

PARTIAL MEZZANINE PLAN - FIRE PROTECTION
 SCALE: 1/8" = 1'-0"

GENERAL NOTES:

- THE CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL WORK IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS AS REQUIRED TO ACCOMMODATE PROJECT PHASING.
- REFER TO PROJECT PHASING DRAWING AND SCHEDULE. PROVIDE ALL LABOR AND MATERIAL NECESSARY TO ACCOMMODATE PROJECT PHASING. IT SHALL BE UNDERSTOOD THE SPRINKLER SYSTEM SHALL BE FUNCTIONAL AT THE COMPLETION FOR THE NEW WORK AREAS IN EACH PHASE OF CONSTRUCTION AS REQUIRED. TEMPORARY CONNECTIONS AND MULTIPLE SYSTEM RECHARGES OR RE-WORK MAY BE REQUIRED (SEE NEW WORK PLANS). PC SHALL COORDINATE WITH AUTHORITY HAVING JURISDICTION FOR EXPECTATIONS AND APPROVAL.
- ALL PATCHING & REPAIRING OF SURFACES AND HOLES LEFT OPEN DUE TO DEMOLITION OR REMOVAL OF EXISTING PIPING & EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR. PATCH EXISTING CONSTRUCTION AS REQUIRED TO MATCH ADJACENT SURFACES OR TO RECEIVE NEW FINISHES AS SCHEDULED.
- THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, PATCHING AND EXCAVATION AND BACKFILLING WITHIN THE BUILDING REQUIRED TO COMPLETE ALL INDICATED WORK. PC SHALL BE RESPONSIBLE FOR PROTECTION OF EXISTING MATERIAL AND EQUIPMENT TO REMAIN.
- ALL EXISTING PIPING AND EQUIPMENT SHOWN MUST BE VERIFIED IN THE FIELD. ANY PLUMBING EQUIPMENT NOT SHOWN SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO REMOVAL. THIS PLAN REFLECTS A SPRINKLER SYSTEM TO BE INSTALLED. THE SYSTEM WAS DEVELOPED IN ACCORDANCE WITH NFPA #13, AUTHORITY HAVING JURISDICTION, INSURANCE UNDERWRITER, AND AS SHOWN IN THE CONTRACT DOCUMENTS.
- THE SYSTEM IS SUPPLIED FROM A PUBLIC WATER SUPPLY SUPPLIED BY AN EXISTING ELECTRIC FIRE PUMP.
 WATER SUPPLY: STATIC: 90 PSI, RESIDUAL: 78 PSI, WHILE FLOWING: 750 GPM.
 FIRE PUMP DUTY: PRESSURE: 55 PSI, WHILE FLOWING: 550 GPM.
- EXISTING ZONE 1 HYDRAULIC CALCULATION:
 618 GPM REQUIRED @ 28.5 PSI WITH A SAFETY PRESSURE OF 44.4 PSI.
- EXISTING ZONE 2 HYDRAULIC CALCULATION:
 626 GPM REQUIRED @ 19.6 PSI WITH A SAFETY PRESSURE OF 53.1 PSI.
- ALL MATERIALS ARE U.L. LISTED AND MEET THE PROVISIONS OF NFPA #13.
- ALL PIPING SHALL BE SECURELY SUPPORTED FROM THE STRUCTURE BY MEANS OF LISTED FASTENERS. ALL HANGERS SHALL MEET THE PROVISIONS OF NFPA #13. THIS SYSTEM IS HYDRAULICALLY CALCULATED. ALL PIPE AND EQUIP. ARE LOCATED AND ELEVATED. ALL OTHER TRADES TO ACCOMMODATE AS NECESSARY.
- TAMPER SWITCHES ARE TO BE INSTALLED ON ALL CONTROL VALVES. WIRING OF ELECTRICAL DEVICES IS TO BE PERFORMED BY ELECTRICAL CONTRACTOR.
- UPON COMPLETION ALL NEW PIPING SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH NFPA #13 FOR 2 HOURS @ 200 PSI AND WITNESSED BY THE AUTHORITY HAVING JURISDICTION AND/OR THE OWNER'S REP.

KEYED DRAWING NOTES:

- SPRINKLER SYSTEM INDICATED IS THE EXISTING LAYOUT. REMOVE AND REPLACE EXISTING SPRINKLER HEADS WITH PERFORMANCE TO MATCH OR EXCEED EXISTING FOR NEW FLOOR PLAN LAYOUT AND CEILING TYPE. EXISTING SPRINKLER MAIN PIPING AND VALVING SHALL REMAIN. MODIFY AND/OR EXTEND EXISTING BRANCH SUPPLY PIPING AND SPRINKLER HEAD LAYOUT AS REQUIRED TO COMPLETE WORK IN COMPLIANCE WITH NFPA 13.
- THE DEMOLITION WORK INDICATED IS INTENDED TO ASSIST THE CONTRACTOR AND GIVE GENERAL INFORMATION. THE CONTRACTOR SHALL BE REQUIRED TO VISIT THE PROJECT SITE PRIOR TO BIDDING TO FULLY ACQUAINT HIMSELF WITH THE EXTENT OF ALL DEMOLITION WORK WHICH IS NECESSARY TO COMPLETE THE ALTERATIONS AND NEW CONSTRUCTION AS DESCRIBED IN THE CONTRACT DOCUMENTS. ALL DEMOLITION WORK REQUIRED SHALL BE INCLUDED IN THE CONTRACT PRICE WHETHER INDICATED ON THE DRAWING OR NOT. THE CONTRACTOR WILL NOT BE ENTITLED TO ANY CLAIMS FOR ADDITIONAL COMPENSATION RELATED TO REQUIRED DEMOLITION.

M/G ARCHITECTS ESTABLISHED 1920
 ARCHITECTURAL DESIGN
 INTERIOR DESIGN
 CODE ANALYSIS
 PLANNING SERVICES
 REPORTS AND STUDIES
 ENGINEERING SERVICES
 HISTORIC PRESERVATION
 955 BERKSHIRE BLVD., SUITE 101
 WYOMISSING, PA 19380
 610.376.4927
 www.MG-Architects.com

PROJECT #:
4525A
 CONSULTANT
CONSOLIDATED ENGINEERS
 1029 James Drive
 Leesport, PA 19658
 Tel 610-916-1800 Fax 610-916-1610
 www.consolidatedengineers.com

PROFESSIONAL SEAL
 ADAM N. MOSER
 REGISTERED PROFESSIONAL ENGINEER
 No. PE045350
 Adam N. Moser
 AdamM@cemec.com

READING MUHLBERG CAREER & TECHNOLOGY CENTER
 contact: ERIC KAHLER
 2615 WARREN ROAD
 READING, PA 19604
 610.921.7300
 ekahler@rmctc.org

READING MUHLBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
 2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID
 DATE: 5/17/2022

REV ID	DESCRIPTION	DATE

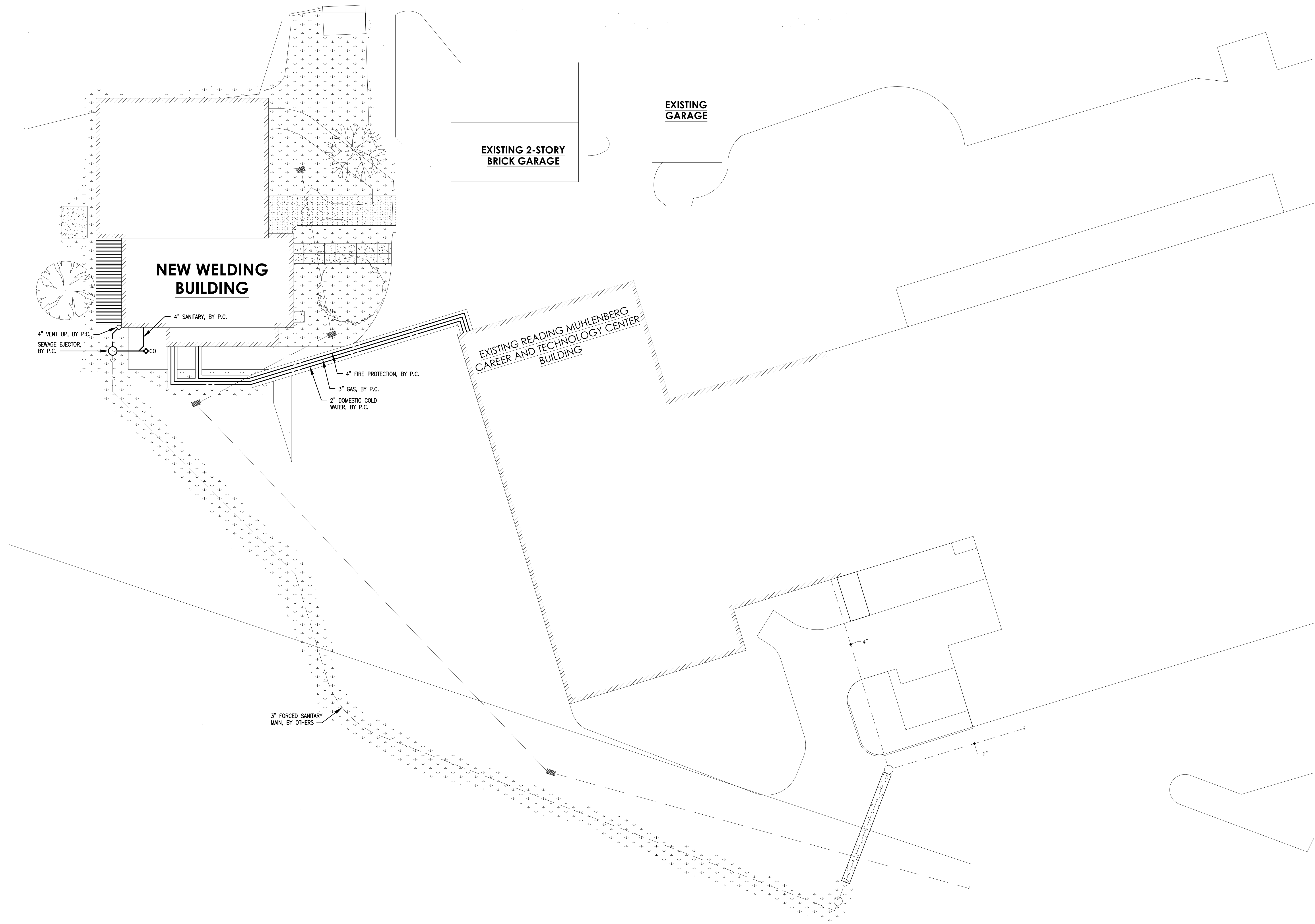
PROJ. MGR.: Adam Moser
 P.M. e-MAIL: AdamM@cemec.com
 DRAWN BY: RLC
 CLIENT PROJ #: -

VERIFY SCALE 1
 BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING

COPYRIGHT © 2022. ALL RIGHTS RESERVED. NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRODUCED, COPIED OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUHLBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGN AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER. NOC ARE HEY TO BE ADDED TO ANY THESE PARTS WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MUHLBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUHLBERG GREENE ARCHITECTS, LTD.

3D FABRICATION
 SHEET TITLE:
**MEZZANINE PLAN
 FIRE PROTECTION**

FP-103



SITE PLAN - PLUMBING
SCALE: 1" = 20'-0"



ARCHITECTURAL DESIGN
INTERIOR DESIGN
CODE ANALYSIS
PLANNING SERVICES
REPORTS AND STUDIES
ENGINEERING SERVICES
HISTORIC PRESERVATION

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

PROJECT #:
4525A

CONSULTANT
CONSOLIDATED ENGINEERS
1022 James Drive
Leesport, PA 19658
Tel 610-916-1800 Fax 610-916-1610
www.consolidatedengineers.com



READING MUHLENBERG CAREER & TECHNOLOGY CENTER
contact: ERIC KAHLER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahler@rmctc.org

READING MUHLENBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID
DATE: 5/17/2022

REV. NO.	DESCRIPTION	DATE

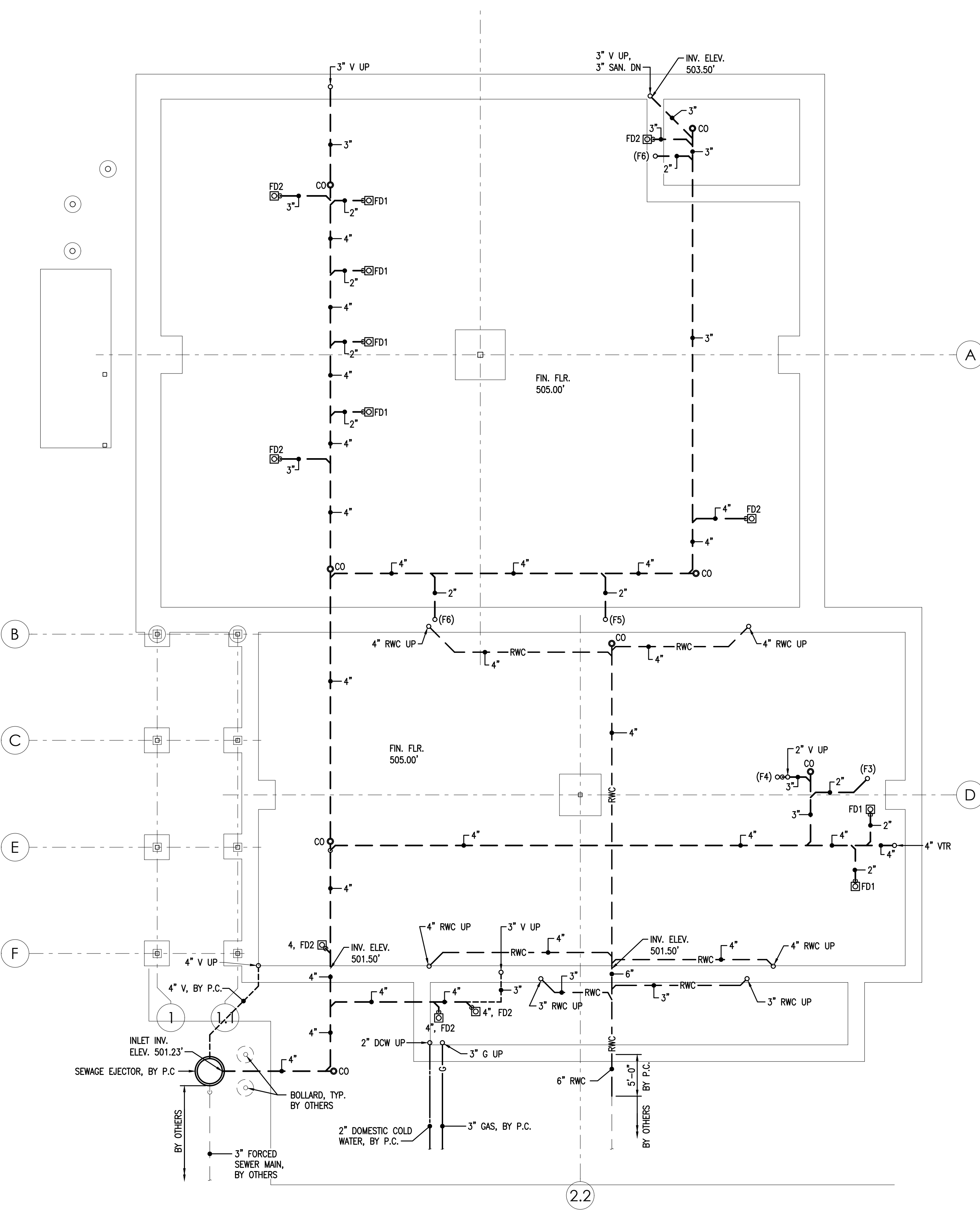
PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: RLC
CLIENT PROJ #: -

VERIFY SCALE
0 1
BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWINGS

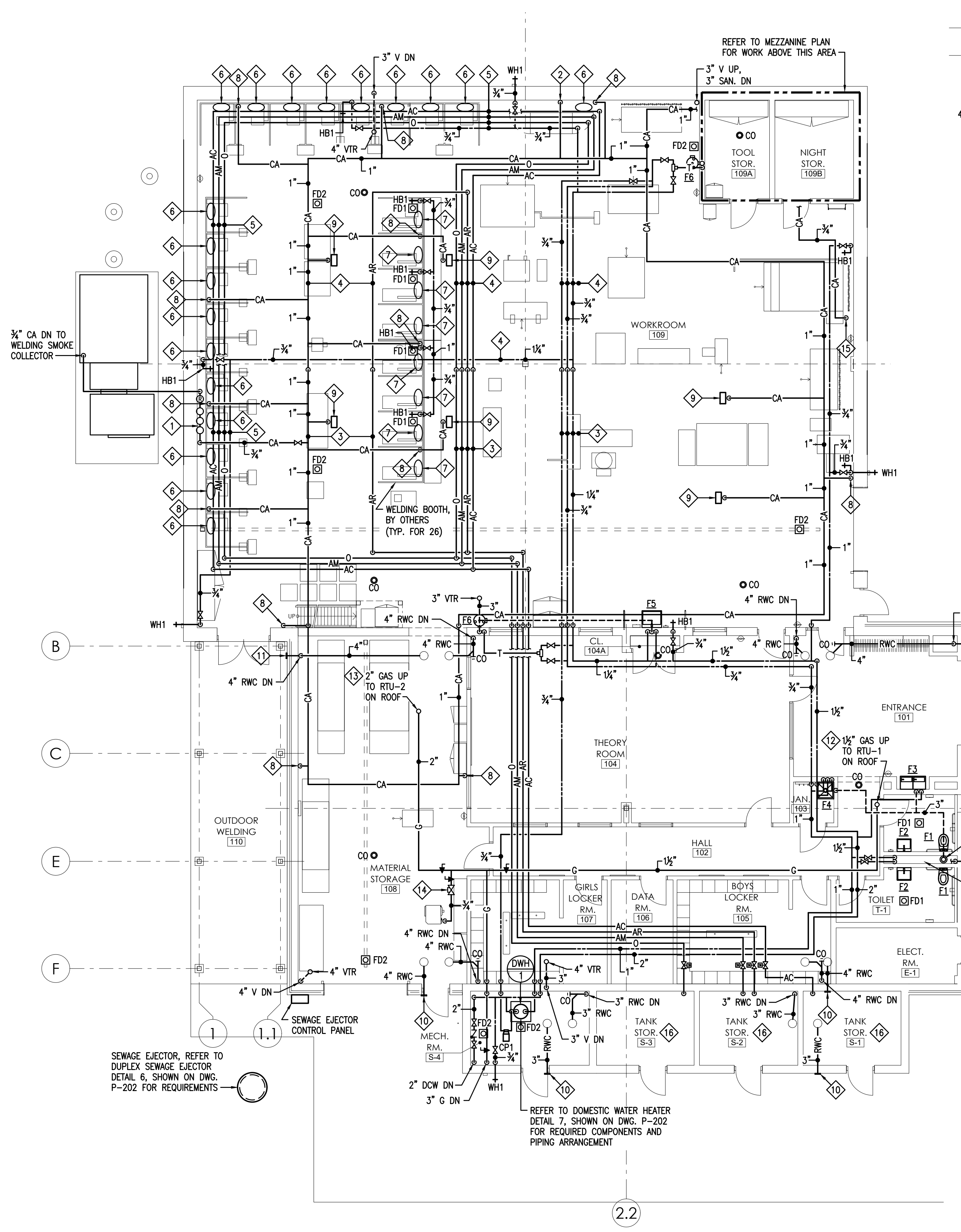
WELDING BUILDING
SHEET TITLE:
SITE PLAN PLUMBING

P-100

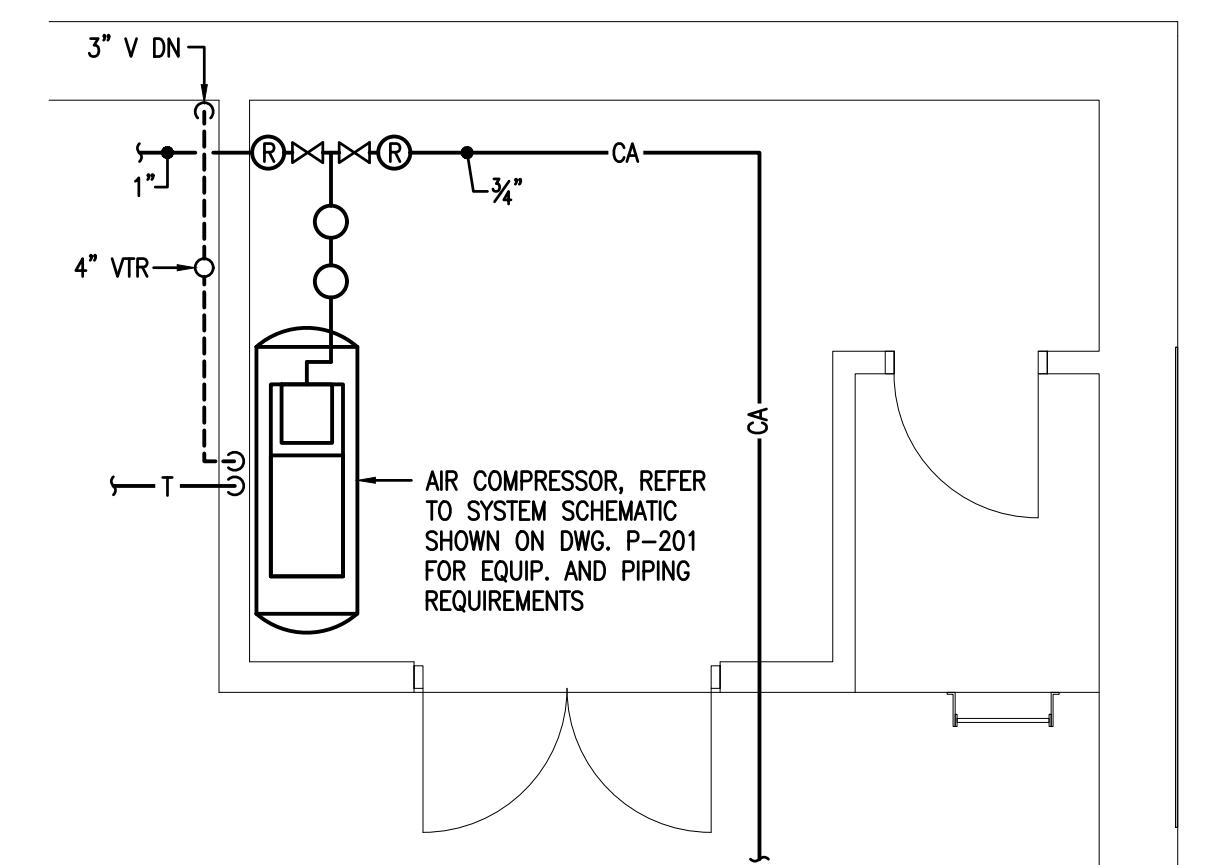
COPYRIGHT © 2022 ALL RIGHTS RESERVED NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRODUCED, COPIED OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUHLENBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGNS AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER, NOR ARE THEY TO BE ADDED TO ANY OTHER PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MUHLENBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUHLENBERG GREENE ARCHITECTS, LTD.



FOUNDATION PLAN - PLUMBING
SCALE: 1/8" = 1'-0"



FLOOR PLAN - PLUMBING
SCALE: 1/8" = 1'-0"



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

KEYED DRAWING NOTES:

- 1 P.C. TO MOUNT WELDING SMOKE COLLECTOR EQUIPMENT MFG'R PROVIDED MOISTURE TRAP/AIR FILTER/AIR PRESSURE REGULATOR ASSEMBLY ON WALL ABOVE WELDING BOOTH IN AN ACCESSIBLE LOCATION.
- 2 PROVIDE A 1/2" COMPRESSED AIR DROP DOWN TO DOWNDRAFT TABLE AND CONNECT TO ELECTRO/PNEUMATIC DAMPER ACTUATOR INSTALLED IN EXHAUST DUCTWORK.
- 3 INSTALL BOTTOM OF PIPING ABOVE DUCTWORK AT APPROXIMATELY 18"-2" A.F.F., COORDINATE FINAL INSTALLED HEIGHT IN FIELD WITH OTHER UTILITIES PRIOR TO INSTALLATION.
- 4 INSTALL BOTTOM OF PIPING ABOVE DUCTWORK AT APPROXIMATELY 16"-0" A.F.F., COORDINATE FINAL INSTALLED HEIGHT IN FIELD WITH OTHER UTILITIES PRIOR TO INSTALLATION.
- 5 OFFSET PIPING AND RACK MOUNT VERTICALLY ALONG EXTERIOR WALL, COORDINATE INSTALLED HEIGHT OF PIPING RACK IN FIELD WITH OTHER UTILITIES PRIOR TO INSTALLATION.
- 6 PROVIDE 1/2" OXYGEN, 1/2" ARGON/CO₂ (MIX), 1/2" ACETYLENE DOWN TO WELDING BOOTH, REFER TO WELDING GAS DISTRIBUTION SYSTEM SCHEMATIC SHOWN ON DWG. P-201 FOR ADDITIONAL INFORMATION.
- 7 PROVIDE 1/2" OXYGEN, 1/2" ARGON, 1/2" ACETYLENE DOWN TO WELDING BOOTH, REFER TO WELDING GAS DISTRIBUTION SYSTEM SCHEMATIC SHOWN ON DWG. P-201 FOR ADDITIONAL INFORMATION.
- 8 COMPRESSED AIR DROP, REFER TO DETAIL 3 SHOWN ON DWG. P-202 FOR REQUIREMENTS.
- 9 COMPRESSED AIR HOSE REEL, REFER TO DETAIL 1 SHOWN ON DWG. P-202 FOR REQUIREMENTS.

- 10 FOR REQUIREMENTS, PROVIDE OVERFLOW DRAIN OUTLET J.R. SMITH MODEL 1775, STUB THROUGH EXTERIOR AS HIGH AS POSSIBLE, WHERE MULTIPLE OVERFLOW DRAINS EXIT ON SAME SIDE OF BUILDING, ALL DRAINS FOR A GIVEN ROOFING SYSTEM MUST BE INSTALLED AT SAME ELEVATION.
- 11 PROVIDE OVERFLOW DRAIN OUTLET J.R. SMITH MODEL 1775, DROP RAIN WATER CONDUCTOR DOWN AS REQUIRED TO STUB BOTTOM OF PIPE THROUGH EXTERIOR WALL 1'-0" ABOVE FINISHED GRADE.
- 12 1-1/2" GAS UP TO RTU-1 ON ROOF, PRIOR TO UNIT CONNECTION PROVIDE A GAS COCK AND GAS PRESSURE REGULATOR SIZED FOR 2 PSI INLET PRESSURE, REDUCED TO 10.5" W.C. @ 150.0 MBH.
- 13 2" GAS UP TO RTU-2 ON ROOF, PRIOR TO UNIT CONNECTION PROVIDE A GAS COCK AND GAS PRESSURE REGULATOR SIZED FOR 2 PSI INLET PRESSURE, REDUCED TO 10.5" W.C. @ 292.5 MBH.
- 14 3/4" GAS TO UNIT HEATER, PROVIDE A GAS COCK AND A VENTLESS GAS PRESSURE REGULATOR SIZED FOR 2 PSI INLET PRESSURE, REDUCED TO 12.5" W.C. @ 45.0 MBH.
- 15 COMPRESSED AIR DROP, REFER TO DETAIL 3 SHOWN ON DWG. P-202 FOR REQUIREMENTS. PROVIDE 3/8" EPDM COMPRESSED AIR RUBBER HOSE FROM QUICK DISCONNECT OVER TO PLASMA CUTTING TABLE AND MAKE FINAL CONNECTION.
- 16 REFER TO WELDING GAS DISTRIBUTION SYSTEM SCHEMATIC SHOWN ON DWG. P-201 FOR SYSTEM PIPING REQUIREMENTS, SIZES AND SYSTEM COMPONENTS.

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL ELECTRICAL PANEL LOCATIONS (INSIDE ELECTRICAL AND OUTSIDE ELECTRICAL ROOMS) WITH PIPING LAYOUTS PRIOR TO PIPING INSTALLATION. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL N.E.C. (NATIONAL ELECTRIC CODE) CLEARANCES BEFORE INSTALLING ANY PIPING. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS RESULTING FROM REWORKING (REMOVING AND REINSTALLING) PIPING INSTALLED IN CONFLICT WITH ELECTRICAL PANELS/EQUIPMENT CLEARANCES.

DRAWING NOTES:

- 1. REFER TO DRAWING P-201 FOR PLUMBING GENERAL PROJECT NOTES.
- 2. PROVIDE THE MINIMUM REQUIRED SERVICE CLEARANCES FOR ALL EQUIPMENT AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.

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

955 BERKSHIRE BLVD., SUITE 101
WYOMISSING, PA 19380
610.376.4927
www.MG-Architects.com

PROJECT #:
4525A

CONSOLIDATED ENGINEERS
CONSULTANT
1029 James Drive
Leesport, PA 19658
Tel 610-916-1800 Fax 610-916-1610
www.consolidatedengineers.com

PROFESSIONAL SEAL
REGISTERED PROFESSIONAL ENGINEER
ADAM NICHOLAS MOSER
No. PE043580
Adam N. Moser
AdamM@cemec.com

READING MUHLBERG CAREER & TECHNOLOGY CENTER
contact: ERIC KAHLER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahler@rmctc.org

READING MUHLBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID
DATE: 5/17/2022

REV. NO.	DESCRIPTION	DATE

PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: RLC
CLIENT PROJ. #: -

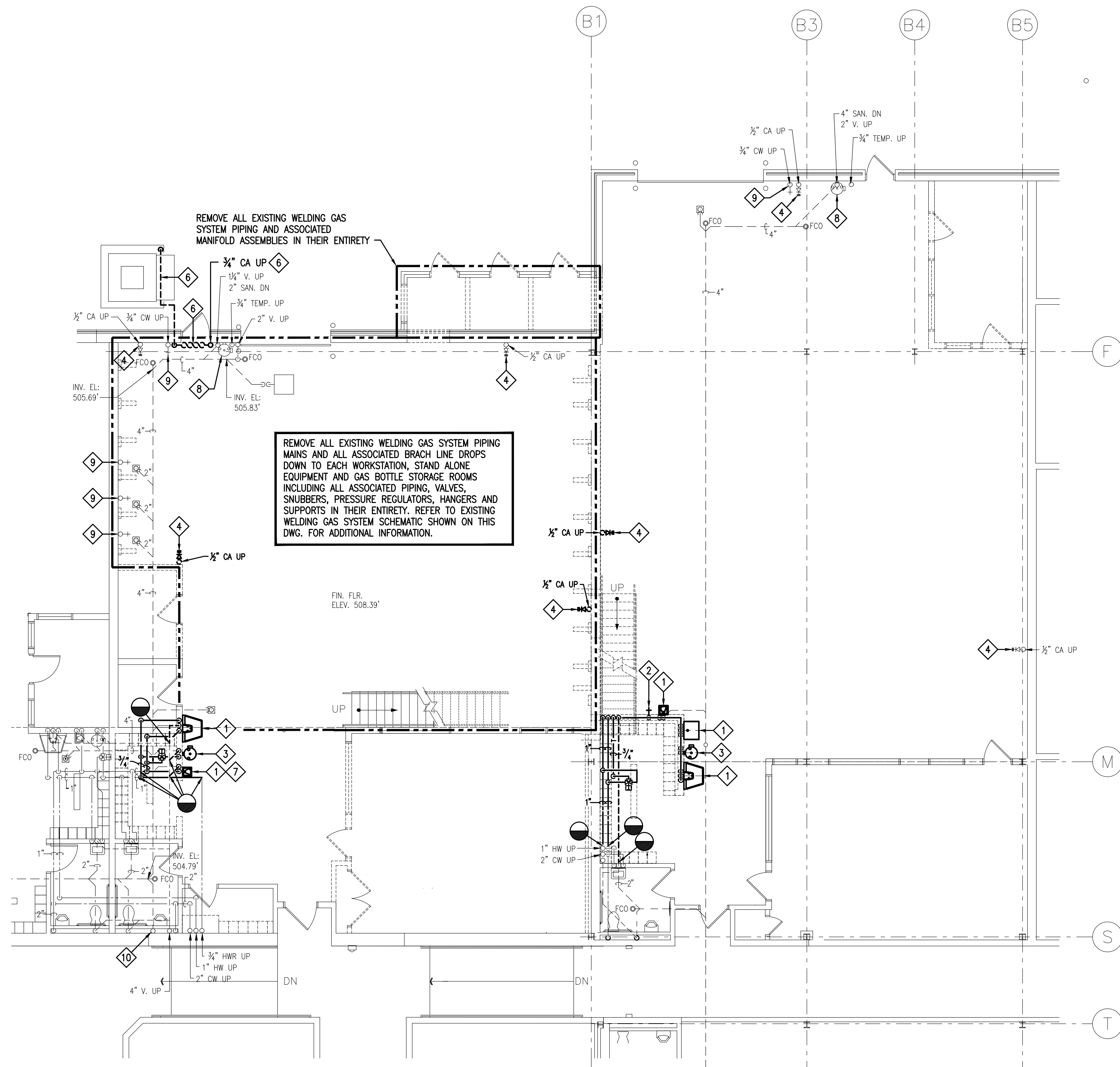
VERIFIED SCALE
0 1
BAR & ONE (1) INCH LONG ON ORIGINAL DRAWING

COPYRIGHT © 2022. ALL RIGHTS RESERVED. NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRODUCED, COPIED OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUHLBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGNS AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER, NOR ARE THEY TO BE ADDED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MUHLBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUHLBERG GREENE ARCHITECTS, LTD.

WELDING BUILDING
SHEET TITLE:

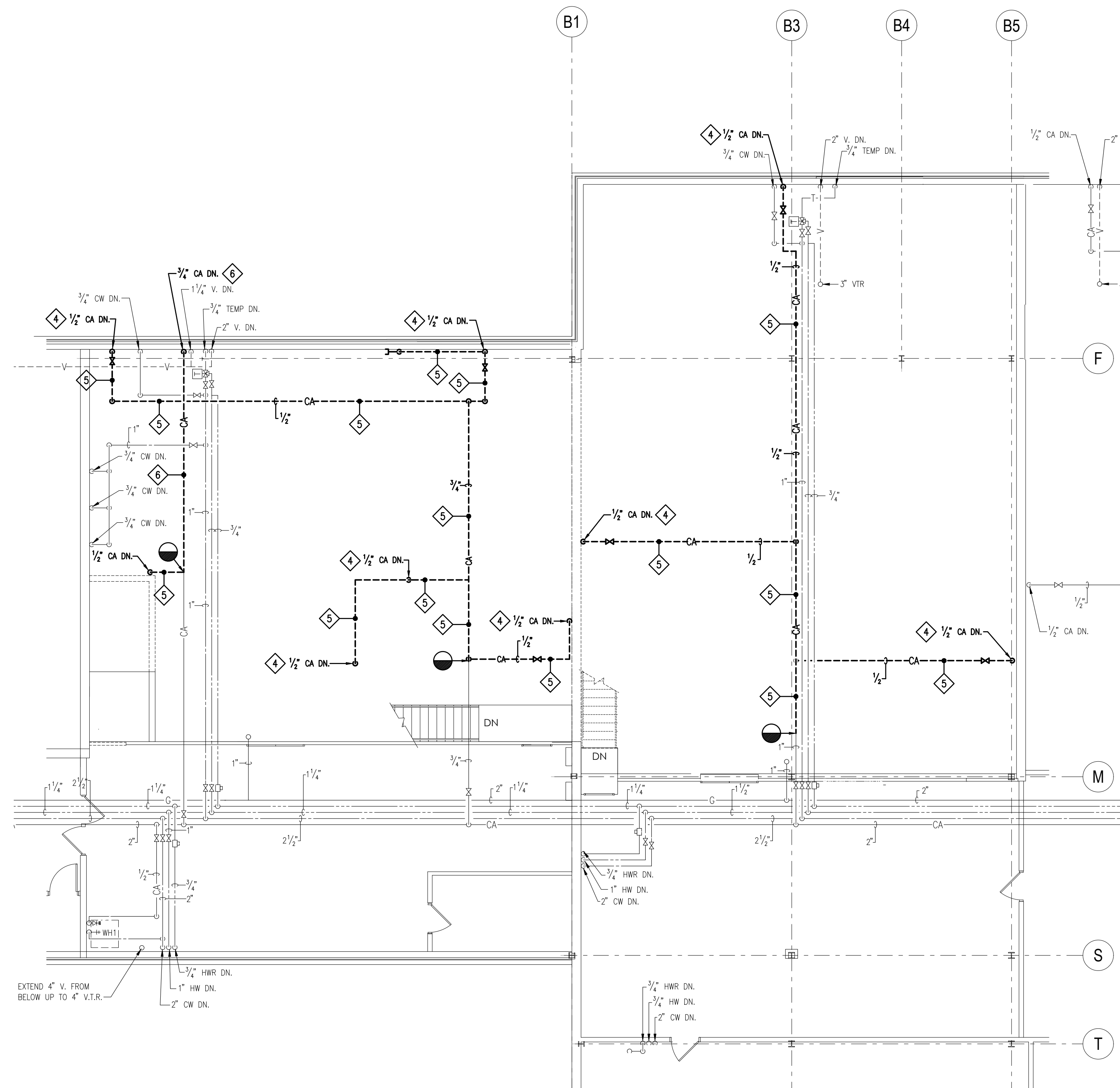
FLOOR PLAN PLUMBING

P-101



FLOOR PLAN - PLUMBING DEMOLITION

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

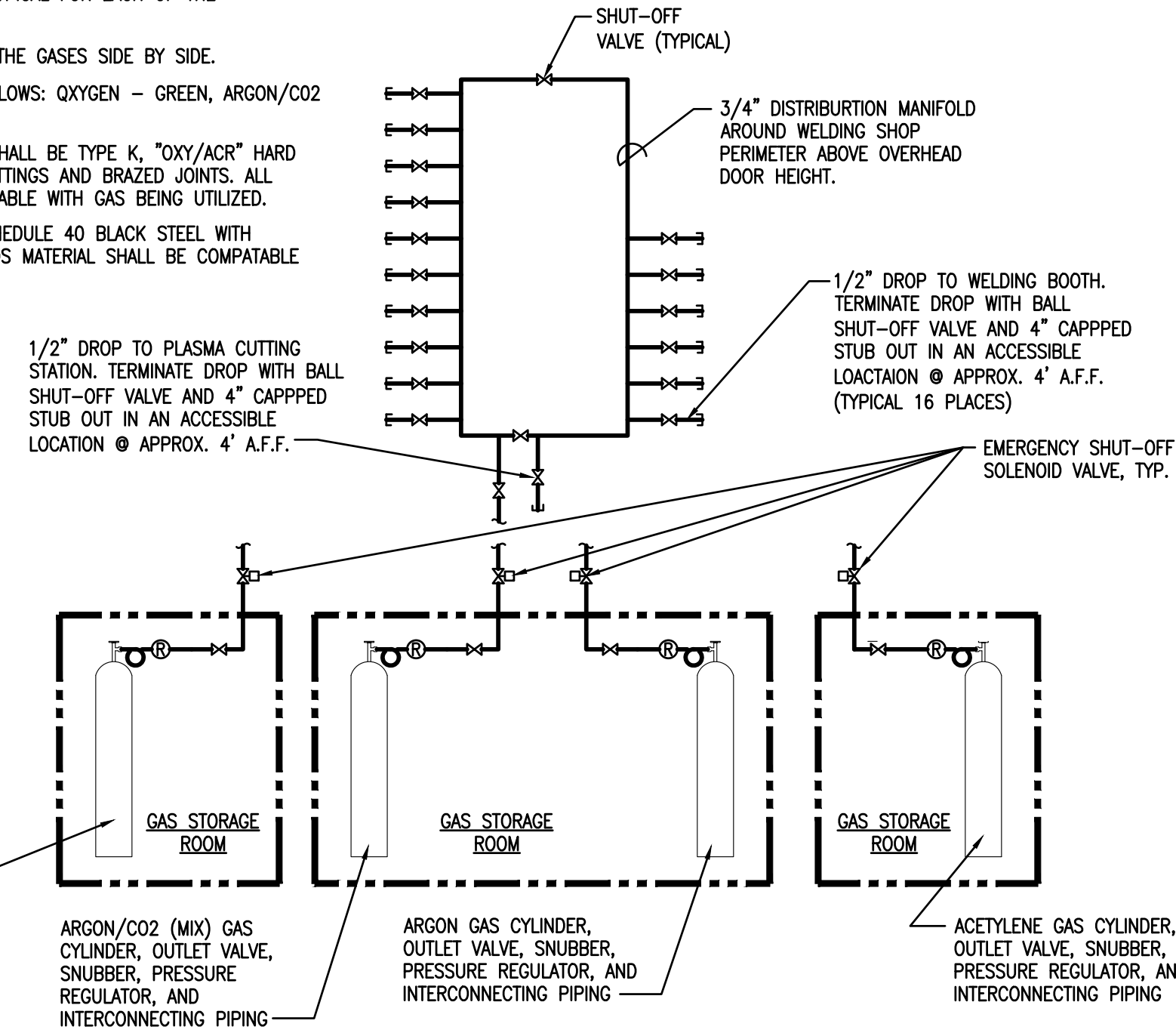


MEZZANINE PLAN - PLUMBING DEMOLITION

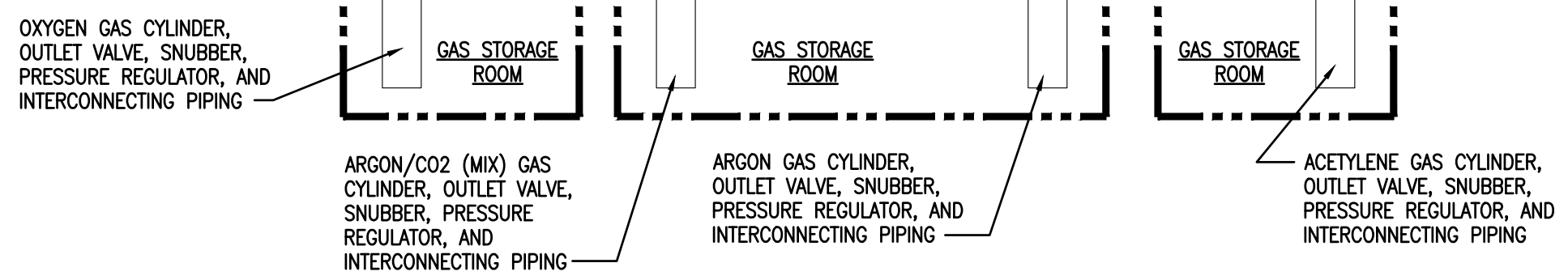
SCALE: 1/8" = 1'-0"

NOTES:

1. DISTRIBUTION MANIFOLD SHOWN IS TYPICAL FOR EACH OF THE THREE WELDING GASES PROVIDED.
2. LOCATE DROP VALVES FOR EACH OF THE GASES SIDE BY SIDE.
3. COLOR CODE VALVE HANDLES AS FOLLOWS: OXYGEN - GREEN, ARGON/CO2 - CYAN, AND ACETYLENE - ORANGE.
4. ALL OXYGEN & ARGON/CO2 PIPING SHALL BE TYPE K, "OXY/ARG" HARD COPY TUBING WITH WROUGHT COPPER FITTINGS AND BRAZED JOINTS. ALL JOINT FILLER MATERIAL SHALL BE COMPATIBLE WITH GAS BEING UTILIZED.
5. ALL ACETYLENE PIPING SHALL BE SCHEDULE 40 BLACK STEEL, WITH THREADED FITTINGS. ALL JOINT COMPOUNDS MATERIAL SHALL BE COMPATIBLE WITH GAS BEING UTILIZED.



REMOVE ALL EXISTING WELDING GAS SYSTEM PIPING MAINS AND ALL ASSOCIATED BRANCH LINE DROPS DOWN TO EACH WORKSTATION, STAND ALONE EQUIPMENT AND GAS BOTTLE STORAGE ROOMS INCLUDING ALL ASSOCIATED PIPING, VALVES, SNUBBERS, PRESSURE REGULATORS, HANGERS AND SUPPORTS IN THEIR ENTIRETY.



EXISTING WELDING GAS DISTRIBUTION SYSTEM SCHEMATIC

NO SCALE

KEYED DRAWING NOTES:

1. REMOVE EXISTING PLUMBING FIXTURE AND ALL ASSOCIATED ACCESSIBLE DOMESTIC WATER, VENT AND SANITARY PIPING, INSULATION, VALVES, HANGERS AND SUPPORTS IN THEIR ENTIRETY BACK TO POINTS INDICATED AND CAP. CAP ALL INACCESSIBLE DOMESTIC WATER AND SANITARY PIPING CONCEALED WITHIN WALL OR BELOW FINISHED FLOOR.
2. REMOVE EXISTING HOSE BIB AND ALL ASSOCIATED DOMESTIC WATER PIPING, INSULATION, VALVES, HANGERS AND SUPPORTS. REMOVE DOMESTIC WATER PIPING BACK TO MAIN OR NEXT ACTIVE BRANCH LINE AND CAP.
3. REMOVE EXISTING EMERGENCY EYE WASH STATION AND ALL ASSOCIATED ACCESSIBLE DOMESTIC WATER, VENT AND SANITARY PIPING, INSULATION, VALVES, THERMOSTATIC MIXING VALVE, HANGERS AND SUPPORTS IN THEIR ENTIRETY. CAP ALL INACCESSIBLE DOMESTIC WATER AND SANITARY PIPING CONCEALED WITHIN WALL OR BELOW FINISHED FLOOR.
4. REMOVE EXISTING COMPRESSED AIR DROP AND ALL ASSOCIATED COMPRESSED AIR PIPING, COUPLERS, VALVES, HANGERS AND SUPPORTS IN THEIR ENTIRE BACK TO POINT INDICATED.
5. REMOVE EXISTING COMPRESSED AIR PIPING AND ALL ASSOCIATED VALVES, HANGERS AND SUPPORTS IN THEIR ENTIRETY BACK TO POINT INDICATED AND CAP.
6. REMOVED EXISTING COMPRESSED AIR PIPING FROM EXISTING WELDING SMOKE COLLECTOR AND ALL ASSOCIATED MOISTURE TRAPS, FILTERS, AIR PRESSURE REGULATORS, VALVES, HANGERS AND SUPPORTS IN THEIR ENTIRETY BACK TO POINT INDICATED AND CAP.
7. SALVAGE EXISTING WATER COOLER WITH BOTTLE FILLER FOR REUSE.
8. EXISTING EMERGENCY EYE WASH AND ALL ASSOCIATED PIPING TO REMAIN.
9. EXISTING HOSE BIB AND ALL ASSOCIATED PIPING TO REMAIN.
10. REMOVE EXISTING INDIRECT WASTE RECEPTOR, TRAP PRIMER AND ALL ASSOCIATED PIPING, INSULATION, HANGERS AND SUPPORTS IN THEIR ENTIRETY, CAP BOTH AT MAIN.

