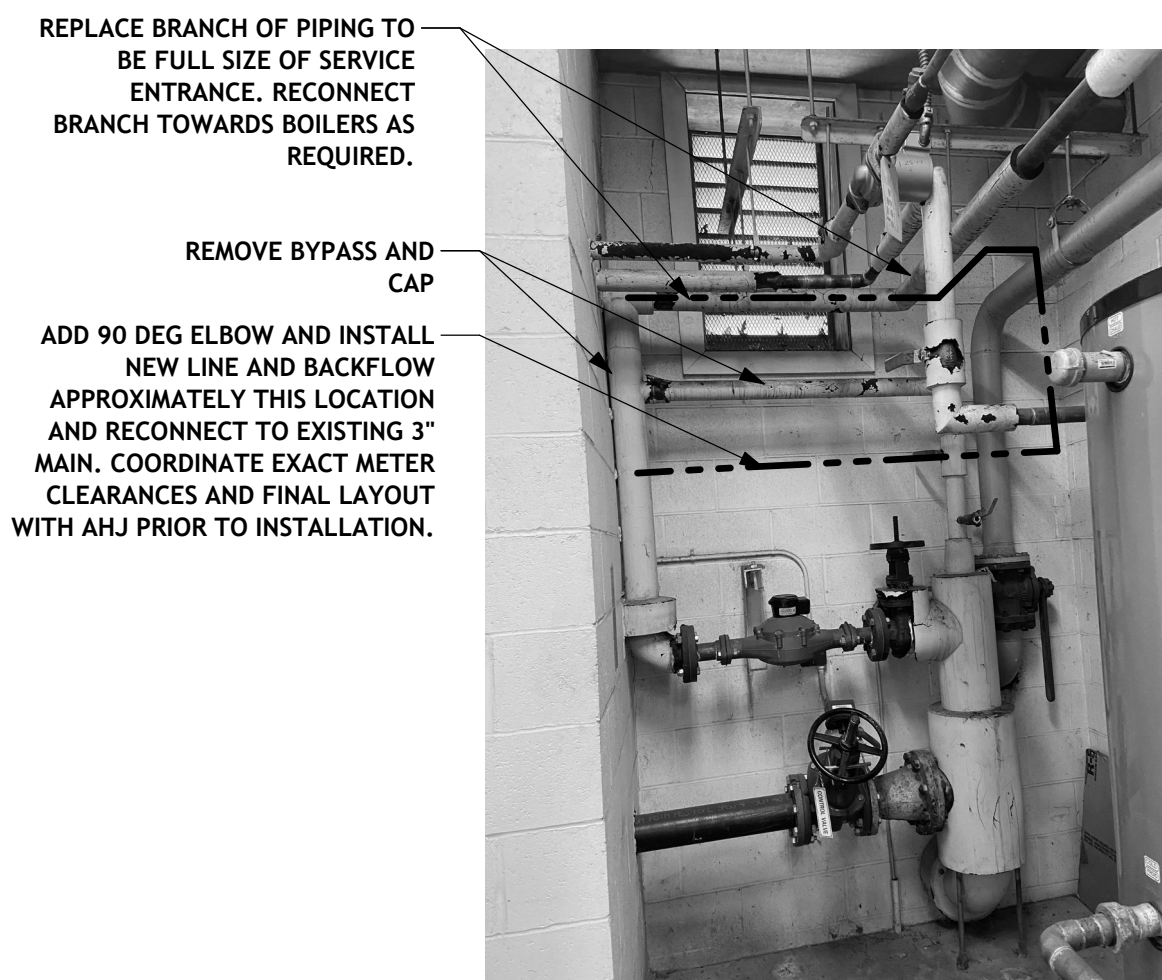
NOTES:
1.) ICE MAKER SUPPLY BOX (WB-2) BE AS SHOWN.
2.) PROVIDE WATTS SERIES 7 DOUBLE CHECK VALVE IN 1/2" SUPPLY LINE.



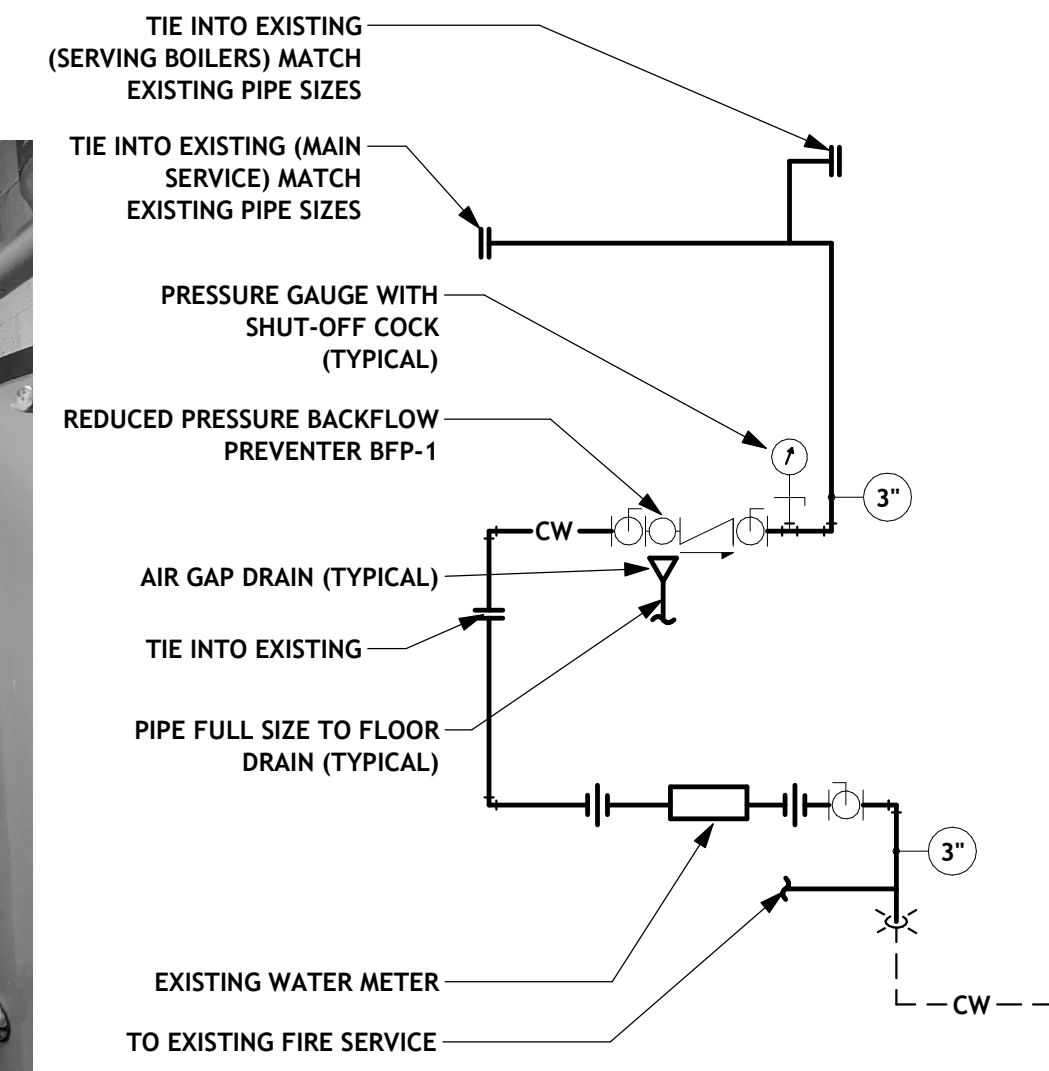
EXTERIOR CLEANOUT DETAIL
NOT TO SCALE



WASHER BOX DETAIL
NOT TO SCALE



REPLACE BRANCH OF PIPING TO BE FULL SIZE OF SERVICE ENTRANCE. RECONNECT BRANCH TOWARDS BOILERS AS REQUIRED.
REMOVE BYPASS AND CAP
ADD 90 DEG ELBOW AND INSTALL NEW LINE AND BACKFLOW PREVENTION ASSEMBLY APPROXIMATELY THIS LOCATION AND RECONNECT TO EXISTING 3" MAIN. COORDINATE EXACT METER CLEARANCES AND FINAL LAYOUT WITH AHJ PRIOR TO INSTALLATION.



DOMESTIC WATER ENTRY DETAIL
NOT TO SCALE

REDUCED PRESSURE BACKFLOW PREVENTER INSTALLATION REQUIREMENTS

- ALL PIPING TO CONFORM TO AHJ STANDARD CONSTRUCTION DRAWINGS AND SPECIFICATIONS.
- BYPASSING OF THIS ASSEMBLY IS SPECIFICALLY PROHIBITED.
- INSTALLATION OF THIS ASSEMBLY IN VAULTS IS SPECIFICALLY PROHIBITED.
- UNIONS PRIOR TO BACKFLOW PREVENTION ASSEMBLY ARE PROHIBITED.
- INSTALLED DIRECTLY AFTER THE METER SETTING AHEAD OF ANY OUTLETS.
- INSTALLED SO AS TO BE READILY ACCESSIBLE FOR INSPECTION, TESTING AND MAINTENANCE.
- PROVIDED WITH ADEQUATE SPACE FOR INSPECTION, TESTING, MAINTENANCE AND DISASSEMBLY.
- PROTECTED FROM FREEZING BY INSTALLATION WITHIN A HEATED BUILDING.
- MOUNTED IN A HORIZONTAL POSITION WITH ABUTTING SHUT-OFF VALVES, AS SUPPLIED WITH THE ASSEMBLY, THREE FEET ABOVE FINISHED FLOOR. INSTALL WITH 1'-0" MINIMUM CLEARANCE BETWEEN ASSEMBLY AND WALL.
- PROVIDED WITH ADEQUATE DRAINAGE.
- INSTALLED SO THAT THERE IS A VISIBLE FREE DISCHARGE FROM THE RELIEF PORT WITH NO EXTENSION PIPING.
- INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS. WHERE MANUFACTURER'S SPECIFICATIONS CONFLICT WITH THESE GUIDELINES, THESE GUIDELINES SHALL GOVERN.
- BECAUSE OF THEIR DESIGN, BACKFLOW PREVENTION ASSEMBLIES CREATE A CLOSED SYSTEM AND A DETECTABLE PRESSURE LOSS. BECAUSE OF THESE FACTS, THE INSTALLATION MAY ALTER THE HYDRAULICS OF THE INTERNAL PLUMBING SYSTEM. THE OWNER SHOULD CONTACT A MECHANICAL DESIGNER PRIOR TO INSTALLATION.
- UPON INSTALLATION, ASSEMBLIES MUST BE TESTED BY A BACKFLOW PREVENTION ASSEMBLY TESTER, CERTIFIED BY THE OHIO DEPARTMENT OF COMMERCE. THE ASSEMBLY MUST BE DISMANTLED, INSPECTED INTERNALLY, CLEANED, AND REPAIRED, IF NECESSARY.



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PLUMBING
SCHEDULES AND
DETAILS

P302

NO. 24002 © 2024





ISSUE / REVISION	DATE

PROJECT NO. 24013.000

LOWER LEVEL - HVAC PLAN (DEMOLITION)

M101

NO. 24002 © 2024

GENERAL NOTES

1. THIS PLAN REPRESENTS THE MECHANICAL EXISTING CONDITIONS AND THE INTENT OF THE MECHANICAL DEMOLITION AND REMOVAL OF THE EXISTING MECHANICAL FOR THE RENOVATION. THE "MC" SHALL REMOVE AND/OR RELOCATE ALL ITEMS SHOWN 'DARK DASHED' ON THE PLAN. ANY ITEMS SHOWN 'LIGHT SOLID' SHALL REMAIN. ANY ITEMS NOT INDICATED ON PLAN THAT NEED REMOVED OR RELOCATED SHALL BE THE RESPONSIBILITY OF THE "MC".
2. PIPES WHICH ARE CONCEALED AND THEREFORE UNACCESSIBLE MAY BE ABANDONED IN PLACE. HOWEVER, ALL ENDS SHALL BE CAPPED. ABANDONED PIPING MUST NOT INTERFERE WITH NEW CONSTRUCTION AND MUST REMAIN CONCEALED. PATCH WALLS / CEILINGS / FLOORS TO MATCH EXISTING SURFACES.
3. THE "MC" SHALL CONSULT WITH THE OWNER AS TO THE DISPOSITION OF ALL REMOVED MECHANICAL EQUIPMENT (AIR DEVICES, PIPING, PUMPS, ETC.). MECHANICAL EQUIPMENT WHICH OWNER DOES NOT DESIRE TO RETAIN SHALL BE REMOVED FROM THE PREMISES BY THE "MC".
4. THE "MC" SHALL PATCH ALL OPENINGS AND HOLES IN EXISTING WALLS / FLOOR (CAUSED BY HIM IN THE PERFORMANCE OF HIS WORK) TO MATCH THE SURROUNDING SURFACE AND TO MAINTAIN THE FIRE INTEGRITY OF SAID WALLS / FLOOR.
5. ANY AND ALL ABANDONED PIPING, DUCTWORK, EQUIPMENT SHALL BE REMOVED BY THE "MC".
6. THE "MC" SHALL COORDINATE THE DISCONNECTION OF THE MAIN ELECTRICAL POWER WITH THE "EC" PRIOR TO THE DEMOLITION OF ALL POWERED EQUIPMENT.
7. THE "MC" SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK.

REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)

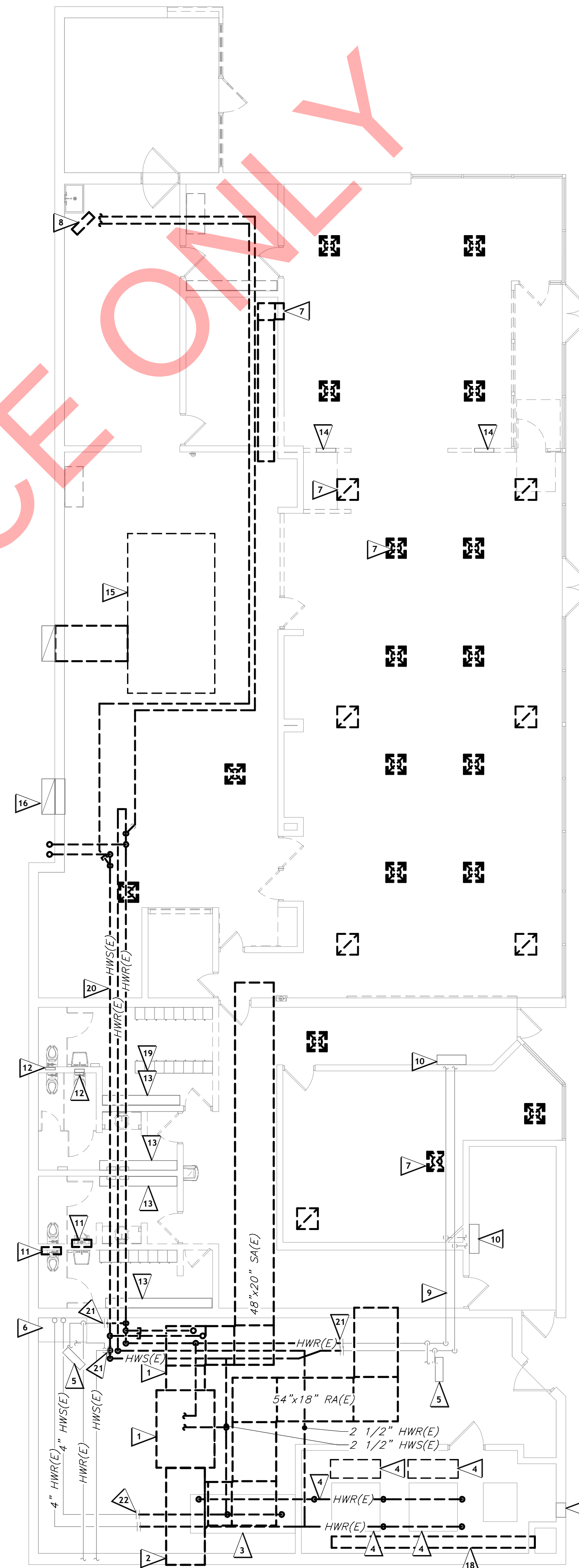
1. EXISTING AHU TO BE REMOVED COMPLETE. REMOVE HEATING WATER PIPING BACK AS REQUIRED DUE TO INSTALLATION OF NEW UNIT IN NEARBY LOCATION. REMOVE ALL ASSOCIATED DUCTWORK IN MECHANICAL ROOM AND DOWNSTREAM OF UNIT. REMOVE ALL ASSOCIATED DIFFUSERS AND GRILLES, THERMOSTAT, AND CONTROLS.
2. EXISTING OUTDOOR AIR INTAKE AND RELIEF AIR LOUVER TO REMAIN. REMOVE ASSOCIATED CONTROL DAMPERS COMPLETE.
3. UNDER ALTERNATE 3 - REMOVE EXISTING HEATING WATER PUMPS COMPLETE. REMOVE PIPING BACK TO LOCATIONS INDICATED FOR TIE IN AND EXTENSION UNDER NEW WORK.
4. UNDER ALTERNATE 3 - REMOVE EXISTING BOILERS, EXPANSION TANKS, AND AIR SEPARATOR COMPLETE. REMOVE PIPING BACK TO LOCATIONS INDICATED FOR TIE IN AND EXTENSION UNDER NEW WORK. REMOVE DOMESTIC MAKE UP WATER PIPING, EXISTING BACKFLOW PREVENTER AND FILL VALVE BACK FOR TIE IN AND EXTENSION AS SHOWN IN FLOW DIAGRAM. REFER TO HEATING WATER FLOW DIAGRAM AND NEW WORK PLANS.
5. EXISTING UNIT HEATER TO REMAIN.
6. EXISTING AIR COMPRESSOR TO REMAIN - VERIFY AIR COMPRESSOR STILL OPERATIONAL AFTER COMPLETION OF WORK. REMOVE IF NO LONGER NECESSARY.
7. EXISTING DIFFUSER/GRILLE TO BE REMOVED COMPLETE. REMOVE ALL ASSOCIATED DUCTWORK. TYPICAL.
8. EXISTING UNIT HEATER TO BE REMOVED COMPLETE. REMOVE ASSOCIATED PIPING BACK TO MAINS AND CAP. REMOVE ASSOCIATED THERMOSTAT AND CONTROLS.
9. EXISTING HEATING WATER PIPING TO REMAIN. TYPICAL.
10. EXISTING CABINET UNIT HEATER TO REMAIN. REFINISH/PAINT. COORDINATE FINISHES WITH ARCHITECT. TYPICAL.
11. EXISTING EXHAUST GRILLE TO BE REMOVED COMPLETE. REMOVE ASSOCIATED DUCTWORK COMPLETE.
12. EXISTING EXHAUST GRILLE TO BE REPLACED IN SAME LOCATION WITH NEW GRILLE. DUCTWORK INSIDE OF WALL TO REMAIN.
13. EXISTING HYDRONIC FINNED TUBE TO REMAIN. REFINISH/PAINT. COORDINATE FINISHES WITH ARCHITECT. TYPICAL.
14. EXISTING TRANSFER AIR DUCT TO BE REMOVED COMPLETE.
15. EXISTING HOOD AND ASSOCIATED DUCTWORK/EXHAUST GRILLE TO BE REMOVED COMPLETE. IT IS ACCEPTABLE TO CAP BOTH ENDS OF INACCESSIBLE DUCT IN WALL AND ABANDON INACTIVE DUCT IN WALL.
16. EXISTING RELIEF OPENING AND ASSOCIATED DUCTWORK TO REMAIN.
17. EXISTING LOUVER TO REMAIN.
18. REMOVE BOILER FLUES AND MANIFOLDED FLUE BACK TO CHIMNEY WALL AND CAP WITH INSULATED CAP. CAP AT TOP OF CHIMNEY WHERE INACTIVE FLUES TERMINATE. WATER HEATER FLUE TO REMAIN ACTIVE.
19. EXISTING HYDRONIC FINNED TUBE TO BE REWORKED AS REQUIRED DUE TO ARCHITECTURAL MODIFICATIONS TO FIT ON ASSOCIATED WALL.
20. EXISTING HEATING WATER PIPING TO BE REMOVED BACK TO HEATING WATER PUMPS UNDER BASE BID. EXISTING PUMPS AND VALVING ETC TO REMAIN UNDER BASE BID.
21. REMOVE BACK TO POINT INDICATED FOR TIE IN AND EXTENSION UNDER NEW WORK UNDER BASE BID.
22. REMOVE BACK TO POINT INDICATED FOR TIE IN AND EXTENSION UNDER NEW WORK UNDER ALTERNATE 3.

EXISTING HEATING EQUIPMENT
CONTRACTOR SHALL PROVIDE SEPARATE COST TO INSTALL NEW BALANCING VALVES ON EXISTING HEATING EQUIPMENT TO REMAIN WITHIN PROJECT AREA. FIELD VERIFY AND REPORT TO ENGINEER ANY VALVES FOUND TO REQUIRE REPLACEMENT OR EQUIPMENT NOT CURRENTLY INSTALLED WITH BALANCING MEANS PRIOR TO CONSTRUCTION. FIELD VERIFY/PRETEST EXISTING FLOW RATES AND REPORT TO ENGINEER. UNITS TO BE RE-BALANCED UNDER NEW WORK TO EXISTING FLOW RATES, OR ADJUSTED FLOW RATES AS DETERMINED BY ENGINEER AFTER REVIEW OF PRETEST REPORT.

MECHANICAL CLEANING NOTE:
ALL LOUVERS AND ALL MECHANICAL EQUIPMENT/ COMPONENTS BEING REUSED UNDER NEW WORK TO BE THOROUGHLY CLEANED PRIOR TO REUSE. ANY AND ALL DUCT BEING REUSED TO BE THOROUGHLY CLEANED. EXISTING HEATING WATER SYSTEM TO BE PURGED/CLEANED.

EXPOSED PIPING PAINTING REQUIREMENTS:
ALL EXPOSED PIPING, EXISTING AND NEW, TO BE PAINTED INSIDE OF PROJECT AREA. COORDINATE FINISHES WITH ARCHITECT. PATCH AND REINSULATE EXISTING PIPING AS REQUIRED TO ALLOW FOR PAINTING APPLICATION. ALL EXPOSED PIPING MUST HAVE PAINT COMPATIBLE SURFACES.

FOR REFERENCE ONLY



LOWER LEVEL - HVAC PLAN (DEMOLITION)
SCALE: 1/8" = 1'-0"



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UPPER LEVEL -
HVAC PLAN
(DEMOLITION)

M102

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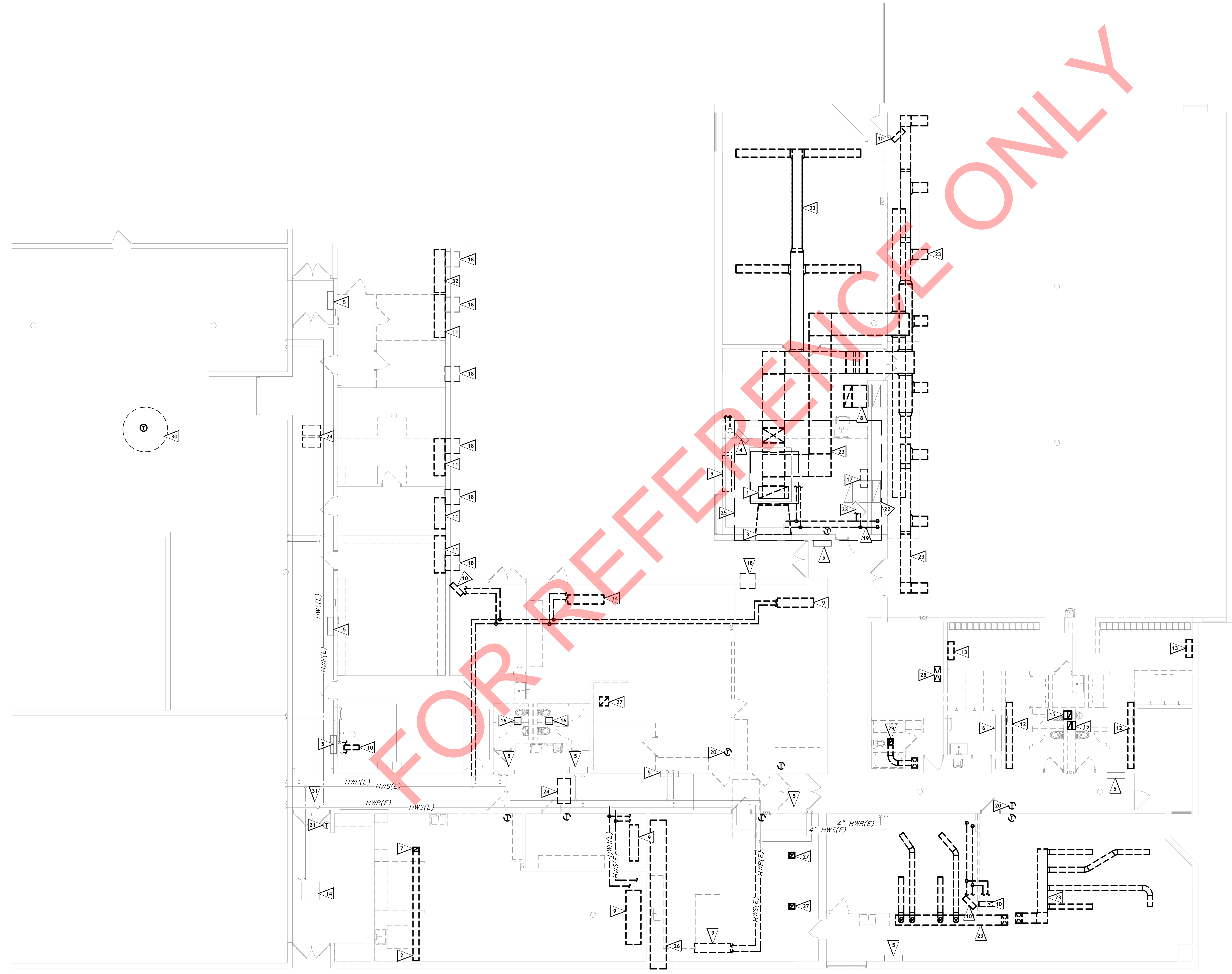
- GENERAL NOTES**
- THIS PLAN REPRESENTS THE MECHANICAL EXISTING CONDITIONS AND THE INTENT OF THE MECHANICAL DEMOLITION AND REMOVAL OF THE EXISTING MECHANICAL FOR THE REMODELING. THE 'MC' SHALL REMOVE AND/OR RELOCATE ALL ITEMS SHOWN 'DARK DASHED' ON THE PLAN. ANY ITEMS SHOWN 'LIGHT SOLID' SHALL REMAIN. ANY ITEMS NOT INDICATED ON PLAN THAT NEED REMOVED OR RELOCATED SHALL BE THE RESPONSIBILITY OF THE 'MC'.
 - PIPES WHICH ARE CONCEALED AND THEREFORE UNACCESSIBLE MAY BE ABANDONED IN PLACE. HOWEVER, ALL ENDS SHALL BE CAPPED. ABANDONED PIPING MUST NOT INTERFERE WITH NEW CONSTRUCTION AND MUST REMAIN CONCEALED. PATCH WALLS / CEILING / FLOORS TO MATCH EXISTING SURFACES.
 - THE 'MC' SHALL CONSULT WITH THE OWNER AS TO THE DISPOSITION OF ALL REMOVED MECHANICAL EQUIPMENT (AIR DEVICES, PIPING, PUMPS, ETC.). MECHANICAL EQUIPMENT WHICH OWNER DOES NOT DESIRE TO RETAIN SHALL BE REMOVED FROM THE PREMISES BY THE 'MC'.
 - THE 'MC' SHALL PATCH ALL OPENINGS AND HOLES IN EXISTING WALLS / FLOOR (CAUSED BY HIM IN THE PERFORMANCE OF HIS WORK) TO MATCH THE SURROUNDING SURFACE AND TO MAINTAIN THE FIRE INTEGRITY OF SAID WALLS / FLOOR.
 - ANY AND ALL ABANDONED PIPING, DUCTWORK, EQUIPMENT SHALL BE REMOVED BY THE 'MC'.
 - THE 'MC' SHALL COORDINATE THE DISCONNECTION OF THE MAIN ELECTRICAL POWER WITH THE 'EC' PRIOR TO THE DEMOLITION OF ALL POWERED EQUIPMENT.
 - THE 'MC' SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK.

- REFERENCE NOTES** (THESE NOTES APPLY TO THIS PLAN ONLY)
- EXISTING AHU MOUNTED IN MEZZANINE TO BE REMOVED COMPLETE. REMOVE HEATING WATER PIPING COMPLETE DUE TO INSTALLATION OF NEW UNIT IN SAME LOCATION. REMOVE ALL ASSOCIATED DUCTWORK IN MECHANICAL ROOM AND DOWNSTREAM OF UNIT. REMOVE ALL ASSOCIATED DIFFUSERS AND GRILLES, THERMOSTAT, AND CONTROLS.
 - REMOVE EXHAUST DUCT SERVING KITCHENETTE COMPLETE.
 - EXISTING OUTDOOR AIR INTAKE LOUVER TO BE REUSED UNDER NEW WORK. REMOVE EXISTING CONTROL DAMPER(S) AND DUCTWORK COMPLETE.
 - EXISTING UNIT HEATER MOUNTED IN MEZZANINE TO REMAIN.
 - EXISTING CABINET UNIT HEATER TO REMAIN. REFINISH/PAINT. COORDINATE FINISHES WITH ARCHITECT. TYPICAL.
 - EXISTING FINNED TUBE TO REMAIN. REFINISH/PAINT. COORDINATE FINISHES WITH ARCHITECT. TYPICAL.
 - EXISTING EXHAUST FAN AND ALL ASSOCIATED DUCTWORK TO BE REMOVED COMPLETE. CAP ROOF CURB WITH INSULATED CAP.
 - EXISTING KITCHEN HOOD EXHAUST DUCT TO BE REMOVED COMPLETE. IT IS ACCEPTABLE TO CAP EACH END OF DUCT IN INACCESSIBLE LOCATIONS (SHAFT BELOW) AND ABANDON CAPPED INACCESSIBLE SECTIONS.
 - EXISTING UNIT VENTILATOR TO BE REMOVED COMPLETE. CAP OUTDOOR AIR INTAKE WITH INSULATED CAP AT EXTERIOR WALL AND PAINT TO MATCH FINAL WALL FINISHES. COORDINATE WITH ARCHITECT. REMOVE HEATING WATER PIPING BACK TO NEAREST ACTIVE MAIN AND CAP.
 - EXISTING UNIT HEATER TO BE REMOVED COMPLETE. REMOVE ASSOCIATED HEATING WATER PIPING BACK TO NEAREST ACTIVE MAIN AND CAP.
 - UNDER BASE BID - EXISTING UNIT VENTILATOR TO REMAIN. UNDER ALTERNATE 1 - EXISTING UNIT VENTILATOR TO BE REMOVED AND REPLACED.
 - EXISTING FINNED TUBE RADIATION TO BE REMOVED COMPLETE. REMOVE ASSOCIATED HEATING WATER PIPING BACK TO NEAREST ACTIVE MAINS AND CAP.
 - EXISTING CABINET UNIT HEATER TO BE REMOVED COMPLETE. REMOVE ASSOCIATED HEATING WATER PIPING BACK TO NEAREST ACTIVE MAIN AND CAP.
 - EXISTING CEILING MOUNTED HEATER TO REMAIN. REFINISH/PAINT. COORDINATE FINISHES WITH ARCHITECT. TYPICAL.
 - EXISTING EXHAUST GRILLE AND ASSOCIATED DUCT TO BE REMOVED COMPLETE.
 - EXISTING EXHAUST FAN AND ASSOCIATED DUCTWORK AND CONTROLS TO BE REMOVED COMPLETE. EXISTING OPENING IN ROOF SERVING GRAVITY VENTILATOR TO BE REUSED UNDER NEW WORK.
 - REMOVE EXISTING PNEUMATIC CONTROLS COMPLETE THAT ARE FOUND TO BE INACTIVE AND NO LONGER REQUIRED GIVEN NEW WORK AND NEW CONTROLS.
 - EXISTING WINDOW A/C UNIT TO BE REMOVED COMPLETE AND TURNED OVER TO OWNER.
 - REMOVE EXISTING HEATING WATER BACK TO FLOOR BELOW. REMOVE PIPING THIS FLOOR TO TIE IN LOCATION INDICATED FOR RECONNECTION UNDER NEW WORK.
 - EXISTING THERMOSTAT SERVING REMOVED EQUIPMENT TO BE REMOVED COMPLETE. TYPICAL.
 - EXISTING THERMOSTAT TO REMAIN.
 - EXISTING RELIEF DUCT SERVING SPACE BELOW TO REMAIN.
 - REMOVE DUCTWORK AND ALL ASSOCIATED DIFFUSERS AND GRILLES.
 - EXISTING RELIEF AIR GRILLES, DUCTWORK, AND ASSOCIATED GRAVITY VENTILATOR TO BE REMOVED COMPLETE.
 - ALL WORK WITHIN DASHED OUTLINE IS LOCATED ON MEZZANINE LEVEL ABOVE.
 - REMOVE EXISTING OA DUCT COMPLETE. CAP EXTERIOR LOUVER WITH INSULATED CAP.
 - GRILLE AND ASSOCIATED FAN ON ROOF ABOVE TO BE REMOVED COMPLETE.
 - EXISTING FLOOR SUPPLY GRILLE AND ASSOCIATED DUCTWORK TO BE REMOVED COMPLETE.
 - EXISTING GRILLE AND ASSOCIATED DUCT TO BE REMOVED COMPLETE.
 - APPROXIMATE LOCATION ON UPPER LEVEL OF EXISTING THERMOSTAT REMOVED AS PART OF ASBESTOS ABATEMENT TO BE REPLACED. COORDINATE EXACT LOCATION WITH OWNER/ARCHITECT.
 - EXISTING AUTOMATIC AIR VENT ON HEATING WATER PIPING MAIN TO BE REPLACED IN KIND.
 - UNDER BASE BID - EXISTING UNIT VENTILATOR TO REMAIN. UNDER ALTERNATE 1 - EXISTING UNIT VENTILATOR TO BE REMOVED COMPLETE. CAP OUTDOOR AIR INTAKE AT EXTERIOR WALL WITH INSULATED CAP.
 - EXISTING UNIT HEATER TO REMAIN. REMOVE ASSOCIATED PIPING AND VALVES.
 - EXISTING UNIT VENTILATOR TO BE REMOVED COMPLETE. REMOVE OUTDOOR AIR INTAKE COMPLETE. EXISTING OPENING IN WALL TO BE INFILLED WITH BRICK, PATCH TO MATCH EXISTING SURROUNDING CONSTRUCTION AND SEAL WEATHERTIGHT. REFER TO ARCHITECTURAL DRAWINGS. REMOVE HEATING WATER PIPING BACK TO NEAREST ACTIVE MAIN AND CAP.

EXISTING HEATING EQUIPMENT
CONTRACTOR SHALL PROVIDE SEPARATE COST TO INSTALL NEW BALANCING VALVES ON EXISTING HEATING EQUIPMENT TO REMAIN WITHIN PROJECT AREA. FIELD VERIFY AND REPORT TO ENGINEER ANY VALVES FOUND TO REQUIRE REPLACEMENT OR EQUIPMENT NOT CURRENTLY INSTALLED WITH BALANCING MEANS PRIOR TO CONSTRUCTION. FIELD VERIFY/PRETEST EXISTING FLOW RATES AND REPORT TO ENGINEER. UNITS TO BE RE-BALANCED UNDER NEW WORK TO EXISTING FLOW RATES, OR ADJUSTED FLOW RATES AS DETERMINED BY ENGINEER AFTER REVIEW OF PRETEST REPORT.

MECHANICAL CLEANING NOTE:
ALL LOUVERS AND ALL MECHANICAL EQUIPMENT/ COMPONENTS BEING REUSED UNDER NEW WORK TO BE THOROUGHLY CLEANED PRIOR TO REUSE. ANY AND ALL DUCT BEING REUSED TO BE THOROUGHLY CLEANED. EXISTING HEATING WATER SYSTEM TO BE PURGED/CLEANED.

EXPOSED PIPING PAINTING REQUIREMENTS:
ALL EXPOSED PIPING, EXISTING AND NEW, TO BE PAINTED INSIDE OF PROJECT AREA. COORDINATE FINISHES WITH ARCHITECT. PATCH AND REINSULATE EXISTING PIPING AS REQUIRED TO ALLOW FOR PAINTING APPLICATION. ALL EXPOSED PIPING MUST HAVE PAINT COMPATIBLE SURFACES.



UPPER LEVEL - HVAC PLAN (DEMOLITION)
SCALE: 1/8" = 1'-0"





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ISSUE / REVISION	DATE

PROJECT NO. 24013.000

ROOF MECHANICAL PLAN (DEMOLITION)

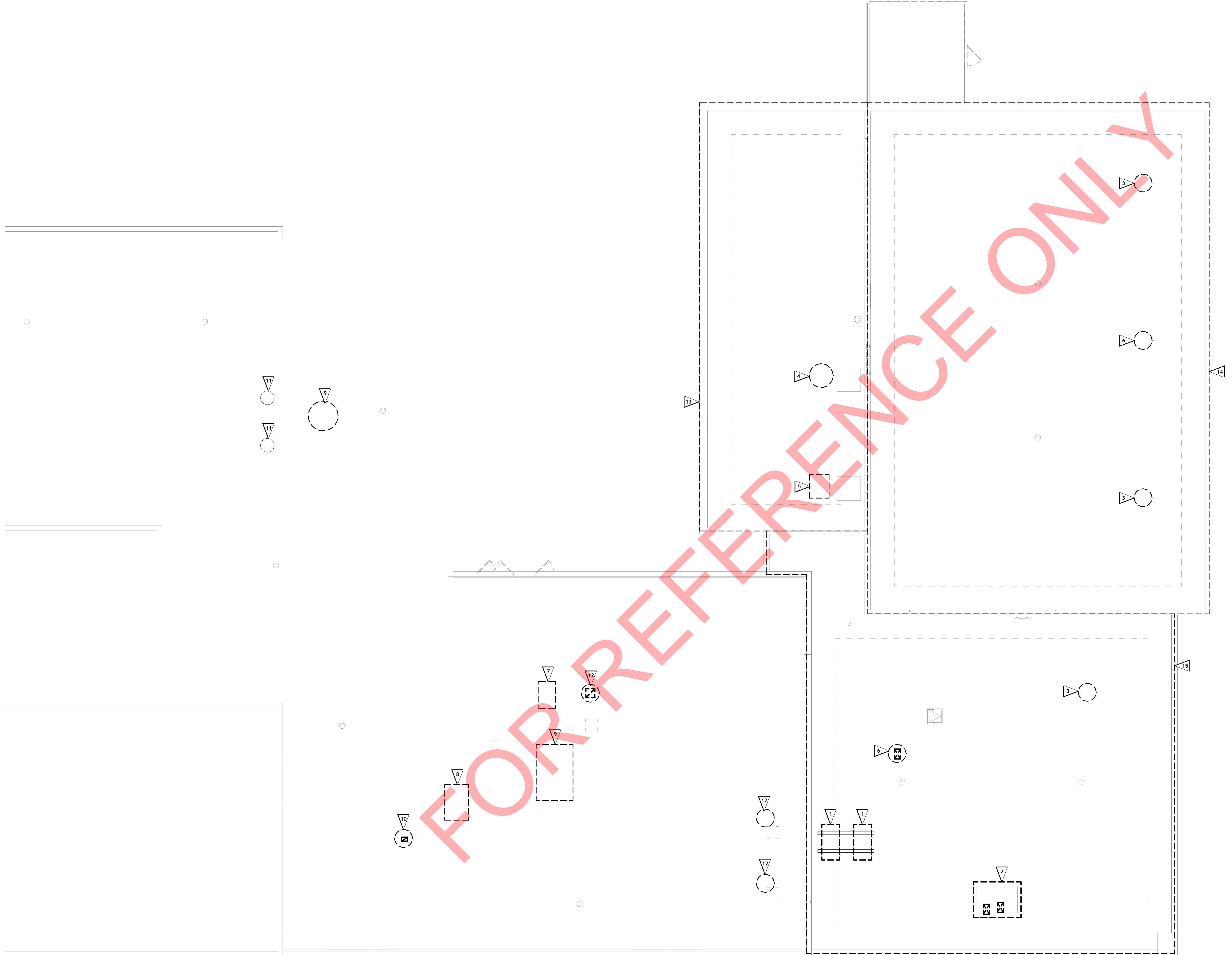
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- GENERAL NOTES**
- MECHANICAL EQUIPMENT SHALL MAINTAIN A MINIMUM OF 10'-0" FROM A ROOF EDGE UNLESS NOTED OTHERWISE.
 - THE MECHANICAL CONTRACTOR SHALL COORDINATE FINAL ELECTRICAL REQUIREMENTS OF EQUIPMENT PRIOR TO ORDERING .
 - PVC PIPING SHALL NOT BE ALLOWED WITHIN A RETURN AIR PLENUM. ALL PIPING UTILIZED IN A RETURN AIR PLENUM IS TO BE LABELED BY THE MANUFACTURER WITH A FLAME-SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS AS TESTED UNDER ASTM E 84.
 - REFER TO ARCHITECTURAL PLANS AND DETAILS FOR EXACT DIMENSIONS, ELEVATIONS AND LOCATIONS OF EQUIPMENT, FIXTURES, OPENINGS, FIRE AND SMOKE WALL AND RATED STRUCTURES.
 - DUCTWORK AND PIPING INSTALLATION SHALL BE COORDINATED WITH OTHER TRADES AS TO NOT HINDER ACCESS TO EQUIPMENT. INSTALLATION OF PIPING SHALL ENABLE ACCESS TO VALVES ABOVE CEILING WHILE ALLOWING MINIMUM OF 8" CLEAR FOR CEILING REMOVAL.
 - RETURN AIR DUCTWORK EXTENDING FROM EQUIPMENT SERVING A RETURN AIR PLENUM SHALL BE INTERNALLY INSULATED PER THE SPECIFICATIONS WITH 1/2" DUCT LINER FOR THE ENTIRE LENGTH OF THE DUCT FROM THE UNIT TO OUTLET.
 - REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR DESIGN REQUIREMENTS OF PENETRATIONS.
 - EXPOSED SUPPLY AIR DUCTWORK WITHIN FINISHED SPACES SHALL BE INTERNALLY INSULATED PER THE SPECIFICATIONS. DUCTWORK SIZE SHOWN IS FREE AREA DIMENSION REQUIRED OF DUCTWORK.
 - THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE PLUMBING CONTRACTOR THE EXACT LOCATIONS OF FLOOR DRAINS REQUIRED TO SERVE MECHANICAL EQUIPMENT.
 - ALL INDIVIDUAL DUCT RUNOUTS TO DIFFUSERS, REGISTERS AND GRILLES TO BE PROVIDED WITH MEANS OF BALANCING AIRFLOW WHETHER SHOWN ON FLOOR PLANS OR NOT. INTEGRAL BALANCING MEANS AT AIR OUTLET ARE ACCEPTABLE AS SCHEDULED.
 - DUCT RUNOUTS TO DIFFUSERS/GRILLES TO MATCH NECK SIZE OF ASSOCIATED DIFFUSER/GRILLE UNLESS NOTED OTHERWISE.
 - ALL DUCTWORK AND PIPING TO BE ROUTED TIGHT TO STRUCTURE OR IN JOIST SPACE ABOVE UNLESS NOTED OTHERWISE. MAINTAIN MAXIMUM HEAD HEIGHT.

- REFERENCE NOTES** (THESE NOTES APPLY TO THIS PLAN ONLY)
- EXISTING OUTDOOR CONDENSING UNIT TO BE REMOVED COMPLETE ALONG WITH ASSOCIATED INDOOR UNIT AND REFRIGERANT PIPING ETC. REUSE EXISTING ROOFTOP PENETRATIONS FOR NEW PIPING. SEAL AROUND NEW PIPING AS REQUIRED WEATHERTIGHT. EXISTING CURB TO BE REUSED UNDER NEW WORK. FIELD VERIFY EXISTING OUTDOOR UNIT IS INACTIVE PRIOR TO REMOVAL.
 - EXISTING RTU TO BE REMOVED COMPLETE. REMOVE ASSOCIATED NG PIPING BACK TO MAIN AND CAP. CAP CURB WITH INSULATED CAP PER DETAIL. REMOVE ALL ASSOCIATED DUCTWORK, DIFFUSERS AND GRILLES, THERMOSTAT AND CONTROLS. EXISTING CURB TO BE REUSED UNDER NEW WORK.
 - EXISTING FAN TO BE REMOVED COMPLETE. REUSE EXISTING CURB UNDER NEW WORK. REMOVE ALL ASSOCIATED DUCTWORK AND CONTROLS ETC COMPLETE.
 - EXISTING FAN SERVING REMOVED KITCHEN HOOD TO BE REMOVED COMPLETE. REMOVE ALL ASSOCIATED DUCTWORK, CONTROLS ETC. CAP CURB WITH INSULATED CAP.
 - EXISTING RELIEF VENTILATOR SERVING LOWER LEVEL TO BE REMOVED COMPLETE. REMOVE ALL ASSOCIATED CONTROLS COMPLETE TO BE REPLACED UNDER NEW WORK. EXISTING DUCTWORK BELOW TO REMAIN.
 - EXISTING FAN TO BE REMOVED COMPLETE. REMOVE ALL ASSOCIATED DUCTWORK, GRILLE BELOW AND CONTROLS ETC. CAP CURB WITH INSULATED CAP.
 - EXISTING GRAVITY VENTILATOR SERVING EXHAUST FANS BELOW TO BE REMOVED COMPLETE. EXISTING ROOF OPENING TO BE REUSED FOR NEW EXHAUST FAN UNDER NEW WORK.
 - EXISTING RELIEF VENTILATOR SERVING ABANDONED DUCT BELOW TO BE REMOVED COMPLETE. CURB TO BE REMOVED DURING ROOF REPLACEMENT.
 - EXISTING RELIEF VENTILATOR SERVING UNIT VENTILATORS TO BE REMOVED COMPLETE. REMOVE EXISTING CURB AND ALL COMPONENTS. COORDINATE WITH ROOF REPLACEMENT PROJECT.
 - EXISTING FAN TO BE REMOVED COMPLETE. REMOVE ALL ASSOCIATED DUCTWORK AND CONTROLS ETC. ROOF OPENING TO BE MODIFIED FOR REUSE UNDER NEW WORK AS REQUIRED.
 - EXISTING EXHAUST FAN TO REMAIN.
 - EXISTING FAN TO BE REMOVED COMPLETE. REMOVE ALL ASSOCIATED DUCTWORK, GRILLE BELOW AND CONTROLS ETC. CURB TO BE REMOVED DURING ROOF REPLACEMENT.
 - UNDER ROOF PROJECT ALTERNATE 5, ROOF TO BE REPLACED. ALL EXISTING CURBS NOTED TO BE CAPPED TO BE REMOVED COMPLETE.
 - UNDER ROOF PROJECT ALTERNATE 4, ROOF TO BE REPLACED. ALL EXISTING CURBS NOTED TO BE CAPPED TO BE REMOVED COMPLETE.
 - UNDER ROOF PROJECT ALTERNATE 3, ROOF TO BE REPLACED. ALL EXISTING CURBS NOTED TO BE CAPPED TO BE REMOVED COMPLETE.

MECHANICAL CLEANING NOTE:
ALL LOUVERS AND ALL MECHANICAL EQUIPMENT/ COMPONENTS BEING REUSED UNDER NEW WORK TO BE THOROUGHLY CLEANED PRIOR TO REUSE. ANY AND ALL DUCT BEING REUSED TO BE THOROUGHLY CLEANED. EXISTING HEATING WATER SYSTEM TO BE PURGED/CLEANED.



ROOF MECHANICAL PLAN (DEMOLITION)
SCALE: 1/8" = 1'-0"

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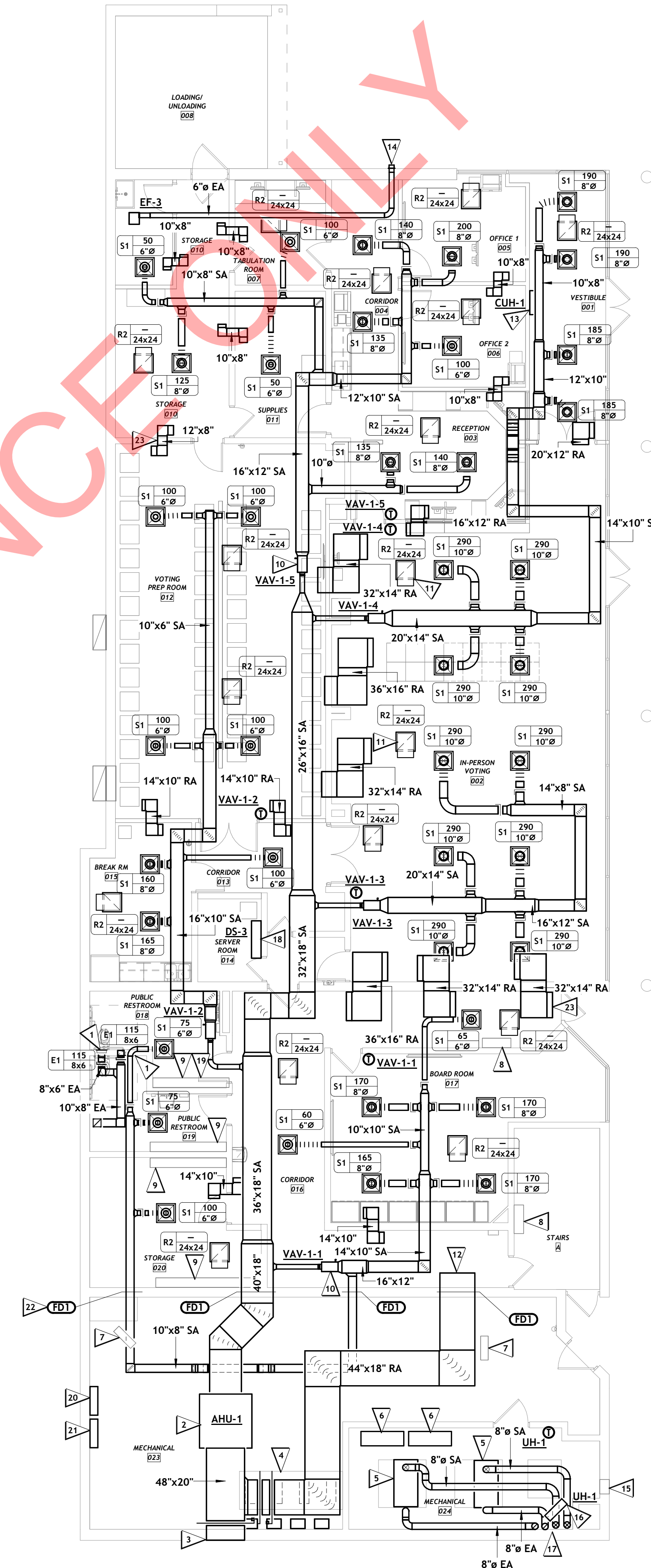
GENERAL NOTES

1. MECHANICAL EQUIPMENT SHALL MAINTAIN A MINIMUM OF 10'-0" FROM A ROOF EDGE UNLESS NOTED OTHERWISE.
2. THE MECHANICAL CONTRACTOR SHALL COORDINATE FINAL ELECTRICAL REQUIREMENTS OF EQUIPMENT PRIOR TO ORDERING.
3. PVC PIPING SHALL NOT BE ALLOWED WITHIN A RETURN AIR PLENUM. ALL PIPING UTILIZED IN A RETURN AIR PLENUM IS TO BE LABELED BY THE MANUFACTURER WITH A FLAME-SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS AS TESTED UNDER ASTM E 84.
4. REFER TO ARCHITECTURAL PLANS AND DETAILS FOR EXACT DIMENSIONS, ELEVATIONS AND LOCATIONS OF EQUIPMENT, FIXTURES, OPENINGS, FIRE AND SMOKE WALL AND RATED STRUCTURES.
5. DUCTWORK AND PIPING INSTALLATION SHALL BE COORDINATED WITH OTHER TRADES AS TO NOT HINDER ACCESS TO EQUIPMENT. INSTALLATION OF PIPING SHALL ENABLE ACCESS TO VALVES ABOVE CEILING WHILE ALLOWING MINIMUM OF 8" CLEAR FOR CEILING REMOVAL.
6. RETURN AIR DUCTWORK EXTENDING FROM EQUIPMENT SERVING A RETURN AIR PLENUM SHALL BE INTERNALLY INSULATED PER THE SPECIFICATIONS WITH 1/2" DUCT LINER FOR THE ENTIRE LENGTH OF THE DUCT FROM THE UNIT TO OUTLET.
7. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR DESIGN REQUIREMENTS OF PENETRATIONS.
8. EXPOSED SUPPLY AIR DUCTWORK WITHIN FINISHED SPACES SHALL BE INTERNALLY INSULATED PER THE SPECIFICATIONS. DUCTWORK SIZE SHOWN IS FREE AREA DIMENSION REQUIRED OF DUCTWORK.
9. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE PLUMBING CONTRACTOR THE EXACT LOCATIONS OF FLOOR DRAINS REQUIRED TO SERVE MECHANICAL EQUIPMENT.
10. ALL INDIVIDUAL DUCT RUNOUTS TO DIFFUSERS, REGISTERS AND GRILLES TO BE PROVIDED WITH MEANS OF BALANCING AIRFLOW WHETHER SHOWN ON FLOOR PLANS OR NOT. INTEGRAL BALANCING MEANS AT AIR OUTLET ARE ACCEPTABLE AS SCHEDULED.
11. DUCT RUNOUTS TO DIFFUSERS/GRILLES TO MATCH NECK SIZE OF ASSOCIATED DIFFUSER/GRILLE UNLESS NOTED OTHERWISE.
12. ALL DUCTWORK AND PIPING TO BE ROUTED TIGHT TO STRUCTURE OR IN JOIST SPACE ABOVE UNLESS NOTED OTHERWISE. MAINTAIN MAXIMUM HEAD HEIGHT.

REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)

1. NEW EXHAUST GRILLE IN SAME LOCATION AS EXISTING. REWORK AND RECONNECT TO EXISTING DUCTWORK AS REQUIRED LOCATED IN WALL. THE NEW DUCTWORK INTO EXISTING IN CEILING SPACE.
2. NEW SPLIT AHU WITH HYDRONIC REHEAT COIL HUNG FROM STRUCTURE ABOVE PER MANUFACTURER REQUIREMENTS. EXTEND DUCTWORK AS SHOWN, RECONNECT TO EXISTING LOUVER WITH NEW CONTROL DAMPER(S) AS REQUIRED.
3. EXISTING OUTDOOR AIR INTAKE AND RELIEF AIR LOUVER. EXTEND AND CONNECT NEW DUCT TO OA PORTION OF LOUVER. INSTALL NEW CONTROLS AS SHOWN ON TEMPERATURE CONTROL DRAWINGS. INSTALL NEW CONTROL DAMPER ON RELIEF AND PROGRAM TO MATCH EXISTING PNEUMATIC DAMPER FUNCTIONALITY.
4. UNDER ALTERNATE 3 - INSTALL NEW HEATING WATER PUMPS AND ASSOCIATED VFD'S. REFER TO PIPING PLANS.
5. UNDER ALTERNATE 3 - NEW HYDRONIC BOILERS AND AIR SEPARATOR. REFER TO PIPING PLANS.
6. NEW HYDRONIC EXPANSION TANKS. REFER TO PIPING PLANS.
7. EXISTING UNIT HEATER.
8. EXISTING CABINET UNIT HEATER. REFINISH/PAINT. COORDINATE FINISHES WITH ARCHITECT.
9. EXISTING HYDRONIC FINNED TUBE. REFINISH/PAINT. COORDINATE FINISHES WITH ARCHITECT.
10. NEW VAV TERMINAL UNIT WITH HYDRONIC REHEAT COIL. INSTALL PER DETAIL. TYPICAL.
11. RA BOOT. SEE DETAIL. TYPICAL.
12. TERMINATE DUCT IN RA PLENUM WITH MESH SCREEN.
13. NEW CUH. REFER TO PIPING DRAWINGS.
14. TERMINATE 6" Ø EA DUCT THROUGH EXTERIOR WALL WITH WALL CAP.
15. EXISTING LOUVER. INSTALL INSULATED CONTROL DAMPER ON OPENING AND SEAL WEATHERTIGHT AROUND OPENING. DAMPER TO OPERATE SUCH THAT DAMPER CLOSES WHENEVER TEMPERATURE IN SPACE IS LESS THAN 60 DEGREES (ADJ.).
16. NEW UNIT HEATER. INSTALL PER DETAIL.
17. FLUES UP TO ROOF. TERMINATE NEW FLUES ON ROOF ABOVE PER MANUFACTURER REQUIREMENTS.
18. WALL MOUNTED INDOOR SPLIT SYSTEM UNIT.
19. REWORK EXISTING HYDRONIC FINNED TUBE AS REQUIRED DUE TO ARCHITECTURAL MODIFICATIONS TO FIT ON ASSOCIATED WALL.
20. WALL MOUNTED TEMPERATURE CONTROL PANEL (120V). COORDINATE FINAL QUANTITIES AND LOCATIONS WITH FINAL TEMPERATURE CONTROL VENDOR. COORDINATE INSTALLATION WITH EC.
21. FRONT END WALL MOUNTED TEMPERATURE CONTROL PANEL (120V) WITH DATA DROP. COORDINATE INSTALLATION WITH EC.
22. INSTALL DUCT MOUNTED FIRE DAMPER. SEE DETAILS AND SCHEDULE FOR ADDITIONAL REQUIREMENTS. TYPICAL.
23. RETURN AIR TRANSFER DUCT. SEE DETAIL. TYPICAL.

RETURN AIR PLENUMS:
FIELD VERIFY ALL EXISTING TO REMAIN COMPONENTS IN NEW RETURN AIR PLENUMS ARE PLENUM RATED. REPORT TO ARCHITECT/ENGINEER IF FOUND TO BE NONCOMPLIANT.



LOWER LEVEL - HVAC DUCTWORK PLAN (NEW WORK)
SCALE: 1/8" = 1'-0"

ISSUE / REVISION	DATE

PROJECT NO. 24013.000

LOWER LEVEL - HVAC DUCTWORK PLAN (NEW WORK)

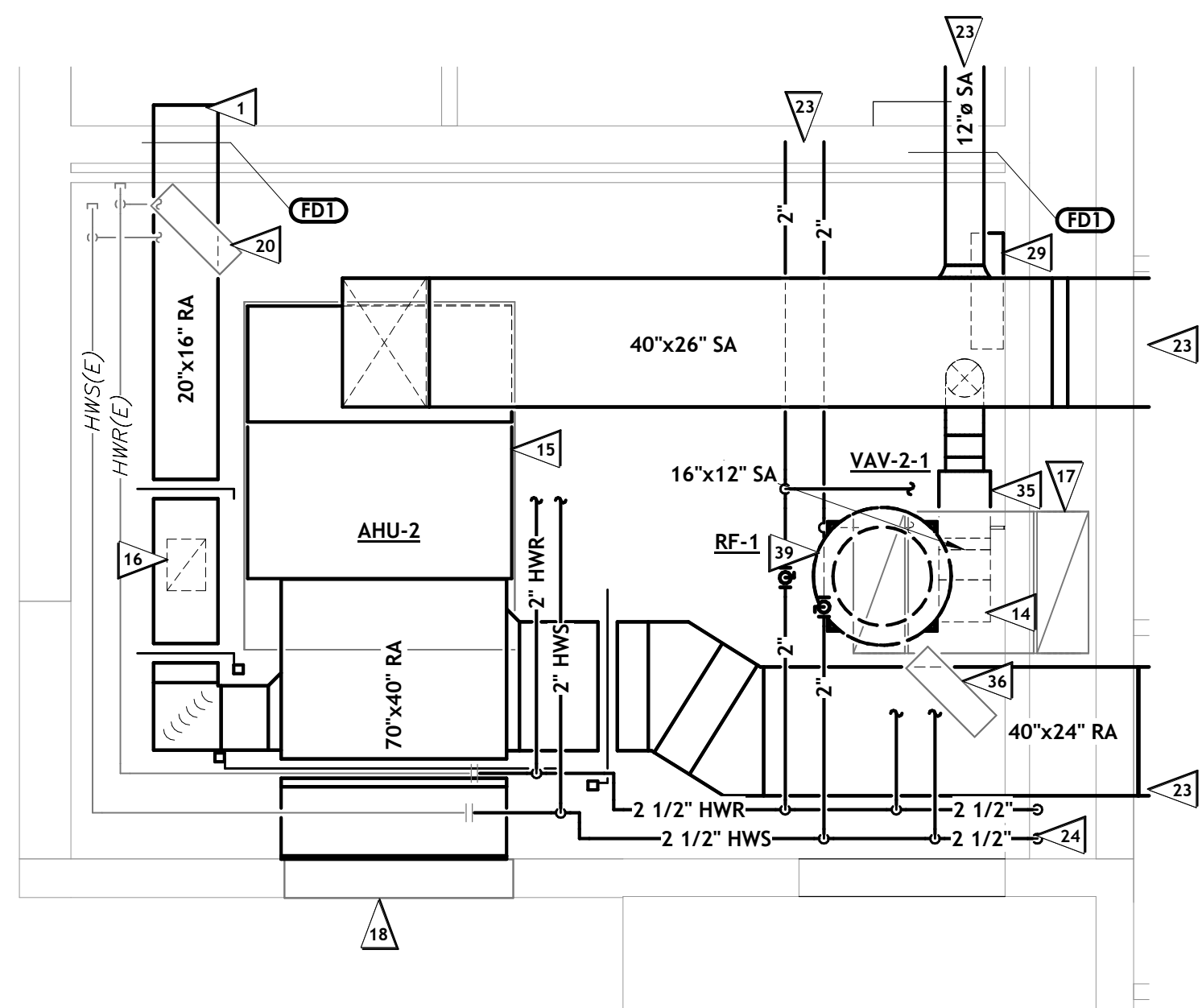
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FOR REFERENCE



ENLARGED MEZZANINE PLAN - HVAC
SCALE: 1/4" = 1'-0"

GENERAL NOTES

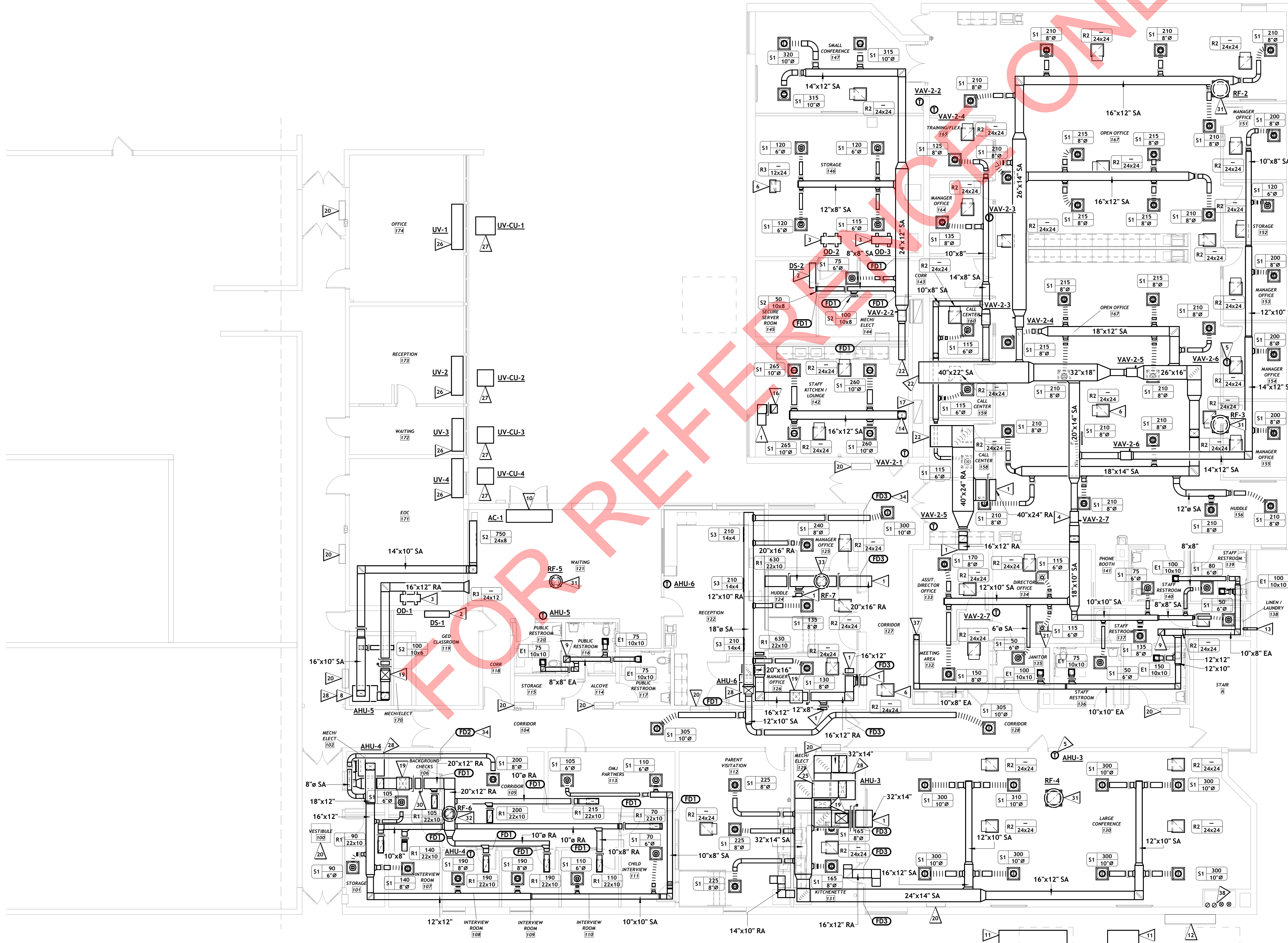
- MECHANICAL EQUIPMENT SHALL MAINTAIN A MINIMUM OF 10'-0" FROM A ROOF EDGE UNLESS NOTED OTHERWISE.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE FINAL ELECTRICAL REQUIREMENTS OF EQUIPMENT PRIOR TO ORDERING.
- PVC PIPING SHALL NOT BE ALLOWED WITHIN A RETURN AIR PLENUM. ALL PIPING UTILIZED IN A RETURN AIR PLENUM IS TO BE LABELED BY THE MANUFACTURER WITH A FLAME-SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS AS TESTED UNDER ASTM E 84.
- REFER TO ARCHITECTURAL PLANS AND DETAILS FOR EXACT DIMENSIONS, ELEVATIONS AND LOCATIONS OF EQUIPMENT, FIXTURES, OPENINGS, FIRE AND SMOKE WALL AND RATED STRUCTURES.
- DUCTWORK AND PIPING INSTALLATION SHALL BE COORDINATED WITH OTHER TRADES AS TO NOT HINDER ACCESS TO EQUIPMENT. INSTALLATION OF PIPING SHALL ENABLE ACCESS TO VALVES ABOVE CEILING WHILE ALLOWING MINIMUM OF 8" CLEAR FOR CEILING REMOVAL.
- RETURN AIR DUCTWORK EXTENDING FROM EQUIPMENT SERVING A RETURN AIR PLENUM SHALL BE INTERNALLY INSULATED PER THE SPECIFICATIONS WITH 1/2" DUCT LINER FOR THE ENTIRE LENGTH OF THE DUCT FROM THE UNIT TO OUTLET.
- REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR DESIGN REQUIREMENTS OF PENETRATIONS.
- EXPOSED SUPPLY AIR DUCTWORK WITHIN FINISHED SPACES SHALL BE INTERNALLY INSULATED PER THE SPECIFICATIONS. DUCTWORK SIZE SHOWN IS FREE AREA DIMENSION REQUIRED OF DUCTWORK.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE PLUMBING CONTRACTOR THE EXACT LOCATIONS OF FLOOR DRAINS REQUIRED TO SERVE MECHANICAL EQUIPMENT.
- ALL INDIVIDUAL DUCT RUNOUTS TO DIFFUSERS, REGISTERS AND GRILLES TO BE PROVIDED WITH MEANS OF BALANCING AIRFLOW WHETHER SHOWN ON FLOOR PLANS OR NOT. INTEGRAL BALANCING MEANS AT AIR OUTLET ARE ACCEPTABLE AS SCHEDULED.
- DUCT RUNOUTS TO DIFFUSERS/GRILLES TO MATCH NECK SIZE OF ASSOCIATED DIFFUSER/GRILLE UNLESS NOTED OTHERWISE.
- ALL DUCTWORK AND PIPING TO BE ROUTED TIGHT TO STRUCTURE OR IN JOIST SPACE ABOVE UNLESS NOTED OTHERWISE. MAINTAIN MAXIMUM HEAD HEIGHT.

REFERENCE NOTES

- TERMINATE RA DUCT IN RETURN AIR PLENUM WITH MESH SCREEN.
- WALL MOUNTED INDOOR SPLIT SYSTEM UNIT.
- OUTDOOR UNIT MOUNTED ON "PATE" RAILS ON ROOF ABOVE PER DETAIL.
- VAV TERMINAL UNIT WITH HYDRONIC REHEAT COIL. TYPICAL.
- WALL MOUNTED THERMOSTAT MOUNTED AT 48" AFF IN VENTED, LOCKABLE ENCLOSURE. TYPICAL.
- RETURN AIR BOOT. SEE DETAIL. TYPICAL.
- RETURN AIR TRANSFER DUCT. SEE DETAIL. TYPICAL.
- INDOOR AIR HANDLING UNIT MOUNTED ON 4" CONCRETE HOUSEKEEPING PAD. INSTALL ASSOCIATED DUCTWORK TO UNIT AND PIPING TO COIL CONNECTIONS TO AVOID OBSTRUCTING UNIT CLEARANCES ON FRONT OF UNIT. COORDINATE FINAL ORIENTATION AND LAYOUT WITH FINAL SUBMITTED MANUFACTURER CLEARANCE REQUIREMENTS. TYPICAL.
- EA DUCT UP TO FAN ON ROOF. MODIFY EXISTING ROOF OPENING AS REQUIRED.
- HYDRONIC AIR CURTAIN INSTALLED OVER DOOR PER MFR REQUIREMENTS.
- OUTDOOR CONDENSING UNIT MOUNTED ON 4" FROSTPROOF CONCRETE PAD PER MANUFACTURER REQUIREMENTS. MAINTAIN CLEARANCES.
- EXISTING GAS SERVICE ASSEMBLY. MAINTAIN CLEARANCES.
- EXTEND 4" DRYER VENT FROM DRYER AND TERMINATE THROUGH EXTERIOR WALL PER MANUFACTURER REQUIREMENTS WITH WALL CAP.
- EXTEND 16"x12" SA DUCT THROUGH MEZZANINE FLOOR TO CEILING SPACE BELOW.
- INDOOR AIR HANDLING UNIT. MOUNT ON EXISTING CONCRETE PAD. MODIFY EXISTING PAD AS REQUIRED. INSTALL ASSOCIATED DUCTWORK TO UNIT AND PIPING TO COIL CONNECTIONS TO AVOID OBSTRUCTING UNIT CLEARANCES ON FRONT OF UNIT. COORDINATE FINAL ORIENTATION AND LAYOUT WITH FINAL SUBMITTED MANUFACTURER CLEARANCE REQUIREMENTS. EXTEND RL/R'S TO ASSOCIATED OUTDOOR UNIT PER MFR REQUIREMENTS. SEAL EXTERIOR PENETRATIONS WEATHERTIGHT. EXTEND 1-1/4" CD PIPING TO NEARBY FLOOR DRAIN WITH TRAP PER DETAIL. EXTEND 2" HWS/HWR PIPING TO UNIT AND CONNECT PER DETAIL.
- EXTEND 16"x12" RA DUCT INTO RA PLENUM BELOW MEZZANINE WITH OBD.
- EXISTING RELIEF AIR DUCT.
- EXISTING OUTDOOR AIR INTAKE LOUVER. EXTEND AND CONNECT NEW DUCT TO LOUVER. INSTALL NEW CONTROLS AS SHOWN ON TEMPERATURE CONTROL DRAWINGS. TRANSITION AS REQUIRED TO LOUVER OPENING SIZE.
- GRAVITY VENTILATOR. INSTALL PER DETAIL. EXTEND OA DUCT AND TIE INTO RA DUCT AT ASSOCIATED AHU PRIOR TO ANY BRANCHES. INSTALL BALANCING AND CONTROL DAMPER (120V) ON OA DUCT AND RA DUCTWORK AS SHOWN ON TEMPERATURE CONTROL DIAGRAM. (2) CONTROL DAMPERS TOTAL.
- EXISTING UNIT HEATER. REFINISH/PAINT. COORDINATE FINISHES WITH ARCHITECT. TYPICAL ALL EXISTING TO REMAIN IN PROJECT AREA.
- EXISTING HYDRONIC FINNED TUBE. REFINISH/PAINT. COORDINATE FINISHES WITH ARCHITECT. TYPICAL ALL EXISTING TO REMAIN IN PROJECT AREA.
- REFER TO ENLARGED MEZZANINE PLAN THIS SHEET FOR CONTINUATION.
- REFER TO OVERALL FLOOR PLANS FOR CONTINUATION.
- HWS/HWR PIPING DOWN IN EXISTING SHAFT. OFFSET PIPING AS REQUIRED DUE TO INSTALLATION OF NEW RETURN AIR DUCT.
- COORDINATE DUCT ROUTING AROUND EXISTING HWS/HWR PIPING AND NEW AHU ACCESS AND COIL CLEARANCES.
- UNDER ALTERNATE 1 - NEW UNIT VENTILATOR MOUNTED IN SAME LOCATION AS REMOVED. RECONNECT TO EXISTING OUTDOOR AIR INTAKE LOUVER AND EXTEND TO NEW UNIT OA CONNECTION AS REQUIRED. FIELD VERIFY FINAL INSTALLATION LOCATION SUCH THAT EXISTING UTILITIES ARE ALIGNED WITH NEW CONNECTION LOCATIONS.
- UNDER ALTERNATE 1 - OUTDOOR CONDENSING UNIT MOUNTED ON GRADE PER DETAIL ON CONCRETE PAD. COORDINATE FINAL LOCATIONS WITH OWNER/ARCHITECT.
- ALL DUCTWORK ASSOCIATED WITH AHU TO BE ROUTED IN JOIST SPACE AND WEBBING WHERE POSSIBLE UNLESS NOTED OTHERWISE.
- WALL MOUNTED TEMPERATURE CONTROL PANEL (120V). COORDINATE FINAL QUANTITIES AND LOCATIONS WITH FINAL TEMPERATURE CONTROL VENDOR. COORDINATE INSTALLATION WITH EC.
- INSTALL CONTROL DAMPER (120V) FOR AHU-1 ECONOMIZER OPERATION. DAMPER TO MODULATE PER SEQUENCING DURING ECONOMIZER OPERATION. ALL AIR TO BE RELIEVED AT ASSOCIATED RELIEF FAN DURING FULL ECONOMIZER MODE.
- RELIEF FAN MOUNTED ON ROOF ABOVE PER DETAIL. EXTEND FULL SIZE DUCT INTO RETURN AIR PLENUM BELOW AND TERMINATE WITH MESH SCREEN AND CONTROL DAMPER (120V). REFER TO TEMPERATURE CONTROLS DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- RELIEF FAN MOUNTED ON ROOF ABOVE PER DETAIL. EXTEND FULL SIZE DUCT DOWN AND INTO RA DUCT BELOW. INSTALL CONTROL (120V) DAMPER UPSTREAM OF RA DUCT TIE IN. REFER TO TEMPERATURE CONTROLS DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- RELIEF FAN MOUNTED ON ROOF ABOVE PER DETAIL. EXTEND FULL SIZE DUCT DOWN FROM FAN WITH CONTROL DAMPER (120V). EXTEND DUCTWORK AS SHOWN. REFER TO TEMPERATURE CONTROLS DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- INSTALL DUCT MOUNTED FIRE DAMPER. SEE DETAILS AND SCHEDULE FOR ADDITIONAL REQUIREMENTS. TYPICAL.
- NEW VAV TERMINAL UNIT WITH 3-WAY CONTROL VALVE. INSTALL AND EXTEND PIPING TO UNIT PER DETAIL.
- EXTEND NEW PIPING TO EXISTING UNIT HEATER AND CONNECT PER DETAIL.
- EXHAUST AIR DUCT DOWN.
- BOILER FLUES/AIR INTAKES UP FROM BELOW. TERMINATE UP THROUGH ROOF PER MANUFACTURER REQUIREMENTS.
- RELIEF FAN MOUNTED ON ROOF ABOVE PER DETAIL. EXTEND FULL SIZE DUCT DOWN FROM FAN WITH CONTROL DAMPER (120V). TRANSITION AND TIE INTO EXISTING DUCT BELOW. REFER TO TEMPERATURE CONTROLS DRAWINGS FOR ADDITIONAL REQUIREMENTS.

RETURN AIR PLENUMS:

FIELD VERIFY ALL EXISTING TO REMAIN COMPONENTS IN NEW RETURN AIR PLENUMS ARE PLENUM RATED. REPORT TO ARCHITECT/ENGINEER IF FOUND TO BE NONCOMPLIANT.



UPPER LEVEL - HVAC DUCTWORK PLAN (NEW WORK)
SCALE: 1/8" = 1'-0"



CARROLL COUNTY BOARD OF COMMISSIONERS
CARROLL COUNTY OFFICE RENOVATION
 211 MOODY AVE SW
 CARROLLTON OHIO 44615



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PROJECT NO. 24013.000

UPPER LEVEL -
HVAC DUCTWORK
PLAN (NEW WORK)

M202



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GENERAL NOTES

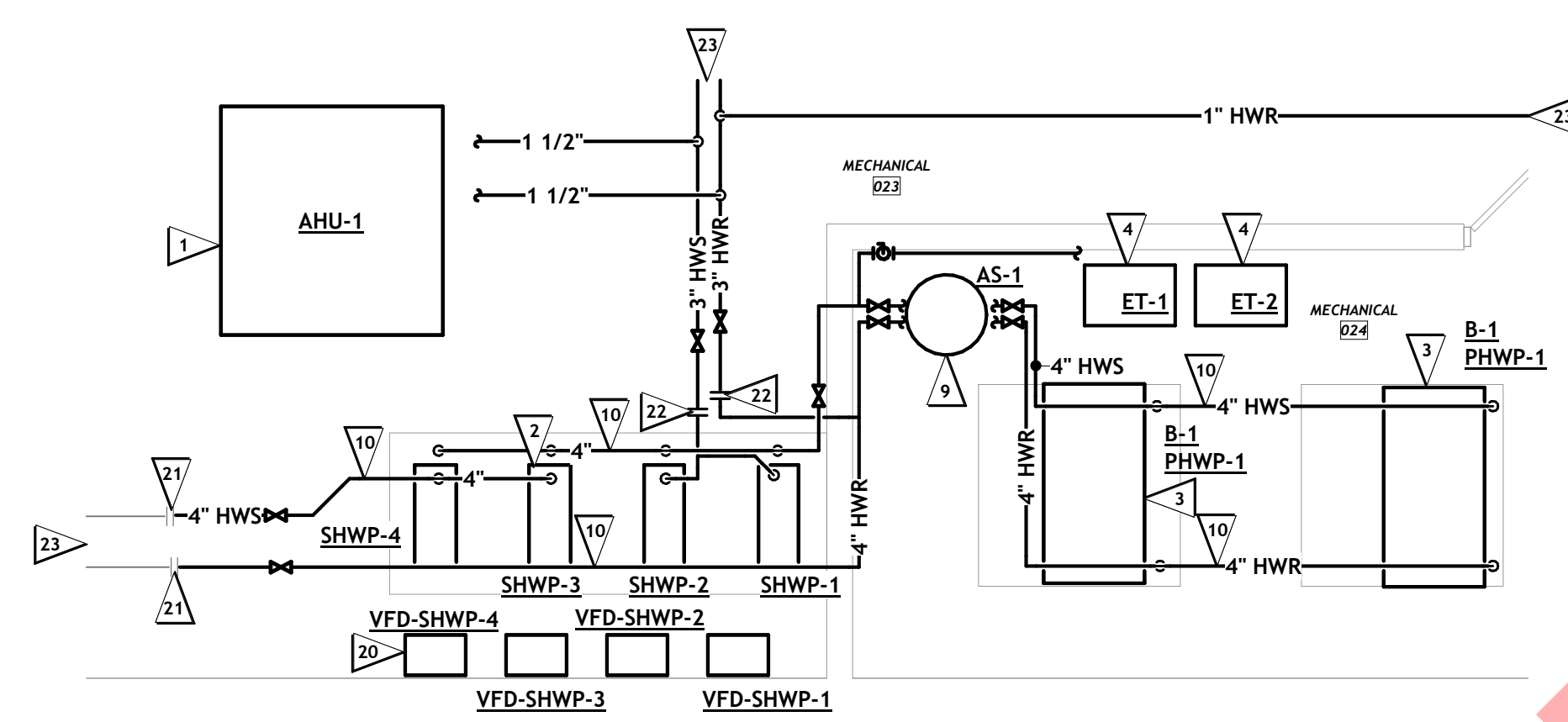
1. MECHANICAL EQUIPMENT SHALL MAINTAIN A MINIMUM OF 10'-0" FROM A ROOF EDGE UNLESS NOTED OTHERWISE.
2. THE MECHANICAL CONTRACTOR SHALL COORDINATE FINAL ELECTRICAL REQUIREMENTS OF EQUIPMENT PRIOR TO ORDERING.
3. PVC PIPING SHALL NOT BE ALLOWED WITHIN A RETURN AIR PLENUM. ALL PIPING UTILIZED IN A RETURN AIR PLENUM IS TO BE LABELED BY THE MANUFACTURER WITH A FLAME-SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS AS TESTED UNDER ASTM E 84.
4. REFER TO ARCHITECTURAL PLANS AND DETAILS FOR EXACT DIMENSIONS, ELEVATIONS AND LOCATIONS OF EQUIPMENT, FIXTURES, OPENINGS, FIRE AND SMOKE WALL AND RATED STRUCTURES.
5. DUCTWORK AND PIPING INSTALLATION SHALL BE COORDINATED WITH OTHER TRADES AS TO NOT HINDER ACCESS TO EQUIPMENT. INSTALLATION OF PIPING SHALL ENABLE ACCESS TO VALVES ABOVE CEILING WHILE ALLOWING MINIMUM OF 8" CLEAR FOR CEILING REMOVAL.
6. RETURN AIR DUCTWORK EXTENDING FROM EQUIPMENT SERVING A RETURN AIR PLENUM SHALL BE INTERNALLY INSULATED PER THE SPECIFICATIONS WITH 1/2" DUCT LINER FOR THE ENTIRE LENGTH OF THE DUCT FROM THE UNIT TO OUTLET.
7. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR DESIGN REQUIREMENTS OF PENETRATIONS.
8. EXPOSED SUPPLY AIR DUCTWORK WITHIN FINISHED SPACES SHALL BE INTERNALLY INSULATED PER THE SPECIFICATIONS. DUCTWORK SIZE SHOWN IS FREE AREA DIMENSION REQUIRED OF DUCTWORK.
9. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE PLUMBING CONTRACTOR THE EXACT LOCATIONS OF FLOOR DRAINS REQUIRED TO SERVE MECHANICAL EQUIPMENT.
10. ALL INDIVIDUAL DUCT RUNOUTS TO DIFFUSERS, REGISTERS AND GRILLES TO BE PROVIDED WITH MEANS OF BALANCING AIRFLOW WHETHER SHOWN ON FLOOR PLANS OR NOT. INTEGRAL BALANCING MEANS AT AIR OUTLET ARE ACCEPTABLE AS SCHEDULED.
11. DUCT RUNOUTS TO DIFFUSERS/GRILLES TO MATCH NECK SIZE OF ASSOCIATED DIFFUSER/GRILLE UNLESS NOTED OTHERWISE.
12. ALL DUCTWORK AND PIPING TO BE ROUTED TIGHT TO STRUCTURE OR IN JOIST SPACE ABOVE UNLESS NOTED OTHERWISE. MAINTAIN MAXIMUM HEAD HEIGHT.

REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)

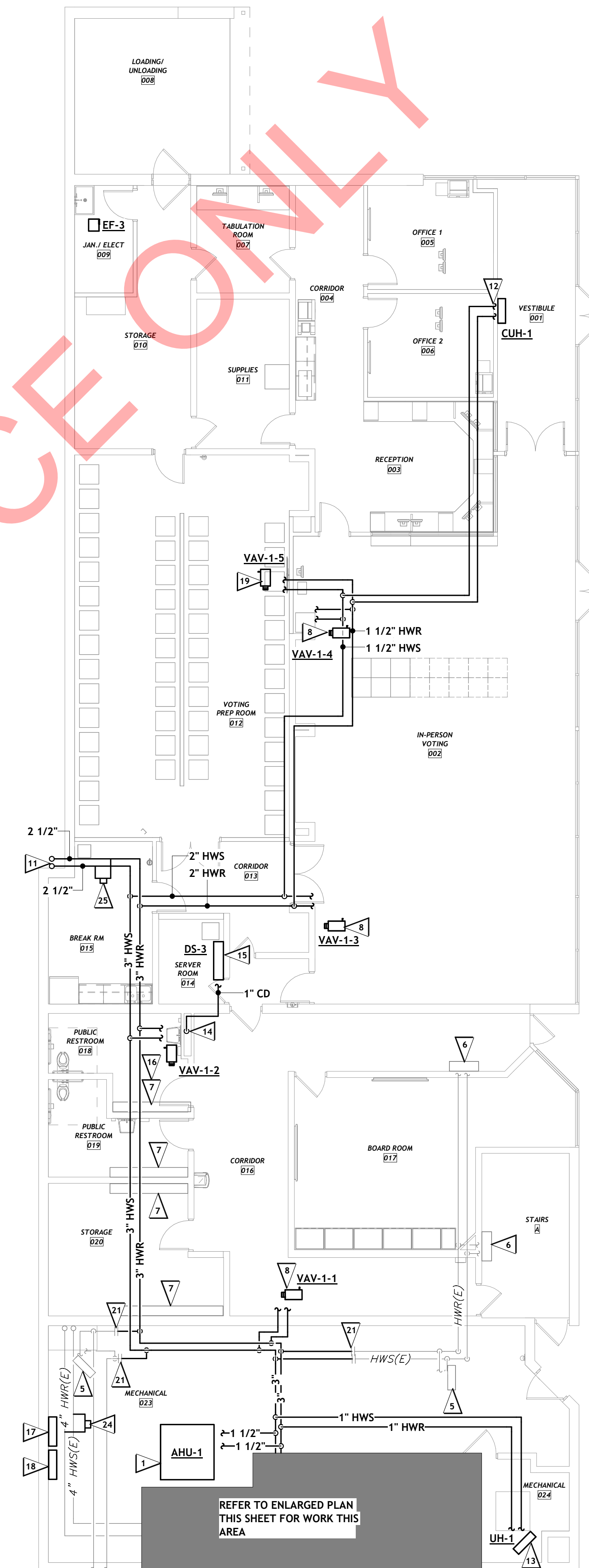
- 1 NEW SPLIT AHU WITH HYDRONIC REHEAT COIL HUNG FROM STRUCTURE ABOVE PER MFR REQUIREMENTS. EXTEND 1-1/2" HWS/HWR PIPING TO COIL PER DETAIL. EXTEND 1-1/4" CD PIPING TO NEARBY FLOOR SINK. INSTALL TRAP PER DETAIL. EXTEND RLRS PIPING TO ASSOCIATED OUTDOOR CONDENSING UNIT PER MFR REQUIREMENTS. SEAL EXTERIOR PENETRATIONS WEATHERTIGHT.
- 2 UNDER ALTERNATE 3 - INSTALL NEW HEATING WATER PUMPS. RECONNECT TO EXISTING PIPING AND EXTEND TO NEW PUMPS PER DETAIL. REFER TO PUMP DETAIL FOR PUMP INSTALLATION REQUIREMENTS. REFER TO FLOW DIAGRAM FOR ADDITIONAL INFORMATION.
- 3 UNDER ALTERNATE 3 - NEW HYDRONIC BOILERS AND ASSOCIATED BOILER PUMPS. RECONNECT TO EXISTING DOMESTIC WATER MAKE UP PIPING. REFER TO FLOW DIAGRAM FOR ADDITIONAL INFORMATION. INSTALL BOILER PUMPS AND EXTEND HWS/HWR PIPING PER DETAIL. MODIFY EXISTING CURB AS REQUIRED TO MATCH FOOTPRINT OF FINAL SUBMITTED BOILER.
- 4 UNDER ALTERNATE 3 - NEW HYDRONIC EXPANSION TANK. FIELD VERIFY DURING INSTALLATION REQUIRED SET PRESSURE AND MATCH EXACTLY TO FILL PRESSURE IN SYSTEM.
- 5 EXISTING UNIT HEATER.
- 6 EXISTING CABINET UNIT HEATER. REFRESH/PAINT. COORDINATE FINISHES WITH ARCHITECT. TYPICAL.
- 7 EXISTING HYDRONIC FINNED TUBE. REFRESH/PAINT. COORDINATE FINISHES WITH ARCHITECT. TYPICAL.
- 8 NEW VAV TERMINAL UNIT WITH 2-WAY CONTROL VALVE. INSTALL AND EXTEND 1" HWS/R PIPING TO UNIT PER DETAIL. TYPICAL.
- 9 UNDER ALTERNATE 3 - INSTALL NEW HYDRAULIC SEPARATOR. REFER TO FLOW DIAGRAM FOR ADDITIONAL INFORMATION.
- 10 UNDER ALTERNATE 3 - REFER TO FLOW DIAGRAM FOR PIPING EXTENSION TO NEW EQUIPMENT. COORDINATE FINAL INSTALLATION TO MAINTAIN MAXIMUM HEIGHT AND EQUIPMENT ACCESSIBILITY.
- 11 3" HWS/HWR PIPING UP IN EXISTING SHAFT TO UPPER LEVEL MEZZANINE ABOVE. REFER TO UPPER LEVEL PIPING PLAN AND M202 ENLARGED PLAN FOR CONTINUATION OF PIPING.
- 12 NEW CABINET UNIT HEATER. EXTEND 1" HWS/R PIPING TO HEATER PER DETAIL.
- 13 NEW UNIT HEATER HUNG FROM STRUCTURE ABOVE. INSTALL PER DETAIL. EXTEND 1" HWS/HWR PIPING TO UNIT HEATER AND CONNECT PER DETAIL.
- 14 EXTEND 1" CD PIPING AND TERMINATE IN NEARBY LAV DRAIN UPSTREAM OF P-TRAP.
- 15 WALL MOUNTED INDOOR SPLIT SYSTEM UNIT. EXTEND RLRS PIPING TO ASSOCIATED OUTDOOR UNIT ON ROOF ABOVE. INSTALL PIPE CURB/PORTALS AT ROOF PENETRATION. SIZE AND INSTALL UNITS AND PIPING PER MANUFACTURER REQUIREMENTS.
- 16 REWORK EXISTING HYDRONIC FINNED TUBE AS REQUIRED DUE TO ARCHITECTURAL MODIFICATIONS TO FIT ON ASSOCIATED WALL.
- 17 WALL MOUNTED TEMPERATURE CONTROL PANEL (120V). COORDINATE FINAL QUANTITIES AND LOCATIONS WITH FINAL TEMPERATURE CONTROL VENDOR. COORDINATE INSTALLATION WITH EC.
- 18 FRONT END WALL MOUNTED TEMPERATURE CONTROL PANEL (120V) WITH DATA DROP. COORDINATE INSTALLATION WITH EC.
- 19 NEW VAV TERMINAL UNIT WITH 3-WAY CONTROL VALVE. INSTALL AND EXTEND 1" HWS/HWR PIPING TO UNIT PER DETAIL.
- 20 UNDER ALTERNATE 3 - WALL MOUNTED VARIABLE FREQUENCY DRIVES SERVING PUMPS.
- 21 TIE INTO EXISTING AND EXTEND AS SHOWN. MATCH EXISTING PIPE SIZES AT TIE IN LOCATIONS.
- 22 UNDER BASE BID - CONNECT NEW 3" HWS/HWR INTO EXISTING 2-1/2" MAINS.
- 23 REFER TO OVERALL PLANS FOR CONTINUATION.
- 24 INSTALL DIFFERENTIAL PRESSURE TRANSMITTER IN APPROXIMATELY THIS LOCATION TO SERVE SHWP-3, 4. DPT TO BE RELOCATED FURTHER DOWNSTREAM UNDER FUTURE PHASES.
- 25 INSTALL DIFFERENTIAL PRESSURE TRANSMITTER IN APPROXIMATELY THIS LOCATION TO SERVE SHWP-1, 2.

EXPOSED PIPING PAINTING REQUIREMENTS:
ALL EXPOSED PIPING, EXISTING AND NEW, TO BE PAINTED INSIDE OF PROJECT AREA. COORDINATE FINISHES WITH ARCHITECT. PATCH AND REINSULATE EXISTING PIPING AS REQUIRED TO ALLOW FOR PAINTING APPLICATION. ALL EXPOSED PIPING MUST HAVE PAINT COMPATIBLE SURFACES.

EXISTING HEATING EQUIPMENT:
CONTRACTOR SHALL PROVIDE SEPARATE COST TO INSTALL NEW BALANCING VALVES ON EXISTING HEATING EQUIPMENT TO REMAIN WITHIN PROJECT AREA. FIELD VERIFY AND REPORT TO ENGINEER ANY VALVES FOUND TO REQUIRE REPLACEMENT OR EQUIPMENT NOT CURRENTLY INSTALLED WITH BALANCING MEANS PRIOR TO CONSTRUCTION. FIELD VERIFY/PRETEST EXISTING FLOW RATES AND REPORT TO ENGINEER. UNITS TO BE RE-BALANCED UNDER NEW WORK TO EXISTING FLOW RATES, OR ADJUSTED FLOW RATES AS DETERMINED BY ENGINEER AFTER REVIEW OF PRETEST REPORT.



LOWER LEVEL - ENLARGED PIPING PLAN (NEW WORK)
SCALE: 1/4" = 1'-0"



LOWER LEVEL - HVAC PIPING PLAN (NEW WORK)
SCALE: 1/8" = 1'-0"

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PROJECT NO. 24013.000

LOWER LEVEL -
HVAC PIPING PLAN
(NEW WORK)

M301



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ISSUE / REVISION	DATE

PROJECT NO. 24013.000

UPPER LEVEL - HVAC PIPING PLAN (NEW WORK)

M302

GENERAL NOTES

1. MECHANICAL EQUIPMENT SHALL MAINTAIN A MINIMUM OF 10'-0" FROM A ROOF EDGE UNLESS NOTED OTHERWISE.
2. THE MECHANICAL CONTRACTOR SHALL COORDINATE FINAL ELECTRICAL REQUIREMENTS OF EQUIPMENT PRIOR TO ORDERING .
3. PVC PIPING SHALL NOT BE ALLOWED WITHIN A RETURN AIR PLENUM. ALL PIPING UTILIZED IN A RETURN AIR PLENUM IS TO BE LABELED BY THE MANUFACTURER WITH A FLAME-SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS AS TESTED UNDER ASTM E 84.
4. REFER TO ARCHITECTURAL PLANS AND DETAILS FOR EXACT DIMENSIONS, ELEVATIONS AND LOCATIONS OF EQUIPMENT, FIXTURES, OPENINGS, FIRE AND SMOKE WALL AND RATED STRUCTURES.
5. DUCTWORK AND PIPING INSTALLATION SHALL BE COORDINATED WITH OTHER TRADES AS TO NOT HINDER ACCESS TO EQUIPMENT. INSTALLATION OF PIPING SHALL ENABLE ACCESS TO VALVES ABOVE CEILING WHILE ALLOWING MINIMUM OF 8" CLEAR FOR CEILING REMOVAL.
6. RETURN AIR DUCTWORK EXTENDING FROM EQUIPMENT SERVING A RETURN AIR PLENUM SHALL BE INTERNALLY INSULATED PER THE SPECIFICATIONS WITH 1/2" DUCT LINER FOR THE ENTIRE LENGTH OF THE DUCT FROM THE UNIT TO OUTLET.
7. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR DESIGN REQUIREMENTS OF PENETRATIONS.
8. EXPOSED SUPPLY AIR DUCTWORK WITHIN FINISHED SPACES SHALL BE INTERNALLY INSULATED PER THE SPECIFICATIONS. DUCTWORK SIZE SHOWN IS FREE AREA DIMENSION REQUIRED OF DUCTWORK.
9. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE PLUMBING CONTRACTOR THE EXACT LOCATIONS OF FLOOR DRAINS REQUIRED TO SERVE MECHANICAL EQUIPMENT.
10. ALL INDIVIDUAL DUCT RUNOUTS TO DIFFUSERS, REGISTERS AND GRILLES TO BE PROVIDED WITH MEANS OF BALANCING AIRFLOW WHETHER SHOWN ON FLOOR PLANS OR NOT. INTEGRAL BALANCING MEANS AT AIR OULET ARE ACCEPTABLE AS SCHEDULED.
11. DUCT RUNOUTS TO DIFFUSERS/GRILLES TO MATCH NECK SIZE OF ASSOCIATED DIFFUSER/GRILLE UNLESS NOTED OTHERWISE.
12. ALL DUCTWORK AND PIPING TO BE ROUTED TIGHT TO STRUCTURE OR IN JOIST SPACE ABOVE UNLESS NOTED OTHERWISE. MAINTAIN MAXIMUM HEAD HEIGHT.

REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)

1. REFER TO ENLARGED MEZZANINE PLAN SHEET M202 FOR CONTINUATION.
2. TERMINATE 1" CD PIPING OVER FLOOR DRAIN WITH AIR GAP.
3. EXISTING CABINET UNIT HEATER, REFINISH/PAINT. COORDINATE FINISHES WITH ARCHITECT. TYPICAL.
4. EXISTING HYDRONIC FINNED TUBE, REFINISH/PAINT. COORDINATE FINISHES WITH ARCHITECT. TYPICAL.
5. NEW VAV TERMINAL UNIT WITH 2-WAY CONTROL VALVE. INSTALL AND EXTEND HWS/HWR PIPING TO UNIT PER DETAIL. TYPICAL.
6. EXTEND AND TERMINATE 1" CD PIPING OVER EXTERIOR WALL. TERMINATE 1' AFF WITH SPLASH BLOCK. ROUTE PIPE CONCEALED IN WALL.
7. WALL MOUNTED INDOOR SPLIT SYSTEM UNIT. EXTEND RL/R'S PIPING TO ASSOCIATED OUTDOOR UNIT ON ROOF ABOVE. INSTALL PIPE CURB/PORTALS AT ROOF PENETRATION. SIZE AND INSTALL UNITS AND PIPING PER MANUFACTURER REQUIREMENTS.
8. OUTDOOR UNIT MOUNTED ON "PATE" RAILS ON ROOF ABOVE PER DETAIL. EXTEND RL/R'S PIPING TO ASSOCIATED INDOOR UNIT. SIZE AND INSTALL PER MANUFACTURER REQUIREMENTS. INSTALL PIPE CURB/PORTALS AT ROOF PENETRATION.
9. UNDER ALTERNATE 1 - OUTDOOR CONDENSING UNIT MOUNTED ON GRADE PER DETAIL ON CONCRETE PAD. COORDINATE FINAL LOCATIONS WITH OWNER/ARCHITECT.
10. EXTEND NEW 1" HWS/R PIPING TO AIR CURTAIN INSTALLED ABOVE DOOR PER DETAIL.
11. OUTDOOR CONDENSING UNIT MOUNTED ON 4" FROSTPROOF CONCRETE PAD PER MANUFACTURER REQUIREMENTS. MAINTAIN CLEARANCES AND SIZE/EXTEND REFRIGERANT PIPING TO ASSOCIATED INDOOR UNIT PER MANUFACTURER RECOMMENDATIONS. SEAL EXTERIOR PENETRATIONS WEATHERTIGHT.
12. EXISTING GAS SERVICE ASSEMBLY. MAINTAIN CLEARANCES.
13. TIE INTO EXISTING 4" HWS/R MAINS AND EXTEND NEW AS SHOWN WITH SHUTOFF VALVES.
14. UNDER ALTERNATE 1 - NEW UNIT VENTILATOR MOUNTED IN SAME LOCATION AS REMOVED. RECONNECT TO EXISTING HEATING WATER PIPING WITH NEW VALVES AS SHOWN ON DETAIL. EXTEND NEW RL/R'S PIPING THROUGH EXTERIOR WALL TO OUTDOOR CONDENSING UNIT. SIZE AND INSTALL REFRIGERANT PIPING PER MANUFACTURER REQUIREMENTS. EXTEND 1" CD PIPING FROM UNIT DRAIN WITH TRAP PER DETAIL AND TERMINATE THROUGH EXTERIOR WALL OVER SPLASH BLOCK. SEAL EXTERIOR WALL PENETRATIONS WEATHERTIGHT.
15. INDOOR AIR HANDLING UNIT. MOUNT ON 4" CONCRETE PAD WITH CHAMFERED EDGES. INSTALL ASSOCIATED DUCTWORK TO UNIT AND PIPING TO COIL. CONNECTIONS TO AVOID OBSTRUCTING UNIT CLEARANCES ON FRONT OF UNIT. COORDINATE FINAL ORIENTATION AND LAYOUT WITH FINAL SUBMITTED MANUFACTURER CLEARANCE REQUIREMENTS. EXTEND RL/R'S TO ASSOCIATED WEATHERTIGHT. EXTEND HWS/R PIPING TO UNIT COIL PER DETAIL. EXTEND 1-1/4" CD PIPING TO NEARBY FLOOR DRAIN WITH TRAP PER DETAIL.
16. NEW VAV TERMINAL UNIT WITH 3-WAY CONTROL VALVE. INSTALL AND EXTEND 1" HWS/HWR PIPING TO UNIT PER DETAIL.

EXISTING HEATING EQUIPMENT
CONTRACTOR SHALL PROVIDE SEPARATE COST TO INSTALL NEW BALANCING VALVES ON EXISTING HEATING EQUIPMENT TO REMAIN WITHIN PROJECT AREA. FIELD VERIFY AND REPORT TO ENGINEER ANY VALVES FOUND TO REQUIRE REPLACEMENT OR EQUIPMENT NOT CURRENTLY INSTALLED WITH BALANCING MEANS PRIOR TO CONSTRUCTION. FIELD VERIFY/PRESTEST EXISTING FLOW RATES AND REPORT TO ENGINEER. UNITS TO BE RE-BALANCED UNDER NEW WORK TO EXISTING FLOW RATES, OR ADJUSTED FLOW RATES AS DETERMINED BY ENGINEER AFTER REVIEW OF PRETEST REPORT.

EXPOSED PIPING PAINTING REQUIREMENTS:
ALL EXPOSED PIPING, EXISTING AND NEW, TO BE PAINTED INSIDE OF PROJECT AREA. COORDINATE FINISHES WITH ARCHITECT. PATCH AND REINSULATE EXISTING PIPING AS REQUIRED TO ALLOW FOR PAINTING APPLICATION. ALL EXPOSED PIPING MUST HAVE PAINT COMPATIBLE SURFACES.



UPPER LEVEL - HVAC PIPING PLAN (NEW WORK)
SCALE: 1/8" = 1'-0"



HASENSTAB ARCHITECTS
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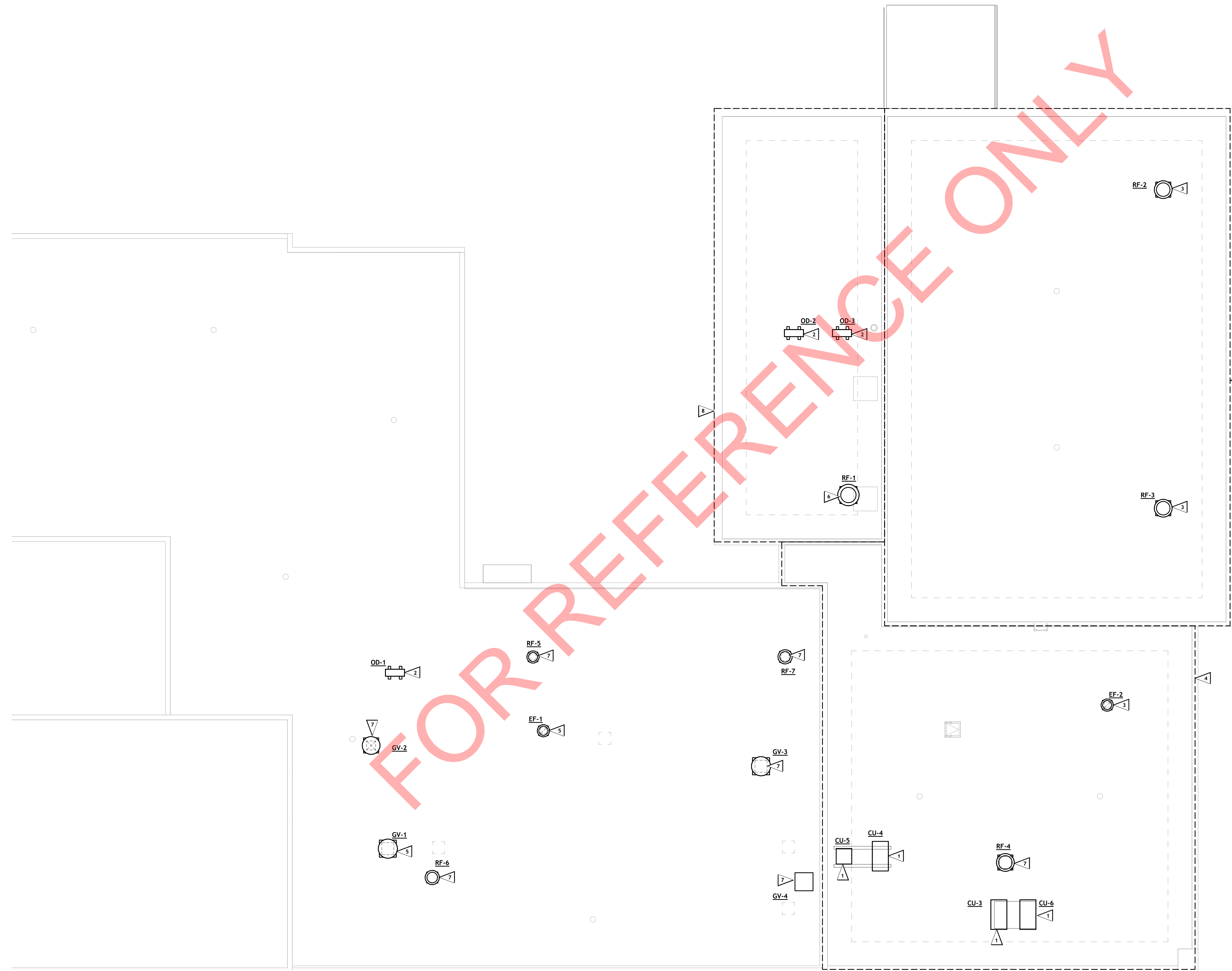


GENERAL NOTES

- MECHANICAL EQUIPMENT SHALL MAINTAIN A MINIMUM OF 10'-0" FROM A ROOF EDGE UNLESS NOTED OTHERWISE.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE FINAL ELECTRICAL REQUIREMENTS OF EQUIPMENT PRIOR TO ORDERING.
- PVC PIPING SHALL NOT BE ALLOWED WITHIN A RETURN AIR PLENUM. ALL PIPING UTILIZED IN A RETURN AIR PLENUM IS TO BE LABELED BY THE MANUFACTURER WITH A FLAME-SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS AS TESTED UNDER ASTM E 84.
- REFER TO ARCHITECTURAL PLANS AND DETAILS FOR EXACT DIMENSIONS, ELEVATIONS AND LOCATIONS OF EQUIPMENT, FIXTURES, OPENINGS, FIRE AND SMOKE WALL AND RATED STRUCTURES.
- DUCTWORK AND PIPING INSTALLATION SHALL BE COORDINATED WITH OTHER TRADES AS TO NOT HINDER ACCESS TO EQUIPMENT. INSTALLATION OF PIPING SHALL ENABLE ACCESS TO VALVES ABOVE CEILING WHILE ALLOWING MINIMUM OF 8" CLEAR FOR CEILING REMOVAL.
- RETURN AIR DUCTWORK EXTENDING FROM EQUIPMENT SERVING A RETURN AIR PLENUM SHALL BE INTERNALLY INSULATED PER THE SPECIFICATIONS WITH 1/2" DUCT LINER FOR THE ENTIRE LENGTH OF THE DUCT FROM THE UNIT TO OUTLET.
- REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR DESIGN REQUIREMENTS OF PENETRATIONS.
- EXPOSED SUPPLY AIR DUCTWORK WITHIN FINISHED SPACES SHALL BE INTERNALLY INSULATED PER THE SPECIFICATIONS. DUCTWORK SIZE SHOWN IS FREE AREA DIMENSION REQUIRED OF DUCTWORK.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE PLUMBING CONTRACTOR THE EXACT LOCATIONS OF FLOOR DRAINS REQUIRED TO SERVE MECHANICAL EQUIPMENT.
- ALL INDIVIDUAL DUCT RUNOUTS TO DIFFUSERS, REGISTERS AND GRILLES TO BE PROVIDED WITH MEANS OF BALANCING AIRFLOW WHETHER SHOWN ON FLOOR PLANS OR NOT. INTEGRAL BALANCING MEANS AT AIR OUTLET ARE ACCEPTABLE AS SCHEDULED.
- DUCT RUNOUTS TO DIFFUSERS/GRILLES TO MATCH NECK SIZE OF ASSOCIATED DIFFUSER/GRILLE UNLESS NOTED OTHERWISE.
- ALL DUCTWORK AND PIPING TO BE ROUTED TIGHT TO STRUCTURE OR IN JOIST SPACE ABOVE UNLESS NOTED OTHERWISE. MAINTAIN MAXIMUM HEAD HEIGHT.

REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)

- INSTALL NEW OUTDOOR CONDENSING UNIT ON EXISTING CURB SERVING REMOVED UNIT. INSTALL NEW STRUCTURAL SUPPORTS/RAILS BETWEEN CURBS GIVEN NEW FOOTPRINT AS REQUIRED. REUSE EXISTING OPENING LEFT IN ROOF FOR NEW PIPING AND SEAL WEATHERTIGHT AS REQUIRED. COORDINATE FINAL UNIT ORIENTATION BASED ON FINAL SUBMITTED UNIT CLEARANCES AND AIRFLOW DIRECTION RELATIVE TO ADJACENT UNIT.
- NEW SPLIT SYSTEM OUTDOOR CONDENSING UNIT MOUNTED ON EQUIPMENT RAILS. EXTEND RL/RS PIPING TO ASSOCIATED INDOOR UNIT, SIZED AND INSTALLED PER MFR REQUIREMENTS. INSTALL PIPE PORTALS/CURB AT ROOF PENETRATION.
- NEW FAN/GRAVITY VENTILATOR ON EXISTING CURB. MODIFY EXISTING CURB AS REQUIRED TO INSTALL NEW FAN AND ASSOCIATED DUCTWORK AND BACKDRAFT OR CONTROL DAMPER. REFER TO SCHEDULES AND TEMPERATURE CONTROLS FOR DAMPER REQUIREMENTS.
- UNDER ROOF PROJECT ALTERNATE 3, ROOF TO BE REPLACED. ALL CURBS TO BE NEW AND INDEPENDENT OF EXISTING. EXISTING ROOF OPENINGS TO BE REUSED WHERE APPLICABLE.
- ROOF MOUNTED GRAVITY VENTILATOR/FAN INSTALLED IN SAME LOCATION AS REMOVED EQUIPMENT. MODIFY EXISTING ROOF OPENING AS REQUIRED DUE TO CHANGE IN CURB/OPENING SIZE. INSTALL PER DETAIL.
- INSTALL NEW RELIEF FAN ON EXISTING CURB. MODIFY EXISTING CURB AND PROVIDE CURB ADAPTER AS REQUIRED.
- NEW FAN/GRAVITY VENTILATOR ON NEW CURB. REFER TO SCHEDULES AND TEMPERATURE CONTROLS FOR DAMPER REQUIREMENTS. COORDINATE FINAL LOCATION WITH JOISTS BELOW.
- UNDER ROOF PROJECT ALTERNATE 5, ROOF TO BE REPLACED. ALL CURBS TO BE NEW AND INDEPENDENT OF EXISTING. EXISTING ROOF OPENINGS TO BE REUSED WHERE APPLICABLE.
- UNDER ROOF PROJECT ALTERNATE 4, ROOF TO BE REPLACED. ALL CURBS TO BE NEW AND INDEPENDENT OF EXISTING. EXISTING ROOF OPENINGS TO BE REUSED WHERE APPLICABLE.



ROOF MECHANICAL PLAN
SCALE: 1/8" = 1'-0"

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PROJECT NO. 24013.000

ROOF MECHANICAL PLAN (NEW WORK)

M303

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ISSUE / REVISION DATE

Table with 2 columns: ISSUE / REVISION, DATE. Multiple rows for tracking revisions.

PROJECT NO. 24013.000

MECHANICAL SCHEDULES AND DETAILS

M401

MECHANICAL ABBREVIATIONS table listing TAG, EQUIPMENT, and descriptions for various mechanical components like air handling units, fans, and dampers.

MECHANICAL SYMBOL LEGEND table listing SYMBOL and DESCRIPTION for various mechanical symbols used in drawings, such as air devices, dampers, and sensors.

HYDRONIC REHEAT VAV TERMINAL UNIT SCHEDULE table with columns for TAG, MANUFACTURER, MODEL, UNIT SIZE, COOLING MAX, COOLING MIN, HEATING AIRFLOW, DIFF PD, COIL ROWS, FLUID FLOW (GPM), HEATING CAPACITY (MBH), LAT (°F), LWT (°F), and WPD (ft. w.g.).

CONDENSING UNIT SCHEDULE (COOLING) table with columns for TAG ID, MANUFACTURER, MODEL, SERVICE, CAPACITY AND PERFORMANCE, ELECTRICAL DATA, OPERATING WEIGHT (LBS), and REMARKS.

FAN SCHEDULE table with columns for TAG ID, MANUFACTURER, MODEL, TYPE, SERVICE, AIRFLOW (CFM), ESP ("W.C.), FAN RPM, FAN POWER (BHP/HP), DRIVE, ELECTRICAL DATA, OPERATING WEIGHT (LBS), and REMARKS.

AIR HANDLING UNIT SCHEDULE table with columns for TAG ID, MANUFACTURER, MODEL, SERVICE, OUTSIDE AIR (%), SUPPLY FAN SECTION, COOLING COIL SECTION (DX), HEATING COIL SECTION (HOT WATER), FILTER SECTION, ELECTRICAL DATA, OPERATING WEIGHT (LBS), and REMARKS.



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PROJECT NO. 24013.000

MECHANICAL SCHEDULES AND DETAILS

M403

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VARIABLE FREQUENCY DRIVE SCHEDULE						
TAG ID	MANUFACTURER	MODEL	SERVICE	MOTOR HP SERVED	VOLTS/PHASE	REMARKS
VFD-SHWP-1	DANFOSS	VLT	SHWP-1	3	208/3	ALL
VFD-SHWP-2	DANFOSS	VLT	SHWP-2	3	208/3	ALL
VFD-SHWP-3	DANFOSS	VLT	SHWP-3	5	208/3	ALL
VFD-SHWP-4	DANFOSS	VLT	SHWP-4	5	208/3	ALL

REMARKS:
1. ACCEPTABLE MANUFACTURERS: ABB, DANFOSS, SQUARE D, SIEMENS.
2. FURNISHED BY MC, INSTALLED BY EC.
3. PROVIDE WITH BYPASS.
4. BALANCE VFD OPERATION AND HARMONICS AFTER INSTALLATION DURING EQUIPMENT START UP TO MINIMIZE VFD BREAKOUT NOISE.
5. REFER TO TEMPERATURE CONTROLS DRAWINGS FOR ADDITIONAL REQUIREMENTS.
6. INSTALL UNDER ALTERNATE 3

UNIT HEATER SCHEDULE															
TAG ID	MANUFACTURER	MODEL	MOUNTING	AIRFLOW (CFM)	FAN DATA		COIL DATA			ELECTRICAL DATA				OPERATING WEIGHT (LBS)	REMARKS
					QUANTITY	POWER (EA.)	CAPACITY (MBH)	GPM	MAX WPD (FEET)	VOLT	PHASE	AMPS	MOCPP		
CUH-1	VULCAN	W-04	WALL	430	1	1/10 HP	32.3	5	1.45	115	1	0.65	-	128	ALL
UH-1	VULCAN	HV-118A	HORIZONTAL	500	1	16 W	18.4	1.9	2.2	115	1	0.8	-	26	ALL

REMARKS:
1. ACCEPTABLE MANUFACTURERS: DUNHAM-BUSH, MODINE, STERLING, VULCAN, ZEHNDER RITTLING.
2. PROVIDE WITH INTEGRAL FILTER/FILTER RACK.
3. PROVIDE WITH INTEGRAL DISCONNECT SWITCH.
4. PROVIDE WITH WALL/CEILING MOUNTING BRACKET.
5. PROVIDE INTEGRAL THERMOSTAT.
6. COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLOR PALETTE.

AIR CURTAIN SCHEDULE															
TAG ID	MANUFACTURER	MODEL	MOUNTING	AIRFLOW (CFM)	FAN DATA		COIL DATA (HOT WATER)			ELECTRICAL DATA				OPERATING WEIGHT (LBS)	REMARKS
					QUANTITY	POWER (EA.)	CAPACITY (MBH)	FLOW RATE (GPM)	ΔP (FT OF H2O)	VOLT	PHASE	MCA	MOCPP		
AC-1	POWERED AIRE	CHS-2-84HW/ST	WALL	2080	2	1/2 HP	82.379	8.39	2.44	208	1	3.5	15	271	ALL

REMARKS:
1. ACCEPTABLE MANUFACTURERS: BERNER, CAMBRIDGE, MARLEY, MARS, POWERED AIRE.
2. PROVIDE WITH INTEGRAL DISCONNECT SWITCH.
3. PROVIDE WITH INTEGRAL FILTER/FILTER RACK, 24-VOLT DOOR CONTACT, TIME DELAY SWITCH, AND CONTROL PACKAGE.

AIR & DIRT SEPARATOR SCHEDULE												
TAG ID	MANUFACTURER	MODEL	TYPE	SERVICE	MAXIMUM PARTICLE (MICRONS)	CONNECTION SIZE (IN)	SIZE (Ø"xH")	RELIEF PRESSURE (PSIG)	RATED PRESSURE (PSIG)	MAX WATER PRESSURE DROP (FT H2O)	DRY WEIGHT (LBS)	REMARKS
AS-1	CALFETTI	NA549120A	COMBINATION AIR/DIRT AND HYDRAULIC SEPARATOR	HWS/R	5	5"	25x63	100	150	1	117	ALL

REMARKS:
1. ACCEPTABLE MANUFACTURERS: ARMSTRONG, AMTROL, BELL & GOSSETT, TACO, WESSELS.
2. PROVIDE WITH INTEGRAL FLUSH VALVE, BLOWOUT FITTINGS, LIFTING LUGS, AIR VENT, AND FLANGED CONNECTIONS.
3. SHALL BE ASME RATED.
4. INSTALL UNDER ALTERNATE 3.

PUMP SCHEDULE																		
TAG ID	MANUFACTURER	MODEL	TYPE	SERVICE	SIZE (IN)	FLOW (GPM)	PRESSURE (FT OF HEAD)	NPSH (FT OF HEAD)	RPM	POWER (BHP)	POWER (N/O HP)	POWER (HP)	ELECTRICAL DATA				OPERATING WEIGHT (LBS)	REMARKS
													VOLT	PHASE	MCA	MOCPP		
SHWP-1/2	GRUNDFOS	NBS 015-090-4P	HYDRONICS	OLD GYM	-	75	65.8	3.32	1765	2.13	2.91	3	208	3	-	-	189	1,2,4,5
SHWP-3/4	GRUNDFOS	NBS 020-095-4P	HYDRONICS	OLD SCHOOL	-	180	65.6	4.23	1750	4.01	5.06	5	208	3	-	-	192	1,2,4,5
PHWP-1	GRUNDFOS	MAGNA 3 65-120 GF	HYDRONICS	B-1	-	144	23.3	-	-	758 W	-	-	208	1	3.32	-	54	1,3,5,6
PHWP-2	GRUNDFOS	MAGNA 3 65-120 GF	HYDRONICS	B-2	-	144	23.3	-	-	758 W	-	-	208	1	3.32	-	54	1,3,5,6

REMARKS:
1. ACCEPTABLE MANUFACTURERS: (HYDRONICS) ARMSTRONG, BELL & GOSSETT, GRUNDFOS, PACO, TACO.
2. INSTALL ON MINIMUM 4" CONCRETE HOUSEKEEPING PAD WITH CHAMFERED EDGES.
3. SUPPORT INLINE PUMP FROM STRUCTURE ABOVE OR INSTALL ON UNI-STRUT RACK IN ACCESSIBLE LOCATION.
4. PROVIDE WITH INVERTER DUTY MOTORS FOR INSTALLATION COMPATIBILITY WITH VFD'S.
5. INSTALL UNDER ALTERNATE 3.
6. PUMP SPEED CONTROLLED BY INTEGRAL FREQUENCY CONVERTER.

TANK SCHEDULE										
TAG ID	MANUFACTURER	MODEL	TYPE	SERVICE	TANK VOLUME (GAL)	SIZE (Ø" x H")	CHARGE PRESSURE	MAX WORKING PRESSURE	WEIGHT, FULL (LBS)	REMARKS
ET-1,2	GRUNDFOS	GNLA-35	BLADDER	HWS/R	106	30"x49"	FIELD VERIFY	125	300	ALL

REMARKS:
1. ACCEPTABLE MANUFACTURERS: AMTROL, ARMSTRONG, BELL & GOSSETT, TACO, WESSELS.
2. SHALL BE ASME RATED.
3. PROVIDE UNDER ALTERNATE 3.

BOILER SCHEDULE																		
TAG ID	MANUFACTURER	MODEL	TYPE	SERVICE	RELIEF PRESSURE (PSIG)	GAS DATA				WATER DATA			ELECTRICAL DATA				OPERATING WEIGHT (LBS)	REMARKS
						FUEL TYPE	INPUT / OUTPUT (MBH)	# OF STAGES	AFUE (%)	FLOW RATE (GPM)	ΔT (°F)	ΔP (FT OF H2O)	VOLT	PHASE	FLA / MCA	MOCPP		
B-1/B-2	LOCHINVAR	FBN1501	CONDENSING	HWS/R	100	NAT. GAS	1,500/1,443	MOD.	96.2	144	20	7.3	120	1	10/13	-	2307	ALL

REMARKS:
1. ACCEPTABLE MANUFACTURERS: (CONDENSING) AERCO, FULTON, HYDROTHERM, LAARS, LOCHINVAR, PVI, SUPERIOR, THERMAL SOLUTIONS.
2. MOUNT ON MINIMUM 4" HIGH CONCRETE PAD WITH CHAMFERED EDGES.
3. INSTALL UNDER ALTERNATE 3.
4. E.C. TO PROVIDE AND INSTALL DISCONNECT SWITCH.
5. UNIT SHALL BE ASME RATED.

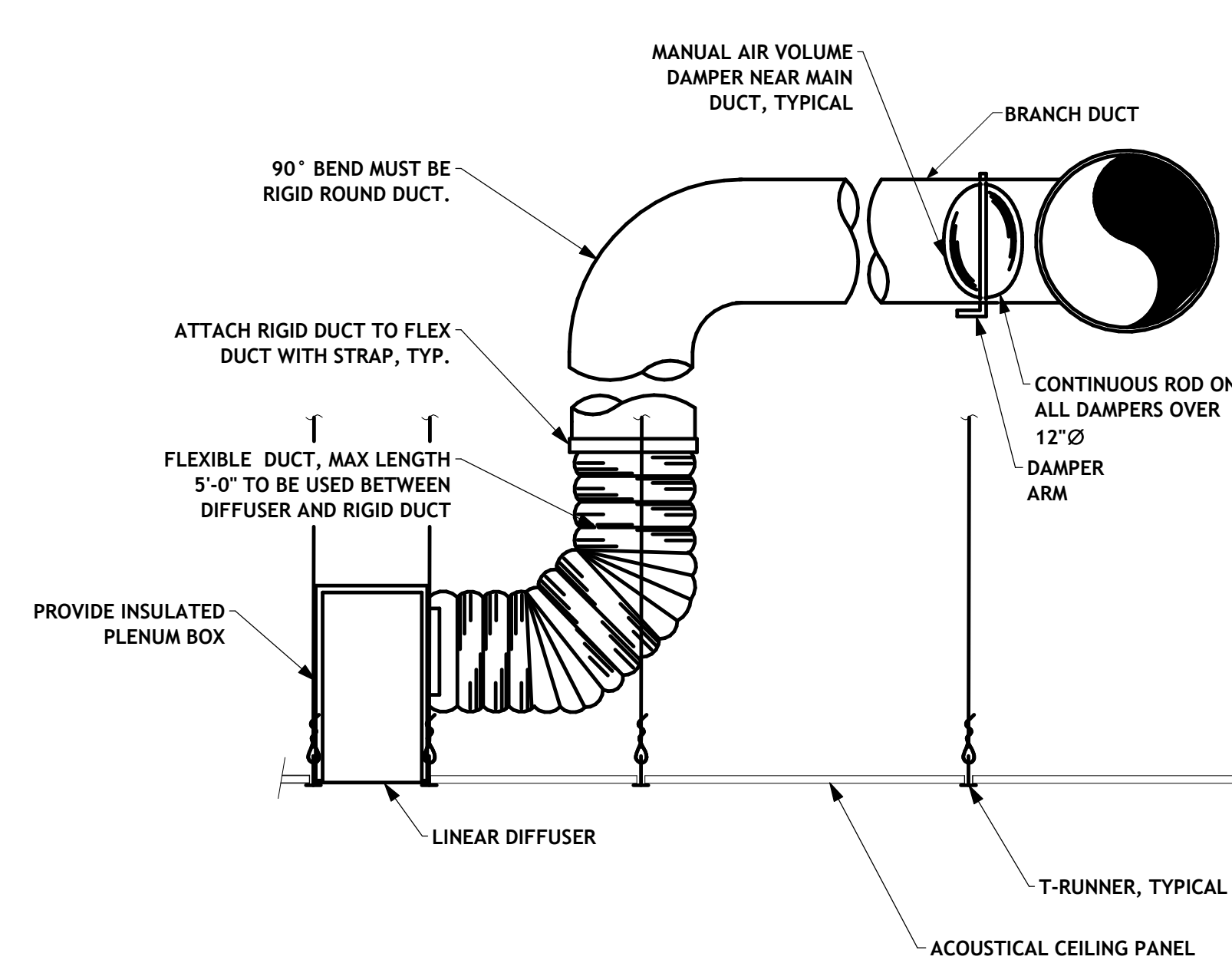
UNIT VENTILATOR SCHEDULE																								
TAG ID	MANUFACTURER	MODEL	SERVICE	OUTSIDE AIR (CFM)	SUPPLY FAN SECTION				COOLING COIL SECTION (DX)				HEATING COIL SECTION (HOT WATER)				FILTER SECTION				REMARKS			
					AIRFLOW (CFM)	ESP / TSP ("W.C.)	RPM	BHP / HP	REFRIG. TYPE	TOT/SENS MBH	EAT DB/WB (°F)	LAT DB/WB (°F)	CAPACITY (MBH)	EAT/LAT (°F)	FLOW RATE (GPM)	EWI / LWT (°F)	WATER ΔP (FT OF H2O)	TYPE	MERV	VOLT		PHASE	MCA	MOCPP
UV-1	MAGIC AIRE	MAUVF58AABA213D0K1BAA2AAB1HH	ALT 1	45	1485	0.3	-	-/0.33	R454B	43.24/28.9	80/67	61.38/57.23	56.99	55/89.5	6.5	180/162.01	2.561	DISPOSABLE	13	208	1	4.1	15	ALL
UV-2	MAGIC AIRE	MAUVF38AABA213D0K1BAA2AAB1HH	ALT 1	55	820	0.3	-	-/0.33	R454B	25.1/17.1	80/67	60.04/56.67	52.76	55/112.23	5.0	180/158.34	2.189	DISPOSABLE	13	208	1	3.2	15	ALL
UV-3	MAGIC AIRE	MAUVF28AABA213D0K1BAA2AAB1HH	ALT 1	45	500	0.3	-	-/0.33	R454B	14.9/10.41	80/67	59.91/56.87	22.58	55/95.57	4.0	180/168.42	0.616	DISPOSABLE	13	208	1	2.9	15	ALL
UV-4	MAGIC AIRE	MAUVF38AABA213D0K1BAA2AAB1HH	ALT 1	100	820	0.3	-	-/0.33	R454B	25.1/17.1	80/67	60.04/56.67	33.06	55/91	4.0	180/163.04	0.769	DISPOSABLE	13	208	1	3.2	15	ALL

REMARKS:
1. ACCEPTABLE MANUFACTURERS: CARRIER, MAGIC AIRE, TRANE.
2. FACTORY INSTALLED BACNET CAPABILITIES.
3. PROVIDE WITH HEAVY-GAGE STEEL CABINET, MECHANICALLY ISOLATED FANS/MOVING PARTS, INTEGRAL MIXING DAMPER.
4. PROVIDE EACH FAN WITH EC MOTOR WITH VARIABLE SPEED CONTROL OPTION.
5. PROVIDE WITH INTEGRAL NON-FUSED DISCONNECT SWITCH.
6. UNIT SHALL BE ASHRAE 90.1 COMPLIANT.
7. PROVIDE UNDER ALTERNATE 1.

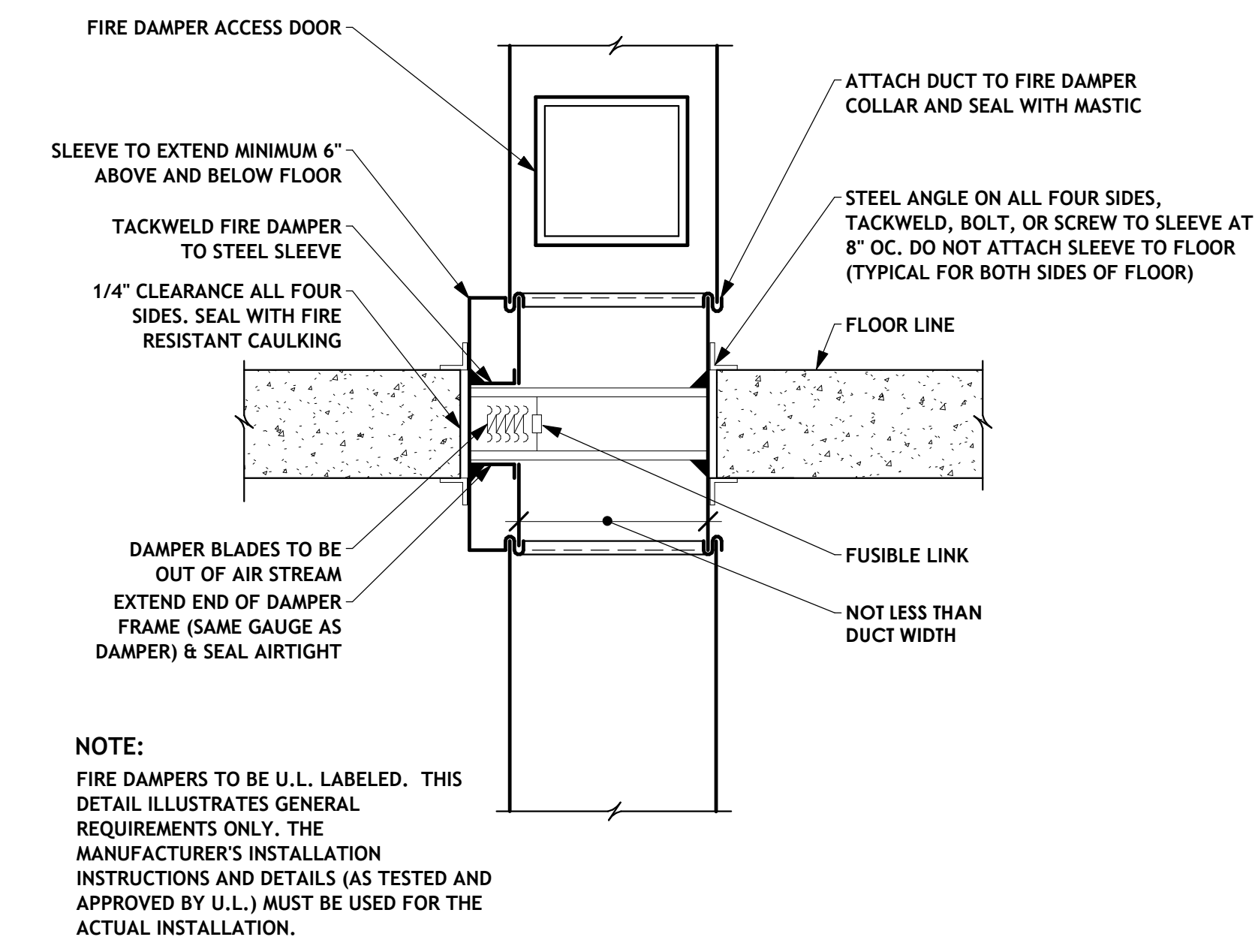
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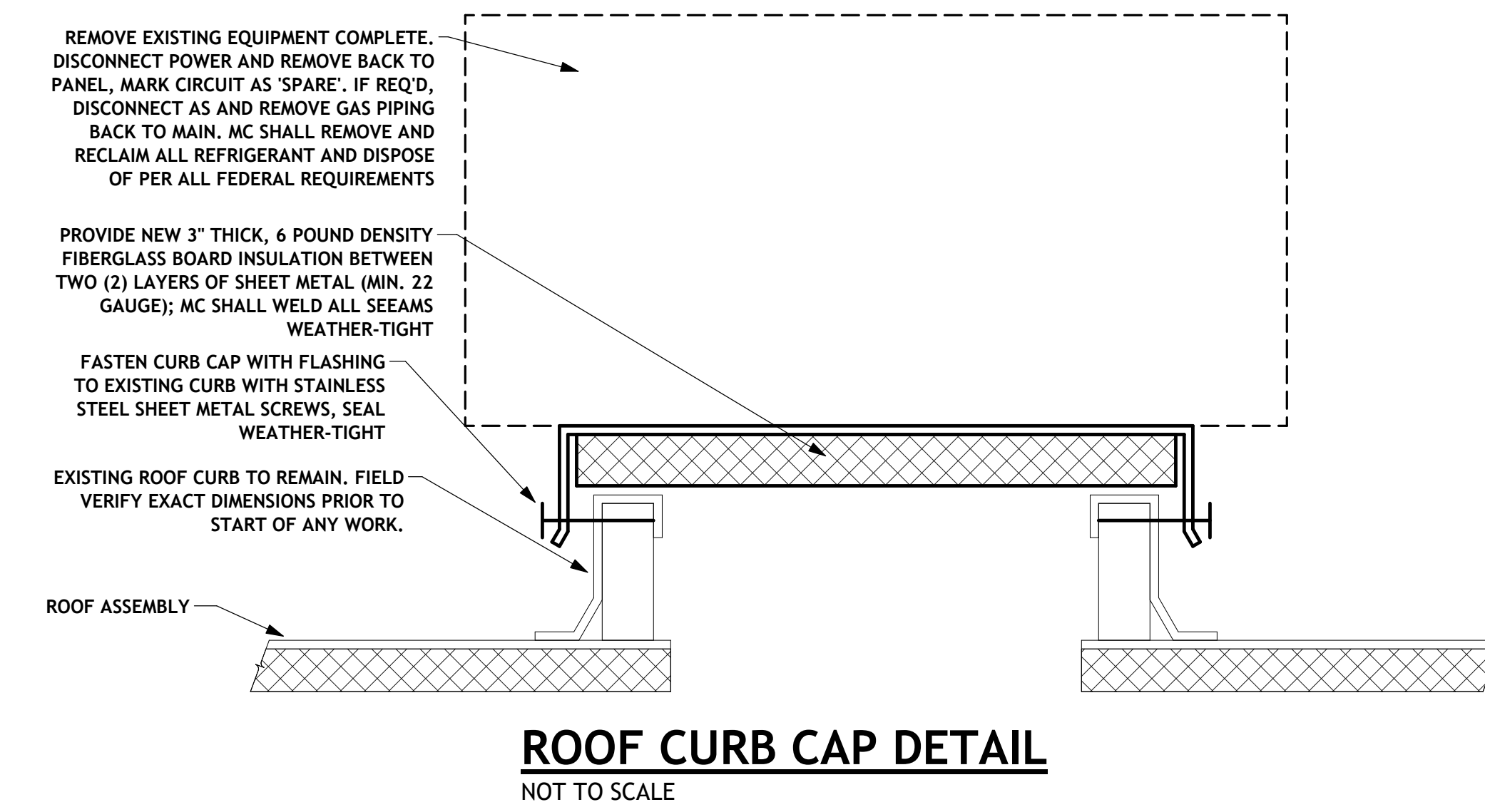
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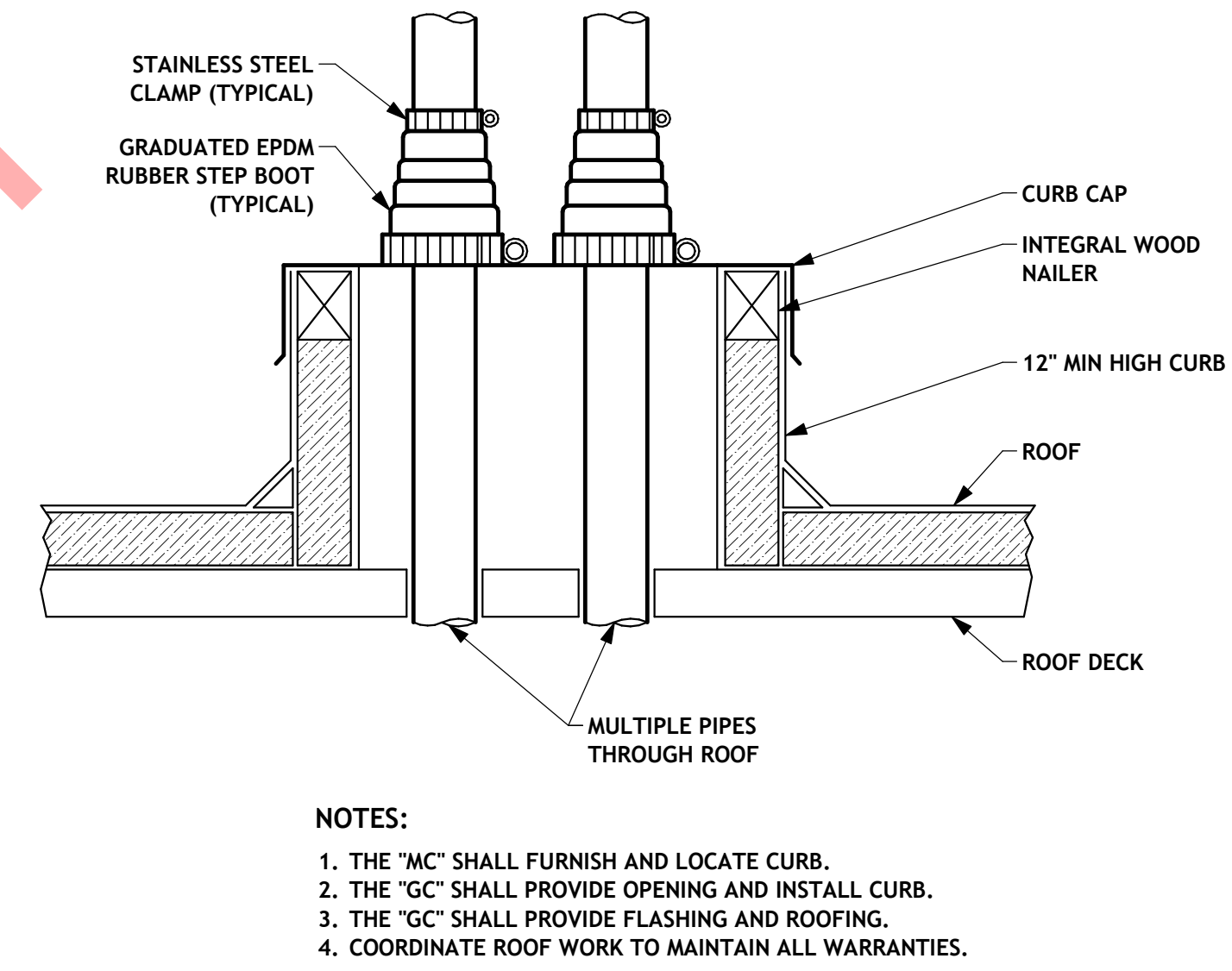
CEILING LINEAR DIFFUSER CONNECTION W/O REMOTE DAMPER
NOT TO SCALE



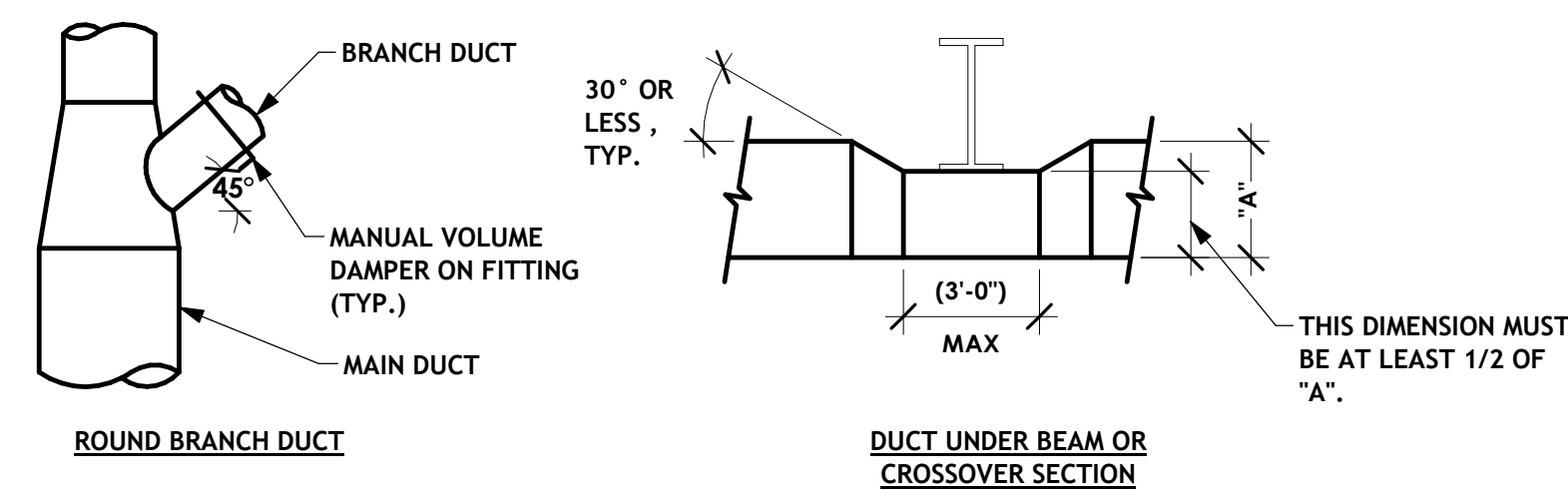
HORIZONTAL FIRE DAMPER DETAIL
NOT TO SCALE



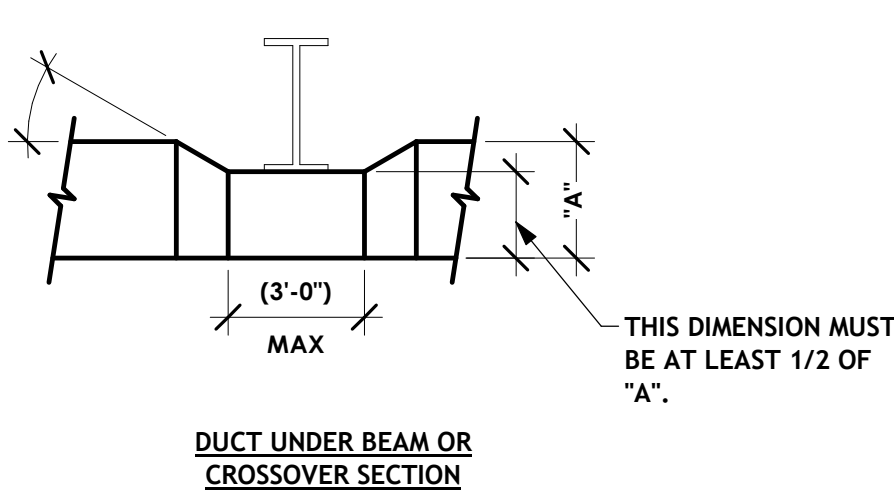
ROOF CURB CAP DETAIL
NOT TO SCALE



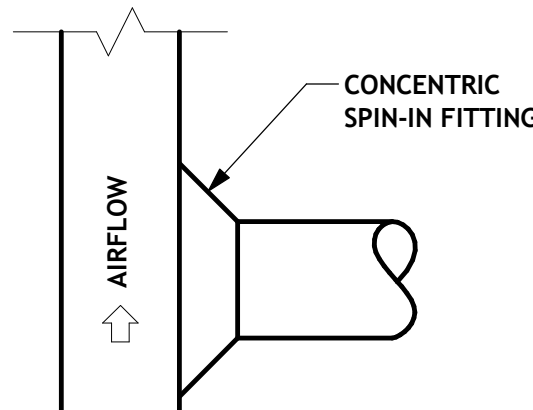
ROOF MOUNTED PIPE CURB DETAIL
NOT TO SCALE



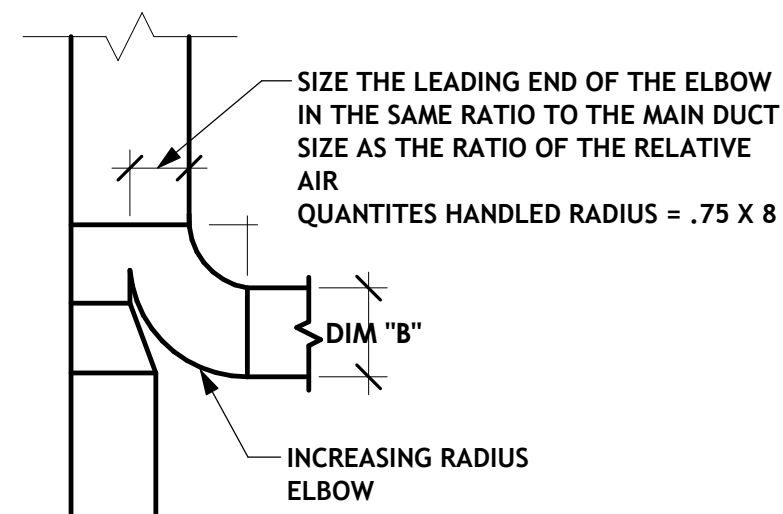
ROUND BRANCH DUCT



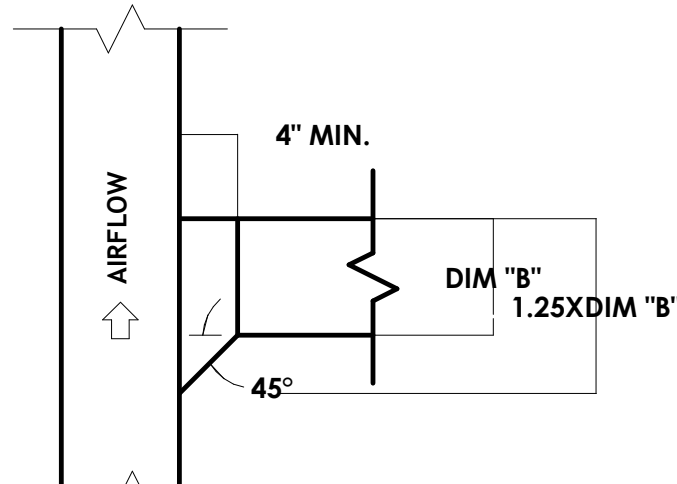
DUCT UNDER BEAM OR CROSSOVER SECTION



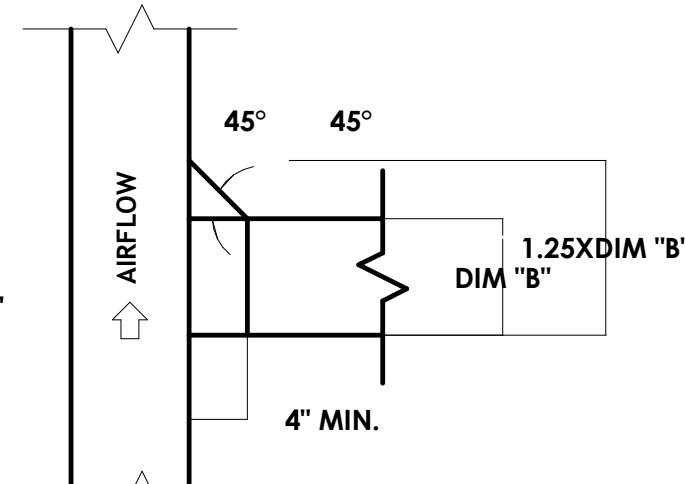
RECTANGULAR TO ROUND DUCT



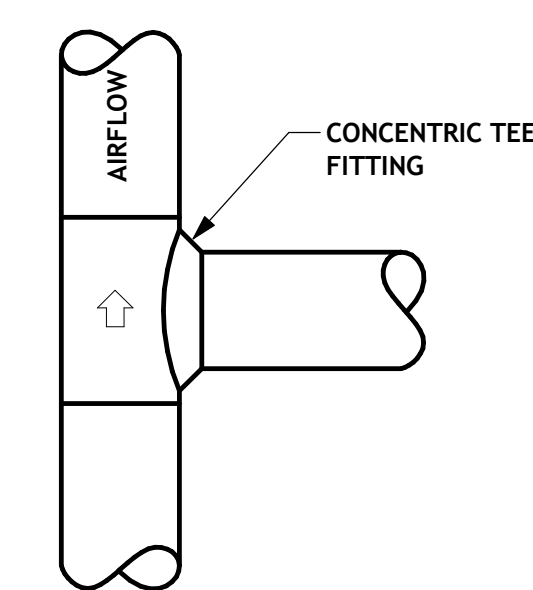
SUPPLY, RETURN OR EXHAUST DUCT FOR USE WHEN A BRANCH TAKE-OFF IS TO HANDLE MORE THAN 25% OF THE AIR HANDLED BY THE MAIN DUCT



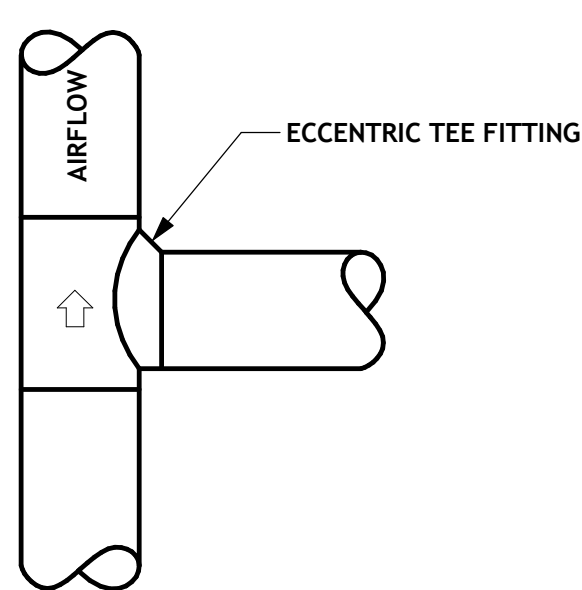
SUPPLY DUCT



RETURN OR EXHAUST DUCT



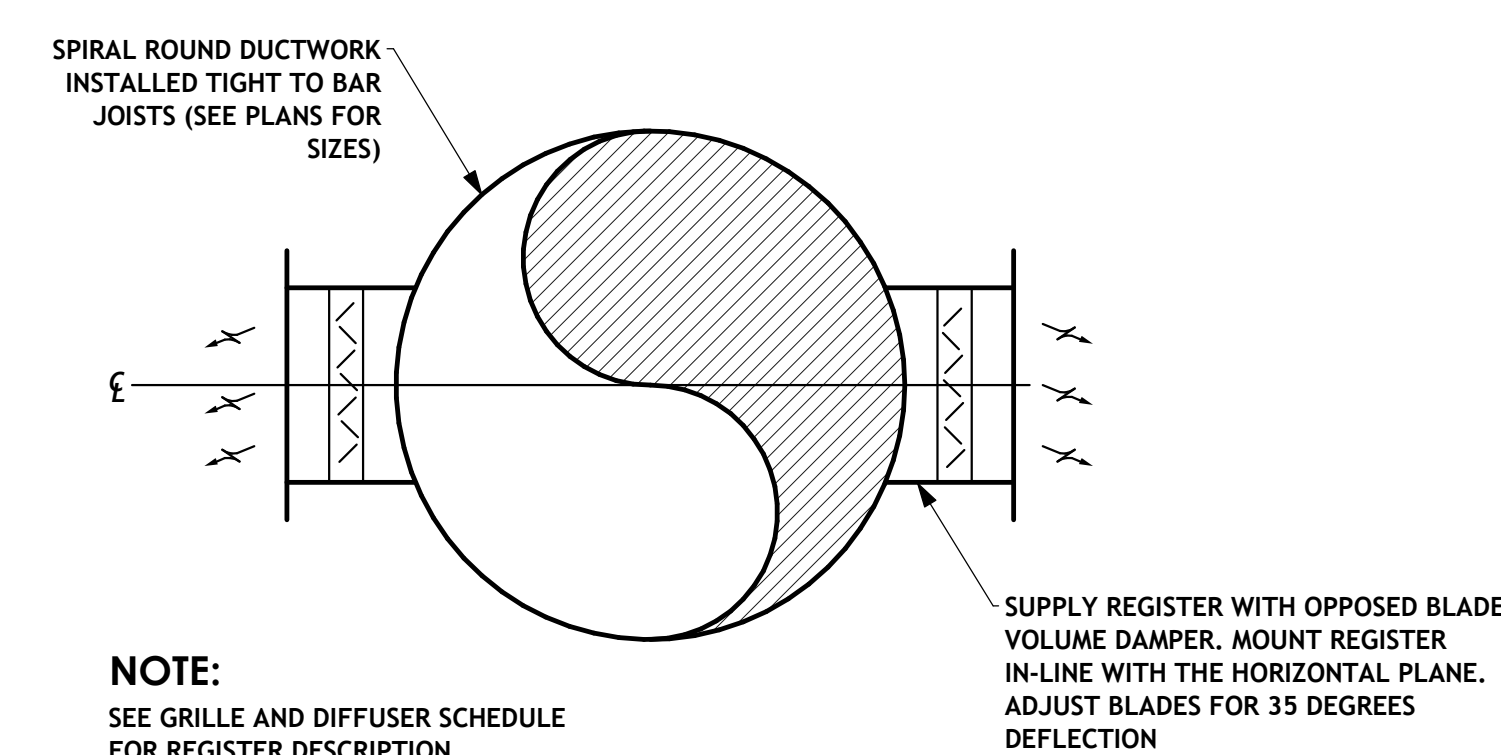
SUPPLY DUCT



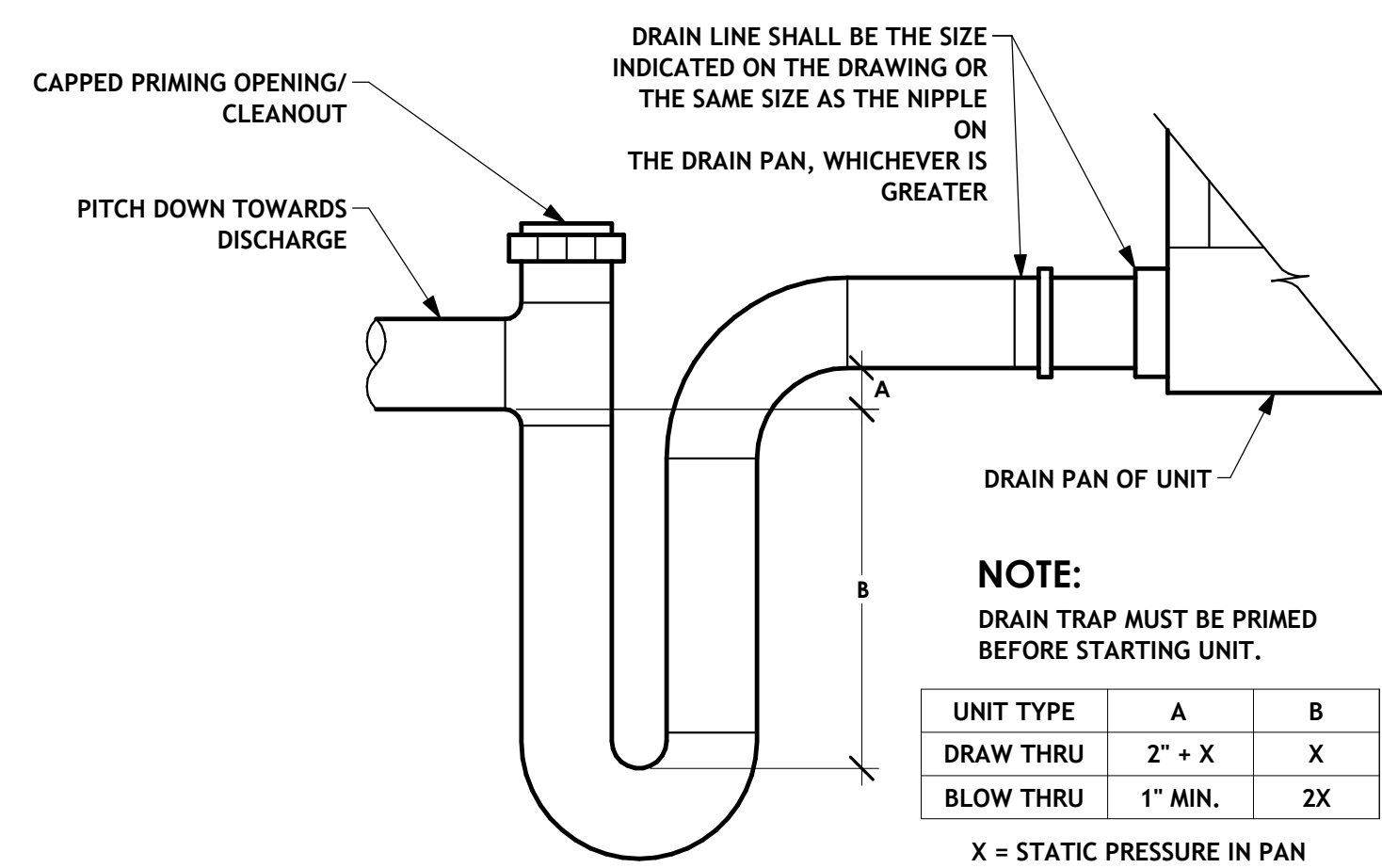
RETURN OR EXHAUST DUCT

FLAT OVAL DUCT BRANCH TAKE-OFF SIMILAR

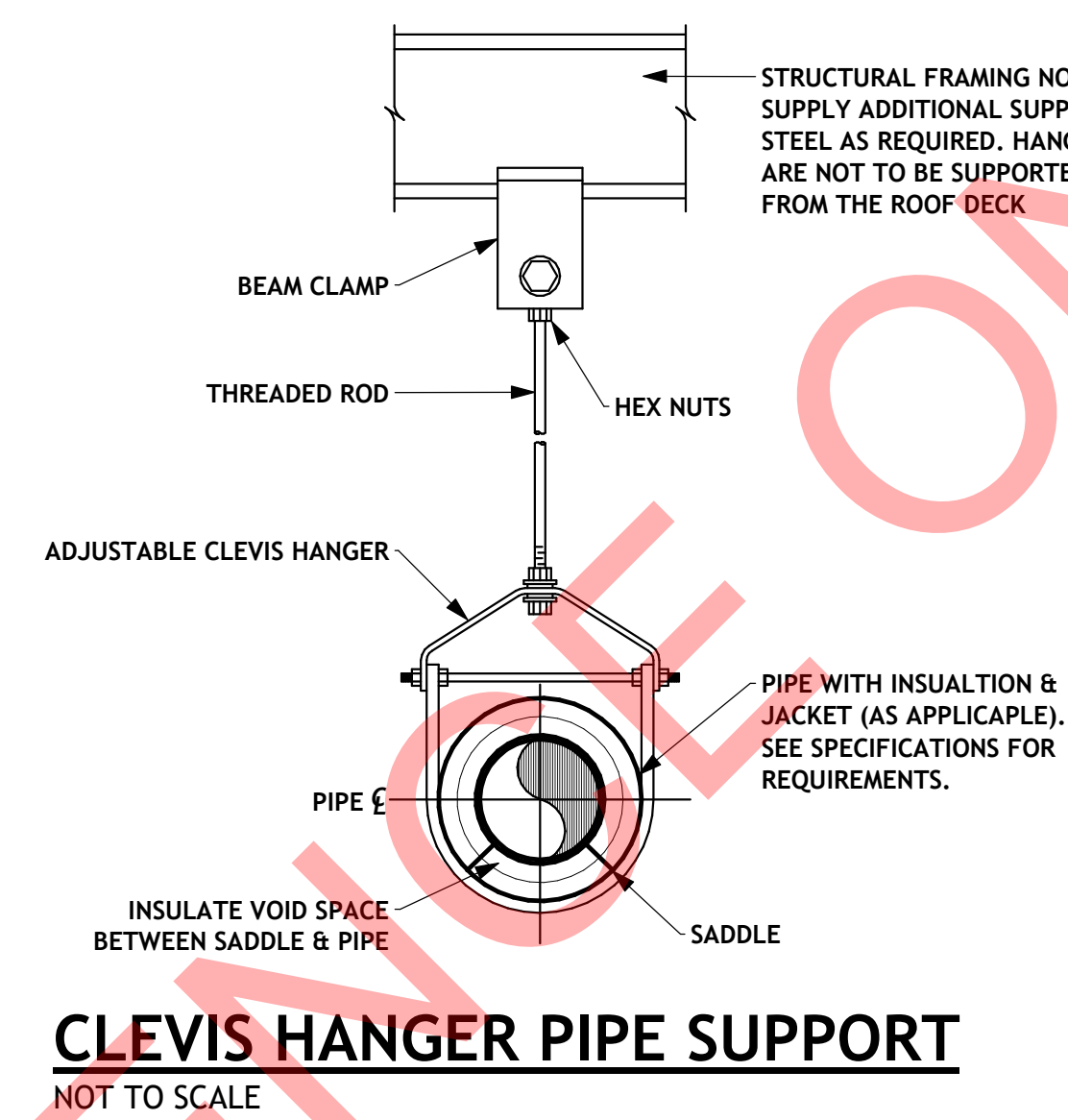
DUCT BRANCH TAKE-OFF DETAILS
NOT TO SCALE



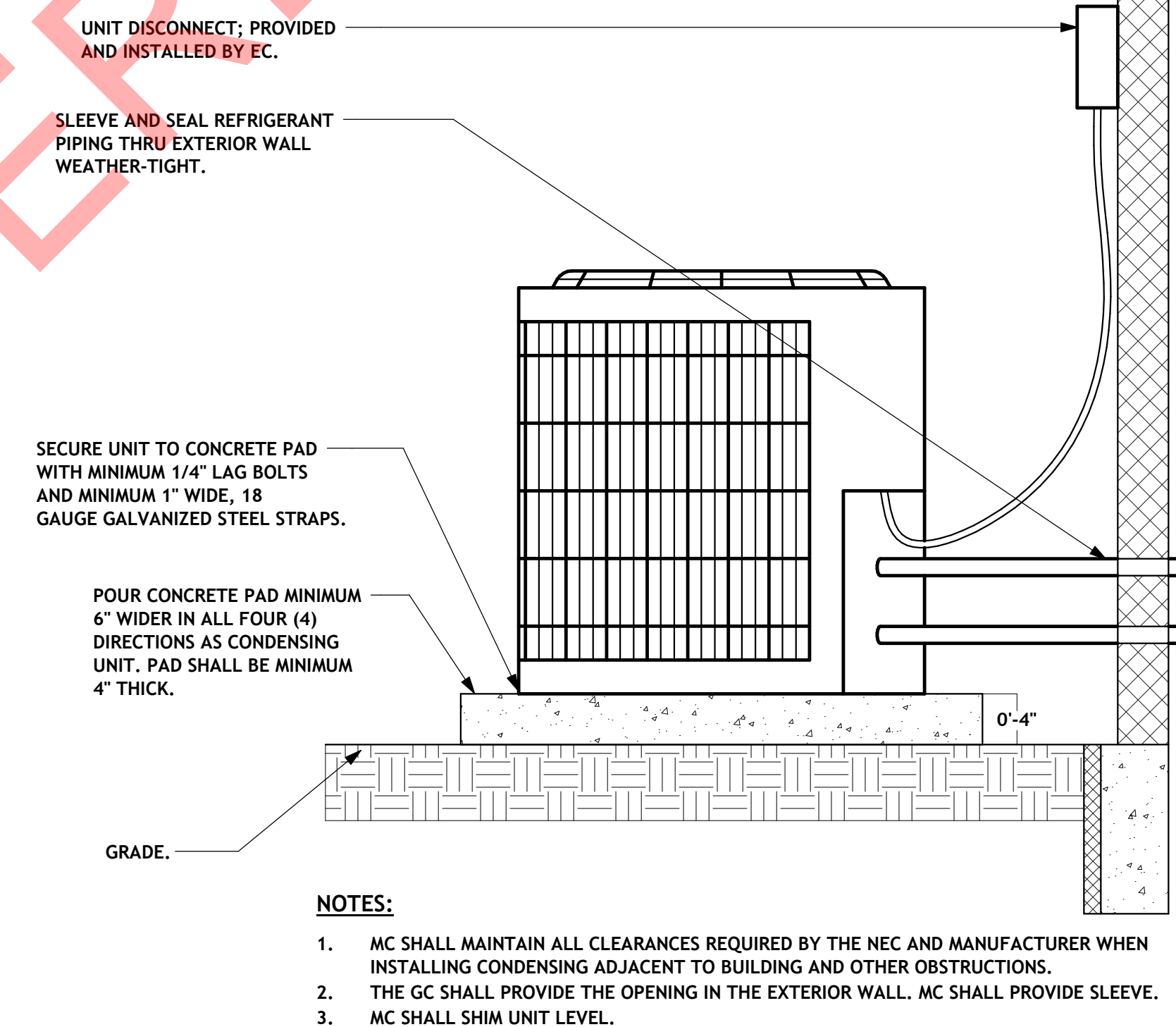
DUCT MOUNTED SUPPLY REGISTER DETAIL
NOT TO SCALE



