ADDENDUM #01

TO CONTRACT DOCUMENTS FOR: PROJECT #CP250051 – Agriculture Engineering

Building – Rms 164/166 Fermentation Lab

Renovation

ADVERTISEMENT DATE: 08/14/2025

PREPARED FOR: The Curators of the University of Missouri

CONSULTANT: Planning, Design & Construction

University of Missouri

130 General Services Building

(573) 882-6800

The contract documents for the above noted project and the work covered thereby and herein modified.

GENERAL INFORMATION:

- 1) Any contractor wanting to use a product by a manufacturer not listed as approved in the project specifications must submit written documentation including all supporting data per Section 3.13 in the General Conditions for review prior to approval.
- 2) **CLARIFICATION:** New CWS/CWR piping for the new AHU will be connected to existing mains located above the accessible drop ceiling in the corridor shown from previous As-Built drawings.
- 3) **CLARIFICATION:** As-Built drawings show the floor drains to be JOSAM 30000A with 5-inch bronze top strainers. Contractor shall verify.
- 4) **CLARIFICATION:** HTST/RETORT equipment will not require dedicated floor drains besides what is shown on the current floor plans. Condensate coolers will be provided as part of the project, however requirements for final provided equipment by owner shall be coordinated.
- 5) **CLARIFICATION:** Glycol chiller dropdown lines to terminate with stainless steel threaded outlets. General contractor to provide and install flexible piping long enough for owner, who will be responsible for connecting piping to tanks.
- 6) **CLARIFICATION:** General contractor is responsible to coordinate with Culligan and owner's construction manager on the estimated downtime from removing the equipment to reinstallation, as well as laying out the equipment with Culligan's assistance in order to determine the exact required extent of the housekeeping pad.

- 7) **CLARIFICATION:** Any equipment on top of the large blue steel structure being demolished, in Room 168, is to be disconnected, removed and returned to/coordinated with owner's representative.
- 8) **CLARIFICATION:** VFD information can be found on electrical and mechanical drawings, as well as specification section 262923. Specific electrical requirements are to be confirmed with owner furnished equipment since some requirements are unknown at this time.
- 9) Glycol Chiller cut sheet and fermentation tank photos attached for reference.

PROJECT MANUAL:

1) Specification Section 233100 – DUCTWORK

Paragraph 2.2: MATERIAL AND APPLICATION SPECIFIC: C. Exposed Ductwork: 1.

DELETE: j. All insulation shall be internal, except at reheat coils.

DRAWINGS:

1) Drawing D100 – DEMOLITION PLANS

REMOVE: Entire Sheet. **ADD:** New Sheet D100.

CLARIFICATION: Extent of floor demolition in Room 168 was extended to

incorporate underfloor plumbing for new sink.

Floor drain notes in Room 168 revised.

Added paint removal note.

2) Drawing D800 – DEMOLITION PHOTOGRAPHS

REMOVE: Entire Sheet. **ADD:** New Sheet D800.

CLARIFICATION: Added paint removal note.

3) Drawing A100 – FLOOR PLANS

REMOVE: Entire Sheet.

ADD: New Sheet A100.

CLARIFICATION: Floor drain notes in Room 168 revised.

Equipment installation notes revised.

4) Drawing A220 – BUILDING SECTIONS

REMOVE: Entire Sheet. **ADD:** New Sheet A220.

CLARIFICATION: Removed unnecessary model elements that appeared as part of the

visual rendering study.

Equipment installation notes revised.

5) <u>Drawing A600 – INTERIOR ELEVATIONS</u>

REMOVE: Entire Sheet. **ADD:** New Sheet A600.

CLARIFICATION: Removed unnecessary model elements that appeared as part of the

visual rendering study.

Equipment installation notes revised.

6) <u>Drawing A601 – INTERIOR ELEVATIONS</u>

REMOVE: Entire Sheet. **ADD:** New Sheet A601.

CLARIFICATION: Removed unnecessary model elements that appeared as part of the

visual rendering study.

Equipment installation notes revised.

7) Drawing S100 – STRUCTURAL DETAILS

REMOVE: Entire Sheet. **ADD:** New Sheet S100.

CLARIFICATION: Extent of new concrete in Room 168 was extended to incorporate

underfloor plumbing for new sink.

8) Drawing P101 – LEVEL 01 & 02 PLANS - PIPING

REMOVE: Entire Sheet. **ADD:** New Sheet P101.