GENERAL DEMOLITION NOTES:

1. REFER TO DRAWING P-201 FOR PLUMBING GENERAL PROJECT NOTES.
2. THE PLUMBING CONTRACTOR SHALL COORDINATE THE SALVAGE AND DISPOSAL OF ALL EQUIPMENT AND MATERIAL WITH THE OWNER. THE PLUMBING CONTRACTOR SHALL RETURN TO THE OWNER ANY ITEMS NOTED OR NOT NOTED, ON THE DRAWINGS, AT THE OWNER'S REQUEST. ALL REMAINING EQUIPMENT AND MATERIAL SHALL BE DISPOSED OF BY THE PLUMBING CONTRACTOR.
3. THE PLUMBING CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL WORK IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS AS REQUIRED TO ACCOMMODATE PROJECT PHASING.
4. REFER TO PROJECT PHASING DRAWING(S) AND SCHEDULE. PROVIDE ALL LABOR AND MATERIAL NECESSARY TO ACCOMMODATE PROJECT PHASING.
5. ALL PATCHING & REPAIRING OF SURFACES AND HOLES LEFT OPEN DUE TO DEMOLITION OR REMOVAL OF EXISTING PIPING & EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR. PATCH EXISTING CONSTRUCTION AS REQUIRED TO MATCH ADJACENT SURFACES OR TO RECEIVE NEW FINISHES AS SCHEDULED UNLESS OTHERWISE INDICATED ON THE ARCHITECTURAL DRAWING.
6. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, PATCHING, EXCAVATION AND BACKFILLING REQUIRED TO COMPLETE ALL IDENTIFIED WORK.
7. ALL EXISTING PIPING AND EQUIPMENT SHOWN MUST BE VERIFIED IN THE FIELD. ANY PLUMBING EQUIPMENT NOT SHOWN SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO REMOVAL.
8. ALL SALVAGED EQUIPMENT MUST BE STORED BY THE CONTRACTOR IN A WEATHER TIGHT AND HEATED ENCLOSURE. CAP ALL FITTINGS AND OR EQUIPMENT OPENINGS TO PREVENT DEBRIS FROM ENTERING THE DEVICE WHILE IN STORAGE.
9. PLUMBING CONTRACTOR WILL BE RESPONSIBLE TO REMOVE AND REPLACE ALL EXISTING CEILING SYSTEMS THAT ARE NOT NOTED TO BE REMOVED BY THE G.C. ON THE ARCHITECTURAL DRAWINGS, IN ALL AREAS WHERE REQUIRED PLUMBING WORK IS INDICATED.
10. PLUMBING CONTRACTOR SHALL PROVIDE GROUND PENETRATING RADAR TO LOCATE EXISTING UNDER-SLAB UTILITIES PRIOR TO SAW CUTTING AND EXCAVATION FOR NEW UNDER FLOOR UTILITIES. PLUMBING CONTRACTOR WILL BE FINANCIALLY RESPONSIBLE TO REPAIR OR REPLACE ANY UTILITY LINES INADVERTENTLY DAMAGED DUE TO IMPROPER IDENTIFICATION.

THE DEMOLITION WORK INDICATED IS INTENDED TO ASSIST THE CONTRACTOR AND GIVE GENERAL INFORMATION. THE CONTRACTOR SHALL BE REQUIRED TO VISIT THE PROJECT SITE PRIOR TO BIDDING TO FULLY ACQUAINT HIMSELF WITH THE EXTENT OF ALL DEMOLITION WORK WHICH IS NECESSARY TO COMPLETE THE ALTERATIONS AND NEW CONSTRUCTION AS DESCRIBED IN THE CONTRACT DOCUMENTS. ALL DEMOLITION WORK REQUIRED SHALL BE INCLUDED IN THE CONTRACT PRICE WHETHER INDICATED ON THE DRAWING OR NOT. THE CONTRACTOR WILL NOT BE ENTITLED TO ANY CLAIMS FOR ADDITIONAL COMPENSATION RELATED TO REQUIRED DEMOLITION.

DRAWING NOTES:

1. REFER TO DRAWING P-201 FOR PLUMBING GENERAL PROJECT NOTES.
2. PROVIDE REQUIRED SERVICE CLEARANCE FOR ALL PLUMBING UNITS AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
3. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF PLUMBING CEILING OUTLETS AND OTHER CEILING MOUNTED DEVICES. ANY CEILING REMOVAL REQUIRED FOR WORK TO BE COMPLETED UNDER THIS CONTRACT, THAT IS NOT INDICATED ON THE ARCHITECTURAL PLANS, SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. CEILINGS REMOVED BY THIS CONTRACTOR SHALL BE REPLACE AND/OR REPAIRED BY HIM, AS PER SPECIFICATIONS.

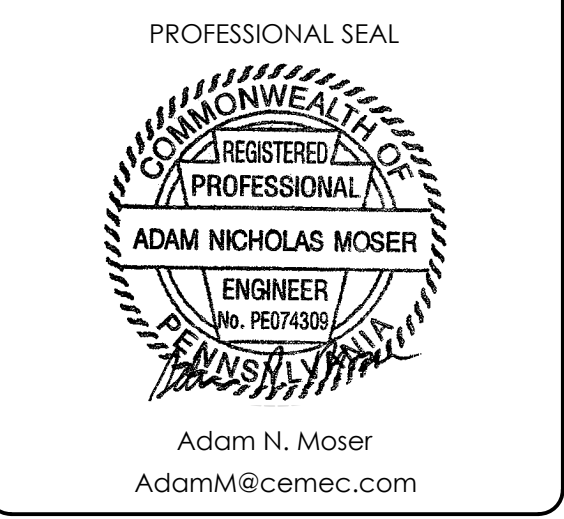


ARCHITECTURAL DESIGN
INTERIOR DESIGN
CODE ANALYSIS
PLANNING SERVICES
REPORTS AND STUDIES
ENGINEERING SERVICES
HISTORIC PRESERVATION

955 BERKSHIRE BLVD., SUITE 101
WYOMISSING, PA 19380
610.376.4927
www.MG-Architects.com

PROJECT #:
4525A

CONSULTANT
CONSOLIDATED ENGINEERS
1022 James Drive
Leesport, PA 19658
Tel 610-916-1800 Fax 610-916-1610
www.consolidatedengineers.com



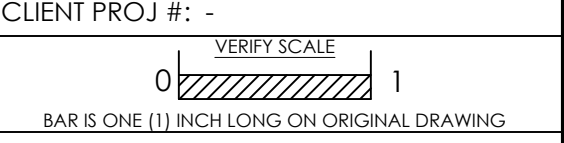
READING MUHLBERG CAREER & TECHNOLOGY CENTER
contact: ERIC KAHLER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahler@rmctc.org

READING MUHLBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID
DATE: 5/17/2022

REV. NO.	DESCRIPTION	DATE

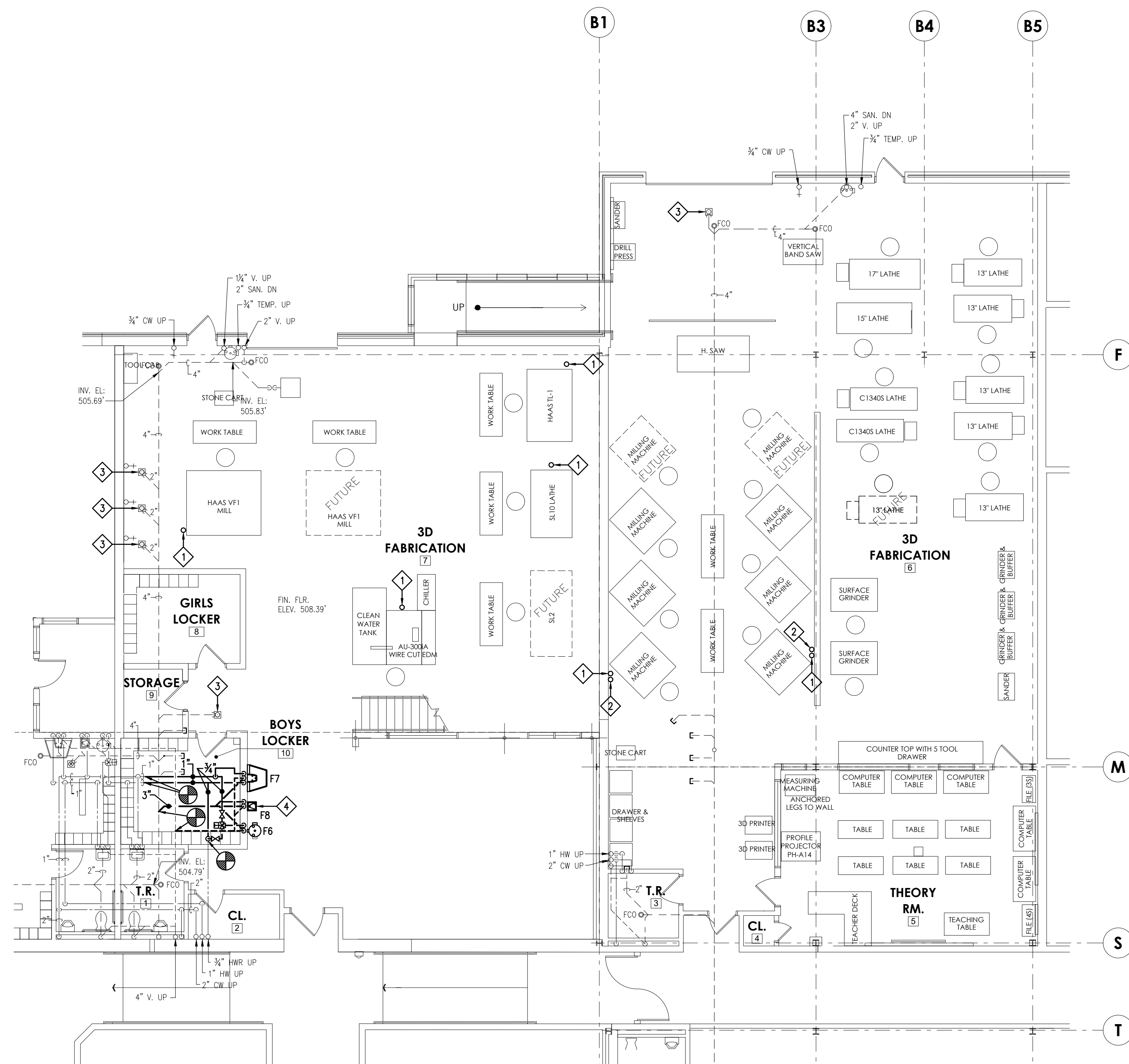
PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: RLC
CLIENT PROJ #:



3D FABRICATION
SHEET TITLE:

FLOOR AND MEZZANINE PLANS
PLUMBING DEMO

P-102



FLOOR PLAN - PLUMBING
SCALE: 1/8" = 1'-0"

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL ELECTRICAL PANEL LOCATIONS (INSIDE ELECTRICAL AND OUTSIDE ELECTRICAL ROOMS) WITH PIPING LAYOUTS PRIOR TO PIPING INSTALLATION. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL N.E.C. (NATIONAL ELECTRIC CODE) CLEARANCES BEFORE INSTALLING ANY PIPING. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS RESULTING IN REWORKING (REMOVING AND REINSTALLING) PIPING INSTALLED IN CONFLICT WITH ELECTRICAL PANELS/EQUIPMENT CLEARANCES.

DRAWING NOTES:

- REFER TO DRAWING P-201 FOR PLUMBING GENERAL PROJECT NOTES.
- PROVIDE REQUIRED SERVICE CLEARANCE FOR ALL PLUMBING UNITS AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
- THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, PATCHING, EXCAVATION, BACKFILLING AND COMPACTION REQUIRED TO COMPLETE ALL INDICATED WORK.
- ALL EXISTING PIPING AND EQUIPMENT SHOWN MUST BE VERIFIED IN THE FIELD.
- THE PLUMBING CONTRACTOR SHALL PROVIDE GROUND PENETRATING RADAR TO LOCATE EXISTING UNDER-SLAB UTILITIES PRIOR TO SAW CUTTING AND EXCAVATION FOR NEW UNDER FLOOR UTILITIES. THE PLUMBING CONTRACTOR WILL BE FINANCIALLY RESPONSIBLE TO REPAIR OR REPLACE ANY UTILITY LINES INADVERTENTLY DAMAGED DUE TO IMPROPER IDENTIFICATION.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS, PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL 18" x 18" ACCESS PANELS WITH PLASTER FRAME IN ALL GYPSUM BOARD CEILINGS AT ALL NEW AND EXISTING ISOLATION VALVE LOCATIONS.

KEYED DRAWING NOTES:

- ◇ EXTEND 3/8" FLEXIBLE EPDM RUBBER COMPRESSED AIR HOSE DOWN TO SHOP EQUIPMENT AND MAKE FINAL EQUIPMENT CONNECTION.
- ◇ EXTEND 1/2" COMPRESSED AIR LINE DOWN TO LOW WALL AND TERMINATE QUICK DISCONNECT COUPLER, 4" BELOW TO TOP OF WALL.
- ◇ PROVIDE PRO-SET TRAP SEAL IN EXISTING DRAIN INLET.
- ◇ REINSTALL SALVAGED WATER COOLER WITH BOTTLER FILLER IN THIS LOCATION. PROVIDE A CHROME PLATED BRASS TAIL PIECE, TRAP ASSEMBLY AND ANGLE STOP VALVE WITH SUPPLY LINE.

ISSUED FOR BID

DATE: 5/17/2022

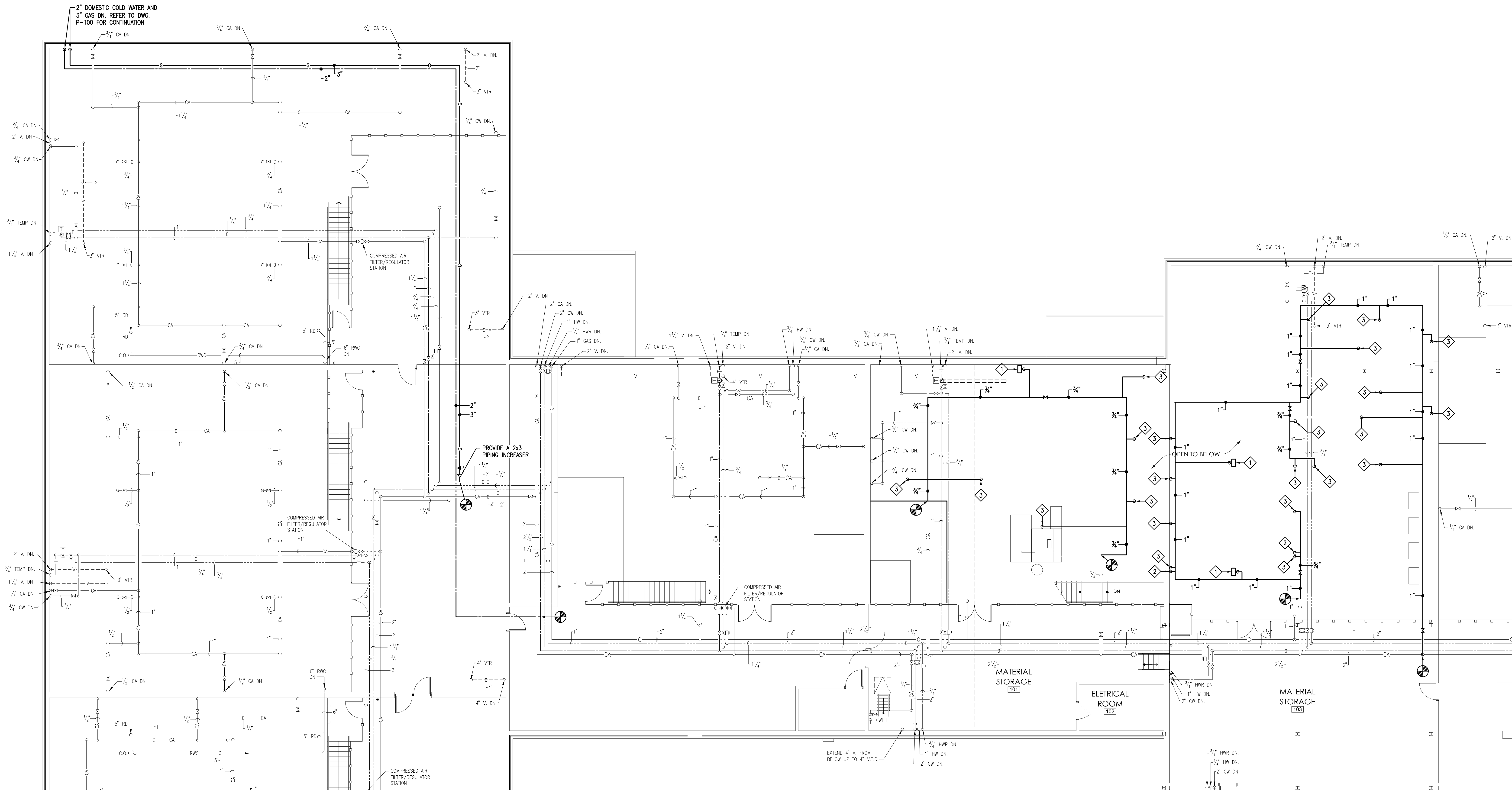
REV. ID.	DESCRIPTION	DATE

PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: RLC
CLIENT PROJ #:

VERIFY SCALE
0 1
BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING

COPYRIGHT © 2022 ALL RIGHTS RESERVED NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE AMENDED, REPRODUCED, COPIED OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUHLBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGNS AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MUHLBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUHLBERG GREENE ARCHITECTS, LTD.

3D FABRICATION
SHEET TITLE:
**FLOOR PLAN
PLUMBING**



PARTIAL MEZZANINE PLAN - PLUMBING
 SCALE: 1/8" = 1'-0"

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL ELECTRICAL PANEL LOCATIONS (INSIDE ELECTRICAL AND OUTSIDE ELECTRICAL ROOMS) WITH PIPING LAYOUTS PRIOR TO PIPING INSTALLATION. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL N.E.C. (NATIONAL ELECTRIC CODE) CLEARANCES BEFORE INSTALLING ANY PIPING. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS RESULTING FROM REMOVING (REMOVING AND REINSTALLING) PIPING INSTALLED IN CONFLICT WITH ELECTRICAL PANELS/EQUIPMENT CLEARANCES.

DRAWING NOTES:

- REFER TO DRAWING P-201 FOR PLUMBING GENERAL PROJECT NOTES.
- PROVIDE REQUIRED SERVICE CLEARANCE FOR ALL PLUMBING UNITS AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
- THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, PATCHING, EXCAVATION, BACKFILLING AND COMPACTION REQUIRED TO COMPLETE ALL INDICATED WORK.
- ALL EXISTING PIPING AND EQUIPMENT SHOWN MUST BE VERIFIED IN THE FIELD.
- THE PLUMBING CONTRACTOR SHALL PROVIDE GROUND PENETRATING RADAR TO LOCATE EXISTING UNDER-SLAB UTILITIES PRIOR TO SAW CUTTING AND EXCAVATION FOR NEW UNDER FLOOR UTILITIES. THE PLUMBING CONTRACTOR WILL BE FINANCIALLY RESPONSIBLE TO REPAIR OR REPLACE ANY UTILITY LINES INADVERTENTLY DAMAGED DUE TO IMPROPER IDENTIFICATION.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS, PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL 18" x 18" ACCESS PANELS WITH PLASTER FRAME IN ALL GYPSUM BOARD CEILINGS AT ALL NEW AND EXISTING ISOLATION VALVE LOCATIONS.

KEYED DRAWING NOTES:

- ◊ COMPRESSED AIR HOSE REEL, REFER TO DETAIL 1 SHOWN ON DWG. P-202 FOR REQUIREMENTS.
- ◊ COMPRESSED AIR DROP, REFER TO DETAIL 3 SHOWN ON DWG. P-202 FOR REQUIREMENTS.
- ◊ COMPRESSED AIR DROP, REFER TO DETAIL 9 SHOWN ON DWG. P-202 FOR REQUIREMENTS.



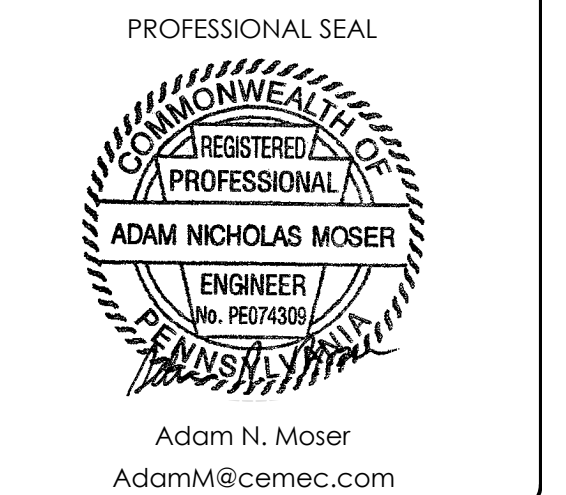
ARCHITECTURAL DESIGN
 INTERIOR DESIGN
 CODE ANALYSIS
 PLANNING SERVICES
 REPORTS AND STUDIES
 ENGINEERING SERVICES
 HISTORIC PRESERVATION

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

PROJECT #:
4525A

CONSULTANT
CONSOLIDATED ENGINEERS

1022 James Drive
 Leesport, PA 19658
 Tel 610-916-1800 Fax 610-916-1610
 www.consolidatedengineers.com



READING MUHLENBERG CAREER & TECHNOLOGY CENTER
 contact: ERIC KAHLER
 2615 WARREN ROAD
 READING, PA 19604
 610.921.7300
 ekahler@rmctc.org

READING MUHLENBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
 2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID

REV. NO.	DESCRIPTION	DATE

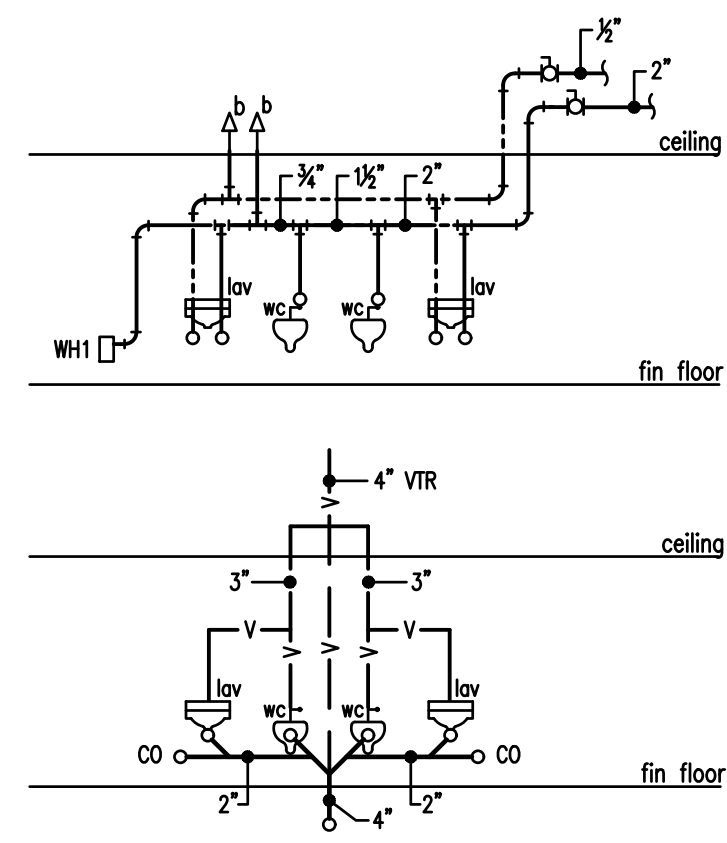
PROJ. MGR.: Adam Moser
 P.M. e-MAIL: AdamM@cemec.com
 DRAWN BY: RLC
 CLIENT PROJ #: -

VERIFY SCALE
 0 1
 BAR & ONE (1) INCH LONG ON ORIGINAL DRAWING

COPYRIGHT © 2022. ALL RIGHTS RESERVED. NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE AMENDED, REPRODUCED, COPIED OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUHLENBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGNS AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER, NOR ARE THEY TO BE ADDED TO ANY OTHER PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MUHLENBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUHLENBERG GREENE ARCHITECTS, LTD.

3D FABRICATION
 SHEET TITLE:
MEZZANINE PLAN PLUMBING

P-104



SCHEMATIC DIAGRAMS 1
NO SCALE

PLUMBING FIXTURE SCHEDULE										
SYMBOL	FIXTURE	C.W.	H.W.	TEMPERED	SAN.	VENT	TRAP	MOUNTING	RIM HEIGHT	REMARKS
F1	WATER CLOSET - (ADA)	1"	-	-	4"	2"	-	WALL	17"	-
F2	LAVATORY - (ADA)	1/2"	1/2"	-	1-1/2"	1-1/4"	1-1/4" x 1-1/2"	WALL	34"	-
F3	WATER COOLER - SPLIT LEVEL	1/2"	-	-	1-1/2"	1-1/4"	1-1/4" x 1-1/2"	WALL	32"/ 34"	-
F4	MOP RECEPTOR	3/4"	3/4"	-	3"	2"	3"	FLOOR	12"	-
F5	SERVICE SINK	3/4"	3/4"	-	3"	1-1/2"	3"	WALL	26"	-
F6	EMERGENCY EYEWASH STATION	1/2"	1/2"	1/2"	1-1/2"	1-1/4"	1-1/4" x 1-1/2"	WALL	42"	-
F7	WASHFOUNTAIN	1/2"	1/2"	-	1-1/2"	1-1/4"	1-1/4" x 1-1/2"	WALL	34"	-
F8	(EXISTING) WATER COOLER	1/2"	-	-	1-1/2"	1-1/4"	1-1/4" x 1-1/2"	WALL	34"	-
HB1	HOSE BIB	1/2"	-	-	-	-	-	WALL	30"	-
WH1	NON-FREEZE WALL HYDRANT	1/2"	-	-	-	-	-	WALL	16"	INSTALL BOTTOM OF WALL HYDRANT ON TOP OF BLOCK COURSE

NOTE: ALL SANITARY PIPING LOCATED BELOW GRADE SHALL BE MINIMUM 2" DIAMETER

DOMESTIC WATER HEATER SCHEDULE												
SYMBOL	TANK VOLUME GALLONS	RECOVERY CAPACITY		ELECTRICAL			MODEL NO.	DIMENSIONS			REMARKS	
		GPH	TEMP. RISE	NO. OF ELEMENTS	WATTS PER ELEMENT	SIMULTANEOUS ELEMENT OPERATION		VOLTAGE	HGT (IN)	L (IN)		W (IN)
DWH-1	40	23	80°	2	4500	YES	460/3/60	DEN-40	59	23	21	

PUMP SCHEDULE										
SYMBOL	G.P.M.	HEAD	PUMP MOTOR		TYPE	MODEL	MANUF.	REMARKS		
			H.P.	R.P.M.						
CP-1	3	18'	1/8	3300	120-1-60	IN-LINE	PL-36	BELL & GOSSETT	PROVIDE PUMP IN LEAD FREE BRONZE	

PLUMBING LEGEND

(ALL SYMBOLS MAY NOT APPLY TO THIS PROJECT)

	2-WAY CONTROL VALVE		DOMESTIC COLD WATER
	MIXING VALVE		DOMESTIC HOT WATER
	BACKFLOW PREVENTER		DOMESTIC HOT WATER RECID.
	SAFETY RELIEF VALVE		140F DOMESTIC HOT WATER
	WATER PRESSURE REDUCING VALVE		140FR DOMESTIC HOT WATER RECID.
	BALL OR BUTTERFLY VALVE		SANITARY WASTE
	CALIBRATED BALANCING VALVE		SANITARY WASTE - UNDERGROUND
	CHECK VALVE		SANITARY WASTE
	STRAINER		ACID WASTE
	GAS COCK		ACID WASTE VENT
	GAS REGULATOR		NATURAL GAS PIPING
	WATER HAMMER ARRESTOR - SIZE PER FIX STANDARD		DOUBLE WALL CONTAINMENT GAS PIPING - UNDERGROUND
	UNION OR FLANGED CONNECTION		GAS VENT PIPING
	FLEXIBLE PIPE CONNECTION		GAS VENT PIPING - UNDERGROUND
	FLOW METER		LIQUIFIED PETROLEUM GAS PIPING
	SOLENOID VALVE		RAINWATER CONDUCTOR
	PRESSURE GAUGE		RAINWATER CONDUCTOR - BELOW
	THERMOMETER		CONDENSATE DRAIN PIPING
	WATER METER		PUMPED CONDENSATE PIPING
	AQUASTAT		TEMPERED WATER
	NEEDLE VALVE		SOFTENED WATER
	TRAP PRIMER		COMPRESSED AIR
	CONNECT TO EXISTING		OXYGEN
	EXTENT OF DEMOLITION		ACETYLENE
			ARGON/CO2 (MIX)
			ARGON
			KEYED DRAWING NOTE
			KEYED DEMOLITION NOTE

ABBREVIATIONS

ABV	ABOVE	FCO	FLOOR CLEAN OUT
APPROX	APPROXIMATELY	FD	FLOOR DRAIN
ARCH	ARCHITECTURAL	FLR	FLOOR
AVTR	ACID VENT THRU ROOF	GC	GENERAL CONTRACTOR
BLW	BELOW	HW	HOT WATER
BLDG	BUILDING	HC	HEATING CONTRACTOR
CD	CONDENSATE DRAIN	INV	INVERT
CLG	CEILING	LAV	LAVATORY
CO	CLEAN OUT	MH	MAN HOLE
COND	CONDENSATE	PC	PLUMBING CONTRACTOR
CONN	CONNECT	REQ'D	REQUIRED
CW	COLD WATER	RWC	RAIN WATER CONDUCTOR
DN	DOWN	SAN	SANITARY
DWG	DRAWING	SH	SHOWER
EG	ELECTRICAL CONTRACTOR	TYP	TYPICAL
EL	ELEVATION	URNAL	URNAL
EQUIP	EQUIPMENT	V	VENT
EXIST	EXISTING	VTR	VENT THRU ROOF
EXP	EXPANSION	WC	WATER CLOSET
		WCO	WALL CLEAN OUT

GENERAL PROJECT NOTES:

- REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING SECTIONS. USE INFORMATION RELATING TO CEILING HEIGHTS, FLOOR TO FLOOR ELEVATIONS, ETC. TO DETERMINE PIPE RISER QUANTITIES AND TO VERIFY ROOMING OF SAME.
- PLUMBING CONTRACTOR IS REQUIRED TO COORDINATE ALL PLUMBING WORK WITH THE WORK OF ALL OTHER TRADES TO ENSURE CORRECT AND QUALITY INSTALLATIONS.
- THE PLUMBING CONTRACTOR SHALL COORDINATE ALL WORK ABOVE THE CEILING WITH THE ELECTRICAL, HVAC, AND GENERAL CONTRACTORS TO INSURE THE SCHEDULED CEILING HEIGHTS CAN BE MAINTAINED.
- ALL LOW VOLTAGE WIRING (UNDER 120V) REQUIRED FOR PLUMBING EQUIPMENT SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR PER THE MANUFACTURER'S WRITTEN INSTRUCTIONS UNLESS OTHERWISE NOTED.

FLOOR DRAINS:

FLOOR DRAIN TYPE DESIGNATIONS AND SIZES ARE INDICATED ON DRAWINGS.

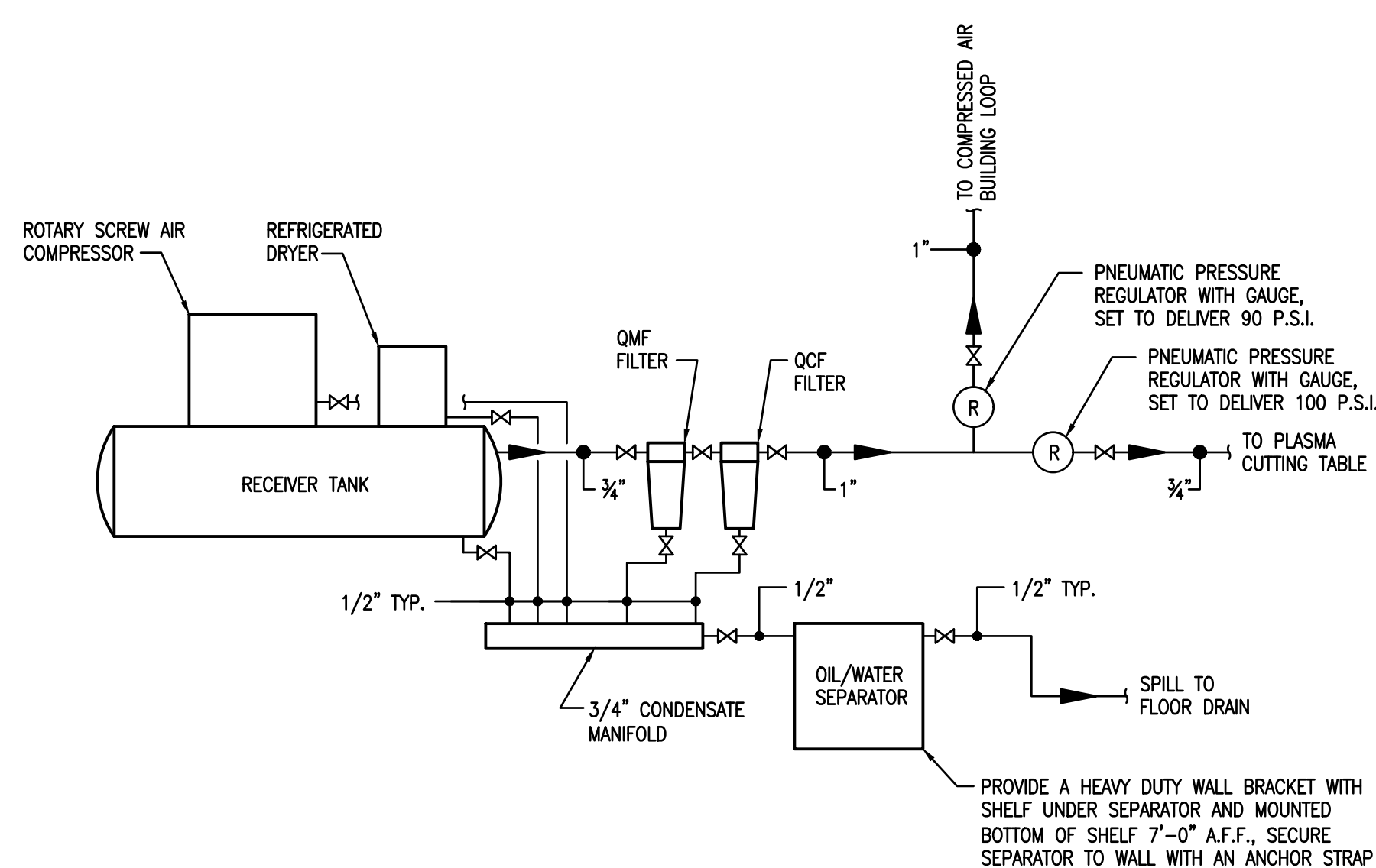
- FD1: CAST-IRON BODY, FLASHING COLLAR, NICKEL BRONZE ADJUSTABLE STRAINER HEAD WITH SECURED GRATE AND BOTTOM OUTLET. J.R. SMITH MODEL 2005-A OR 2005-B. VERIFY GRATE TYPE WITH FLOOR TYPES FOR EACH LOCATION. USE TYPE A FOR SEAMLESS AREAS AND TYPE B FOR TILED AREAS. PROVIDE PRO-SET TRAP SEAL IN DRAIN INLET.
- FD2: CAST-IRON BODY AND FLASHING COLLAR WITH ADJUSTABLE TOP AND TRACTOR GRATE, SEDIMENT BUCKET AND BOTTOM OUTLET. J.R. SMITH MODEL 2230. PROVIDE PRO-SET TRAP SEAL IN DRAIN INLET.

ROOF DRAINS:

ROOF DRAINS ARE PROVIDED BY OTHERS. P.C. IS RESPONSIBLE TO CONNECT TO DRAIN OUTLET(S) AND PROVIDE ALL INDICATED RAIN WATER CONDUCTOR PIPING.

EQUIPMENT LIST:

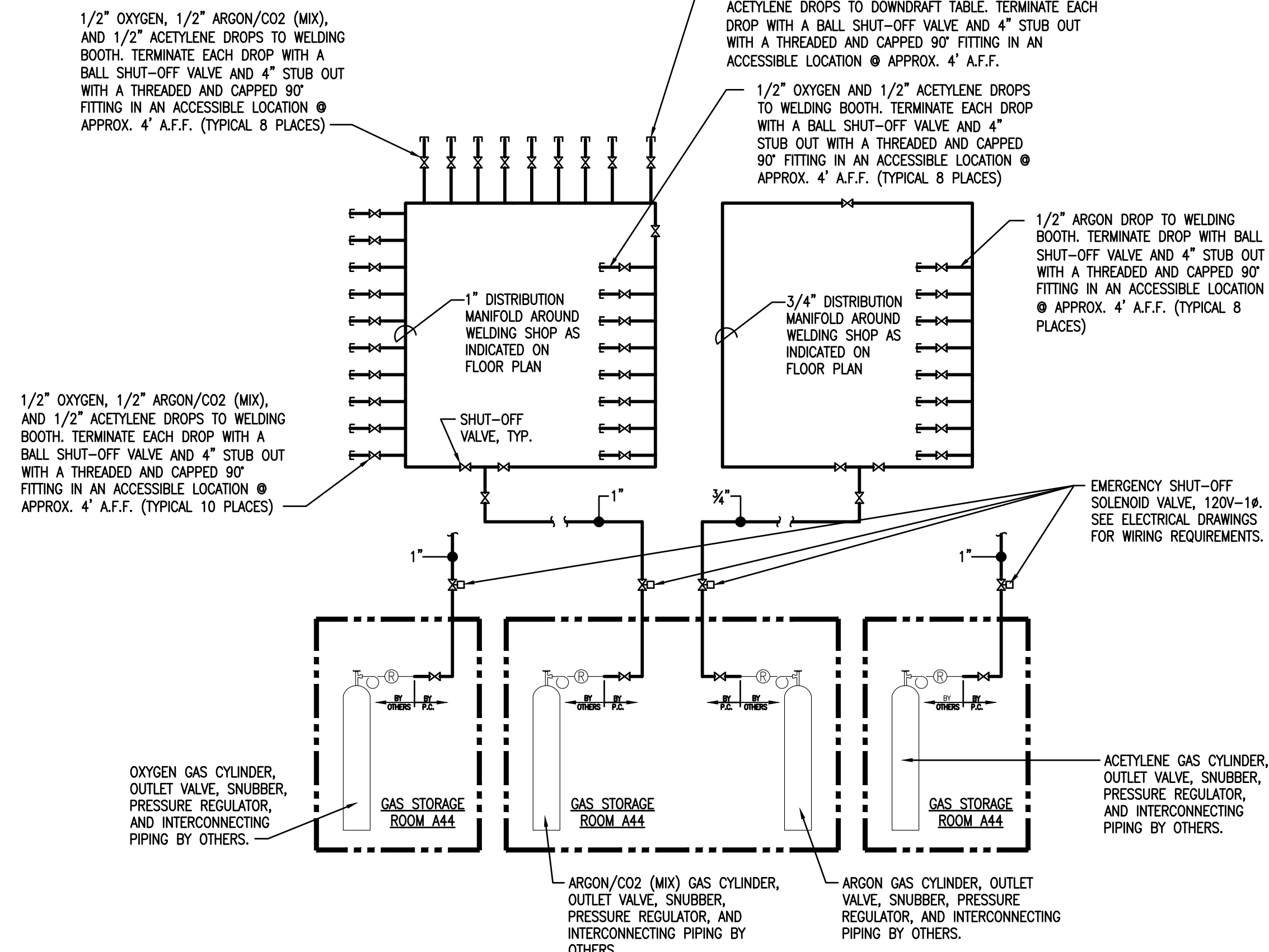
- AIR COMPRESSOR - ROTARY SCREW, 15 HP, FLA 20 AMPS, 460-3-60, CAPABLE OF DELIVERING 55.9 CFM @ 125 PSIG, COMPRESSED AIR OUTLET SIZE 3/4" (BW), 1/2" INCH FNPT. CONDENSATE DRAIN OUTLET SIZE (TM) 3/8" FNPT. 69 dB(A) SOUND LEVEL. FULL VOLTAGE MOTOR STARTING, TEF: HIGH EFFICIENCY DRIVE MOTOR, 8,000-10,000 HOUR QUINSYN-PLUS FLUID, TRUE BLUE 5 YEAR WARRANTY, INFOLOGIC2 BASIC CONTROLLER, LOW SOUND ENCLOSURE (69 dbA), 120 GALLON RECEIVER TANK WITH INTEGRATED REFRIGERATED DRYER, FLA 5.9 AMPS, 120-1-60, "QUINCY" MODEL QGS-15.
- MIRCONIC COALESCER COMPRESSED AIR FILTER - RATED FOR 85 CFM @ 100 PSIG, MAX. PRESSURE 232 PSIG, 3/4" NPT IN/OUT CONNECTION, FLOAT STYLE AUTOMATIC DRAIN, POP-UP DIFFERENTIAL PRESSURE INDICATOR, DIE CAST ALUMINUM HOUSING, ISO QUALITY. FILTER RATING 1.0 MICRON, 0.3 PPM, 8000 HOURS. DOP RATED AT 99.999% EFFICIENT DOWN TO 1 MICRON, LOW 0.8 PSI PRESSURE LOSS. "QUINCY" MODEL QMF 85.
- POLISHING COALESCER COMPRESSED AIR FILTER - RATED FOR 85 CFM @ 100 PSIG, MAX. PRESSURE 232 PSIG, 3/4" NPT IN/OUT CONNECTION, FLOAT STYLE AUTOMATIC DRAIN, POP-UP DIFFERENTIAL PRESSURE INDICATOR, DIE CAST ALUMINUM HOUSING, ISO QUALITY. FILTER RATING 0.01 MICRON, 0.01 PPM, 8000 HOURS. DOP RATED AT 99.999% EFFICIENT DOWN TO 0.01 MICRON, LOW 1.2 PSI PRESSURE LOSS. "QUINCY" MODEL QCF 85.
- OIL WATER SEPARATOR - RATED FOR 106 CFM @ 100 PSIG WITH 232 PSI OF MAXIMUM PRESSURE. CONDENSATE INLET (2) @ 1/2" WATER OUTLET (1) @ 1/2". 10 PPM OUTLET OIL CONTENT, 2 STAGE OIL SEPARATION, DUAL SERVICE INDICATORS, EASY CHANGE CARTRIDGES. "QUINCY" MODEL QOCS-106.



NOTE: CONDENSATE MANIFOLD BUILT BY PLUMBING CONTRACTOR. ALL CONDENSATE DRAIN LINES CONNECT TO THIS MANIFOLD

AIR COMPRESSOR SYSTEM SCHEMATIC

NO SCALE



NOTES:

- DISTRIBUTION MANIFOLD SHOWN ON LEFT SIDE OF SCHEMATIC DIAGRAM IS TYPICAL FOR OXYGEN, ARGON/CO2 (MIX) AND ACETYLENE PIPING.
- LOCATE PIPING DROPS AND ASSOCIATED VALVES FOR EACH OF THE GASES SIDE BY SIDE.
- COLOR CODE VALVE HANDLES AS FOLLOWS: OXYGEN - GREEN, ARGON/CO2 (MIX) - CYAN, AND ACETYLENE - ORANGE.
- ALL OXYGEN, ARGON AND ARGON/CO2 (MIX) PIPING SHALL BE TYPE K, HARD COPPER TUBING WITH WROUGHT COPPER FITTINGS AND BRAZED JOINTS. ALL JOINT FILLER MATERIAL SHALL BE COMPATIBLE WITH GAS BEING UTILIZED.
- ALL ACETYLENE PIPING SHALL BE SCHEDULE 40 BLACK STEEL WITH THREADED FITTINGS. ALL JOINT COMPOUNDS MATERIAL SHALL BE COMPATIBLE WITH GAS BEING UTILIZED.

WELDING GAS DISTRIBUTION SYSTEM SCHEMATIC

NO SCALE

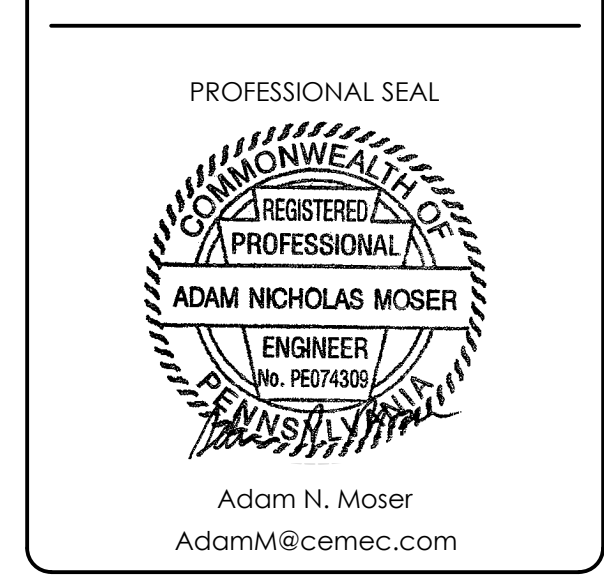


ARCHITECTURAL DESIGN
INTERIOR DESIGN
CODE ANALYSIS
PLANNING SERVICES
REPORTS AND STUDIES
ENGINEERING SERVICES
HISTORIC PRESERVATION

955 BERKSHIRE BLVD., SUITE 101
WYOMISSING, PA 19380
610.376.4927
www.MG-Architects.com

PROJECT #:
4525A

CONSULTANT
CONSOLIDATED ENGINEERS
1022 James Drive
Leesport, PA 19658
Tel 610-916-1800 Fax 610-916-1610
www.consolidatedengineers.com



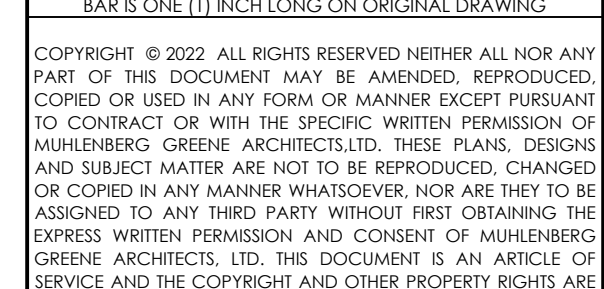
READING MUHLBERG CAREER & TECHNOLOGY CENTER
contact: ERIC KAHLER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahler@rmctc.org

READING MUHLBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID
DATE: 5/17/2022

REV	DESCRIPTION	DATE

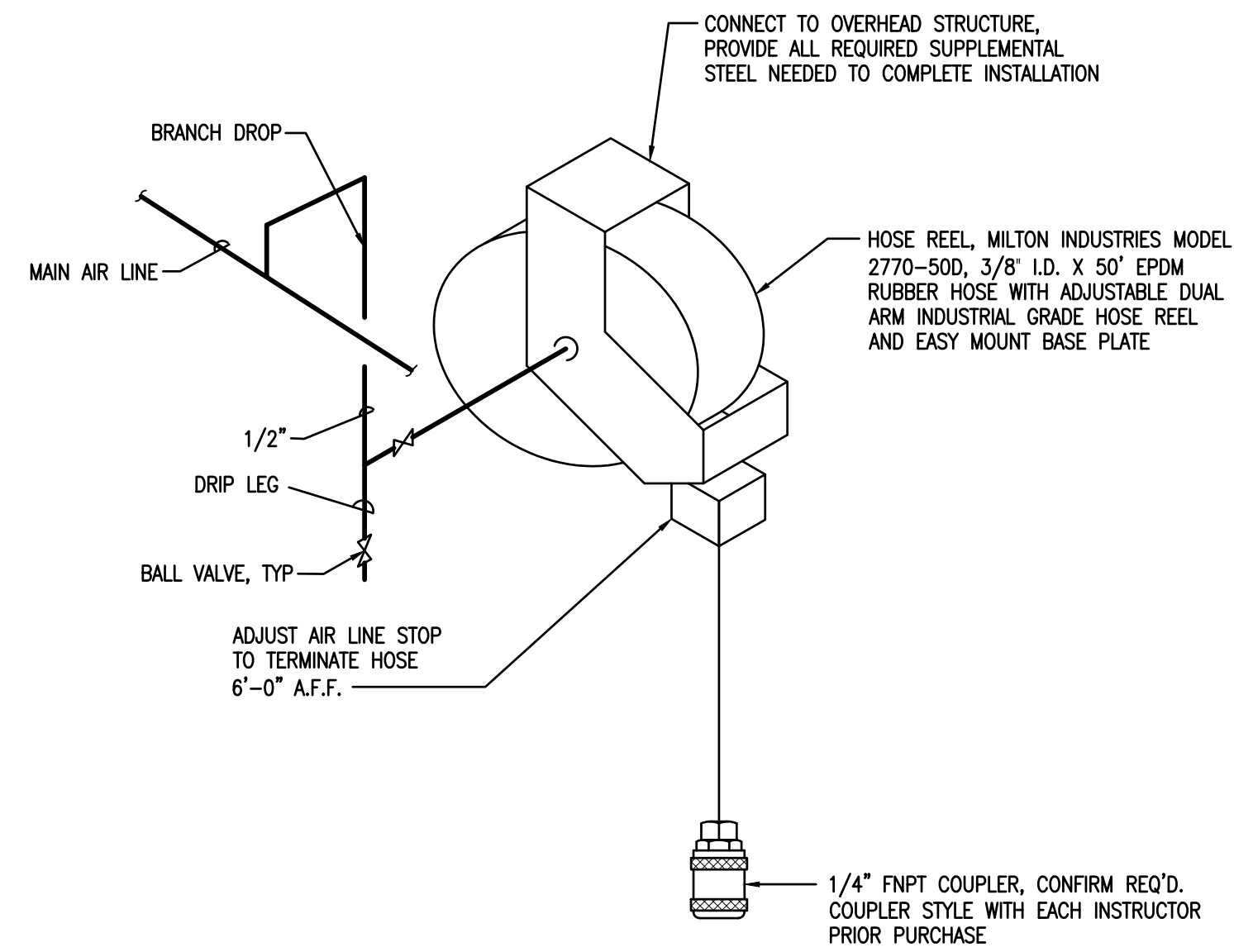
PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: RLC
CLIENT PROJ #:



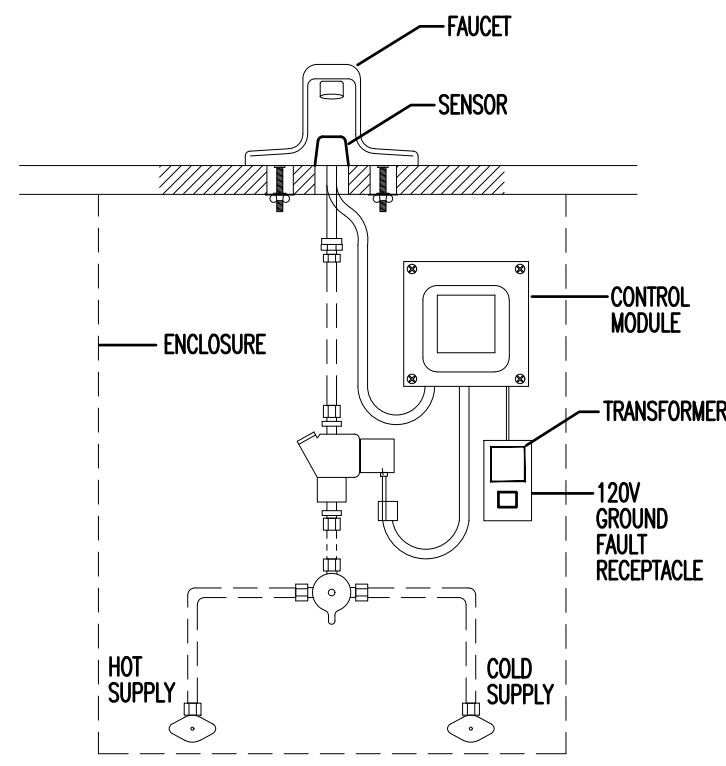
COPYRIGHT © 2022 ALL RIGHTS RESERVED NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRODUCED, COPIED OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUHLBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGNS AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER, NOR ARE THEY TO BE ADDED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MUHLBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUHLBERG GREENE ARCHITECTS, LTD.