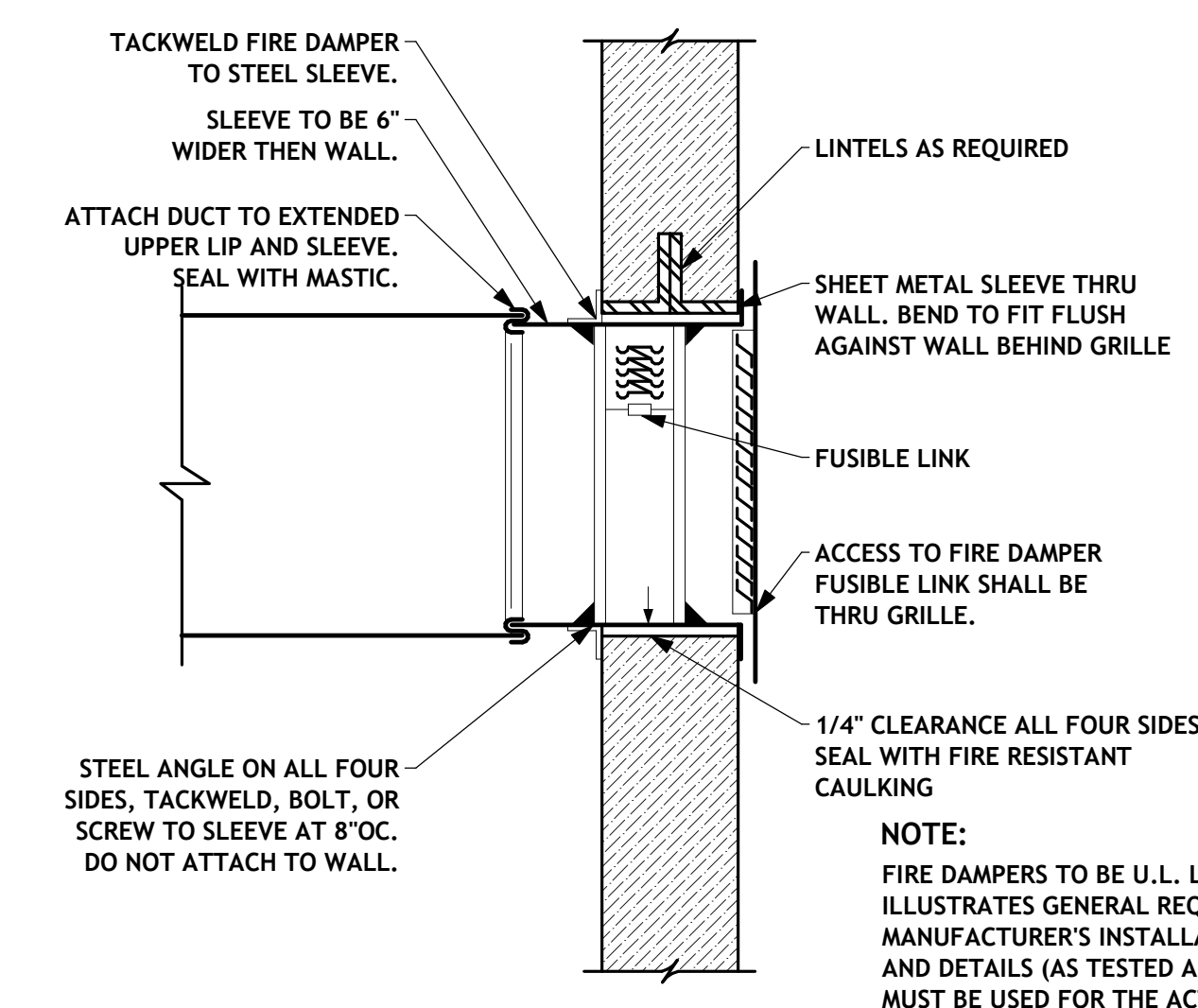
CONDENSATE DRAIN TRAP DETAIL
NOT TO SCALE



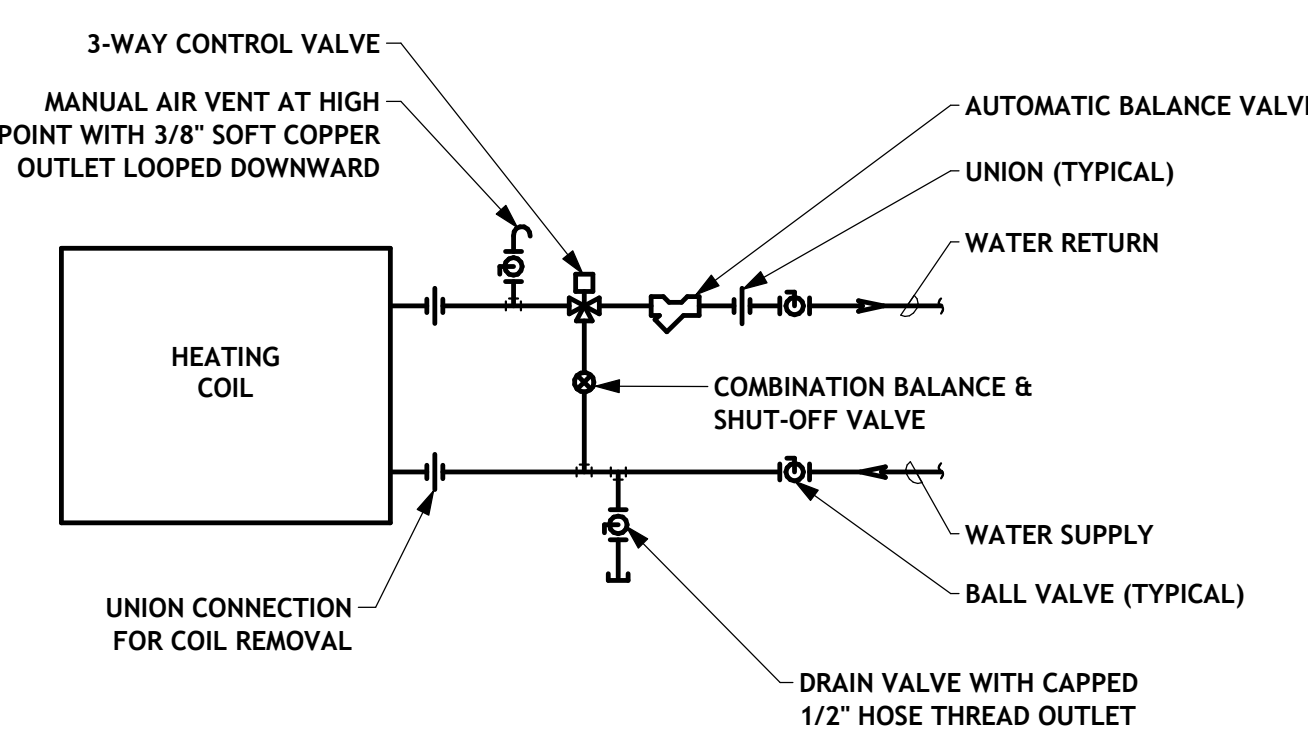
CLEVIS HANGER PIPE SUPPORT
NOT TO SCALE



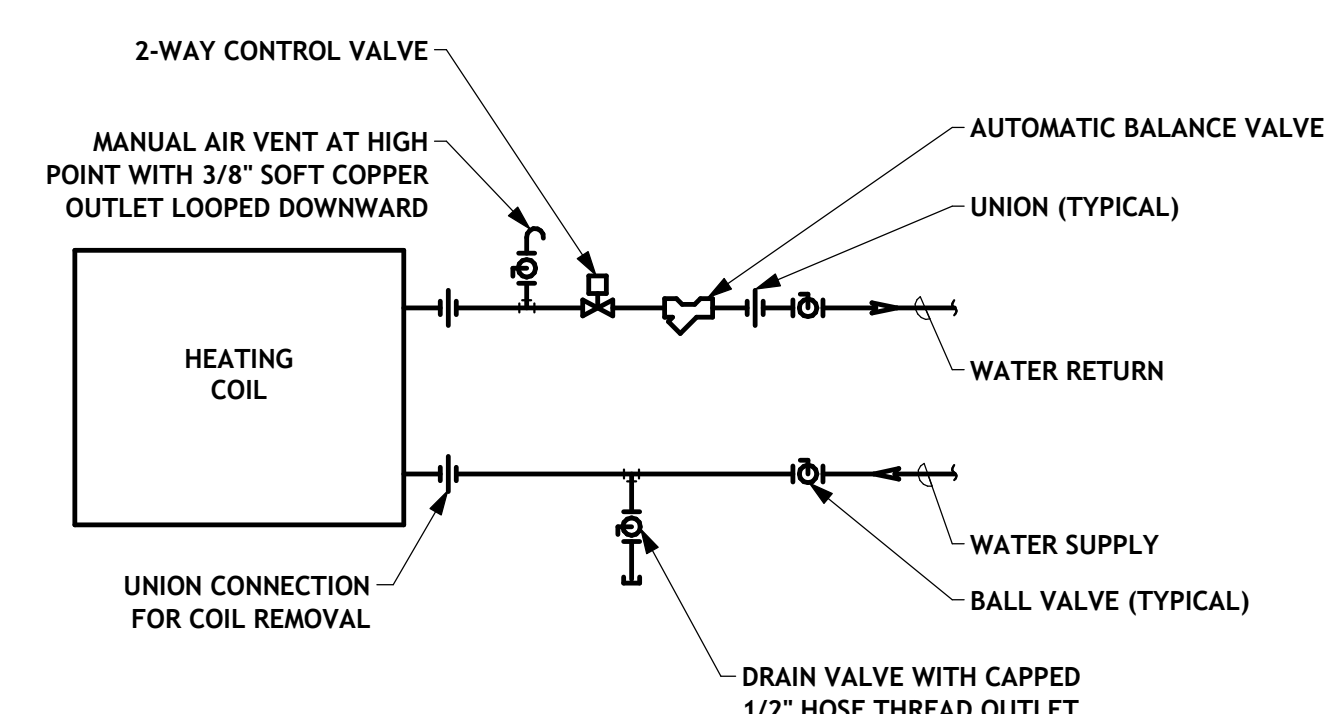
CONDENSING UNIT INSTALLATION DETAIL - GRADE
NOT TO SCALE



GRILLE ACCESS FIRE DAMPER DETAIL
NOT TO SCALE



VAV TERMINAL PIPING DIAGRAM - 3 WAY CONTROL VALVE
NOT TO SCALE



VAV AND UNIT HEATER PIPING DIAGRAM
NOT TO SCALE

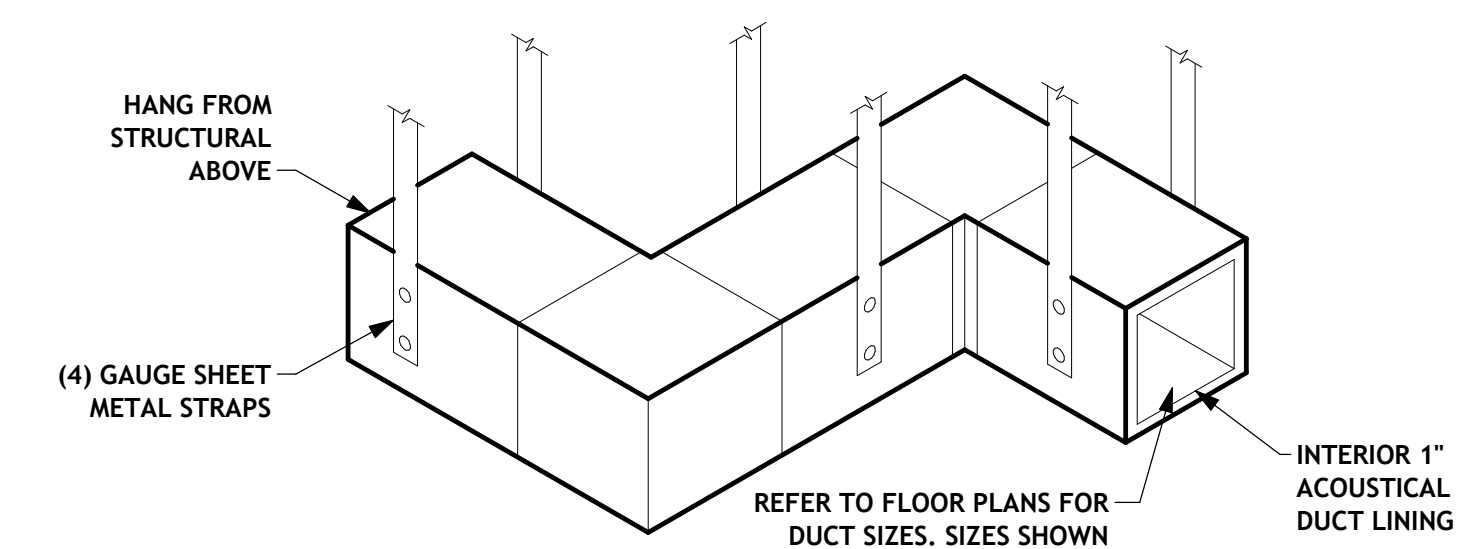


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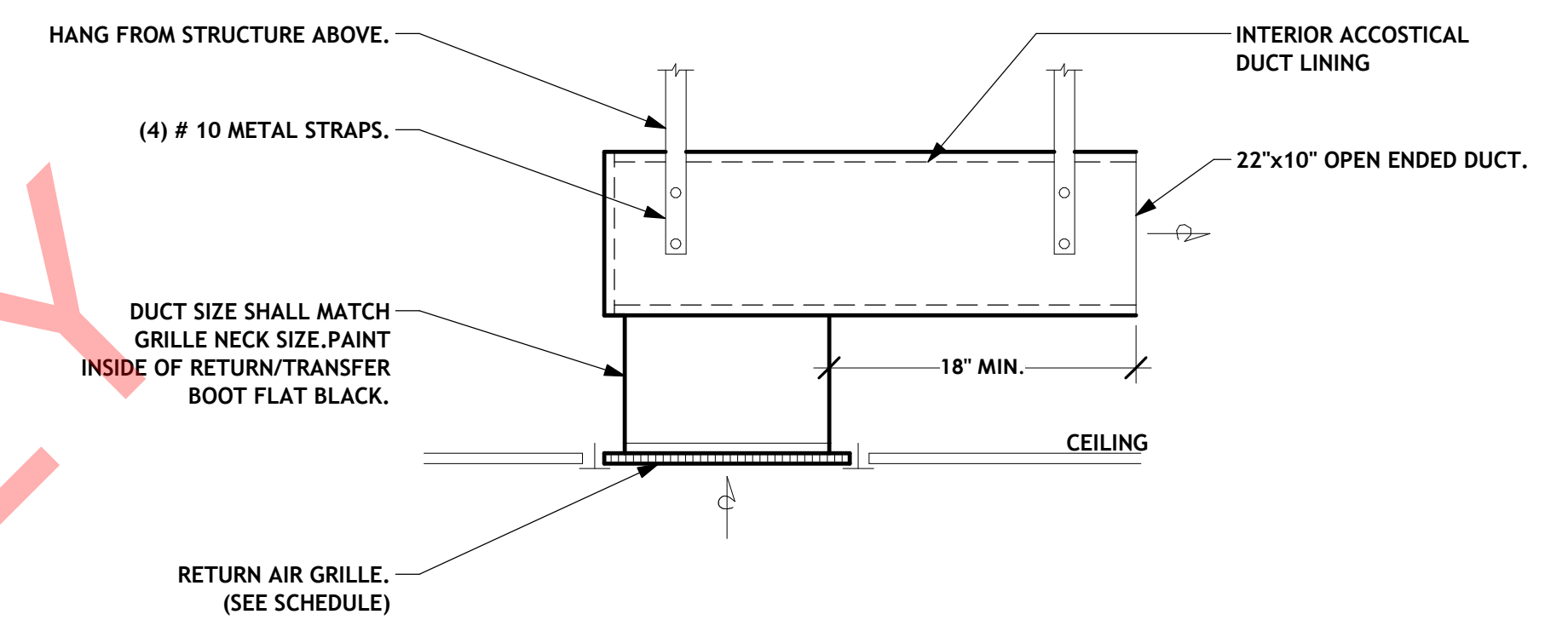
PROJECT NO. 24013.000

MECHANICAL SCHEDULES AND DETAILS

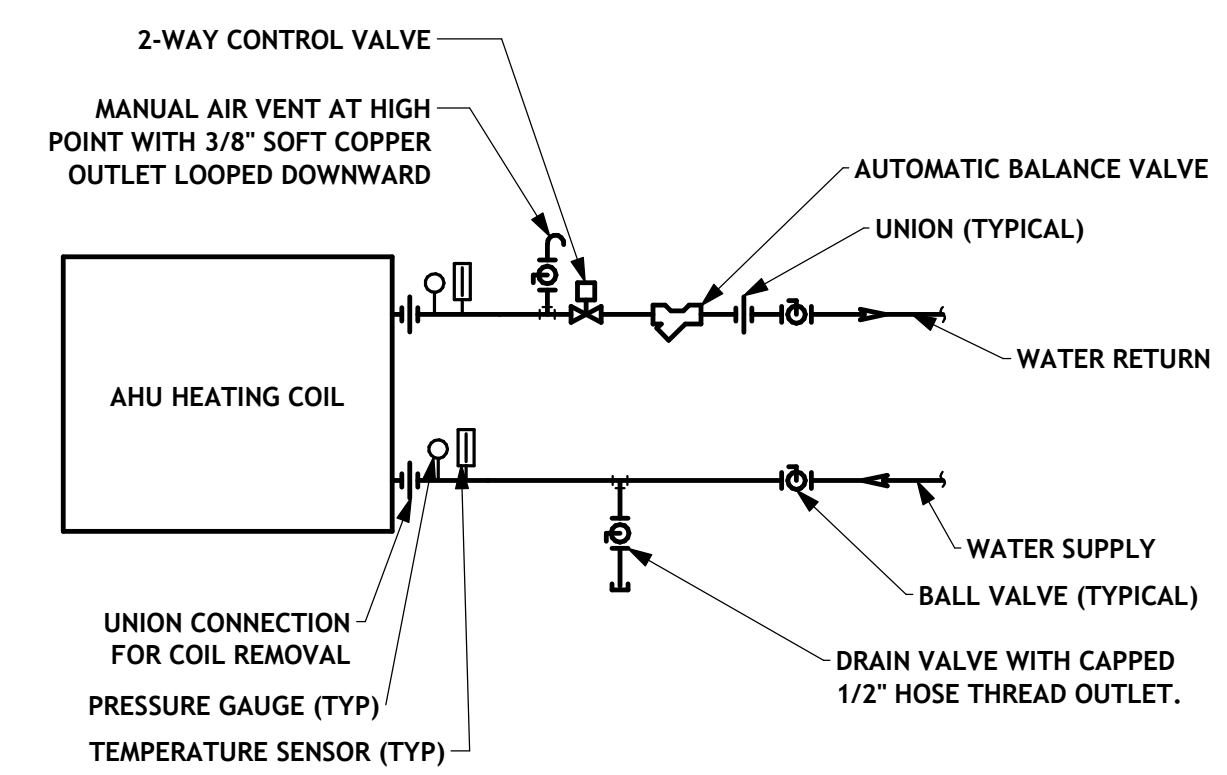
M405



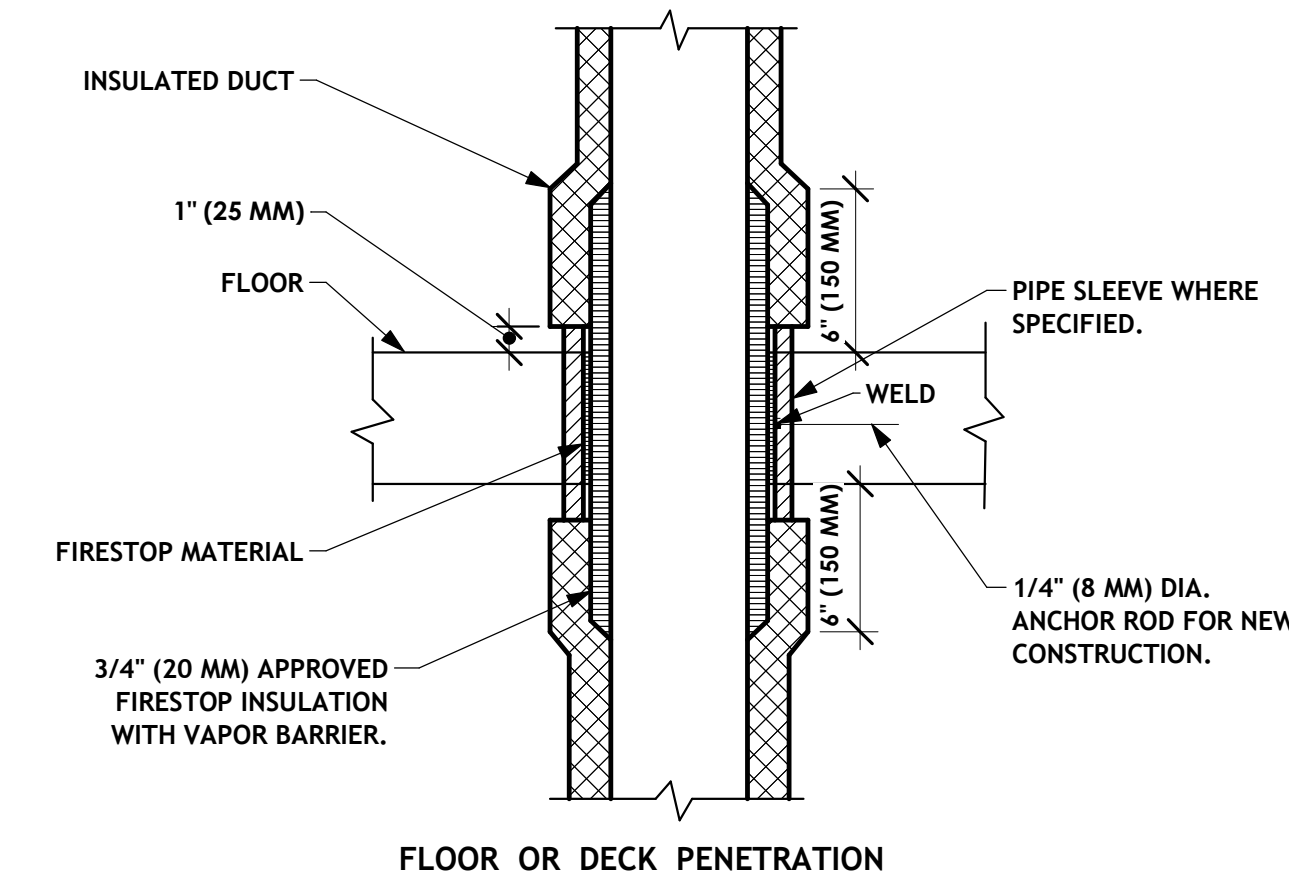
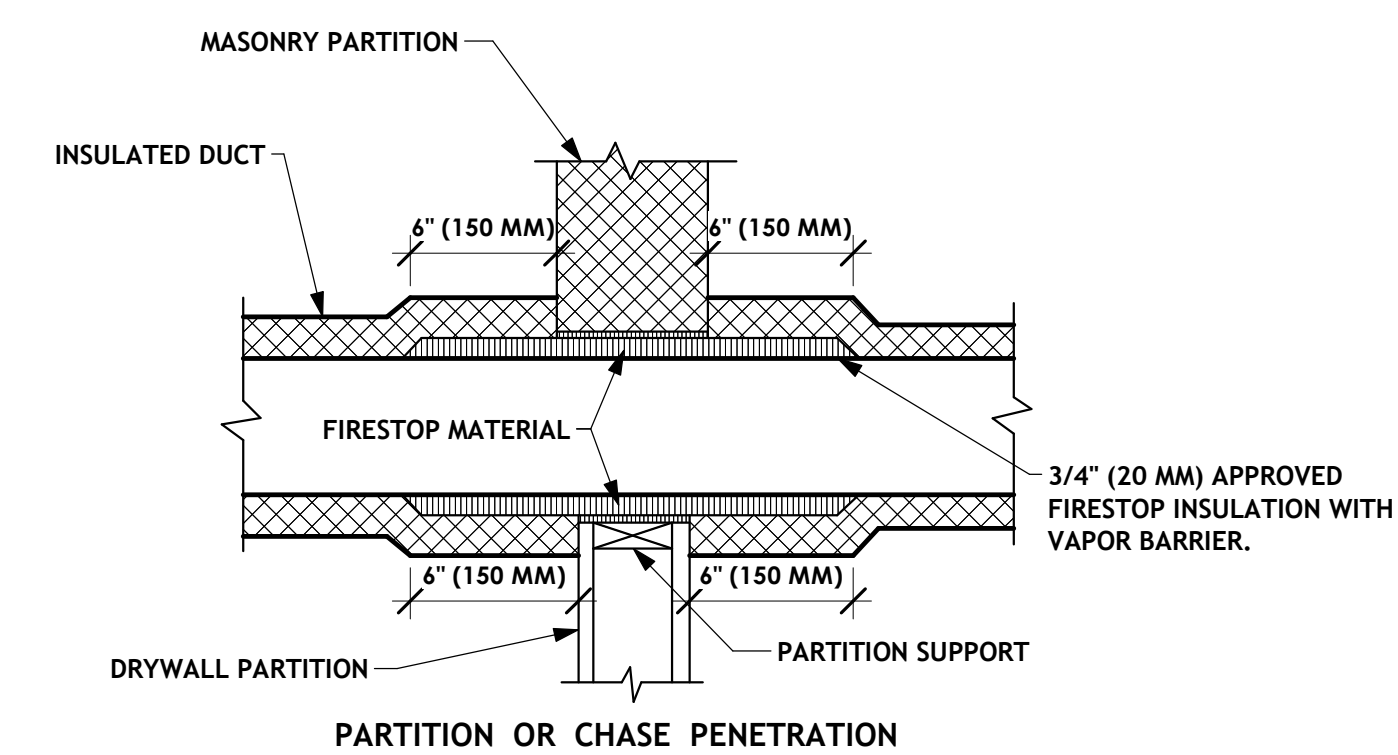
RETURN 'Z' DUCT AIR BOOT DETAIL
NOT TO SCALE



RETURN AIR BOOT DETAIL
NOT TO SCALE

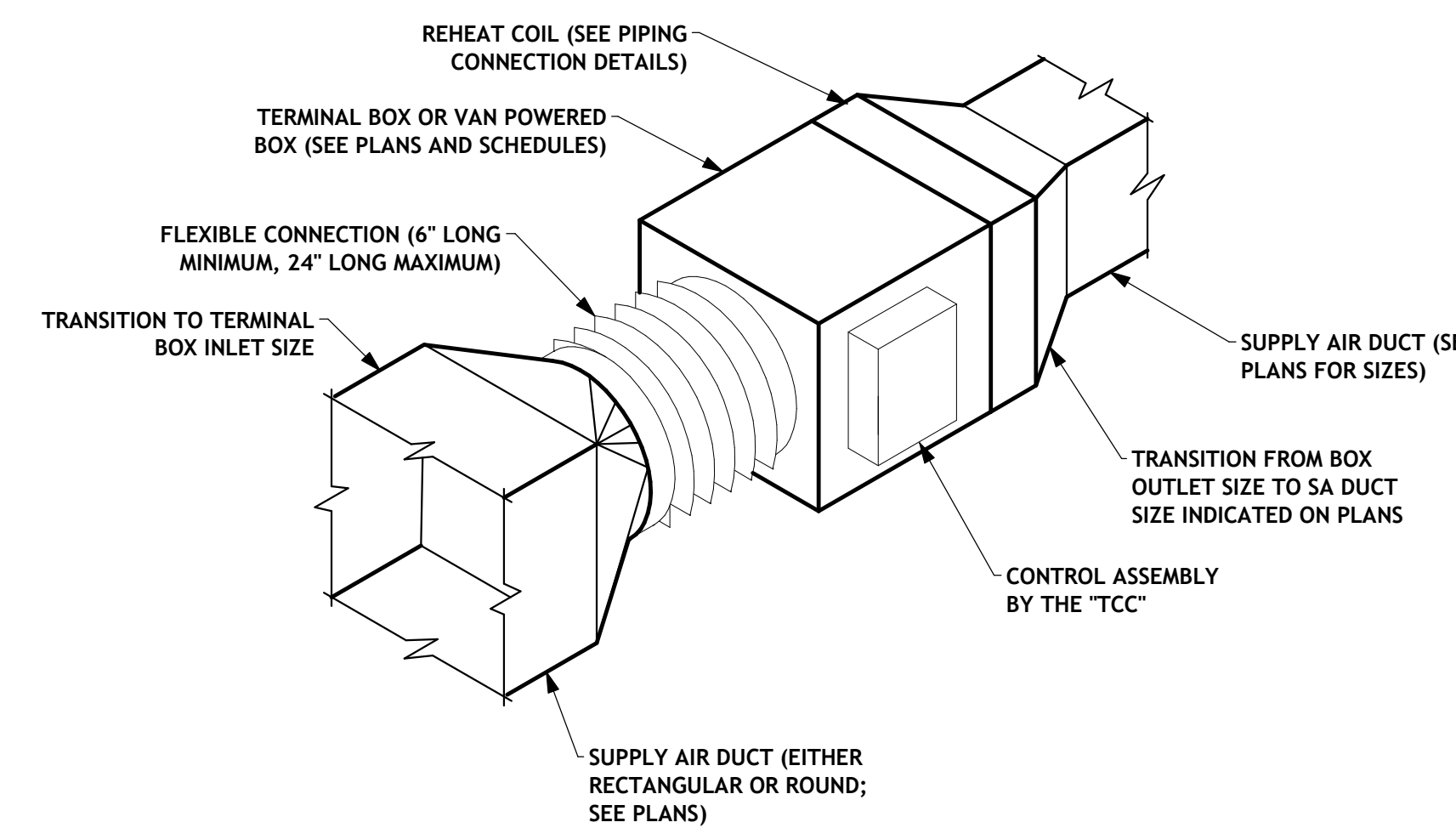


AIR HANDLING UNIT HEATING PIPING DIAGRAM
NOT TO SCALE

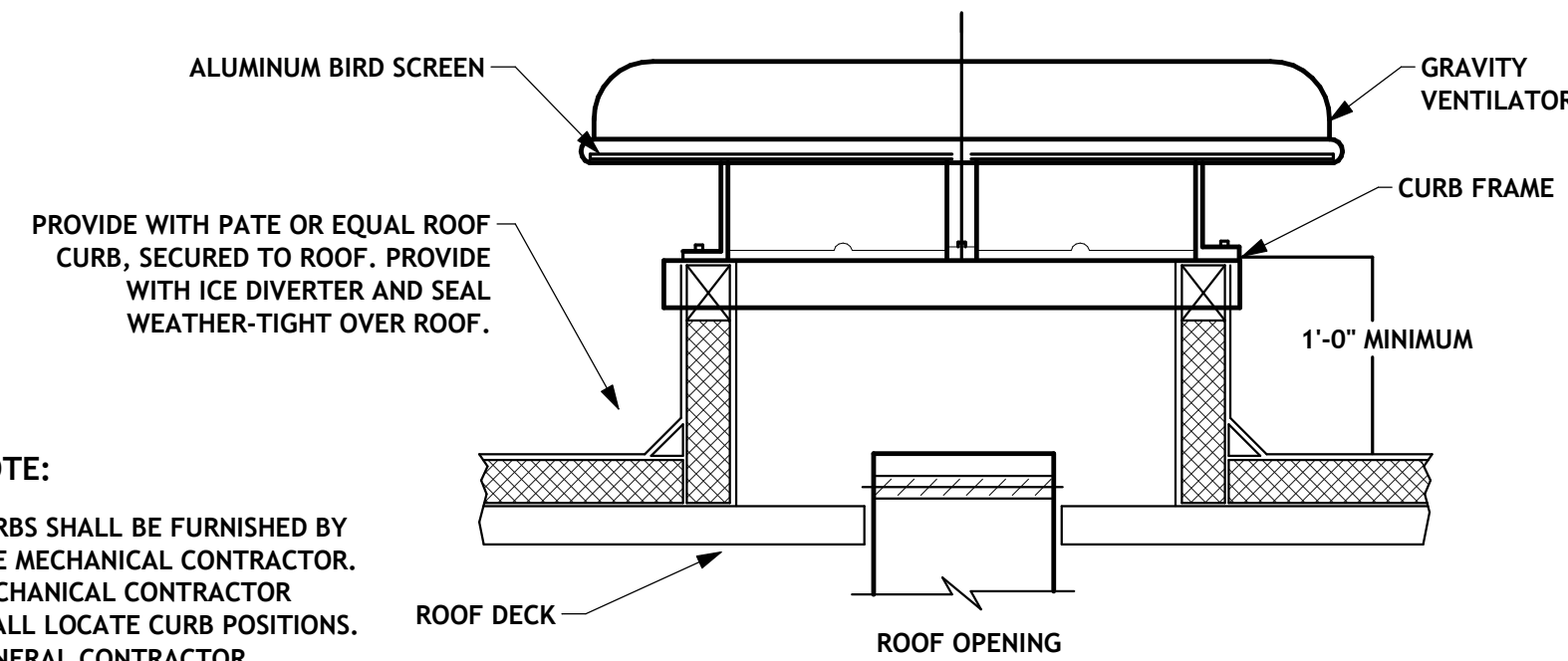


NOTE:
1. APPLICABLE TO PENETRATIONS OF ALL FIRE RATED MEMBRANES, IN ACCORDANCE WITH NFPA 101. REFER TO SPECIFICATIONS SECTION 07270, FIRE STOPPING SYSTEMS.

DUCT/PIPE PENETRATION OF FIRE/SMOKE BARRIERS
NOT TO SCALE

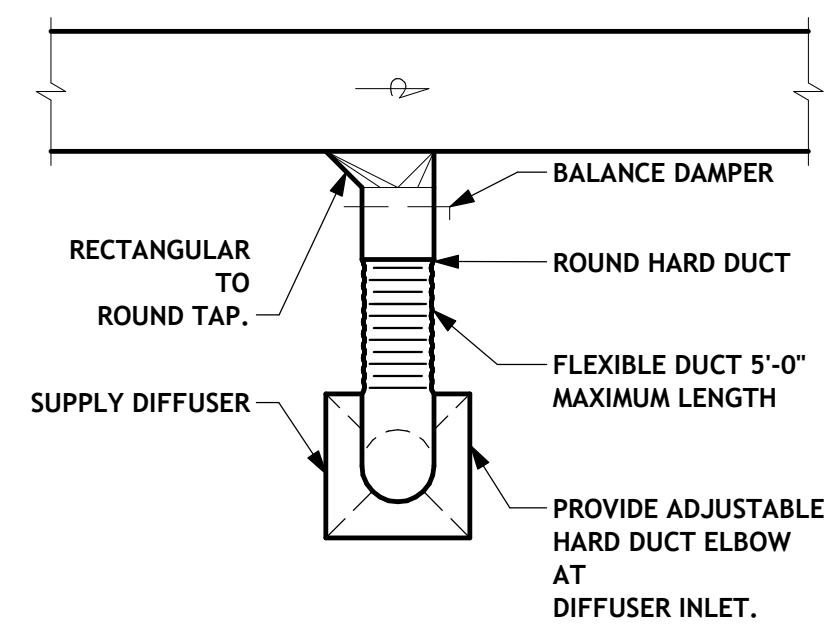


TERMINAL BOX DETAIL
NOT TO SCALE

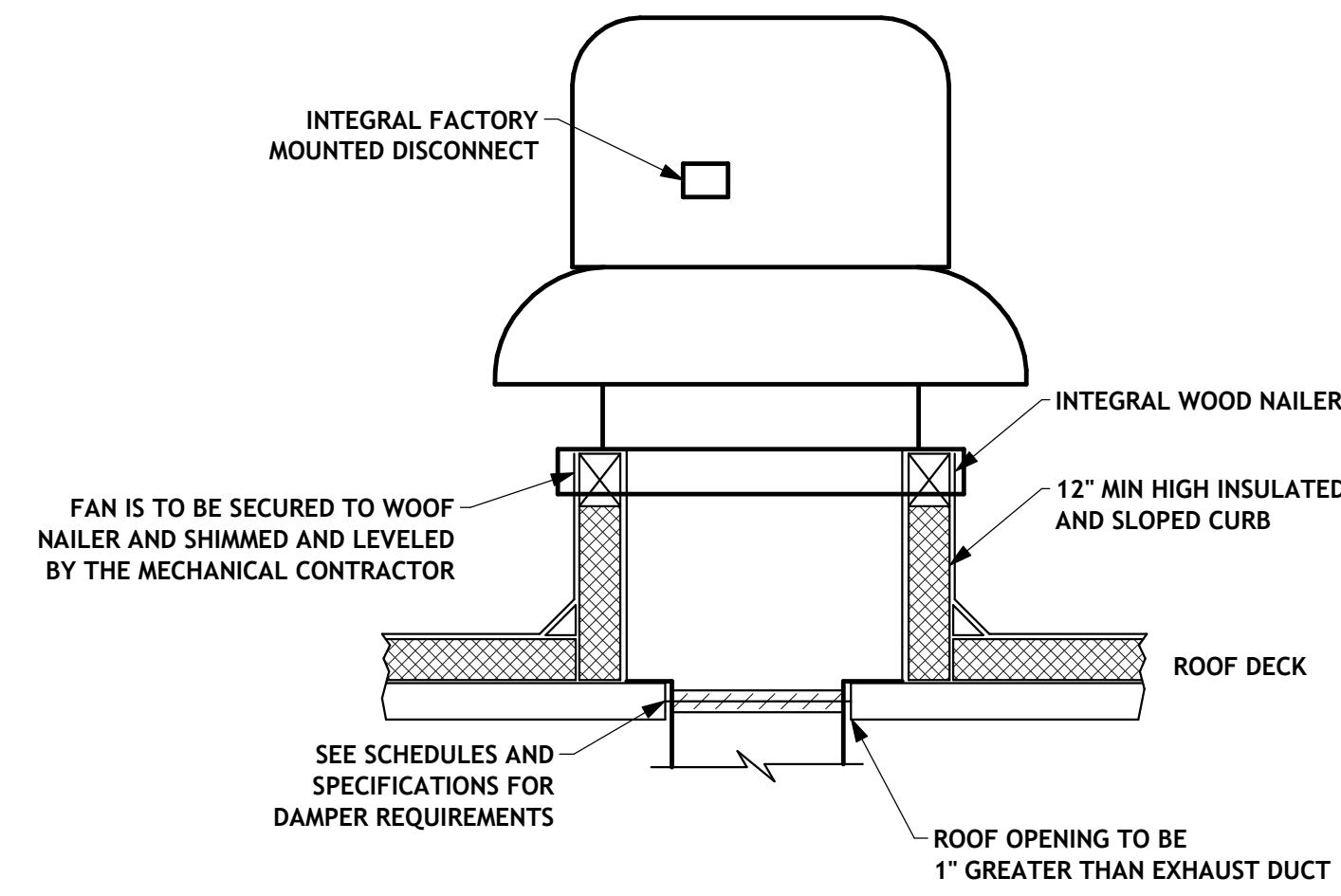


NOTE:
CURBS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL LOCATE CURB POSITIONS. GENERAL CONTRACTOR SHALL INSTALL CURBS AND ANY NECESSARY FLASHING.

ROOF MOUNTED GRAVITY VENTILATOR DETAIL FLAT ROOF
NOT TO SCALE

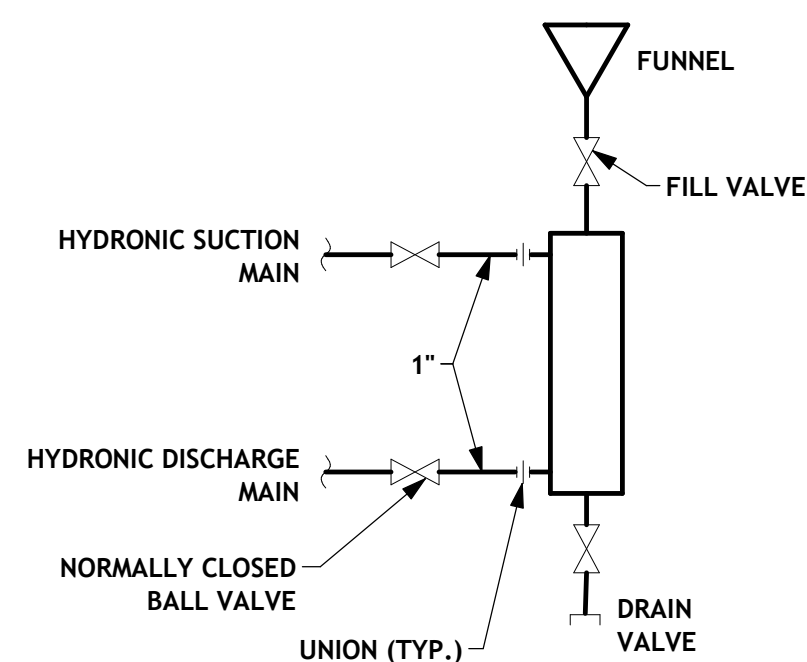


SUPPLY DIFFUSER WITH FLEXIBLE CONNECTOR
NOT TO SCALE

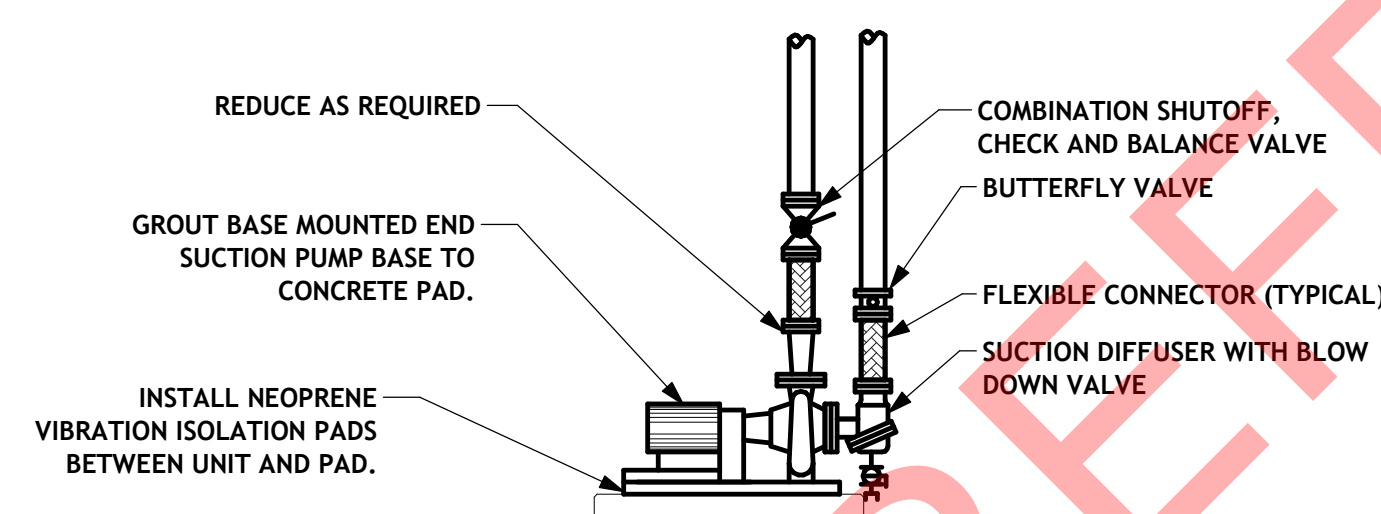


NOTES:
1. THE "WC" SHALL FURNISH AND LOCATE CURB.
2. THE "GC" SHALL PROVIDE OPENING AND INSTALL CURB.
3. THE "GC" SHALL PROVIDE FLASHING AND ROOFING.
4. COORDINATE ROOF WORK TO MAINTAIN ALL WARRANTIES.

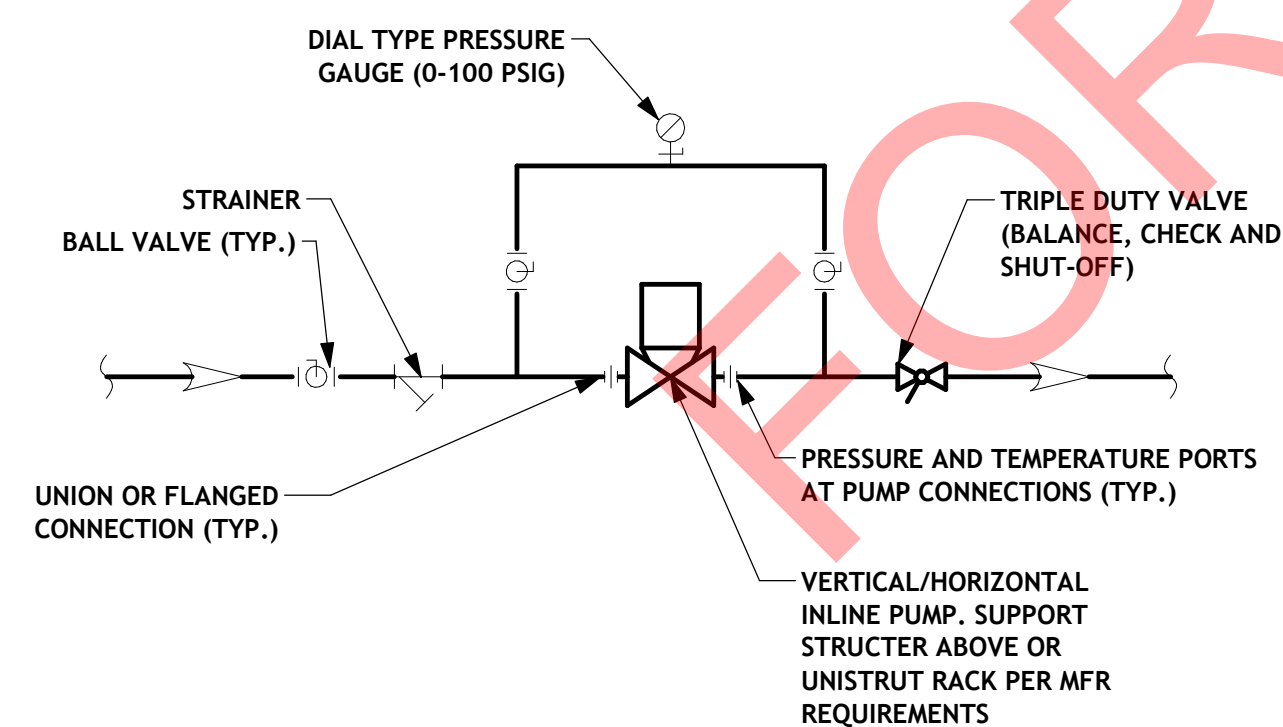
ROOF MOUNTED EXHAUST FAN DETAIL DOWN BLAST
NOT TO SCALE



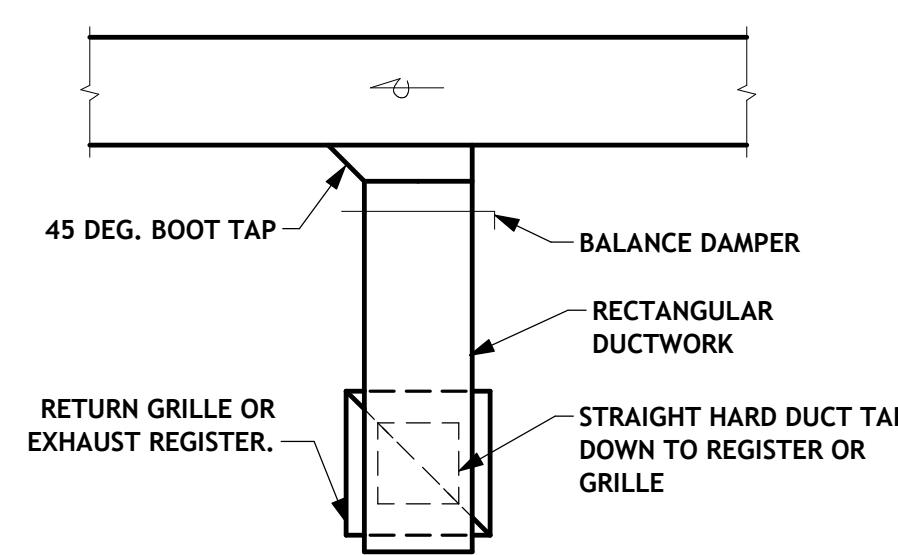
CHEMICAL FEEDER DETAIL
NOT TO SCALE



END SUCTION PUMP DETAIL
NOT TO SCALE



IN-LINE PUMP DETAIL
NOT TO SCALE



RETURN GRILLE OR EXHAUST REGISTER
NOT TO SCALE



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MECHANICAL SCHEDULES AND DETAILS

M406

SEQUENCE OF OPERATIONS:

GENERAL:

ALL CONTROL POINTS (LISTED AS AI, BI, AO, BO), FLOWS, SENSORS, ETC SHALL BE VISIBLE IN THE BUILDING AUTOMATION SYSTEM AS SHOWN IN THE DIAGRAM AND THIS SEQUENCE. THE OWNER SHALL HAVE FULL TRENDDING AND MONITORING CAPABILITIES OF THE HEATING WATER SYSTEM THAT SHALL BE DEMONSTRATED DURING OWNER TRAINING. ADDITIONAL CONTROL POINTS MAY BE REQUIRED BEYOND WHAT IS SHOWN ON THIS DIAGRAM AND ARE TO BE PROVIDED AS NEEDED BY THE FINAL TEMPERATURE CONTROLS VENDOR TO MAINTAIN SEQUENCING LISTED BELOW. ALL CONTROL POINTS LISTED HERE TO BE INCORPORATED INTO BAS BY THE FINAL TEMPERATURE CONTROLS VENDOR SUCH THAT ALL POINTS SHOWN ARE VISIBLE AND ADJUSTABLE (WHERE APPLICABLE) BY THE SYSTEM OPERATOR.

HEATING SYSTEM ENABLE/DISABLE:

UPON A DROP IN OUTDOOR AIR TEMPERATURE BELOW 70.0 DEG F (ADJ.), THE HEATING WATER SYSTEM COMPONENTS SHALL BE ENABLED. SYSTEMS SHALL ALSO BE ENABLED UPON A CALL FOR REHEAT FROM ASSOCIATED AIR HANDLING EQUIPMENT AND VAV TERMINAL UNITS. EQUIPMENT CURRENTLY SCHEDULED TO BE LEAD SHALL BE STARTED AND FACTORY BLOWER CONTROLS SHALL OPERATE THE BOILER TO MAINTAIN SETPOINT OF THE PRIMARY SYSTEM HEATING WATER LOOP SET BY THE BAS SYSTEM (ADJ.). UPON A RISE IN OUTDOOR AIR TEMPERATURE TO ABOVE 75 DEG F (ADJ.), AND WHERE THERE IS NO CALL FOR REHEAT OR DURING UNOCCUPIED MODE, THE HEATING WATER SYSTEM SHALL BE DISABLED AND PUMPS AND BOILERS SHALL CEASE OPERATION.

LEAD/LAG SEQUENCING:

THE BOILER, BOILER PUMP, AND SECONDARY PUMP LEAD/LAG SEQUENCE SHALL BE BASED ON A WEEKLY SCHEDULE. FROM THE BAS, AN OPERATOR SHALL BE ABLE TO MANUALLY CHANGE THE LEAD/LAG SEQUENCE. REFER TO SEQUENCING FOR EACH SPECIFIC PIECE OF EQUIPMENT BELOW FOR TIMING REQUIREMENTS RELATIVE TO LEAD/LAG START UP/SHUT DOWN.

BOILER/PUMP FAILURE RELATIVE TO LEAD/LAG OPERATION:

WHEN A PUMP/BOILER FAILS, AN ALARM SHALL BE ANNUNCIATED AT THE BAS. THE LEAD/LAG AUTOMATION SHALL BE DISABLED AND THE OPERATIONAL PUMP/BOILER SHALL MAINTAIN OPERATION. ONCE THE ISSUE/ALARM HAS BEEN RESOLVED, THE OPERATOR SHALL HAVE CONTROL TO CLEAR THE ALARM, RE-ENABLING THE LEAD/LAG SEQUENCE.

BOILER CONTROL:

ONCE THE LEAD BOILER IS ENABLED, THE ADD SEQUENCE OF ADDITIONAL BOILERS SHALL BE DISABLED FOR A PERIOD OF 30 MINUTES (ADJ.). ADDITIONAL BOILERS ARE ADDED IF THE HOT WATER DISTRIBUTION SYSTEM SUPPLY TEMPERATURE FALLS 5.0 DEG. F (ADJ.) BELOW THE HOT WATER SETPOINT FOR A PERIOD OF 10 MINUTES (ADJ.) OR MORE.

THE HOT WATER SUPPLY TEMPERATURE SETPOINT SHALL BE LINEARLY RESET FROM 110.0 DEG. F (ADJ.) TO 180.0 DEG. F (ADJ.) AS THE OUTSIDE AIR TEMPERATURE FALLS FROM 70.0 DEG. F (ADJ.) TO 0.0 DEG. F (ADJ.)

HOT WATER SECONDARY PUMP SPEED:

THE BAS CONTROLLER SHALL MONITOR THE HOT WATER SYSTEM DIFFERENTIAL PRESSURE TRANSMITTER. WHEN THE PUMP VFD IS ENABLED, THE BAS CONTROLLER SHALL CONTROL THE ANALOG SPEED SIGNAL SENT TO THE PUMP VFD TO MAINTAIN A HOT WATER DIFFERENTIAL PRESSURE SETPOINT AS LOW AS POSSIBLE TO MAINTAIN REQUIRED FLOW TO WORK WITH TAB TO DETERMINE SETPOINT. COORDINATE SETPOINT IN FIELD WITH TAB CONTRACTOR.

FREEZE PROTECTION:

WHEN THE OUTDOOR AIR TEMPERATURE FALLS BELOW 40.0 DEG. F (ADJ.), THE LEAD SECONDARY HOT WATER DISTRIBUTION PUMP FOR EACH SYSTEM (WHERE APPLICABLE) SHALL OPERATE CONTINUOUSLY TO PROVIDE HOT WATER CIRCULATION TO ALL ASSOCIATED HOT WATER COILS.