CLARIFICATION: Removed existing floor drain in Room 168.

Demo piping and note added in Room 168.

Revised Keynote 1 with added existing drain information.

New Keynote 18.

Added FS-1 tag in Room 168.

9) Drawing P200 – LEVEL 01 & 02 PLANS - PIPING

REMOVE: Entire Sheet. **ADD:** New Sheet P200.

CLARIFICATION: Added FS-1 tag in Room 168.

10) Drawing M101 – LEVEL 01 & 02 PLANS - PIPING

REMOVE: Entire Sheet. **ADD:** New Sheet M101.

CLARIFICATION: Keynote 4 revised for contractor to coordinate with owner on

flexible piping requirements.

Keynote 5 revised to indicate piping connections to be above

accessible ceiling. New Keynote 13.

Demo Unit Heater equipment and note added in Room 168.

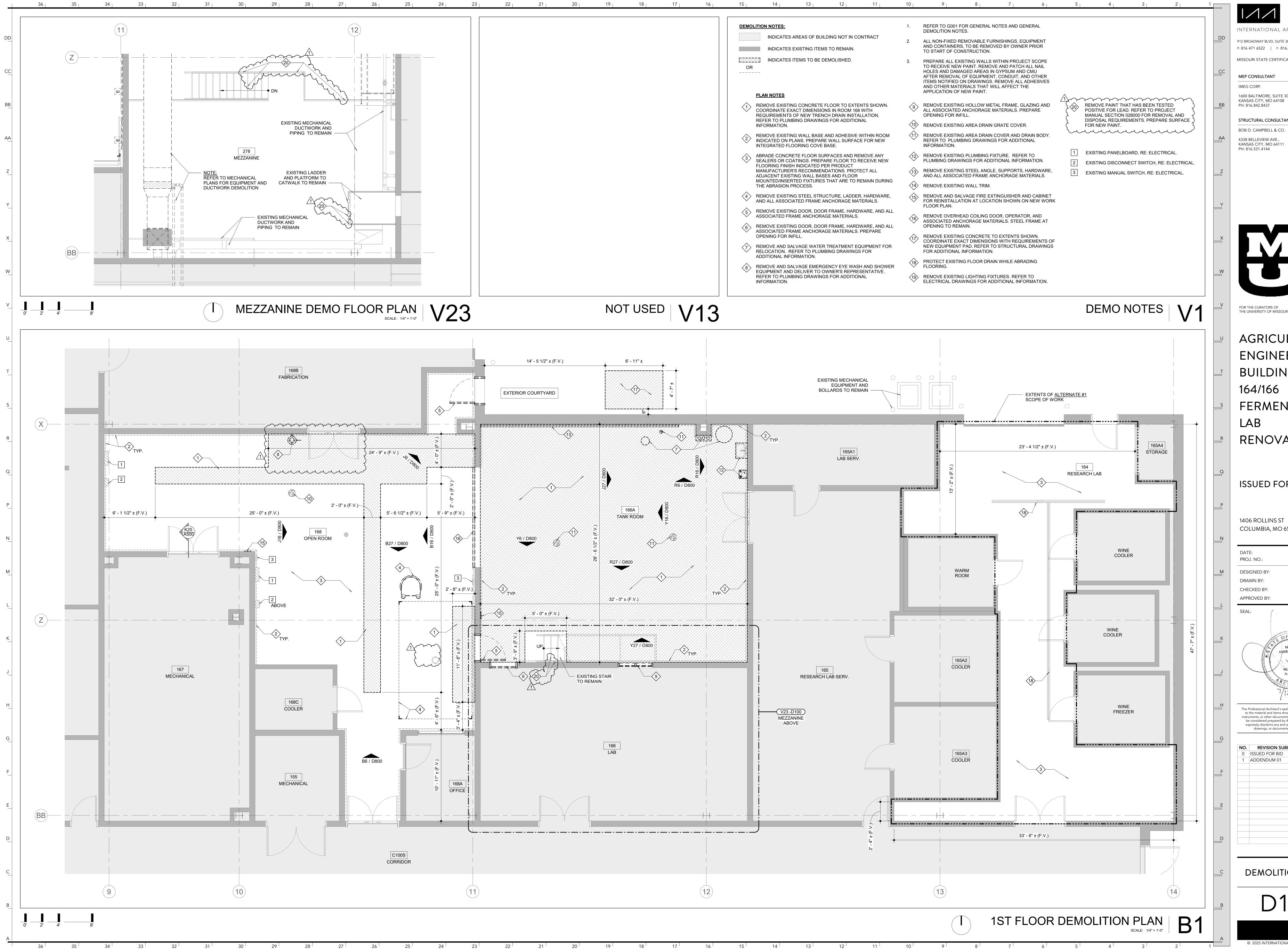
$11) \underline{Drawing\ E000-ELECTRICAL\ COVERSHEET}$

REMOVE: Entire Sheet. **ADD:** New Sheet E000.