SHEET TITLE:
PLUMBING LEGEND, SCHEDULES AND DETAILS - SHEET 1

P-201

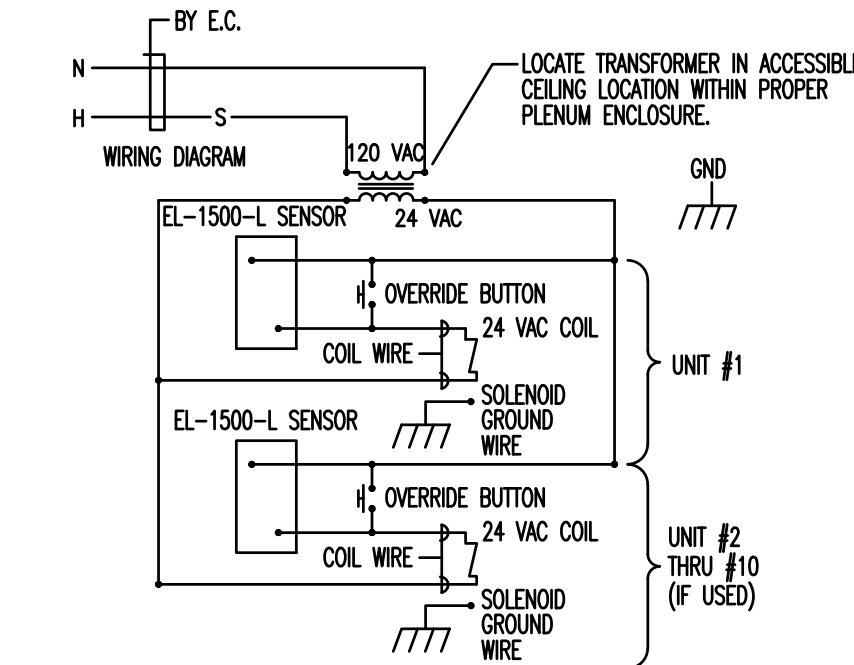


NOTE: 1. FIELD VERIFY COUPLER SIZE AND STYLE WITH EACH INSTRUCTOR PRIOR TO PURCHASE.

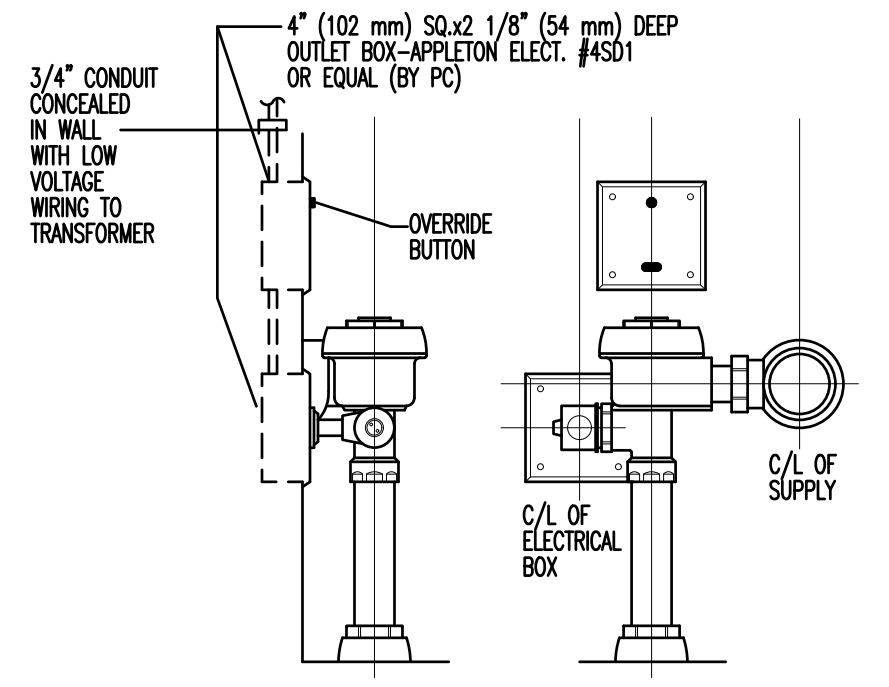


ET-400 FAUCET WITH LOW VARIATION MIXING VALVE FOR HOT AND COLD WATER SUPPLY
 SF-3400 FAUCET WITH LOW VARIATION MIXING VALVE SHALL USE A SIMILAR PIPING ARRANGEMENT WITH A SINGLE FAUCET MOUNTING STUD
 MAX. DISTANCE CONTROL MODULE MAY BE INSTALLED FROM SPOUT WITH STANDARD CABLE: 12' (305 mm)
 FOR PLUMBING FIXTURES F4 AND F5 PROVIDE SLOAN OPTI-SEAL LAVATORY PROTECTIVE ENCLOSURE TO CONCEAL VALVES, PIPING AND WIRING. SLOAN MODEL NO. ET-529.

THIS DETAIL IS BASED ON SLOAN VALVE COMPANY. OTHER MANUFACTURERS MAY VARY. VERIFY ALL REQUIREMENTS WITH MANUFACTURER BEFORE ROUGH-IN. ALL WORK INDICATED ABOVE SHALL BE PROVIDED BY P.C. EXCLUDING 120V GROUND FAULT RECEPTACLE.
 REFER TO PIPING SCHEMATIC DIAGRAMS FOR CHECK VALVE LOCATIONS.

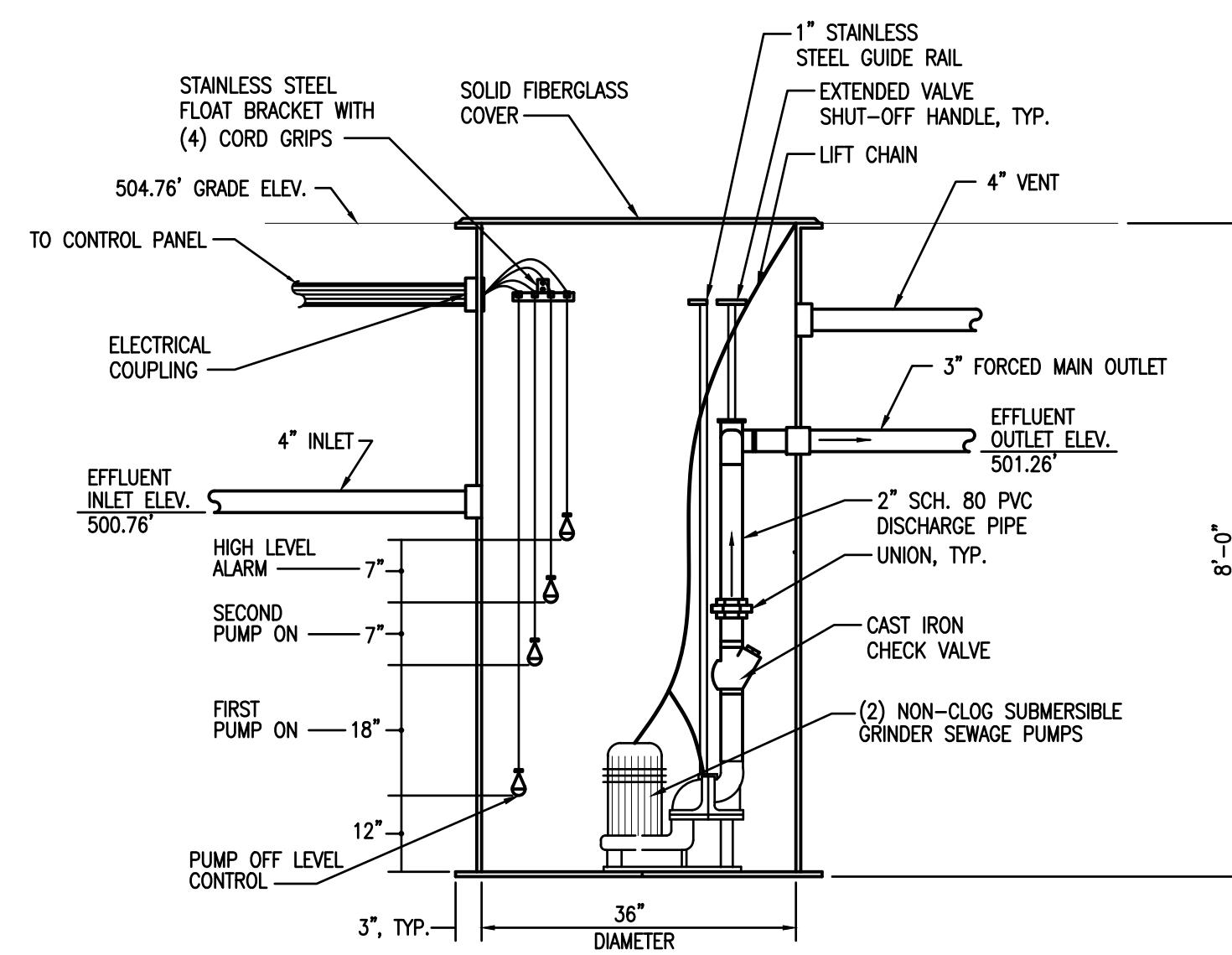
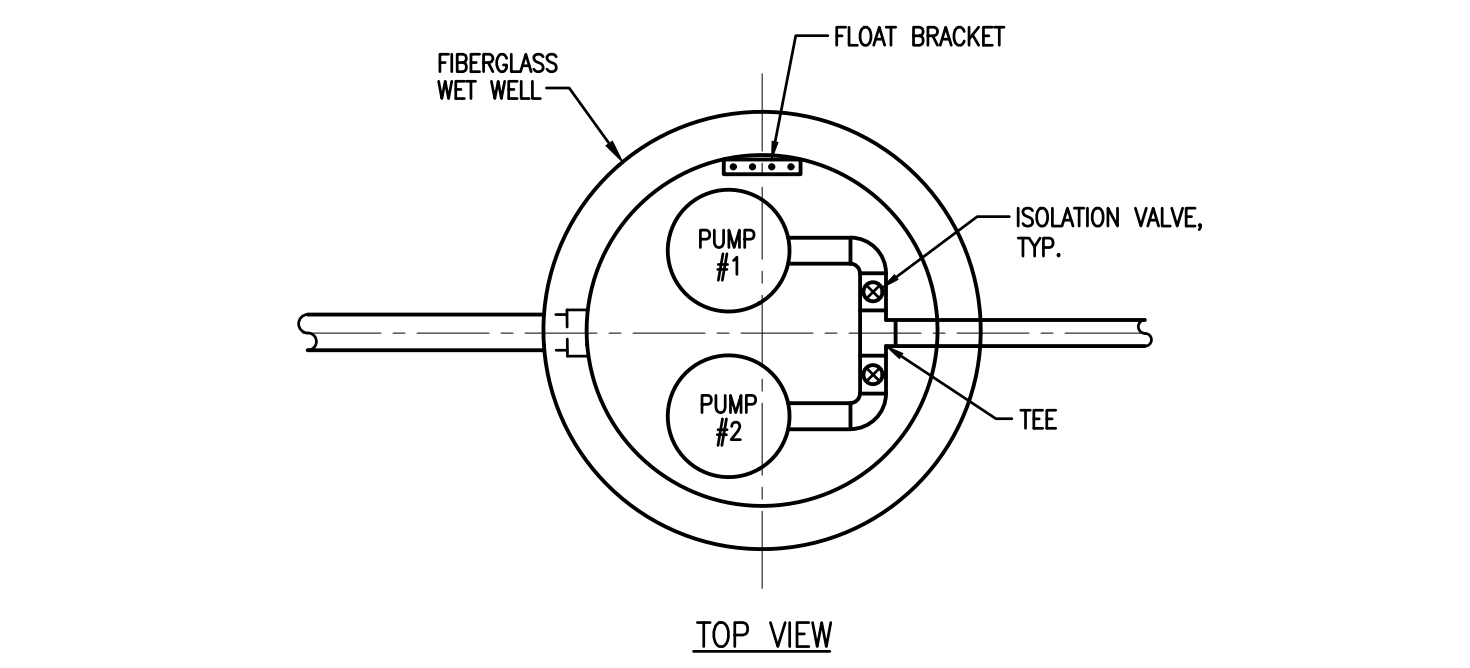


ONE TRANSFORMER SERVES UP TO TEN (10) WATER CLOSET/AIRBATH FLUSHMETERS. PROVIDE NUMBER OF TRANSFORMERS REQUIRED.
 THIS DETAIL IS BASED ON SLOAN VALVE COMPANY. OTHER MANUFACTURERS MAY VARY. VERIFY ALL REQUIREMENTS WITH MANUFACTURER BEFORE ROUGH-IN.



- * POSITION OF SENSOR BOX CAN BE RAISED OR LOWERED 1" (25 mm) IF IN CONFLICT WITH HANDICAP GRAB BARS.
- 1. PROVIDE A TRANSFORMER FOR EACH WATER CLOSET LOCATED IN ALL TOILET ROOMS WHERE ONLY ONE WATER CLOSET IS PROVIDED.
- 2. IN TOILET ROOMS WITH MORE THAN ONE WATER CLOSET PROVIDE THE REQUIRED OF TRANSFORMERS. REFER TO PLANS FOR THIS INFORMATION.

ALL WORK INDICATED ABOVE SHALL BE PROVIDED BY P.C. EXCLUDING 120V POWER CONNECTION TO TRANSFORMER.



PREPACKAGED DUPLEX GRINDER PUMP SEWAGE LIFT STATION. PENN PUMP, INC., MODEL PLS-35-20-GRP12-3696DX, (2) CAST IRON 1-1/2 HP GRINDER PUMPS EACH WITH HARDENED STEEL CUTTER, 35 GPM, 20\"/>

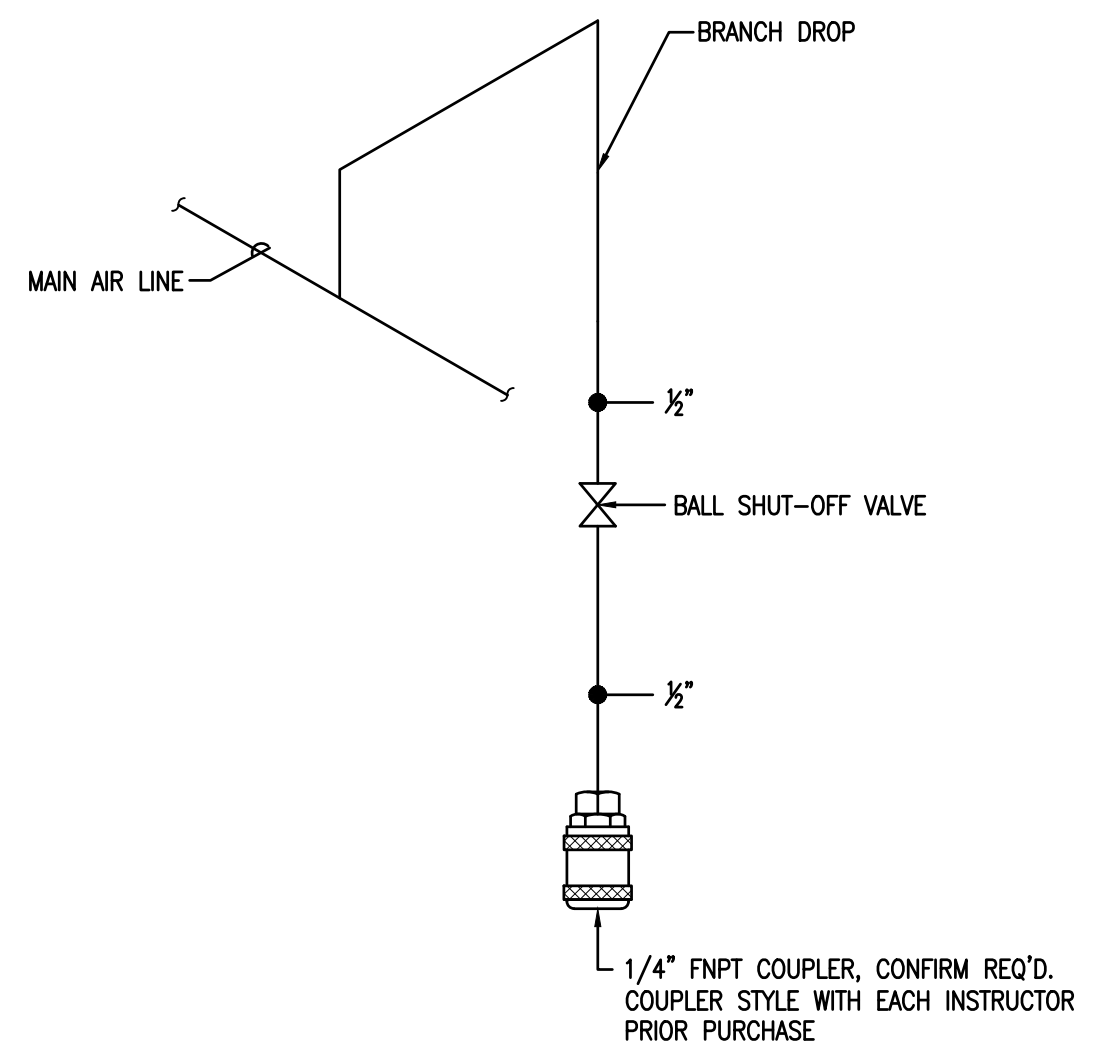
- NOTES:
- 1. ALL FLOAT SWITCHES MUST BE BRACKET MOUNTED WITH A MAXIMUM ALLOWABLE FREE MOVEMENT OF 2".
- 2. ALL PIPING AND ELECTRICAL CONNECTIONS MUST BE SEALED WATER TIGHT.
- 3. ALL ELECTRICAL CONNECTIONS AND SPLICES MUST BE MADE OUTSIDE OF THE TANK.
- 4. PLUMBING CONTRACTOR TO PROVIDE AND INSTALL NEMA 4R STAINLESS STEEL CONTROL PANEL AND COMPLETE ALL CONTROL AND POWER WIRING CONNECTIONS FROM SEWAGE EJECTOR SYSTEM TO THE CONTROL PANEL, E.C. TO PROVIDE AND INSTALL ELECTRICAL SERVICE FROM THE CONTROL PANEL TO THE ELEC. PANEL.

1 COMPRESSED AIR HOSE REEL DETAIL
NO SCALE

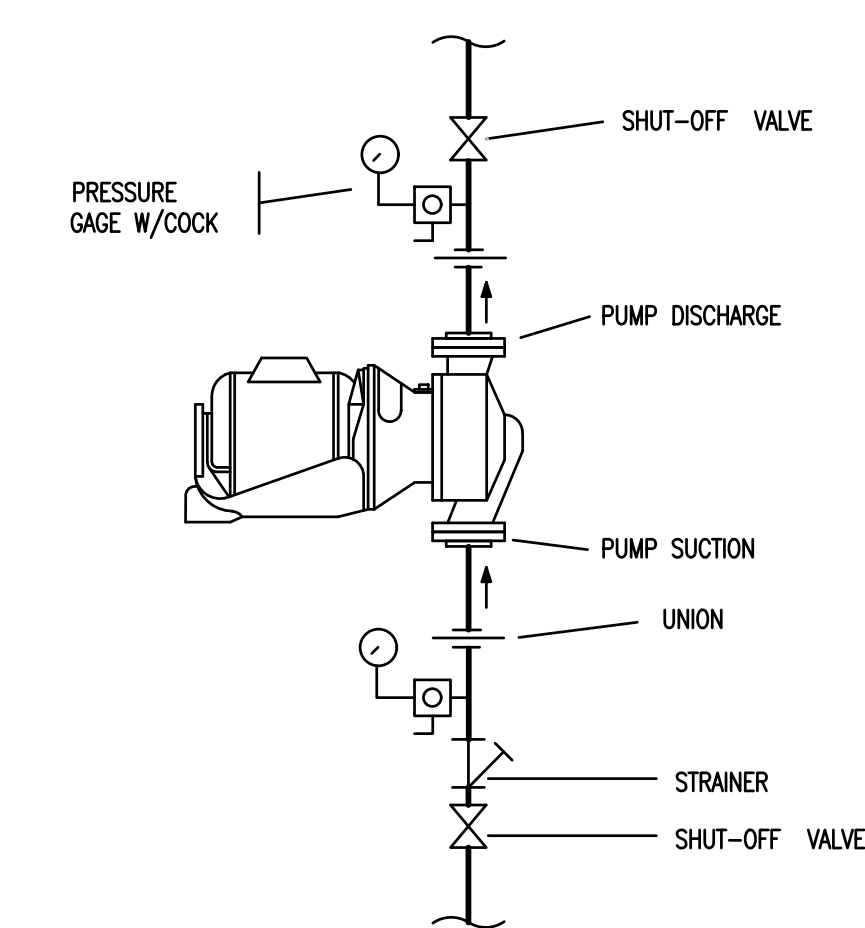
2 SENSOR OPERATED LAVATORY FAUCET DETAIL
NO SCALE

5 SENSOR OPER. WTR. CLOS. FLUSH METER DETAIL
NO SCALE

6 DUPLEX SEWAGE EJECTOR DETAIL
NO SCALE

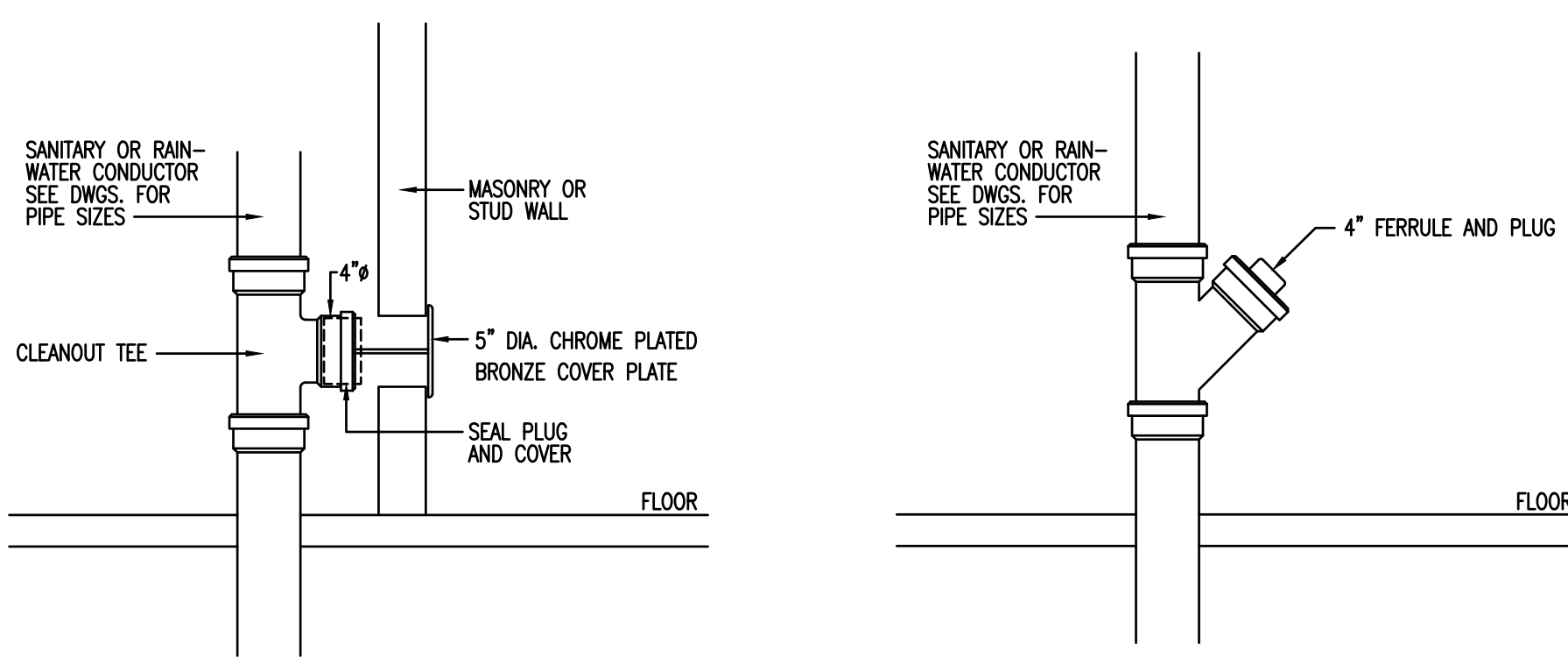


- NOTE: 1. FIELD VERIFY COUPLER SIZE AND STYLE WITH EACH INSTRUCTOR PRIOR TO PURCHASE.
- 2. INSTALL BOTTOM OF COUPLER 44\"/>



- NOTES:
- 1. PUMP SHALL BE INSTALLED LEVEL AND SHALL NOT TOUCH OR REST ON ANY PART OF THE BUILDING STRUCTURE.
- 2. PUMP SHALL BE INSTALLED SO THAT THE PUMP CAN BE INSTALLED OR REMOVED WITHOUT REMOVING ANY PIPING OR VALVES OR SPRINGING OR FORCING ANY PIPING.
- 3. ANY VIBRATION OR EXCESSIVE NOISE FROM THE PUMP SHALL BE CORRECTED.

4 IN-LINE PUMP DETAIL
NO SCALE

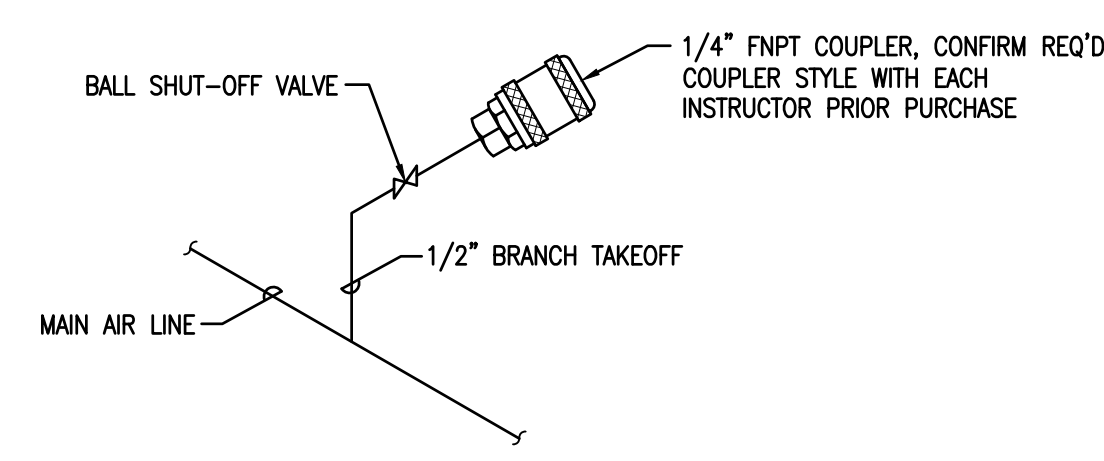


FLOOR CLEANOUT
DRAWING DESIGNATION F.C.O.

WALL CLEANOUT
DRAWING DESIGNATION W.C.O.

EXPOSED CLEANOUT
DRAWING DESIGNATION C.O.

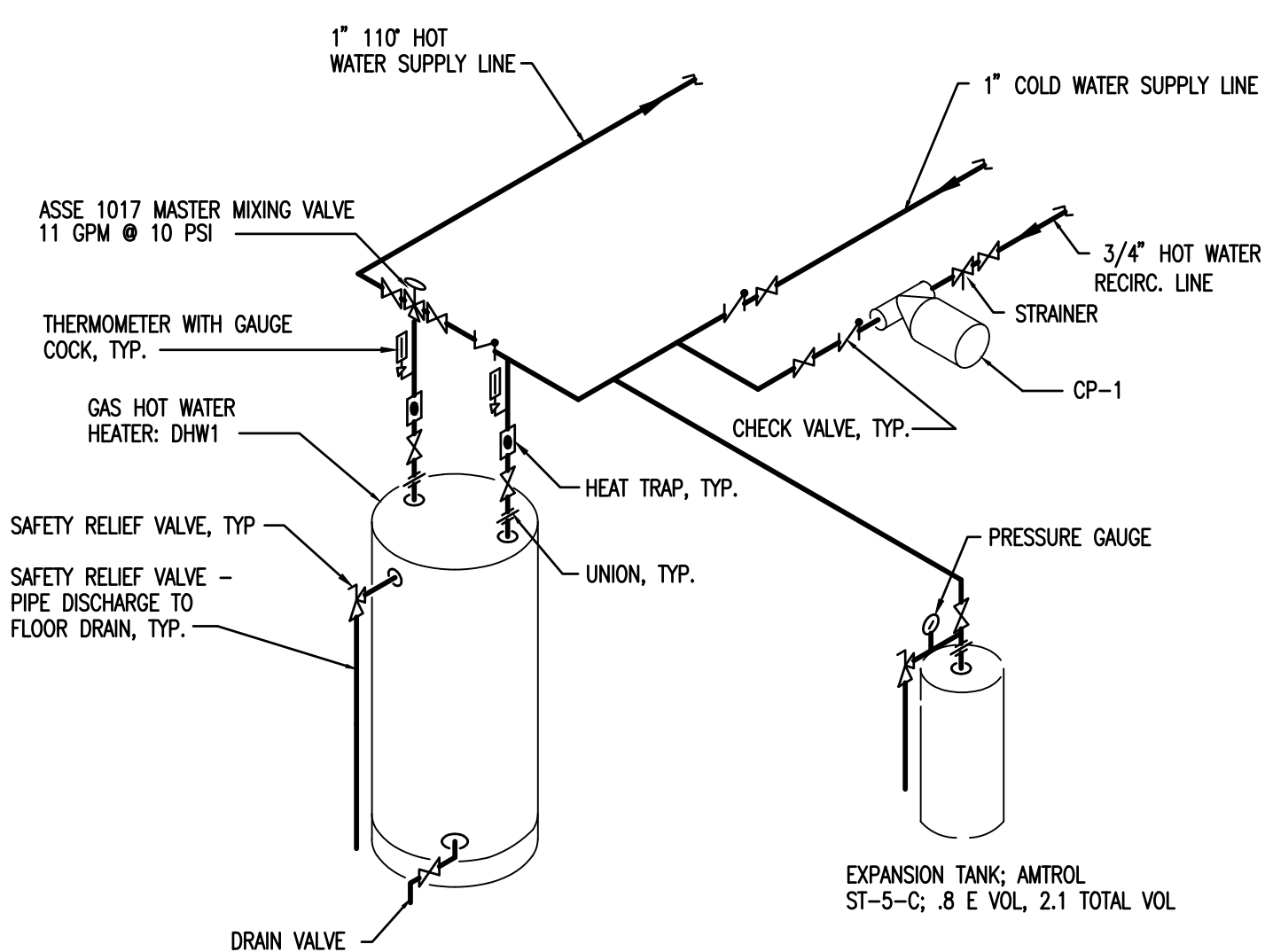
8 CLEANOUT DETAILS
NO SCALE



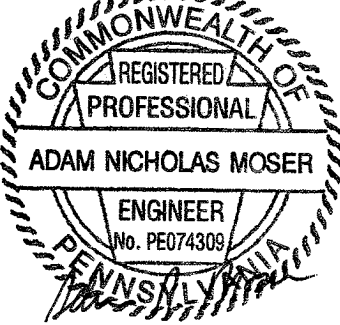
- NOTE: 1. FIELD VERIFY COUPLER SIZE AND STYLE WITH EACH INSTRUCTOR PRIOR TO PURCHASE.
- 2. PROVIDE FLEXIBLE AIR LINE STRAIN RELIEF SUPPORT AFTER QUICK DISCONNECT COUPLER, SECURED TO OVERHEAD STRUCTURE, TYPICAL FOR ALL TAKEOFFS.

9 TYPICAL COMPRESSED AIR TAKEOFF DETAIL
NO SCALE

3 TYPICAL COMPRESS AIR DROP DETAIL
NO SCALE



7 DOMESTIC WATER HEATER DETAIL
NO SCALE



REV. NO.	DESCRIPTION	DATE

ISSUED FOR BID

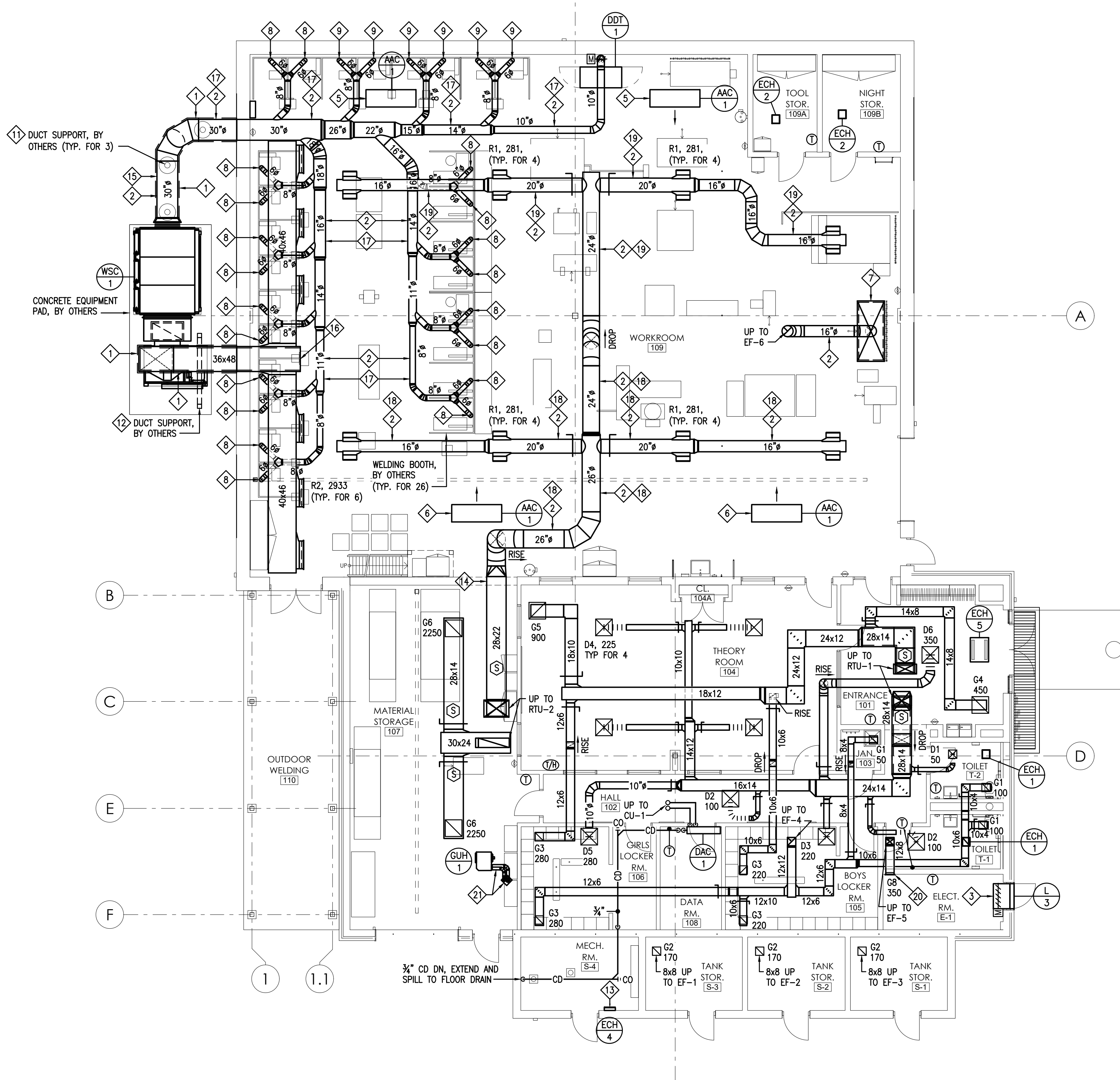
DATE: 5/17/2022

REV. ID.	DESCRIPTION	DATE

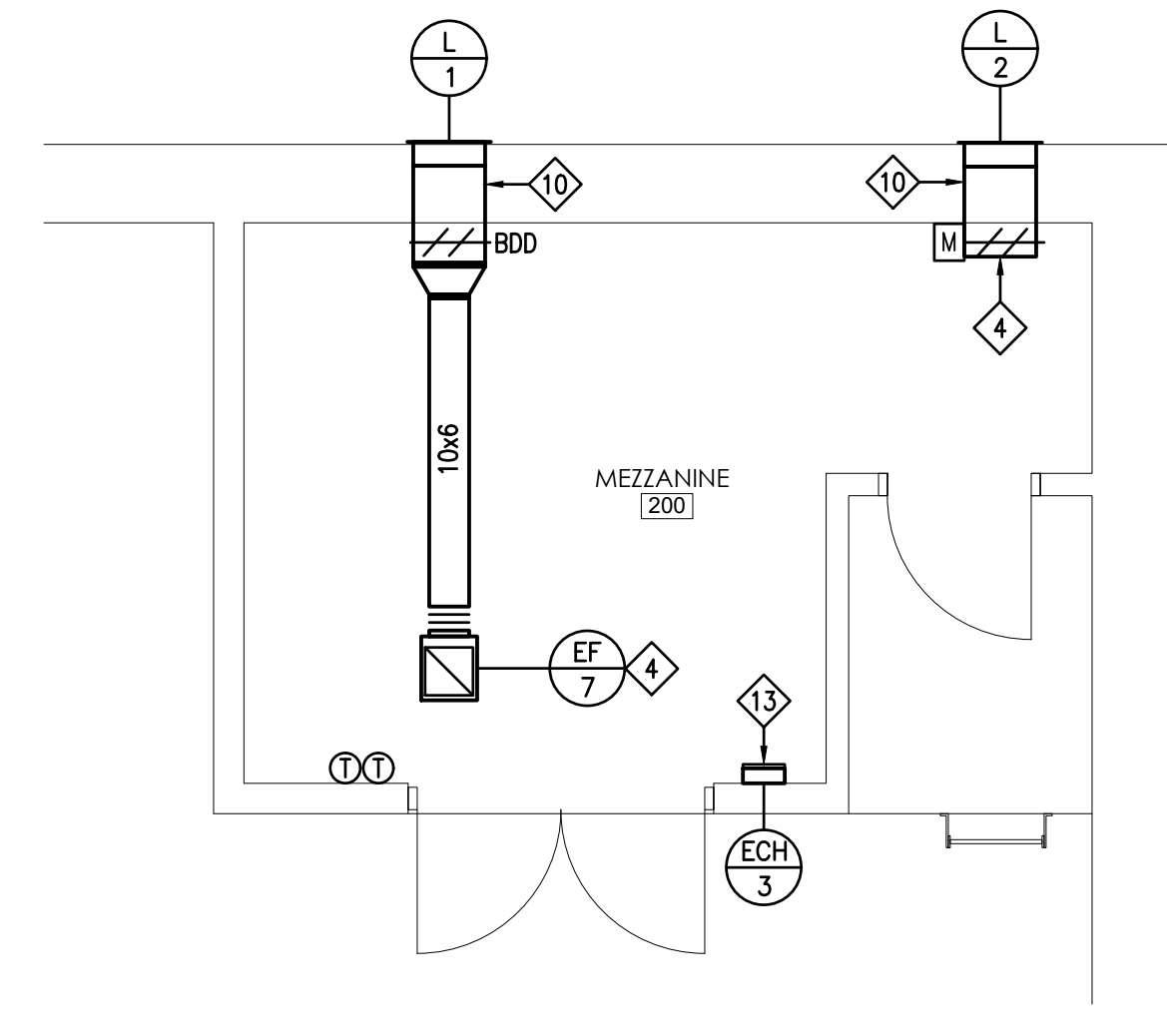
PROJ. MGR.: Adam Moser
 P.M. e-MAIL: AdamM@cemec.com
 DRAWN BY: RLC
 CLIENT PROJ #: -

VERIFY SCALE
 0 1
 BAR & ONE (1) INCH LONG ON ORIGINAL DRAWING

COPYRIGHT © 2022 ALL RIGHTS RESERVED. NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRODUCED, COPIED OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUHLBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGNS AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER, NOR ARE THEY TO BE ADDED TO ANY FILE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MUHLBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUHLBERG GREENE ARCHITECTS, LTD.



FLOOR PLAN - HVAC
 SCALE: 1/8" = 1'-0"



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

EQUIPMENT SCHEDULES:

- MAC 1 AMBIENT AIR CLEANER, INDUSTRIAL MAID, MODEL T-3500, 3500 CFM @ 1" W.C., 2 HP, 460-3-60, 2.9 FLA., UNIT TO INCLUDE DELTA VFD WITH ON/OFF BUTTONS, VFD DRIVE TO BE SHIPPED LOOSE FOR FIELD AND MOUNTING AND WIRING BY E.C., PROVIDE WITH 2 COMPLETE SETS OF SPARE FILTERS. REFER TO SPECIFICATION SECTION 233950 FOR ADDITIONAL REQUIREMENTS.
- WSC 1 WELDING SMOKE COLLECTOR, AIREX, MODEL PS-30, 17,600 CFM @ 14" T.S.P., 60 HP BLOWER, 460-3-60, REFER TO SPECIFICATION SECTION 233920 FOR ADDITIONAL REQUIREMENTS.
- DDT 1 DOWNDRAFT TABLE, 60" WIDE x 30" DEEP WITH HINGED SIDE PANELS AND A 10" DIAMETER EXHAUST OUTLET CONNECTION WITH ELECTRO/PNEUMATIC DAMPER ASSEMBLY, REFER TO SPECIFICATION SECTION 233920 FOR ADDITIONAL REQUIREMENTS.

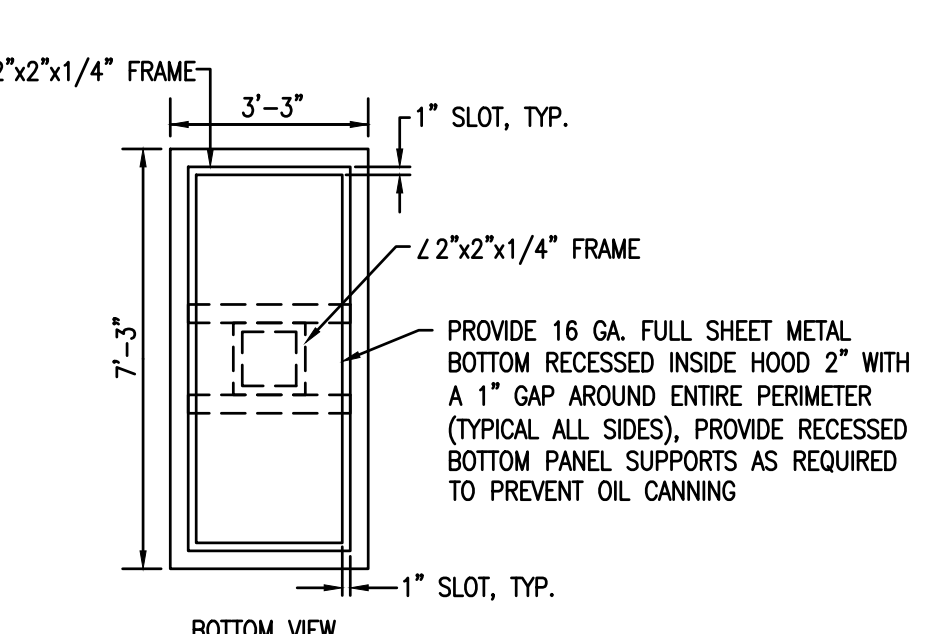
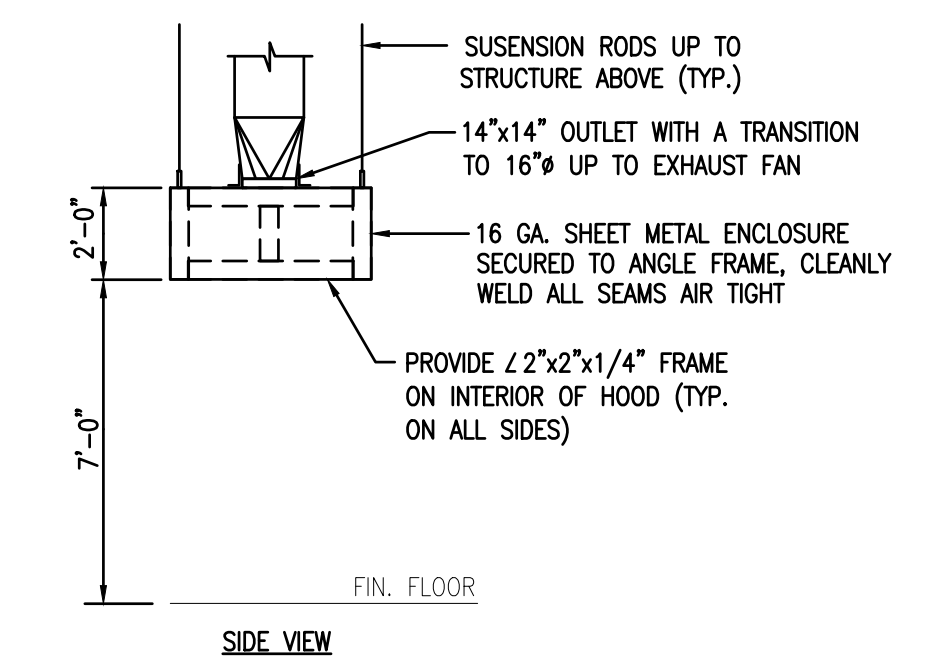
THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL ELECTRICAL PANEL LOCATIONS (INSIDE ELECTRICAL AND OUTSIDE ELECTRICAL ROOMS) WITH PIPING AND DUCTWORK LAYOUTS PRIOR TO PIPING AND DUCTWORK INSTALLATION. THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL N.E.C. (NATIONAL ELECTRIC CODE) CLEARANCES BEFORE INSTALLING ANY PIPING AND DUCTWORK. THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS RESULTING TO REWORKING (REMOVING AND REINSTALLING) PIPING AND DUCTWORK INSTALLED IN CONFLICT WITH ELECTRICAL PANELS/EQUIPMENT CLEARANCES.