SYSTEM BYPASS:

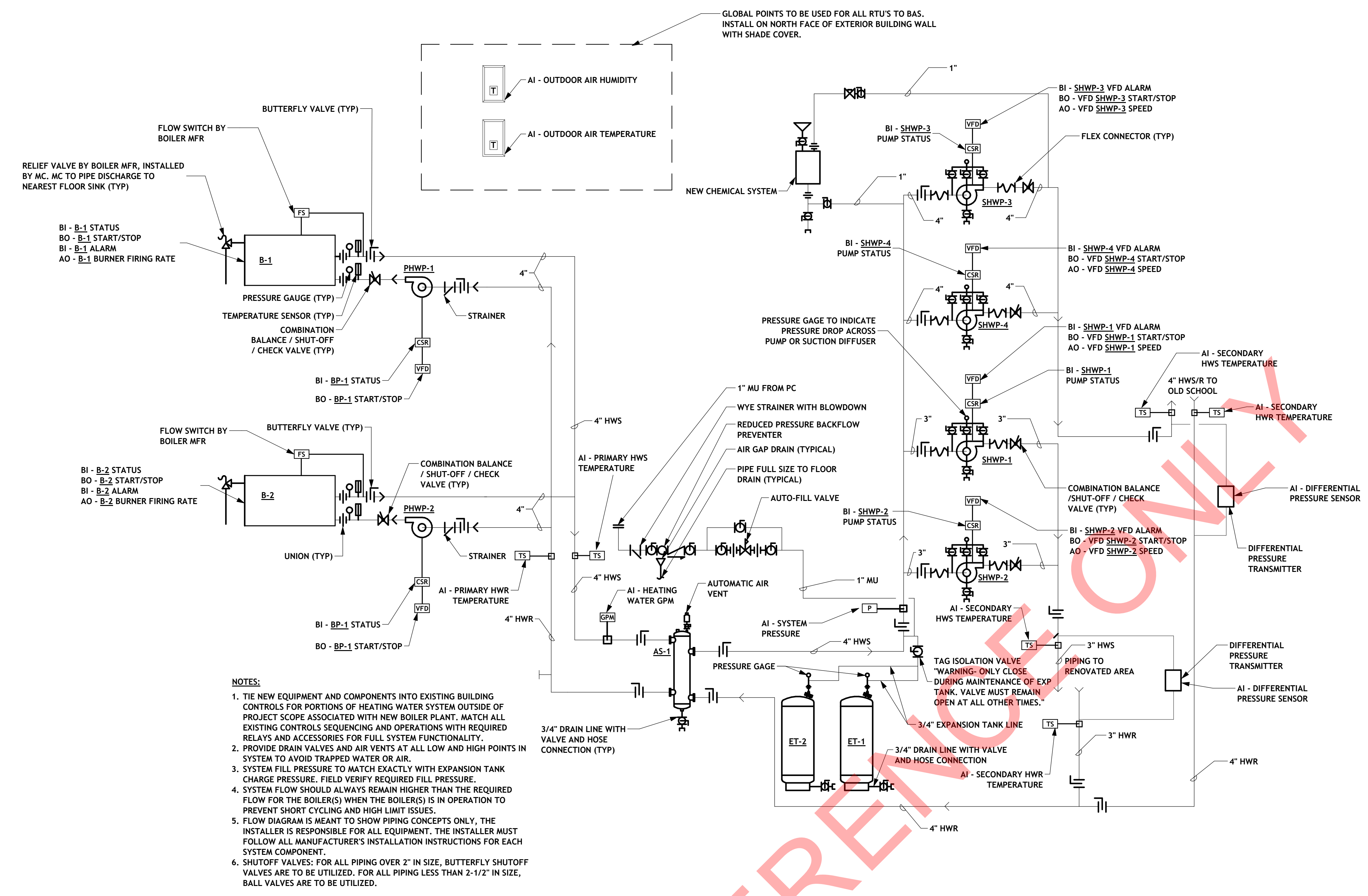
SHWP-1, 2 DISTRIBUTION SYSTEM SHALL UTILIZE 3-WAY VALVES AT INDICATED VAV'S AND EXISTING 3-WAY VALVES ON EQUIPMENT TO MAINTAIN FLOW OF 10 GPM PENDING FINAL SUBMITTED PUMP.

SHWP-3, 4 DISTRIBUTION SYSTEM SHALL UTILIZE EXISTING DOWNSTREAM 3-WAY VALVES ON EQUIPMENT TO MAINTAIN MINIMUM 20 GPM FLOW PENDING FINAL SUBMITTED PUMP.

COORDINATE FINAL BYPASS FLOWS WITH FINAL SUBMITTED PUMP MINIMUM FLOWS.

TEMPERATURE CONTROLS GENERAL NOTE:

ALL TEMPERATURE CONTROLS AND ACCESSORIES SHALL BE PROVIDED BY SINGLE VENDOR. ACCEPTABLE VENDORS BELOW:
- RELIABLE CONTROLS
- AUTOMATED LOGIC
- SIEMENS

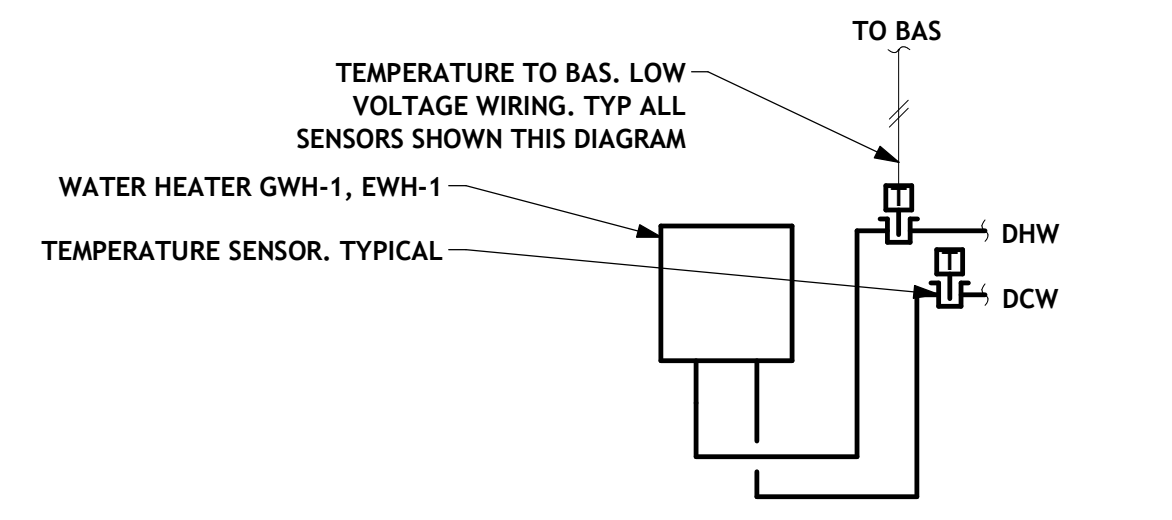


- NOTES:**
1. THE NEW EQUIPMENT AND COMPONENTS INTO EXISTING BUILDING CONTROLS FOR PORTIONS OF HEATING WATER SYSTEM OUTSIDE OF PROJECT SCOPE ASSOCIATED WITH NEW BOILER PLANT. MATCH ALL EXISTING CONTROLS SEQUENCING AND OPERATIONS WITH REQUIRED RELAYS AND ACCESSORIES FOR FULL SYSTEM FUNCTIONALITY.
 2. PROVIDE DRAIN VALVES AND AIR VENTS AT ALL LOW AND HIGH POINTS IN SYSTEM TO AVOID TRAPPED WATER OR AIR.
 3. SYSTEM FILL PRESSURE TO MATCH EXACTLY WITH EXPANSION TANK CHARGE PRESSURE. FIELD VERIFY REQUIRED FILL PRESSURE.
 4. SYSTEM FLOW SHOULD ALWAYS REMAIN HIGHER THAN THE REQUIRED FLOW FOR THE BOILER(S) WHEN THE BOILER(S) IS IN OPERATION TO PREVENT SHORT CYCLING AND HIGH LIMIT ISSUES.
 5. FLOW DIAGRAM IS MEANT TO SHOW PIPING CONCEPTS ONLY, THE INSTALLER IS RESPONSIBLE FOR ALL EQUIPMENT, THE INSTALLER MUST FOLLOW ALL MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR EACH SYSTEM COMPONENT.
 6. SHUTOFF VALVES: FOR ALL PIPING OVER 2" IN SIZE, BUTTERFLY SHUTOFF VALVES ARE TO BE UTILIZED. FOR ALL PIPING LESS THAN 2-1/2" IN SIZE, BALL VALVES ARE TO BE UTILIZED.

HEATING WATER SYSTEM PIPING SCHEMATIC AND CONTROLS - ALTERNATE 3
NOT TO SCALE

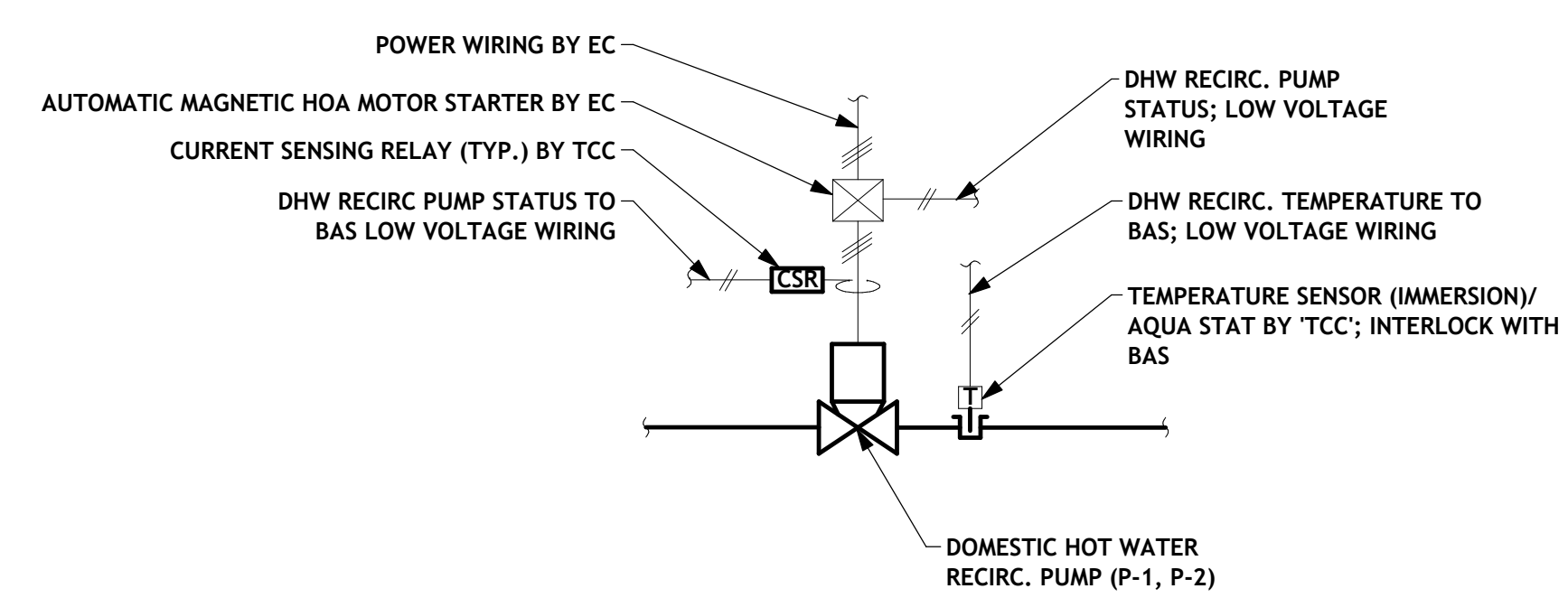
TEMPERATURE CONTROL ABBREVIATIONS

TAG	EQUIPMENT
ADJ	ADJUSTABLE
AFMS	AIRFLOW MEASURING STATION
AFS	AIR FLOW SWITCH
AI -	ANALOG INPUT - POINT NAME
AO -	ANALOG OUTPUT - POINT NAME
BAS	BUILDING AUTOMATION SYSTEM
BI -	BINARY INPUT - POINT NAME
BO -	BINARY OUTPUT - POINT NAME
CC	HYDRONIC COOLING COIL
CO	DUCT/UNIT CO SENSOR
CO2	DUCT/UNIT CO2 SENSOR
CSR	CURRENT SENSING RELAY
DDC	DIRECT DIGITAL CONTROLS
DD	DUCT DETECTOR
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
DX/C	DX COOLING COIL
EC	ELECTRICAL CONTRACTOR
ECM	ELECTRONICALLY COMMUNATED MOTOR
FP	FILTER DIFFERENTIAL PRESSURE SENSOR
FS	FLOW SWITCH
FSTAT	DUCT MOUNTED FREEZESTAT
GPM	HYDRONIC FLOW SENSOR
H	DUCT MOUNTED HUMIDITY SENSOR
H/C	ELECTRIC REHEAT COIL
HQA	HAND/OFF/AUTO CONTROLLER
HSP/LSP	DUCT MOUNTED STATIC PRESSURE SENSOR
J	JUNCTION BOX (BY EC)
MC	MECHANICAL CONTRACTOR
P	DUCT MOUNTED PRESSURE SENSOR
PH/C	HYDRONIC PREHEAT COIL
PPM	PARTS PER MILLION
PS	HYDRONIC PRESSURE MONITOR
RF	RETURN FAN
RH/C	HYDRONIC REHEAT COIL
SD	DUCT/UNIT SMOKE DETECTOR
SF	SUPPLY FAN
T	DUCT MOUNTED TEMPERATURE SENSOR
TCC	TEMPERATURE CONTROL CONTRACTOR
TS	HYDRONIC TEMPERATURE SENSOR
VFD	VARIABLE FREQUENCY DRIVE

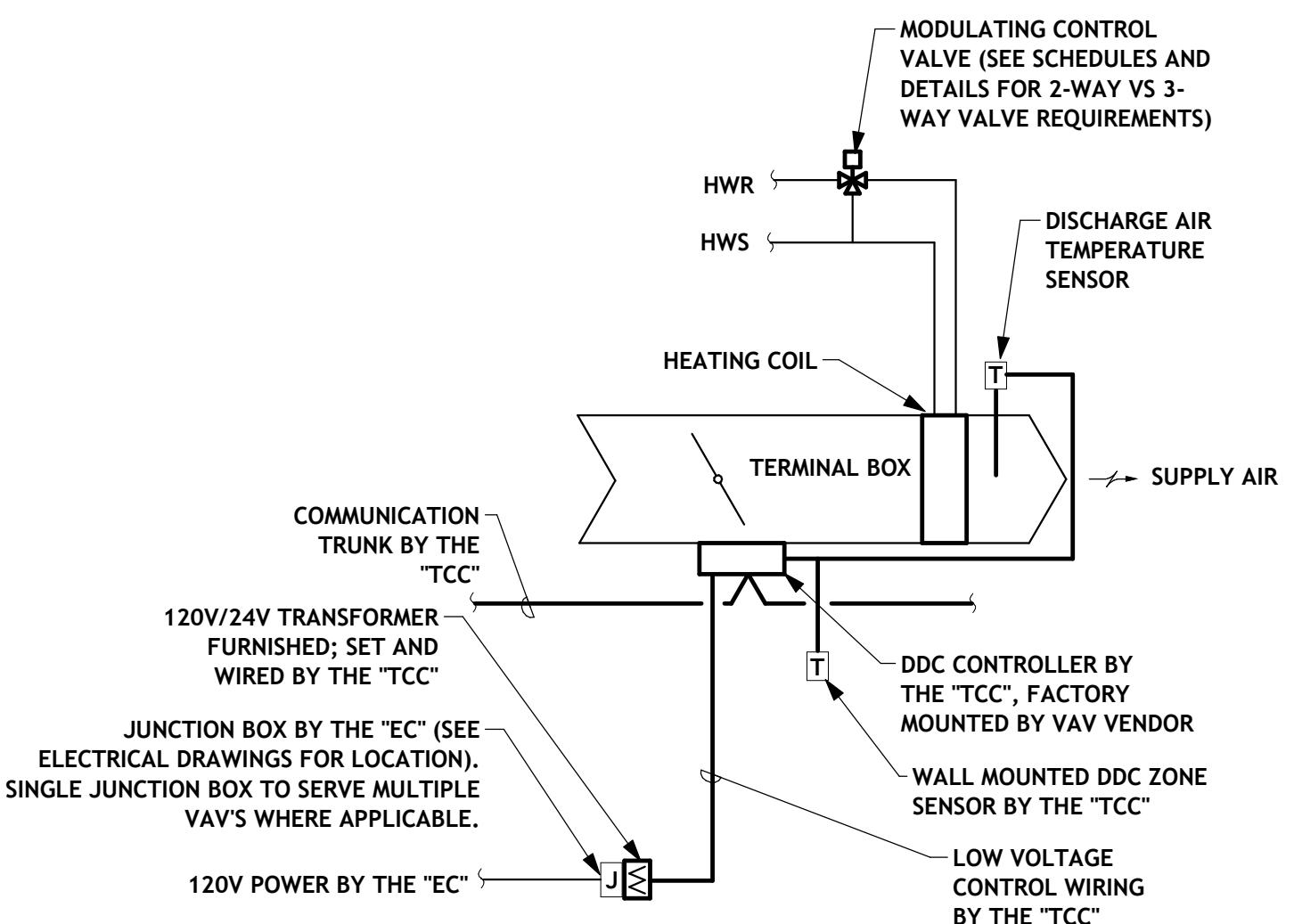


SEQUENCE OF OPERATION:

DOMESTIC HOT WATER RECIRCULATING PUMP
THE DOMESTIC HOT WATER RECIRCULATING PUMP SHALL BE CONTROLLED THROUGH THE BAS.
THE BAS SHALL ENABLE THE DOMESTIC HOT WATER RECIRCULATING PUMP UPON DETECTION THAT THE HOT WATER RETURN TEMPERATURE DROPS BELOW 125°F. THE PUMP SHALL STOP UPON DETECTION THAT THE TEMPERATURE HAS REACHED 130°F.
DOMESTIC HOT WATER HEATERS
DOMESTIC HOT WATER TEMPERATURES SHALL BE TIED INTO BAS FOR MONITORING PURPOSES. ALARM TO BE PROVIDED FOR LOW HOT WATER TEMPERATURE.



PLUMBING SYSTEM CONTROL DIAGRAM
NOT TO SCALE



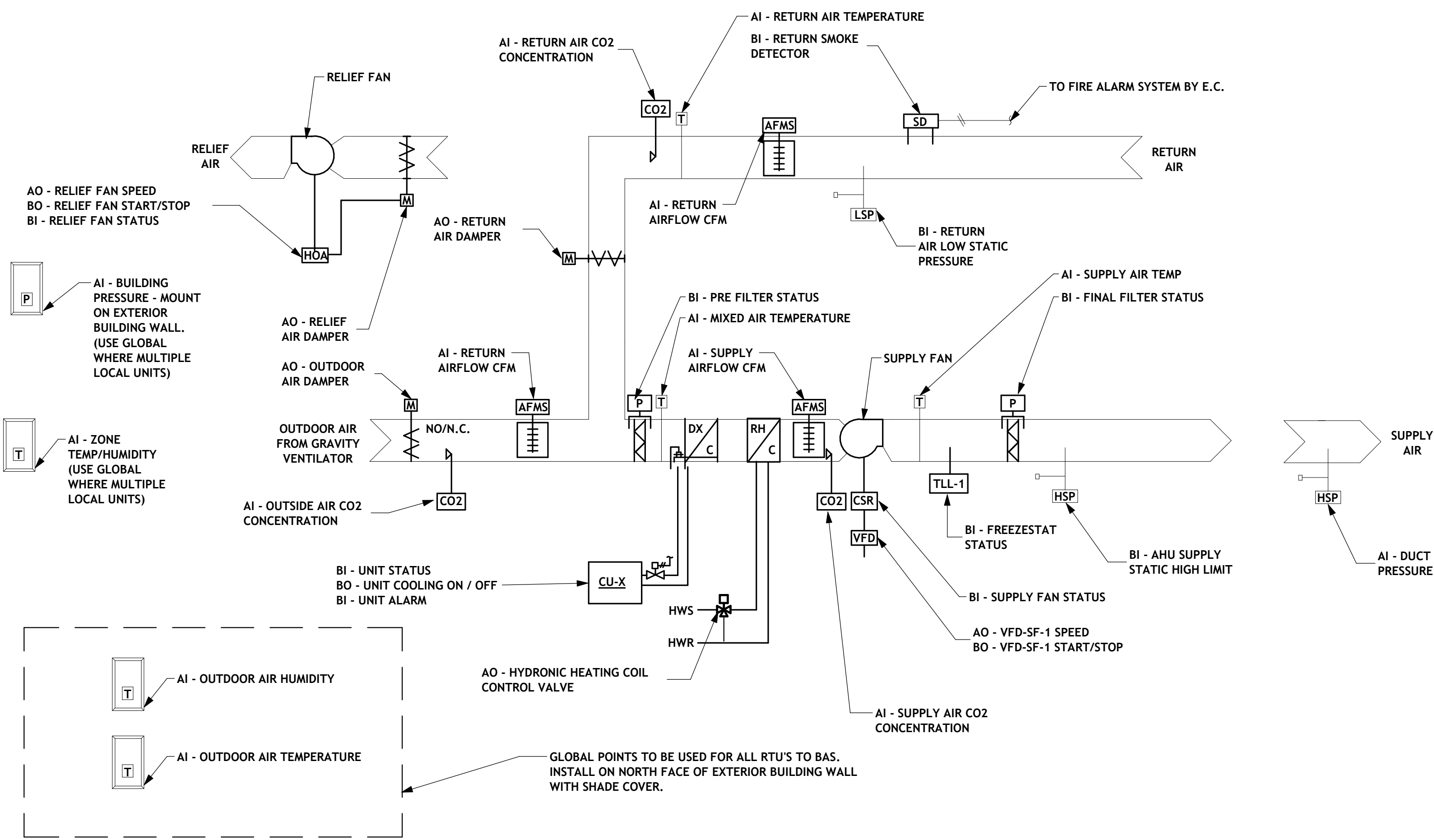
TERMINAL BOX CONTROL DIAGRAM - HOT WATER REHEAT
NOT TO SCALE

SEQUENCE OF OPERATION:

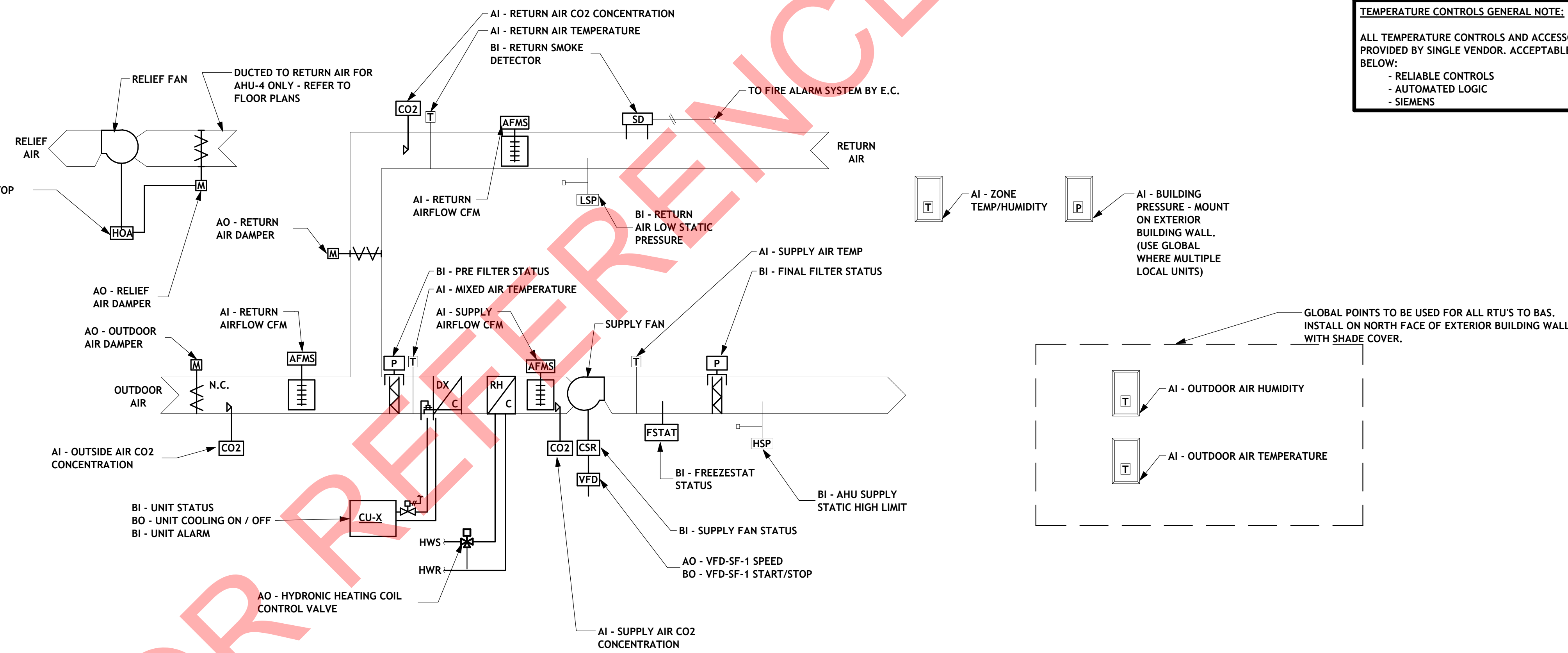
THE ROOM TEMPERATURE SENSOR WITH LOCALLY ADJUSTABLE SETPOINT SHALL SEND TEMPERATURE AND SETPOINT SIGNALS TO THE UNIT'S DIGITAL CONTROLLER. THE DIGITAL CONTROLLER SHALL OPERATE THE MODULATING TERMINAL UNIT OPERATOR THROUGH THE FLOW CONTROLLER IN A PRESSURE INDEPENDENT MANNER IN SEQUENCE WITH THE HYDRONIC REHEAT COIL MODULATING CONTROL VALVE TO CONTROL AIRFLOW AND SPACE TEMPERATURE. UPON A DROP IN SPACE TEMPERATURE BELOW THE TEMPERATURE SENSOR COOLING SETPOINT, THE UNIT DIGITAL CONTROLLER SHALL REDUCE THE AIRFLOW AS REQUIRED (DOWN TO THE TERMINAL UNIT'S MINIMUM SCHEDULED AIRFLOW) TO MAINTAIN TEMPERATURE SETPOINT. REFER TO DRAWINGS FOR 2-WAY VS 3-WAY CONTROL VALVE REQUIREMENTS.
UPON A FURTHER DROP IN SPACE TEMPERATURE BELOW THE TEMPERATURE SENSOR HEATING SETPOINT, THE UNIT DIGITAL CONTROLLER SHALL MODULATE THE HEATING WATER CONTROL VALVE AT THE MINIMUM SCHEDULED CONSTANT AIRFLOW TO MAINTAIN TEMPERATURE SETPOINT. THE TEMPERATURE SENSOR IN THE SUPPLY AIR DUCT (DOWNSTREAM OF HYDRONIC HEATING COIL) SHALL MODULATE THE HEATING WATER CONTROL VALVE TO LIMIT THE SUPPLY AIR TEMPERATURE TO VALUE LISTED IN VAV TERMINAL UNIT SCHEDULE DEG. F., ADJUSTABLE. IF FURTHER HEATING IS REQUIRED WHITE AT LISTED SETPOINT TEMPERATURE DISCHARGE, BOX MINIMUM TO INCREASE TO PROVIDE MORE AIR TO THE SPACE UP TO UNITS SCHEDULED HEATING AIRFLOW.
THE SYSTEM SHALL HAVE THE CAPABILITY OF REPORTING LOCAL TEMPERATURES BACK TO THE BUILDING AUTOMATION SYSTEM, AND THE SYSTEM SHALL HAVE THE CAPABILITY OF OVERRIDING THE LOCAL TEMPERATURE SETPOINT FROM THE GLOBAL SYSTEM FOR SETBACK OR OTHER ENERGY MANAGEMENT STRATEGIES. DURING UNOCCUPIED OPERATION, THE TERMINAL SHALL CLOSE AND THE HEATING WATER CONTROL VALVE SHALL REMAIN CLOSED TO THE COIL. DURING WARM-UP OR SETBACK MODES, THE TERMINAL SHALL REMAIN OPEN AND THE HEATING WATER CONTROL VALVE SHALL MODULATE TO MAINTAIN SETBACK OR ROOM TEMPERATURE.



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AHU CONTROL DIAGRAM MULTI ZONE (AHU-1, AHU-2)
NOT TO SCALE



TEMPERATURE CONTROLS GENERAL NOTE:
ALL TEMPERATURE CONTROLS AND ACCESSORIES SHALL BE PROVIDED BY SINGLE VENDOR, ACCEPTABLE VENDORS BELOW:
- RELIABLE CONTROLS
- AUTOMATED LOGIC
- SIEMENS

SEQUENCE OF OPERATION:

RUN CONDITIONS - CONTINUOUS (AS SCHEDULED BY OWNER): THE UNIT SHALL RUN PER THE OPERATIONAL SCHEDULE AND SHALL MAINTAIN:

- A 74° F (ADJ.) SETPOINT +/- 2° F
- A 50% RELATIVE HUMIDITY SETPOINT WITH +/- 5% RANGE. (COOLING ONLY) ALARMS SHALL BE PROVIDED AS FOLLOWS:
1. HIGH/LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS GREATER THAN THE TEMPERATURE SETPOINT BY 2° F.

ZONE SETPOINT ADJUST: ZONE TEMPERATURE SETPOINT ADJUSTMENT SHALL BE ENABLED THROUGH THE ZONE SENSOR WITH ADJUSTMENT UP TO +/- 5° F.

RETURN AIR SMOKE DETECTION: THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A RETURN AIR SMOKE DETECTOR STATUS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- SUPPLY FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- SUPPLY FAN RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).
- HIGH RETURN AIR TEMP: IF THE RETURN AIR TEMPERATURE IS GREATER THAN 90° F (ADJ.).
- LOW RETURN AIR TEMP: IF THE RETURN AIR TEMPERATURE IS LESS THAN 45° F (ADJ.).
- HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS GREATER THAN 120° F (ADJ.).
- LOW SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS LESS THAN 45° F (ADJ.).
- HIGH DUCT STATIC PRESSURE: IF POSITIVE PRESSURE EXCEEDS DUCT PRESSURE CLASS RATINGS.
- LOW DUCT STATIC PRESSURE: IF NEGATIVE PRESSURE EXCEEDS DUCT PRESSURE CLASS RATINGS.

UNIT CONTROLS:

BUILDING AUTOMATION SYSTEM (BAS) INTERFACE: THE FACTORY UNIT CONTROLLER WILL INTERFACE WITH BACNET.

- ALL TEMPERATURES, PRESSURES, SPEEDS AND DAMPER POSITIONS, TIME FRAMES AND AIR/FLOW QUANTITIES SHALL BE PROGRAMMED AS USER ADJUSTABLE SETPOINTS AND PARAMETERS.
- HEAD PRESSURE CONTROL: THE CONDENSER HEAD PRESSURE WILL BE MONITORED BY THE UNIT CONTROLLER TO MAINTAIN HEAD PRESSURE AND THE COMPRESSOR OPERATING ENVELOPE AT ALL TIMES TO AVOID HIGH PRESSURE TRIPS ON HIGH LOAD DAYS. CONDENSER FANS WITH ECM MOTORS SHALL BE PROVIDED AS WELL AS FACTORY SENSORS TO PROVIDE THIS PROTECTION.
- COMPRESSOR ENVELOPE CONTROL: THE UNIT CONTROLLER WILL CONTINUALLY MONITOR THE SUCTION AND DISCHARGE PRESSURE AND TEMPERATURE CONDITIONS DURING COMPRESSOR OPERATION. THE UNIT WILL MODULATE THE COMPRESSOR, CONDENSER HEAD PRESSURE, AND ELECTRONIC EXPANSION VALVE TO MAINTAIN A SAFE COMPRESSOR OPERATING CONDITIONS TO ADD RELIABILITY, AND LIMIT UNIT SHUT DOWN DURING FRINGE OPERATING CONDITIONS.

FILTER STATUS:

A DIFFERENTIAL PRESSURE TRANSMITTER (DPT) SHALL BE INSTALLED ACROSS ANY PRE OR FINAL FILTERS AND SHALL MONITOR PRESSURES DURING UNIT OPERATION AND REPORT TO BAS. UPON RECEIVING SETPOINT DURING NORMAL OPERATION, THE DPT SHALL ANNUNCIATE A DIRTY FILTER ALARM TO THE BAS.

SUPPLY FAN:

THE AHU WILL BE FACTORY SUPPLIED WITH A DIRECT DRIVE SUPPLY FAN. MULTI ZONE VAV: THE SUPPLY FAN WILL OPERATE CONTINUOUSLY BETWEEN A SPECIFIED MINIMUM AND MAXIMUM SPEED. THE UNIT WILL MODULATE THE SUPPLY FAN BETWEEN THE MINIMUM AND MAXIMUM BASED ON HOW NEAR OR FAR THE CONTROL TEMPERATURE (TYPICALLY SPACE OR RETURN TEMP) IS AWAY FROM SETPOINT. PROVIDE UNITS WITH SUPPLY AND RETURN AIRFLOW MEASURING STATIONS TO MONITOR ACTUAL UNIT SUPPLY AND RETURN AIRFLOW QUANTITIES AND REPORT TO BAS.

SEQUENCE OF OPERATION:

RUN CONDITIONS - CONTINUOUS (AS SCHEDULED BY OWNER): THE UNIT SHALL RUN PER THE OPERATIONAL SCHEDULE AND SHALL MAINTAIN:

- A 74° F (ADJ.) SETPOINT +/- 2° F
- A 50% RELATIVE HUMIDITY SETPOINT WITH +/- 5% RANGE. (COOLING ONLY) ALARMS SHALL BE PROVIDED AS FOLLOWS:
1. HIGH/LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS GREATER THAN THE TEMPERATURE SETPOINT BY 2° F.

RETURN AIR SMOKE DETECTION: THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A RETURN AIR SMOKE DETECTOR STATUS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- SUPPLY FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- SUPPLY FAN RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).
- HIGH RETURN AIR TEMP: IF THE RETURN AIR TEMPERATURE IS GREATER THAN 90° F (ADJ.).
- LOW RETURN AIR TEMP: IF THE RETURN AIR TEMPERATURE IS LESS THAN 45° F (ADJ.).
- HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS GREATER THAN 120° F (ADJ.).
- LOW SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS LESS THAN 45° F (ADJ.).
- HIGH DUCT STATIC PRESSURE: IF POSITIVE PRESSURE EXCEEDS DUCT PRESSURE CLASS RATINGS.
- LOW DUCT STATIC PRESSURE: IF NEGATIVE PRESSURE EXCEEDS DUCT PRESSURE CLASS RATINGS.

UNIT CONTROLS:

BUILDING AUTOMATION SYSTEM (BAS) INTERFACE: THE FACTORY UNIT CONTROLLER WILL INTERFACE WITH BACNET.

- ALL TEMPERATURES, PRESSURES, SPEEDS AND DAMPER POSITIONS, TIME FRAMES AND AIR/FLOW QUANTITIES SHALL BE PROGRAMMED AS USER ADJUSTABLE SETPOINTS AND PARAMETERS.
- HEAD PRESSURE CONTROL: THE CONDENSER HEAD PRESSURE WILL BE MONITORED BY THE UNIT CONTROLLER TO MAINTAIN HEAD PRESSURE AND THE COMPRESSOR OPERATING ENVELOPE AT ALL TIMES TO AVOID HIGH PRESSURE TRIPS ON HIGH LOAD DAYS. CONDENSER FANS WITH ECM MOTORS SHALL BE PROVIDED AS WELL AS FACTORY SENSORS TO PROVIDE THIS PROTECTION.
- COMPRESSOR ENVELOPE CONTROL: THE UNIT CONTROLLER WILL CONTINUALLY MONITOR THE SUCTION AND DISCHARGE PRESSURE AND TEMPERATURE CONDITIONS DURING COMPRESSOR OPERATION. THE UNIT WILL MODULATE THE COMPRESSOR, CONDENSER HEAD PRESSURE, AND ELECTRONIC EXPANSION VALVE TO MAINTAIN A SAFE COMPRESSOR OPERATING CONDITIONS TO ADD RELIABILITY, AND LIMIT UNIT SHUT DOWN DURING FRINGE OPERATING CONDITIONS.

FILTER STATUS:

A DIFFERENTIAL PRESSURE TRANSMITTER (DPT) SHALL BE INSTALLED ACROSS ANY PRE OR FINAL FILTERS AND SHALL MONITOR PRESSURES DURING UNIT OPERATION AND REPORT TO BAS. UPON RECEIVING SETPOINT DURING NORMAL OPERATION, THE DPT SHALL ANNUNCIATE A DIRTY FILTER ALARM TO THE BAS.

SUPPLY FAN:

THE AHU WILL BE FACTORY SUPPLIED WITH A DIRECT DRIVE SUPPLY FAN. MULTI ZONE VAV: THE SUPPLY FAN WILL OPERATE CONTINUOUSLY BETWEEN A SPECIFIED MINIMUM AND MAXIMUM SPEED. THE UNIT WILL MODULATE THE SUPPLY FAN SPEED BETWEEN THE MINIMUM AND MAXIMUM BASED ON SUPPLY AIR DUCT STATIC PRESSURE SETPOINT (ADJUSTABLE). COORDINATE STATIC PRESSURE SETPOINT SUCH THAT MINIMUM PRESSURE IS MAINTAINED DURING BALANCING PROCESS TO REACH SCHEDULED AIRFLOWS FOR ENERGY SAVINGS. PROVIDE UNITS WITH SUPPLY AND RETURN AIRFLOW MEASURING STATIONS TO MONITOR ACTUAL UNIT SUPPLY AND RETURN AIRFLOW QUANTITIES AND REPORT TO BAS.

OUTSIDE AIR DAMPER CONTROL:

PROPORTIONAL DAMPER RESET: THE UNIT CONTROLLER WILL PROPORTIONALLY MODULATE THE OUTSIDE AIR DAMPERS OPEN AND CLOSED AS THE SUPPLY FAN SPEED CHANGES TO PROVIDE A CONSTANT VOLUME OF FRESH OUTSIDE AIR. PROVIDE UNITS WITH OUTDOOR AIRFLOW MEASURING STATION TO MONITOR ACTUAL UNIT OUTDOOR AIRFLOW QUANTITIES AND REPORT TO BAS.

HEATING/COOLING:

DISCHARGE AIR CONTROL: THE UNIT CAPACITY WILL MODULATE THE VARIABLE SPEED COMPRESSOR FOR COOLING OR THE HYDRONIC HEATING COIL CONTROL VALVE FOR HEATING TO MAINTAIN THE UNIT DISCHARGE AIR SET POINT. THE DAT SET POINT (55° F) WILL BE ADJUSTABLE AT THE UNIT CONTROLLER AND THROUGH THE BAS. UNIT CAPACITY WILL BE MODULATED BY THE VARIABLE SPEED COMPRESSOR AND THE MODULATING HYDRONIC HEATING COIL CONTROL VALVE OPERATION. COOLING DAT RESET: THE COOLING DAT SETPOINT MAY BE RESET BY THE SPACE TEMP, RETURN TEMP, OAT OR EXTERNAL VOLTAGE/MA SIGNALS. A LINEAR RELATIONSHIP BETWEEN THE DAT AND THE RESET VARIABLE WILL BE CREATED FOR THE MINIMUM AND MAXIMUM DAT SETPOINTS. AS THE RESET VARIABLE CHANGES THE DAT WILL ADJUST ACCORDING TO THE RELATIONSHIP.

FREEZE PROTECTION:

IF AIR TEMPERATURE AT THE FREEZE STAT SENSOR LOCATION FALLS BELOW 40 DEG F (ADJ.), AN ALARM SHALL BE ANNUNCIATED AT THE BAS AND UNIT OUTDOOR AIR DAMPER SHALL CLOSE. UPON A FURTHER TEMPERATURE DROP TO BELOW 36 DEGREES F (ADJ.) AT FREEZE STAT SENSOR LOCATION, HEATING WATER CONTROL VALVE TO BE OPEN A MINIMUM OF 50% AND UNIT SUPPLY FAN SHALL SHUT DOWN THROUGH A HARD WIRED CONNECTION.

ECONOMIZER: A COMPARATIVE ENTHALPY (SELECTABLE OPTION) SHALL BE ENGAGED WHENEVER THE OUTDOOR ENTHALPY OR DRY BULB IS LESS THAN THE RETURN AIR ENTHALPY OR DRY BULB TO UTILIZE OUTSIDE AIR FOR COOLING. OUTSIDE AIR AND RETURN AIR DAMPERS SHALL MODULATE TO MAINTAIN SUPPLY AIR TEMPERATURE SET POINT.

RELIEF FAN CONTROL: RELIEF FANS SHALL BE DIRECT DRIVE ELECTRICALLY COMMUTATED MOTOR(S) (ECM). RELIEF CONTROL OPTIONS ARE AS FOLLOWS:

- OUTDOOR AIR DAMPER TRACKING: THE RELIEF FAN(S) WILL ACTIVATE BASED ON THE OUTSIDE AIR DAMPER POSITION AND WILL MODULATE BETWEEN AN ADJUSTABLE MINIMUM AND MAXIMUM AS THE O.A. DAMPER OPENS TO PROVIDE RELIEF.
- SPACE PRESSURE SETPOINT: THE RELIEF FAN(S) WILL ACTIVATE BASED ON THE SPACE PRESSURE RELATIVE TO OUTDOORS AND WILL MODULATE BETWEEN AN ADJUSTABLE MINIMUM AND MAXIMUM AS THE O.A. DAMPER OPENS TO PROVIDE RELIEF TO MAINTAIN A SETPOINT OF 0.01" POSITIVE RELATIVE TO THE OUTDOORS.

UNOCCUPIED MODE:

- DURING SCHEDULED UNOCCUPIED HOURS THE OUTDOOR AIR AND RELIEF AIR DAMPERS SHALL REMAIN CLOSED AND SUPPLY AND RELIEF FANS SHALL BE OFF.
- UPON A DROP IN SPACE TEMPERATURE BELOW 61 DEG F (ADJ.), THE UNIT SUPPLY FAN SHALL TURN ON AND THE UNIT HYDRONIC HEATING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE OF 66 DEG F (ADJ.).
- UPON A RISE IN SPACE TEMPERATURE ABOVE 82 DEG F (ADJ.), THE UNIT SUPPLY FAN SHALL TURN ON AND THE UNIT DX COIL/VARIABLE SPEED COMPRESSOR SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE OF 78 DEG F (ADJ.).

HIGH AND LOW DUCT STATIC PRESSURE SENSORS:

WHEN HIGH STATIC PRESSURE SENSOR (SUPPLY) OR LOW STATIC PRESSURE SENSOR (RETURN) REACH PRESSURES SET AS ALARMS, FANS SHALL DISCONTINUE OPERATION, OUTDOOR AIR DAMPERS SHALL CLOSE AND AN ALARM SHALL BE ANNUNCIATED AT THE BAS.

OPTIMAL START (MORNING WARM UP/PRECOOL MODES): DURING OPTIMAL START, IF THE AVERAGE SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT, THE UNIT SHALL OPERATE IN HEATING MODE WITH OUTDOOR AIR AND RELIEF AIR DAMPERS FULLY CLOSED AND RETURN AIR DAMPER FULLY OPENED. UNIT SHALL OPERATE IN HEATING MODE UNTIL OCCUPIED SETPOINT IS REACHED.

IF THE AVERAGE SPACE TEMPERATURE IS ABOVE THE OCCUPIED COOLING SETPOINT, THE UNIT SHALL OPERATE IN COOLING MODE WITH OUTDOOR AIR AND RELIEF AIR DAMPER FULLY CLOSED AND RETURN AIR DAMPER FULLY OPENED UNTIL SPACE TEMPERATURE REACHES OCCUPIED COOLING SETPOINT.

ONCE OCCUPIED SETPOINT IS REACHED FOR EITHER MODE, UNIT SHALL TRANSITION TO OCCUPIED MODE. ALL VAV TERMINAL UNITS SHALL BE FULLY OPENED DURING OPTIMAL START MODES.



ISSUE / REVISION DATE

ISSUE / REVISION	DATE

PROJECT NO. 24013.000

MECHANICAL SCHEDULES AND DETAILS

M407





PRELIMINARY FOR REVIEW ONLY
09/06/2024
Epic Engineering Group

ISSUE / REVISION	DATE

PROJECT NO. 24013.000

LOWER LEVEL - LIGHTING PLAN (DEMOLITION)

E101

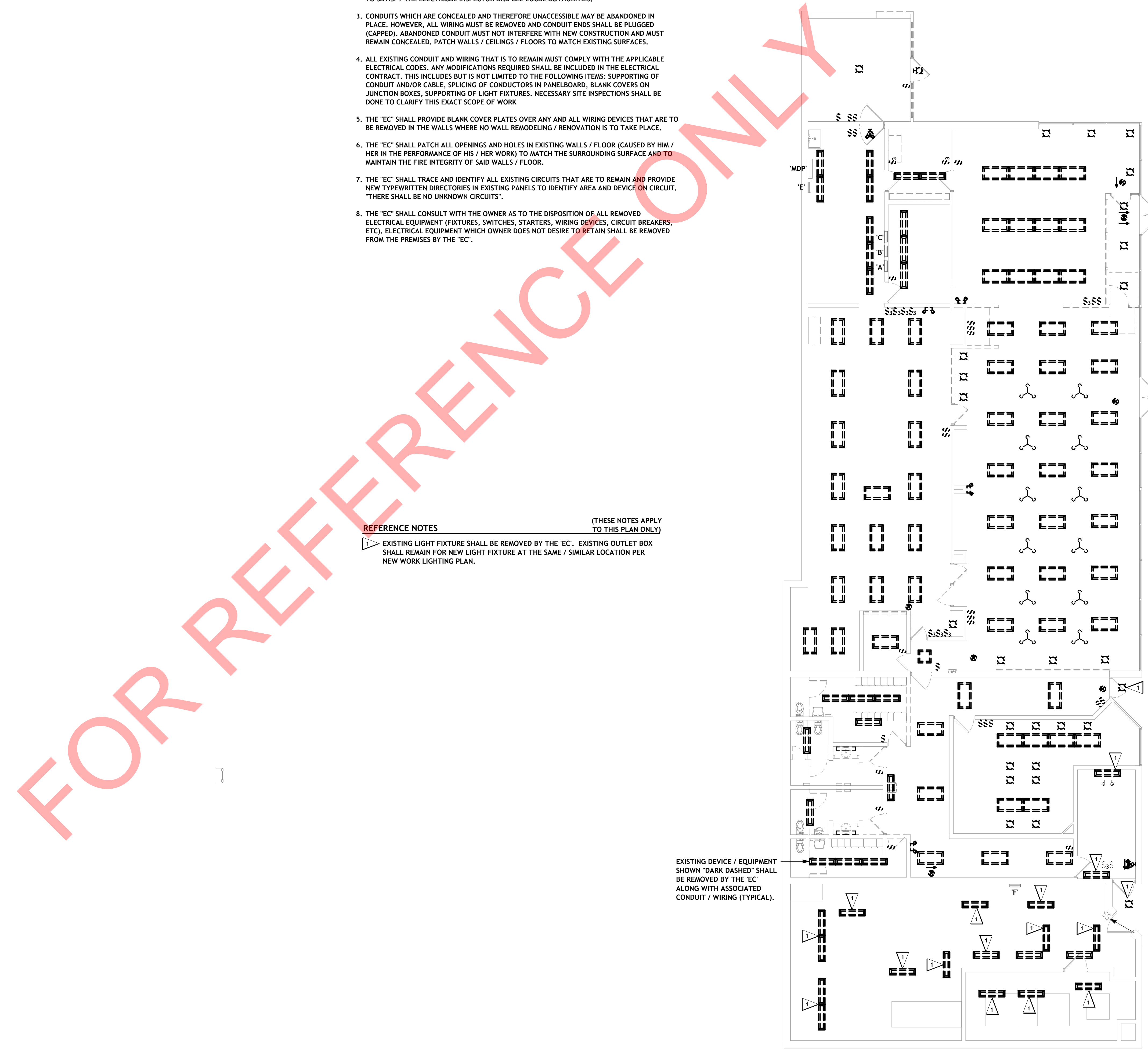
DEMOLITION NOTES:

1. THIS PLAN REPRESENTS THE ELECTRICAL EXISTING CONDITIONS AND THE INTENT OF THE ELECTRICAL DEMOLITION AND REMOVAL OF THE EXISTING ELECTRICAL FOR THE REMODELING. THE "EC" SHALL REMOVE AND/OR RELOCATE ALL ITEMS SHOWN "DARK DASHED" ON THE PLAN. ALL ITEMS SHOWN "LIGHT SOLID" SHALL REMAIN. ANY ITEMS NOT INDICATED ON PLAN THAT NEED REMOVED OR RELOCATED IN ORDER FOR DEMOLITION TO BE ACCOMPLISHED SHALL BE THE RESPONSIBILITY OF THE "EC". IF ANY CIRCUITS ARE INTERRUPTED DURING DEMOLITION, THE "EC" SHALL ALSO BE RESPONSIBLE FOR ALL NECESSARY REWIRING OR REROUTING TO INSURE THAT ALL DEVICES AND FIXTURES ARE IN WORKING ORDER WHEN PROJECT IS COMPLETE.
2. ALL EXISTING UNUSED CONDUIT AND WIRING, INCLUDING VOICE / DATA, ETC., SHALL BE REMOVED TO SATISFY THE ELECTRICAL INSPECTOR AND ALL LOCAL AUTHORITIES.
3. CONDUITS WHICH ARE CONCEALED AND THEREFORE UNACCESSIBLE MAY BE ABANDONED IN PLACE. HOWEVER, ALL WIRING MUST BE REMOVED AND CONDUIT ENDS SHALL BE PLUGGED (CAPPED). ABANDONED CONDUIT MUST NOT INTERFERE WITH NEW CONSTRUCTION AND MUST REMAIN CONCEALED. PATCH WALLS / CEILINGS / FLOORS TO MATCH EXISTING SURFACES.
4. ALL EXISTING CONDUIT AND WIRING THAT IS TO REMAIN MUST COMPLY WITH THE APPLICABLE ELECTRICAL CODES. ANY MODIFICATIONS REQUIRED SHALL BE INCLUDED IN THE ELECTRICAL CONTRACT. THIS INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING ITEMS: SUPPORTING OF CONDUIT AND/OR CABLE, SPLICING OF CONDUCTORS IN PANELBOARD, BLANK COVERS ON JUNCTION BOXES, SUPPORTING OF LIGHT FIXTURES. NECESSARY SITE INSPECTIONS SHALL BE DONE TO CLARIFY THIS EXACT SCOPE OF WORK
5. THE "EC" SHALL PROVIDE BLANK COVER PLATES OVER ANY AND ALL WIRING DEVICES THAT ARE TO BE REMOVED IN THE WALLS WHERE NO WALL REMODELING / RENOVATION IS TO TAKE PLACE.
6. THE "EC" SHALL PATCH ALL OPENINGS AND HOLES IN EXISTING WALLS / FLOOR (CAUSED BY HIM / HER) IN THE PERFORMANCE OF HIS / HER WORK TO MATCH THE SURROUNDING SURFACE AND TO MAINTAIN THE FIRE INTEGRITY OF SAID WALLS / FLOOR.
7. THE "EC" SHALL TRACE AND IDENTIFY ALL EXISTING CIRCUITS THAT ARE TO REMAIN AND PROVIDE NEW TYPEWRITTEN DIRECTORIES IN EXISTING PANELS TO IDENTIFY AREA AND DEVICE ON CIRCUIT. "THERE SHALL BE NO UNKNOWN CIRCUITS".
8. THE "EC" SHALL CONSULT WITH THE OWNER AS TO THE DISPOSITION OF ALL REMOVED ELECTRICAL EQUIPMENT (FIXTURES, SWITCHES, STARTERS, WIRING DEVICES, CIRCUIT BREAKERS, ETC). ELECTRICAL EQUIPMENT WHICH OWNER DOES NOT DESIRE TO RETAIN SHALL BE REMOVED FROM THE PREMISES BY THE "EC".

REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)
 ▲ EXISTING LIGHT FIXTURE SHALL BE REMOVED BY THE "EC". EXISTING OUTLET BOX SHALL REMAIN FOR NEW LIGHT FIXTURE AT THE SAME / SIMILAR LOCATION PER NEW WORK LIGHTING PLAN.

EXISTING DEVICE / EQUIPMENT SHOWN "DARK DASHED" SHALL BE REMOVED BY THE "EC" ALONG WITH ASSOCIATED CONDUIT / WIRING (TYPICAL).

EXISTING DEVICES / EQUIPMENT SHOWN "LIGHT SOLID" SHALL REMAIN AND BE MAINTAINED (TYPICAL).