CLARIFICATION: Removed reference to VFD Schedule.

ATTACHMENTS: D100, D800, A100, A220, A600, A601, S100, P101, P200, M101, E000, Glycol Chiller cut sheet, purchased Fermentation Tank photos

END OF ADDENDUM #01



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MEP CONSULTANT 1600 BALTIMORE, SUITE 300

STRUCTURAL CONSULTANT BOB D. CAMPBELL & CO.



FOR THE CURATORS OF THE UNIVERSITY OF MISSOURI

AGRICULTURE ENGINEERING BUILDING - RMS 164/166 FERMENTATION RENOVATION

ISSUED FOR BID

1406 ROLLINS ST COLUMBIA, MO 65201

07/18/2025 CP250051
ВЈ
ВЈ
ST
MA

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NO. REVISION SUBMISSION 0 ISSUED FOR BID 07/18/2025 ADDENDUM 01

DEMOLITION PLANS



TO BE REMOVED. RE:

ELECTRICAL DRAWINGS

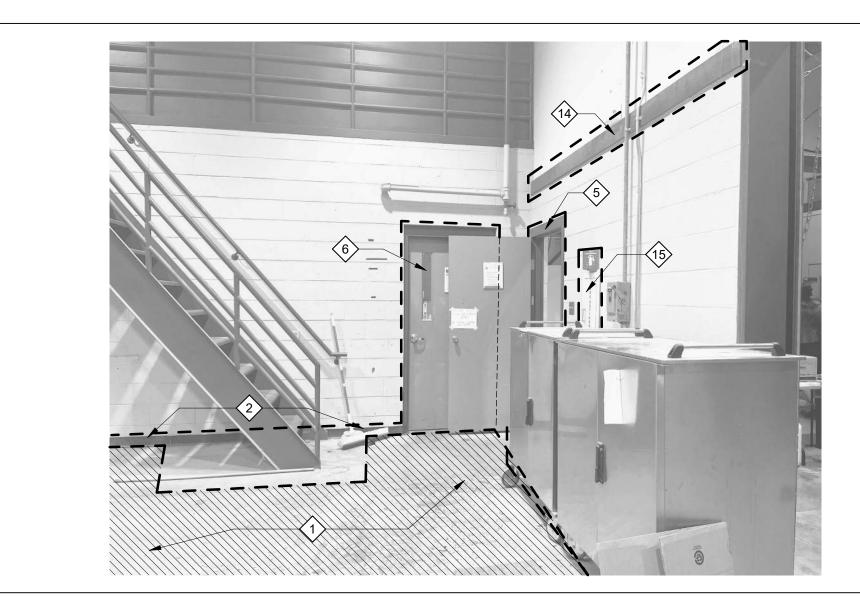
TANK ROOM 166A PHOTO Y27



TANK ROOM 166A WEST PHOTO Y16

TANK ROOM 166A NE PHOTO R16

OPEN ROOM 168 EAST PHOTO J16



TANK ROOM 166A SW PHOTO Y6



TANK ROOM 166A NORTH PHOTO SCALE: 1/2" = 1'-0"



OPEN ROOM 168 NORTH DOOR PHOTO SCALE: 1/2" = 1'-0"



OPEN ROOM 168 NORTH PHOTO

DEMO NOTES

INTERNATIONAL ARCHITECTS ATELIER

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MEP CONSULTANT IMEG CORP.

PH: 816.842.8437

1600 BALTIMORE, SUITE 300 KANSAS CITY, MO 64108

STRUCTURAL CONSULTANT BOB D. CAMPBELL & CO. 4338 BELLEVIEW AVE., KANSAS CITY, MO 64111

PH: 816.531.4144

PLAN NOTES

DEMOLITION NOTES:

OR _____

REMOVE EXISTING CONCRETE FLOOR TO EXTENTS SHOWN. COORDINATE EXACT DIMENSIONS IN ROOM 168 WITH REQUIREMENTS OF NEW TRENCH DRAIN INSTALLATION. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.