DRAWING NOTES:

1. REFER TO DRAWING H-501 FOR HVAC GENERAL PROJECT NOTES.
2. PROVIDE REQUIRED SERVICE CLEARANCE FOR ALL HVAC UNITS AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
3. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF HVAC CEILING OUTLETS AND OTHER CEILING MOUNTED DEVICES. ANY CEILING REMOVAL REQUIRED FOR WORK TO BE COMPLETED UNDER THIS CONTRACT, THAT IS NOT INDICATED ON THE ARCHITECTURAL PLANS, SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. CEILINGS REMOVED BY THIS CONTRACTOR SHALL BE REPLACE AND/OR REPAIRED BY HIM, AS PER SPECIFICATIONS.

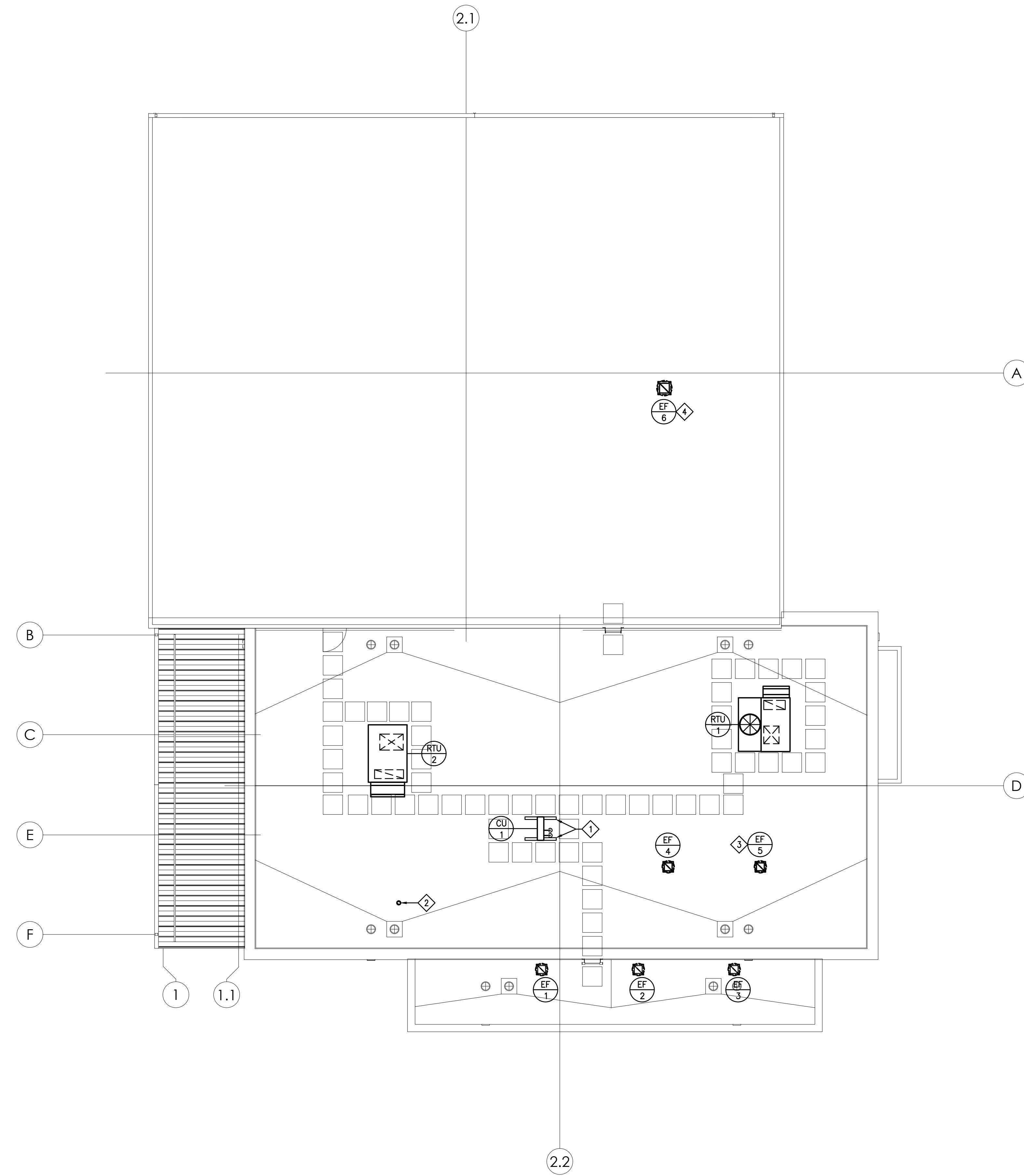
KEYED DRAWING NOTES:

- 1 PROVIDE EXTERIOR DUCT INSULATION SYSTEM AS SPECIFIED, REFER TO SPECIFICATION SECTION 230700 FOR REQUIREMENTS.
- 2 THIS DUCTWORK MAIN AND ASSOCIATED BRANCH DUCTWORK TO BE GALVANIZED STEEL SINGLE WALL SPIRAL.
- 3 PROVIDE FULL SIZE SHEET METAL WALL SLEEVE ON REAR OF LOUVER WITH MOD. INTERLOCK EF-5 TO OPEN MOTOR OPERATED DAMPER ON L-3 OUTSIDE AIR INTAKE LOUVER WHEN FAN ENERGIZES, DAMPER SHALL FULLY CLOSE WHEN FAN DE-ENERGIZES.
- 4 PROVIDE FULL SIZE SHEET METAL WALL SLEEVE ON REAR OF LOUVER WITH MOD. INTERLOCK EF-7 TO OPEN MOTOR OPERATED DAMPER ON L-2 OUTSIDE AIR INTAKE LOUVER WHEN FAN ENERGIZES, DAMPER SHALL FULLY CLOSE WHEN FAN DE-ENERGIZES.
- 5 PROVIDE ALL REQUIRES SUPPLEMENTAL STEEL AND SUPPORT RODS NEEDED TO HANG UNIT FROM OVERHEAD STRUCTURE, BOTTOM OF UNIT TO BE INSTALLED 12'-6" A.F.F..
- 6 PROVIDE ALL REQUIRES SUPPLEMENTAL STEEL AND SUPPORT RODS NEEDED TO HANG UNIT FROM OVERHEAD STRUCTURE, BOTTOM OF UNIT TO BE INSTALLED 14'-0" A.F.F..
- 7 PROVIDE EXHAUST HOOD, HOOD TO BE CONSTRUCTED AS INDICATED ON EXHAUST HOOD DETAIL SHOWN ON THIS SHEET. HOOD TO BE CENTERED OVERTOP TRACK FLAME CUTTING MACHINE. PROVIDE ALL REQUIRES SUPPLEMENTAL STEEL AND SUPPORT RODS NEEDED TO HANG HOOD FROM OVERHEAD STRUCTURE, BOTTOM OF HOOD TO BE INSTALLED 7'-0" A.F.F..
- 8 PROVIDE A 5 FOOT SOURCE CAPTURE FUME COLLECTION ARM WITH MOUNTING BRACKET, HENLIX MODEL V6AS22NCCV10-WB, PROVIDE ALL REQUIRED SUPPLEMENTAL STEEL NEEDED TO MOUNT BOTTOM OF WALL BRACKET 7'-2" A.F.F., (TYP. FOR 20).
- 9 REINSTALL SALVAGED 5 FOOT SOURCE CAPTURE FUME COLLECTION ARM WITH MOUNTING BRACKET, PROVIDE ALL REQUIRED SUPPLEMENTAL STEEL NEEDED TO MOUNT BOTTOM OF WALL BRACKET 7'-2" A.F.F., (TYP. FOR 6).
- 10 INSTALL LOUVER AND ASSOCIATED DUCTWORK UP IN BETWEEN BAR JOIST AND TIGHT TO UNDERSIDE OF BOND BEAM.
- 11 DUCT SUPPORT BY OTHERS, H.C. TO PROVIDE A FULL PERIMETER 10 GA. STAINLESS STEEL STRAP AROUND ROUND EXHAUST DUCTWORK AT EACH DUCT SUPPORT. PERIMETER STRAP MUST NOT PENETRATE INSULATION JACKET AND IT MUST BE PERMANENTLY SECURED TO MOUNTING POST.
- 12 DUCT SUPPORT BY OTHERS, H.C. TO PROVIDE A FULL PERIMETER UNSTRUT FRAME AROUND ALL SIDES OF RECTANGULAR DUCTWORK AT EACH DUCT SUPPORT. PERIMETER FRAME MUST NOT PENETRATE INSULATION JACKET AND IT MUST BE PERMANENTLY SECURED TO DUCT SUPPORT.
- 13 INSTALL BOTTOM OF ELECTRIC CABINET HEATER 8" A.F.F..
- 14 INSTALL TOP OF DUCT TIGHT TO UNDERSIDE OF BOND BEAM.
- 15 DROP DUCT ELEVATION AS REQUIRED TO ALIGN WITH WELDING SMOKE COLLECTOR INLET CONNECTION.
- 16 INSTALL BOTTOM OF SUPPLY DUCTWORK 12'-8" A.F.F..
- 17 INSTALL CENTERLINE OF EXHAUST DUCTWORK MAIN AND ASSOCIATED BRANCH DUCTWORK 11'-3" A.F.F., UNLESS OTHERWISE INDICATED.
- 18 INSTALL CENTERLINE OF SUPPLY DUCTWORK MAIN AND ASSOCIATED BRANCH DUCTWORK 17'-8" A.F.F..
- 19 INSTALL CENTERLINE OF SUPPLY DUCTWORK MAIN AND ASSOCIATED BRANCH DUCTWORK 14'-6" A.F.F..
- 20 INSTALL TOP OF EXHAUST GRILLE 8" BELOW ROOF DECK.
- 21 PROVIDE A CONCENTRIC VENT KIT WITH VERTICAL VENT TERMINAL/COMBUSTION AIR INLET ASSEMBLY, PROVIDE 4" COMBUSTION AIR INTAKE DUCT AND 4" EXHAUST VENT DUCT FROM UNIT HEATER TO CONCENTRIC ADAPTER BOX.



NOTE: H.C. TO DEGREASE, PRIME AND PAINT WITH 2 COATED OF ENAMEL PAINT, ARCHITECT TO MAKE FINAL COLOR SELECTION.

EXHAUST HOOD DETAIL
 NO SCALE



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

THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL ELECTRICAL PANEL LOCATIONS (INSIDE ELECTRICAL AND OUTSIDE ELECTRICAL ROOMS) WITH PIPING AND DUCTWORK LAYOUTS PRIOR TO PIPING AND DUCTWORK INSTALLATION. THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL N.E.C. (NATIONAL ELECTRIC CODE) CLEARANCES BEFORE INSTALLING ANY PIPING AND DUCTWORK. THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS RESULTING TO REMOVING (REMOVING AND REINSTALLING) PIPING AND DUCTWORK INSTALLED IN CONFLICT WITH ELECTRICAL PANELS/EQUIPMENT CLEARANCES.

DRAWING NOTES:

- REFER TO DRAWING H-501 FOR HVAC GENERAL PROJECT NOTES.
- PROVIDE REQUIRED SERVICE CLEARANCE FOR ALL HVAC UNITS AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF HVAC CEILING OUTLETS AND OTHER CEILING MOUNTED DEVICES. ANY CEILING REMOVAL REQUIRED FOR WORK TO BE COMPLETED UNDER THIS CONTRACT, THAT IS NOT INDICATED ON THE ARCHITECTURAL PLANS, SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. CEILINGS REMOVED BY THIS CONTRACTOR SHALL BE REPLACE AND/OR REPAIRED BY HIM, AS PER SPECIFICATIONS.

KEYED DRAWING NOTES:

- ◇ PROVIDE 4" WIDE X 4'-0" LONG X 18" HIGH EQUIPMENT RAILS, PATE MODEL ES-2, (TYP FOR 2).
- ◇ CONCENTRIC VENT KIT FROM GUH-1 BELOW, TERMINATE CONCENTRIC VENT SO BOTTOM OF COMBUSTION AIR INTAKE IS A MINIMUM OF 3'-0" ABOVE FINISHED ROOF.
- ◇ INTERLOCK EF-5 TO OPEN MOTOR OPERATED DAMPER ON L-3 OUTSIDE AIR INTAKE LOUVER WHEN FAN ENERGIZES, DAMPER SHALL FULLY CLOSE WHEN FAN DE-ENERGIZES.
- ◇ INTERLOCK EF-6 WITH TRACK FLAME CUTTING MACHINE. EXHAUST FAN SHALL ENERGIZE WHEN MACHINE IS TURNED ON, EXHAUST FAN SHALL BE DE-ENERGIZED WHEN MACHINE IS TURNED OFF.

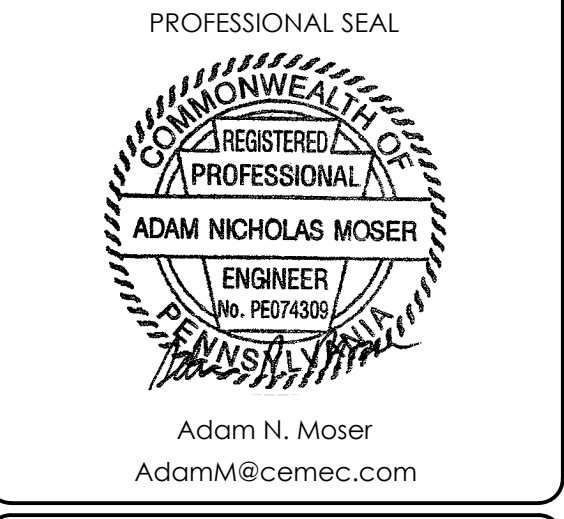


ARCHITECTURAL DESIGN
INTERIOR DESIGN
CODE ANALYSIS
PLANNING SERVICES
REPORTS AND STUDIES
ENGINEERING SERVICES
HISTORIC PRESERVATION

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

PROJECT #:
4525A

CONSULTANT
CONSOLIDATED ENGINEERS
1029 James Drive
Leesport, PA 19658
Tel 610-916-1800 Fax 610-916-1610
www.consolidatedengineers.com



READING MUHLENBERG CAREER & TECHNOLOGY CENTER
contact: ERIC KAHLER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahler@rmctc.org

READING MUHLENBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID
DATE: 5/17/2022

REV ID	DESCRIPTION	DATE

PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: RLC
CLIENT PROJ #: -

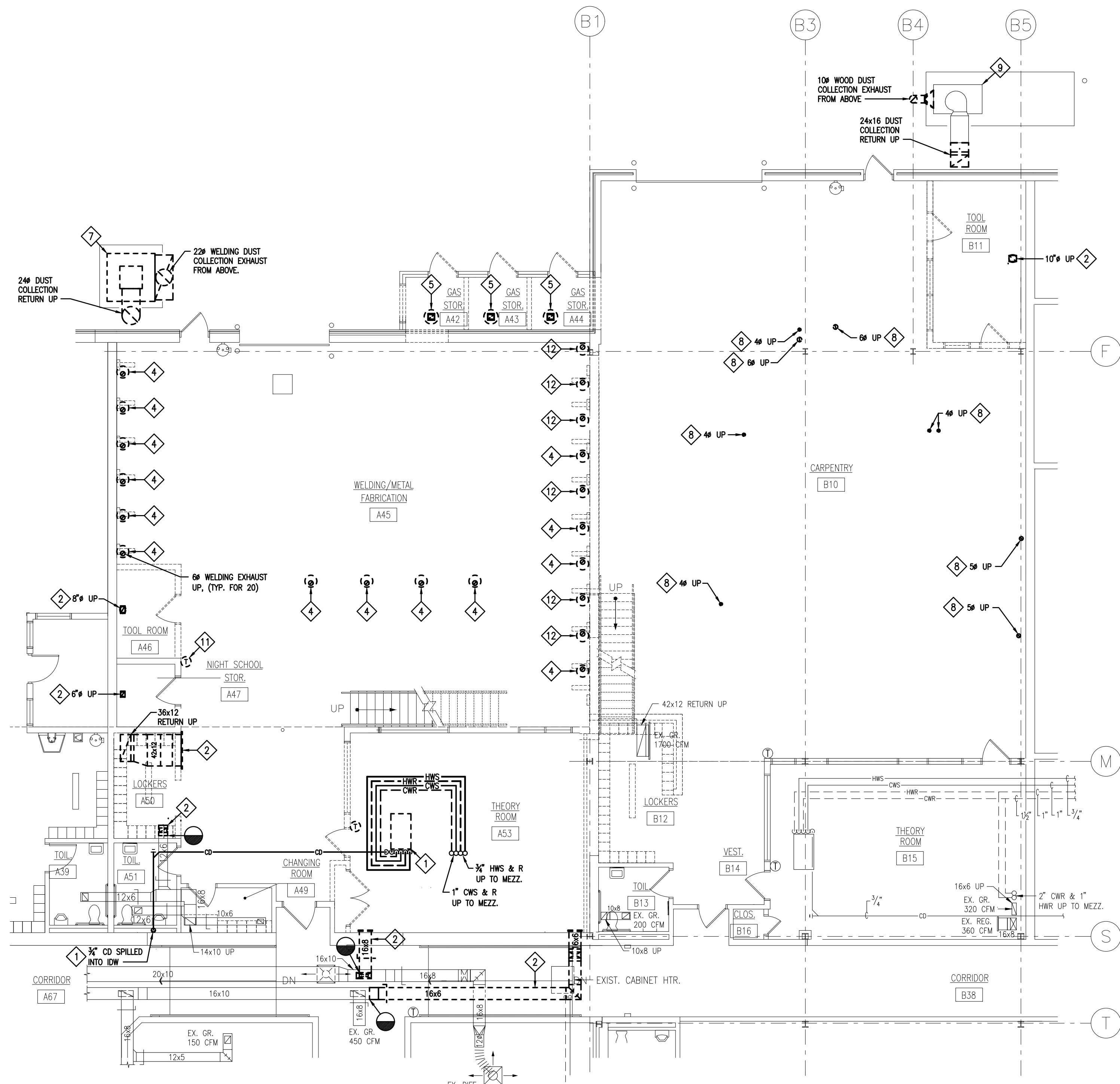
VERIFY SCALE
0 1
BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING

COPYRIGHT © 2022. ALL RIGHTS RESERVED. NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRODUCED, COPIED OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUHLENBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGNS AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER, NOR ARE THEY TO BE ADDED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MUHLENBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUHLENBERG GREENE ARCHITECTS, LTD.

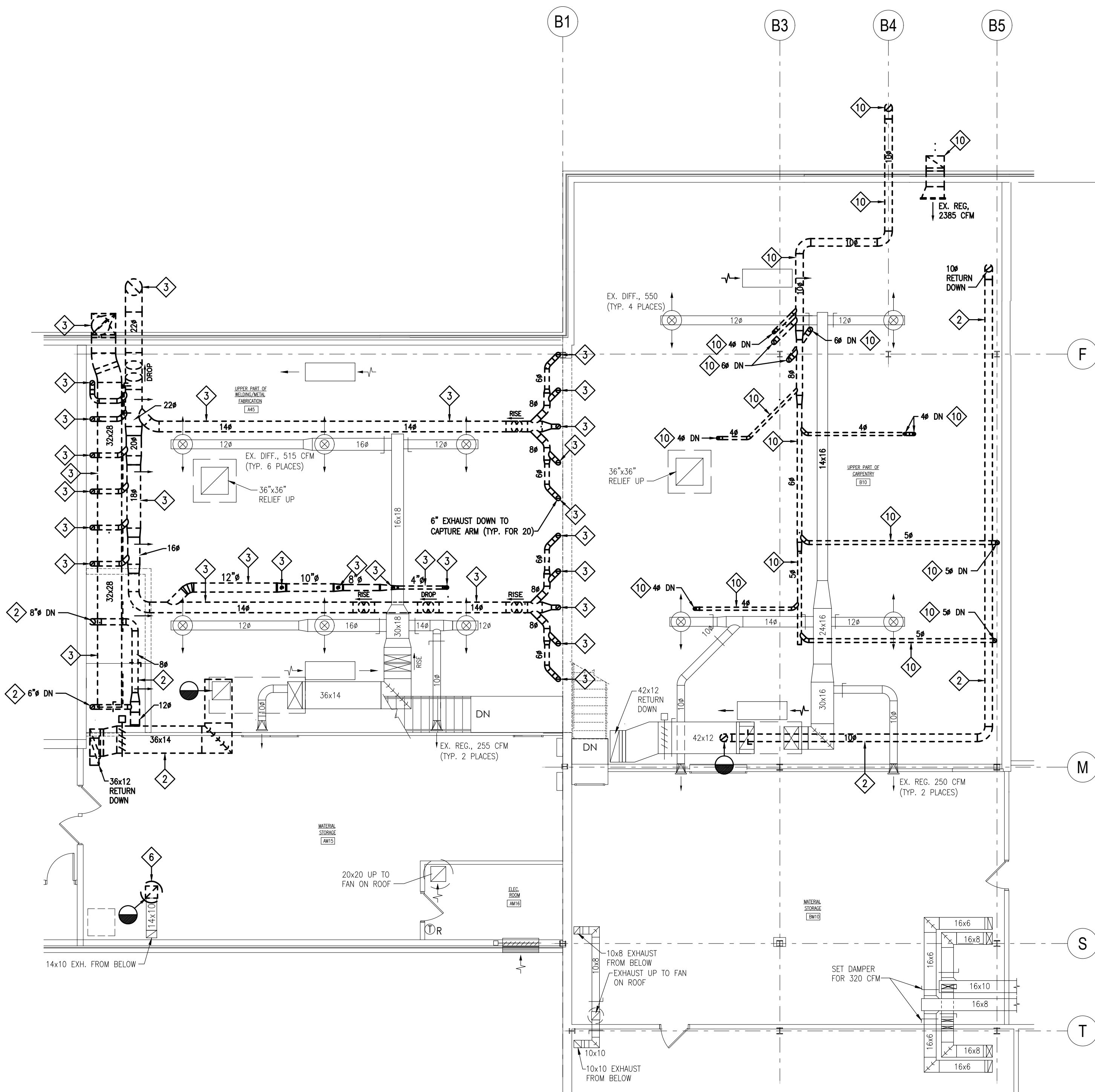
WELDING BUILDING
SHEET TITLE:

**ROOF PLAN
HVAC**

H-102



FLOOR PLAN - HVAC DEMOLITION
SCALE: 1/8" = 1'-0"



MEZZANINE PLAN - HVAC DEMOLITION
SCALE: 1/8" = 1'-0"

DRAWING NOTES:

- REFER TO DRAWING H-501 FOR HVAC GENERAL PROJECT NOTES.
- PROVIDE REQUIRED SERVICE CLEARANCE FOR ALL HVAC UNITS AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF HVAC CEILING OUTLETS AND OTHER CEILING MOUNTED DEVICES. ANY CEILING REMOVAL REQUIRED FOR WORK TO BE COMPLETED UNDER THIS CONTRACT, THAT IS NOT INDICATED ON THE ARCHITECTURAL PLANS, SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. CEILINGS REMOVED BY THIS CONTRACTOR SHALL BE REPLACE AND/OR REPAIRED BY HIM, AS PER SPECIFICATIONS.

KEYED DRAWING NOTES:

- ◇ REMOVE EXISTING FAN COIL AND ALL ASSOCIATED DUCTWORK, PIPING, VALVES, INSULATION, HANGERS, SUPPORTS AND CONTROLS IN THEIR ENTIRETY. EXISTING CHILLED WATER AND HEATING SYSTEM PIPING TO BE REMOVED BACK TO MAINS LOCATED IN MEZZANINE AND CAPPED. REMOVE CONDENSATE DRAIN PIPING BACK TO INDIRECT WASTE RECEPTOR LOCATED IN TOILET ROOM A51 IN ITS ENTIRETY.
- ◇ REMOVE DUCTWORK AND ALL ASSOCIATED GRILLES, REGISTERS, DIFFUSERS, INSULATION, HANGERS AND SUPPORTS IN THEIR ENTIRETY, BACK TO POINT(S) INDICATED AND CAP.
- ◇ REMOVE EXISTING FUME EXHAUST DUCTWORK AND ALL ASSOCIATED INSULATION, HANGERS AND SUPPORTS IN THEIR ENTIRETY.
- ◇ REMOVE EXISTING WELDING SMOKE EXHAUST DUCTWORK AND ASSOCIATED SOURCE CAPTURE FUME COLLECTION ARM, HANGERS AND SUPPORTS IN THEIR ENTIRETY.
- ◇ REMOVE EXISTING ROOF TOP MOUNTED EXHAUST FAN. EXISTING ROOF CURB SHALL REMAIN. CAP REMAINING ROOF CURB WITH 2 LAYERS OF 3/4" EXTERIOR GRADE PLYWOOD, AND COVER WITH WATER TIGHT 18 GA. GALVANIZED SHEET METAL CAP THAT EXTENDS 4" OVER EXISTING ROOF CURB. TERMINATE SHEET METAL CAP WITH A 1/4" TURNED OUT DRIP EDGE ON ALL SIDES AND SECURE IN PLACE. PROVIDE 2" RIGID POLY-ISO RIGID INSULATION IN THROAT OF ROOF CURB.
- ◇ REMOVE EXISTING ROOF TOP MOUNTED EXHAUST FAN. EXISTING ROOF CURB SHALL REMAIN FOR REUSE.
- ◇ REMOVE EXISTING WELDING SMOKE EXHAUST COLLECTOR ASSEMBLY AND ALL ASSOCIATED DUCTWORK, HANGERS, SUPPORTS, CONTROLS IN THEIR ENTIRETY. EXISTING CONCRETE EQUIPMENT PAD TO BE REMOVED BY OTHERS.
- ◇ REMOVE EXISTING WOOD DUST EXHAUST DUCTWORK AND ALL ASSOCIATED BUST GATE, RIGID AND/OR FLEXIBLE DUCT EQUIPMENT CONNECTION, HANGERS AND SUPPORTS IN THEIR ENTIRETY.

GENERAL DEMOLITION NOTES:

- THE HVAC CONTRACTOR SHALL COORDINATE THE SALVAGE AND DISPOSAL OF ALL EQUIPMENT AND MATERIAL WITH THE OWNER. THE HVAC CONTRACTOR SHALL RETURN TO THE OWNER ANY ITEMS NOTED OR NOT NOTED, ON THE DRAWINGS, AT THE OWNERS REQUEST. ALL REMAINING EQUIPMENT AND MATERIAL SHALL BE DISPOSED OF BY THE HVAC CONTRACTOR.
- THE HVAC CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL WORK IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS AS REQUIRED TO ACCOMMODATE PROJECT PHASING.
- REFER TO PROJECT PHASING DRAWING(S) AND SCHEDULE. PROVIDE ALL LABOR AND MATERIAL NECESSARY TO ACCOMMODATE PROJECT PHASING.
- ALL PATCHING & REPAIRING OF SURFACES AND HOLES LEFT OPEN DUE TO DEMOLITION OR REMOVAL OF EXISTING PIPING & EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE HVAC CONTRACTOR. PATCH EXISTING CONSTRUCTION AS REQUIRED TO MATCH ADJACENT SURFACES OR TO RECEIVE NEW FINISHES AS SCHEDULED UNLESS OTHERWISE INDICATED ON THE ARCHITECTURAL DRAWING.
- THE HVAC CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, PATCHING, EXCAVATION AND BACKFILLING REQUIRED TO COMPLETE ALL INDICATED WORK.
- ALL EXISTING PIPING AND EQUIPMENT MUST BE VERIFIED IN THE FIELD. ANY HVAC EQUIPMENT NOT SHOWN SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO REMOVAL.
- ALL SALVAGED EQUIPMENT MUST BE STORED BY THE CONTRACTOR IN A WEATHER TIGHT AND HEATED ENCLOSURE. CAP ALL FITTINGS AND OR EQUIPMENT OPENINGS TO PREVENT DEBRIS FROM ENTERING THE DEVICE WHILE IN STORAGE.
- HVAC CONTRACTOR MUST COORDINATE ROOF MOUNTED EQUIPMENT REMOVAL WITH ROOFING CONTRACTOR. IF HVAC CONTRACTOR CHOOSES TO REMOVE ROOF MOUNTED EQUIPMENT PRIOR TO ROOFING CONTRACTOR BEING READY TO PATCH ROOF, HVAC CONTRACTOR MUST TEMPORARILY COVER REMAINING ROOF CURB WEATHER TIGHT.
- PRIOR TO REMOVAL OF ANY EXISTING HVAC EQUIPMENT THAT CONTAINS REFRIGERANT THE HVAC CONTRACTOR SHALL REMOVE AND RECOVER THE ENTIRE CONTENT OF THE REFRIGERANT AND ALL ASSOCIATED OIL IN THE EXISTING EQUIPMENT. ALL REFRIGERANT/OIL RECOVERY EQUIPMENT IS REQUIRED TO BE CERTIFIED BY AN EPA-APPROVED TESTING ORGANIZATION TO ASSURE THAT THE EQUIPMENT MEETS EPA STANDARDS BASED ON THE TESTING METHOD ESTABLISHED BY ARIH STANDARD 740. REMOVAL OF ALL CFC AND HCFC REFRIGERANTS MUST CONFORM TO THE REQUIREMENTS OF THE ENVIRONMENTAL PROTECTION AGENCY. ALL WORK IS TO BE PERFORMED BY AN EPA CERTIFIED TECHNICIAN.
- IN AREAS WHERE THE EXISTING HVAC SYSTEM WILL REMAIN AND THE SPACE IS SCHEDULED TO RECEIVE NEW ACOUSTICAL CEILINGS AS INDICATED ON THE ARCHITECTURAL DRAWINGS, THE HVAC CONTRACTOR WILL BE RESPONSIBLE TO TEMPORARILY REMOVE, THOROUGHLY CLEAN AND STORE ALL EXISTING CEILING MOUNTED GRILLES, REGISTERS AND DIFFUSERS. ONCE THE CEILING REPLACEMENT IS COMPLETE, THE HVAC CONTRACTOR SHALL REINSTALL AND RECONNECT ALL EXISTING TEMPORARILY REMOVED HVAC CEILING MOUNTED GRILLES, REGISTERS AND DIFFUSERS.
- HVAC CONTRACTOR WILL BE RESPONSIBLE TO REMOVE AND REPLACE ALL EXISTING CEILING SYSTEMS THAT ARE NOT NOTED TO BE REMOVED BY THE G.C. ON THE ARCHITECTURAL DRAWINGS, IN ALL AREAS WHERE REQUIRED HVAC WORK IS INDICATED.

THE DEMOLITION WORK INDICATED IS INTENDED TO ASSIST THE CONTRACTOR AND GIVE GENERAL INFORMATION. THE CONTRACTOR SHALL BE REQUIRED TO VISIT THE PROJECT SITE PRIOR TO BEGING TO FULLY ACQUANT HIMSELF WITH THE EXTENT OF ALL DEMOLITION WORK WHICH IS NECESSARY TO COMPLETE THE ALTERATIONS AND NEW CONSTRUCTION AS DESCRIBED IN THE CONTRACT DOCUMENTS. ALL DEMOLITION WORK REQUIRED SHALL BE INCLUDED IN THE CONTRACT PRICE WHETHER INDICATED ON THE DRAWING OR NOT. THE CONTRACTOR WILL NOT BE ENTITLED TO ANY CLAIMS FOR ADDITIONAL COMPENSATION RELATED TO REQUIRED DEMOLITION.

MG ARCHITECTS ESTABLISHED 1920
ARCHITECTURAL DESIGN
INTERIOR DESIGN
CODE ANALYSIS
PLANNING SERVICES
REPORTS AND STUDIES
ENGINEERING SERVICES
HISTORIC PRESERVATION
955 BERKSHIRE BLVD., SUITE 101
WYOMISSING, PA 19610
610.376.4927
www.MG-Architects.com

PROJECT #:
4525A
CONSULTANT
CONSOLIDATED ENGINEERS
1029 James Drive
Leesport, PA 19658
Tel 610-916-1800 Fax 610-916-1610
www.consolidatedengineers.com

PROFESSIONAL SEAL
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
ADAM NICHOLAS MOSER
No. PE04350
Adam N. Moser
AdamM@cemec.com

READING MUHLENBERG CAREER & TECHNOLOGY CENTER
contact: ERIC KAHLER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahler@rmctc.org

READING MUHLENBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID
DATE: 5/17/2022

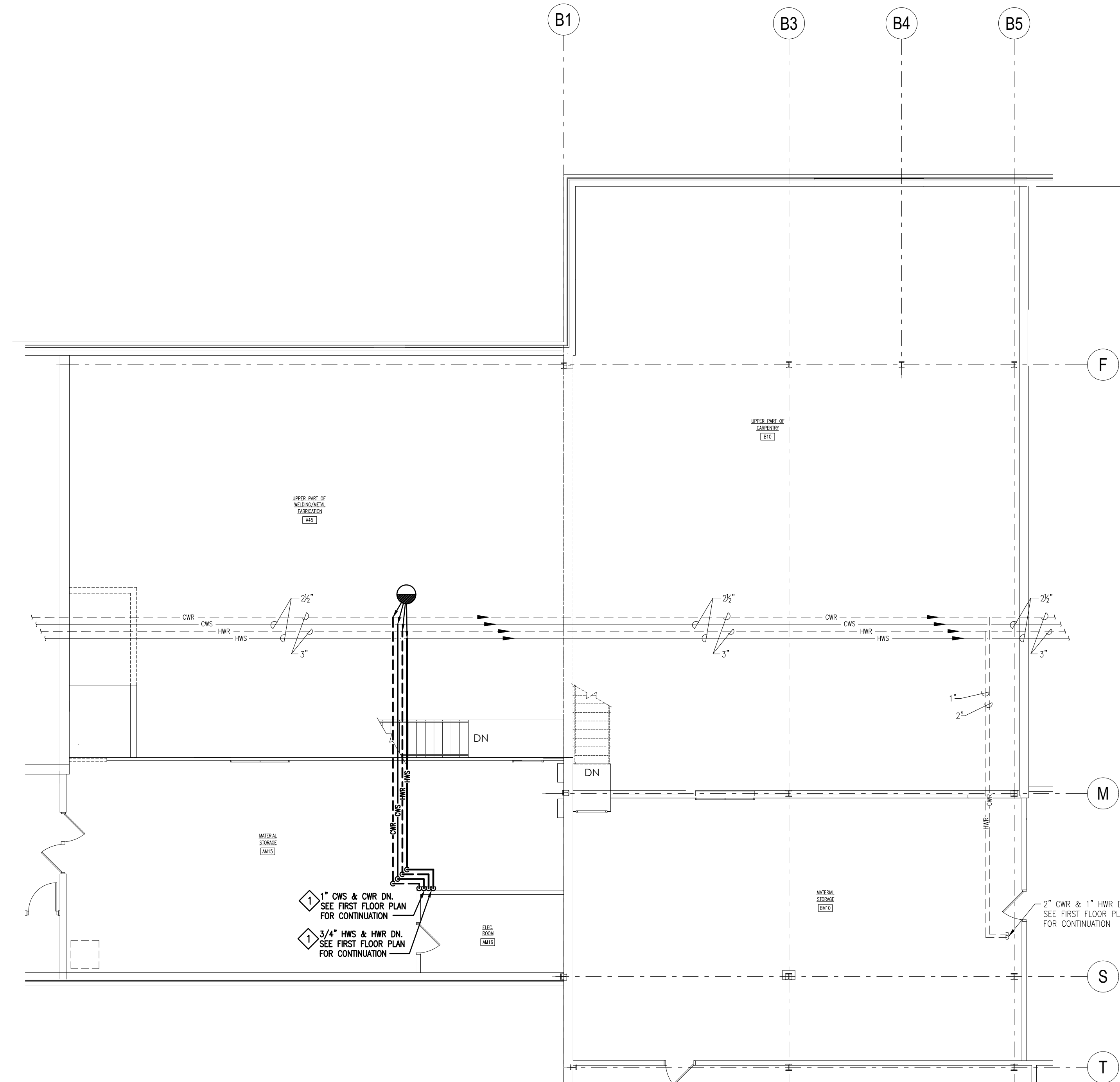
REV. ID.	DESCRIPTION	DATE

PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: RLC
CLIENT PROJ #:

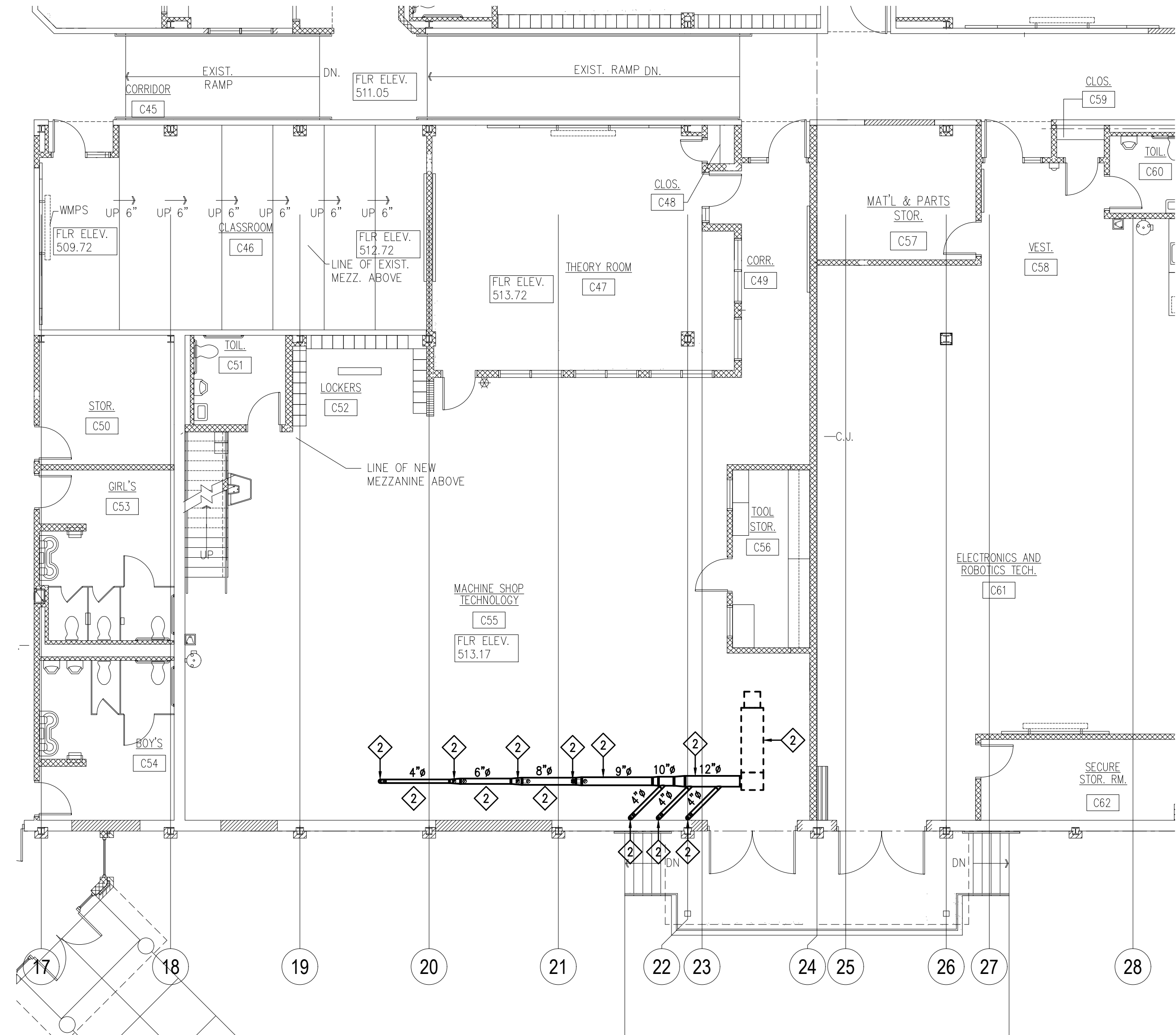
VERIFY SCALE
0 1
BAR & ONE (1) INCH LONG ON ORIGINAL DRAWING

3D FABRICATION
SHEET TITLE:
FLOOR AND MEZZANINE PLANS HVAC DEMOLITION

H-103



MEZZANINE PLAN - HVAC PIPING DEMOLITION
SCALE: 1/8" = 1'-0"



FLOOR PLAN - HVAC DEMOLITION
SCALE: 1/8" = 1'-0"

DRAWING NOTES:

- REFER TO DRAWING H-501 FOR HVAC GENERAL PROJECT NOTES.
- PROVIDE REQUIRED SERVICE CLEARANCE FOR ALL HVAC UNITS AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF HVAC CEILING OUTLETS AND OTHER CEILING MOUNTED DEVICES. ANY CEILING REMOVAL REQUIRED FOR WORK TO BE COMPLETED UNDER THIS CONTRACT, THAT IS NOT INDICATED ON THE ARCHITECTURAL PLANS, SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. CEILINGS REMOVED BY THIS CONTRACTOR SHALL BE REPLACE AND/OR REPAIRED BY HIM, AS PER SPECIFICATIONS.

KEYED DRAWING NOTES:

- ◊ REMOVE EXISTING FAN COIL AND ALL ASSOCIATED DUCTWORK, PIPING, VALVES, INSULATION, HANGERS, SUPPORTS AND CONTROLS IN THEIR ENTIRETY. EXISTING CHILLED WATER AND HEATING SYSTEM PIPING TO BE REMOVED BACK TO MAINS LOCATED IN MEZZANINE AND CAPPED. REMOVE CONDENSATE DRAIN PIPING BACK TO INDIRECT WASTE RECEPTOR LOCATED IN TOILET ROOM A51 IN ITS ENTIRETY.
- ◊ CAREFULLY REMOVE EXISTING DUST COLLECTOR AND ALL ASSOCIATED DUCTWORK, FITTINGS, BLAST GATES, EQUIPMENT HOSES, HANGERS, SUPPORTS, WALL/FLOOR BRACKETS AND CONTROLS IN THEIR ENTIRETY. SALVAGE DUST COLLECTOR AND ALL ASSOCIATED DUCTWORK AND OTHER SYSTEM COMPONENTS FOR REUSE.

GENERAL DEMOLITION NOTES:

- THE HVAC CONTRACTOR SHALL COORDINATE THE SALVAGE AND DISPOSAL OF ALL EQUIPMENT AND MATERIAL WITH THE OWNER. THE HVAC CONTRACTOR SHALL RETURN TO THE OWNER ANY ITEMS NOTED OR NOT NOTED, ON THE DRAWINGS, AT THE OWNERS REQUEST. ALL REMAINING EQUIPMENT AND MATERIAL SHALL BE DISPOSED OF BY THE HVAC CONTRACTOR.
- THE HVAC CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL WORK IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS AS REQUIRED TO ACCOMMODATE PROJECT PHASING.
- REFER TO PROJECT PHASING DRAWING(S) AND SCHEDULE. PROVIDE ALL LABOR AND MATERIAL NECESSARY TO ACCOMMODATE PROJECT PHASING.
- ALL PATCHING & REPAIRING OF SURFACES AND HOLES LEFT OPEN DUE TO DEMOLITION OR REMOVAL OF EXISTING PIPING & EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE HVAC CONTRACTOR. PATCH EXISTING CONSTRUCTION AS REQUIRED TO MATCH ADJACENT SURFACES OR TO RECEIVE NEW FINISHES AS SCHEDULED UNLESS OTHERWISE INDICATED ON THE ARCHITECTURAL DRAWING.
- THE HVAC CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, PATCHING, EXCAVATION AND BACKFILLING REQUIRED TO COMPLETE ALL INDICATED WORK.
- ALL EXISTING PIPING AND EQUIPMENT SHOWN MUST BE VERIFIED IN THE FIELD. ANY HVAC EQUIPMENT NOT SHOWN SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO REMOVAL.
- ALL SALVAGED EQUIPMENT MUST BE STORED BY THE CONTRACTOR IN A WEATHER TIGHT AND HEATED ENCLOSURE. CAP ALL FITTINGS AND OF EQUIPMENT OPENINGS TO PREVENT DEBRIS FROM ENTERING THE DEVICE WHILE IN STORAGE.
- HVAC CONTRACTOR MUST COORDINATE ROOF MOUNTED EQUIPMENT REMOVAL WITH ROOFING CONTRACTOR. IF HVAC CONTRACTOR CHOOSES TO REMOVE ROOF MOUNTED EQUIPMENT PRIOR TO ROOFING CONTRACTOR BEING READY TO PATCH ROOF, HVAC CONTRACTOR MUST TEMPORARILY COVER REMAINING ROOF CURB WEATHER TIGHT.
- PRIOR TO REMOVAL OF ANY EXISTING HVAC EQUIPMENT THAT CONTAINS REFRIGERANT THE HVAC CONTRACTOR SHALL REMOVE AND RECOVER THE ENTIRE CONTENT OF THE REFRIGERANT AND ALL ASSOCIATED OIL IN THE EXISTING EQUIPMENT. ALL REFRIGERANT/OIL RECOVERY EQUIPMENT IS REQUIRED TO BE CERTIFIED BY AN EPA-APPROVED TESTING ORGANIZATION TO ASSURE THAT THE EQUIPMENT MEETS EPA STANDARDS BASED ON THE TESTING METHOD ESTABLISHED BY AHRI STANDARD 740. REMOVAL OF ALL CFC AND HCFC REFRIGERANTS MUST CONFORM TO THE REQUIREMENTS OF THE ENVIRONMENTAL PROTECTION AGENCY. ALL WORK IS TO BE PERFORMED BY AN EPA CERTIFIED TECHNICIAN.
- IN AREAS WHERE THE EXISTING HVAC SYSTEM WILL REMAIN AND THE SPACE IS SCHEDULED TO RECEIVE NEW ACOUSTICAL CEILINGS AS INDICATED ON THE ARCHITECTURAL DRAWINGS, THE HVAC CONTRACTOR WILL BE RESPONSIBLE TO TEMPORARILY REMOVE, THOROUGHLY CLEAN AND STORE ALL EXISTING CEILING MOUNTED GRILLES, REGISTERS AND DIFFUSERS. ONCE THE CEILING REPLACEMENT IS COMPLETE, THE HVAC CONTRACTOR SHALL REINSTALL AND RECONNECT ALL EXISTING TEMPORARILY REMOVED HVAC CEILING MOUNTED GRILLES, REGISTERS AND DIFFUSERS.
- HVAC CONTRACTOR WILL BE RESPONSIBLE TO REMOVE AND REPLACE ALL EXISTING CEILING SYSTEMS THAT ARE NOT NOTED TO BE REMOVED BY THE G.C. ON THE ARCHITECTURAL DRAWINGS, IN ALL AREAS WHERE REQUIRED HVAC WORK IS INDICATED.