LOWER LEVEL - LIGHTING PLAN (DEMOLITION)
SCALE: 1/8" = 1'-0"



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PROJECT NO. 24013.000

UPPER LEVEL - LIGHTING PLAN (DEMOLITION)

E102



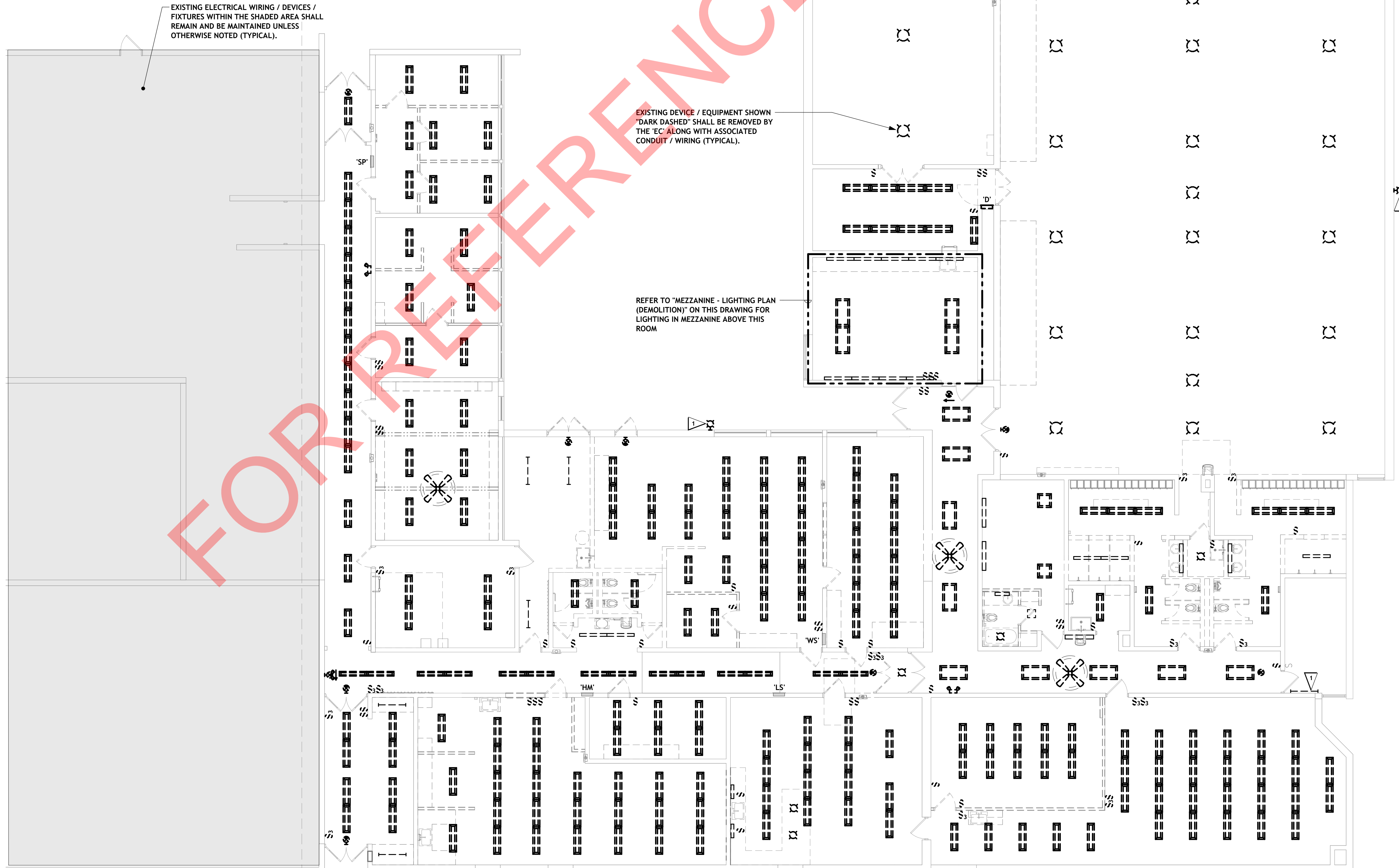
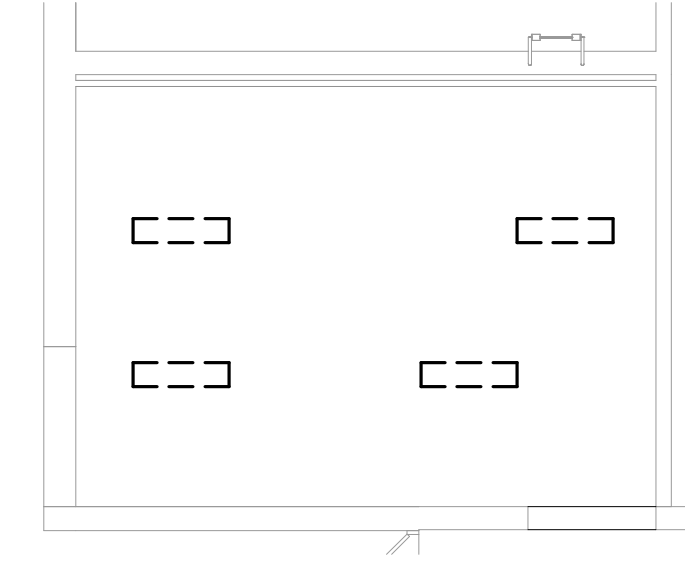
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- DEMOLITION NOTES:**
- THIS PLAN REPRESENTS THE ELECTRICAL EXISTING CONDITIONS AND THE INTENT OF THE ELECTRICAL DEMOLITION AND REMOVAL OF THE EXISTING ELECTRICAL FOR THE REMODELING. THE "EC" SHALL REMOVE AND/OR RELOCATE ALL ITEMS SHOWN "DARK DASHED" ON THE PLAN. ALL ITEMS SHOWN "LIGHT SOLID" SHALL REMAIN. ANY ITEMS NOT INDICATED ON PLAN THAT NEED REMOVED OR RELOCATED IN ORDER FOR DEMOLITION TO BE ACCOMPLISHED SHALL BE THE RESPONSIBILITY OF THE "EC". IF ANY CIRCUITS ARE INTERRUPTED DURING DEMOLITION, THE "EC" SHALL ALSO BE RESPONSIBLE FOR ALL NECESSARY REWIRING OR REROUTING TO INSURE THAT ALL DEVICES AND FIXTURES ARE IN WORKING ORDER WHEN PROJECT IS COMPLETE.
 - ALL EXISTING UNUSED CONDUIT AND WIRING, INCLUDING VOICE / DATA, ETC., SHALL BE REMOVED TO SATISFY THE ELECTRICAL INSPECTOR AND ALL LOCAL AUTHORITIES.
 - CONDUITS WHICH ARE CONCEALED AND THEREFORE UNACCESSIBLE MAY BE ABANDONED IN PLACE. HOWEVER, ALL WIRING MUST BE REMOVED AND CONDUIT ENDS SHALL BE PLUGGED (CAPPED). ABANDONED CONDUIT MUST NOT INTERFERE WITH NEW CONSTRUCTION AND MUST REMAIN CONCEALED. PATCH WALLS / CEILINGS / FLOORS TO MATCH EXISTING SURFACES.
 - ALL EXISTING CONDUIT AND WIRING THAT IS TO REMAIN MUST COMPLY WITH THE APPLICABLE ELECTRICAL CODES. ANY MODIFICATIONS REQUIRED SHALL BE INCLUDED IN THE ELECTRICAL CONTRACT. THIS INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING ITEMS: SUPPORTING OF CONDUIT AND/OR CABLE; SPLICING OF CONDUCTORS IN PANELBOARD, BLANK COVERS ON JUNCTION BOXES; SUPPORTING OF LIGHT FIXTURES. NECESSARY SITE INSPECTIONS SHALL BE DONE TO CLARIFY THIS EXACT SCOPE OF WORK
 - THE "EC" SHALL PROVIDE BLANK COVER PLATES OVER ANY AND ALL WIRING DEVICES THAT ARE TO BE REMOVED IN THE WALLS WHERE NO WALL REMODELING / RENOVATION IS TO TAKE PLACE.
 - THE "EC" SHALL PATCH ALL OPENINGS AND HOLES IN EXISTING WALLS / FLOOR (CAUSED BY HIM / HER IN THE PERFORMANCE OF HIS / HER WORK) TO MATCH THE SURROUNDING SURFACE AND TO MAINTAIN THE FIRE INTEGRITY OF SAID WALLS / FLOOR.
 - THE "EC" SHALL TRACE AND IDENTIFY ALL EXISTING CIRCUITS THAT ARE TO REMAIN AND PROVIDE NEW TYPEWRITTEN DIRECTORIES IN EXISTING PANELS TO IDENTIFY AREA AND DEVICE ON CIRCUIT. THERE SHALL BE NO UNKNOWN CIRCUITS.
 - THE "EC" SHALL CONSULT WITH THE OWNER AS TO THE DISPOSITION OF ALL REMOVED ELECTRICAL EQUIPMENT (FIXTURES, SWITCHES, STARTERS, WIRING DEVICES, CIRCUIT BREAKERS, ETC). ELECTRICAL EQUIPMENT WHICH OWNER DOES NOT DESIRE TO RETAIN SHALL BE REMOVED FROM THE PREMISES BY THE "EC".

REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)

EXISTING LIGHT FIXTURE SHALL BE REMOVED BY THE "EC". EXISTING OUTLET BOX SHALL REMAIN FOR NEW LIGHT FIXTURE AT THE SAME / SIMILAR LOCATION PER NEW WORK LIGHTING PLAN.

MEZZANINE - LIGHTING PLAN (DEMOLITION)
 SCALE: 1/8" = 1'-0"



UPPER LEVEL - LIGHTING PLAN (DEMOLITION)
 SCALE: 1/8" = 1'-0"



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PROJECT NO. 24013.000

LOWER LEVEL - POWER / SYSTEMS PLAN (DEMOLITION)

E103

DEMOLITION NOTES:

1. THIS PLAN REPRESENTS THE ELECTRICAL EXISTING CONDITIONS AND THE INTENT OF THE ELECTRICAL DEMOLITION AND REMOVAL OF THE EXISTING ELECTRICAL FOR THE REMODELING. THE "EC" SHALL REMOVE AND/OR RELOCATE ALL ITEMS SHOWN 'DARK DASHED' ON PLAN. ALL ITEMS SHOWN 'LIGHT SOLID' SHALL REMAIN. ANY ITEMS NOT INDICATED ON PLAN THAT NEED REMOVED OR RELOCATED IN ORDER FOR DEMOLITION TO BE ACCOMPLISHED SHALL BE THE RESPONSIBILITY OF THE "EC". IF ANY CIRCUITS ARE INTERRUPTED DURING DEMOLITION, THE "EC" SHALL ALSO BE RESPONSIBLE FOR ALL NECESSARY REWIRING OR REROUTING TO INSURE THAT ALL DEVICES AND FIXTURES ARE IN WORKING ORDER WHEN PROJECT IS COMPLETE.
2. ALL EXISTING UNUSED CONDUIT AND WIRING, INCLUDING VOICE / DATA, ETC., SHALL BE REMOVED TO SATISFY THE ELECTRICAL INSPECTOR AND ALL LOCAL AUTHORITIES.
3. CONDUITS WHICH ARE CONCEALED AND THEREFORE UNACCESSIBLE MAY BE ABANDONED IN PLACE. HOWEVER, ALL WIRING MUST BE REMOVED AND CONDUIT ENDS SHALL BE PLUGGED (CAPPED). ABANDONED CONDUIT MUST NOT INTERFERE WITH NEW CONSTRUCTION AND MUST REMAIN CONCEALED. PATCH WALLS / CEILING / FLOORS TO MATCH EXISTING SURFACES.
4. ALL EXISTING CONDUIT AND WIRING THAT IS TO REMAIN MUST COMPLY WITH THE APPLICABLE ELECTRICAL CODES. ANY MODIFICATIONS REQUIRED SHALL BE INCLUDED IN THE ELECTRICAL CONTRACT. THIS INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING ITEMS: SUPPORTING OF CONDUIT AND/OR CABLE, SPLICING OF CONDUCTORS IN PANELBOARD, BLANK COVERS ON JUNCTION BOXES, SUPPORTING OF LIGHT FIXTURES. NECESSARY SITE INSPECTIONS SHALL BE DONE TO CLARIFY THIS EXACT SCOPE OF WORK
5. THE "EC" SHALL PROVIDE BLANK COVER PLATES OVER ANY AND ALL WIRING DEVICES THAT ARE TO BE REMOVED IN THE WALLS WHERE NO WALL REMODELING / RENOVATION IS TO TAKE PLACE.
6. THE "EC" SHALL PATCH ALL OPENINGS AND HOLES IN EXISTING WALLS / FLOOR (CAUSED BY HIM / HER IN THE PERFORMANCE OF HIS / HER WORK) TO MATCH THE SURROUNDING SURFACE AND TO MAINTAIN THE FIRE INTEGRITY OF SAID WALLS / FLOOR.
7. THE "EC" SHALL TRACE AND IDENTIFY ALL EXISTING CIRCUITS THAT ARE TO REMAIN AND PROVIDE NEW TYPEWRITTEN DIRECTORIES IN EXISTING PANELS TO IDENTIFY AREA AND DEVICE ON CIRCUIT. THERE SHALL BE NO UNKNOWN CIRCUITS.
8. THE "EC" SHALL CONSULT WITH THE OWNER AS TO THE DISPOSITION OF ALL REMOVED ELECTRICAL EQUIPMENT (FIXTURES, SWITCHES, STARTERS, WIRING DEVICES, CIRCUIT BREAKERS, ETC). ELECTRICAL EQUIPMENT WHICH OWNER DOES NOT DESIRE TO RETAIN SHALL BE REMOVED FROM THE PREMISES BY THE "EC".

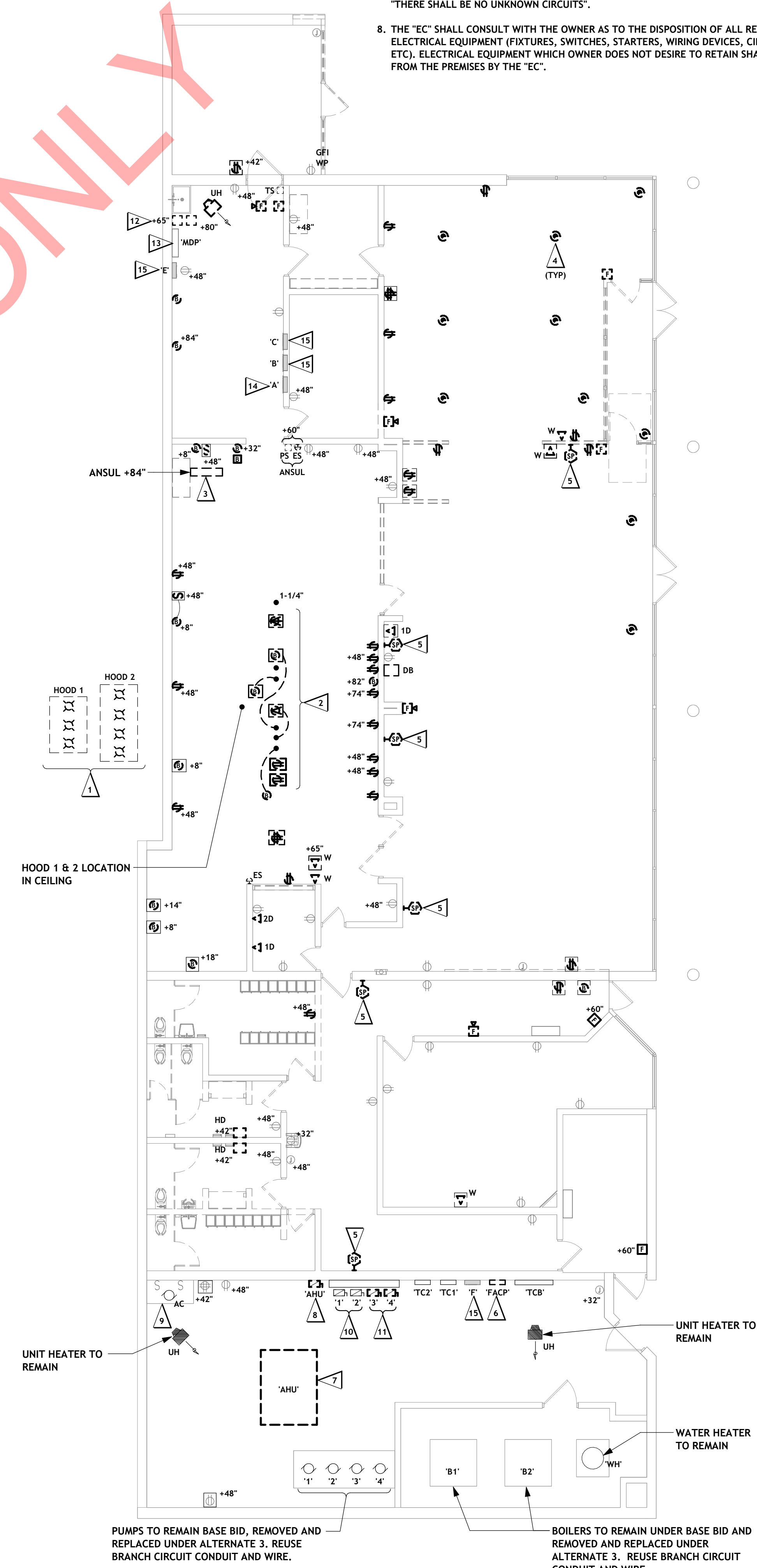
GENERAL NOTES

1. WIRING DEVICES INDICATED EXISTING TO REMAIN SHALL BE REPLACED WITH NEW DEVICES AND COVER PLATES.
2. BOXES FOR SAME SHALL REMAIN AND BE REUSED.
3. RECIRCUIT DEVICES AS INDICATED ON NEW WORK PLANS.

(THESE NOTES APPLY TO THIS PLAN ONLY)

REFERENCE NOTES

1. EXISTING KITCHEN HOOD WITH ALL COMPONENTS TO BE REMOVED BY THE 'MC'. DISCONNECT POWER AND REMOVE BRANCH CIRCUIT CONDUIT/WIRING BACK TO SOURCE.
2. EXISTING WIRING DEVICES ON FLOOR SERVING KITCHEN EQUIPMENT REMOVED BY OTHERS. DISCONNECT AND REMOVE DEVICES ALONG WITH BRANCH CIRCUIT WIRING BACK TO SOURCE. CUT UNDERGROUND CONDUITS SERVING SAME FLUSH WITH FLOOR AND ABANDON.
3. EXISTING FIRE SUPPRESSION EQUIPMENT TO BE REMOVED BY THE 'MC'. DISCONNECT POWER ALONG WITH SYSTEM CONTROL DEVICES AND REMOVE BRANCH CIRCUIT CONDUIT/WIRING BACK TO SOURCE.
4. EXISTING FLOOR BOX. DISCONNECT AND REMOVE WIRING DEVICE ALONG WITH BRANCH CIRCUIT WIRING BACK TO SOURCE. ABANDON BOX AND CONDUIT IN PLACE.
5. EXISTING SURFACE MOUNTED WALL SPEAKER. DISCONNECT AND REMOVE ALONG WITH SYSTEM CABLING BACK TO SOURCE.
6. EXISTING FIRE ALARM CONTROL PANEL. DISCONNECT AND REMOVE ALONG WITH ALL SYSTEM INITIATING AND NOTIFICATION DEVICES. REMOVE SYSTEM CONDUIT/CABLING BACK TO PANEL. PROVIDE BLANK COVER FOR SYSTEM BOXES IN WALLS WHICH ARE TO REMAIN.
7. EXISTING AHU IN CEILING TO BE REMOVED BY THE 'MC'. DISCONNECT AND REMOVE BRANCH CIRCUIT CONDUIT AND WIRING BACK TO DISCONNECT SWITCH SERVING SAME.
8. EXISTING COMBINATION STARTER SERVING AHU. DISCONNECT AND REMOVE ALONG WITH BRANCH CIRCUIT CONDUIT AND WIRING BACK TO 'MDP'.
9. EXISTING AIR COMPRESSOR TO REMAIN. VERIFY AIR COMPRESSOR STILL OPERATIONAL AFTER WORK IS COMPLETE. REMOVE IF NO LONGER IN USE.
10. EXISTING COMBINATION STARTERS SIZE '0' WITH BRANCH CIRCUIT CONDUIT AND WIRING TO PUMPS 1 & 2 TO REMAIN AND BE REUSED. UNDER ALTERNATE 3, DISCONNECT AND REMOVE 15A/3P CIRCUIT BREAKERS IN 'MDP'.
11. EXISTING COMBINATION STARTERS 3 & 4 SIZE '0' WITH BRANCH CIRCUIT CONDUIT AND WIRING TO PUMPS 3 & 4. UNDER ALTERNATE 3, DISCONNECT AND REMOVE COMBINATION STARTERS ALONG WITH 20A/3P CIRCUIT BREAKERS IN 'MDP' SERVING SAME. BRANCH CIRCUIT CONDUIT AND WIRING SHALL REMAIN AND BE REUSED.
12. EXISTING 2-CIRCUIT BREAKER PANELS SERVING EMERGENCY EGRESS FIXTURES AND FIRE ALARM SYSTEM. DISCONNECT AND REMOVE.
13. EXISTING 'MDP' 600A, 120/208V, 3Ø, 4W 'GE' TO REMAIN AND BE REUSED.
14. EXISTING PANEL 'A', 400A, 120/208V, 3Ø, 4W, 'GE' RECESSED IN WALL TO REMAIN. DISCONNECT AND REMOVE 400A FEEDER WIRE RUN UNDERGROUND. CONDUIT SHALL BE ABANDONED IN PLACE.
15. EXISTING PANEL ('GE') SERVED FROM 'MDP' TO REMAIN AND BE REUSED.



LOWER LEVEL - POWER / SYSTEMS PLAN (DEMOLITION)

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



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REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)

- EXISTING PANEL 'D', 150A, 120/208V RECESSED IN WALL. DISCONNECT AND REMOVE FEEDER BACK TO 'MDP' ON LOWER LEVEL. PANEL SHALL REMAIN AND BE REFEED FROM 'DPA' ON UPPER LEVEL. SEE POWER RISER DIAGRAMS FOR DETAILS.
- EXISTING CEILING PADDE FAN. DISCONNECT AND REMOVE ALONG WITH BRANCH CIRCUIT CONDUIT/WIRING BACK TO SOURCE.
- EXISTING SCOREBOARD TO BE REMOVED BY THE 'GC'. DISCONNECT POWER TO MAKE IT SAFE FOR REMOVAL.
- EXISTING FIRE ALARM SYSTEM DEVICES. DISCONNECT AND REMOVE ALL SYSTEM INITIATING AND NOTIFICATION DEVICES THIS LEVEL. REMOVE SYSTEM CONDUIT/CABLE BACK TO PANEL. PROVIDE BLANK COVER FOR SYSTEM BOXES IN WALLS WHICH ARE TO REMAIN.
- EXISTING DOOR ACCESS SYSTEM DEVICES. DISCONNECT AND REMOVE ALONG WITH SYSTEM CONDUIT/CABLE BACK TO SOURCE. PROVIDE BLANK COVER FOR SYSTEM BOXES IN WALLS WHICH ARE TO REMAIN.
- EXISTING MECHANICAL EQUIPMENT TO BE REMOVED BY THE 'MC'. DISCONNECT POWER TO MAKE IT SAFE FOR REMOVAL.
- EXISTING PANEL 'SWP', 100A, 120/208V, 3Ø, 4W SURFACE MOUNTED, 2Ø CIRCUIT. DISCONNECT AND REMOVE ALONG WITH 100A FEEDER BACK TO 'MP', APPROXIMATELY 100'.
- EXISTING DISTRIBUTION PANEL 'DPA', 400A, 120/208V, 3Ø, 4W SURFACE MOUNTED, 2Ø CIRCUIT WITH (2) 150A/3Ø CIRCUIT BREAKERS. DISCONNECT, REMOVE, RELOCATE, AND REINSTALL IN ADJACENT ROOM. REWORK OVERHEAD 400A FEEDER TO NEW LOCATION. PROVIDE WIREWAY AT BOTTOM OF PANEL TO EXTEND FEEDERS AND BRANCH CIRCUITS IN SAME TO NEW 'DPA' LOCATION.
- EXISTING ELECTRIC WATER HEATER TO BE REMOVED BY THE 'MC'. DISCONNECT AND REMOVE 50A, 3Ø BRANCH CIRCUIT BACK TO 'DPA'.

DEMOLITION NOTES:

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- ALL EXISTING UNUSED CONDUIT AND WIRING, INCLUDING VOICE / DATA, ETC., SHALL BE REMOVED TO SATISFY THE ELECTRICAL INSPECTOR AND ALL LOCAL AUTHORITIES.
- CONDUITS WHICH ARE CONCEALED AND THEREFORE UNACCESSIBLE MAY BE ABANDONED IN PLACE. HOWEVER, ALL WIRING MUST BE REMOVED AND CONDUIT ENDS SHALL BE PLUGGED (CAPPED). ABANDONED CONDUIT MUST NOT INTERFERE WITH NEW CONSTRUCTION AND MUST REMAIN CONCEALED. PATCH WALLS / CEILINGS / FLOORS TO MATCH EXISTING SURFACES.
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- THE 'EC' SHALL PROVIDE BLANK COVER PLATES OVER ANY AND ALL WIRING DEVICES THAT ARE TO BE REMOVED IN THE WALLS WHERE NO WALL REMODELING / RENOVATION IS TO TAKE PLACE.
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- THE 'EC' SHALL TRACE AND IDENTIFY ALL EXISTING CIRCUITS THAT ARE TO REMAIN AND PROVIDE NEW TYPEWRITTEN DIRECTORIES IN EXISTING PANELS TO IDENTIFY AREA AND DEVICE ON CIRCUIT. THERE SHALL BE NO UNKNOWN CIRCUITS.
- THE 'EC' SHALL CONSULT WITH THE OWNER AS TO THE DISPOSITION OF ALL REMOVED ELECTRICAL EQUIPMENT (FIXTURES, SWITCHES, STARTERS, WIRING DEVICES, CIRCUIT BREAKERS, ETC). ELECTRICAL EQUIPMENT WHICH OWNER DOES NOT DESIRE TO RETAIN SHALL BE REMOVED FROM THE PREMISES BY THE 'EC'.



UPPER LEVEL - POWER / SYSTEMS PLAN (DEMOLITION)
SCALE: 1/8" = 1'-0"



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UPPER LEVEL - POWER / SYSTEMS PLAN (DEMOLITION)

E104



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 **ROOF ELECTRICAL PLAN (DEMOLITION)**
SCALE: 1/8" = 1'-0"



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ROOF ELECTRICAL PLAN (DEMOLITION)

E105

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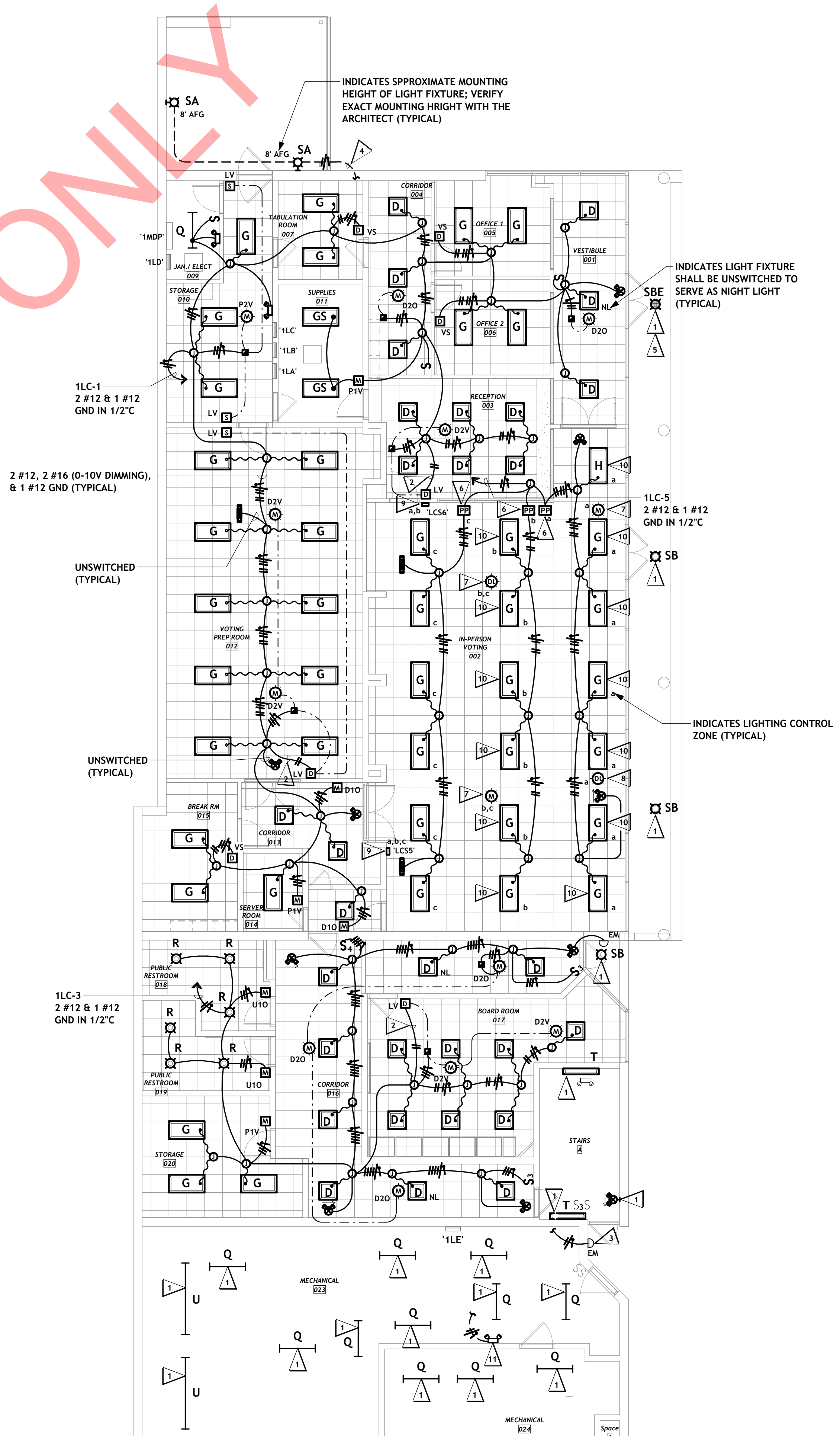
LOWER LEVEL - LIGHTING PLAN (NEW WORK)

E201

REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)

- ▶ THE 'EC' SHALL FURNISH AND INSTALL A NEW LIGHT FIXTURE AT SAME / SIMILAR LOCATION AS LIGHT FIXTURE REMOVED DURING THE DEMOLITION PHASE. CONNECT NEW LIGHT FIXTURE TO EXISTING / NEW WIRING AS REQUIRED.
- ▶ 2/C #16 AWG LOW VOLTAGE CABLE BY THE 'EC' FOR 0-10V DIMMING. REFER TO "VACANCY SENSOR DIMMING WIRING DIAGRAM" ON DETAIL DRAWINGS.
- ▶ THE 'EC' SHALL FURNISH AND INSTALL NEW EXTERIOR REMOTE EMERGENCY EGRESS FIXTURE AND CONNECT TO EXISTING ADJACENT 120V UNSWITCHED LIGHTING CIRCUIT; VERIFY TERMINATION LOCATION IN THE FIELD.
- ▶ THE 'EC' SHALL CONNECT NEW EXTERIOR BUILDING LIGHT FIXTURES INTO EXISTING 120V SWITCHED EXTERIOR BUILDING LIGHTING CIRCUIT; VERIFY TERMINATION LOCATION IN THE FIELD.
- ▶ LIGHT FIXTURE SHALL CONTAIN EMERGENCY BATTERY PACK TO SERVE AS EMERGENCY EGRESS LIGHTING. THE 'EC' SHALL CONNECT UNSWITCHED AND SWITCHED CONDUCTORS TO THIS LIGHT FIXTURE AS REQUIRED.
- ▶ LIGHTING CONTROL SYSTEM 0-10V DIMMING POWER / RELAY PACK ("nLIGHT" #nPP16-D-EFP-SA) MOUNTED IN CEILING SPACE BY THE 'EC'; COORDINATE MOUNTING LOCATION IN THE FIELD. REFER TO "LIGHTING CONTROL WIRING DIAGRAM" ON DETAIL DRAWINGS.
- ▶ LIGHTING CONTROL SYSTEM CEILING MOUNTED DUAL TECHNOLOGY VACANCY SENSOR ("nLIGHT" #NCM-PDT-10-RJB) BY THE 'EC'; REFER TO "LIGHTING CONTROL WIRING DIAGRAM" ON DETAIL DRAWINGS.
- ▶ LIGHTING CONTROL SYSTEM CEILING MOUNTED DUAL TECHNOLOGY VACANCY SENSOR WITH DAYLIGHT HARVESTING PHOTOCELL CAPABILITY ("nLIGHT" #NCM-PDT-10-ADCX-RJB) BY THE 'EC'; REFER TO "LIGHTING CONTROL WIRING DIAGRAM" ON DETAIL DRAWINGS.
- ▶ LIGHTING CONTROL SYSTEM ON / OFF AND DIMMING CONTROL STATION BY THE 'EC'; COORDINATE EXACT MOUNTING LOCATION WITH THE OWNER. REFER TO "LIGHTING CONTROL WIRING DIAGRAM AND FACEPLATE DETAILS" ON DETAIL DRAWINGS.
- ▶ THIS LIGHT FIXTURE SHALL BE CONTROLLED BY THE DAYLIGHT HARVESTING PHOTOCELL WITHIN THE VACANCY SENSOR ASSOCIATED WITH THIS ZONE.
- ▶ THE 'EC' SHALL FURNISH AND INSTALL NEW EMERGENCY EGRESS FIXTURE AND CONNECT TO EXISTING ADJACENT 120V UNSWITCHED LIGHTING CIRCUIT; VERIFY TERMINATION LOCATION IN THE FIELD.

FOR REFERENCE ONLY



LOWER LEVEL - LIGHTING PLAN (NEW WORK)
SCALE: 1/8" = 1'-0"



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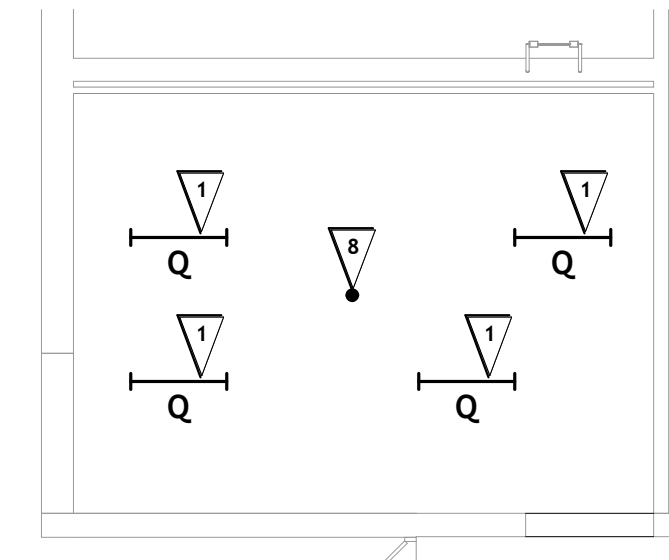
UPPER LEVEL -
LIGHTING PLAN
(NEW WORK)

E202

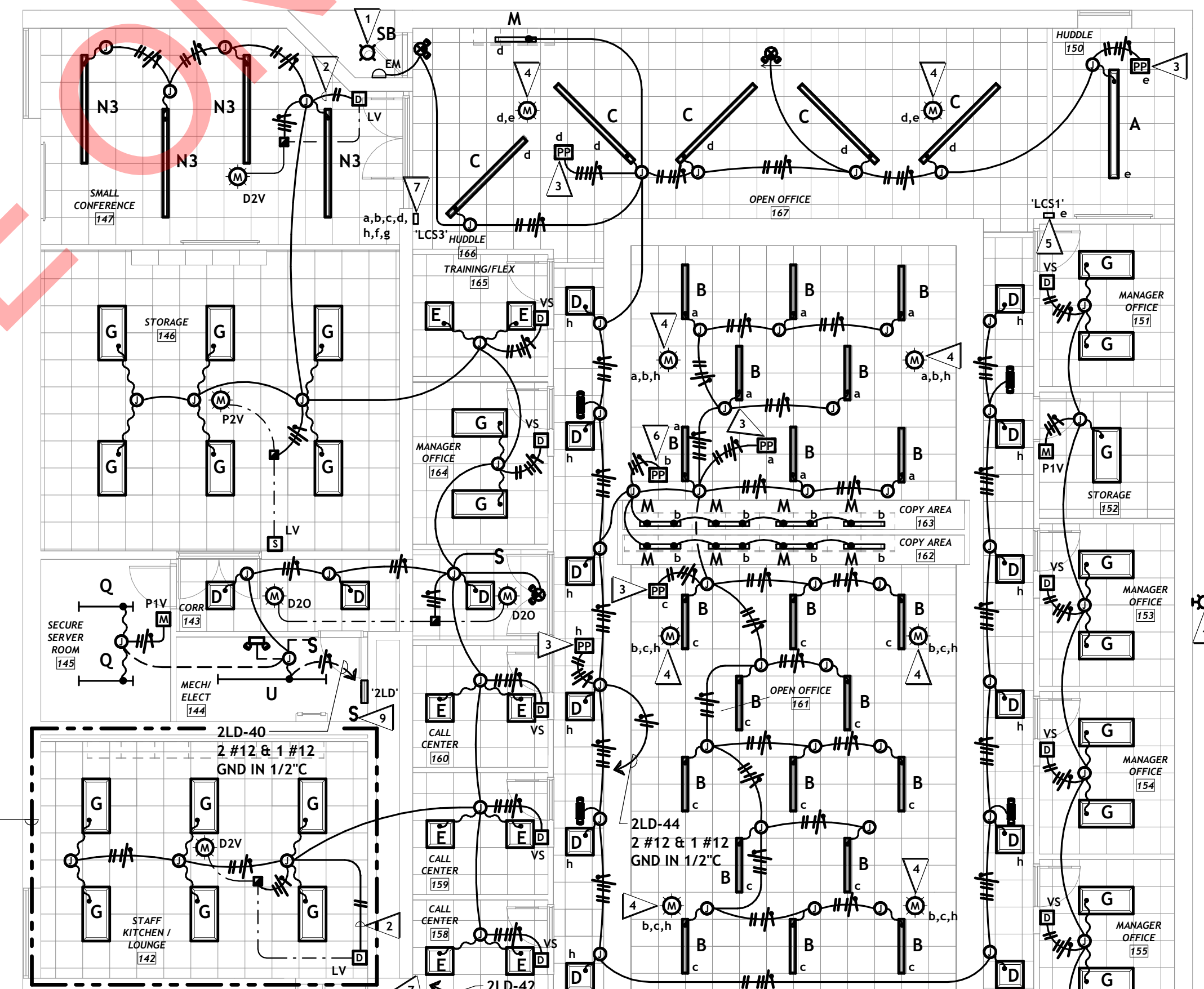
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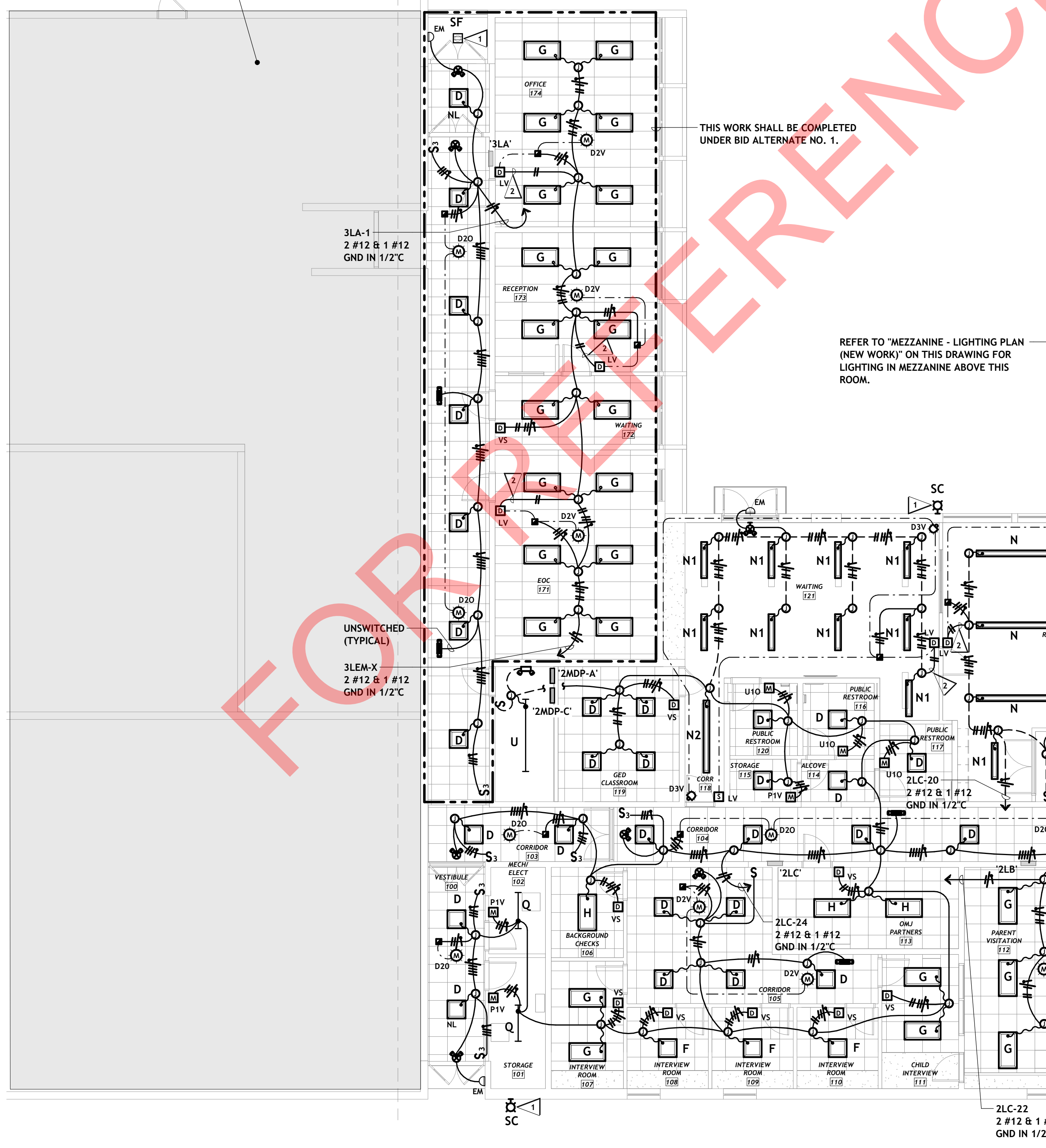


MEZZANINE - LIGHTING PLAN (NEW WORK)
SCALE: 1/8" = 1'-0"



- REFERENCE NOTES** (THESE NOTES APPLY TO THIS PLAN ONLY)
- THE 'EC' SHALL FURNISH AND INSTALL A NEW LIGHT FIXTURE AT SAME / SIMILAR LOCATION AS LIGHT FIXTURE REMOVED DURING THE DEMOLITION PHASE. CONNECT NEW LIGHT FIXTURE TO EXISTING / NEW WIRING AS REQUIRED.
 - 2/2 #16 AWG LOW VOLTAGE CABLE BY THE 'EC' FOR 0-10V DIMMING. REFER TO "VACANCY SENSOR DIMMING WIRING DIAGRAM" ON DETAIL DRAWINGS.
 - LIGHTING CONTROL SYSTEM 0-10V DIMMING POWER / RELAY PACK ("LIGHT" #PP16-D-EFP-SA) MOUNTED IN CEILING SPACE BY THE 'EC'; COORDINATE MOUNTING LOCATION IN THE FIELD. REFER TO "LIGHTING CONTROL WIRING DIAGRAM" ON DETAIL DRAWINGS.
 - LIGHTING CONTROL SYSTEM CEILING MOUNTED DUAL TECHNOLOGY VACANCY SENSOR ("LIGHT" #NCM-PDT-10-RJB) BY THE 'EC'; REFER TO "LIGHTING CONTROL WIRING DIAGRAM" ON DETAIL DRAWINGS.
 - LIGHTING CONTROL SYSTEM ON / OFF AND DIMMING CONTROL STATION BY THE 'EC'; COORDINATE EXACT MOUNTING LOCATION WITH THE OWNER. REFER TO "LIGHTING CONTROL WIRING DIAGRAM AND FACEPLATE DETAILS" ON DETAIL DRAWINGS.
 - LIGHTING CONTROL SYSTEM SWITCHING POWER / RELAY PACK ("LIGHT" #nPP16-EFP-SA) MOUNTED IN CEILING SPACE BY THE 'EC'; COORDINATE MOUNTING LOCATION IN THE FIELD. REFER TO "LIGHTING CONTROL WIRING DIAGRAM" ON DETAIL DRAWINGS.
 - LIGHTING CONTROL SYSTEM SCENE SELECTION, ON / OFF, AND DIMMING CONTROL STATION BY THE 'EC'; COORDINATE EXACT MOUNTING LOCATION WITH THE OWNER. REFER TO "LIGHTING CONTROL WIRING DIAGRAM AND FACEPLATE DETAILS" ON DETAIL DRAWINGS.
 - THE 'EC' SHALL CONNECT MEZZANINE LIGHTING INTO NEW 120V LIGHTING CIRCUIT ZLD-40.
 - THE 'EC' SHALL INSTALL TOGGLE SWITCH ADJACENT TO LADDER AND CONNECT TO MEZZANINE LIGHTING AS REQUIRED.

EXISTING ELECTRICAL WIRING / DEVICES / FIXTURES WITHIN THE SHADED AREA SHALL REMAIN AND BE MAINTAINED UNLESS OTHERWISE NOTED (TYPICAL).



UPPER LEVEL - LIGHTING PLAN (NEW WORK)
SCALE: 1/8" = 1'-0"

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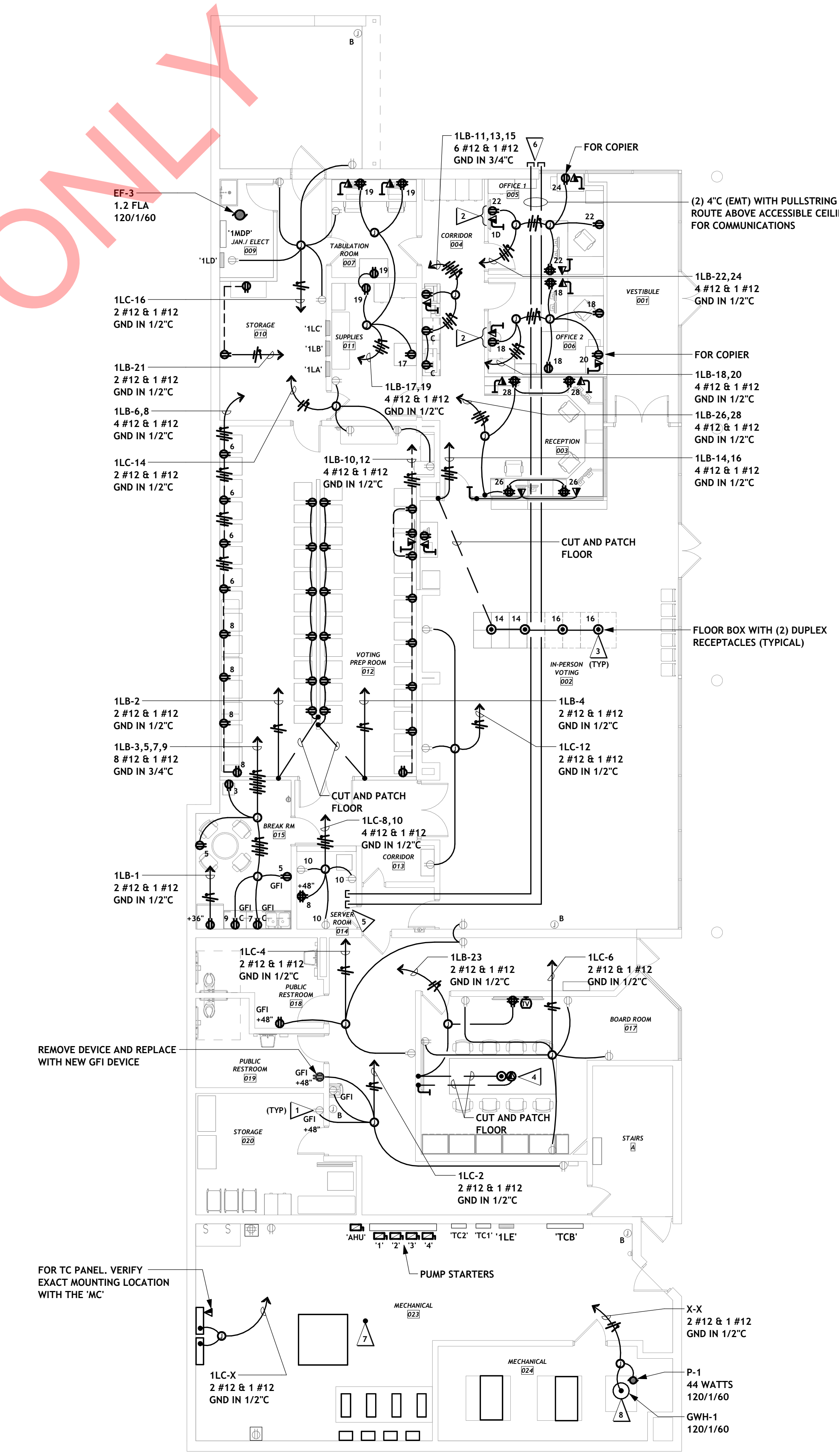
PROJECT NO. 24013.000

LOWER LEVEL - POWER / SYSTEMS PLAN (NEW WORK)

E203

REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)

- 1 DISCONNECT AND REMOVE WIRING DEVICE AND COVER PLATE ALONG WITH BRANCH CIRCUIT. PROVIDE NEW WIRING DEVICE AND COVERPLATE AND REWIRE TO BRANCH CIRCUIT INDICATED.
- 2 COORDINATE MOUNTING HEIGHT OF TELEVISION MONITOR RECEPTACLES WITH THE 'GC' PRIOR TO ROUGH-IN.
- 3 PROVIDE FLOOR BOX WITH (2) DUPLEX RECEPTACLES (HUBBELL OR EQUAL) FOR CONCRETE FLOOR. CUT AND PATCH AS REQUIRED. COORDINATE LOCATION AND FLOOR FINISH WITH THE 'GC'.
- 4 PROVIDE FLOOR BOX WITH (1) DUPLEX RECEPTACLES (HUBBELL OR EQUAL) AND (1) T/O OUTLET FOR CONCRETE FLOOR. CUT AND PATCH AS REQUIRED. COORDINATE LOCATION AND FLOOR FINISH WITH THE 'GC'.
- 5 STUB AT CEILING AS HIGH AS POSSIBLE IN ROOM.
- 6 CORE DRILL BRICK FOR CONDUITS AND TRANSITION TO PVC OUTSIDE. STUB TO 12" AFG.
- 7 ELECTRICAL ITEMS THIS ROOM SHALL REMAIN CONNECTED TO PANEL '1LE'.
- 8 MECHANICAL EQUIPMENT CONTAINS INTEGRAL DISCONNECT SWITCH.



FOR REFERENCE ONLY

LOWER LEVEL - POWER / SYSTEMS PLAN (NEW WORK)
SCALE: 1/8" = 1'-0"





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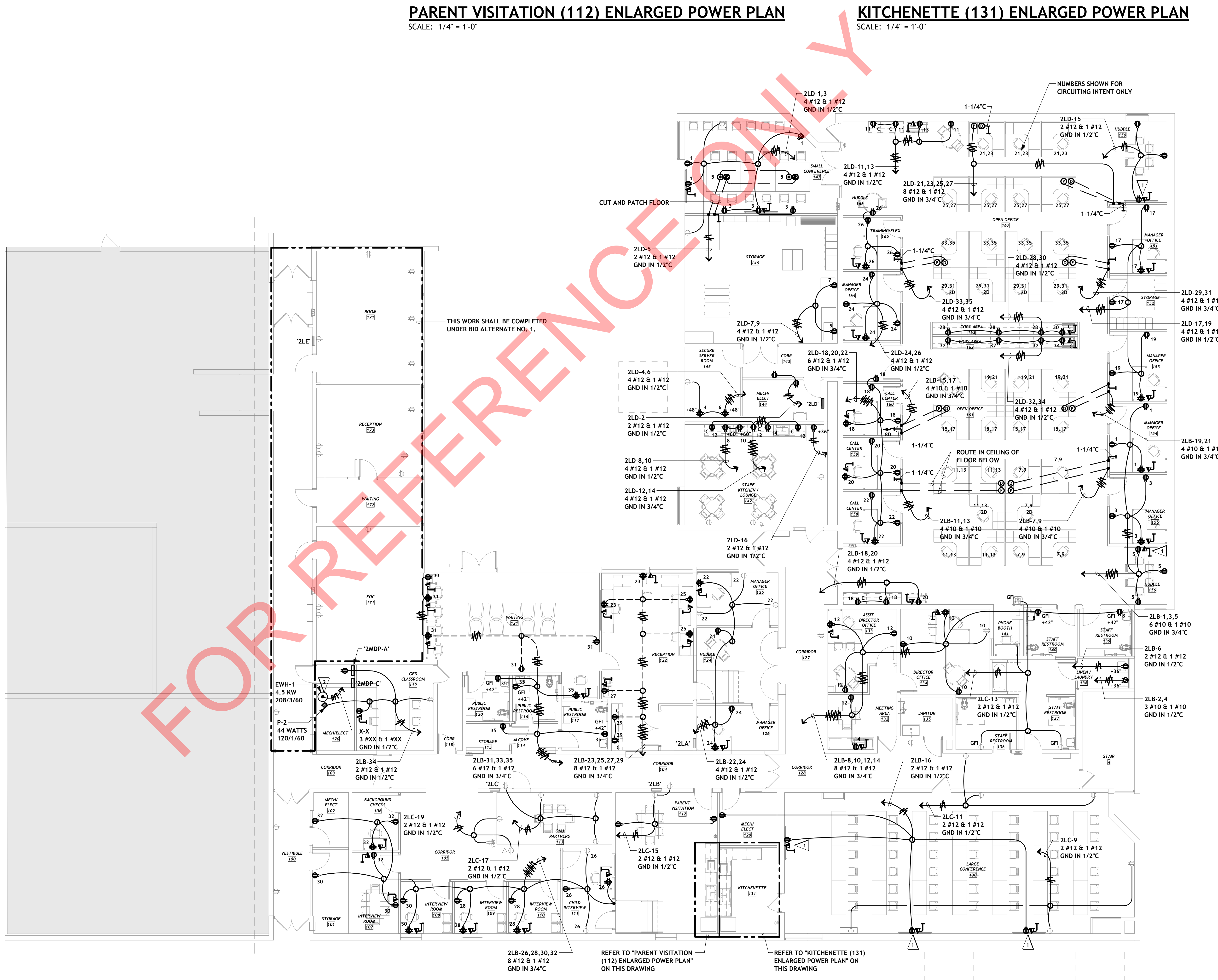
UPPER LEVEL - POWER / SYSTEMS PLAN (NEW WORK)

E204

REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)

1. COORDINATE MOUNTING HEIGHT OF TELEVISION MONITOR RECEPTACLES WITH THE 'GC' PRIOR TO ROUGH-IN.

2. MECHANICAL EQUIPMENT CONTAINS INTEGRAL DISCONNECT SWITCH.



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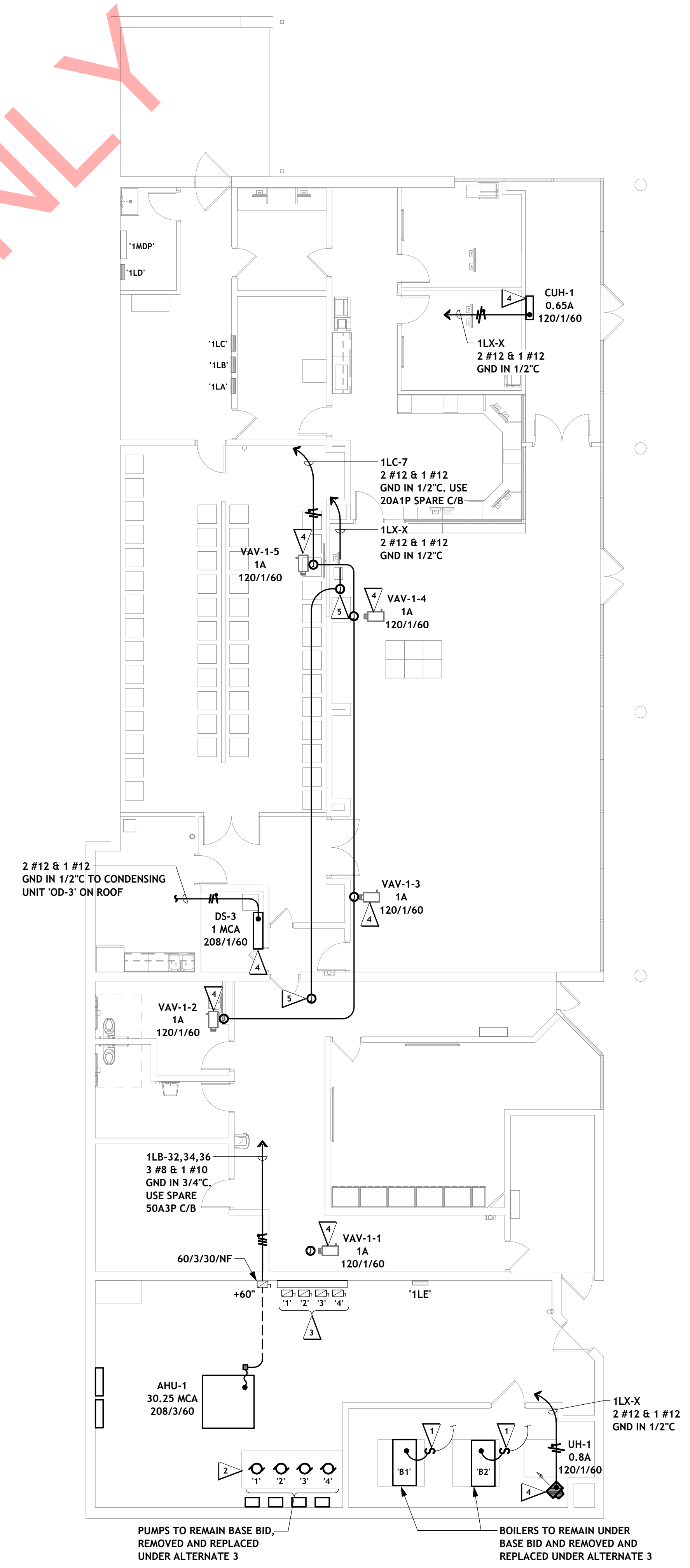
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LOWER LEVEL - MECHANICAL EQUIPMENT PLAN (NEW WORK)

E205

- REFERENCE NOTES** (THESE NOTES APPLY TO THIS PLAN ONLY)
- UNDER ALTERNATE 1, INTERCEPT EXISTING BOILER BRANCH CIRCUIT AT CEILING AND EXTEND TO NEW BOILER. PROVIDE NEW LOCAL DISCONNECTING MEANS (20A, 1P, TOGGLE SWITCH) AND SURFACE MOUNT ON SIDE OF BOILER.
 - UNDER ALTERNATE 1, INTERCEPT EXISTING PUMP BRANCH CIRCUITS AND EXTEND TO NEW PUMPS.
 - EXISTING COMBINATION STARTERS FOR PUMPS 1-4 TO REMAIN. REUSE UNDER ALTERNATE 1 TO SERVE NEW PUMPS.
 - HVAC EQUIPMENT FURNISHED WITH INTEGRAL DISCONNECT SWITCH.
 - JUNCTION BOX FOR VAV UNIT 120/24V CONTROL POWER, VERIFY EXACT LOCATION WITH THE 'MC'.