INDICATES EXISTING ITEMS TO REMAIN.

ZZZZZZZ INDICATES ITEMS TO BE DEMOLISHED.

TO START OF CONSTRUCTION.

APPLICATION OF NEW PAINT.

DEMOLITION NOTES.

REMOVE EXISTING WALL BASE AND ADHESIVE WITHIN ROOM INDICATED ON PLANS. PREPARE WALL SURFACE FOR NEW INTEGRATED FLOORING COVE BASE.

INDICATES AREAS OF BUILDING NOT IN CONTRACT

REFER TO G001 FOR GENERAL NOTES AND GENERAL

ALL NON-FIXED REMOVABLE FURNISHINGS, EQUIPMENT

AND CONTAINERS, TO BE REMOVED BY OWNER PRIOR

PREPARE ALL EXISTING WALLS WITHIN PROJECT SCOPE TO RECEIVE NEW PAINT. REMOVE AND PATCH ALL NAIL

ITEMS NOTIFIED ON DRAWINGS. REMOVE ALL ADHESIVES

HOLES AND DAMAGED AREAS IN GYPSUM AND CMU AFTER REMOVAL OF EQUIPMENT, CONDUIT, AND OTHER

AND OTHER MATERIALS THAT WILL AFFECT THE

- ABRADE CONCRETE FLOOR SURFACES AND REMOVE ANY SEALERS OR COATINGS. PREPARE FLOOR TO RECEIVE NEW FLOORING FINISH INDICATED PER PRODUCT MANUFACTURER'S RECOMMENDATIONS. PROTECT ALL ADJACENT EXISTING WALL BASES AND FLOOR MOUNTED/INSERTED FIXTURES THAT ARE TO REMAIN DURING THE ABRASION PROCESS.
- REMOVE EXISTING STEEL STRUCTURE, LADDER, HARDWARE, AND ALL ASSOCIATED FRAME ANCHORAGE
- REMOVE EXISTING DOOR, DOOR FRAME, HARDWARE, AND ALL ASSOCIATED FRAME ANCHORAGE MATERIALS.
- 6 REMOVE EXISTING DOOR, DOOR FRAME, HARDWARE, AND ALL ASSOCIATED FRAME ANCHORAGE MATERIALS.
- PREPARE OPENING FOR INFILL. REMOVE AND SALVAGE WATER TREATMENT EQUIPMENT FOR RELOCATION. REFER TO PLUMBING DRAWINGS FOR
- REMOVE AND SALVAGE EMERGENCY EYE WASH AND SHOWER EQUIPMENT AND DELIVER TO OWNER'S REPRESENTATIVE. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
- REMOVE EXISTING HOLLOW METAL FRAME, GLAZING AND ALL ASSOCIATED ANCHORAGE MATERIALS.
- REMOVE EXISTING AREA DRAIN GRATE COVER.

PREPARE OPENING FOR INFILL.

ADDITIONAL INFORMATION.

- REMOVE EXISTING AREA DRAIN COVER AND DRAIN BODY. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL
- REMOVE EXISTING PLUMBING FIXTURE. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
- REMOVE EXISTING STEEL ANGLE, SUPPORTS, HARDWARE, AND ALL ASSOCIATED FRAME ANCHORAGE
- 14 REMOVE EXISTING WALL TRIM.
- REMOVE AND SALVAGE FIRE EXTINGUISHER AND CABINET FOR REINSTALLATION AT LOCATION SHOWN ON NEW WORK FLOOR PLAN.
- REMOVE OVERHEAD COILING DOOR, OPERATOR, AND ASSOCIATED ANCHORAGE MATERIALS. STEEL FRAME AT
- REMOVE EXISTING CONCRETE TO EXTENTS SHOWN.
 COORDINATE EXACT DIMENSIONS WITH REQUIREMENTS
 OF NEW EQUIPMENT PAD. REFER TO STRUCTURAL
 DRAWINGS FOR ADDITIONAL INFORMATION.
- REMOVE PAINT THAT HAS BEEN TESTED POSITIVE FOR LEAD. REFER TO PROJECT MANUAL SECTION 028000 FOR REMOVAL AND DISPOSAL REQUIREMENTS. PREPARE SURFACE FOR NEW PAINT.