THE DEMOLITION WORK INDICATED IS INTENDED TO ASSIST THE CONTRACTOR AND GIVE GENERAL INFORMATION. THE CONTRACTOR SHALL BE REQUIRED TO VISIT THE PROJECT SITE PRIOR TO BIDDING TO FULLY ACQUAINT HIMSELF WITH THE EXTENT OF ALL DEMOLITION WORK WHICH IS NECESSARY TO COMPLETE THE ALTERATIONS AND NEW CONSTRUCTION AS DESCRIBED IN THE CONTRACT DOCUMENTS. ALL DEMOLITION WORK REQUIRED SHALL BE INCLUDED IN THE CONTRACT PRICE WHETHER INDICATED ON THE DRAWING OR NOT. THE CONTRACTOR WILL NOT BE ENTITLED TO ANY CLAIMS FOR ADDITIONAL COMPENSATION RELATED TO REQUIRED DEMOLITION.

MG ARCHITECTS ESTABLISHED 1920
ARCHITECTURAL DESIGN
INTERIOR DESIGN
CODE ANALYSIS
PLANNING SERVICES
REPORTS AND STUDIES
ENGINEERING SERVICES
HISTORIC PRESERVATION
955 BERKSHIRE BLVD., SUITE 101
WYOMISSING, PA 19610
610.376.4927
www.MG-Architects.com

PROJECT #:
4525A
CONSULTANT
CONSOLIDATED ENGINEERS
1029 James Drive
Leesport, PA 19658
Tel 610-916-1800 Fax 610-916-1610
www.consolidatedengineers.com

PROFESSIONAL SEAL
REGISTERED PROFESSIONAL ENGINEER
ADAM NICHOLAS MOSER
No. PE045050
Adam N. Moser
AdamM@cemec.com

READING MUHLENBERG CAREER & TECHNOLOGY CENTER
contact: ERIC KAHLER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahler@rmctc.org

READING MUHLENBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

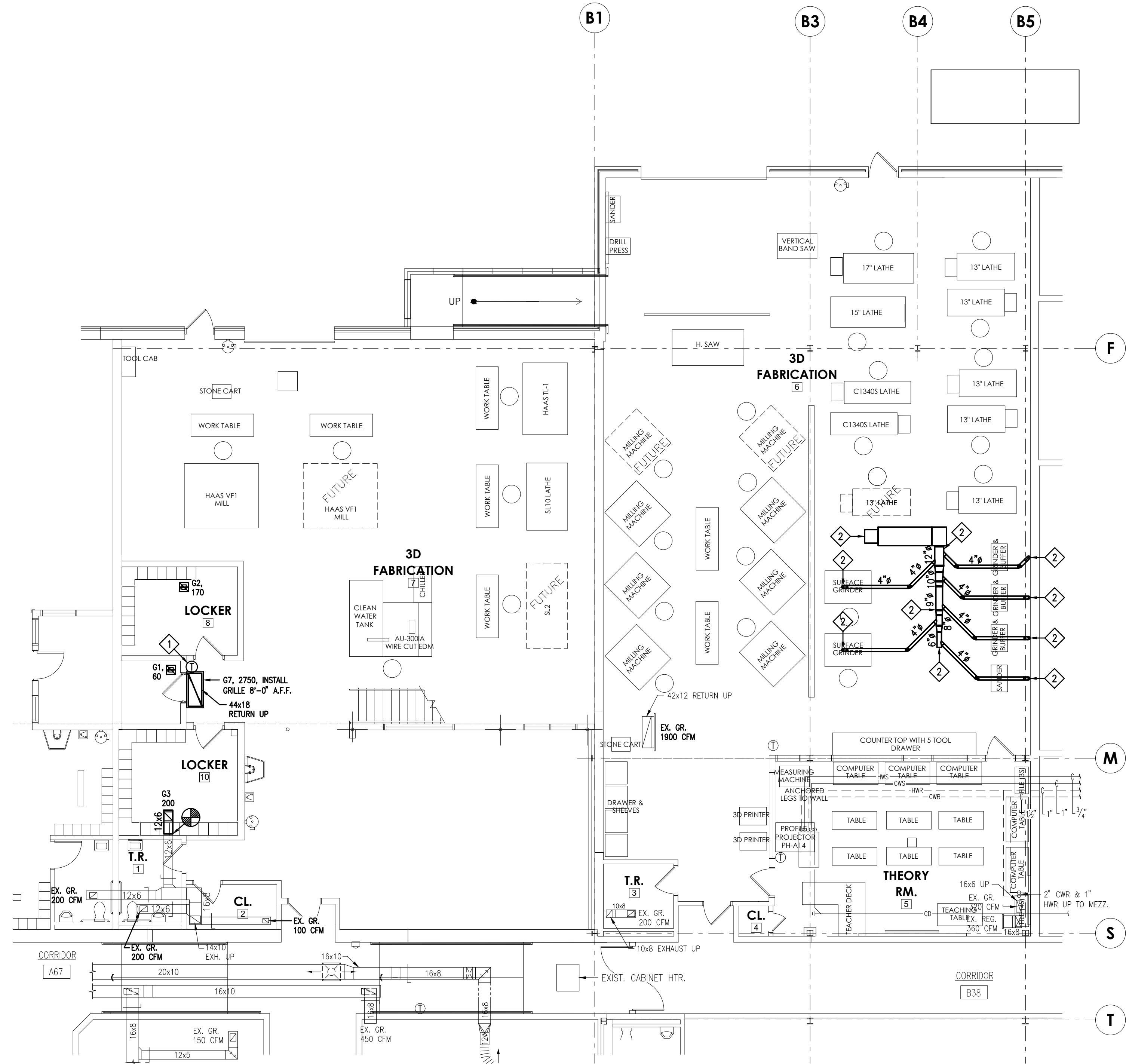
ISSUED FOR BID
DATE: 5/17/2022

REV. NO.	DESCRIPTION	DATE

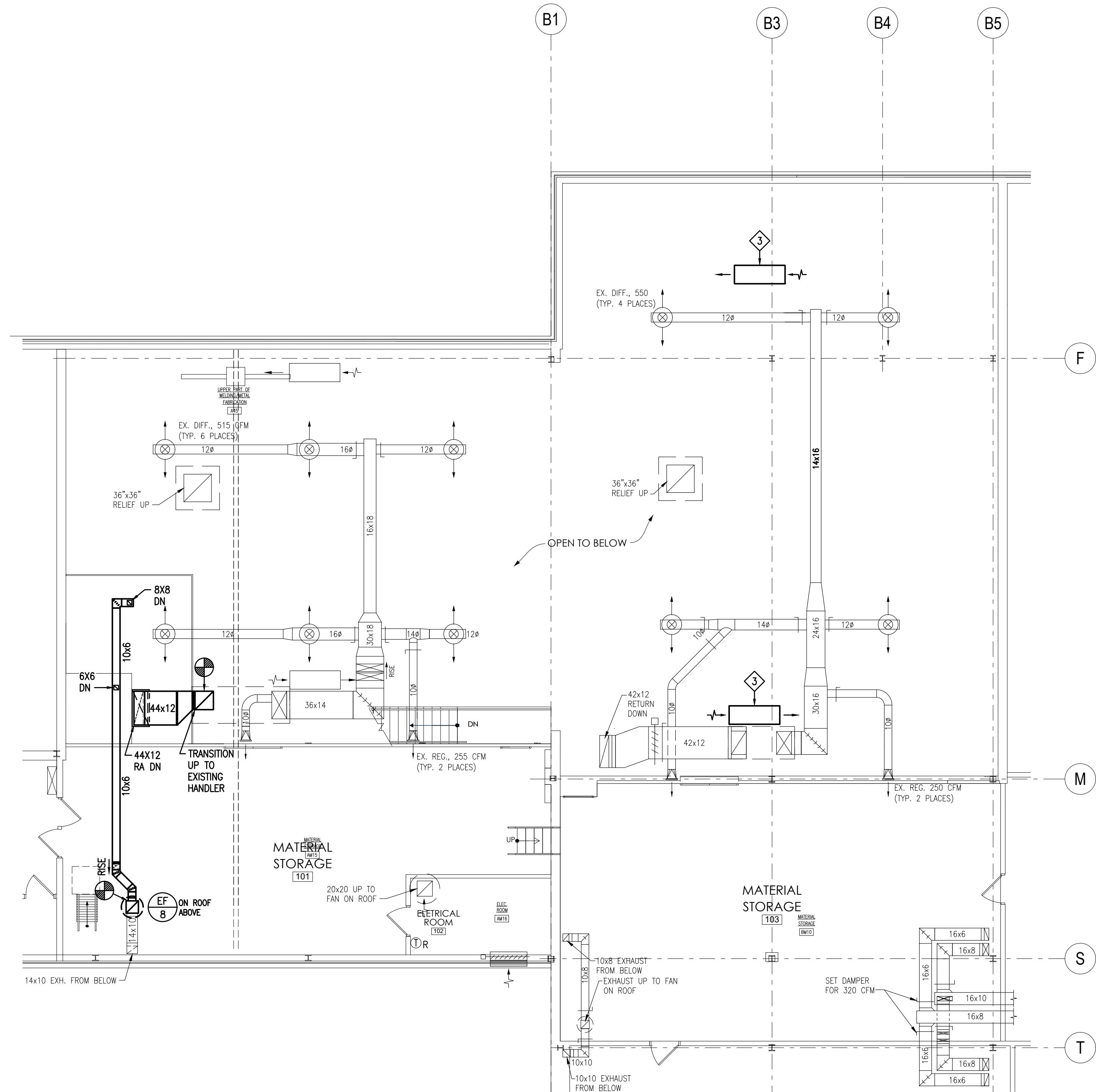
PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: RLC
CLIENT PROJ # : -
0 1 VERIFY SCALE
BAR & ONE (1) INCH LONG ON ORIGINAL DRAWING

3D FABRICATION
SHEET TITLE:
FLOOR AND MEZZANINE PLANS HVAC DEMOLITION

H-104



FLOOR PLAN - HVAC
SCALE: 1/8" = 1'-0"



MEZZANINE PLAN - HVAC
SCALE: 1/8" = 1'-0"

THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL ELECTRICAL PANEL LOCATIONS (INSIDE ELECTRICAL AND OUTSIDE ELECTRICAL ROOMS) WITH PIPING AND DUCTWORK LAYOUTS PRIOR TO PIPING AND DUCTWORK INSTALLATION. THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL N.E.C. (NATIONAL ELECTRIC CODE) CLEARANCES BEFORE INSTALLING ANY PIPING AND DUCTWORK. THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS RESULTING TO REWORKING (REMOVING AND REINSTALLING) PIPING AND DUCTWORK INSTALLED IN CONFLICT WITH ELECTRICAL PANELS/EQUIPMENT CLEARANCES.

DRAWING NOTES:

- REFER TO DRAWING H-501 FOR HVAC GENERAL PROJECT NOTES.
- PROVIDE REQUIRED SERVICE CLEARANCE FOR ALL HVAC UNITS AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF HVAC OUTLETS AND OTHER CEILING MOUNTED DEVICES. ANY CEILING REMOVAL REQUIRED FOR WORK TO BE COMPLETED UNDER THIS CONTRACT, THAT IS NOT INDICATED ON THE ARCHITECTURAL PLANS, SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. CEILINGS REMOVED BY THIS CONTRACTOR SHALL BE REPLACE AND/OR REPAIRED BY HIM, AS PER SPECIFICATIONS.

KEYED DRAWING NOTES:

- ◆ REINSTALL SALVAGED THERMOSTAT AND EXTEND EXISTING CONTROL WIRING AS REQUIRED TO RECONNECT.
- ◆ REINSTALL SALVAGED GALVANIZED STEEL DUCTWORK AND ASSOCIATED SYSTEM COMPONENTS FROM THE PREVIOUS INSTALLATION. PROVIDE NEW GALVANIZED STEEL DUCTWORK AS REQUIRED TO ACCOMMODATE SYSTEM LAYOUT. REINSTALL ALL SALVAGED BLAST GATES, FITTINGS, TRANSITIONS AND FLEXIBLE HOSES REQUIRED TO RECONNECT ALL BUTTERFLY/GRINDERS, SANDER AND SURFACE GRINDERS.
- ◆ REMOVE EXISTING AMBIENT AIR CLEANER (AIRFLOW SYSTEMS MODEL F120), ROTATE UNIT 180° (TO PROVIDE A CIRCULAR AIR PATTERN BETWEEN BOTH ROOMS) AND REINSTALL IN SAME LOCATION AND AT SAME HEIGHT. PROVIDE A NEW ALUMINUM MESH PRE-FILTER AND NEW 95% MAIN FILTER.

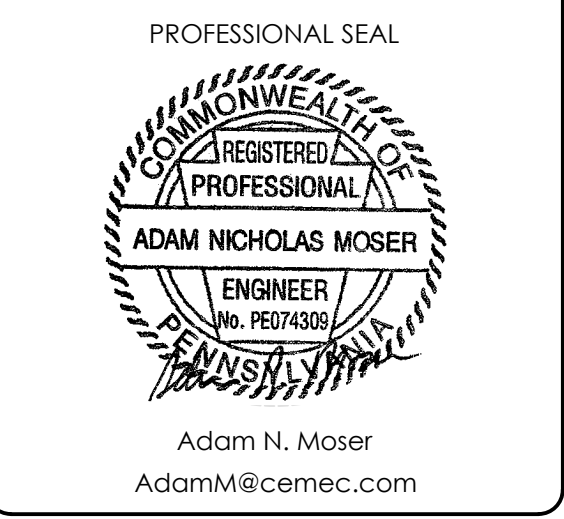


ARCHITECTURAL DESIGN
INTERIOR DESIGN
CODE ANALYSIS
PLANNING SERVICES
REPORTS AND STUDIES
ENGINEERING SERVICES
HISTORIC PRESERVATION

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

PROJECT #:
4525A

CONSULTANT
CONSOLIDATED ENGINEERS
1022 James Drive
Leesport, PA 19658
Tel 610-916-1800 Fax 610-916-1610
www.consolidatedengineers.com



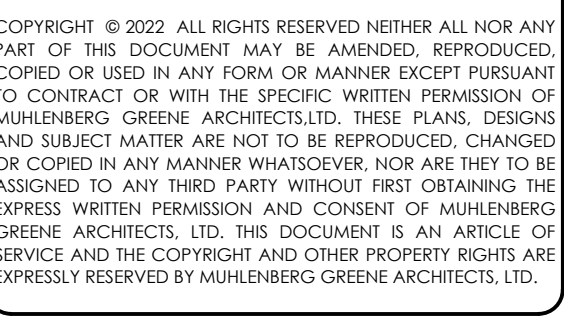
READING MUHLBERG CAREER & TECHNOLOGY CENTER
contact: ERIC KAHLER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahler@rmctc.org

READING MUHLBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID
DATE: 5/17/2022

REV. NO.	DESCRIPTION	DATE

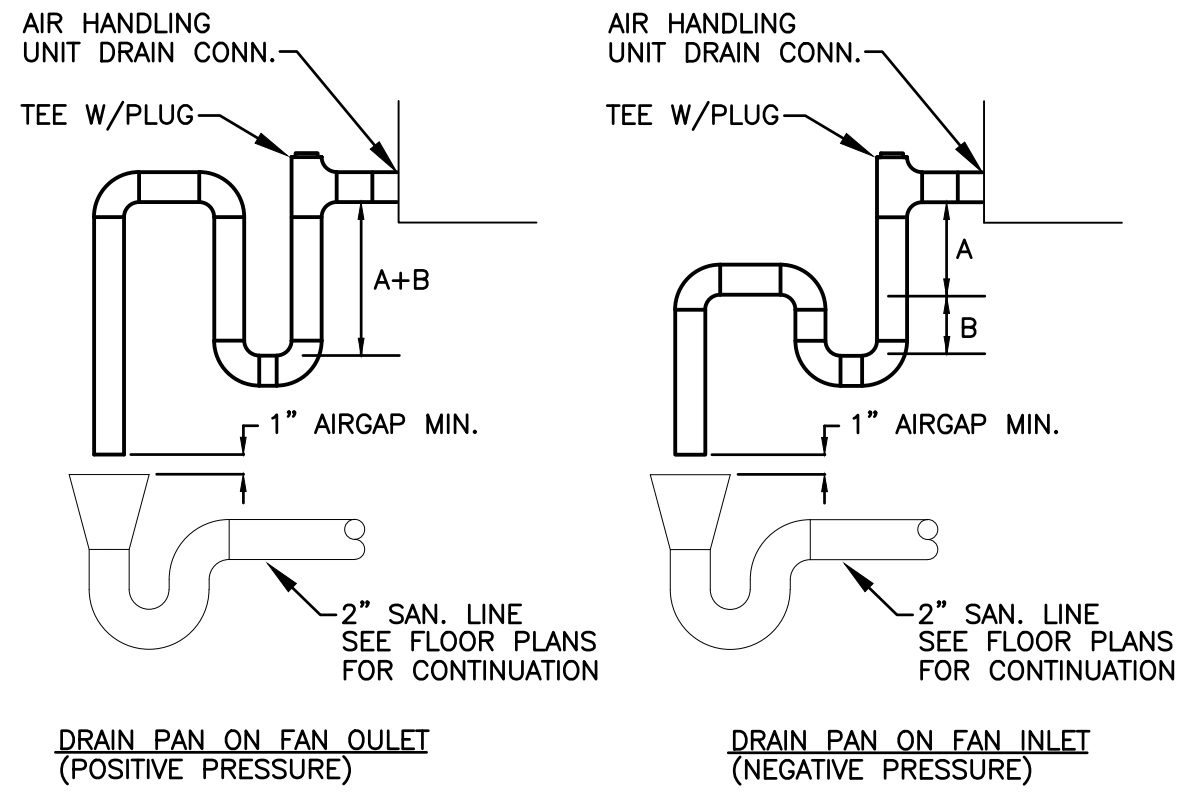
PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: RLC
CLIENT PROJ #:



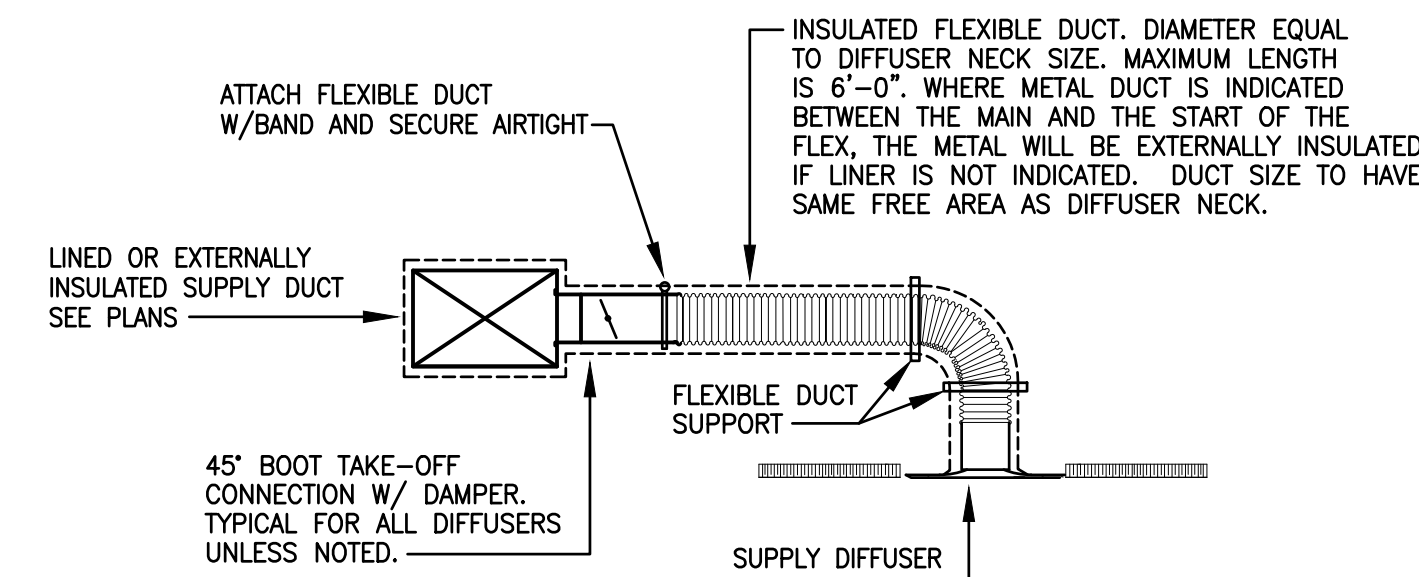
3D FABRICATION
SHEET TITLE:
FLOOR AND MEZZANINE PLANS HVAC

H-105

COPYRIGHT © 2022 ALL RIGHTS RESERVED NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRODUCED, COPIED OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUHLBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGNS AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER, NOR ARE THEY TO BE ADDED TO ANY OTHER PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MUHLBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUHLBERG GREENE ARCHITECTS, LTD.



- NOTES:
 1. DRAIN CONN. TO BE FULL SIZE, BUT NOT LESS THAN 1".
 2. "A" = SYSTEM STATIC IN INCHES AT DRAIN POINT.
 "B" = 1/2 SYSTEM STATIC IN INCHES AT DRAIN POINT.

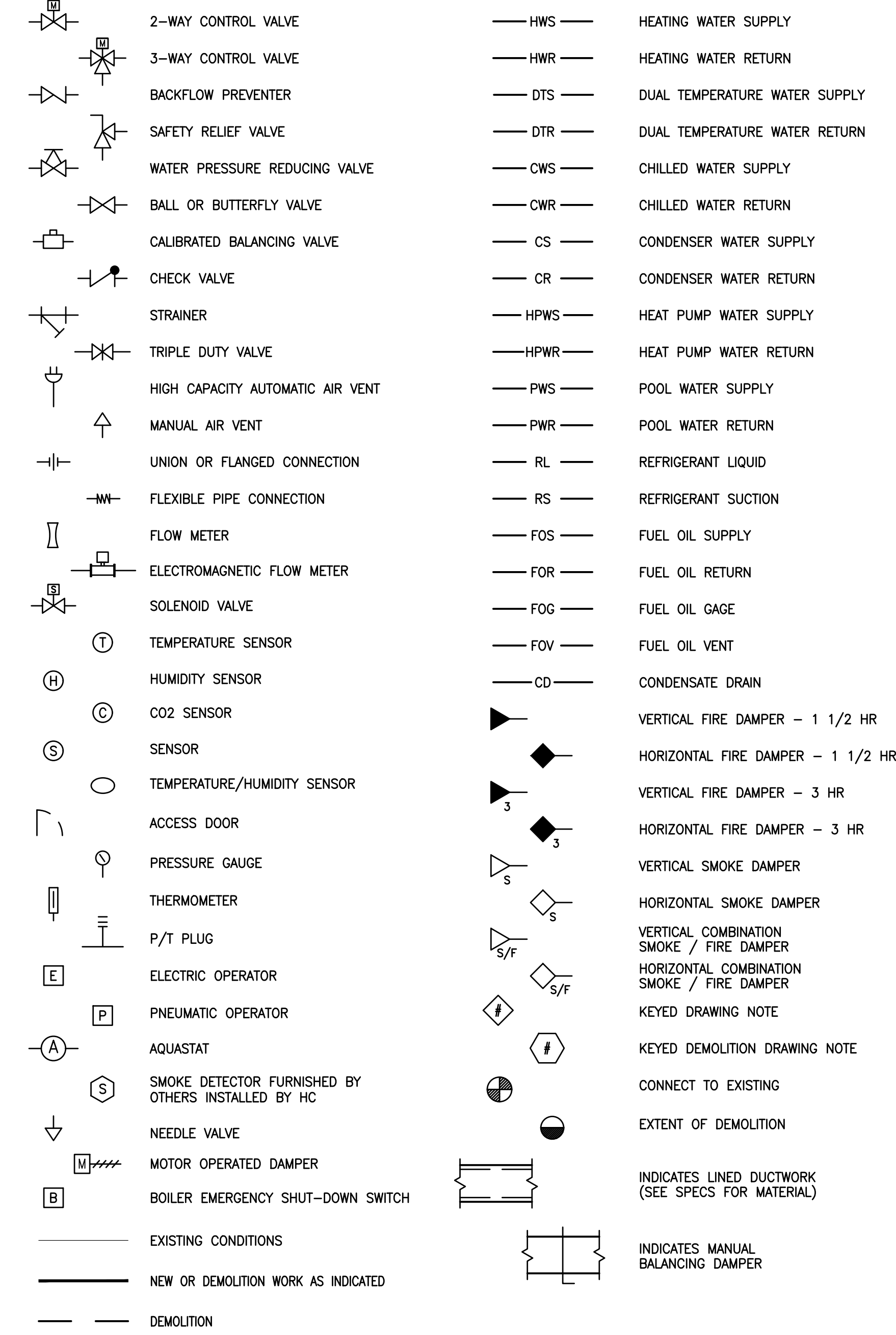


GENERAL PROJECT NOTES:

- REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING SECTIONS. USE INFORMATION RELATING TO CEILING HEIGHTS, FLOOR TO FLOOR ELEVATIONS, ETC. TO DETERMINE PIPE AND DUCT RISER QUANTITIES AND TO VERIFY ROUTING OF SAME.
- REFRIGERANT PIPING RUNS BETWEEN DX EVAPORATOR COILS AND THEIR ASSOCIATED AIR-COOLED CONDENSING UNITS SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. RUN LENGTHS SHALL BE CALCULATED FROM PLANS, BUILDING SECTIONS AND FIELD CONDITIONS. ALL REFRIGERANT PIPING SHALL BE CONGEAL-PROOF. PROVIDE ALL REQUIRED TRAPS IN VERTICAL REFRIGERANT RISERS AND ALL MISCELLANEOUS REFRIGERANT COMPONENTS THAT ARE INDICATED IN THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- HVAC CONTRACTOR IS REQUIRED TO COORDINATE ALL HVAC WORK WITH THE WORK OF ALL OTHER TRADES TO ENSURE CORRECT AND QUALITY INSTALLATIONS.
- DUCT FITTINGS THAT ARE BETWEEN STRAIGHT SECTIONS OF DUCT THAT IS SHOWN LINED SHALL ALSO BE LINED.
- DUCT DIMENSIONS GIVEN ARE METAL (OUTSIDE) DIMENSIONS UNLESS OTHERWISE NOTED.
- THE HVAC CONTRACTOR SHALL COORDINATE ALL WORK ABOVE THE CEILING WITH THE ELECTRICAL, PLUMBING, FIRE PROTECTION AND GENERAL CONTRACTORS TO INSURE THE SCHEDULED CEILING HEIGHTS CAN BE MAINTAINED.
- ALL LOW VOLTAGE WIRING (UNDER 120V) REQUIRED FOR HVAC EQUIPMENT SHALL BE PROVIDED BY THE HVAC CONTRACTOR PER THE MANUFACTURER'S WRITTEN INSTRUCTIONS UNLESS OTHERWISE NOTED.
- IN AREAS WHERE THE EXISTING HVAC SYSTEM WILL REMAIN AND THE SPACE IS SCHEDULED TO RECEIVE NEW ACoustICAL CEILING AS INDICATED ON THE ARCHITECTURAL DRAWINGS, THE HVAC CONTRACTOR WILL BE RESPONSIBLE TO TEMPORARILY REMOVE, THOROUGHLY CLEAN AND STORE ALL EXISTING CEILING MOUNTED GRILLES, REGISTERS AND DIFFUSERS. ONCE THE CEILING REPLACEMENT IS COMPLETE, THE HVAC CONTRACTOR SHALL REINSTALL AND RECONNECT ALL EXISTING TEMPORARILY REMOVED HVAC CEILING MOUNTED GRILLES, REGISTERS AND DIFFUSERS.
- HVAC CONTRACTOR WILL BE RESPONSIBLE TO REMOVE AND REPLACE ALL EXISTING CEILING SYSTEMS THAT ARE NOT NOTED TO BE REMOVED BY THE G.C. ON THE ARCHITECTURAL DRAWINGS, IN ALL AREAS WHERE REQUIRED HVAC WORK IS INDICATED.
- GENERAL CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE ALL REQUIRED WALL LINTELS.

HVAC LEGEND

(ALL SYMBOLS MAY NOT APPLY TO THIS PROJECT)



ABBREVIATIONS

ABV	ABOVE
AL	ACoustically LINED
ALUM	ALUMINUM
BD	BACKDRAFT DAMPER
BL	BELOW
CLG	CEILING
DN	DOWN
EC	ELECTRICAL CONTRACTOR
EA	EACH
EX	EXISTING
EXH	EXHAUST
EXIST	EXISTING
FLR	FLOOR
GC	GENERAL CONTRACTOR
GTC	GENERAL TRADES CONTRACTOR
HC	HVAC CONTRACTOR
MOD	MOTOR OPERATED DAMPER
OA	OUTSIDE AIR
PC	PLUMBING CONTRACTOR
PTAC	PACKAGED TERMINAL AIR CONDITIONER
RA	RETURN AIR
RC	ROOFING CONTRACTOR
REQ'D	REQUIRED
SA	SUPPLY AIR
TYP	TYPICAL
UV	UNIT VENTILATOR
VD	VOLUME DAMPER - MANUAL
W/	WITH

1 AIR HANDLING UNIT DRAINS

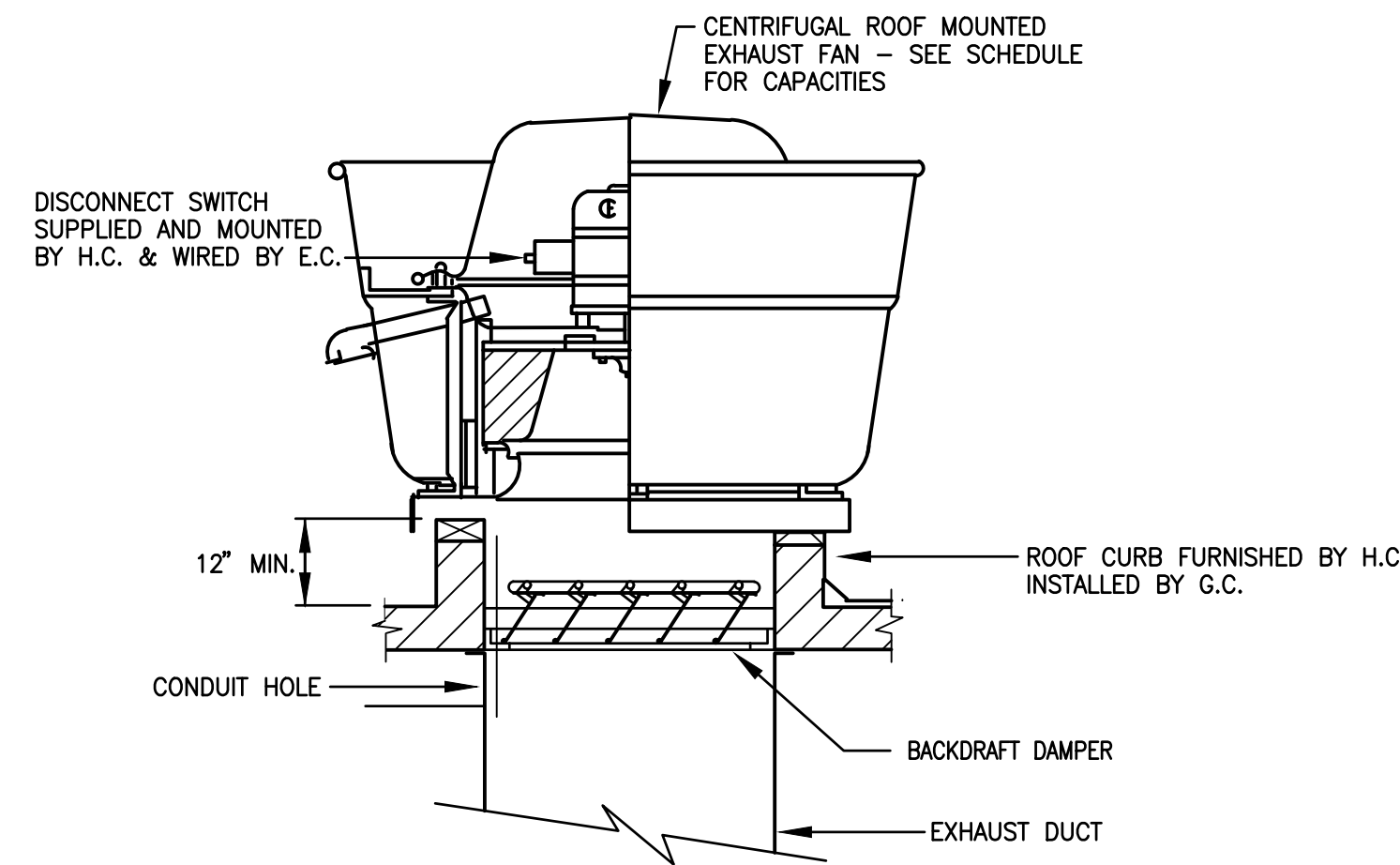
NO SCALE

2 TYPICAL DIFFUSER CONNECTION

NO SCALE

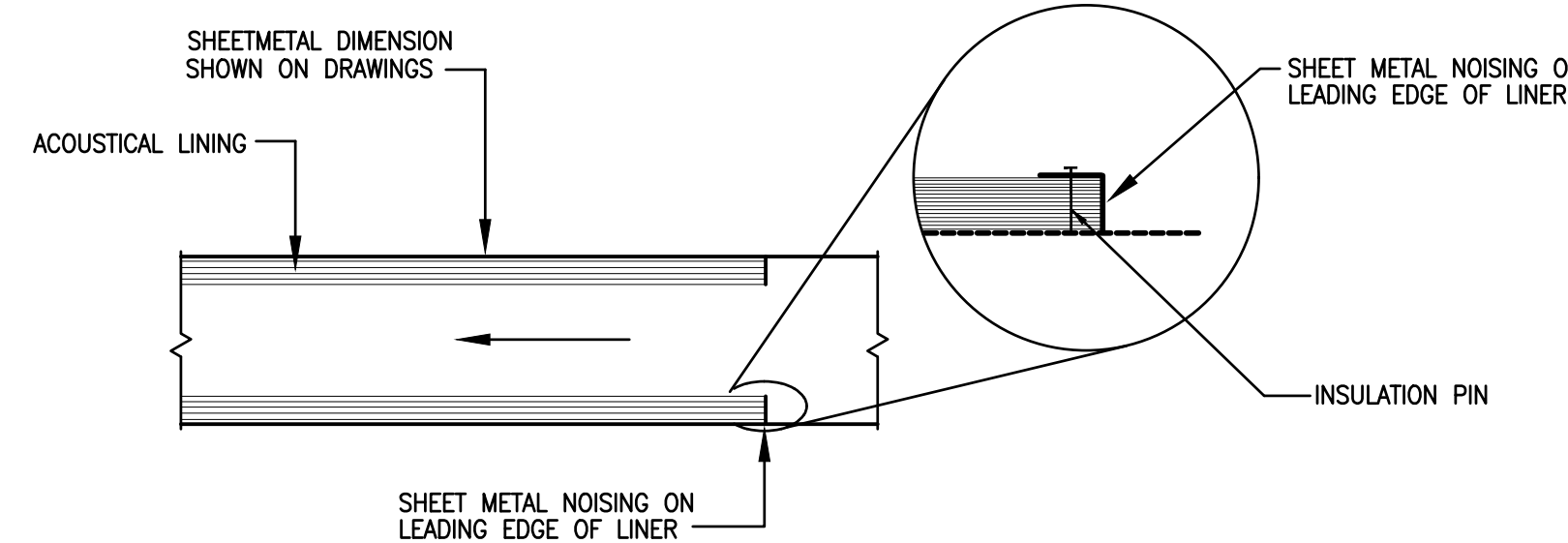
3 DIRECT DRIVE UP BLAST ROOF MOUNTED EXHAUST FAN DETAIL

NO SCALE



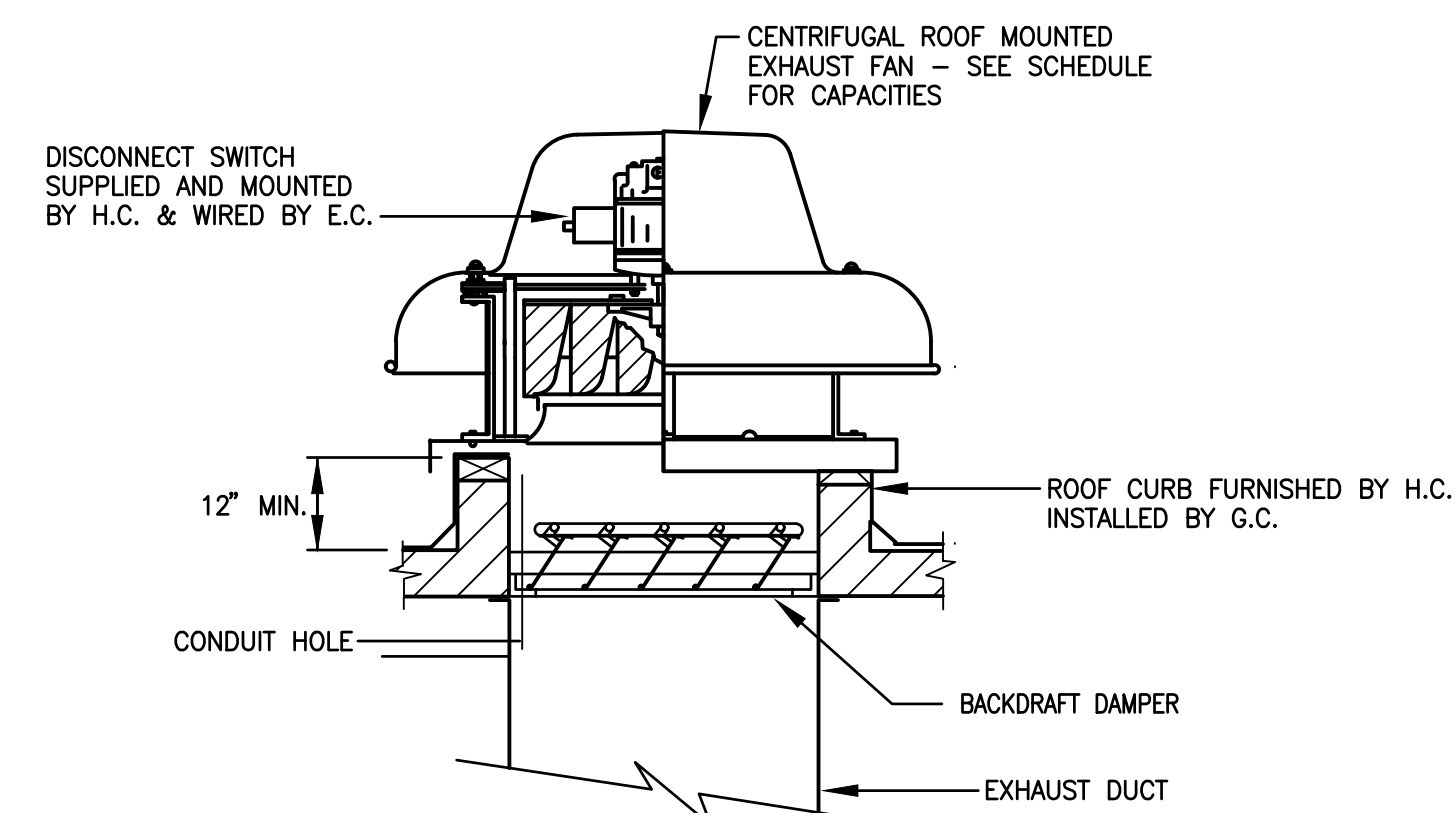
4 TYPICAL DUCT LINING DETAIL

NO SCALE



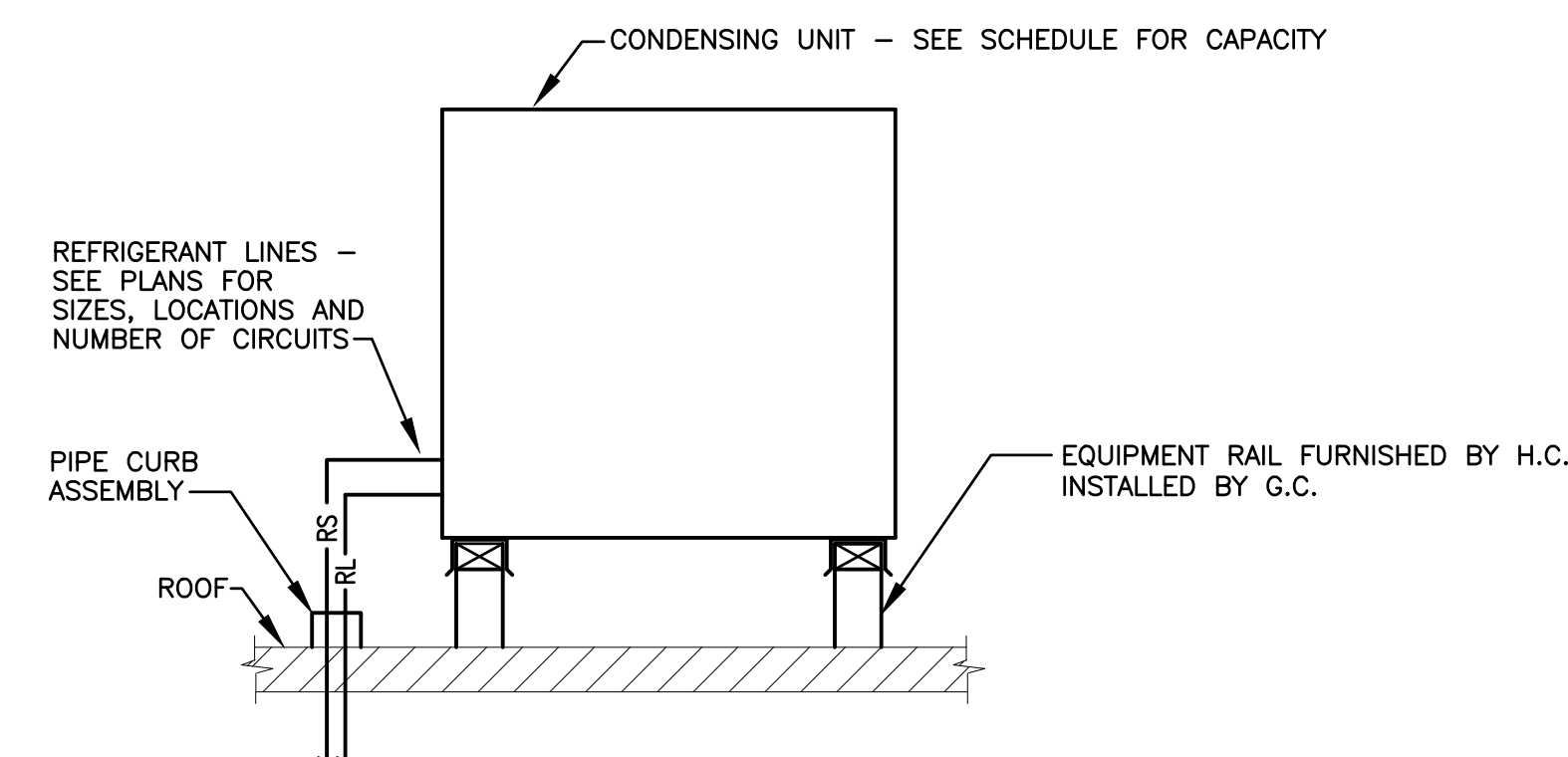
5 DIRECT DRIVE ROOF MOUNTED EXHAUST FAN DETAIL

NO SCALE



6 CONDENSING UNIT MOUNTING DETAIL

NO SCALE



ARCHITECTURAL DESIGN
 INTERIOR DESIGN
 CODE ANALYSIS
 PLANNING SERVICES
 REPORTS AND STUDIES
 ENGINEERING SERVICES
 HISTORIC PRESERVATION

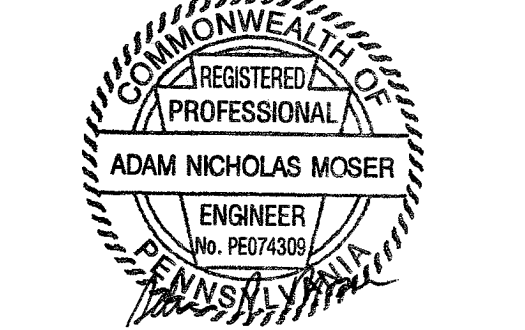
955 BERSKSHIRE BLVD., SUITE 101
 WYONISSING, PA 19110
 610.376.4927
 www.MG-Architects.com

PROJECT #:
4525A

CONSULTANT
CONSOLIDATED ENGINEERS

1022 James Drive
 Leesport, PA 19653
 Tel 610-916-1800 Fax 610-916-1610
 www.consolidatedengineers.com

PROFESSIONAL SEAL



Adam N. Moser
 AdamM@cemec.com

READING MUHLBERG CAREER &
 TECHNOLOGY CENTER
 contact: ERIC KAHLER
 2615 WARREN ROAD
 READING, PA 19604
 610.921.7300
 ekahler@rmtc.org

READING MUHLBERG CAREER &
 TECHNOLOGY CENTER
PROGRAM UPGRADES
 2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID

DATE: 5/17/2022

REV	DESCRIPTION	DATE

PROJ. MGR.: Adam Moser
 P.M. e-MAIL: AdamM@cemec.com
 DRAWN BY: RLC
 CLIENT PROJ #:



COPYRIGHT © 2022 ALL RIGHTS RESERVED. NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRINTED, COPIED OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUEHLBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGNS AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER, NOR ARE THEY TO BE ADDED TO ANY OTHER PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MUEHLBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUEHLBERG GREENE ARCHITECTS, LTD.