LOWER LEVEL - MECHANICAL EQUIPMENT PLAN (NEW WORK)
SCALE: 1/8" = 1'-0"



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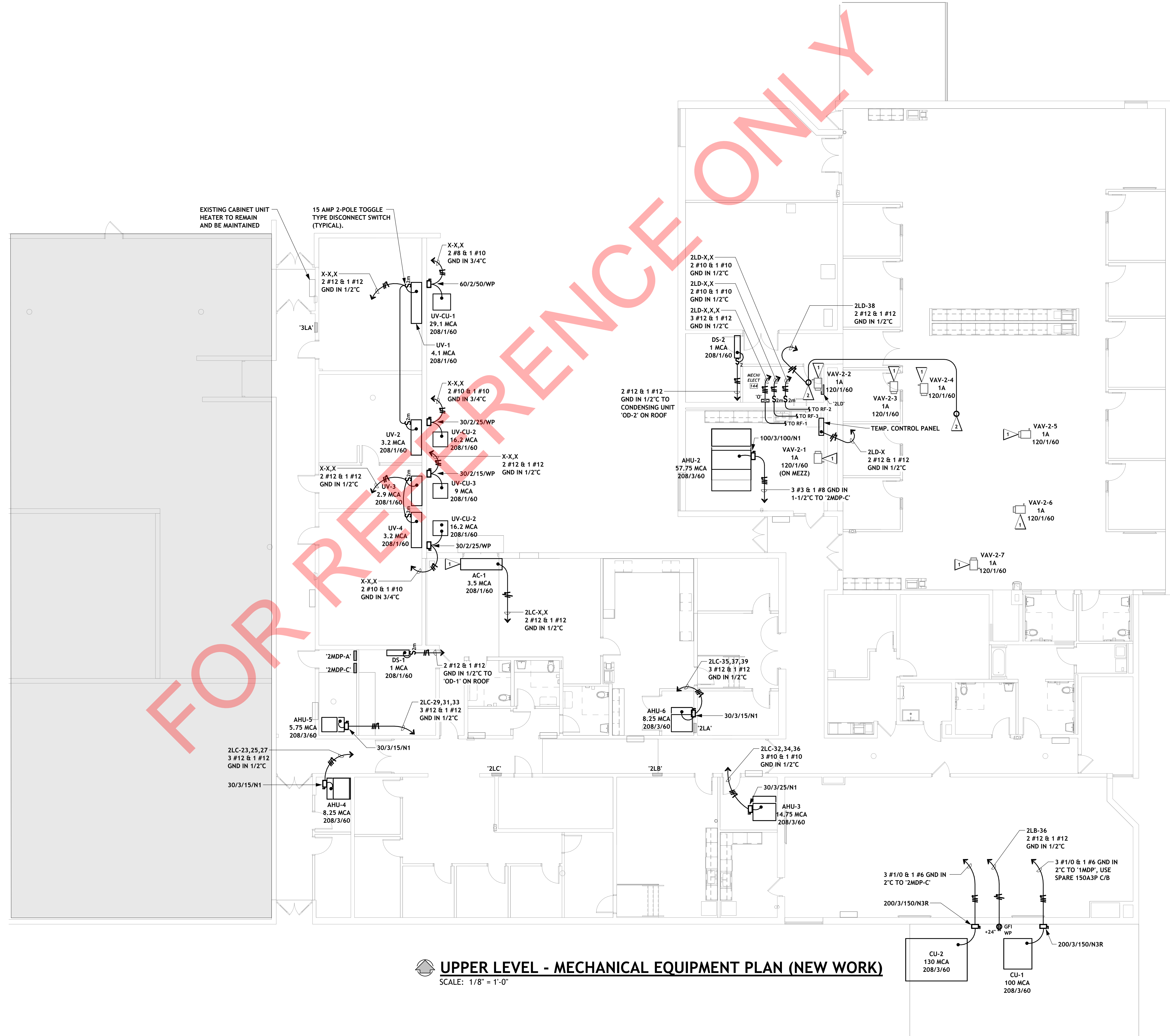


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- REFERENCE NOTES
- (THESE NOTES APPLY TO THIS PLAN ONLY)
- ▽ HVAC EQUIPMENT FURNISHED WITH INTEGRAL DISCONNECT SWITCH.
 - ▽ JUNCTION BOX FOR VAV UNIT 120V/24V CONTROL POWER, VERIFY EXACT LOCATION WITH THE MC.



UPPER LEVEL - MECHANICAL EQUIPMENT PLAN (NEW WORK)
SCALE: 1/8" = 1'-0"

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ROOF ELECTRICAL
PLAN (NEW WORK)

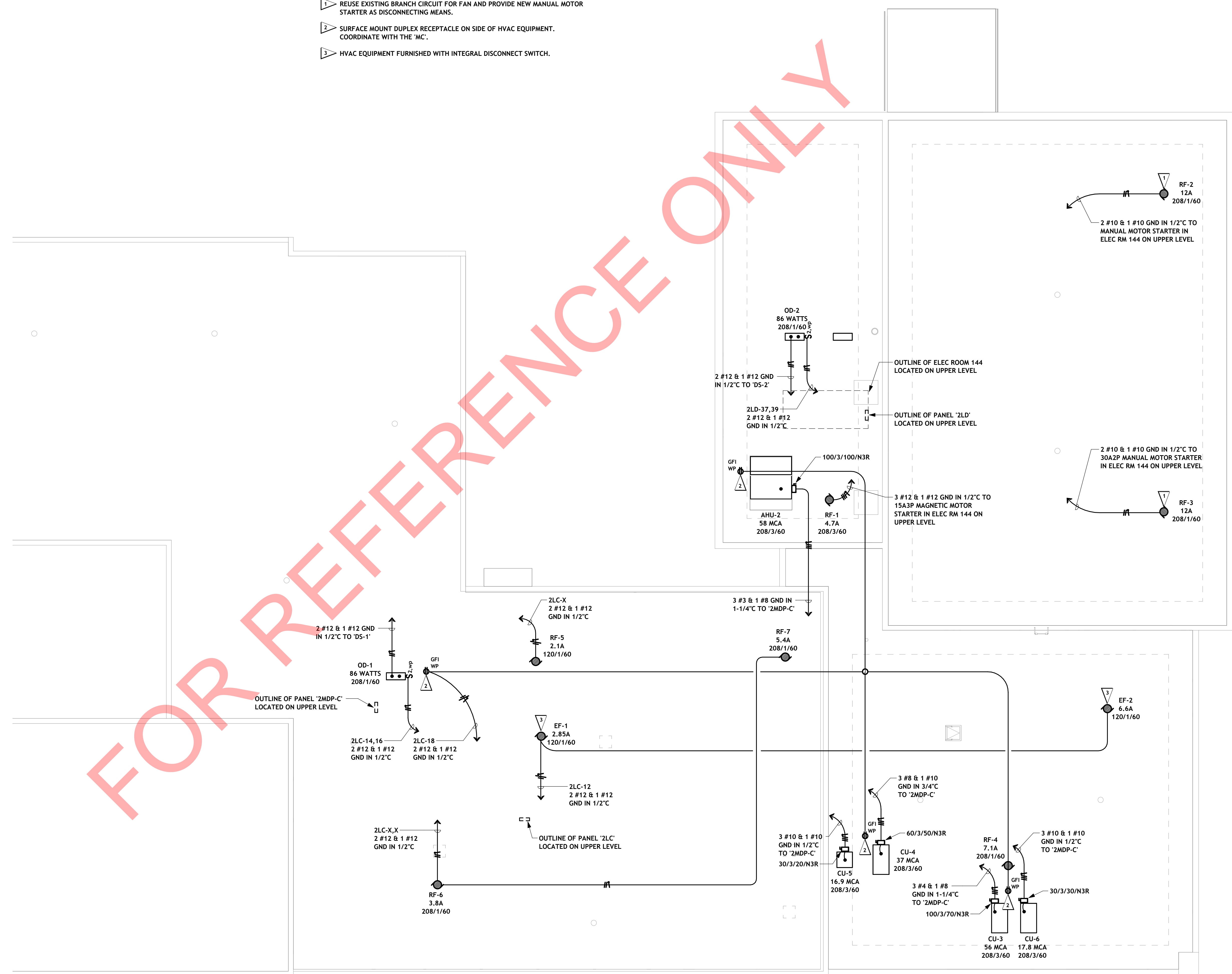
E207



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REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)

- REUSE EXISTING BRANCH CIRCUIT FOR FAN AND PROVIDE NEW MANUAL MOTOR STARTER AS DISCONNECTING MEANS.
- SURFACE MOUNT DUPLEX RECEPTACLE ON SIDE OF HVAC EQUIPMENT. COORDINATE WITH THE 'MC'.
- HVAC EQUIPMENT FURNISHED WITH INTEGRAL DISCONNECT SWITCH.



ROOF ELECTRICAL PLAN (NEW WORK)
SCALE: 1/8" = 1'-0"

FOR REFERENCE ONLY

ELECTRICAL SYMBOL SCHEDULE	
SYMBOL	DESCRIPTION
	LED LIGHT FIXTURE - REFER TO LIGHTING FIXTURE SCHEDULE
	LED LIGHT FIXTURE - WALL OR CEILING MOUNTED - REFER TO LIGHTING FIXTURE SCHEDULE
	LED SITE POLE-MOUNTED AREA LIGHT FIXTURE - REFER TO LIGHTING FIXTURE SCHEDULE
	EXIT SIGN - REFER TO LIGHTING FIXTURE SCHEDULE
	LIGHT SWITCH - SINGLE POLE, 3-WAY AND 4-WAY, 48" AFF UNLESS OTHERWISE NOTED
	DUPLEX RECEPTACLE, GROUNDING TYPE, 125V, 20A, 18" AFF UNLESS OTHERWISE NOTED, TAMPER RESISTANT
	QUAD (2 DUPLEX) RECEPTACLE, GROUNDING TYPE, 125V, 20A, 18" AFF UNLESS OTHERWISE NOTED, TAMPER RESISTANT
	SPECIAL OUTLET, SEE DRAWINGS FOR TYPE
	RECESSED FLOOR BOX OR FIRE-RATED POKE-THROUGH DEVICE - SEE DRAWINGS FOR DESCRIPTION
	A/C MOTOR
	DISCONNECT SWITCH, 600V OR 250V; 30 - AMPERE, 3 - POLE, 20 - FUSE, NF - NON FUSED
	TOGGLE TYPE MANUAL STARTER, SIZE "0" UNLESS OTHERWISE NOTED
	POWER / LIGHTING PANEL - SEE PANEL SCHEDULES FOR DESCRIPTION
	INDICATES FLEXIBLE CONNECTION FROM JUNCTION BOX TO DEVICE
	CONDUIT AND/OR WIRE RUN CONCEALED IN CEILING AND/OR WALL
	CONDUIT AND/OR WIRE RUN EXPOSED
	CONDUIT AND/OR WIRE RUN IN FLOOR OR UNDERGROUND
	LOW VOLTAGE WIRING
	INDICATES HOMERUN TO PANEL - EX.: PANEL "B" CIRCUIT #2
	VOICE / DATA OUTLET, 18" AFF UNLESS NOTED OTHERWISE; 4" SQUARE x 2-1/8" DEEP BOX WITH SINGLE GANG PLASTER RING, BLANK COVER PLATE, & 3/4" CONDUIT (WITH PULLSTRING AND INSULATED BUSHING ON END) STUBBED UP WALL INTO ACCESSIBLE CEILING SPACE
	TELEVISION OUTLET, COORDINATE MOUNTING HEIGHT WITH ARCHITECT; 4" SQUARE x 2-1/8" DEEP BOX WITH SINGLE GANG PLASTER RING, BLANK COVER, & 3/4" CONDUIT (WITH PULLSTRING AND INSULATED BUSHING ON END) STUBBED UP WALL INTO ACCESSIBLE CEILING SPACE
	JUNCTION BOX (ABBREVIATED J.B.)
	SHADED FIXTURE INDICATES CONNECTED TO EMERGENCY LIGHTING CIRCUIT
	INDICATES OCCUPANCY / VACANCY SENSOR POWER SUPPLY "SENSOR SWITCH" #PP20
	FLUSH WALL MOUNTED DIMMER - REFER TO FLOOR PLANS FOR DESCRIPTION
	FLUSH WALL MOUNTED 0-10V DIMMER WITH INTEGRAL PASSIVE INFRARED VACANCY SENSOR, "SENSOR SWITCH" #WSXA-D-SA-XX
	FLUSH WALL MOUNTED PASSIVE INFRARED OCCUPANCY / VACANCY SENSOR SWITCH, "SENSOR SWITCH" #WSXA-SA-XX; P10: AUTO ON MODE - P1V: MANUAL ON MODE
	FLUSH WALL MOUNTED ULTRASONIC OCCUPANCY / VACANCY SENSOR SWITCH, "SENSOR SWITCH" #WSXA-PDT-SA-XX; U10: AUTO ON MODE - U1V: MANUAL ON MODE
	FLUSH WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY / VACANCY SENSOR SWITCH, "SENSOR SWITCH" #WSXA-PDT-SA-XX; D10: AUTO ON MODE - D1V: MANUAL ON MODE
	LOW VOLTAGE CEILING MOUNTED PASSIVE INFRARED OCCUPANCY / VACANCY SENSOR WITH 1500 SQUARE FEET OF COVERAGE, "SENSOR SWITCH" #CM-10-R; P20: AUTO ON MODE - P2V: MANUAL ON MODE
	LOW VOLTAGE CEILING MOUNTED ULTRASONIC OCCUPANCY / VACANCY SENSOR WITH 1000 SQUARE FEET OF COVERAGE, "SENSOR SWITCH" #CM-PDT-9-R; U20: AUTO ON MODE - U2V: MANUAL ON MODE
	LOW VOLTAGE CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY / VACANCY SENSOR WITH 2000 SQUARE FEET OF COVERAGE, "SENSOR SWITCH" #CM-PDT-10-R; D20: AUTO ON MODE - D2V: MANUAL ON MODE
	LOW VOLTAGE WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY / VACANCY SENSOR WITH 1200 SQUARE FEET OF COVERAGE MOUNTED NEAR INTERSECTION OF WALL AND CEILING, "SENSOR SWITCH" #WV-PDT-16; D30: AUTO ON MODE - D3V: MANUAL ON MODE
	LOW VOLTAGE MOMENTARY SWITCH, "SENSOR SWITCH" #SPDMA-SA-3X
	LOW VOLTAGE 0-10V DIMMER WITH MAINTAINED SWITCH, "SENSOR SWITCH" #SPDMA-D-SA-3X
	INDICATES "ELECTRICAL CONTRACTOR"
	INDICATES "GENERAL CONTRACTOR"
	INDICATES "MECHANICAL CONTRACTOR"
	INDICATES "NIGHT LIGHT"
	INDICATES "WEATHERPROOF"
	INDICATES "GROUND FAULT INTERRUPTER"
	INDICATES "ABOVE FINISHED CEILING", MEASURED TO CENTER OF DEVICE
	INDICATES "ABOVE FINISHED FLOOR", MEASURED TO CENTER OF DEVICE
	INDICATES "ABOVE FINISHED GRADE", MEASURED TO CENTER OF DEVICE
	INDICATES "BELOW FINISHED CEILING", MEASURED TO CENTER OF DEVICE
	INDICATES "BELOW FINISHED GRADE", MEASURED TO CENTER OF DEVICE
	INDICATES "ABOVE COUNTER", DEVICE SHALL BE MOUNTED & ABOVE COUNTER MEASURED TO CENTER OF DEVICE

LIGHTING FIXTURE SCHEDULE				
TYPE	MFG.	CAT. NO.	VOLT	DESCRIPTION
A	EUREKA	74300D-96-LED REG-35-90-120V-DV-AC-60-R-C1-WHE-WH-XXX-XX-WH	120	8' LONG LED LINEAR DIRECT LED PENDANT FIXTURE WITH WHITE DIFFUSER, WHITE CANOPY, VERIFY FINISH OF ACOUSTICAL MATERIAL AND END CAP WITH ARCHITECT, AIRCRAFT CABLE SUSPENSION, ELECTRONIC 0-10V DIMMING DRIVER, 4218 LUMENS / 90 CRI / 3500° K / 64W LED MODULE, COORDINATE SUSPENSION HEIGHT WITH THE ARCHITECT
B	MARK	S2PD-LLP-4FT-MSL4-80CRI-35K-800LMF-SCT-MIN1-FL-MVOLT-BLKT-ZT-F172A-RDXY-BLKCY-BCRD	120	4' LONG LED LINEAR DIRECT LED PENDANT FIXTURE WITH EXTRUDED ALUMINUM HOUSING, EXTRUDED ACRYLIC LENS, BLACK POLYESTER POWDER COAT FINISH, BLACK ROUND CANOPY, BLACK CORD, AIRCRAFT CABLE SUSPENSION, ELECTRONIC 0-10V DIMMING DRIVER, 2,808 LUMENS / 80 CRI / 3500° K / 25.1W LED MODULE, COORDINATE SUSPENSION HEIGHT WITH THE ARCHITECT
C	MARK	S2PD-LLP-8FT-MSL4-80CRI-35K-1000LMF-SCT-MIN1-FL-MVOLT-BLKT-ZT-F172A-RDXY-BLKCY-BCRD	120	4' LONG LED LINEAR DIRECT LED PENDANT FIXTURE WITH EXTRUDED ALUMINUM HOUSING, EXTRUDED ACRYLIC LENS, BLACK POLYESTER POWDER COAT FINISH, BLACK ROUND CANOPY, BLACK CORD, AIRCRAFT CABLE SUSPENSION, ELECTRONIC 0-10V DIMMING DRIVER, 7,264 LUMENS / 80 CRI / 3500° K / 63.8W LED MODULE, COORDINATE SUSPENSION HEIGHT WITH THE ARCHITECT
D	LITHONIA	CPX-2X2-3200LM-80CRI-35K-MIN1-ZT-MVOLT	120	2' x 2' RECESSED FLAT PANEL LED FIXTURE WITH ALUMINUM FRAME, SATIN WHITE LENS, T-GRID CEILING, ELECTRONIC 0-10V DIMMING DRIVER, 3,200 LUMENS / 80 CRI / 3500° K / 30.1W LED MODULE
E	LITHONIA	CPX-2X2-4000LM-80CRI-35K-MIN1-ZT-MVOLT	120	2' x 2' RECESSED FLAT PANEL LED FIXTURE WITH ALUMINUM FRAME, SATIN WHITE LENS, T-GRID CEILING, ELECTRONIC 0-10V DIMMING DRIVER, 4,000 LUMENS / 80 CRI / 3500° K / 36.3W LED MODULE
F	LITHONIA	CPX-2X2-5000LM-80CRI-35K-MIN1-ZT-MVOLT	120	2' x 2' RECESSED FLAT PANEL LED FIXTURE WITH ALUMINUM FRAME, SATIN WHITE LENS, T-GRID CEILING, ELECTRONIC 0-10V DIMMING DRIVER, 5,000 LUMENS / 80 CRI / 3500° K / 41.8W LED MODULE
G	LITHONIA	CPX-2X4-5000LM-80CRI-35K-MIN1-ZT-MVOLT	120	2' x 4' RECESSED FLAT PANEL LED FIXTURE WITH ALUMINUM FRAME, SATIN WHITE LENS, T-GRID CEILING, ELECTRONIC 0-10V DIMMING DRIVER, 5,000 LUMENS / 80 CRI / 3500° K / 40W LED MODULE
GS	LITHONIA	CPX-2X4-5000LM-80CRI-35K-MIN1-ZT-MVOLT-2X45MKSH	120	2' x 4' RECESSED FLAT PANEL LED FIXTURE WITH ALUMINUM FRAME, SATIN WHITE LENS, SURFACE MOUNT KIT, ELECTRONIC 0-10V DIMMING DRIVER, 5,000 LUMENS / 80 CRI / 3500° K / 40W LED MODULE
H	LITHONIA	CPX-2X4-6000LM-80CRI-35K-MIN1-ZT-MVOLT	120	2' x 4' RECESSED FLAT PANEL LED FIXTURE WITH ALUMINUM FRAME, SATIN WHITE LENS, T-GRID CEILING, ELECTRONIC 0-10V DIMMING DRIVER, 6,000 LUMENS / 80 CRI / 3500° K / 41.8W LED MODULE
L	MARK	SL2L-LOP-18FT-FLP-TG-80CRI-35K-800LMF-MIN1-120-ZT	120	2" WIDE X 18' LONG RECESSED LINEAR LED FIXTURE WITH COLD-ROLLED STEEL HOUSING, SATIN FLUSH DIFFUSER, SATIN WHITE POLYESTER POWDER COAT FINISH, T-GRID CEILING TYPE, ELECTRONIC 0-10V DIMMING DRIVER, 12,690 LUMENS / 80 CRI / 3500° K / 144W LED MODULE
M	AFX	KNLU40WH-XLCCXWH (INTERCONNECT CABLES)	120	40" LONG LED UNDERCABINET LIGHT FIXTURE WITH EXTRUDED ALUMINUM HOUSING, WHITE FINISH, WHITE POLYCARBONATE DIFFUSER, ELECTRONIC DRIVER, 1,150 LUMENS / 90 CRI / 3000° K / 15.5W, PROVIDE ALL ADDITIONAL CONNECTORS, WIRING AND ASSOCIATED ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION
N	MARK	PLN8-LLP-8FT-MSL8-80CRI-35K-ID1000LMF-10/90-SCT-MIN1-MVOLT-BKSG-ZT-SCEP-F272A-BLKCY-BCRD	120	8' LONG LED LINEAR INDIRECT / DIRECT LED PENDANT FIXTURE WITH COLD-ROLLED STEEL HOUSING, SCULPTURED END CAP, SATIN BLACK FINISH, BLACK CANOPY / CORD, 10% UP / 90% DOWN DISTRIBUTION, AIRCRAFT CABLE SUSPENSION, HARD CEILING MOUNTING, ELECTRONIC 0-10V DIMMING DRIVER, 8,112 LUMENS / 80 CRI / 3500° K / 48W LED MODULE, COORDINATE SUSPENSION HEIGHT WITH THE ARCHITECT
N1	MARK	PLN8-LLP-4FT-MSL4-80CRI-35K-ID800LMF-10/90-SCT-MIN1-MVOLT-BKSG-ZT-SCEP-F272A-BLKCY-BCRD	120	4' LONG LED LINEAR INDIRECT / DIRECT LED PENDANT FIXTURE WITH COLD-ROLLED STEEL HOUSING, SCULPTURED END CAP, SATIN BLACK FINISH, BLACK CANOPY / CORD, 10% UP / 90% DOWN DISTRIBUTION, AIRCRAFT CABLE SUSPENSION, HARD CEILING MOUNTING, ELECTRONIC 0-10V DIMMING DRIVER, 3,236 LUMENS / 80 CRI / 3500° K / 20W LED MODULE, COORDINATE SUSPENSION HEIGHT WITH THE ARCHITECT
N2	MARK	PLN8-LLP-8FT-MSL8-80CRI-35K-ID800LMF-10/90-SCT-MIN1-MVOLT-BKSG-ZT-SCEP-F272A-BLKCY-BCRD	120	4' LONG LED LINEAR INDIRECT / DIRECT LED PENDANT FIXTURE WITH COLD-ROLLED STEEL HOUSING, SCULPTURED END CAP, SATIN BLACK FINISH, BLACK CANOPY / CORD, 10% UP / 90% DOWN DISTRIBUTION, AIRCRAFT CABLE SUSPENSION, HARD CEILING MOUNTING, ELECTRONIC 0-10V DIMMING DRIVER, 6,472 LUMENS / 80 CRI / 3500° K / 40W LED MODULE, COORDINATE SUSPENSION HEIGHT WITH THE ARCHITECT
N3	MARK	PLN8-LLP-8FT-MSL8-80CRI-35K-ID800LMF-10/90-SCT-MIN1-MVOLT-BKSG-ZT-SCEP-F172A-BLKCY-BCRD	120	4' LONG LED LINEAR INDIRECT / DIRECT LED PENDANT FIXTURE WITH COLD-ROLLED STEEL HOUSING, SCULPTURED END CAP, SATIN BLACK FINISH, BLACK CANOPY / CORD, 10% UP / 90% DOWN DISTRIBUTION, AIRCRAFT CABLE SUSPENSION, T-GRID CEILING MOUNTING, ELECTRONIC 0-10V DIMMING DRIVER, 6,472 LUMENS / 80 CRI / 3500° K / 40W LED MODULE, COORDINATE SUSPENSION HEIGHT WITH THE ARCHITECT
Q	LITHONIA	CSS-L48-AL03-MVOLT-SWV3-80CRI	120	4' LONG SURFACE MOUNT LED STRIP LIGHT FIXTURE WITH COLD ROLLED STEEL HOUSING, DIFFUSE ACRYLIC LENS, ELECTRONIC LUMEN / CCT SELECTABLE DRIVER, 4,732 LUMENS / 80 CRI / 3500° K / 36.2W LED MODULE
R	JUNO	JPD24-DC-AL010-SWWSWD-90CRI-JPD24RNCMF-MVOLT-ZT10-WWH	120	4" DIAMETER RECESSED LED DOWNLIGHT FIXTURE WITH NEW CONSTRUCTION HOUSING, WHITE REFLECTOR WITH WHITE TRIM RING, ELECTRONIC 0-10V DIMMING DRIVER, 1,200 LUMENS / 90 CRI / 3500° K / 15.9W LED MODULE
T	LITHONIA	BLWPA-4BL-ADPT-EXT-LP835-MSD7ADXC	120	4' LONG SURFACE MOUNTED LED WRAPAROUND FIXTURE WITH PRE-PAINT WHITE FINISH, RIBBED CURVED DIFFUSER, INTEGRAL OCCUPANCY SENSOR (DIM FIXTURE DOWN TO 25% WHEN UNOCCUPIED), ELECTRONIC DRIVER, 4,800 LUMENS / 82 CRI / 3500° K / 40W LED MODULE
U	LITHONIA	CSS-L96-AL04-MVOLT-SWV3-80CRI	120	8' LONG SURFACE MOUNT LED STRIP LIGHT FIXTURE WITH COLD ROLLED STEEL HOUSING, DIFFUSE ACRYLIC LENS, ELECTRONIC LUMEN / CCT SELECTABLE DRIVER, 8,173 LUMENS / 80 CRI / 3500° K / 64.1W LED MODULE
EM	LITHONIA	AFB-OEL-DOBTDX-UVOLT-LTP-SDRT-WT-CW	120	EXTERIOR WALL MOUNTED EMERGENCY EGRESS LED LIGHT FIXTURE WITH DIE-CAST ALUMINUM HOUSING, DARK BRONZE TEXTURED POWDER COAT FINISH, WIDE THROW DISTRIBUTION, LITHIUM IRON PHOSPHATE BATTERY, SELF DIAGNOSTICS, COLD WEATHER AND WET LOCATION RATED, COORDINATE EXACT MOUNTING HEIGHT WITH THE ARCHITECT
	EELP	REM2-LED-SD	120	SELF-CONTAINED RECESSED EMERGENCY EGRESS LIGHTING FIXTURE WITH THERMOPLASTIC HOUSING, (2) 'LED' LIGHTING HEADS ON HOUSING, NICKEL METAL HYDRIDE BATTERY, INTEGRAL CHARGER, SELF DIAGNOSTICS
	LITHONIA	ELM4L-UVOLT-LTP-SDRT	120	SELF-CONTAINED WALL MOUNTED EMERGENCY EGRESS LIGHTING FIXTURE WITH THERMOPLASTIC HOUSING, (2) 'LED' LIGHTING HEADS ON HOUSING, LITHIUM IRON PHOSPHATE BATTERY, INTEGRAL CHARGER, SELF DIAGNOSTICS
	LITHONIA	LHQM-LED-R-SD	120	EMERGENCY EXIT SIGN WITH RED LETTERS, WHITE THERMOPLASTIC HOUSING, 'LED' LAMPS, (2) 'LED' LIGHTING HEADS ON HOUSING, SEALED NICKEL CADMIUM BATTERY, INTEGRAL CHARGER, SELF DIAGNOSTICS, ARROWS AND MOUNTING AS SHOWN ON DRAWINGS

LIGHTING FIXTURE NOTES:

- THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL MOUNTING HARDWARE REQUIRED FOR ALL LIGHT FIXTURES.
- THE COLOR TEMPERATURE FOR ALL LIGHT FIXTURES SHALL BE 3500° K, INTERIOR, 4000K FOR EXTERIOR, UNLESS NOTED OTHERWISE.
- THE ELECTRICAL CONTRACTOR SHALL FURNISH A LIST OF ALL LED MODULES AND DRIVERS (INCLUDING CATALOG AND MANUFACTURER NUMBERS) USED ON PROJECT. DISTRIBUTOR NAME AND LOCATION WHERE LED MODULES AND DRIVERS CAN BE PURCHASED TO BE GIVEN TO OWNER AT JOB COMPLETION.
- DIMMING DRIVERS FOR LIGHT FIXTURES SHALL BE 0-10V DIMMING WITH A DIMMING RANGE DOWN TO 1%, UNLESS OTHERWISE NOTED.
- THE ELECTRICAL CONTRACTOR SHALL NOT DELAY THE COMPLETION OF THE PROJECT DUE TO LIGHT FIXTURE DELIVERIES. ANY DELAYS IN THE RECEIPT OF FIXTURES DUE TO A DELAY IN ORDERING IS NOT ACCEPTABLE. IF THERE ARE ANY SPECIALTY FIXTURES REQUIRING MORE THAN 10 WEEKS DELIVERY, THIS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION NO LESS THAN 14 WEEKS BEFORE THE JOB COMPLETION.
- IN LOCATIONS WHERE LIGHTING FIXTURES ARE INSTALLED IN FIRE-RATED CEILINGS, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIRESTOPPING AROUND CEILING FIXTURE OPENINGS / JUNCTION BOXES TO MATCH FIRE RATING OF CEILING.
- IN LOCATIONS WHERE NON-IC RATED LIGHTING FIXTURES ARE INSTALLED IN INSULATED CEILINGS, THE ELECTRICAL CONTRACTOR SHALL PROVIDE AN INSULATED ENCLOSURE AROUND FIXTURE TO KEEP INSULATION 3" (MINIMUM) FROM FIXTURE HOUSING ON ALL SIDES.



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ELECTRICAL SCHEDULES





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ELECTRICAL SERVICE #1 (EXISTING CONDITIONS)

E302



EXISTING PANEL: 'A'

VOLTAGE: 120/208 VOLT, 3 PHASE, 4 WIRE REMARKS: 400 AMP WITH 400 AMP MAIN CIRCUIT BREAKER

VA	USE	P WIRE	A WIRE	C WIRE	N			P WIRE	USE	VA	
					A	B	C				
	FRYER / BBQ	3	50	1				2	40	3	FRYER BROASTER
	PIZZA OVEN	3	50	3				4	50	3	OVEN
	RANGE	3	50	5				6	80	3	GRIDDLE
	BROILER	3	30	7				8	80	3	FRYER / TEMP FRYER

MOUNTING: RECESSED GROUND BUS: G A.I.C. RATING: 10,000

EXISTING PANEL: 'B'

VOLTAGE: 120/208 VOLT, 3 PHASE, 4 WIRE REMARKS: 225 AMP MAIN LUG ONLY

VA	USE	P WIRE	A WIRE	C WIRE	N			P WIRE	USE	VA	
					A	B	C				
	WATER STATION	1	15	1				2	15	1	REFRIGERATOR
	ICE CREAM CAB/LTG COOL/FRZR	1	15	3				4	20	1	FREEZER
	COFFEE URN	1	20	5				6	30	1	SODA FOUNTAIN
	HOOD SUPPLY FAN	3	15	7				8	15	3	HOOD EXHAUST FAN
	PEELER	3	15	9				10	15	3	DISPOSAL
	DISPOSAL	3	15	11				12	15	3	MIXER - HOT FOOD
	WALK-IN COOLER	3	15	13				14	15	3	WALK-IN FREEZER
	DISHWASHER	3	30	15				16	40	3	BOOSTER HEATER

MOUNTING: RECESSED GROUND BUS: G A.I.C. RATING: 10,000

EXISTING PANEL: 'C'

VOLTAGE: 120/208 VOLT, 3 PHASE, 4 WIRE REMARKS: 100 AMP MAIN LUG ONLY

VA	USE	P WIRE	A WIRE	C WIRE	N			P WIRE	USE	VA	
					A	B	C				
	LIGHTS - MEETING ROOM	1	20	1				2	20	1	LIGHTS - DINING ROOM
	LIGHTS - MEETING ROOM	1	20	3				4	20	1	LIGHTS - DINING ROOM
	LIGHTS - MEETING ROOM	1	20	5				6	20	1	LIGHTS - DINING ROOM
	LIGHTS - GIFT SHOP	1	20	7				8	20	1	LIGHTS - LOCKER ROOM
	LIGHTS - GIFT SHOP	1	20	9				10	20	1	LIGHTS - HALL
	LIGHTS - GIFT SHOP	1	20	11				12	20	1	LIGHTS - RECEIVING / STORAGE
	LIGHTS - EXTERIOR CEILING FAN	1	20	13				14	20	1	LIGHTS - KITCHEN
	HOOD CONTROL	1	20	15				16	20	1	LIGHTS - KITCHEN
	FLEIZEL	1	20	17				18	20	1	LIGHTS - KITCHEN
	RECEPT - DINING ROOM	1	20	19				20	20	1	RECEPT - KITCHEN
	RECEPT - MEET RM/SALAD BAR	1	20	21				22	20	1	RECEPT - KITCHEN ICE MACHINE
	RECEPT - HALL / BOILER ROOM	1	20	23				24	20	1	RECEPT - KITCHEN
	RECEPT - GIFT SHOP	1	20	25				26	20	1	RECEPT - REC OUTSIDE REC.
	RECEPT - GIFT SHOP	1	20	27				28	20	1	RECEPT - LOCKER ROOMS
	RECEPT - FLOOR OUTLETS	1	20	29				30	20	1	WATER COOLER
	LIGHTS - DINING ROOM	1	20	31				32	20	1	HAND DRYER
	LIGHTS - DINING ROOM	1	20	33				34	20	1	HAND DRYER
	LIGHTS - DINING ROOM	1	20	35				36	20	1	RECEPT - GYM 'N'
	RECEPT - RECEIVING	1	20	37				38	20	1	RECEPT - GYM 'E'
	RECEPT - BEHIND SALAD BAR	1	20	39				40	20	1	SIGN
	RECEPT - BEHIND SALAD BAR	1	20	41				42	20	1	UP-RIGHT FREEZER

MOUNTING: RECESSED GROUND BUS: G A.I.C. RATING: 10,000

EXISTING PANEL: 'E'

VOLTAGE: 120/208 VOLT, 3 PHASE, 4 WIRE REMARKS: 100 AMP MAIN LUG ONLY

VA	USE	P WIRE	A WIRE	C WIRE	N			P WIRE	USE	VA	
					A	B	C				
	FREEZER LIGHTING	1	20	1				2	20	1	WALK-IN FREEZER
	FREEZER FANS	2	20	3				4	20	3	WALK-IN FREEZER
	SPACE	2	20	5				6	20	1	SPACE
	SPACE	2	20	7				8	20	1	SPACE
	SPACE	2	20	9				10	20	1	SPACE
	TABLE	1	20	11				12	30	1	UNKNOWN LOAD
	REST	1	20	13				14	30	1	SPACE
	SPACE	1	20	15				16	30	1	SPACE
	SPACE	1	20	17				18	30	1	SPACE

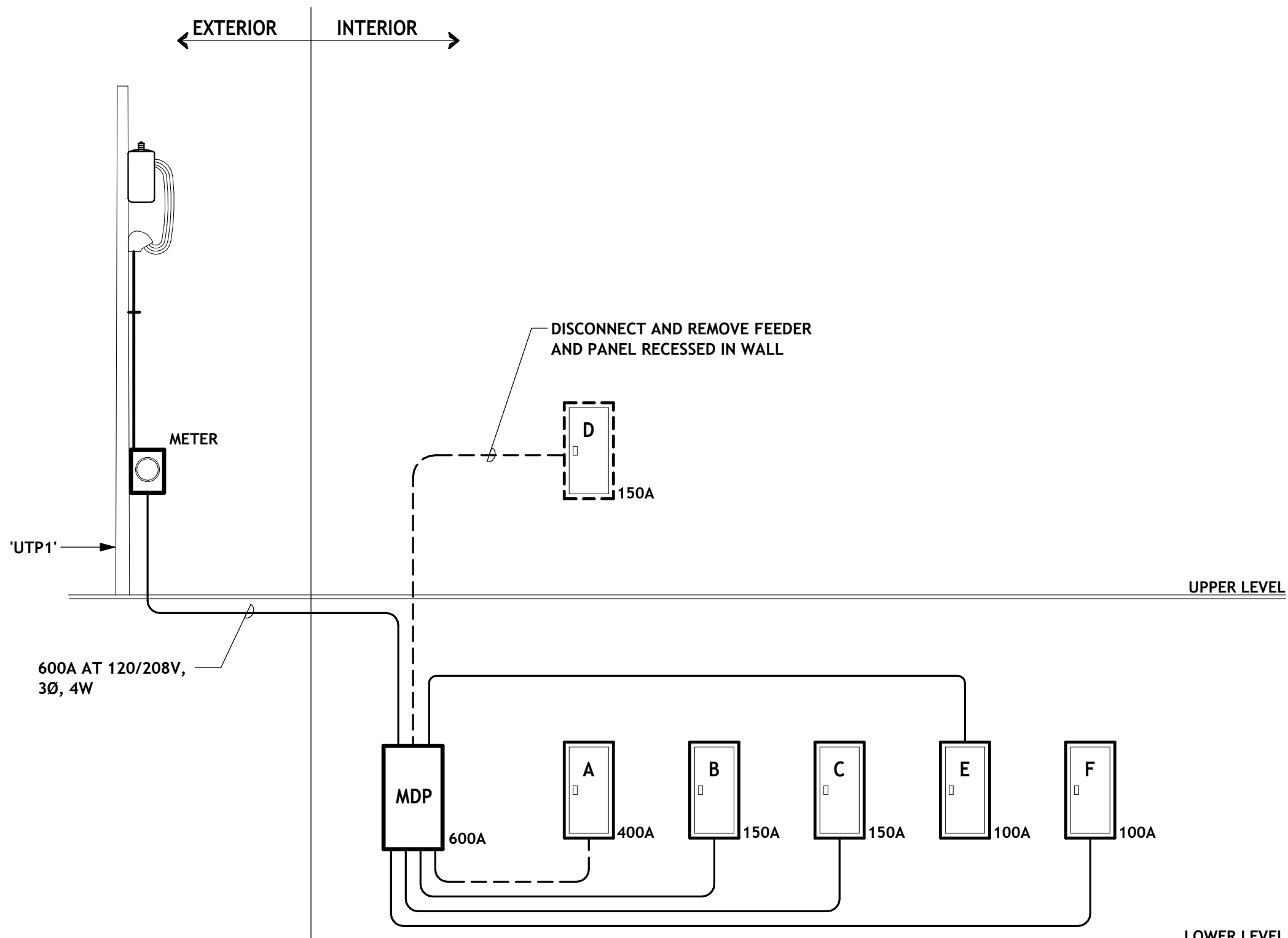
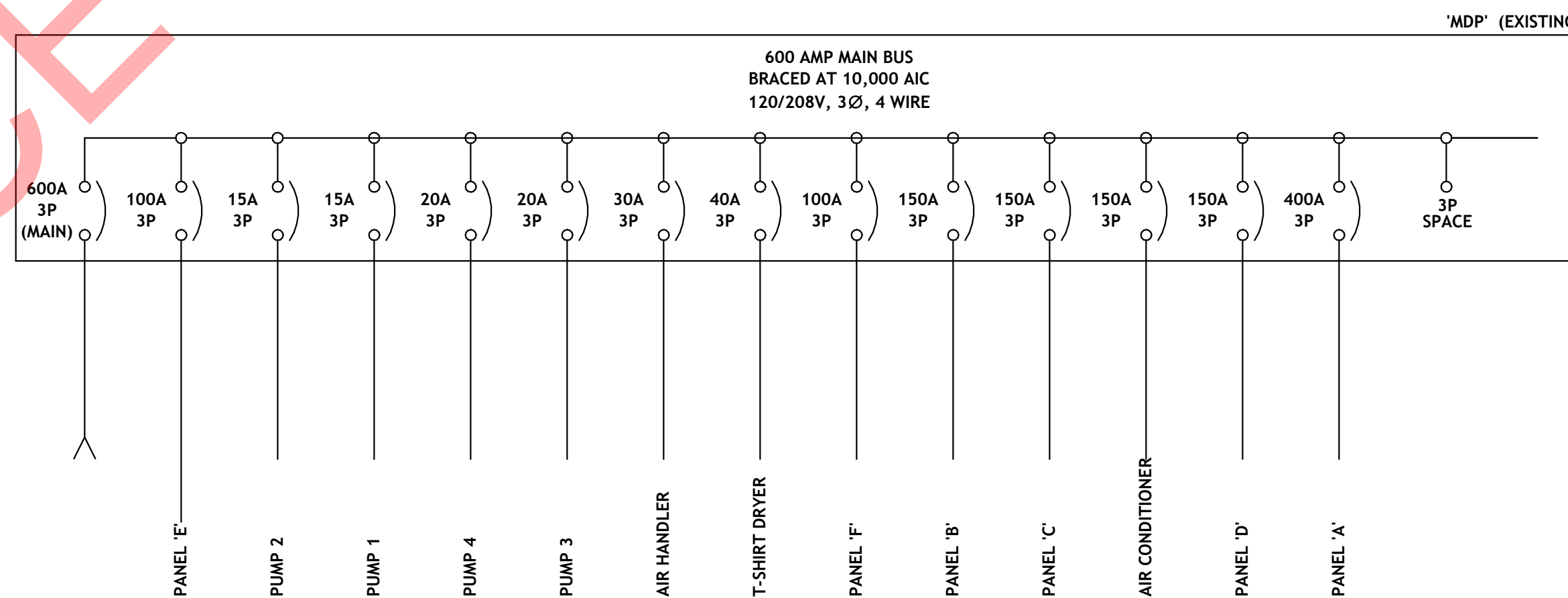
MOUNTING: SURFACE GROUND BUS: G A.I.C. RATING: 10,000

EXISTING PANEL: 'F'

VOLTAGE: 120/208 VOLT, 3 PHASE, 4 WIRE REMARKS: 100 AMP MAIN LUG ONLY

VA	USE	P WIRE	A WIRE	C WIRE	N			P WIRE	USE	VA	
					A	B	C				
	LTG-BOILER ROOM	1	20	1				2	20	1	CONTROL COMPRESSOR
	BOILER #1	1	20	3				4	20	1	AIR DRYER
	BOILER #2	1	20	5				6	20	1	JOHNSTON CONTROL
	GYM EXHAUST FAN	1	20	7				8	20	1	TOILET EXHAUST FAN
	GYM EXHAUST FAN	1	20	9				10	20	1	TOILET EXHAUST FAN
	GYM EXHAUST FAN	1	20	11				12	20	1	WATER HEATER & PUMP

MOUNTING: SURFACE GROUND BUS: G A.I.C. RATING: 10,000



REVISED PANEL: '1LA' (FORMERLY PANEL 'A')
VOLTAGE: 120/208 VOLT, 3 PHASE, 4 WIRE
REMARKS: 400 AMP WITH 400 AMP MAIN CIRCUIT BREAKER

VA	USE	UNIT	A	B	C	N	VA	USE	VA	
	SPARE	3	50	1			2	40	3	SPARE
	SPARE	3	3				4	50	3	SPARE
	SPARE	3	5				6	80	3	SPARE
	SPARE	3	80	7			8	80	3	SPARE

MOUNTING: RECESSED
GROUND BUS: G
A.I.C. RATING: 10,000

- NOTES:
1. 'DARK BOLD' INDICATES NEW LOAD AND / OR CIRCUIT BREAKER.
2. 'LIGHT ITALIC' INDICATES EXISTING LOAD AND / OR CIRCUIT BREAKER.
3. '*' INDICATES THE 'EC' SHALL FURNISH AND INSTALL A NEW CIRCUIT BREAKER TO REPLACE EXISTING CIRCUIT BREAKER(S).
4. 'AFCI' INDICATES CIRCUIT BREAKER SHALL BE COMBINATION AFCI-TYPE.
5. 'AFCI / GFCI' INDICATES CIRCUIT BREAKER SHALL BE DUAL FUNCTION AFCI / GFCI-TYPE.
6. 'L' INDICATES CIRCUIT BREAKER SHALL HAVE LOCK-ON CLIP.

REVISED PANEL: '1LB' (FORMERLY PANEL 'B')
VOLTAGE: 120/208 VOLT, 3 PHASE, 4 WIRE
REMARKS: 225 AMP MAIN LUG ONLY

VA	USE	UNIT	A	B	C	N	VA	USE	VA		
1200	RECEPT-BREAK RM 015 REFRIG.	1	20	1			2	20	1	RECEPT-VOTING PREP RM 012	1080
1200	RECEPT-BREAK RM 015 WTR. COOL.	1	20	3			4	20	1	RECEPT-VOTING PREP RM 012	1080
360	RECEPT-BREAK ROOM 015	1	20	5			6	20	1	RECEPT-VOTING PREP RM 012	720
180	RECEPT-BREAK ROOM 015 COUNTER	1	20	9			8	20	1	RECEPT-VOTING PREP RM 012	720
1800	RECEPT-BREAK ROOM 015 COUNTER	1	20	9			10	20	1	RECEPT-VOTING PREP RM 012	900
1000	RECEPT-CORR 004 COPIER	1	20	11			12	20	1	RECEPT-VOTING PREP RM 012	720
180	RECEPT-CORR 004 COUNTER	1	20	13			14	20	1	RECEPT-IN-PERSON VOTING	720
500	RECEPT-CORR 004 EQUIPMENT	1	20	15			16	20	1	RECEPT-IN-PERSON VOTING	720
500	RECEPT-SUPPLIES 011 SHREDDER	1	20	17			18	20	1	RECEPT-OFFICE 002	900
1080	RECEPT-SUPPLIES 011/TABUL. 007	1	20	19			20	20	1	RECEPT-OFFICE 002 COPIER	500
360	RECEPT-STORAGE 010	1	20	21			22	20	1	RECEPT-OFFICE 005	900
720	RECEPT-BOARDROOM 017	1	20	23			24	20	1	RECEPT-OFFICE 005 COPIER	500
	SPARE	3	15				26	20	3	SPARE	
	SPARE	3	30				28	15	3	SPARE	
	SPARE	3	30				30				
	SPARE	3	30				32				
	SPARE	3	30				34	40	3	SPARE	
	SPARE	3	30				36				

MOUNTING: RECESSED
GROUND BUS: G
A.I.C. RATING: 10,000

- NOTES:
1. 'DARK BOLD' INDICATES NEW LOAD AND / OR CIRCUIT BREAKER.
2. 'LIGHT ITALIC' INDICATES EXISTING LOAD AND / OR CIRCUIT BREAKER.
3. '*' INDICATES THE 'EC' SHALL FURNISH AND INSTALL A NEW CIRCUIT BREAKER TO REPLACE EXISTING CIRCUIT BREAKER(S).
4. 'AFCI' INDICATES CIRCUIT BREAKER SHALL BE COMBINATION AFCI-TYPE.
5. 'AFCI / GFCI' INDICATES CIRCUIT BREAKER SHALL BE DUAL FUNCTION AFCI / GFCI-TYPE.
6. 'L' INDICATES CIRCUIT BREAKER SHALL HAVE LOCK-ON CLIP.

REVISED PANEL: '1LC' (FORMERLY PANEL 'C')
VOLTAGE: 120/208 VOLT, 3 PHASE, 4 WIRE
REMARKS: 100 AMP MAIN LUG ONLY

VA	USE	UNIT	A	B	C	N	VA	USE	VA		
1450	LTG-LOWER LEVEL OFF./VEST/PREP	1	20	1			2	20	1	RECEPT-RR 019 / STOR 020 / CORR	720
670	LTG-BOARD RM / RR / CORR / STOR	1	20	3			4	20	1	RECEPT-RR 018 / CORR	900
770	LTG-IN-PERSON VOTING	1	20	5			6	20	1	RECEPT-BOARD RM 017	900
480	VAV POWER	1	20	7			8	20	1	RECEPT-SERVER 014 EQUIPMENT	500
1080	AC-1	1	20	9			10	20	1	RECEPT-SERVER 014	540
	AHU-1	3	50	11			12	20	1	RECEPT-IN-PERSON VOTING 002	540
	FIRE ALARM SYSTEM	1	20	13			14	20	1	RECEPT-VOTING PREP 012	720
	SPARE	1	20	15			16	20	1	RECEPT-STOR 010 / JAN 009	900
	SPARE	1	20	17			18	20	1	SPARE	
	SPARE	1	20	19			20	20	1	SPARE	
	SPARE	1	20	21			22	20	1	SPARE	
	SPARE	1	20	23			24	20	1	SPARE	
	SPARE	1	20	25			26	20	1	RECEPT - REC./OUTSIDE REC.	
	SPARE	1	20	27			28	20	1	RECEPT - LOCKER ROOMS	
	SPARE	1	20	29			30	20	1	WATER COOLER	
	SPARE	1	20	31			32	20	1	SPARE	
	SPARE	1	20	33			34	20	1	SPARE	
	SPARE	1	20	35			36	20	1	RECEPT - GYM "N"	
	SPARE	1	20	37			38	20	1	RECEPT - GYM "E"	
	SPARE	1	20	39			40	20	1	SPARE	
	SPARE	1	20	41			42	20	1	SPARE	

MOUNTING: RECESSED
GROUND BUS: G
A.I.C. RATING: 10,000

- NOTES:
1. 'DARK BOLD' INDICATES NEW LOAD AND / OR CIRCUIT BREAKER.
2. 'LIGHT ITALIC' INDICATES EXISTING LOAD AND / OR CIRCUIT BREAKER.
3. '*' INDICATES THE 'EC' SHALL FURNISH AND INSTALL A NEW CIRCUIT BREAKER TO REPLACE EXISTING CIRCUIT BREAKER(S) OR IN EXISTING SPACE.
4. 'L' INDICATES CIRCUIT BREAKER SHALL HAVE LOCK-ON CLIP.
5. 'GFCI' INDICATES CIRCUIT BREAKER SHALL BE GFCI-TYPE.

REVISED PANEL: '1LD' (FORMERLY PANEL 'E')
VOLTAGE: 120/208 VOLT, 3 PHASE, 4 WIRE
REMARKS: 100 AMP MAIN LUG ONLY

VA	USE	UNIT	A	B	C	N	VA	USE	VA	
	FREEZER LIGHTING	1	20	1			2	20	1	WALK-IN FREEZER
	FREEZER FANS	2	20	3			4	20	3	
	SPACE						6			
	SPACE						7			SPACE
	SPACE						8	20	1	SPACE
	TABLE	1	20	11			10	20	1	SPACE
	REST	1	20	13			12	30	1	UNKNOWN LOAD
	SPACE						14			SPACE
	SPACE						16			SPACE
	SPACE						17			SPACE
	SPACE						18			SPACE

MOUNTING: SURFACE
GROUND BUS: G
A.I.C. RATING: 10,000

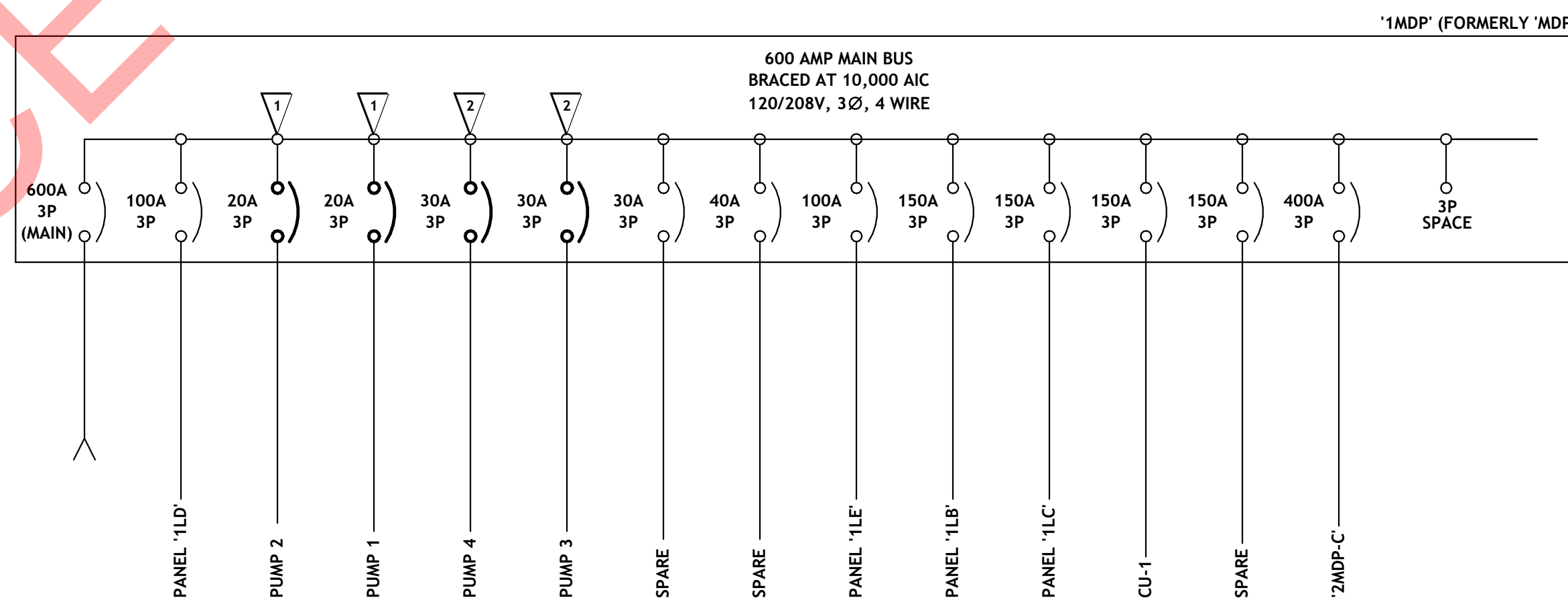
- NOTES:
1. 'DARK BOLD' INDICATES NEW LOAD AND / OR CIRCUIT BREAKER.
2. 'LIGHT ITALIC' INDICATES EXISTING LOAD AND / OR CIRCUIT BREAKER.
3. '*' INDICATES THE 'EC' SHALL FURNISH AND INSTALL A NEW CIRCUIT BREAKER TO REPLACE EXISTING CIRCUIT BREAKER(S).
4. 'AFCI' INDICATES CIRCUIT BREAKER SHALL BE COMBINATION AFCI-TYPE.
5. 'AFCI / GFCI' INDICATES CIRCUIT BREAKER SHALL BE DUAL FUNCTION AFCI / GFCI-TYPE.
6. 'L' INDICATES CIRCUIT BREAKER SHALL HAVE LOCK-ON CLIP.