FOR THE CURATORS OF THE UNIVERSITY OF MISSOURI

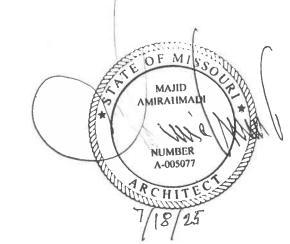
ENGINEERING BUILDING - RMS 164/166 **FERMENTATION** LAB RENOVATION

AGRICULTURE

ISSUED FOR BID

1406 ROLLINS ST COLUMBIA, MO 65201

DATE: PROJ. NO.:	07/18/2025 CP250051
DESIGNED BY:	ВЈ
DRAWN BY:	BJ
CHECKED BY:	ST
APPROVED BY:	MA
SEAL:	

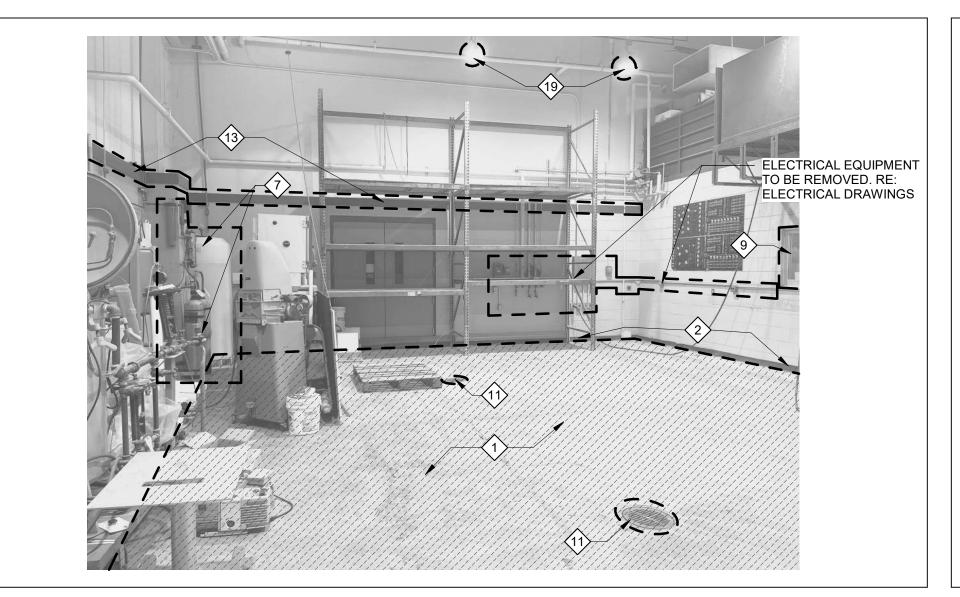


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NO.	REVISION SUBIVIISSION	DATE
0	ISSUED FOR BID	07/18/2025
1	ADDENDUM 01	08/28/2025