SHEET TITLE:
**HVAC DETAILS,
 LEGEND, AND
 NOTES**

H-501

DIFFUSER SCHEDULE								
SYMBOL	NECK SIZE	FACE SIZE	BORDER TYPE	BLOW	MODEL	N. C.	MANUFACTURER	REMARKS
D2	6"	18x18	LAYIN	2 WAY	TDC	< 20	TITUS	PROVIDE W/ 24"x24" PANEL
D3	8"	18x18	LAYIN	2 WAY	TDC	< 20	TITUS	PROVIDE W/ 24"x24" PANEL
D4	8"	18x18	LAYIN	4 WAY	TDC	< 20	TITUS	PROVIDE W/ 24"x24" PANEL
D5	10"	18x18	LAYIN	2 WAY	TDC	< 20	TITUS	PROVIDE W/ 24"x24" PANEL
D6	12"	18x18	LAYIN	4 WAY	TDC	< 20	TITUS	PROVIDE W/ 24"x24" PANEL

ROOFTOP AIR HANDLING UNIT SCHEDULE																				BASIS OF DESIGN: A AON						
SYMBOL	CFM		FAN DATA				UNIT WIRING DATA				COOLING				HOT GAS REHEAT			GAS HEATING			MAXIMUM OPERATING WEIGHT	NOMINAL DIMENSIONS L x W x H	REMARKS			
	TOTAL	DESIGN OA	E.S.P.	H.P.	RPM	MODEL	ELEC.	M.C.A.	MAX. FUSE OR CIRCUIT BKR.	EADB	EAWB	LADB	LABW	TOTAL M.B.H.	SENSIBLE M.B.H.	CAPACITY MBH	RH	LADB	LABW	E.A.T.				NO. OF STAGES	INPUT M.B.H.	OUTPUT M.B.H.
RTU-1	2000	770	1.25"	2	1697	RN-008-3-0-EA09	460-3-60	23	35	81.3F	66.8F	52.6F	51.8F	89.7	60.6	42.0	48.0	72.0	59.5	46.2F	8:1	150.0	120.0	1450 LBS.	100" x 79" x 44"	
RTU-2	4500	1425	1.12"	5	1608	RN-009-3-0-0000	460-3-60	10	15	-	-	-	-	-	-	-	-	-	-	50.8F	10:1	292.5	234.0	1400 LBS.	111" x 60" x 51"	

- NOTES: 1. MODEL NUMBERS ARE INDICATED FOR REFERENCE ONLY. THE DUTIES AND CAPACITIES ARE TO BE USED FOR FINAL UNIT SELECTION BY THE MANUFACTURER.
2. REFER TO PLANS FOR UNIT CONFIGURATIONS. UNITS WITH THE SAME SYMBOL NUMBER MAY HAVE LEFT OR RIGHT HAND CONNECTIONS AND/OR REQUIRE DIFFERENT CONFIGURATIONS.
3. FURNISH EACH UNIT WITH A FACTORY PRE-WIRED FOR A SINGLE POINT POWER CONNECTION WITH AN 120 VOLT CONVENIENCE OUTLET, STEP DOWN TRANSFORMER AND FACTORY PRE-WIRED NON-FUSED DISCONNECT SWITCH.
4. FURNISH EACH UNIT WITH A FULLY INSULATED, 20" HIGH ROOF CURB.
5. FURNISH EACH UNIT WITH AN OUTSIDE AIR INTAKE AIR FLOW MONITORING STATION.
6. FURNISH RTU-1 WITH SPRING ISOLATION RAILS WITH 2" STATIC DEFLECTION.
7. PROVIDE EACH UNIT WITH AN AIR PURIFICATION SYSTEM, PLASMA AIR 660 SERIES.

GRILLE AND REGISTER SCHEDULE						
SYMBOL	SIZE	MODEL	N.C.	BORDER TYPE	MANUFACTURER	REMARKS
G2	6x8	350FL	<20	SURFACE	TITUS	
G3	10x10	350FL	<20	SURFACE	TITUS	
G4	12x12	350FL	<20	SURFACE	TITUS	
G5	18x18	350FL	<20	LAYIN	TITUS	PROVIDE W/ 24"x24" PANEL
G6	24x24	50F	<20	SURFACE	TITUS	
G7	44x18	350FL	<20	SURFACE	TITUS	
G8	12x8	350FL	<20	SURFACE	TITUS	
R1	16x6	272FL	<20	SURFACE	TITUS	
R2	40x36	112RL	<20	SURFACE	TITUS	

EXHAUST FAN SCHEDULE													BASIS OF DESIGN: LOREN COOK	
SYMBOL	CFM	SP	FAN DATA			DRIVE	BMS INTERLOCK	DAMPER	SONES	CONTROL	MOUNTING	MODEL	REMARKS	
			H.P.	RPM	ELECTRICAL									
EF-1	170	0.25"	1/3	1140	120V-1#	DIRECT	NO	BDD	6.4	CONTINUOUS	ROOF	ACRU-D	PROVIDE W/ AMCA A SPARK RESISTANT AND EXPLOSION PROOF CONSTRUCTION, 18" HIGH ROOF CURB, BACKDRAFT DAMPER AND EXPLOSION PROOF NON-FUSED DISCONNECT SWITCH	
EF-2	170	0.25"	1/3	1140	120V-1#	DIRECT	NO	BDD	6.4	CONTINUOUS	ROOF	ACRU-D	PROVIDE W/ AMCA A SPARK RESISTANT AND EXPLOSION PROOF CONSTRUCTION, 18" HIGH ROOF CURB, BACKDRAFT DAMPER AND EXPLOSION PROOF NON-FUSED DISCONNECT SWITCH	
EF-3	170	0.25"	1/3	1140	120V-1#	DIRECT	NO	BDD	6.4	CONTINUOUS	ROOF	ACRU-D	PROVIDE W/ AMCA A SPARK RESISTANT AND EXPLOSION PROOF CONSTRUCTION, 18" HIGH ROOF CURB, BACKDRAFT DAMPER AND EXPLOSION PROOF NON-FUSED DISCONNECT SWITCH	
EF-4	770	0.62"	1/2	1072	120V-1#	DIRECT	YES	BDD	7.3	TIME OF DAY SCHEDULE	ROOF	ACE-D	PROVIDE WITH 18" HIGH ROOF CURB, BACKDRAFT DAMPER, NON-FUSED DISCONNECT SWITCH AND SPEED CONTROLLER	
EF-5	350	0.38"	1/8	1345	120V-1#	DIRECT	YES	BDD	6.8	REVERSE ACTING T-STAT	ROOF	ACE-D	PROVIDE WITH 18" HIGH ROOF CURB, BACKDRAFT DAMPER, NON-FUSED DISCONNECT SWITCH AND SPEED CONTROLLER	
EF-6	1350	0.75"	3/4	1099	120V-1#	DIRECT	YES	BDD	9.6	INTERLOCK W/ TRACK CUTTER	ROOF	ACE-D	PROVIDE WITH 18" HIGH ROOF CURB, BACKDRAFT DAMPER, NON-FUSED DISCONNECT SWITCH AND SPEED CONTROLLER	
EF-7	250	0.44"	83 WATTS	1149	120V-1#	DIRECT	NO	BDD	2.0	REVERSE ACTING T-STAT	INLINE	GN	PROVIDE WITH BACKDRAFT DAMPER, NON-FUSED DISCONNECT SWITCH AND SPEED CONTROLLER	
EF-8	930	0.69"	1/2	1140	120V-1#	DIRECT	YES	BDD	8.3	TIME OF DAY SCHEDULE	ROOF	ACE-D	PROVIDE WITH ROOF CURB ADAPTER, BACKDRAFT DAMPER, NON-FUSED DISCONNECT SWITCH AND SPEED CONTROLLER	

- NOTES: 1. MODEL NUMBERS ARE INDICATED FOR REFERENCE ONLY. THE DUTIES AND CAPACITIES ARE TO BE USED FOR FINAL UNIT SELECTION BY THE MANUFACTURER.

ELECTRIC CABINET HEATER SCHEDULE											BASIS OF DESIGN: Q MARK	
SYMBOL	FAN DATA			WATTS	MOUNTING	FRONT PANEL WIDTH x HEIGHT	WALL OPENING WIDTH x HEIGHT	RECESS DEPTH	CABINET FINISH	MODEL	REMARKS	
	CFM	ELECTRICAL	AMPS									
ECH-1	65	120-1-60	4.7	500	FULLY RECESSED CEILING	10-3/4" x 12-1/2"	9-3/4" x 11"	3.75"	STANDARD COLOR	QCH1101	PROVIDE WITH INTEGRAL DISCONNECT SWITCH, T-BAR FRAME KIT AND WALL MOUNTED THERMOSTAT	
ECH-2	65	120-1-60	4.7	500	SURFACE MOUNTED CEILING	10-3/4" x 12-1/2"	9-3/4" x 11"	3.75"	STANDARD COLOR	QCH1101	PROVIDE WITH INTEGRAL DISCONNECT SWITCH AND SURFACE MOUNTED FRAME AND WALL MOUNTED THERMOSTAT	
ECH-3	65	120-1-60	6.3	750	SURFACE MOUNTED WALL	10-3/4" x 12-1/2"	9-3/4" x 11"	3.75"	STANDARD COLOR	CWH1151DSAG	PROVIDE WITH INTEGRAL DISCONNECT SWITCH, INTEGRAL THERMOSTAT AND SURFACE MOUNTING FRAME	
ECH-4	65	277-1-60	7.3	2000	SURFACE MOUNTED WALL	10-1/2" x 12-1/2"	9-1/2" x 11-1/4"	3.75"	STANDARD COLOR	CWH1207DSAG	PROVIDE WITH INTEGRAL DISCONNECT SWITCH, INTEGRAL THERMOSTAT AND SURFACE MOUNTING FRAME	
ECH-5	250	460-3-60	6.0	4000	FULLY RECESSED CEILING	35" x 26-3/8"	35" x 26-3/8"	9.75"	STANDARD COLOR	CU935	PROVIDE WITH INTEGRAL DISCONNECT SWITCH, WALL MOUNTED THERMOSTAT FRONT ARCHITECTURAL EXTRUDED ALUM. INLET AND OUTLET GRILLES AND RECESSED TRIM KIT	

- NOTES: 1. MODEL NUMBERS ARE INDICATED FOR REFERENCE ONLY. THE DUTIES AND CAPACITIES ARE TO BE USED FOR FINAL UNIT SELECTION BY THE MANUFACTURER.
2. DIMENSIONS ARE FOR REFERENCE ONLY. REFER TO VENDOR'S SHOP DRAWINGS FOR ACTUAL CONSTRUCTION DIMENSIONS.

AIR COOLED CONDENSING UNIT SCHEDULE												
SYMBOL	MBH	SUCTION TEMP.	AMBIENT TEMP.	COMPRESSOR STAGES	UNIT WIRING			WEIGHT	MODEL	MANUFACTURER	OPTIONS	REMARKS
					ELEC.	MCA	MOP					
CU-1	18.0	45F	95F	VARIABLE	208V-1#	11	15	120 lbs.	PUY-A1BNKA7	MTSUSHI	PROVIDE W/ WIND BAFFLES FOR COOLING OPERATION DOWN TO -40° F	SPLIT SYSTEM W/ DAC-1

- NOTES: 1. MODEL NUMBERS ARE INDICATED FOR REFERENCE ONLY. THE DUTIES AND CAPACITIES ARE TO BE USED FOR FINAL UNIT SELECTION BY THE MANUFACTURER.

GAS-FIRED UNIT HEATER SCHEDULE											BASIS OF DESIGN: REZNOR	
SYMBOL	FAN DATA			ELECTRICAL			INPUT (MBH)	OUTPUT (MBH)	CFH NAT. GAS	MOUNTING	MODEL	REMARKS
	CFM	RPM	H.P.	VOLTAGE	FLA	MOP						
GUH-1	629	1550	.06	115V-1#	3.4	15	45	37.4	45	HORIZONTAL	UDAS-45	

- NOTES: 1. MODEL NUMBERS ARE INDICATED FOR REFERENCE ONLY. THE DUTIES AND CAPACITIES ARE TO BE USED FOR FINAL UNIT SELECTION BY THE MANUFACTURER.
2. PROVIDE EACH UNIT WITH A CEILING SUSPENSION KIT AND A VERTICAL COMBUSTION AIR/VENT KIT WITH CONCENTRIC ADAPTER.

DUCTLESS AIR CONDITIONER SCHEDULE									BASIS OF DESIGN: MITSUBISHI	
SYMBOL	DESCRIPTION	CFM	NOM. COOLING	TOT. AMPS	MAX. FUSE	ELEC.	MODEL	OPTIONS		
DAC-1	WALL EVAP.	375	18.0	1.0	N/A	208-1-60	PKA-A18LA	PROVIDE W/ INTEGRAL CONDENSATE PUMP AND WALL MOUNTED THERMOSTAT		

- NOTES: 1. MODEL NUMBERS ARE INDICATED FOR REFERENCE ONLY. THE DUTIES AND CAPACITIES ARE TO BE USED FOR FINAL UNIT SELECTION BY THE MANUFACTURER.

LOUVER SCHEDULE								BASIS OF DESIGN: POTTORFF	
SYMBOL	FUNCTION	CFM	WIDTH x HEIGHT	MIN. FREE AREA (SQ. FT.)	STATIC PRESSURE	MODEL	REMARKS		
L-1	EXHAUST	240	18" x 12"	0.50	.04"	ECD-635			
L-2	INTAKE	240	18" x 12"	0.50	.05"	ECD-635			
L-3	INTAKE	350	36" x 12"	0.90	.04"	ECD-635			

- NOTE: PROVIDE EACH LOUVER IN A CUSTOM POWDER COATED FINISH, ARCHITECT TO SELECT COLOR.

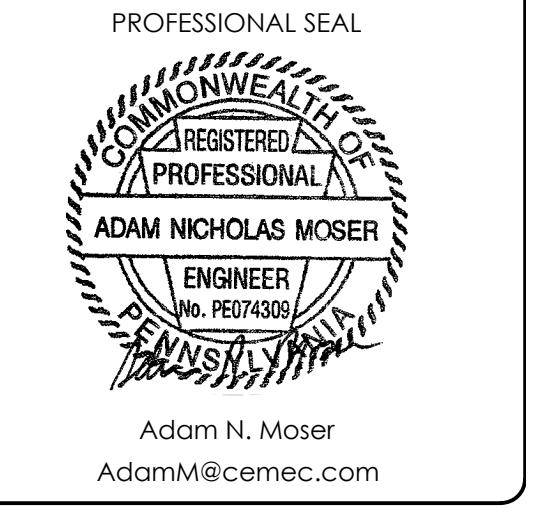


ARCHITECTURAL DESIGN
INTERIOR DESIGN
CODE ANALYSIS
PLANNING SERVICES
REPORTS AND STUDIES
ENGINEERING SERVICES
HISTORIC PRESERVATION

955 BERKSHIRE BLVD., SUITE 101
WYOMISSING, PA 19380
610.376.4927
www.MG-Architects.com

PROJECT #:
4525A

CONSULTANT
CONSOLIDATED ENGINEERS
1022 James Drive
Leesport, PA 19858
Tel 610-916-1800 Fax 610-916-1610
www.consolidatedengineers.com



READING MUHLBERG CAREER & TECHNOLOGY CENTER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahler@rmctc.org

READING MUHLBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID
DATE: 5/17/2022

REV	DESCRIPTION	DATE

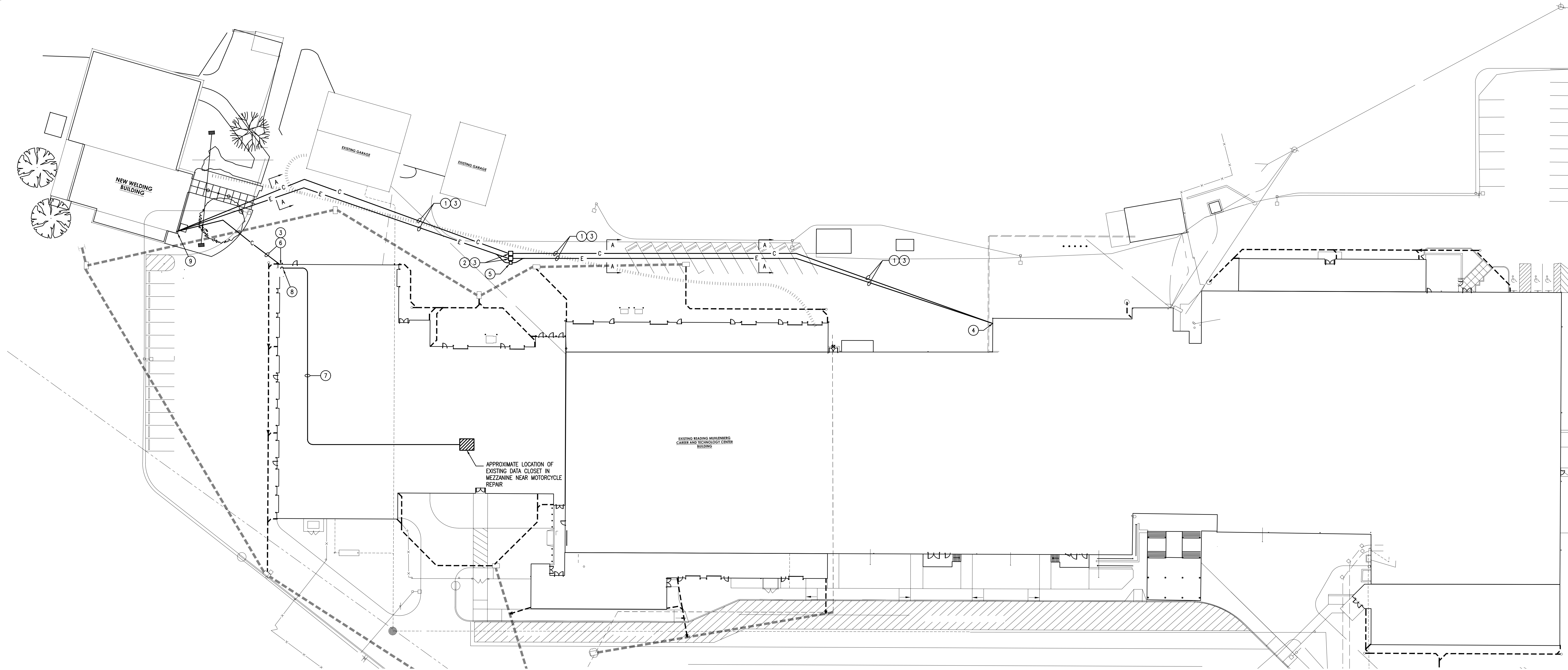
PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: RLC
CLIENT PROJ #: -

VERIFY SCALE
0 1
1
BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING

COPYRIGHT © 2022. ALL RIGHTS RESERVED NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRODUCED, COPIED OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUHLBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGNS AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER, NOR ARE THEY TO BE LOANED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MUHLBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUHLBERG GREENE ARCHITECTS, LTD.

SHEET TITLE:
HVAC EQUIPMENT SCHEDULES

H-601



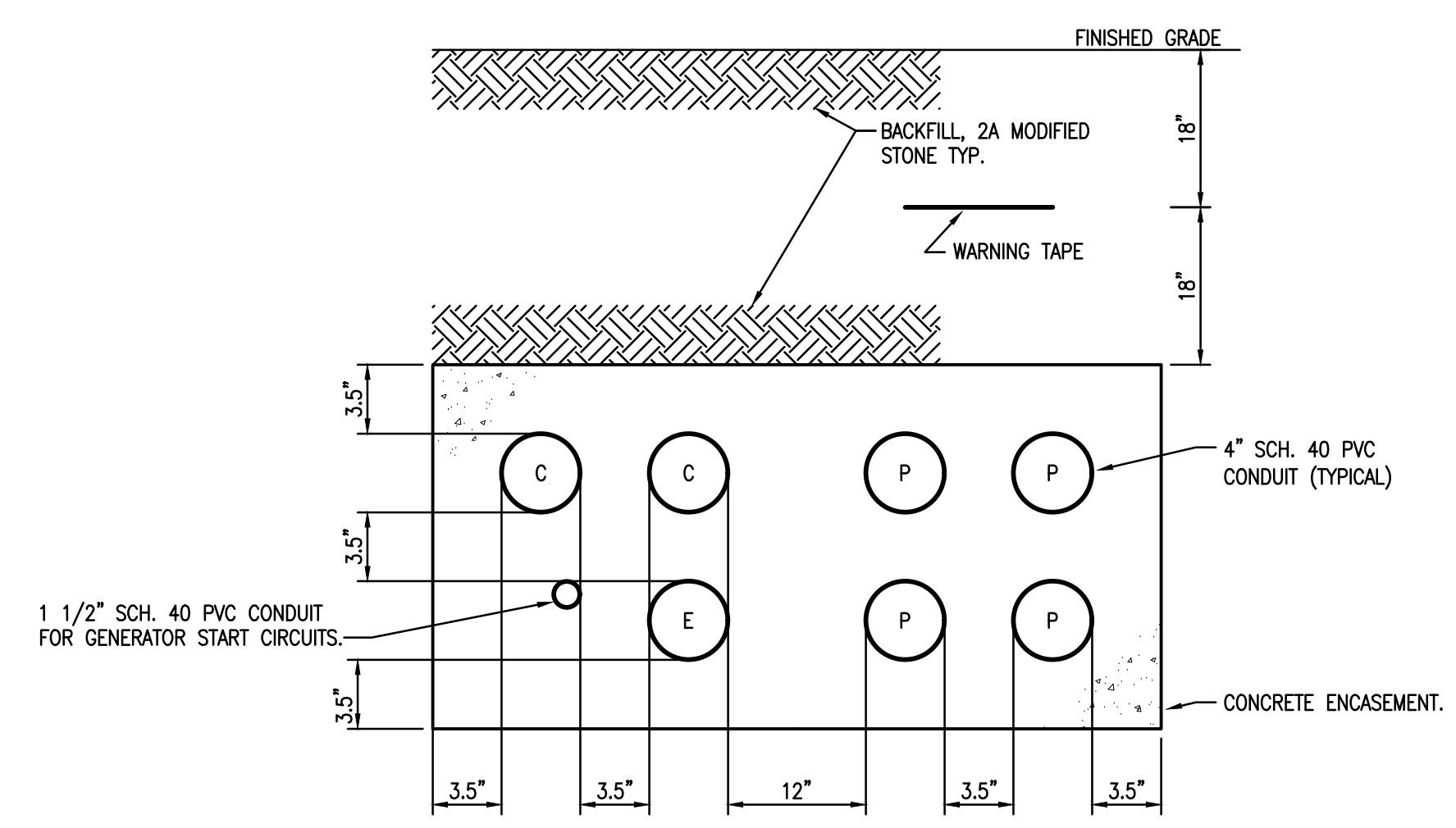
SITE PLAN - ELECTRICAL
SCALE: 1" = 30'-0"

DRAWING NOTES:

- COMMUNICATIONS/POWER UNDERGROUND DUCTBANK. PROVIDE (2) 4" COMMUNICATIONS (1) 4" NORMAL/EMERGENCY POWER AND (4) 4" POWER SCHEDULE 40 PVC CONDUITS.
- PROVIDE 36"x36"x36" FLUSH IN GROUND TIER 22 BOX. QUAZITE CAT NO. PG3636B230 GASKETED, OPEN BOTTOM BOX. PROVIDE GASKETED TIER 22 COVER. PROVIDE "COMMUNICATIONS" OR "ELECTRIC" LOGO ON BOX COVER.
- CUTTING, PATCHING AND EXCAVATION OF ASPHALT AREA(S) BY E.C. SHALL INSTALL CONDUIT, CONCRETE ENCASMENT AND STONE BACKFILL. ASPHALT BASE AND FINAL COAT BY G.C.
- REFER TO DWG. E-002 FOR CONTINUATION.
- PROVIDE 24"x24"x24" FLUSH IN GROUND TIER 22 BOX. QUAZITE CAT NO. PG2424B224 GASKETED, OPEN BOTTOM BOX. PROVIDE GASKETED TIER 22 COVER. PROVIDE "ELECTRIC" LOGO ON BOX COVER. PATCH WALL AT CONDUIT PENETRATION.
- (1) 4" SCHEDULE 40 PVC CONDUIT FOR COMMUNICATIONS. STUB UP OUTSIDE BUILDING LOW ON WALL. EXTEND CONDUIT INSIDE LOW ON WALL. PROVIDE CONCRETE ENCASMENT. PROVIDE (1) 6-STRAND SINGLEMODE AND (1) 6-STRAND MULTIMODE F.O. CABLE PER SPEC IN 4" CONDUIT FROM DATA CLOSET IN MEZZ. TO NEW WELDING BUILDING DATA CLOSET.
- (1) - 4" CONDUIT RUN AS HIGH AS POSSIBLE ABOVE GARAGE AREA AND ACROSS MEZZ. TO EXISTING DATA CLOSET. PROVIDE (1) 6-STRAND SINGLEMODE AND (1) 6-STRAND MULTIMODE F.O. CABLE PER SPEC. FROM EXISTING DATA CLOSET TO NEW WELDING BUILDING DATA CLOSET.
- DROP CONDUIT DOWN INSIDE WALL AS LOW AS POSSIBLE BEFORE EXITING BUILDING.
- REFER TO DWG. E-102 FOR CONTINUATION.

GENERAL SITE NOTES:

- ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC. ALL EXPOSED EXTERIOR CONDUIT SHALL BE RIGID GALVANIZED STEEL. ALL INTERIOR CONDUIT SHALL BE EMT. ALL UNDERGROUND ELBOWS SHALL BE LARGE SWEEP R.G.S. PVC ELBOWS ARE NOT PERMITTED.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES USING PA-ONE CALL. REVIEWING THE SITE SURVEY DRAWINGS AND REQUESTING ANY INFORMATION THE OWNER MAY BE ABLE TO PROVIDE ABOUT THE LOCATION OF TRENCHING AND EXCAVATING FOR ALL EXTERIOR CONDUITS, UNDERGROUND PULL BOXES, TRANSFORMER VAULTS, EQUIPMENT PADS, ETC.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL KNOWN AND UNKNOWN UNDERGROUND UTILITIES AND EQUIPMENT FOR BOTH EXTERIOR AND INTERIOR APPLICATIONS WITH THE USE OF GROUND PENETRATING RADAR (GPR) BEFORE TRENCHING, SAW CUTTING, AND EXCAVATING. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING ANY BELOW GRADE UTILITIES THAT ARE DAMAGED DUE TO FAILURE TO VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITIES. SIGNED AND DATED DOCUMENTATION OF GPR SHALL BE AVAILABLE UPON REQUEST.



- NOTES:
- ALL BACKFILL SHALL BE 2A MODIFIED STONE.

DUCT BANK DETAIL SECTION 'A'-A'
NO SCALE



ARCHITECTURAL DESIGN
INTERIOR DESIGN
CODE ANALYSIS
PLANNING SERVICES
REPORTS AND STUDIES
ENGINEERING SERVICES
HISTORIC PRESERVATION

955 BERKSHIRE BLVD., SUITE 101
WYOMISSING, PA 19380
610.376.4927
www.MG-Architects.com

PROJECT #:
4525A

CONSULTANT
CONSOLIDATED ENGINEERS
1022 James Drive
Leesport, PA 19658
Tel 610-916-1800 Fax 610-916-1610
www.consolidatedengineers.com

PROFESSIONAL SEAL

Christopher D. Van Campen
ChrisV@cemec.com

READING MUHLENBERG CAREER & TECHNOLOGY CENTER
contact: ERIC KAHLER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahler@rmctc.org

READING MUHLENBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID

DATE: 5/17/2022

REV. NO.	DESCRIPTION	DATE

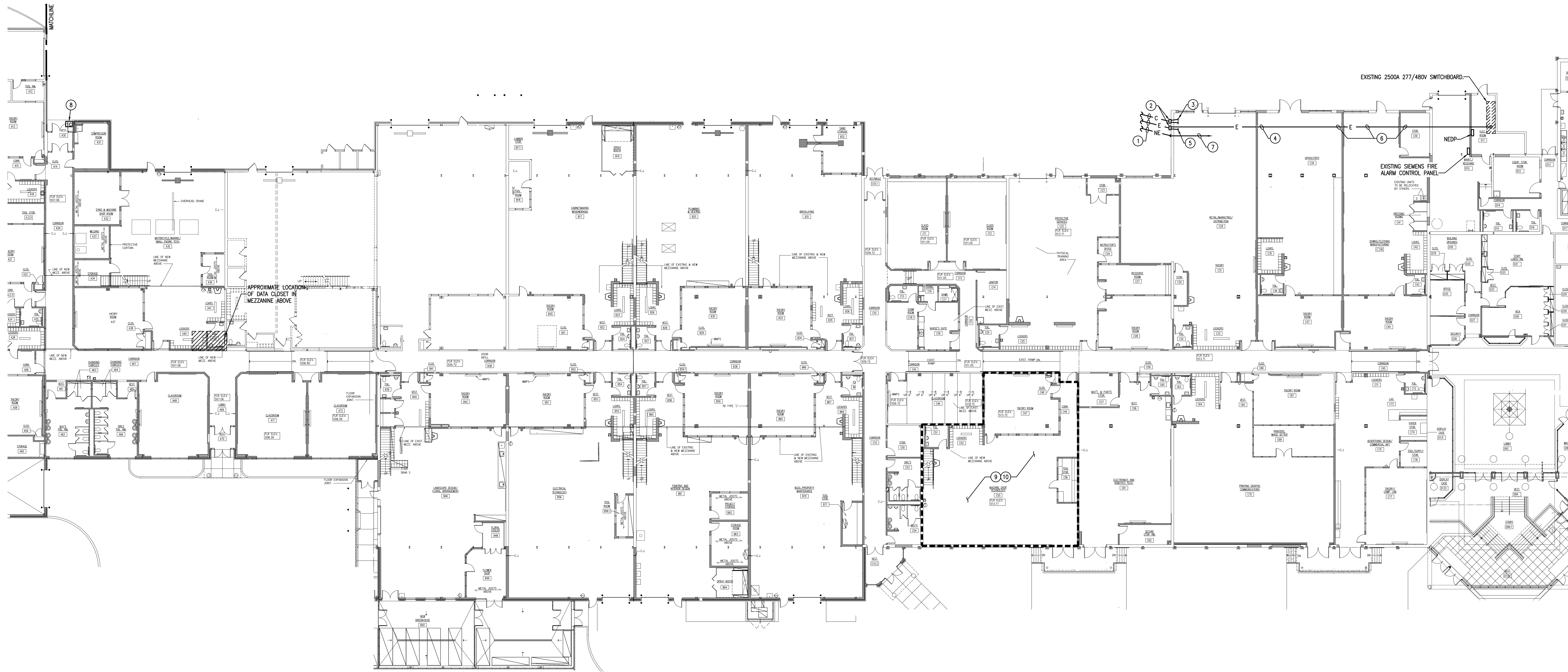
PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: SN
CLIENT PROJ #:

VERIFY SCALE
0 1
BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING

COPYRIGHT © 2022. ALL RIGHTS RESERVED. NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRODUCED, COPIED, OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUHLENBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGNS AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER, NOR ARE THEY TO BE ADVERTISED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF MUHLENBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUHLENBERG GREENE ARCHITECTS, LTD.

SHEET TITLE:
SITE PLAN - ELECTRICAL

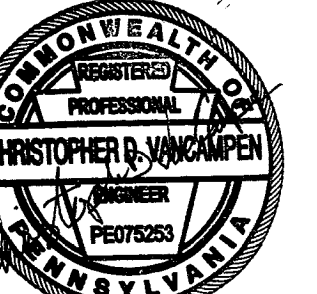
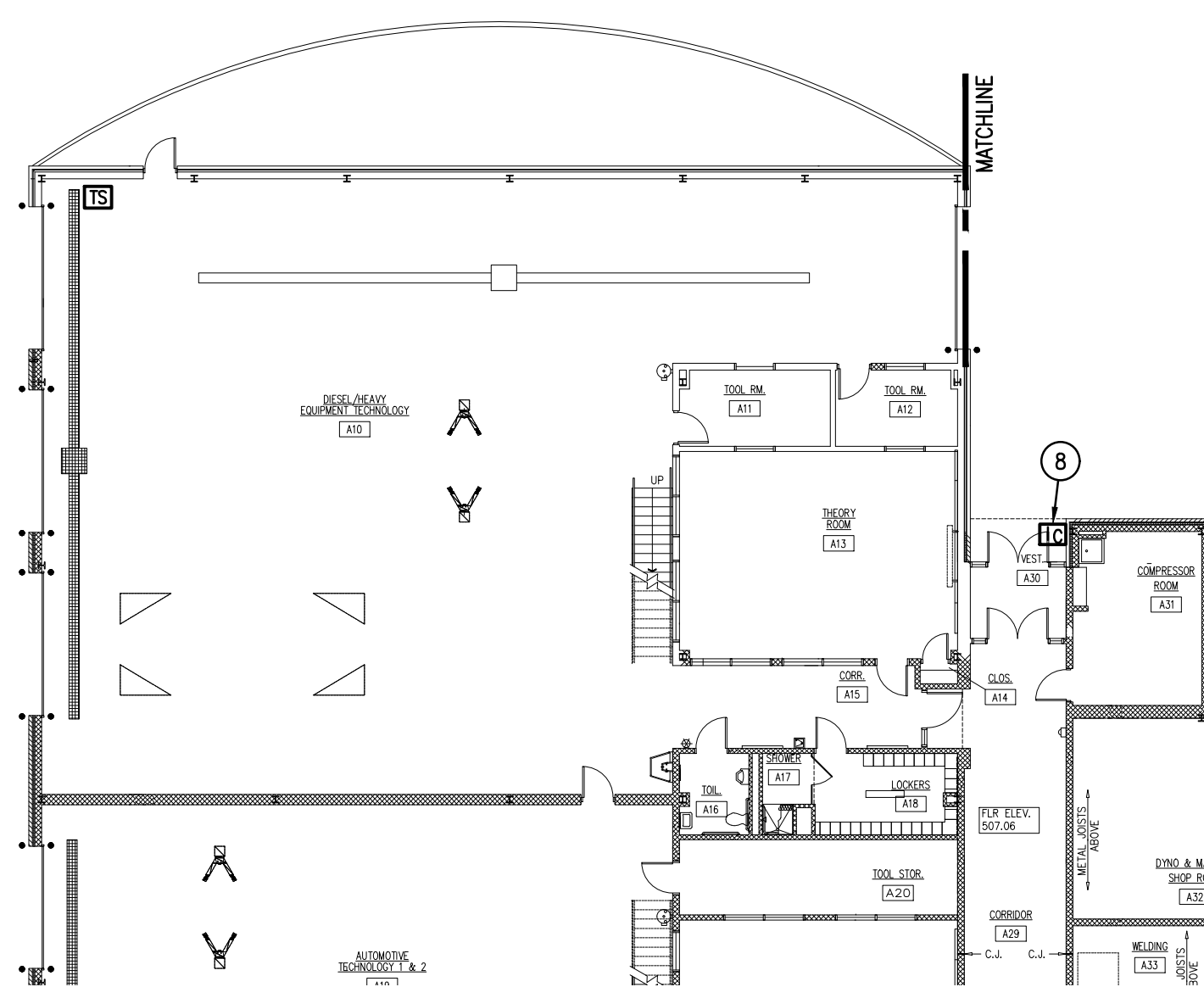
E-001



 **PARTIAL OVERALL FLOOR PLAN**
SCALE: 1/16" = 1'-0"

① DRAWING NOTES:


1. UNDERGROUND COMMUNICATIONS/POWER DUCTBANK. SEE DWG. E-001 FOR REQUIREMENTS.
2. PROVIDE NEMA 3R PULL BOX ON WALL (AS HIGH AS POSSIBLE) (1) COMMUNICATIONS, (1) POWER.
3. STUB (2) 4" COMMUNICATIONS CONDUITS FROM JUNCTION BOX INTO ROOM C29 AS HIGH AS POSSIBLE. CONDUITS FOR INTERCOM & FIRE ALARM CABLES.
4. RUN (3) 4" CONDUITS (AS HIGH AS POSSIBLE) THRU ROOMS TO MAIN 277/480V SWITCHBOARD. REFER TO POWER RISER DIAGRAM FOR FEEDER SIZE.
5. STUB (1) 4" SPARE POWER CONDUIT FROM JUNCTION BOX INTO ROOM C29 PROVIDE PULL STRING.
6. G.C. SHALL REMOVE, ADD REPLACE CEILING GRID AND TILE AS REQUIRED TO INSTALL POWER CONDUITS, INTERCOM FIBER (SEE SPECS) AND FIRE ALARM CABLE. INTERCOM & FIRE ALARM CABLES SHALL BE IN CONDUIT IN EXPOSED AREAS.
7. (1) 4" CONDUIT RUN ABOVE ACCESSIBLE CEILING & EXPOSED AREAS TO 'NEDP'.
8. E.C. TO INSTALL SURFACE A-PHONE INTERCOM BOX (SUPPLIED BY OWNER) E.C. TO PROVIDE CAT 6 CABLE FROM INTERCOM STATION TO EXISTING MEZZANINE DATA CLOSET. PROVIDE TERMINATIONS. CABLE RUN THROUGH EXPOSED AREAS SHALL BE RUN IN CONDUIT.
9. E.C. SHALL BE RESPONSIBLE TO DISCONNECT ALL EXISTING 3D MANUFACTURING EQUIPMENT FOR REMOVAL AND RELOCATION BY G.C. ALL EQUIPMENT SHALL BE MOVED TO NEW 3D MANUFACTURING ROOM. ONCE EQUIPMENT IS RELOCATED TO NEW 3D MANUFACTURING AREA E.C. TO RECONNECT ALL EQUIPMENT. E.C. TO DOCUMENT ALL EXISTING EQUIPMENT CIRCUITRY AND HOW CONNECTED, SIZE, VOLTAGE & PHASE. REFER TO GENERAL DEMOLITION NOTE #1 AND GENERAL ELECTRICAL NOTES #20 & #22 ON DWG. E-201 FOR ADDITIONAL INFORMATION.
10. E.C. SHALL DISCONNECT AND RELOCATE EXISTING STARTER AND REMOTE START/STOP PUSHBUTTON CONTROLS ASSOCIATED WITH CEILING HUNG DUST COLLECTOR LOCATED IN ROOM. SEE DRAWING E-106 FOR RELOCATED EQUIPMENT LOCATIONS.



DATE: 5/17/2022		
REV. NO.	DESCRIPTION	DATE

ISSUED FOR BID
 DATE: 5/17/2022

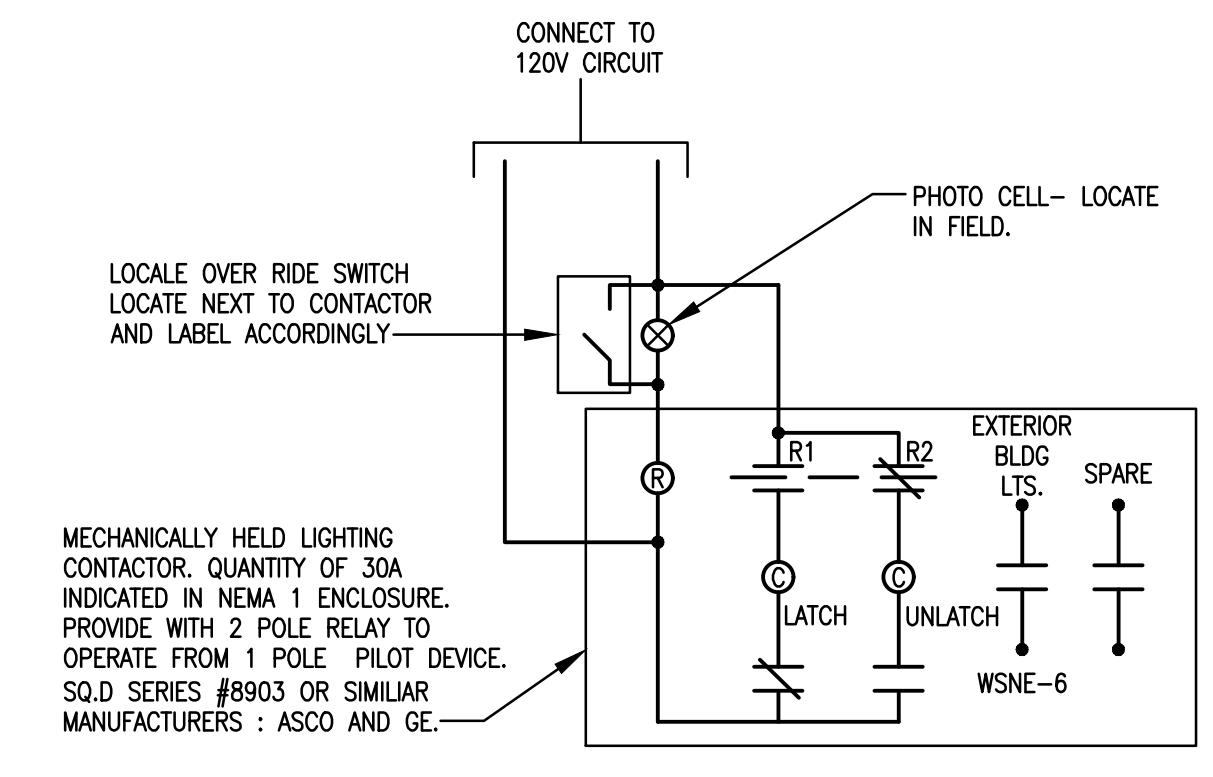
REV	DESCRIPTION	DATE

PROJ. MGR.: Adam Moser
 P.M. e-MAIL: AdamM@cemec.com
 DRAWN BY: JS
 CLIENT PROJ # : -
 VERIFY SCALE

 BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING
 COPYRIGHT © 2022. ALL RIGHTS RESERVED. NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRODUCED, COPIED OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUEHLBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGNS AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER, NOR ARE THEY TO BE ADAPTED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF MUEHLBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN INSTRUMENT OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUEHLBERG GREENE ARCHITECTS, LTD.