REVISED PANEL: '1LE' (FORMERLY PANEL 'F')
VOLTAGE: 120/208 VOLT, 3 PHASE, 4 WIRE
REMARKS: 100 AMP MAIN LUG ONLY

VA	USE	UNIT	A	B	C	N	VA	USE	VA	
	LTG-BOILER ROOM	1	20	1			2	20	1	CONTROL COMPRESSOR
	BOILER #1	1	20	3			4	20	1	AIR DRYER
	BOILER #2	1	20	5			6	20	1	JOHNSTON CONTROL
	GYM EXHAUST FAN	1	20	7			8	20	1	TOILET EXHAUST FAN
	GYM EXHAUST FAN	1	20	9			10	20	1	TOILET EXHAUST FAN
	GYM EXHAUST FAN	1	20	11			12	20	1	WATER HEATER & PUMP

MOUNTING: SURFACE
GROUND BUS: G
A.I.C. RATING: 10,000

- NOTES:
1. 'DARK BOLD' INDICATES NEW LOAD AND / OR CIRCUIT BREAKER.
2. 'LIGHT ITALIC' INDICATES EXISTING LOAD AND / OR CIRCUIT BREAKER.
3. '*' INDICATES THE 'EC' SHALL FURNISH AND INSTALL A NEW CIRCUIT BREAKER TO REPLACE EXISTING CIRCUIT BREAKER(S).
4. 'AFCI' INDICATES CIRCUIT BREAKER SHALL BE COMBINATION AFCI-TYPE.
5. 'AFCI / GFCI' INDICATES CIRCUIT BREAKER SHALL BE DUAL FUNCTION AFCI / GFCI-TYPE.
6. 'L' INDICATES CIRCUIT BREAKER SHALL HAVE LOCK-ON CLIP.

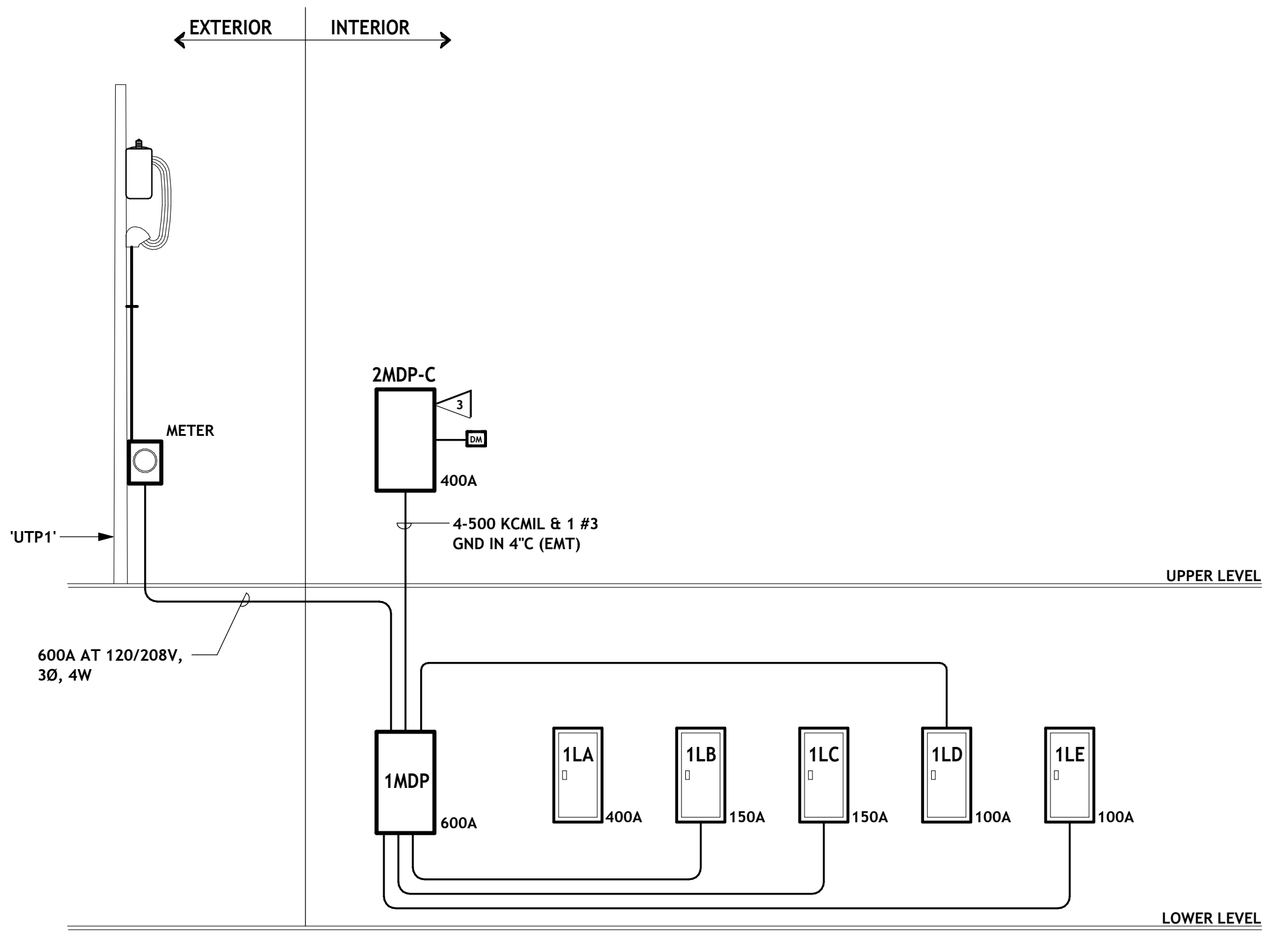


SINGLE LINE OF '1MDP' LOWER LEVEL - REVISED
SCALE: 1/8" = 1'-0"

ELECTRICAL LOADS; LOWER LEVEL (SERVICE #1)

MISC	VA
LIGHTING	VA
RECEPTACLES (DIV 12060)	VA
AIR CONDITIONING	VA
EQUIPMENT	VA
ELECTRIC HEAT	VA
TOTAL	VA
CONTINUOUS LOAD (125%) 81,480 X 1.25	VA
NON-CONTINUOUS LOAD (100%) 19,670 X 1.0	VA
SERVICE SIZE (SUM OF CONTINUOUS & NON-CONTINUOUS LOADS)	VA
TOTAL AMPERES	AMPS

600 AMPERE SERVICE IS ADEQUATE



POWER RISER DIAGRAM - LOWER LEVEL - REVISED
NOT TO SCALE (SERVICE #1)

GENERAL NOTES

- 1. ALL DISTRIBUTION AND LIGHTING / APPLIANCE PANELS ARE GENERAL ELECTRIC 'GE'.
- 2. RELABEL ALL DISTRIBUTION AND LIGHTING / APPLIANCE PANELS AS INDICATED ON REVISED POWER RISER DIAGRAM.
- 3. UPDATE DISTRIBUTION AND LIGHTING APPLIANCE DIRECTORIES / LEGENDS AT PROJECT COMPLETION.
- 4. REVISED PANEL '1LA' WILL NOT BE ENERGIZED AND SHALL REMAIN AS SPARE.

REFERENCE NOTES (THESE NOTES APPLY TO THIS PLAN ONLY)

- 1. REINSTALL EXISTING 20A/3P CIRCUIT BREAKERS REMOVED DURING DEMOLITION TO SERVE PUMPS 1 AND 2 UNDER ALTERNATE 3.
- 2. PROVIDE NEW 30A/3P CIRCUIT BREAKERS IN '1MDP' TO SERVE PUMPS 3 AND 4 UNDER ALTERNATE 3.
- 3. PROVIDE DIGITAL METERING (EMON/DAION OR EQUAL) ON DISTRIBUTION PANEL '2MDP-C'.

CARROLL COUNTY BOARD OF COMMISSIONERS
CARROLL COUNTY OFFICE RENOVATION
211 MOODY AVE SW
CARROLLTON OHIO 44615



PRELIMINARY FOR REVIEW ONLY
08/06/2024
Epic Engineering Group

ISSUE / REVISION	DATE

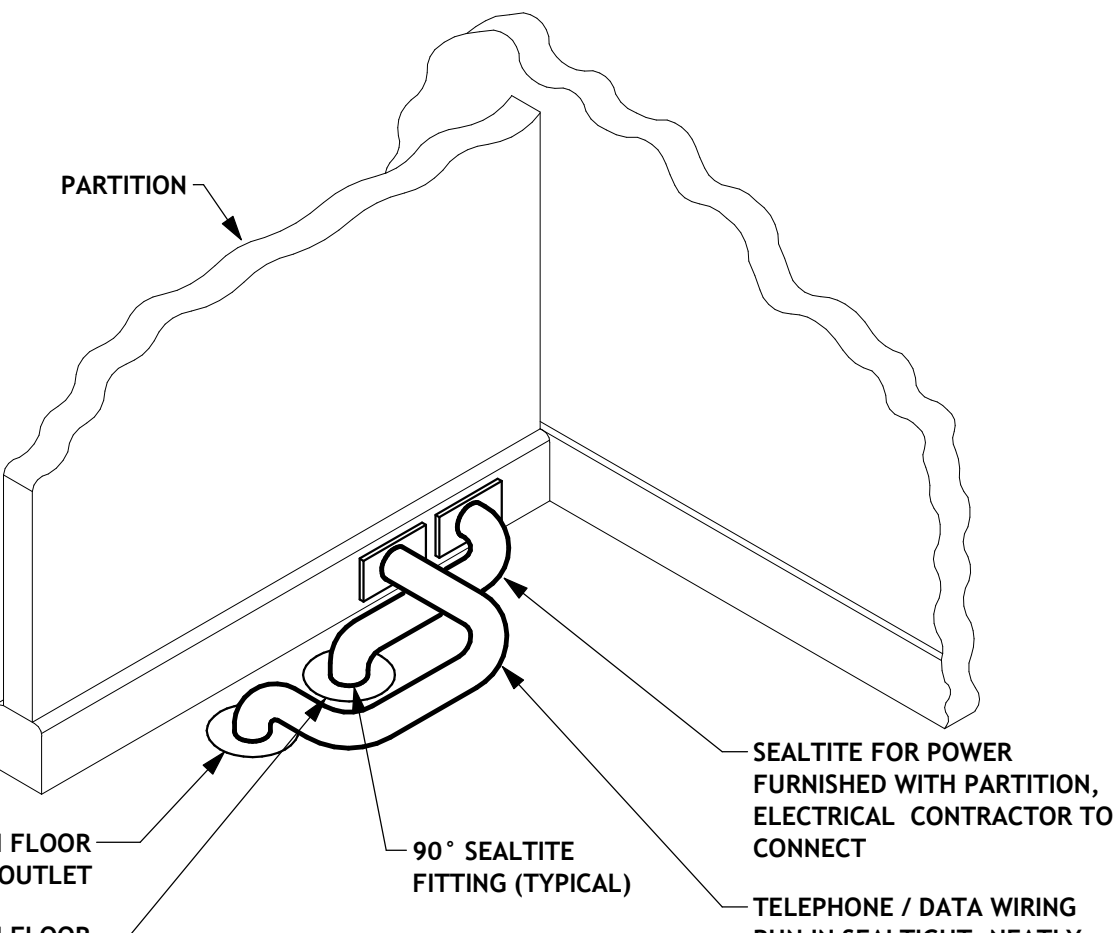
PROJECT NO. 24013.000

ELECTRICAL SERVICE #1 (REVISED CONDITIONS)

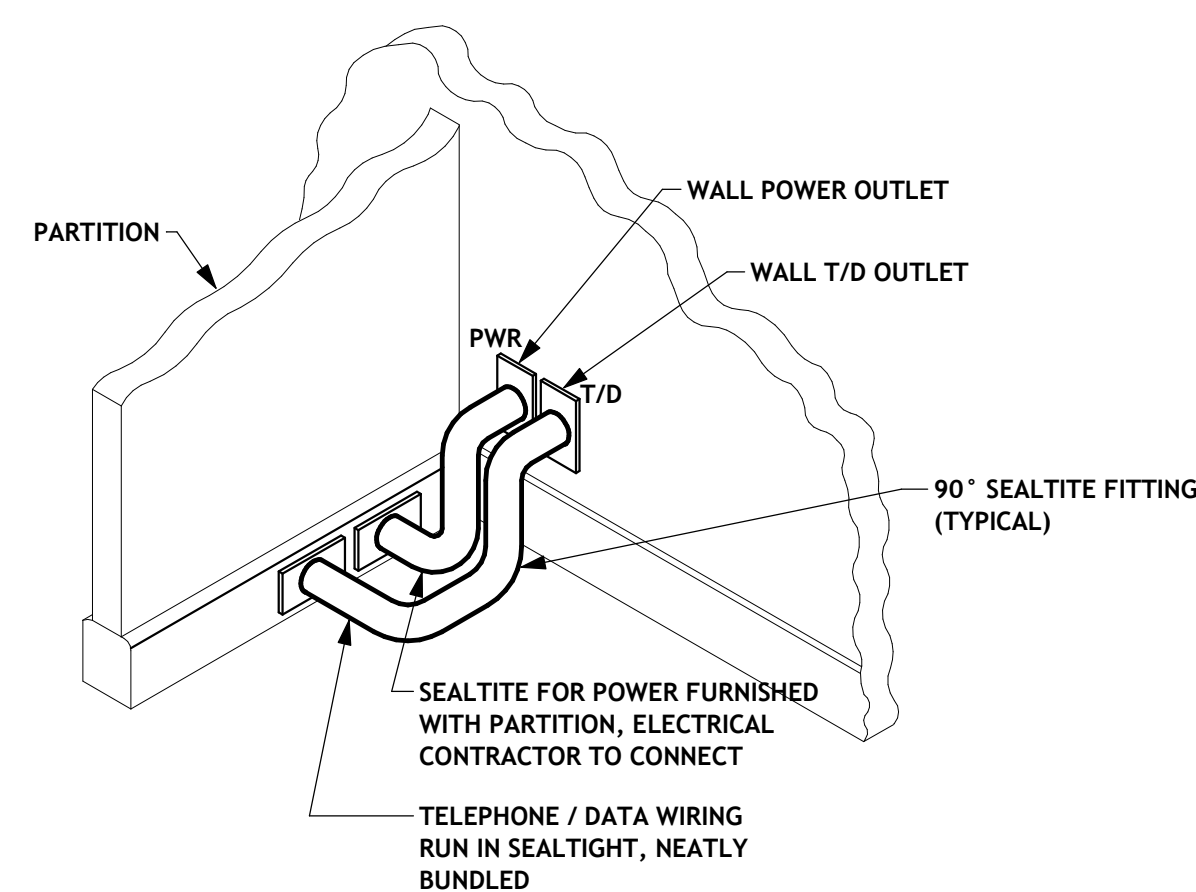
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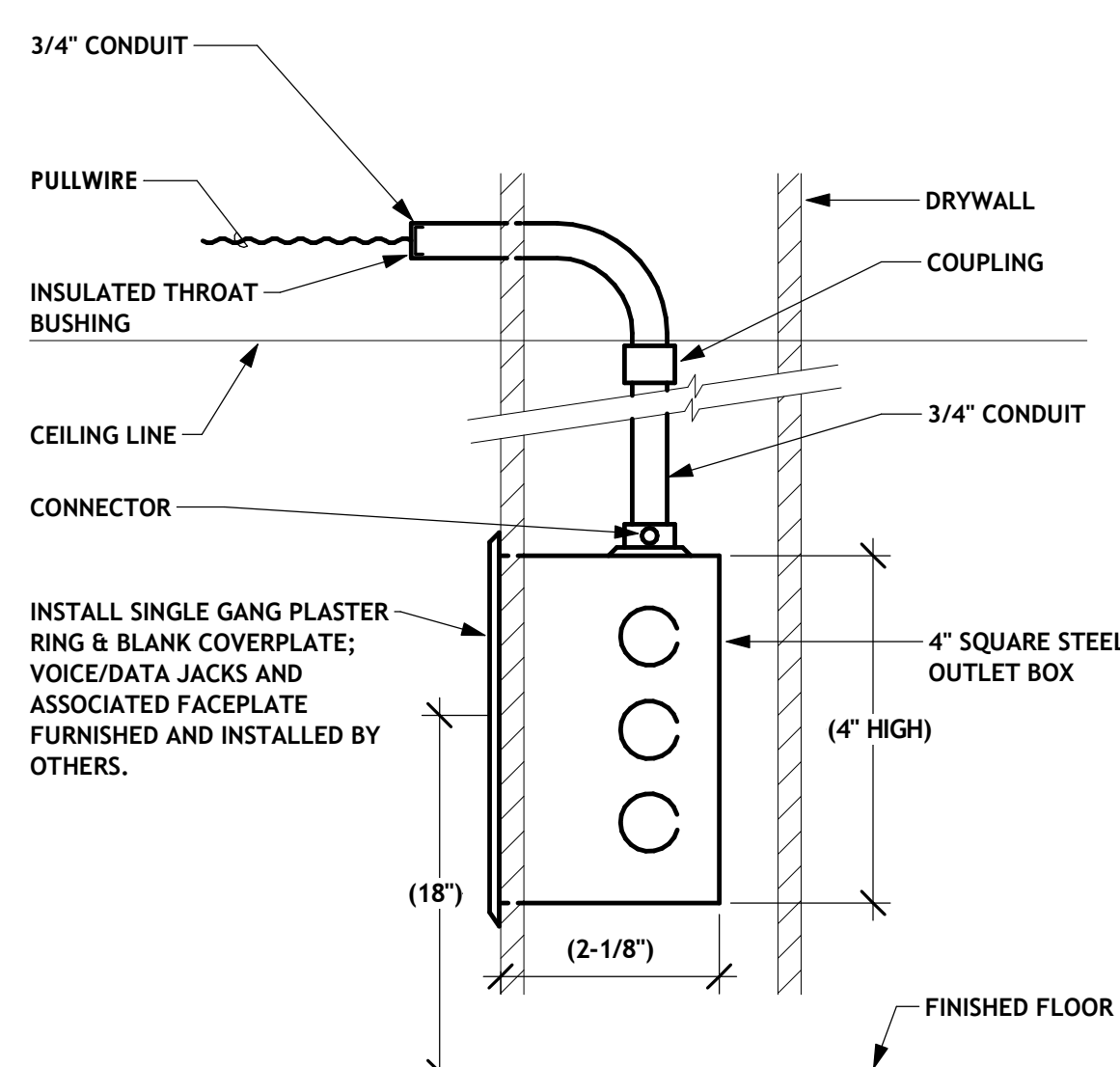
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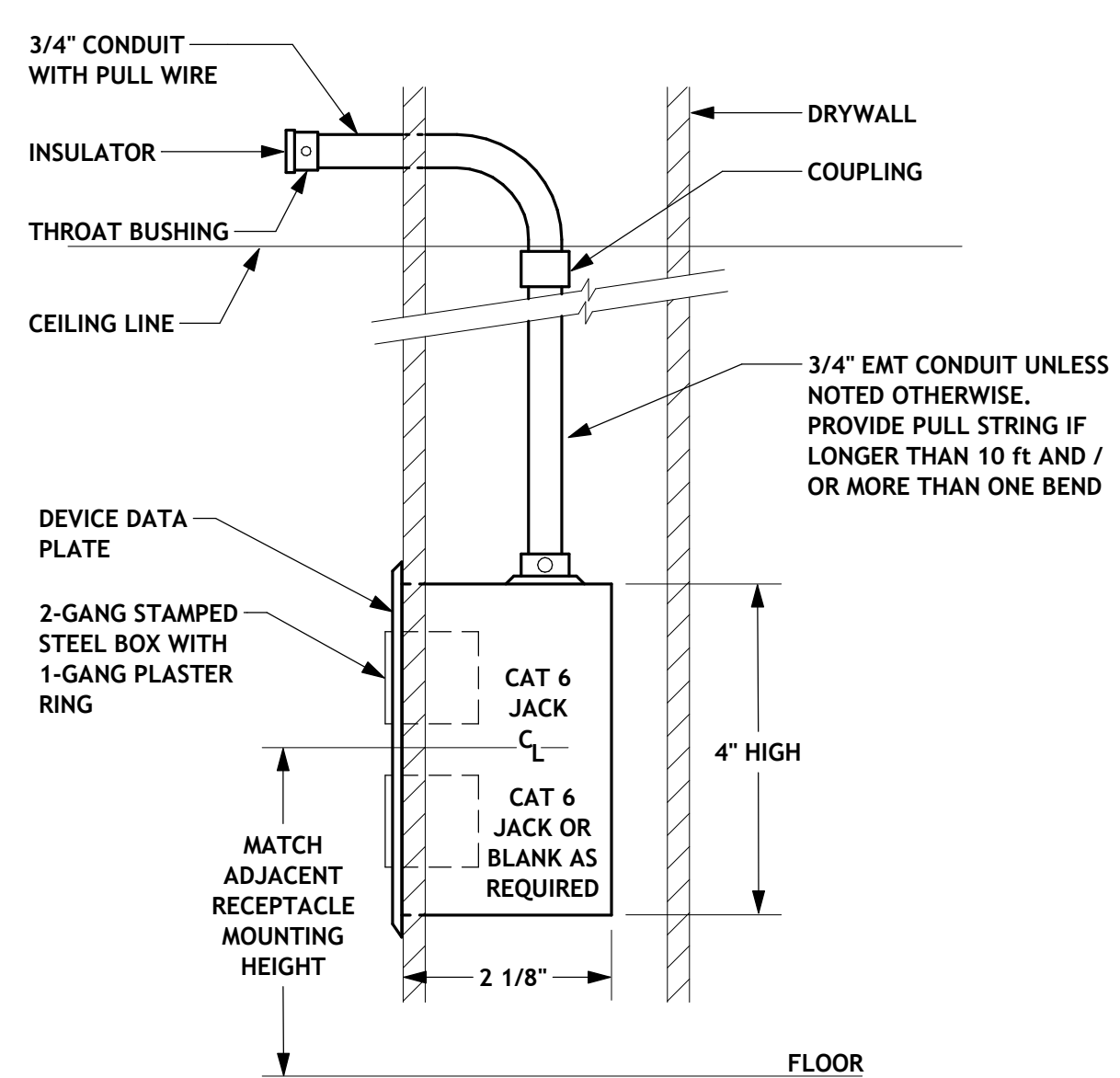
TYPICAL PARTITION SYSTEM FEED - FROM FLOOR
NOT TO SCALE



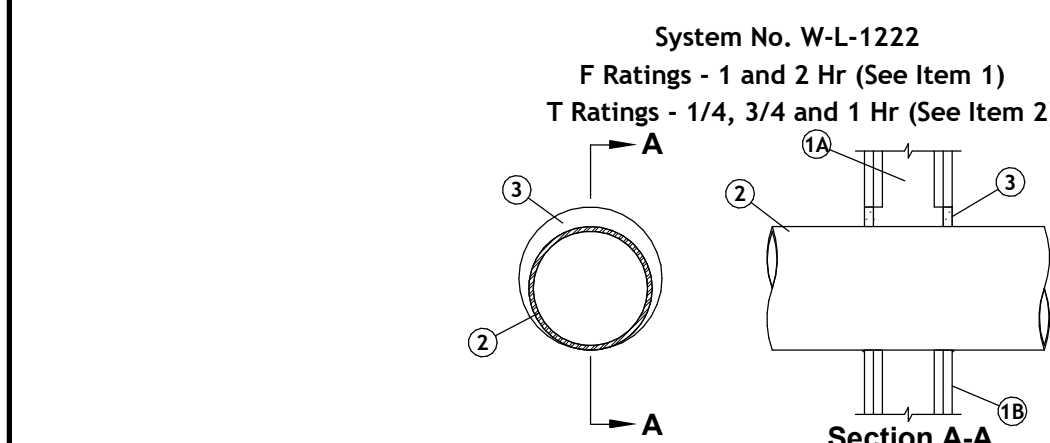
TYPICAL PARTITION SYSTEM FEED - FROM WALL
NOT TO SCALE



TYPICAL VOICE/DATA OUTLET
NOT TO SCALE



TYPICAL TELEPHONE / DATA OUTLET
NOT TO SCALE

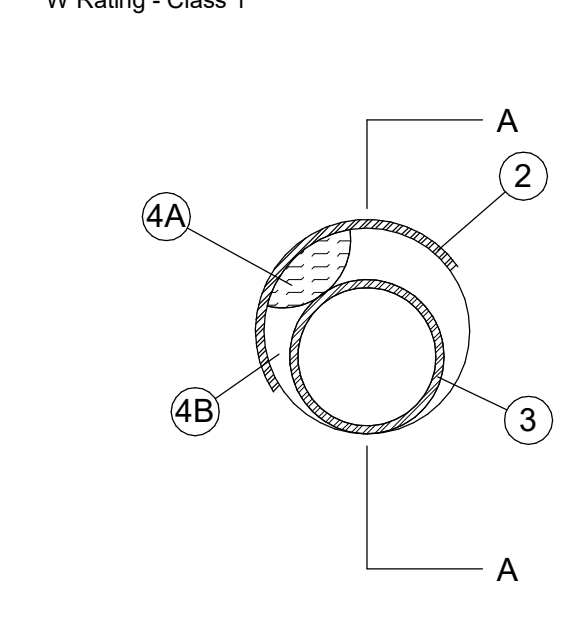


- System No. W-L-1222**
F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 1/4, 3/4 and 1 Hr (See Item 2)
- Wall Assembly - The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
 - Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
 - Gypsum Board* - Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Max diam of opening is 10-5/8 in. (270 mm).
 - Through Penetrant - One metallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. The annular space between the pipe, conduit or tube and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe, conduit or tube to be rigidly supported on both sides of the wall assembly. The following types and sizes of metallic pipes, conduits and tubes may be used:
 - Steel Pipe - Nom 8 in. (203 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
 - Iron Pipe - Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.
 - Conduit - Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit, nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or nom 4 in. (102 mm) diam (or smaller) flexible steel conduit.
 - Copper Pipe - Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
 - Copper Tube - Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tube.

Type of Penetrant	Max Diam	T Rating
Steel or iron pipe, steel conduit or EMT	2 in. (51 mm)	1 hr
Steel or iron pipe, steel conduit or EMT	8 in. (203 mm)	3/4 hr
Copper pipe or tube	4 in. (102 mm)	1/4 hr
 - Through Penetrating Product* - Flexible Metal Piping - As an alternate to item 2, one nom 1-1/4 in. (32 mm) diam (or smaller) steel flexible metal pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe to be rigidly supported on both sides of the wall assembly.
 - OMEGA FLEX INC
 - TITEX FLEX CORP
 - A BUNDY CO
 - WARD MFG INC
 - Fill, Void or Cavity Material* - Sealant - Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall assembly. At point contact location, min 1/4 in. (6 mm) diam bead of fill material applied at metallic pipe/gypsum board interface on both surfaces of wall.
 - SPECIFIED TECHNOLOGIES INC - SpecSeal LCI Sealant
Bearing the UL Classification Mark.

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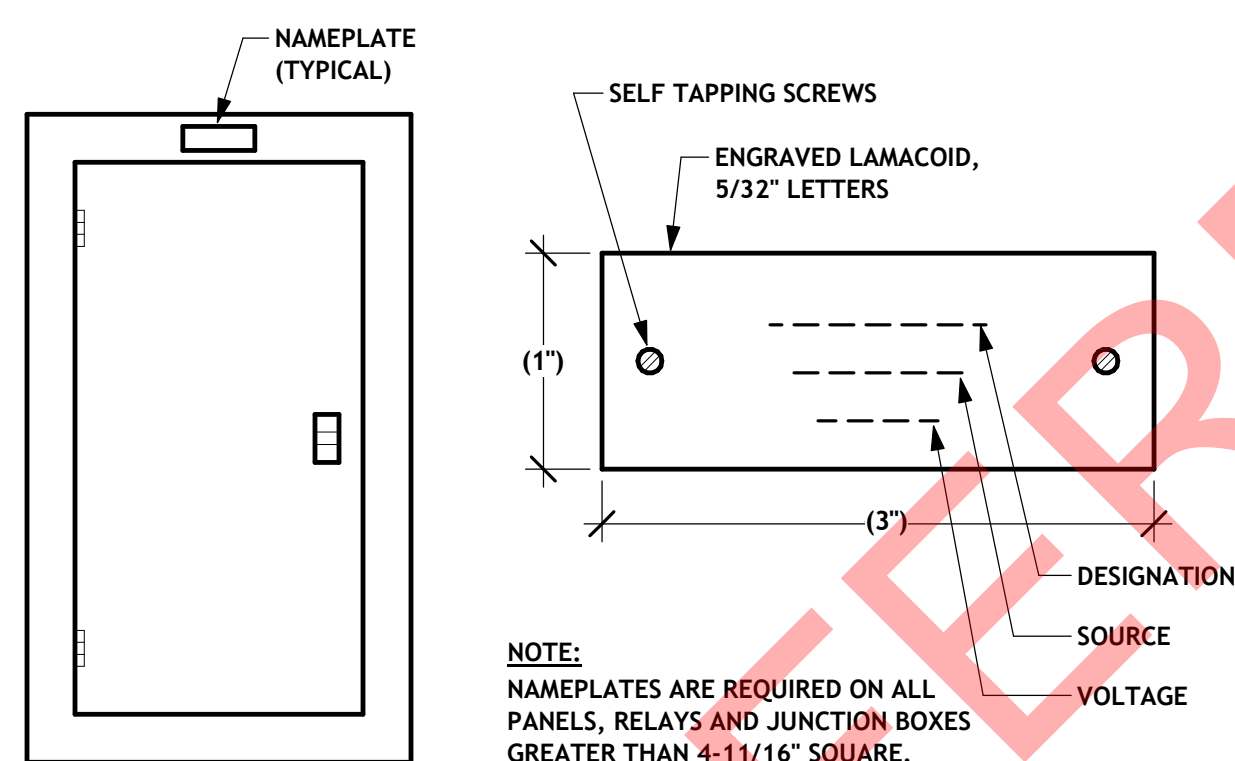
System No. C-AJ-1198
F Ratings - 2 and 3 Hr (See Items 2, 3D, 3E and 4B)
T Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/Sq Ft
L Rating At 400°F - Less Than 1 CFM/Sq Ft
W Rating - Class 1



- Floor or Wall Assembly - Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight concrete (100-150 pcf or 1600-2400 kg/m³) concrete floor or min 5 in. (127 mm) thick reinforced lightweight or normal weight concrete wall. Wall may also be constructed of any UL Classified Concrete Blocks*. Floor may also be constructed of any UL Classified hollow core Precast Concrete Units*. Max diam of opening is 7 in. (178 mm) when floor is constructed of hollow-core precast concrete units. Otherwise, max diam of opening is 26 in. (660 mm). See Concrete Blocks (CAZT) and Precast Concrete Units (CFTU) categories in the Fire Resistance Directory for names of manufacturers.
- Steel Sleeve* (Optional, Not Shown) - Max 14 in. (356 mm) diam Schedule 10 (or heavier) steel pipe sleeve or max 14 in. (356 mm) diam No. 26 ga (or heavier) sheet steel with square flange spot-welded to the sleeve near its midheight and sized to be a min of 2 in. (51 mm) larger than the OD of the through penetrant. Sleeve cast or grouted into floor or wall flush with both surfaces of floor or wall. When steel sleeve is used, F Rating of firestop system is 2 Hr.
- Through Penetrant - One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space between pipes, conduits or tubing and periphery of opening shall be min 0 in. (0 mm, point contact) to max 2-1/4 in. (57 mm). Pipe, conduit or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
 - Steel Pipe - Nom 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe. When steel sleeve is used, the max pipe diam is 12 in. (305 mm).
 - Iron Pipe - Nom 24 in. (610 mm) diam (or smaller) cast or ductile iron pipe. When steel sleeve is used, the max pipe diam is 12 in. (305 mm).
 - Conduit - Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing, nom 6 in. diam (or smaller) rigid steel conduit or nom 1 in. diam (or smaller) flexible steel conduit.
 - Copper Tubing - Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing. When max 6 in. (152 mm) diam copper tubing is used, F Rating is 2 Hr. When max 4 in. (102 mm) diam copper tubing is used, F Rating is 3 Hr. When steel sleeve is used, the max copper tubing diam is 4 in. (102 mm).
 - Copper Pipe - Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe. When max 6 in. (152 mm) diam copper pipe is used, F Rating is 2 Hr. When max 4 in. (102 mm) diam copper pipe is used, F Rating is 3 Hr. When steel sleeve is used, the max copper pipe diam is 4 in. (102 mm).

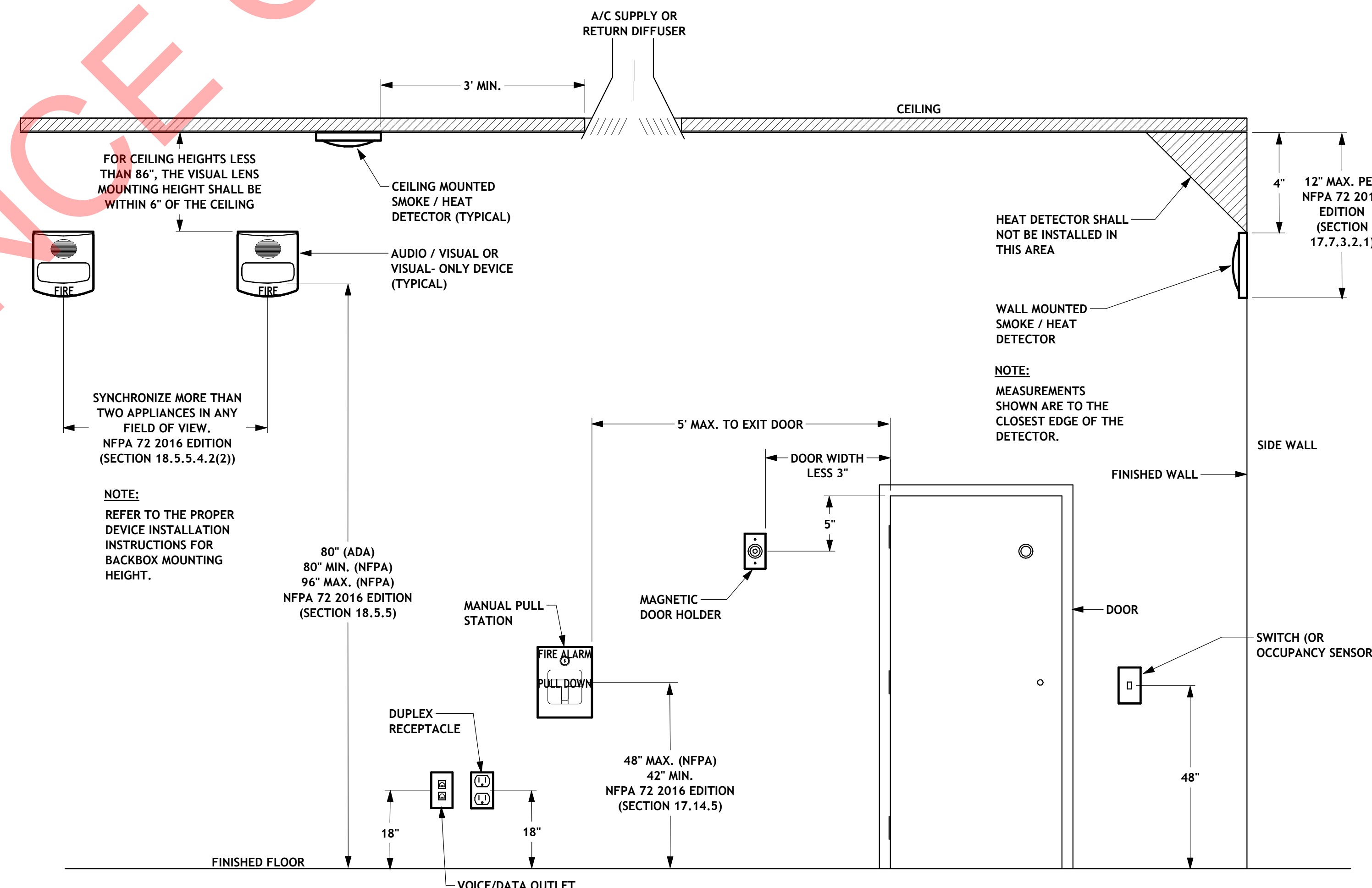
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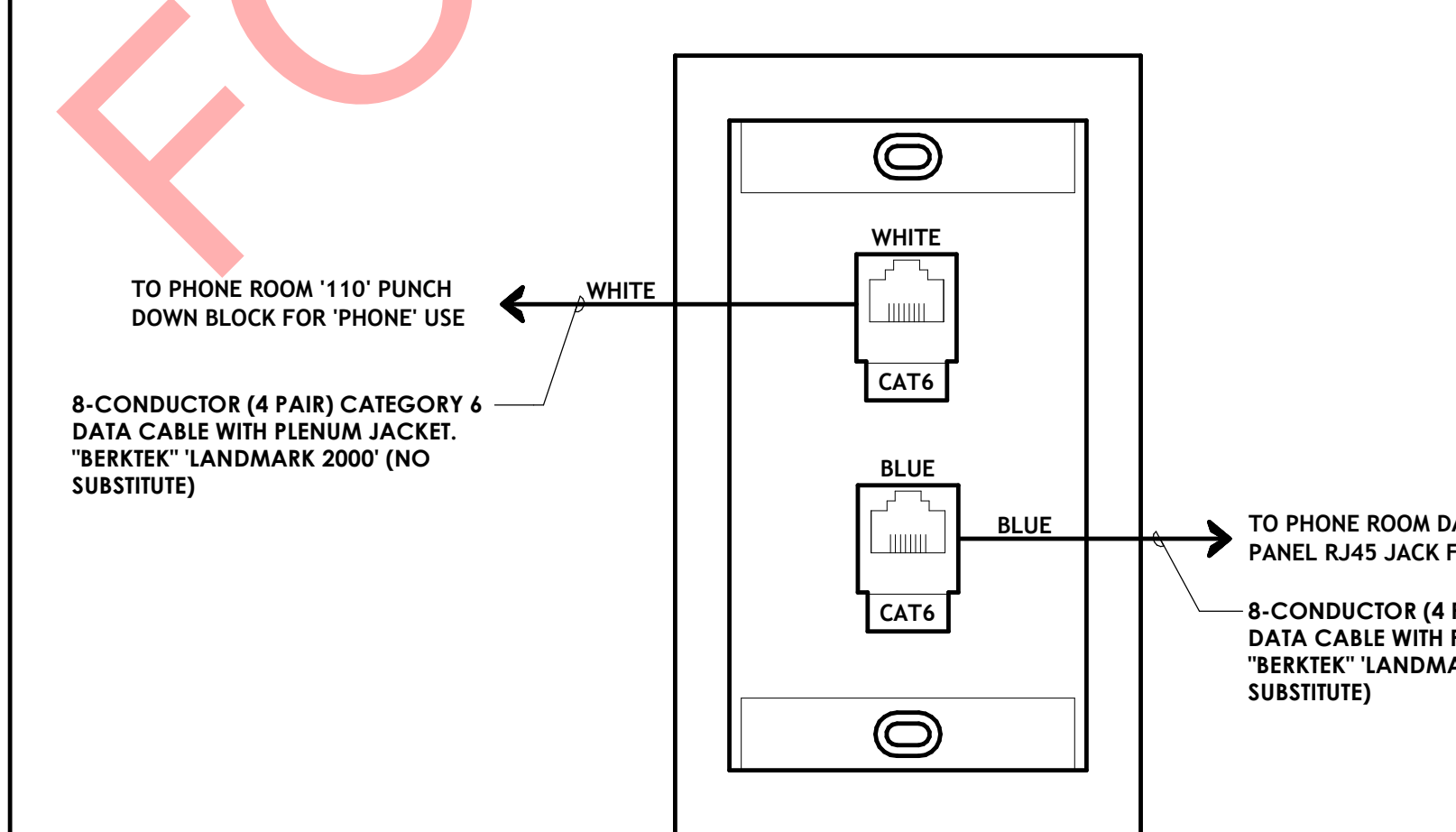


STANDARD COLORS:
1. 208Y/120 VOLTS - GREEN BACKGROUND, WHITE LETTERS
2. RELAYS AND JUNCTION BOXES - WHITE BACKGROUND, BLACK LETTERS
3. 480 Δ VOLTS - BLACK BACKGROUND, WHITE LETTERS

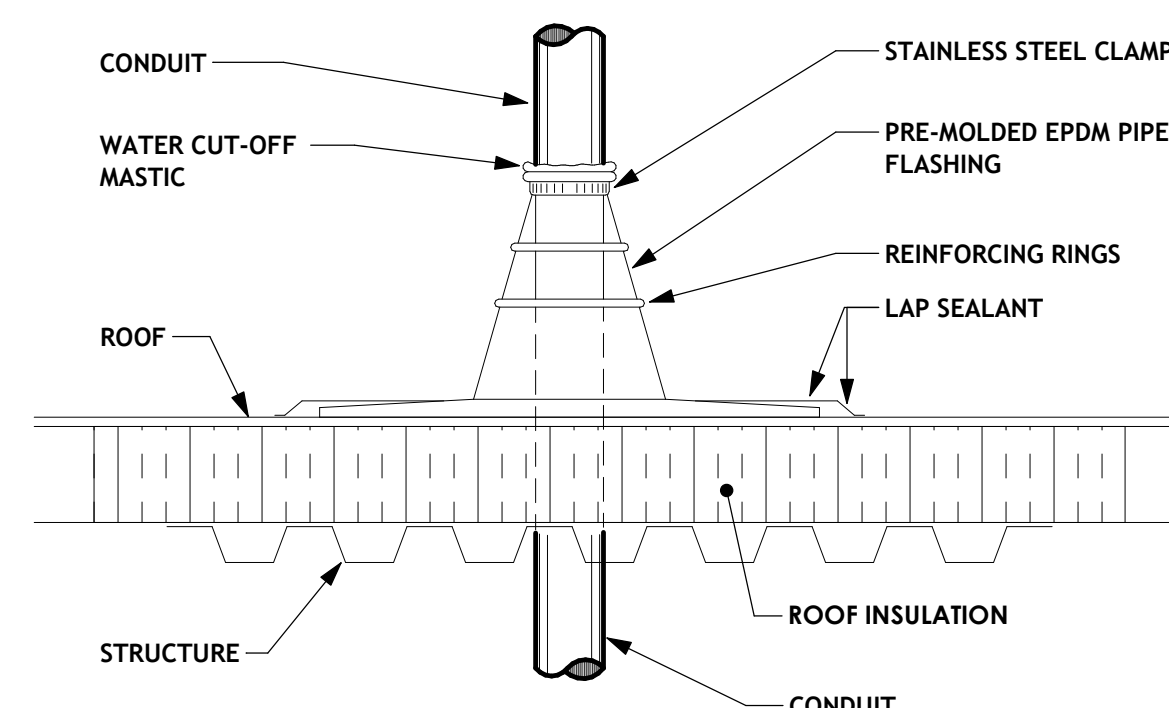
IDENTIFICATION TAGGING DETAIL
NOT TO SCALE



TYPICAL DEVICE MOUNTING HEIGHTS
NOT TO SCALE



TYPICAL 2-DEVICE DATA PLATE
NOT TO SCALE



CONDUIT DETAIL OF ROOF PENETRATION
NOT TO SCALE



PRELIMINARY FOR REVIEW ONLY
09/06/2024
Epic Engineering Group

ISSUE / REVISION	DATE

PROJECT NO. 24013.000

ELECTRICAL SCHEDULES AND DETAILS

E306



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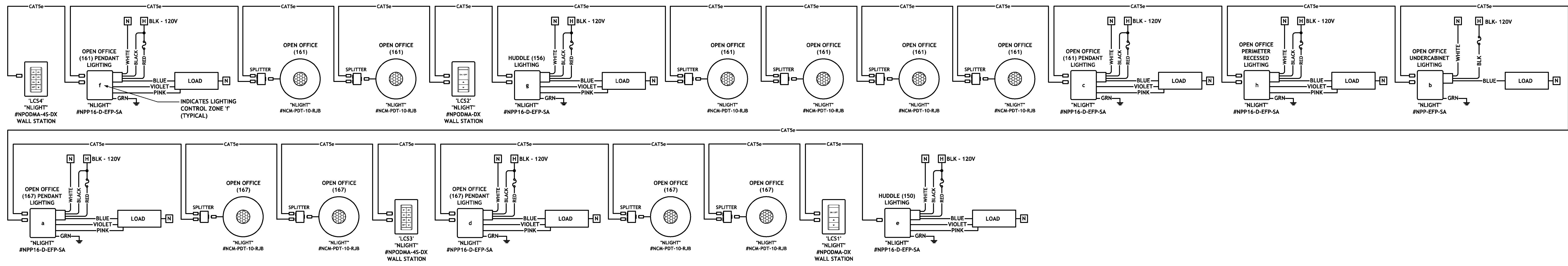
ISSUE / REVISION DATE

PROJECT NO. 24013.000

ELECTRICAL SCHEDULES AND DETAILS

E307

NO. 24002 © 2024



LIGHTING CONTROL SYSTEM WIRING DIAGRAM

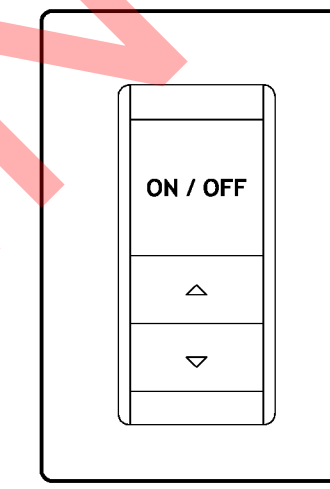
NO SCALE (OPEN OFFICES (161) & (167))

GENERAL NOTE:

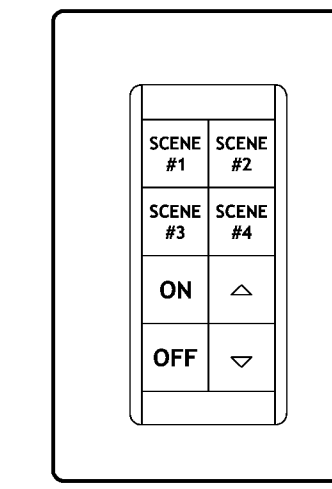
- THE LIGHTING CONTROL LOW VOLTAGE SWITCHES, VACANCY SENSORS, POWER PACKS, DIMMERS, ETC. SHOWN ON THIS PLAN ARE ALSO SHOWN ON THE LIGHTING PLANS. THE INTENT OF THIS DRAWING IS TO SHOW THE LOW VOLTAGE LIGHTING CONTROL SYSTEM CABLING INTERCONNECTION.
- ALL LOW VOLTAGE LIGHTING CONTROL WIRING SHOWN IN THESE WIRING DIAGRAMS ARE SHOWN FOR REFERENCE ONLY. THE EC SHALL COORDINATE EXACT LIGHTING CONTROL WIRING REQUIREMENTS WITH MANUFACTURER PRIOR TO WIRING.
- ALL CAT 5E CABLING SHALL BE BUNDLED / ROUTED NEATLY IN 90° PATTERNS AND CONCEALED WHEN POSSIBLE. COORDINATE ROUTING WITH ARCHITECT / OWNER.
- THE ELECTRICAL CONTRACTOR SHALL INCLUDE FACTORY COMMISSIONING OF THE LIGHTING CONTROL SYSTEM INCLUDING ALL PROGRAMMING. COORDINATE PROGRAMMING WITH THE OWNER. TWO SITE VISITS SHALL BE INCLUDED.

LIGHTING CONTROL RELAY SCHEDULE

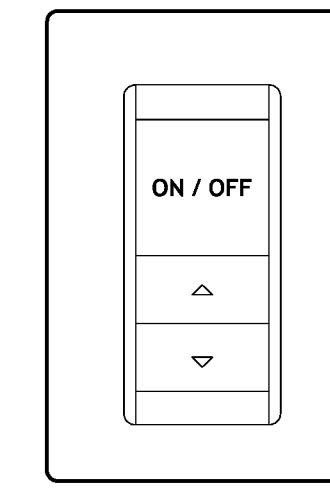
POWER PACK ZONE	CONTROLLED BY	VOLTAGE	DESCRIPTION	REMARKS
a	'LCS3' / 'LCS4' / VACANCY SENSORS	120V	OPEN OFFICE (167) PENDANT LIGHTING	0-10V DIMMING
b	'LCS3' / 'LCS4' / VACANCY SENSORS	120V	OPEN OFFICE UNDERCABINET LIGHTING	SWITCHED
c	'LCS3' / 'LCS4' / VACANCY SENSORS	120V	OPEN OFFICE (161) PENDANT LIGHTING	0-10V DIMMING
d	'LCS3' / 'LCS4' / VACANCY SENSORS	120V	OPEN OFFICE (167) PENDANT LIGHTING	0-10V DIMMING
e	'LCS1' / VACANCY SENSOR	120V	HUDDLE (150) LIGHTING	0-10V DIMMING
f	'LCS3' / 'LCS4' / VACANCY SENSORS	120V	OPEN OFFICE (161) PENDANT LIGHTING	0-10V DIMMING
g	'LCS2' / VACANCY SENSOR	120V	HUDDLE (156) LIGHTING	0-10V DIMMING
h	'LCS3' / 'LCS4' / VACANCY SENSORS	120V	OPEN OFFICE PERIMETER RECESSED LIGHTING	0-10V DIMMING



LIGHTING CONTROL STATIONS 'LCS1' & 'LCS2' FACEPLATE DETAIL
NO SCALE



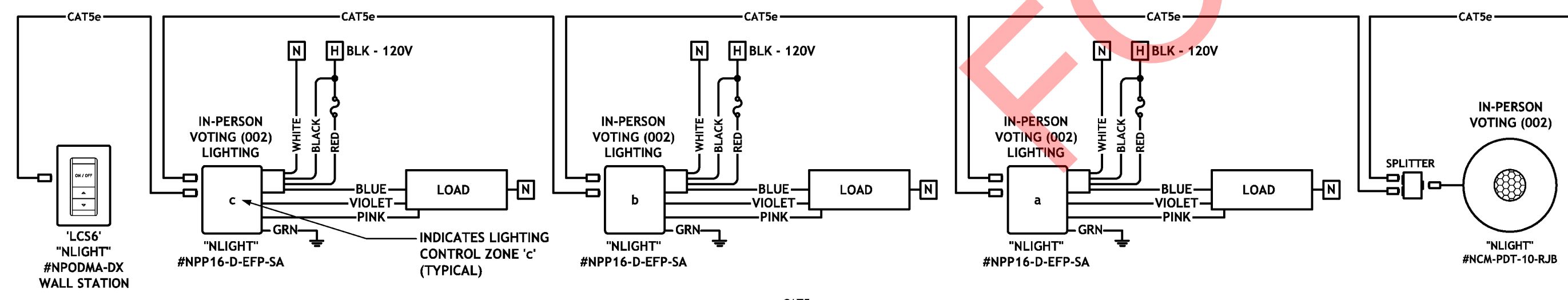
LIGHTING CONTROL STATIONS 'LCS3' & 'LCS4' FACEPLATE DETAIL
NO SCALE



LIGHTING CONTROL STATIONS 'LCS5' & 'LCS6' FACEPLATE DETAIL
NO SCALE

LIGHTING CONTROL RELAY SCHEDULE

POWER PACK ZONE	CONTROLLED BY	VOLTAGE	DESCRIPTION	REMARKS
a	'LCS' & VACANCY SENSOR	120V	IN-PERSON VOTING (002) LIGHTING	0-10V DIMMING; DAYLIGHT HARVESTING
b	'LCS' & VACANCY SENSOR	120V	IN-PERSON VOTING (002) LIGHTING	0-10V DIMMING; DAYLIGHT HARVESTING
c	'LCS' & VACANCY SENSOR	120V	IN-PERSON VOTING (002) LIGHTING	0-10V DIMMING

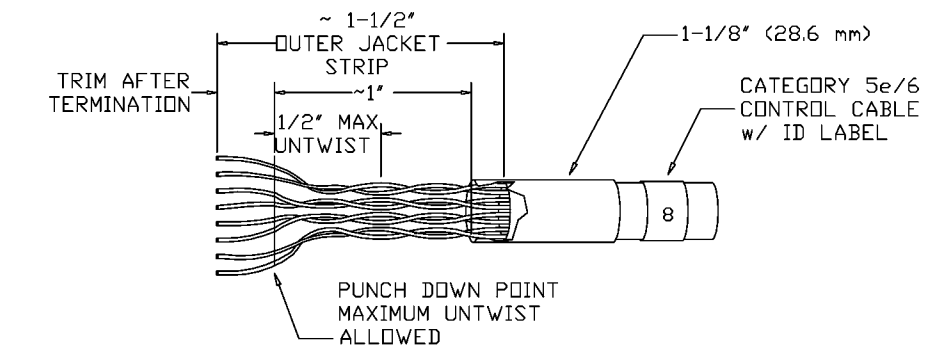


LIGHTING CONTROL SYSTEM WIRING DIAGRAM

NO SCALE (IN-PERSON VOTING (002))

TIA / EIA-568-B CABLING STANDARD TERMINATION

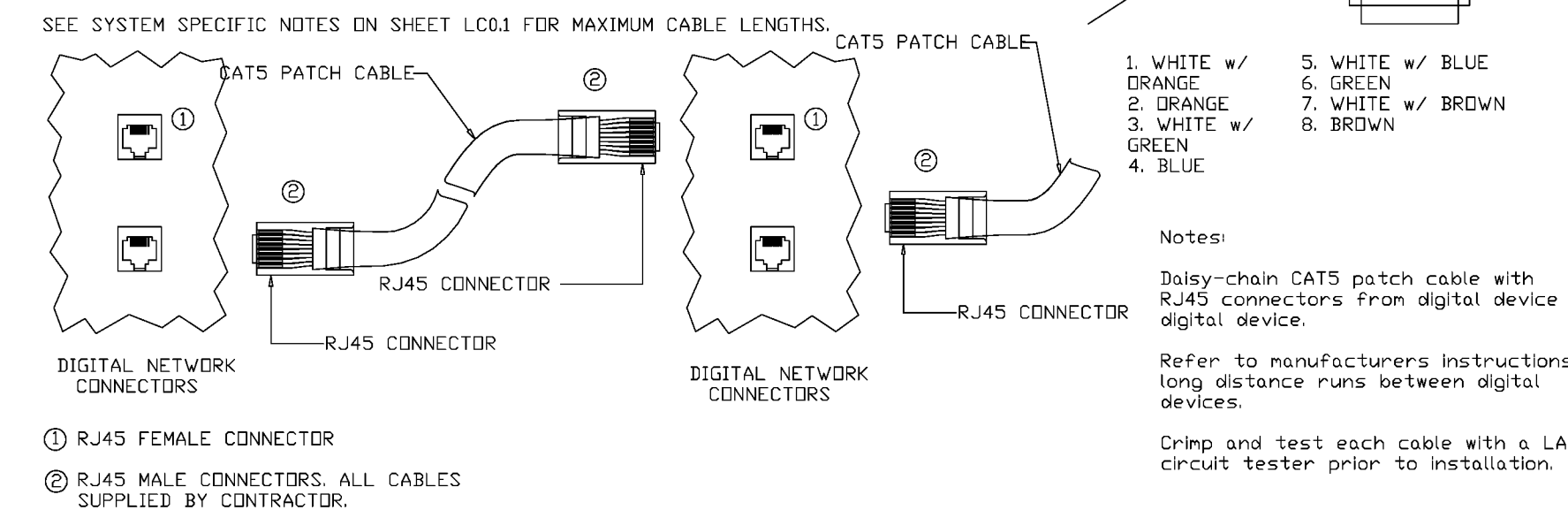
Function	PAIR #	PIN #	OUT	WIRE COLOR
(T1)	1	4	2	WHITE w/ BLUE
(T2)	2	1	3	WHITE w/ ORANGE
(T3)	3	3	6	WHITE w/ GREEN
(T4)	4	7	8	WHITE w/ BROWN



TERMINATION & TESTING OF CAT5 CABLES MUST BE DONE BY A QUALIFIED NETWORK INSTALLER TO THIS POINT IS 1/2" (13mm)

Cable termination requirements:

- Strip off outer jacket - approximately 1-1/2" (37.6 mm)
- Terminate approximately 1/2" (12.8 mm) from end of conductors on type 110 punch down block or connector (per schedule (3368)) - maximum untwist of conductors to terminations is 1/2" (12.8 mm) - trim excess leads.



LIGHTING CONTROL SYSTEM CAT 5E CABLE TERMINATION DETAIL

NO SCALE