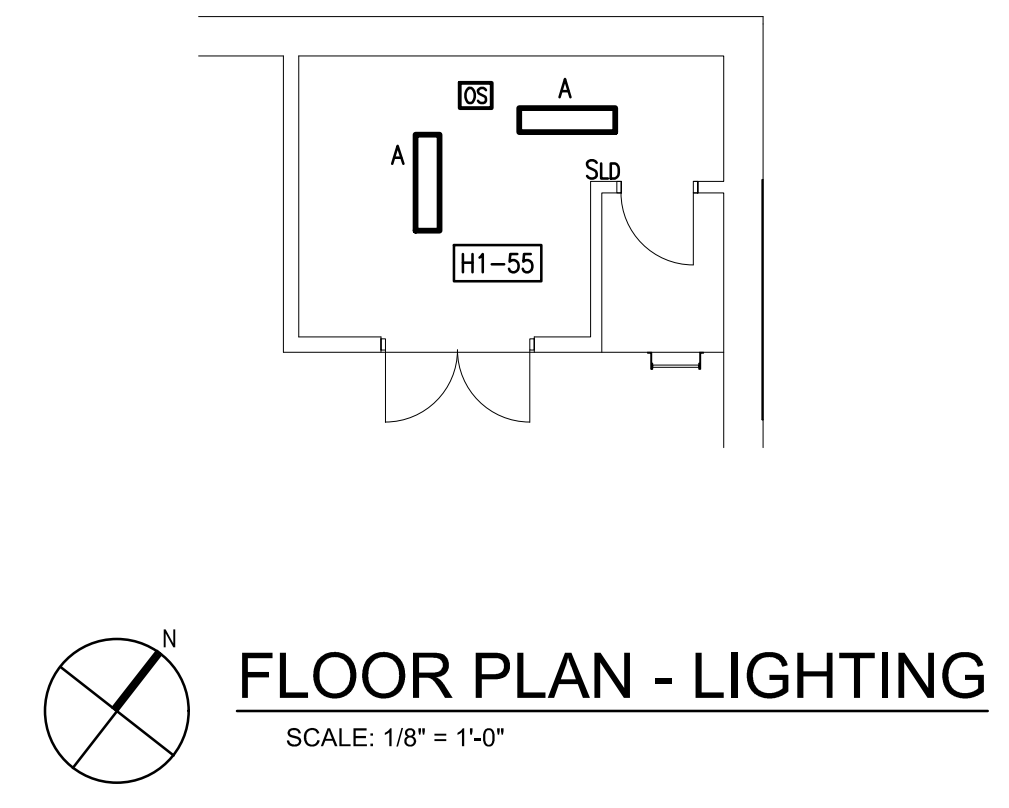
WELDING BUILDING
 SHEET TITLE:

FLOOR PLAN - LIGHTING

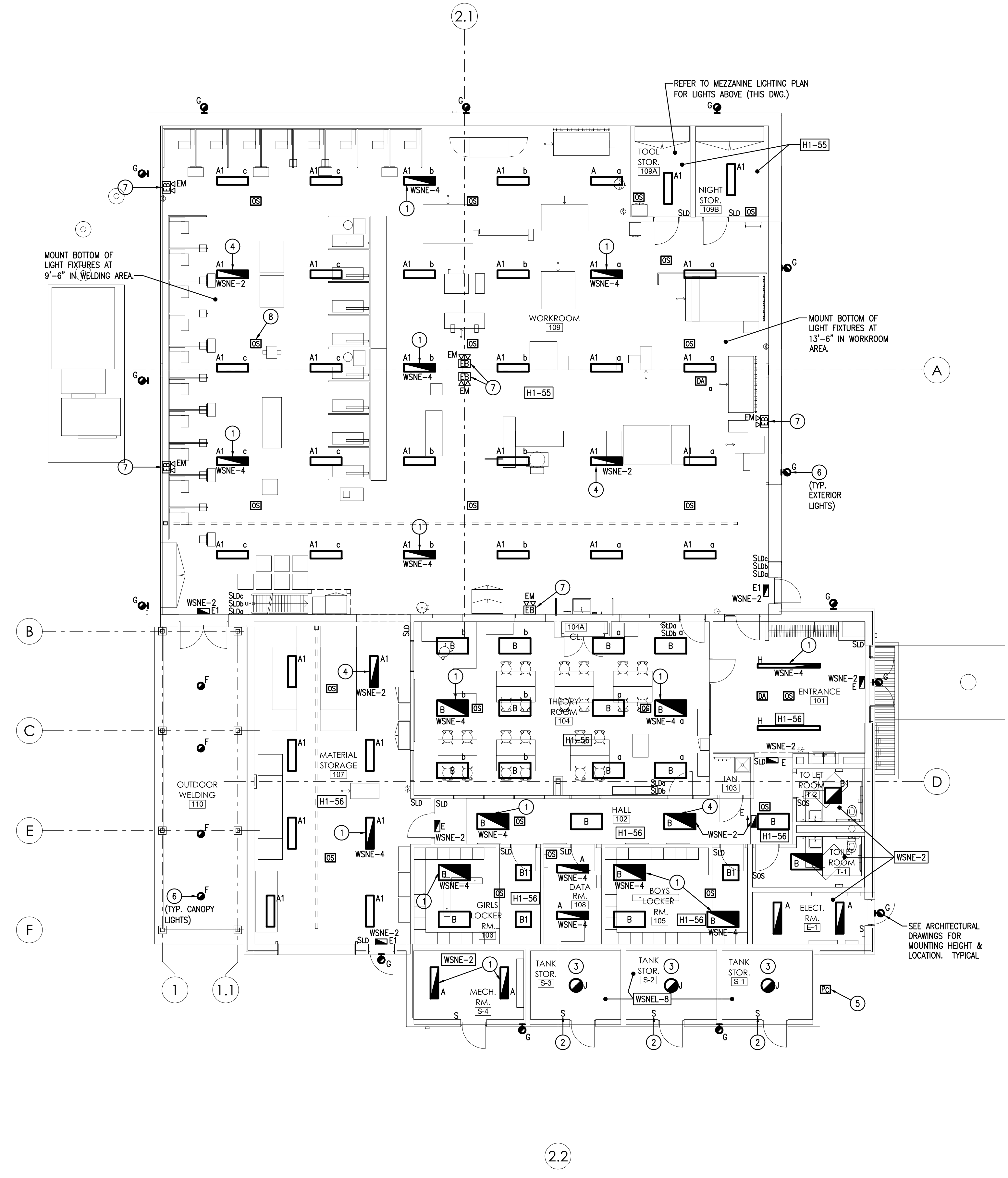
E-101



EXTERIOR LIGHTING CONTACTOR DETAIL
 NO SCALE



FLOOR PLAN - LIGHTING
 SCALE: 1/8" = 1'-0"

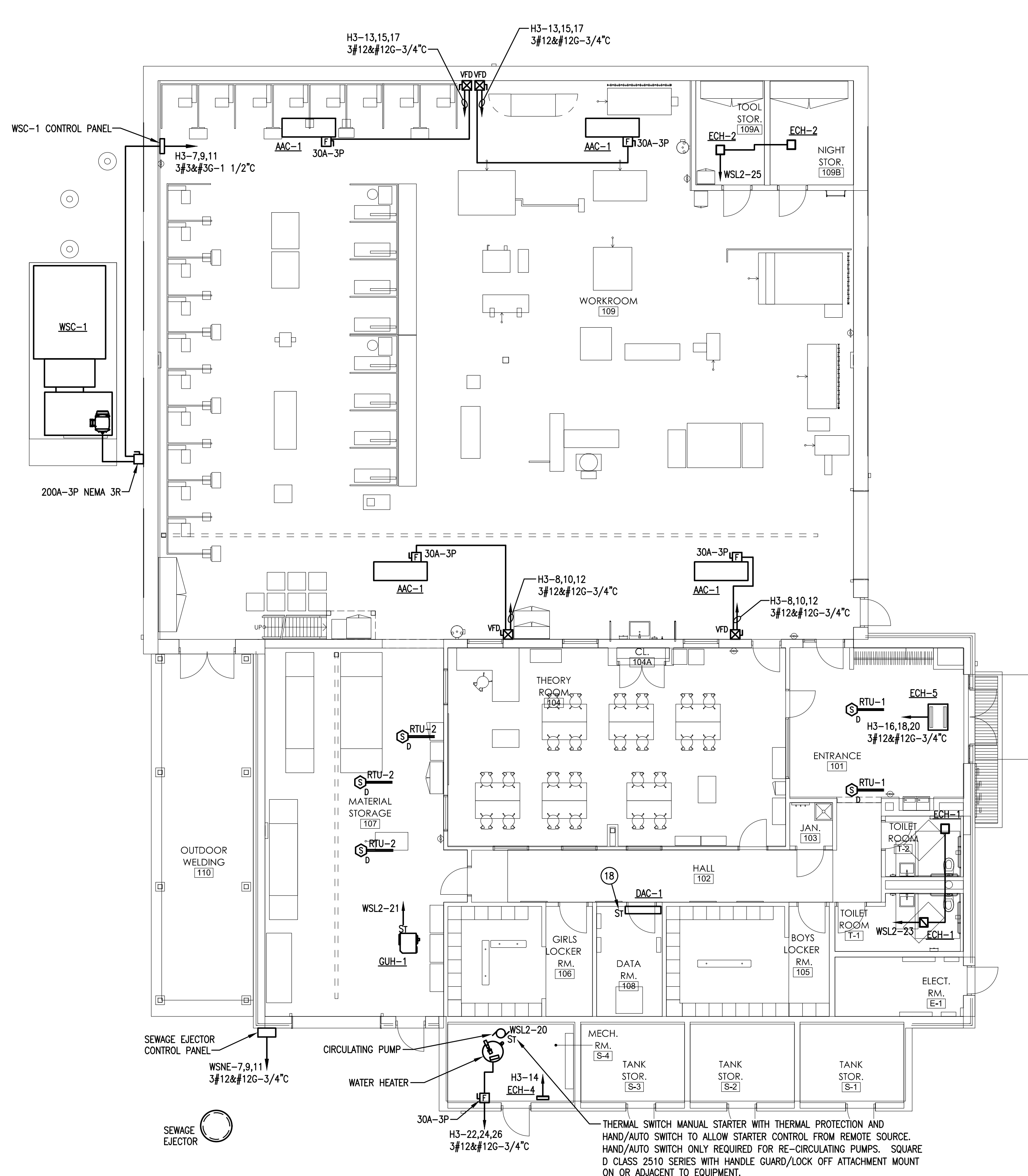


FLOOR PLAN - LIGHTING
 SCALE: 1/8" = 1'-0"

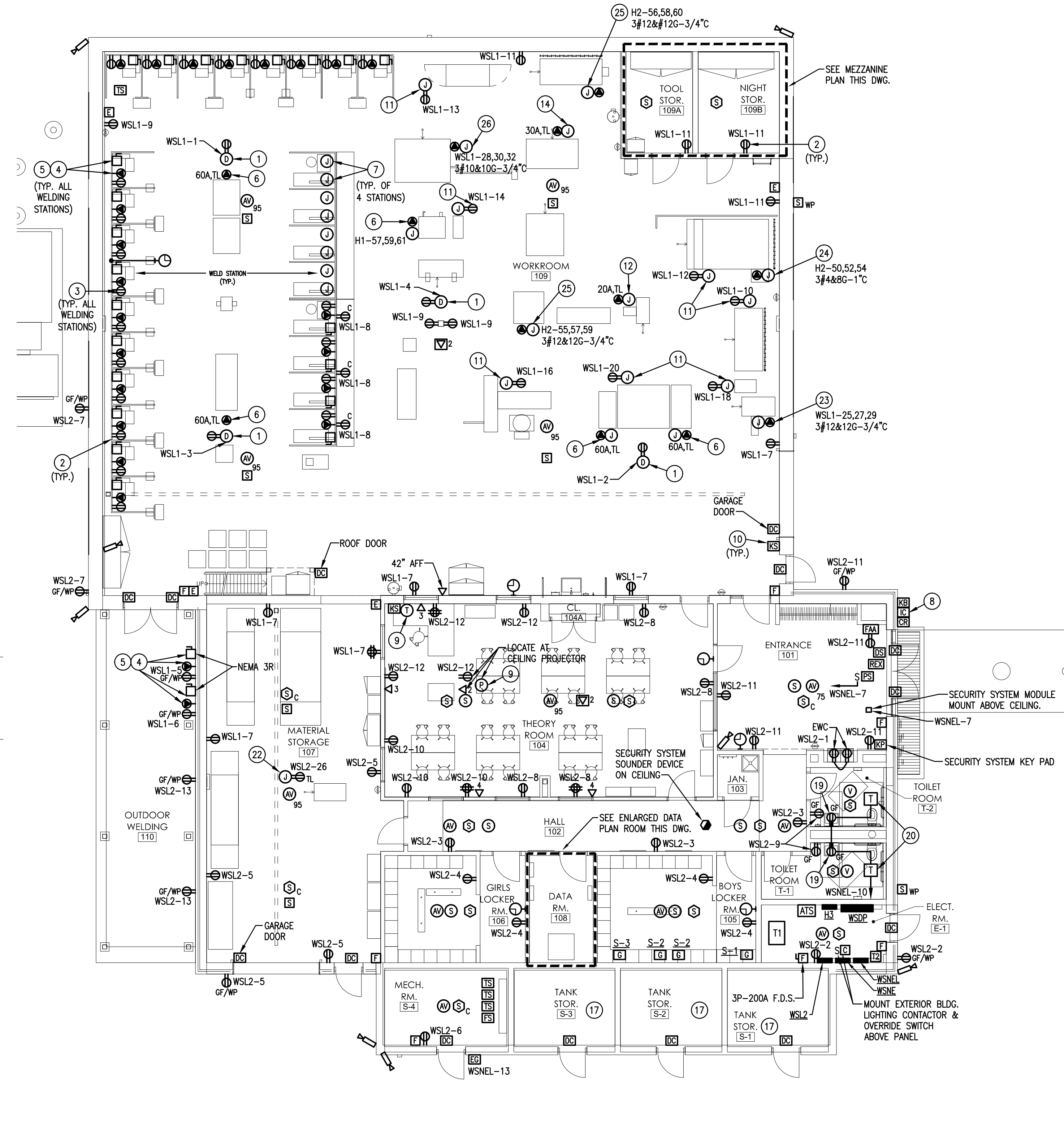
- DRAWING NOTES:**
1. FIXTURE TO DIM WITH OTHER ROOM LTS.
 2. PROVIDE EXPLOSION PROOF SEALED SWITCH (20 AMP, 120 VOLT)
 3. ALL WIRING IN ROOM SHALL BE EXPLOSION PROOF TYPE.
 4. FIXTURE WIRED TO 24/7 LIGHTING CIRCUIT.
 5. MOUNT EXTERIOR LIGHTING PHOTOCELL AS HIGH AS POSSIBLE ON WALL.
 6. CIRCUIT ALL EXTERIOR LIGHTS (TYPES 'G' & 'F') TOGETHER ON CIRCUIT WSNE-6. CIRCUIT SHALL BE RUN VIA EXTERIOR LIGHTING CONTACTOR.
 7. CONNECT "EM" LIGHT FIXTURE TO UNSWITCHED "CONSTANT" SIDE OF GENERAL LIGHTING CIRCUIT.
 8. PROVIDE HIGH BAY TYPE OCCUPANCY SENSOR (TYP. IN WORK ROOM 109).

TYPE	MANUFACTURER	CATALOG NUMBER	WATTS	VOLTS	MOUNTING	APPROVED SUBSTITUTES	REMARKS
A	DAYBRITE	V3W45L840DMLPA	35	UNV.	SURFACE/PENDANT	COLUMBIA LITHONIA	NOTE 1
A1	DAYBRITE	V3W470L840DMLPA	50	UNV.	PENDANT	COLUMBIA LITHONIA	NOTE 1
B	DAYBRITE	2FXP43L4DSDM	39	UNV.	RECESSED	COLUMBIA LITHONIA	
B1	DAYBRITE	2FXP38L2DSDM	33	UNV.	RECESSED	COLUMBIA LITHONIA	
C	FOCAL POINT	FARL24AC4000LH4OKLINW NOTE 2	34	UNV.	RECESSED	COLUMBIA LITHONIA	NOTE 2
D	MERCURY LIGHTING	LHW2270040KHTA1%	22	UNV.	SURFACE/PENDANT	COLUMBIA DAYBRITE	NOTE 3
E	LITHONIA	TLE-NOTE 4-R	1	UNV.	UNIVERSAL	COLUMBIA DAYBRITE	NOTE 4
E1	LITHONIA	LVSAB-R-UM-DL	1	UNV.	UNIVERSAL	COLUMBIA DAYBRITE	NOTE 4
F	ALCON LIGHTING	12302-P-B-B-13/11-40K-A40	13 DOWN	UNV.	NOTE 5	GOTHM COLUMBIA	NOTE 5&6, UP/DOWN LIGHT
G	GARDCO	101L-32-700-NW-G1-4-DD-CC	70	UNV.	WALL	LITHONIA	NOTE 6 & 7
H	FOCAL POINT	FSSS-FL80-875F-40K-1C-LM-L11-G-CL24-CUSTOM COLOR-8	30W / 4'	UNV.	PENDANT	LITHONIA COLUMBIA	DIRECT 20%, INDIRECT 80%, NOTE 6
J	SUPER BRIGHT LEDS.COM	EPLS-40-60-MG-P-U-G-N	60	120	SURFACE	CROUSE WINDS CO.	PROVIDE MOUNTING BRACKET, EXPLOSION PROOF RATED
K	LITHONIA	ZL1N-L24-2500LM-MOJLT-3K-80CR-WN	19	VMVOLT	SURFACE/CHAN	COLUMBIA DAYBRITE	W/LENS
M	LITHONIA	ELMR-LTP-WO	--	MMVOLT	SURFACE WALL	COLUMBIA DAYBRITE	EM BATT. PACK, WHITE

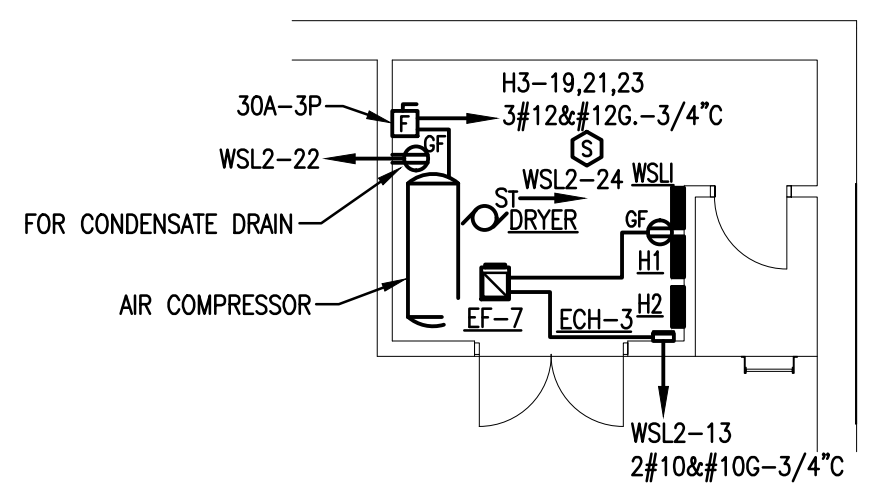
- LIGHTING FIXTURE SCHEDULE NOTES:**
1. PROVIDE STAINLESS STEEL MOUNTING HARDWARE AND STAINLESS STEEL CHAIN (LENGTH REQUIRED).
 2. VERIFY GRID SIZE WITH ARCHITECTURAL PLANS.
 3. PROVIDE MOUNTING HARDWARE AND CHAIN (LENGTH REQUIRED).
 4. PROVIDE SINGLE/DOUBLE FACE AS DESIGNATED ON PLAN.
 5. PROVIDE CUSTOM STEM/LENGTH.
 6. PROVIDE CUSTOM COLOR.
 7. REFER TO ARCHITECTURAL EXTERIOR ELEVATION DWG'S FOR LOCATION & MOUNTING HEIGHT.



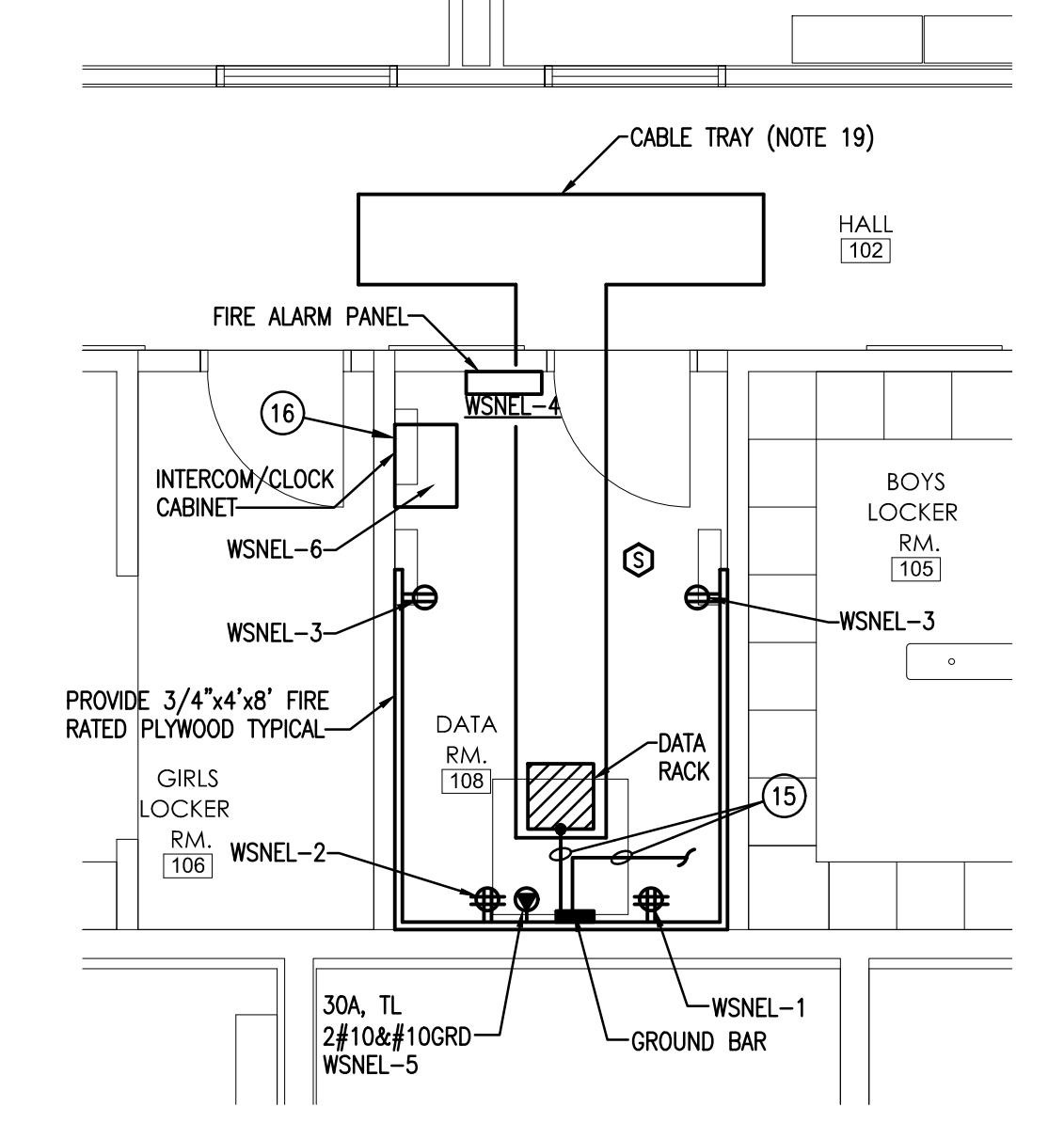
FLOOR PLAN - HVAC POWER
SCALE: 1/8" = 1'-0"



FLOOR PLAN - POWER
SCALE: 1/8" = 1'-0"



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



ENLARGED DATA ROOM PLAN
SCALE: 1/4" = 1'-0"

- DRAWING NOTES:**
- CABLE DROP REEL, PROVIDE MISCELLANEOUS STEEL FOR MOUNTING. SEE LEGEND FOR CATALOG NUMBER.
 - ALL 120V, 20AMP RECEPTACLES LOCATED IN WELDING WORKROOM 109 SHALL BE GROUND FAULT RECEPTACLE TYPE RECEPTACLES LOCATED AT CABLE DROP REELS SHOULD BE STANDARD 20 AMP RECP. WITH GROUND FAULT TYPE CIRCUIT BREAKER PROTECTION. RECP'S AT ENDS OF SJO CORD DROPS SHALL BE TWIST LOCK RECEPT'S W/OF CIRCUIT BREAKERS.
 - ALL WELDER STATION 120V, 20 AMP GROUND FAULT RECEPTACLES SHALL BE PROVIDED WITH WHILE IN USE COVER TO PROTECT RECEPTACLE. EACH COVER SHALL BE LABELED WITH WELDING BOOTH AND CIRCUIT BREAKER NUMBER.
 - PROVIDE 60A, 3P, 480 VOLT TWIST LOCK RECEPTACLE AND BOX, WITH 3P-60A WFS ABOVE. WIRE 60A RECEPT VIA DISCONNECT SWITCH. LABEL FRONT OF DISCONNECT WITH WELDING STATION NUMBER AND CIRCUIT BREAKER NUMBER. RECEPT SHALL BE COORDINATED WITH OWNER'S EXISTING WELDER STATION PLUGS. VERIFY MTG, HT & EXACT LOCATION OF RECEPT. & NFDS W/ OWNER PRIOR TO ROUGH-IN.
 - RUN 3/4" W/ #8GRD VIA 1" CONDUIT TO PANEL 'H1' OR 'H2' RESPECTIVELY FROM EACH WELDING STATION N.F.D.S. LABEL N.F.D.S. WITH CIRCUIT & BOOTH NUMBER. PROVIDE NEMA 3R NFDS FOR OUTSIDE WELDING STATION CONNECTIONS.
 - PROVIDE OVERHEAD 480 VOLT, 60A 3P TWIST LOCK RECEPTACLE AT TABLE OR PORTABLE WELDER LOCATION. PROVIDE SJO CORD DOWN FROM ABOVE. RUN 3/4" W/ #8GRD-1" TO PANEL 'H1' OR 'H2' RESPECTIVELY. LABEL CIRCUIT WITH BOOTH NUMBER.
 - PROVIDE (1) 480V 3P JUNCTION BOX & ONE 120V 1P JUNCTION BOX UP AT STEEL. RUN 1" CONDUIT FROM 480 VOLT JUNCTION BOX LOCATION TO PANEL 'H2'. RUN 3/4" CONDUIT FROM 120V JUNCTION BOX LOCATION TO PANEL WSL1. CONDUIT & BOXES FOR FUTURE WELDING STATIONS.
 - MOUNT FLUSH WALL BOX FOR INTERCOM STATION. BOX SUPPLIED BY OWNER'S VENDOR. RUN CAT 6 DATA CABLE FROM IC STATION TO DATA RACK.
 - RUN (2) HDMI CABLES FROM TEACHER'S DESK INPUT LOCATION TO PROJECTOR. E.C. SHALL BE RESPONSIBLE TO MOUNT PROJECTOR BRACKET, RUN POWER, DATA & HDMI CABLES/CONNECTIONS. PROJECTOR BY OTHERS. VERIFY DESK LOCATION IN FIELD W/OWNER PRIOR TO ROUGH-IN.
 - VERIFY E-STOP EXACT LOCATION W/OWNER PRIOR TO ROUGH-IN.
 - PROVIDE JUNCTION BOX AT STEEL. DROP 120 VOLT 1P WIRING (SJO) FROM OVERHEAD JUNCTION BOX TO ABOVE SHOP EQUIPMENT. HEIGHT OF CONNECTION/EXACT LOCATION OF DROP SHALL BE VERIFIED WITH OWNER SO IT DOES NOT INTERFERE WITH OPERATION OF EQUIPMENT. PROVIDE RECEPT/HARD WIRE CONNECTION AS REQUIRED. RECEPT SHALL BE TWIST LOCK LS-20R TYPE.
 - PROVIDE OVERHEAD 480 VOLT, 20 AMP 3P TWIST LOCK RECEPT. AT TABLE. PROVIDE SJO CORD DOWN FROM JUNCTION BOX TO ABOVE TABLE. RUN 3/4" W/ #12GRD -3/4" TO PANEL 'H2'. LABEL CIRCUIT "DRILL PRESS". PROVIDE L16-20R RECEPT. (H2-44,46,48)
 - PROVIDE OVERHEAD 480 VOLT, 20 AMP 3P TWIST LOCK RECEPT. FOR AIR COMPRESSOR. PROVIDE SJO CORD DOWN FROM JUNCTION BOX TO ABOVE. RUN 3/4" W/ #12GRD -3/4" TO PANEL 'H2'. PROVIDE L16-20R RECEPT. (H2-43,45,47)
 - PROVIDE OVERHEAD 480 VOLT, 30 AMP 3P TWIST LOCK RECEPT. (L16-30R) FOR SCOTCHMAN METAL BREAK. PROVIDE SJO CORD DOWN FROM JUNCTION BOX TO ABOVE. RUN 3/4" W/ #10GRD -3/4" TO PANEL 'H2'. (H2-48,51,53)
 - PROVIDE 4/0 COPPER GROUND FROM GROUND BAR TO 'WSPD' AND FROM GROUND BAR TO DATA RACK. PROVIDE CONNECTIONS.
 - PROVIDE EXPLOSION PROOF FITTINGS AND DEVICES TO MEET N.E.C REQUIREMENTS.
 - CONNECT INDOOR UNIT TO ASSOCIATED ROOFTOP CONDENSING UNIT CU. TERMINAL BLOCK WITH WIRING (QUANTITY AND SIZE) PER MANUFACTURER RECOMMENDATIONS.
 - PROVIDE RECEPTACLE FOR SINK SENSOR, VERIFY EXACT LOCATION WITH P.C.
 - PROVIDE CONNECTION TO TRANSFORMER FOR FLUSH VALVES. VERIFY EXACT LOCATION WITH P.C.
 - PROVIDE 24" W x 4" D CABLE TRAY RUN ABOVE RACK TO ABOVE ACCESSIBLE CEILING IN CORRIDOR. PROVIDE SUPPORT, FITTINGS ETC.
 - HOIST JUNCTION & RECEPT. MOUNT UP HIGH. VERIFY EXACT LOCATION & HEIGHT W/EQUIPMENT SUPPLIER.
 - PROVIDE OVERHEAD 208 VOLT, 20 AMP, 3P TWIST-LOCK REPT. FOR LATHE. PROVIDE SJO CORD DOWN FROM JUNCTION BOX TO ABOVE. CONNECT TO PANEL INDICATED.
 - PROVIDE OVERHEAD 480 VOLT, 60 AMP, 3P TWIST-LOCK REPT. FOR PLASMA CUTTER. PROVIDE SJO CORD DOWN FROM JUNCTION BOX TO ABOVE. CONNECT TO PANEL INDICATED.
 - PROVIDE OVERHEAD 480 VOLT, 20 AMP, 3P TWIST-LOCK REPT. FOR DRILL PRESS OR BAND SAW. PROVIDE SJO CORD DOWN FROM JUNCTION BOX TO ABOVE. CONNECT TO PANEL INDICATED.
 - PROVIDE OVERHEAD 208 VOLT, 30 AMP, 3P TWIST-LOCK REPT. FOR HYDRAULIC PRESS. PROVIDE SJO CORD DOWN FROM JUNCTION BOX TO ABOVE. CONNECT TO PANEL INDICATED.

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

955 BIRKSHIRE BLVD., SUITE 101
WYOMISSING, PA 19310
610.376.4927
www.MG-Architects.com

PROJECT #:
4525A

CONSULTANT
CONSOLIDATED ENGINEERS
1023 James Drive
Leesport, PA 19553
Tel 610-916-1800 Fax 610-916-1610
www.consolidatedengineers.com

PROFESSIONAL SEAL

Christopher D. Van Campen
ChrisV@cemec.com

READING MUHLBERG CAREER & TECHNOLOGY CENTER
contact: ERIC KAHLER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahler@rmctc.org

READING MUHLBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID

DATE: 5/17/2022

REV	DESCRIPTION	DATE

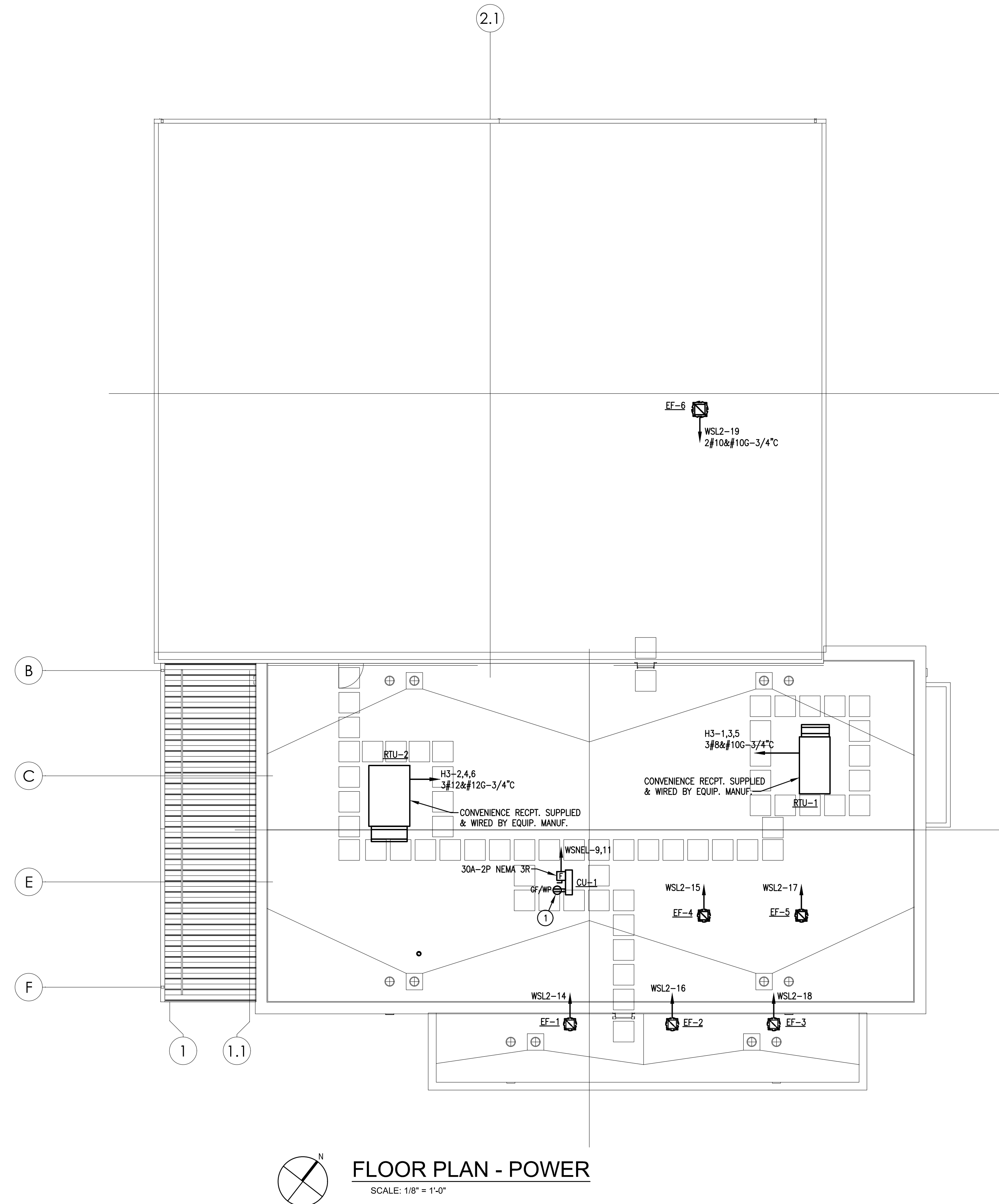
PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: RG
CLIENT PROJ #:

VERIFY SCALE
0 1
BAR & ONE (1) INCH LONG ON ORIGINAL DRAWING

COPYRIGHT © 2022 ALL RIGHTS RESERVED. NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRODUCED, COPIED OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUHLBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGNS AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER. NOR ARE THEY TO BE ADDED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MUHLBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUHLBERG GREENE ARCHITECTS, LTD.

WELDING BUILDING
SHEET TITLE:
FLOOR PLAN - POWER

E-102



FLOOR PLAN - POWER
SCALE: 1/8" = 1'-0"

- DRAWING NOTES:**
1. MOUNT ROOFTOP RECEPTACLE ON OR ADJACENT TO UNIT MINIMUM 18" ABOVE ROOF. CONNECT TO NEAREST UNSWITCHED CORRIDOR OR STORAGE ROOM 120V RECEPTACLE CIRCUIT VIA 2#12~-3/4"C.



ARCHITECTURAL DESIGN
INTERIOR DESIGN
CODE ANALYSIS
PLANNING SERVICES
REPORTS AND STUDIES
ENGINEERING SERVICES
HISTORIC PRESERVATION

955 BERKSHIRE BLVD., SUITE 101
WYOMISSING, PA 19380
610.376.4927
www.MG-Architects.com

PROJECT #:
4525A

CONSULTANT
CONSOLIDATED ENGINEERS
1029 James Drive
Leesport, PA 19638
Tel 610-916-1800 Fax 610-916-1610
www.consolidatedengineers.com



READING MUHLENBERG CAREER & TECHNOLOGY CENTER
contact: ERIC KAHLER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahler@rmctc.org

READING MUHLENBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID

DATE: 5/17/2022

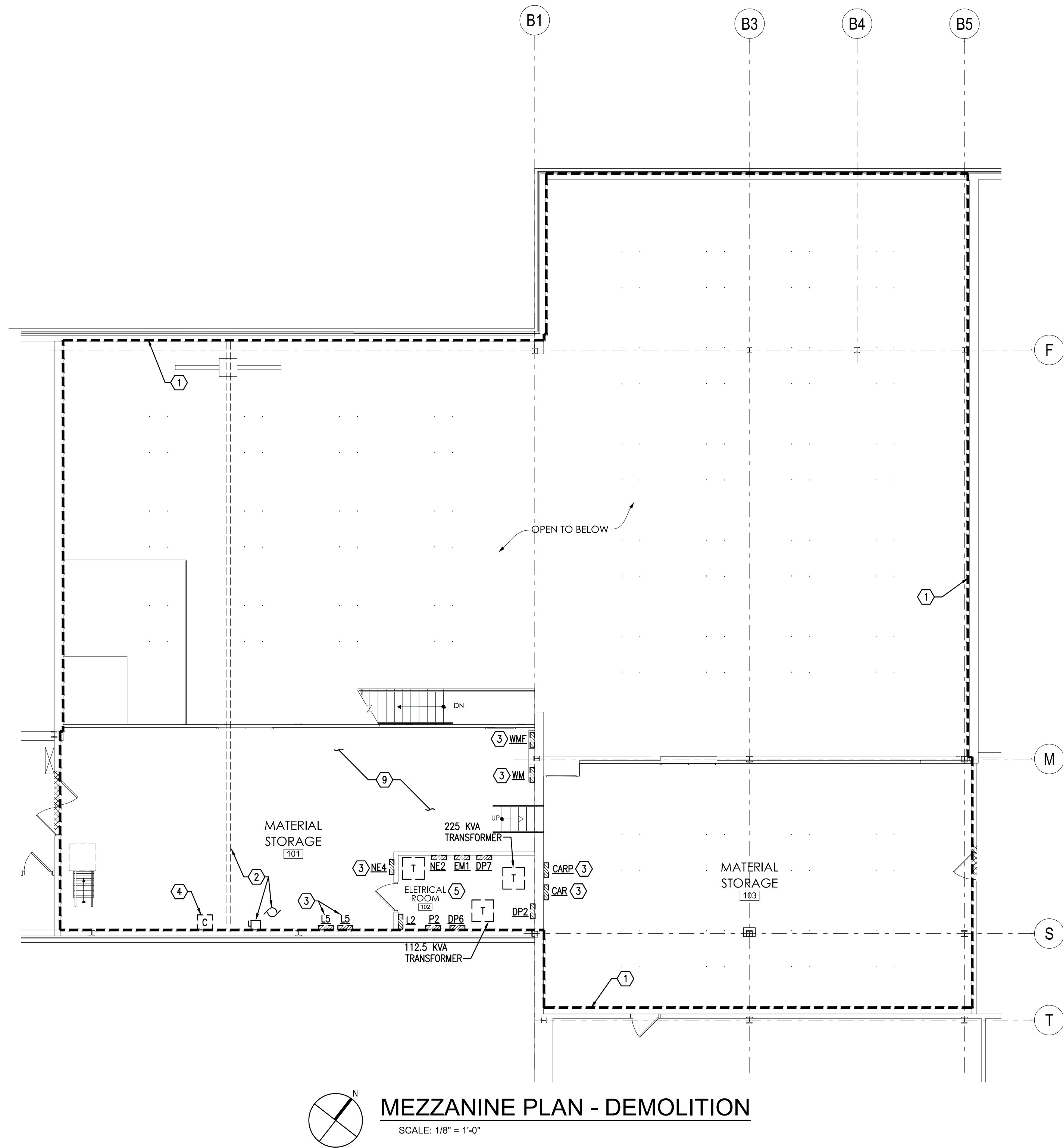
REV. ID.	DESCRIPTION	DATE

PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: RG
CLIENT PROJ #: -
VERIFY SCALE
0 1
BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING

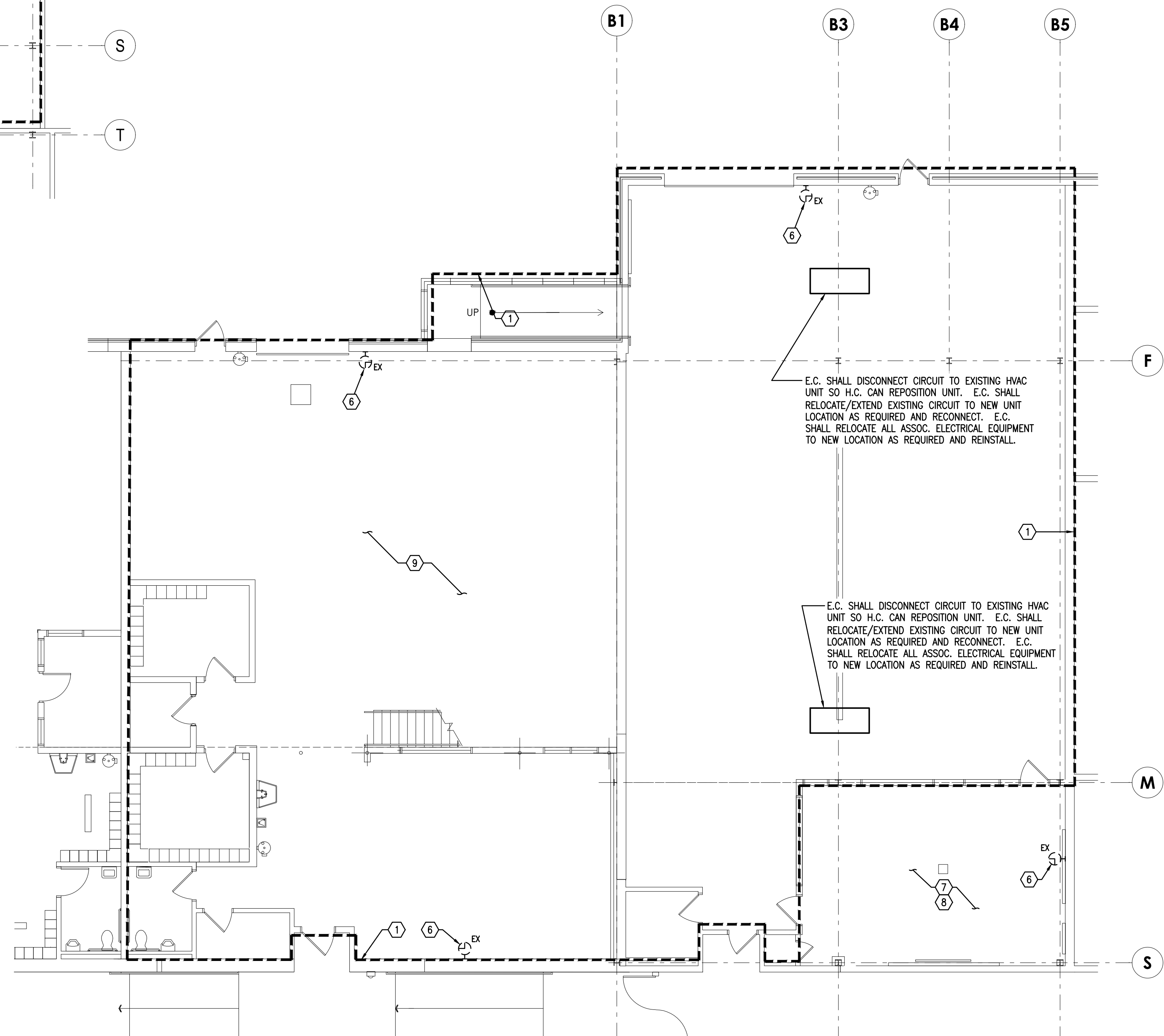
COPYRIGHT © 2022 ALL RIGHTS RESERVED NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRODUCED, COPIED OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUHLENBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGNS AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER, NOR ARE THEY TO BE ADJANCED TO ANY THIRD PARTY WITHOUT THE WRITING OF THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MUHLENBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUHLENBERG GREENE ARCHITECTS, LTD.

WELDING BUILDING
SHEET TITLE:
ROOF PLAN - POWER

E-103



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



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

DEMO NOTES:

1. DISCONNECT AND REMOVE ALL ELECTRICAL EQUIPMENT FROM SPACE UNLESS NOTED OTHERWISE. EQUIPMENT SHALL INCLUDE BUT NOT LIMITED TO: WIRING DEVICES, LIGHT FIXTURES, CLOCKS, SPEAKERS, DATA WIRING, DISCONNECTS, PANELS, SECURITY DEVICES, HANGER SUPPORTS, FIRE ALARM DEVICES, ETC. REMOVE ALL CONDUIT AND WIRING.
2. EXISTING CRANE TO REMAIN.
3. EXISTING PANEL 'WM' CONTACTOR TO REMAIN.
4. EXISTING PANEL 'WM' CONTACTOR TO REMAIN.
5. ALL ELECTRICAL ROOM PANELS AND TRANSFORMERS TO REMAIN UNLESS NOTED OTHERWISE.
6. EXISTING DIGITAL CLOCK TO REMAIN.
7. DISCONNECT AND REMOVE EXISTING THEORY ROOM LIGHTS, SWITCHES/CONTROLS, CONDUIT & WIRING.
8. ELECTRICAL DEVICES IN EXISTING THEORY ROOM TO REMAIN, UNLESS NOTED OTHERWISE.
9. E.C. SHALL BE RESPONSIBLE TO DISCONNECT ALL EXISTING WELDING EQUIPMENT FOR REMOVAL BY G.C. ALL EQUIPMENT SHALL BE MOVED TO NEW WELDING BUILDING BY G.C. AND RECONNECTED BY E.C. E.C. TO DOCUMENT ALL EXISTING EQUIPMENT CIRCUITRY AND HOW CONNECTED, SIZE, VOLTAGE & PHASE. REFER TO GENERAL DEMOLITION NOTE #1 AND GENERAL ELECTRICAL NOTE #20 & #22 ADDITIONAL INFORMATION.



ARCHITECTURAL DESIGN
INTERIOR DESIGN
CODE ANALYSIS
PLANNING SERVICES
REPORTS AND STUDIES
ENGINEERING SERVICES
HISTORIC PRESERVATION

955 BERKSHIRE BLVD., SUITE 101
WYOMISSING, PA 19380
610.376.4927
www.MG-Architects.com

PROJECT #:
4525A

CONSULTANT
CONSOLIDATED ENGINEERS
1029 James Drive
Leesport, PA 19538
Tel 610-916-1800 Fax 610-916-1610
www.consolidatedengineers.com



PROFESSIONAL SEAL
Christopher D. Van Campen
ChrisV@cemec.com

READING MUHLENBERG CAREER & TECHNOLOGY CENTER
contact: ERIC KAHLER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahler@rmctc.org

READING MUHLENBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID
DATE: 5/17/2022

REV. NO.	DESCRIPTION	DATE

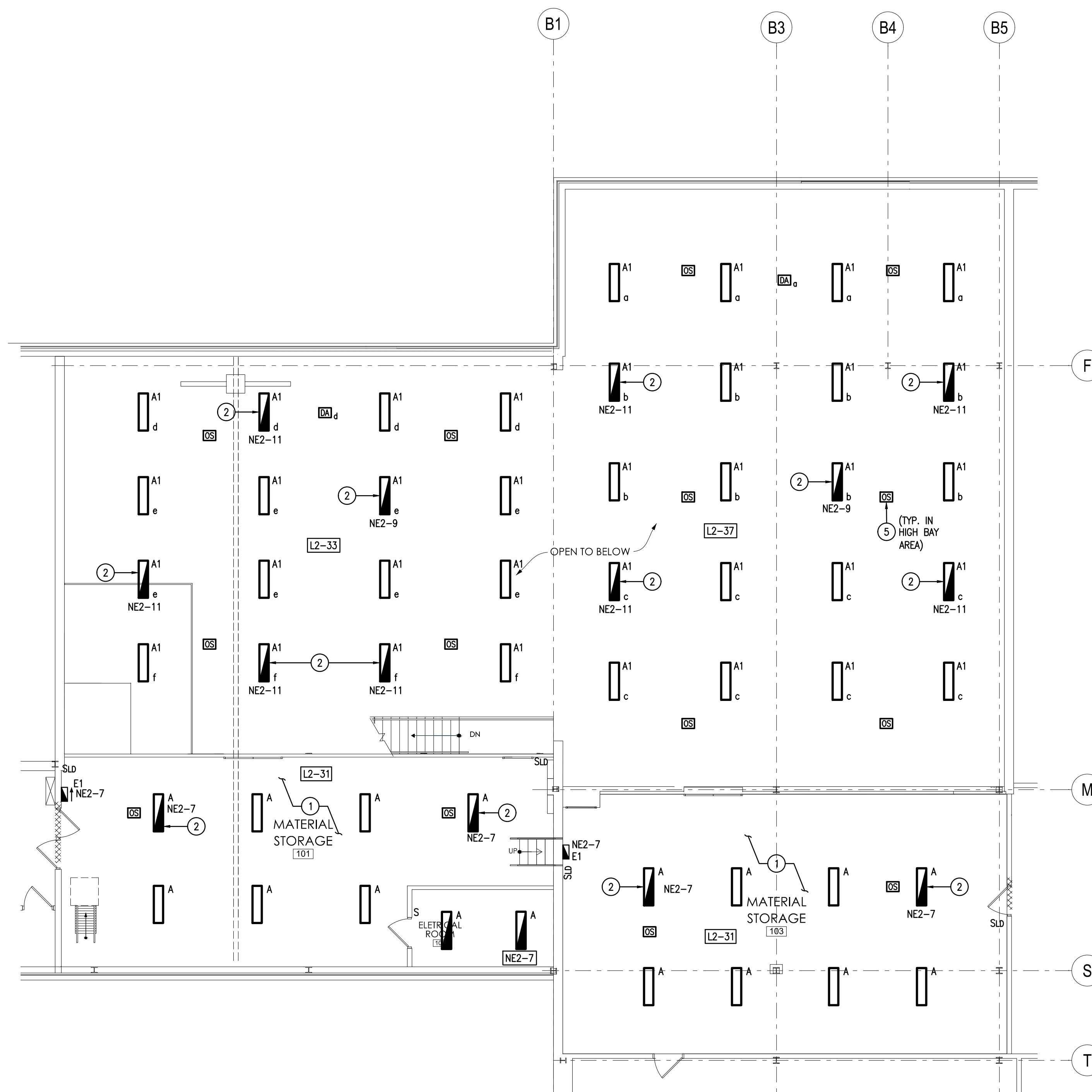
PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: RG
CLIENT PROJ #:

VERIFY SCALE
0 1
BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING

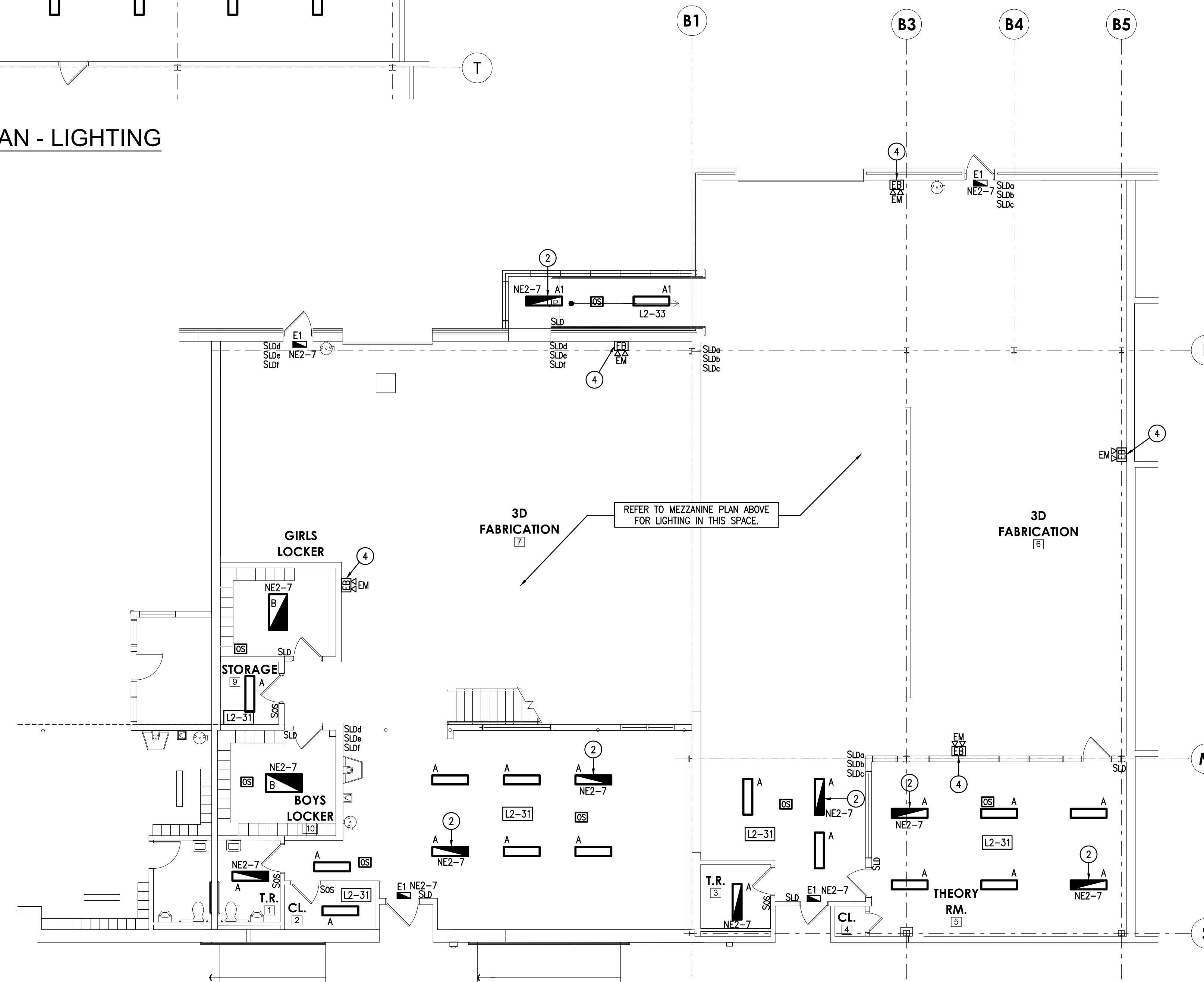
3D FABRICATION
SHEET TITLE:
ELECTRICAL DEMOLITION PLAN

ED-104

REFER TO DRAWING E-201 FOR ALL PROJECT GENERAL DEMOLITION NOTES.



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



FIRST FLOOR PLAN - LIGHTING
SCALE: 1/8" = 1'-0"

KEYED DRAWING NOTES

1. INSTALL LIGHT FIXTURES EVENLY THROUGHOUT SPACE. AROUND EXIST PIPING, CONDUIT, ETC.
2. FIXTURE TO DIM WITH OTHER ROOM LIGHT FIXTURES.
3. FIXTURE TO BE WIRED TO 24/7 NE CIRCUIT.
4. CONNECT EMERGENCY ONLY LIGHT FIXTURE TO ROOM LINE SIDE (CONSTANT) GENERAL LIGHTING CIRCUIT.
5. PROVIDE HIGH BAY OCCUPANCY SENSOR (TYP. IN HIGH OPEN AREA 3D MANUFACTURING SHOP AREA).



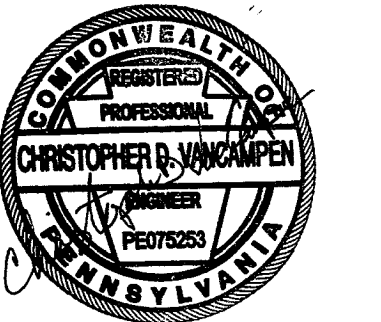
ARCHITECTURAL DESIGN
INTERIOR DESIGN
CODE ANALYSIS
PLANNING SERVICES
REPORTS AND STUDIES
ENGINEERING SERVICES
HISTORIC PRESERVATION

955 BERKSHIRE BLVD., SUITE 101
WYOMISSING, PA 19380
610.376.4927
www.MG-Architects.com

PROJECT #:
4525A

CONSULTANT
CONSOLIDATED ENGINEERS
1022 James Drive
Leesport, PA 19658
Tel 610-916-1800 Fax 610-916-1610
www.consolidatedengineers.com

PROFESSIONAL SEAL



Christopher D. Van Campen
ChrisV@cemec.com

READING MUHLENBERG CAREER & TECHNOLOGY CENTER
contact: ERIC KAHLER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahler@rmctc.org

READING MUHLENBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID

DATE: 5/17/2022

REV. NO.	DESCRIPTION	DATE

PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: RG
CLIENT PROJ #:

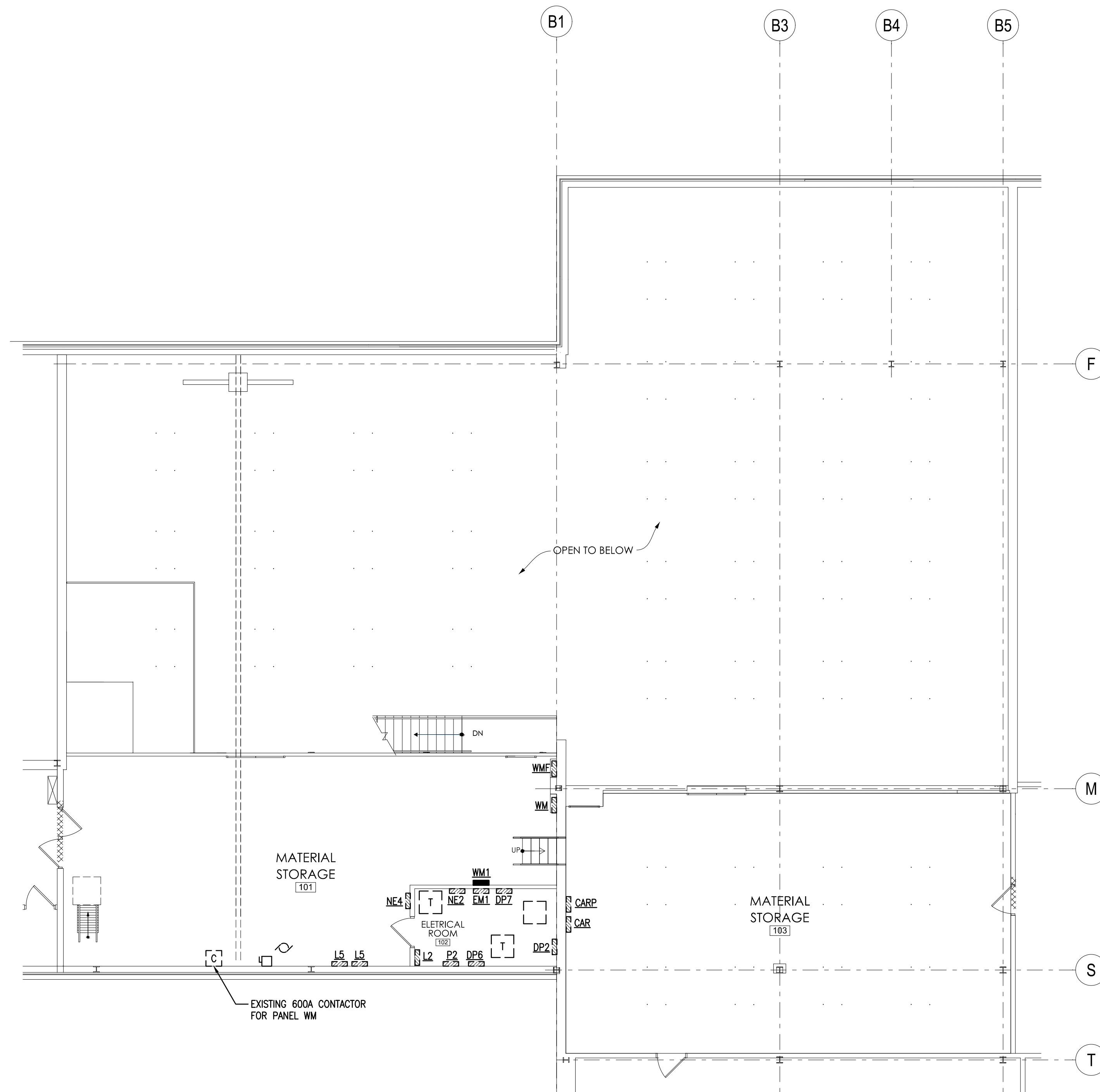


COPYRIGHT © 2022. ALL RIGHTS RESERVED. NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRODUCED, COPIED, OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUHLENBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGNS AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER, NOR ARE THEY TO BE ADVERTISED TO ANY THIRD PARTY WITHOUT THE WRITTEN PERMISSION AND CONSENT OF MUHLENBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUHLENBERG GREENE ARCHITECTS, LTD.

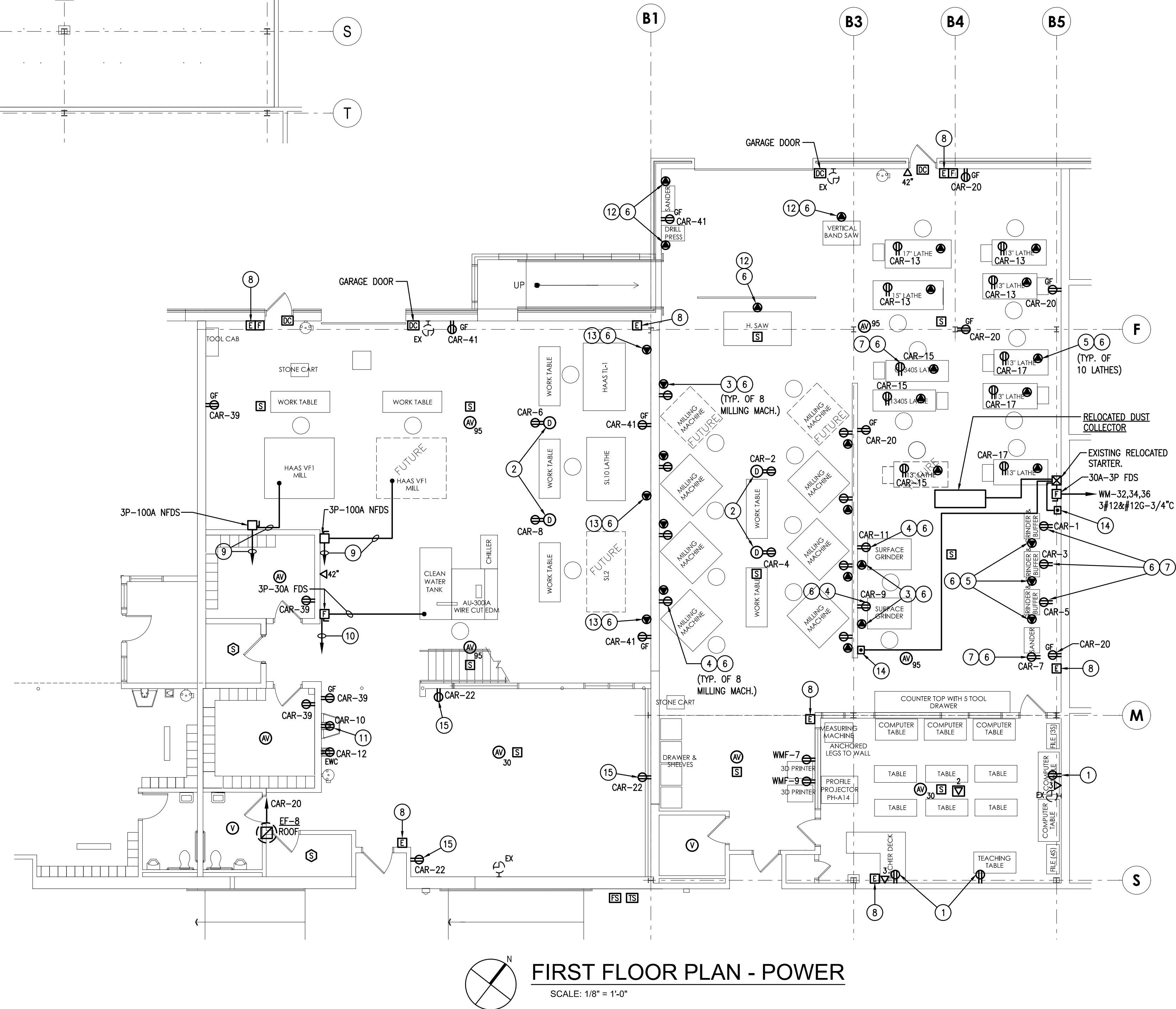
3D FABRICATION
SHEET TITLE:

FLOOR PLANS - LIGHTING

E-105



MEZZANINE PLAN - POWER
SCALE: 1/8" = 1'-0"



FIRST FLOOR PLAN - POWER
SCALE: 1/8" = 1'-0"

KEYED DRAWING NOTES:

1. ADD DUPLEX RECEPTACLE INTO EXISTING NON METALLIC RACEWAY. CONNECT RECEPTACLE TO EXISTING CIRCUIT IN RACEWAY.
2. CABLE DROP CORD. PROVIDE MISCELLANEOUS STEEL FOR MOUNTING. SEE LEGEND FOR CATALOG NUMBER.
3. PROVIDE 480V 3Ø 20 AMP TWIST LOCK RECEPT FOR MILLING MACHINE OR GRINDER (VERIFY HEIGHT W/INSTRUCTOR PRIOR TO INSTALLING). RUN 3Ø12W/Ø12GRD.-3/4" TO PANEL 'WM1'. CONNECT TO 3P-20A CIRCUIT BREAKER. RECEPT TO MATCH OWNER'S EQUIP PLUG.
4. PROVIDE 120V 1Ø 20 AMP TWIST LOCK RECEPT (VERIFY HEIGHT W/INSTRUCTOR PRIOR TO INSTALLING). RUN 2Ø12W/Ø12GRD.-3/4" TO PANEL 'CAR'. CONNECT TO 1P-20A CIRCUIT BREAKER.
5. PROVIDE 480V 3Ø 20 AMP TWIST LOCK RECEPT FOR LATHE OR BUFFER. RUN 3Ø12W/Ø12GRD.-3/4" TO PANEL 'WM' OR 'WM1'. CONNECT TO 3P-20A CIRCUIT BREAKER. RECEPT TO MATCH OWNER'S EQUIP PLUG. PROVIDE SJO CORD FROM JUNCTION BOX AT STEEL DOWN TO EQUIPMENT.
6. COORDINATE EXACT LOCATION OF RECEPT. WITH OWNER PRIOR TO INSTALLING TO MAKE SURE LOCATION OF RECEPT. DOES NOT INTERFERE WITH OPERATION OF EQUIPMENT.
7. PROVIDE 120V 1Ø 20 AMP TWIST LOCK RECEPT. RUN 2Ø12W/Ø12GRD.-3/4" TO PANEL 'WMF'. CONNECT TO 1P-20A CIRCUIT BREAKER. PROVIDE SJO CORD FROM JUNCTION BOX AT STEEL DOWN TO RECEPT AT EQUIPMENT.
8. CONNECT EMERGENCY STOP TO PANEL CONTACTORS FOR PANELS 'WMF', 'WM', 'CAR', & 'CARP'.
9. RUN 3Ø3W/Ø8GRD.-1 1/4" TO PANEL 'WMF'. CONNECT TO 3P-80A C.B. RUN TO MILL OVERHEAD AND DROP DOWN FROM JUNCTION BOX ABOVE AT STEEL WITH SJO CABLE. MAKE HARD CONNECTION TO EQUIP.
10. RUN 3Ø1ØW/Ø1ØGRD.-3/4" TO PANEL 'WM'. CONNECT TO 3P-30A C.B. RUN TO WIRE CUT EDM OVERHEAD WITH SJO CORD FROM JUNCTION BOX TO EQUIP. PROVIDE HARD CONNECTION.
11. WASH FOUNTAIN, COORDINATE RECEPTACLE LOCATION WITH P.C.
12. PROVIDE 240V, 2ØA, 3Ø TWISTLOCK RECEPT. RUN 3Ø12W/Ø12GRD.-3/4" TO PANEL 'CARP'. CONNECT TO SPARE 3P-15A CIRCUIT BREAKER IN PANEL. RELABEL PANEL SCHEDULE CORRECTLY WITH EQUIPMENT NAME.
13. PROVIDE 240V, 4ØA, 3Ø TWIST LOCK RECEPT. RUN 3Ø8W/Ø1ØGRD.-3/4" TO EXISTING PANEL 'CARP'. REMOVE EXISTING CIRCUIT BREAKER AND REPLACE W/4ØA-3P CIRCUIT BREAKER & CONNECT RELABEL PANEL SCHEDULE CORRECTLY WITH EQUIPMENT NAME.
14. EXISTING RELOCATED START/STOP PUSH BUTTON CONTROL. PROVIDE ALL REQUIRED WIRING IN 3/4" CONDUIT AND CONNECT TO EXISTING RELOCATED STARTER AS REQUIRED.
15. COORDINATE EXACT LOCATION WITH STORAGE RACKING TO ENSURE RECEPTACLES ARE ACCESSIBLE.



ARCHITECTURAL DESIGN
INTERIOR DESIGN
CODE ANALYSIS
PLANNING SERVICES
REPORTS AND STUDIES
ENGINEERING SERVICES
HISTORIC PRESERVATION

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

PROJECT #:
4525A

CONSULTANT
CONSOLIDATED ENGINEERS
1029 James Drive
Leesport, PA 19658
Tel 610-916-1800 Fax 610-916-1610
www.consolidatedengineers.com

PROFESSIONAL SEAL



Christopher D. Van Campen
ChrisV@cemec.com

READING MUHLENBERG CAREER & TECHNOLOGY CENTER
TECHNOLOGY CENTER
contact: ERIC KAHLER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahler@rmctc.org

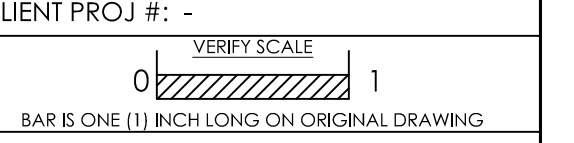
READING MUHLENBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID

DATE: 5/17/2022

REV. NO.	DESCRIPTION	DATE

PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: RG
CLIENT PROJ #:

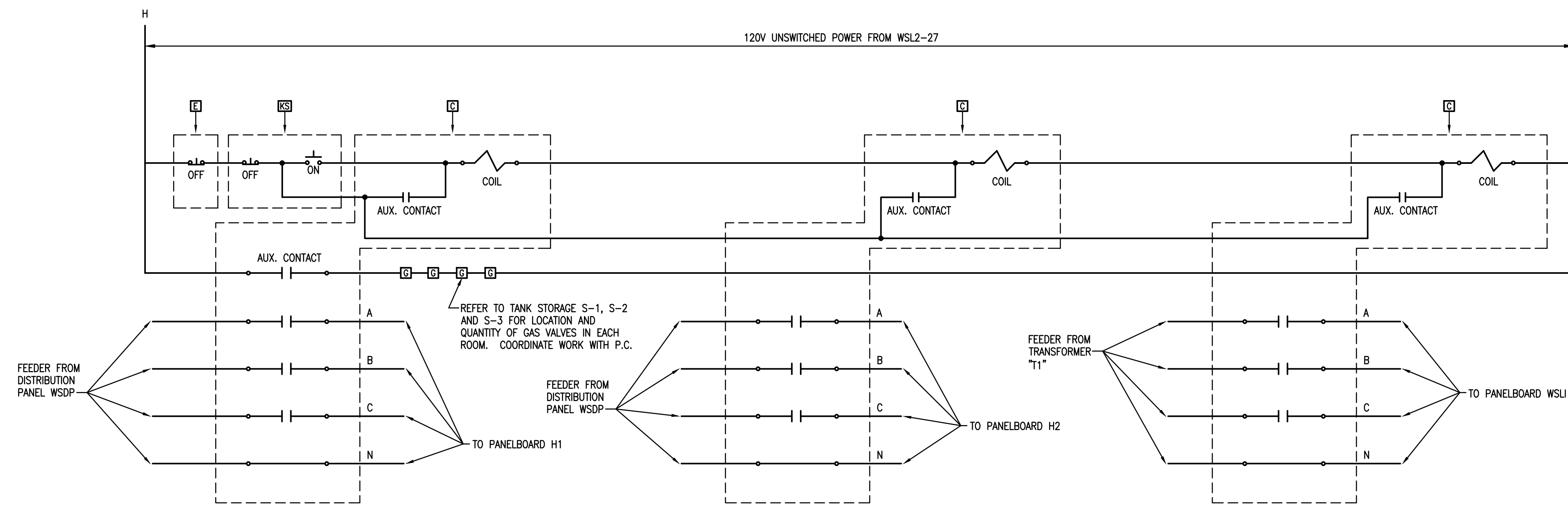


COPYRIGHT © 2022. ALL RIGHTS RESERVED. NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRODUCED, COPIED OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUHLENBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGNS AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER, NOR ARE THEY TO BE ADAPTED TO ANY OTHER PROJECT WITHOUT THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MUHLENBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUHLENBERG GREENE ARCHITECTS, LTD.

3D FABRICATION
SHEET TITLE:

FLOOR PLANS - POWER

E-106



EQUIPMENT SCHEDULE

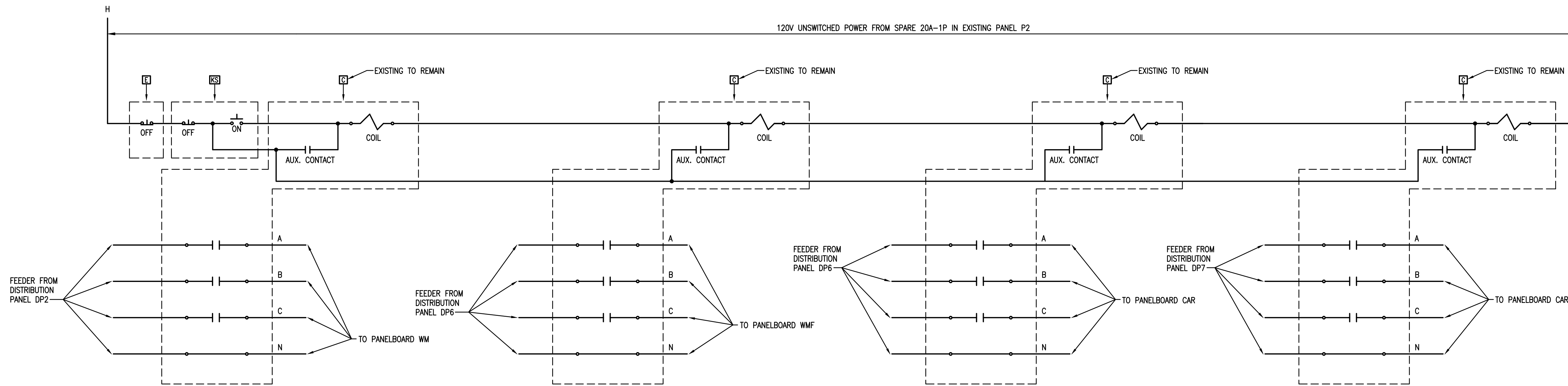
- ES KEY OPERABLE 2-POSITION SELECTOR SWITCH, MOMENTARY CONTACT, KEY REMOVABLE ONLY IN RETURNED POSITION, ESCUTCHEON MARKED "ON" SQUARE D CAT. NO. 9001KS34K1 AND LEGEND PLATE "ON". PROVIDE MUSHROOM HEAD PUSHBUTTON SIMILAR TO REMOTE STATION IN PLATE.
- E MUSHROOM HEAD PUSHBUTTON WITH RED CAP, SQUARE D CAT. NO. 9001KRSRH5 AND LEGEND PLATE "OFF". MOUNT PUSHBUTTON 42" AFF. (SEE FLOOR PLAN FOR NUMBER OF LOCATIONS.)
- C CONTACTOR TO BE 3POLE + SN MECHANICALLY HELD WITH 2-WIRE INTERFACE WIRED FOR NORMALLY CLOSED OPERATION, SIMILAR TO SQUARE 'D' 8903 SERIES W/ FORM LETTER R6, IN NEMA 1 ENCLOSURE MOUNTED ABOVE OR BELOW PANELBOARD. COIL TO BE RATED FOR 120VAC, UNO. REFER TO RISER DIAGRAM DWG. E-301 FOR CONTACTOR SIZES.
- G GAS VALVE PROVIDED BY P.C., WIRED BY E.C.

NOTES:

1. CONTROL WIRING SHALL BE #14 STRANDED LOW VOLTAGE WIRE. EC SHALL WIRE SELECTOR SWITCH, EMERGENCY PUSHBUTTONS AND CONTACTOR AS INDICATED ABOVE.
2. ALL SELECTOR SWITCHES ON PROJECT SHALL BE KEYPED ALIKE. PROVIDE (2) KEYS FOR EACH SELECTOR SWITCH INDICATED ON THE DRAWINGS.
3. PROVIDE LABEL ON COVER OF ENCLOSURE INDICATING ROOM AND EQUIPMENT BEING FED.

WELDING SHOP EMERGENCY PANEL SHUTDOWN DETAIL PANELS 'WSL1', 'H1' AND 'H2'

NO SCALE



EQUIPMENT SCHEDULE

- ES KEY OPERABLE 2-POSITION SELECTOR SWITCH, MOMENTARY CONTACT, KEY REMOVABLE ONLY IN RETURNED POSITION, ESCUTCHEON MARKED "ON" SQUARE D CAT. NO. 9001KS34K1 AND LEGEND PLATE "ON". PROVIDE MUSHROOM HEAD PUSHBUTTON SIMILAR TO REMOTE STATION IN PLATE.
- E MUSHROOM HEAD PUSHBUTTON WITH RED CAP, SQUARE D CAT. NO. 9001KRSRH5 AND LEGEND PLATE "OFF". MOUNT PUSHBUTTON 42" AFF. (SEE FLOOR PLAN FOR NUMBER OF LOCATIONS.)
- C CONTACTOR WHERE INDICATED NEW TO BE 3POLE + SN MECHANICALLY HELD WITH 2-WIRE INTERFACE WIRED FOR NORMALLY CLOSED OPERATION, SIMILAR TO SQUARE 'D' 8903 SERIES W/ FORM LETTER R6, IN NEMA 1 ENCLOSURE MOUNTED ABOVE OR BELOW PANELBOARD. COIL TO BE RATED FOR 120VAC, UNO. REFER TO RISER DIAGRAM DWG. E-301 FOR CONTACTOR SIZES.

NOTES:

1. CONTROL WIRING SHALL BE #14 STRANDED LOW VOLTAGE WIRE. EC SHALL WIRE SELECTOR SWITCH, EMERGENCY PUSHBUTTONS AND CONTACTOR AS INDICATED ABOVE.
2. ALL SELECTOR SWITCHES ON PROJECT SHALL BE KEYPED ALIKE. PROVIDE (2) KEYS FOR EACH SELECTOR SWITCH INDICATED ON THE DRAWINGS.
3. PROVIDE LABEL ON COVER OF ENCLOSURE INDICATING ROOM AND EQUIPMENT BEING FED.

3D FABRICATION EMERGENCY PANEL SHUTDOWN DETAIL PANELS 'WM', 'WMF', 'CAR' AND 'CARP'

NO SCALE

GENERAL ELECTRICAL NOTES:

(APPLY TO ALL SHEETS)

1. THE CONTRACTOR SHALL PROVIDE ALL CIRCUITS (FEEDER AND BRANCH) WITH AN EQUIPMENT GROUND CONDUCTOR SIZED IN ACCORDANCE WITH N.E.C. TABLE 250-122.
2. WHEN INSTALLING CONDUITS ABOVE CEILING, LOCATE IN SUCH A MANNER TO ALLOW ACCESS TO ALL PIPING, DUCTS, VALVES, AND OTHER DEVICES LOCATED ABOVE CONDUITS.
3. CONDUIT SLEEVES MUST BE PROVIDED FOR ALL LOW VOLTAGE WIRING RUN IN OR THROUGH WALLS.
4. IN ROOMS WITHOUT CEILINGS, LOW VOLTAGE WIRING MUST BE RUN IN CONDUIT. NO EXPOSED LOW VOLTAGE WIRING WILL BE PERMITTED.
5. THE CONTRACTOR SHALL PROVIDE SPARE CONDUITS FROM RECESSED PANELBOARDS TO ACCESSIBLE CEILING SPACES. PROVIDE ONE, ONE-INCH CONDUIT FOR EVERY TWO SPARE POLES IN PANEL.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY MISCELLANEOUS STEEL REQUIRED FOR MOUNTING ELECTRICAL EQUIPMENT. THE CONTRACTOR IS RESPONSIBLE TO SIZE STEEL AND INSTALL PROPERLY FOR THE LOAD INTENDED.
7. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS AND DETAILS/ ELEVATIONS TO COORDINATE THE EXACT LOCATION OF ALL ELECTRICAL DEVICES OR EQUIPMENT TO BE INSTALLED IN CASEWORK, CABINETS, GENERAL AREAS, ETC. DRAWINGS SHALL NOT BE SCALED. COORDINATE WITH FINAL CASEWORK LAYOUTS - ANY CONTRACTOR WHO FAILS TO COMPLY SHALL BEAR ALL COSTS OF EACH TRADE FOR DISCONNECTING, REMOVING AND REINSTALLING SYSTEM, EQUIPMENT OR PORTIONS THEREOF.
8. EACH TRADE CONTRACTOR MUST FAMILIARIZE HIMSELF WITH THE AVAILABLE SPACE IN THE CONCEALED AREAS OF THE STRUCTURE. HE MUST COORDINATE ALL THE WORK TO BE DONE AND EQUIPMENT TO BE INSTALLED IN ADVANCE AND PRIOR TO INSTALLING ANY SYSTEM OR PORTION THEREOF.
9. THE SPACE ABOVE ALL CEILINGS WILL BE USED AS A RELIEF AIR PLENUM. LOW VOLTAGE WIRING FOR OTHER SYSTEMS MUST BE AN APPROVED AIR PLENUM CABLE, OR RUN IN CONDUIT.
10. ALL LOW VOLTAGE WIRING, NOT INSTALLED IN CONDUIT, ABOVE CEILINGS MUST BE RUN PERPENDICULAR AND/OR PARALLEL TO BUILDING STEEL. ALL CABLES MUST BE NEATLY TRAINED AND WIRE TIED TO THE BUILDING STEEL OR INSTALLED ON L-HOOKS OR BRIDLE RINGS. CABLES THAT ARE SIMPLY DRAFFED THROUGH STEEL OR RUN AT ODD ANGLES WILL HAVE TO BE REMOVED AND REINSTALLED.
11. ALL CONDUIT AND WIRING RUN TO FINISHED SPACES (I.E., CLASSROOMS, CORRIDORS, OFFICES, STORAGE ROOMS, ETC.) MUST BE CONCEALED. CONDUIT MAY BE RUN EXPOSED IN UNFINISHED AREAS (I.E., CRAWL SPACES, MECHANICAL EQUIPMENT ROOMS, ETC.). NO SURFACE RACEWAY MAY BE USED UNLESS SHOWN ON DRAWINGS OR APPROVED BY ENGINEER OR ARCHITECT IN WRITING. IN EXISTING CONSTRUCTION WHERE WALLS ARE SOLIDLY FILLED ONLY (I.E. WITH GROUT) THE CONTRACTOR SHALL PROVIDE SIMILAR TO WIREMOLD V700 SERIES METALLIC RACEWAY AT NO ADDITIONAL COST TO THE OWNER. FINAL ROUTING SHALL BE APPROVED BY ENGINEER/ ARCHITECT. FINISH SELECTED BY ARCHITECT FROM COMPLETE LIST OF STANDARD FINISHES. REFER TO SPECIFICATIONS TO DETERMINE WHERE MC CABLE MAY BE USED.
12. OUTLETS MOUNTED BACK TO BACK AND/OR THE USE OF THROUGH BOXES IS NOT PERMITTED.
13. THE CONTRACTOR SHALL VERIFY THE MOUNTING HEIGHT (SHOWN ON THE DRAWINGS) OF BUILDING MOUNTED LIGHT FIXTURES WITH THE ARCHITECTS EXTERIOR ELEVATION DRAWINGS PRIOR TO ROUGH-IN.
14. THE CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING AND PATCHING OF EXISTING SURFACES THAT IS REQUIRED FOR HIS WORK. PATCHING SHALL INCLUDE EVERYTHING EXCEPT FINAL FINISH.
15. THE CONTRACTOR SHALL COORDINATE ALL DEVICES ASSOCIATED WITH MECHANICAL, PLUMBING AND ARCHITECTURAL EQUIPMENT INDICATED TO HAVE POWER CONNECTIONS WITH CONTRACTOR PROVIDING EQUIPMENT PRIOR TO ORDERING DEVICES AND ROUGH-INS. THE CONTRACTOR SHALL REQUEST SHOP DRAWINGS FOR ALL EQUIPMENT REQUIRING POWER BEFORE ROUGH-IN.
16. FOR WORK REQUIRED WITHIN AREAS OF THE BUILDING WHERE NO GENERAL TRADES WORK IS REQUIRED, THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING ALL CEILING TILES, INCLUDING INSULATION FOUND ABOVE THE CEILING TO PERFORM HIS WORK. IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO NOTIFY THE OWNER/ENGINEER IN WRITING WITH DATED PHOTOGRAPHIC EVIDENCE OF ANY DAMAGED TILES PRIOR TO REMOVAL. OTHERWISE, THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGED CEILING TILES WITHIN THE AREA OF WORK.
17. ALL LOW VOLTAGE (BELOW 120V) COPPER CABLE RUN TO EXTERIOR OF BUILDING MUST BE LIGHTNING PROTECTED PER CODE. CONTRACTOR SHALL PROVIDE SOLID STATE LIGHTNING PROTECTION. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
18. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES USING PA-ONE CALL, REVIEWING THE SITE SURVEY DRAWINGS AND REQUESTING ANY INFORMATION THE OWNER MAY BE ABLE TO PROVIDE ABOUT THE LOCATION OF TRENCHING AND EXCAVATING FOR ALL EXTERIOR CONDUITS, LIGHT BASES, UNDERGROUND PULL BOXES, TRANSFORMER VAULTS, EQUIPMENT PADS, ETC.
19. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL KNOWN AND UNKNOWN UNDERGROUND UTILITIES AND EQUIPMENT FOR BOTH EXTERIOR AND INTERIOR APPLICATIONS WITH THE USE OF GROUND PENETRATING RADAR (GPR) BEFORE TRENCHING, SAW CUTTING, AND EXCAVATING. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING ANY BELOW GRADE UTILITIES THAT ARE DAMAGED DUE TO FAILURE TO VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITIES. SIGNED AND DATED DOCUMENTATION OF GPR SHALL BE AVAILABLE UPON REQUEST.
20. UNLESS NOTED OTHERWISE, THE CONTRACTOR SHALL PROVIDE FINAL POWER CONNECTIONS TO ALL POWERED EQUIPMENT FURNISHED BY OTHER CONTRACTORS AND THE OWNER, INCLUDING BUT NOT LIMITED TO AIR HANDLING EQUIPMENT, HEATING EQUIPMENT, COOLING EQUIPMENT, PUMPS, PLUMBING FIXTURE SENSORS, ELECTRIC WATER COOLERS, OWNERS 3D MANUFACTURING & WELDING SHOP EQUIPMENT, SECURITY GRILLES, DOOR HARDWARE, ELECTRONIC SIGNAGE, ETC.
21. UNLESS NOTED OTHERWISE, LIGHT SWITCHES INDICATED IN ROOMS SHALL CONTROL THE LIGHTING WITHIN THAT ROOM. WHERE MULTIPLE SWITCHES ARE INDICATED TO BE ASSOCIATED DRAWING NOTES AND/OR SUB-LETTER DESIGNATION FOR THE LIGHTING TO BE CONTROLLED BY EACH SWITCH.
22. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY AND DOCUMENT VOLTAGE, PHASE AND AMPERAGE OF ALL OWNERS SUPPLIED 3D MANUFACTURING & WELDING EQUIPMENT PRIOR TO ROUGH-IN. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION PRIOR TO ROUGH-IN OF EQUIPMENT OR CONTRACTOR SHALL BEAR COSTS TO REWIRE CORRECTLY.

PROJECT GENERAL DEMOLITION NOTES:

(APPLY TO ALL SHEETS)

1. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE EXISTING FACILITY AND ALL CONTRACT DRAWINGS TO DETERMINE THE EXTENT OF THE ELECTRICAL DEMOLITION WORK. THE CONTRACTOR SHALL COORDINATE THE DEMOLITION WITH ALL TRADES. THE CONTRACTOR SHALL VISIT THE JOB PRIOR TO BIDDING TO FULLY UNDERSTAND THE ELECTRICAL DEMOLITION REQUIRED. NO CHANGE ORDERS WILL BE ACCEPTED AFTER AWARD OF BID FOR ELECTRICAL DEMOLITION. ELECTRICAL DEMOLITION SHALL INCLUDE ALL WORK AS OUTLINED BELOW. COORDINATE ALL DEMOLITION WITH CONSTRUCTION SCHEDULE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL OF THE PLUMBING, HEATING AND ARCHITECTURAL DRAWINGS FOR THE EQUIPMENT BEING REMOVED. ALL EXISTING PLUMBING, HEATING AND ARCHITECTURAL EQUIPMENT ON THOSE DRAWINGS INDICATED TO BE REMOVED, SHALL BE ELECTRICALLY DISCONNECTED BY THE ELECTRICAL CONTRACTOR. ALL EXISTING PLUMBING, HEATING AND ARCHITECTURAL EQUIPMENT SHOWN ON THOSE DRAWINGS TO REMAIN, SHALL REMAIN ELECTRICALLY CONNECTED UNLESS NOTED OTHERWISE ON THE ELECTRICAL DRAWINGS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL OF THE ARCHITECTURAL CASEWORK DRAWINGS. EXISTING DEVICES THAT FALL BEHIND NEW CASEWORK SHALL BE DISCONNECTED, REMOVED AND A BLANK COVER PLATE INSTALLED. REROUTE EXISTING CIRCUIT AS REQUIRED TO MAINTAIN CIRCUIT CONTINUITY.
4. REMOVE ALL EXISTING CONDUIT AND WIRING BEING ABANDONED. EXISTING CONDUITS IN GOOD CONDITION AND LOCATED CORRECTLY TO ACCOMMODATE NEW WORK MAY REMAIN IN PLACE AND BE REUSED. THE ELECTRICAL CONTRACTOR SHALL PROVIDE PROPER SUPPORT AS PER NEC FOR ANY CONDUITS BEING REUSED.
5. RELOCATE OR EXTEND EXISTING CIRCUITS NOT BEING ABANDONED, AS REQUIRED ON A PERMANENT BASIS TO ACCOMMODATE NEW WORK AND MAINTAIN CIRCUIT INTEGRITY.
6. CONTRACTOR SHALL PATCH WALLS, FLOORS, CEILINGS, ETC. TO MATCH ADJACENT SURFACES WHERE EXISTING EQUIPMENT IS BEING REMOVED. PATCHING SHALL BE PROVIDED FOR ALL OPENINGS, INCLUDING, BUT NOT LIMITED TO OPENINGS FOR CONDUITS, BOXES, ANGERS, SWITCHES, RECEPTACLES, FIRE ALARM PULLS AND BELLS, SPEAKERS, PANELBOARDS, ETC. PATCHING SHALL INCLUDE EVERYTHING, EXCEPT FINAL FINISH. ALL RECESSED BOXES SHALL BE REMOVED WHERE DEVICE WAS REMOVED WITH WALL PATCHES.
7. THE OWNER SHALL HAVE FIRST CHOICE OF ANY EXISTING EQUIPMENT OR MATERIALS BEING REMOVED. THE CONTRACTOR SHALL DELIVER THESE ITEMS TO BE SALVAGED BY THE OWNER TO DESIGNATED STORAGE AREA ON THE JOB SITE. ALL EQUIPMENT AND MATERIALS REJECTED BY THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR. CONTRACTOR SHALL REMOVE THESE ITEMS FROM THE SITE AND PROPERLY DISPOSE OF THEM.
8. THE CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING LIGHTING FIXTURES AND ASSOCIATED WIRING IN AREAS WHERE NEW FIXTURES ARE SHOWN OR OTHERWISE NOTED.
9. WHERE DEMOLISHED ITEMS REVEAL UNEVEN CONSTRUCTION, INTERRUPTED FINISHES, ATTACHMENT HOLES AND OTHER CONDITIONS THAT DO NOT MATCH EXISTING ADJACENT FINISH CONSTRUCTION, PATCH TO MATCH EXISTING ADJACENT FINISHES.



ARCHITECTURAL DESIGN
INTERIOR DESIGN
CODE ANALYSIS
PLANNING SERVICES
REPORTS AND STUDIES
ENGINEERING SERVICES
HISTORIC PRESERVATION

955 BERKSHIRE BLVD., SUITE 101
WYOMISSING, PA 19310
610.376.4927
www.MG-Architects.com

PROJECT #:

4525A

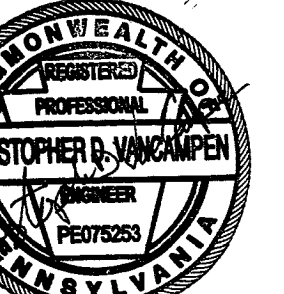
CONSULTANT

CONSOLIDATED ENGINEERS

1022 James Drive
Leesport, PA 19658
Tel 610-916-1800 Fax 610-916-1610

www.consolidatedengineers.com

PROFESSIONAL SEAL



Christopher D. Van Campen
ChrisV@cemec.com

READING MUHLBERG CAREER & TECHNOLOGY CENTER

contact: ERIC KAHLER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahler@rmctc.org

READING MUHLBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

ISSUED FOR BID

DATE: 5/17/2022

REV	DESCRIPTION	DATE

PROJ. MGR.: Adam Moser

P.M. e-MAIL: AdamM@cemec.com

DRAWN BY: SN

CLIENT PROJ #:

VERIFY SCALE 1
BAR & ONE (1) INCH LONG ON ORIGINAL DRAWING

COPYRIGHT © 2022 ALL RIGHTS RESERVED NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRODUCED, COPIED OR USED IN ANY FORM OR MANNER EXCEPT PURSUANT TO CONTRACT OR WITH THE SPECIFIC WRITTEN PERMISSION OF MUHLBERG GREENE ARCHITECTS, LTD. THESE PLANS, DESIGN AND SUBJECT MATTER ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER NOR ARE THEY TO BE ADDED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF MUHLBERG GREENE ARCHITECTS, LTD. THIS DOCUMENT IS AN ARTICLE OF SERVICE AND THE COPYRIGHT AND OTHER PROPERTY RIGHTS ARE EXPRESSLY RESERVED BY MUHLBERG GREENE ARCHITECTS, LTD.

SHEET TITLE:

NOTES AND DETAILS

E-201

ELECTRICAL LEGEND

(REFER TO SPECIFICATIONS FOR MORE INFORMATION)
NOTE: DIMENSIONS ARE TO CENTER OF DEVICE, UNO.

LIGHTING FIXTURES

(REFER TO LIGHTING FIXTURE SCHEDULE FOR DESCRIPTION AND TYPE)

Table with 2 columns: SYMBOL, DESCRIPTION. Lists various lighting fixtures including LED, normal and emergency power, wall mounted, exit, wash, double wall wash, battery units, and phantom symbols.

WIRING

Table with 2 columns: SYMBOL, DESCRIPTION. Lists wiring symbols for homerun, concealed wiring, equipment connections, emergency circuits, normal/emergency lighting, night light, surface raceway, vertical runs, duct banks, and drawing note indicators.

RECEPTACLES

Table with 2 columns: SYMBOL, DESCRIPTION. Lists receptacle symbols for duplex, single, electric water cooler, ground fault, weather proof, quad outlet, surface raceway, and empty outlet boxes.

EQUIPMENT

Table with 2 columns: SYMBOL, DESCRIPTION. Lists equipment symbols for junction boxes, motors, panelboards, photocells, contactors, emergency shutdown switches, thermal switches, transformers, disconnect switches, combination starters, frequency drives, cable reels, miscellaneous steel, exhaust fans, and ceiling fans.

SECURITY/ACCESS CONTROL SYSTEMS

Table with 2 columns: SYMBOL, DESCRIPTION. Lists security symbols for system cameras, audible alarms, card readers, electrified door hardware, key pads, door contacts, door hardware power supply, and request to exit.

FIRE ALARM SYSTEM

Table with 2 columns: SYMBOL, DESCRIPTION. Lists fire alarm symbols for audio units, visual units, pull stations, heat detectors, smoke detectors, carbon monoxide detectors, duct mounted detectors, test stations, flow switches, tamper switches, control panels, annunciators, and gongs.

SWITCHES

Table with 2 columns: SYMBOL, DESCRIPTION. Lists switch symbols for single pole, 2 pole single throw, three way, four way, key operated, three way key operated, four way key operated, sub-letters, motion sensing, light with pilot, low voltage dimmer, occupancy sensing wall, occupancy sensing single pole dimmer, ceiling/wall mounted occupancy sensing, and ceiling mounted daylight sensors.

COMMUNICATION SYSTEMS

Table with 2 columns: SYMBOL, DESCRIPTION. Lists communication symbols for data outlet flush mounted, clock system digital clock, sound system speakers, wireless access point data outlet, sound system volume control, double gang flush mounted box, double gang flush mounted box, and intercom station.

ABBREVIATIONS

Table with 2 columns: SYMBOL, DESCRIPTION. Lists abbreviations for AAC, DAC, AFF, AFG, RTU, ATS, B, CH, CU, DC, EF, ERU, EPU, EUH, EX, HP, P, TL, UN, UNO, WH, WP, NFDS, FDS, C.

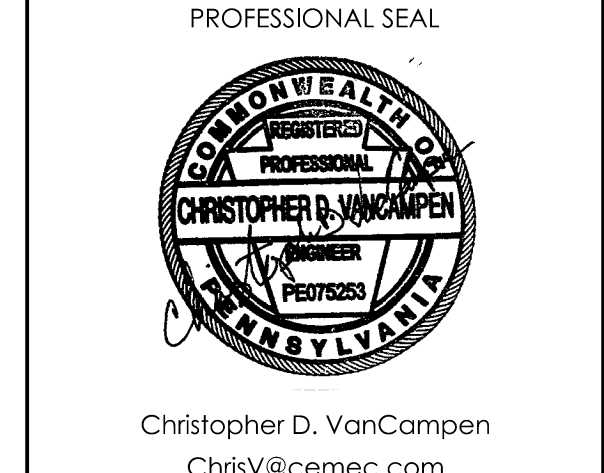
NOTE: THE ABOVE ELECTRICAL LEGEND IS STANDARD. SOME ITEMS LISTED ARE NOT NECESSARILY USED ON THIS PROJECT. ALL ITEMS LISTED SHALL BE PROVIDED BY THIS CONTRACTOR UNLESS NOTED OTHERWISE.



955 BERKSHIRE BLVD., SUITE 101
WYOMISSING, PA 19310
610.376.4927
www.MG-Architects.com

PROJECT #: 4525A

CONSOLIDATED ENGINEERS
1022 James Drive
Leesport, PA 19658
Tel 610-916-1800 Fax 610-916-1610
www.consolidatedengineers.com



READING MUHLBERG CAREER & TECHNOLOGY CENTER
contact: ERIC KAHLER
2615 WARREN ROAD
READING, PA 19604
610.921.7300
ekahl@rmctc.org

READING MUHLBERG CAREER & TECHNOLOGY CENTER
PROGRAM UPGRADES
2615 WARREN ROAD READING, PA 19604

Table with 3 columns: REV, DESCRIPTION, DATE. Header: ISSUED FOR BID. Date: 5/17/2022.

PROJ. MGR.: Adam Moser
P.M. e-MAIL: AdamM@cemec.com
DRAWN BY: SN
CLIENT PROJ #: -
VERIFY SCALE 1
BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING

SHEET TITLE: ELECTRICAL LEGEND

E-202