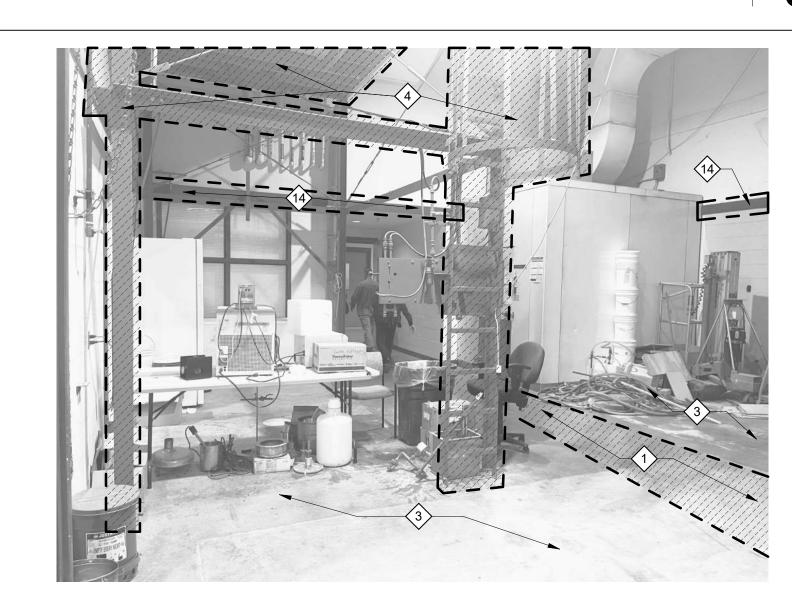
DEMOLITION PHOTOGRAPHS

D800



TANK ROOM 166A SOUTH PHOTO R27

TANK ROOM 166A EAST PHOTO J27

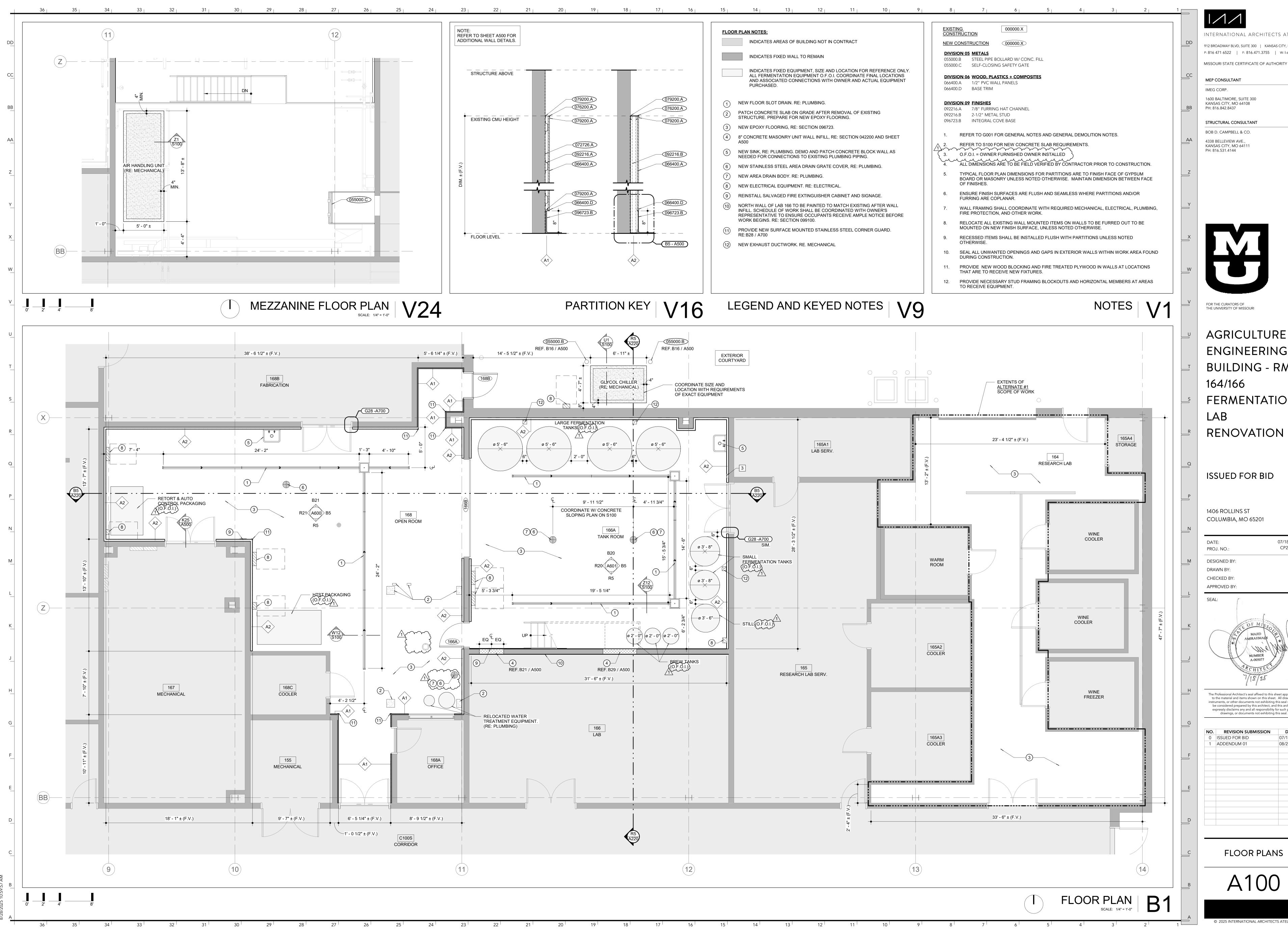


OPEN ROOM 168 SOUTH PHOTO B27

OPEN ROOM 168 WEST PHOTO B16

B6

B1



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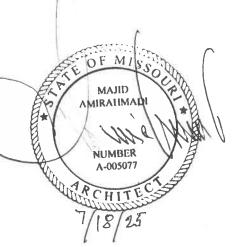
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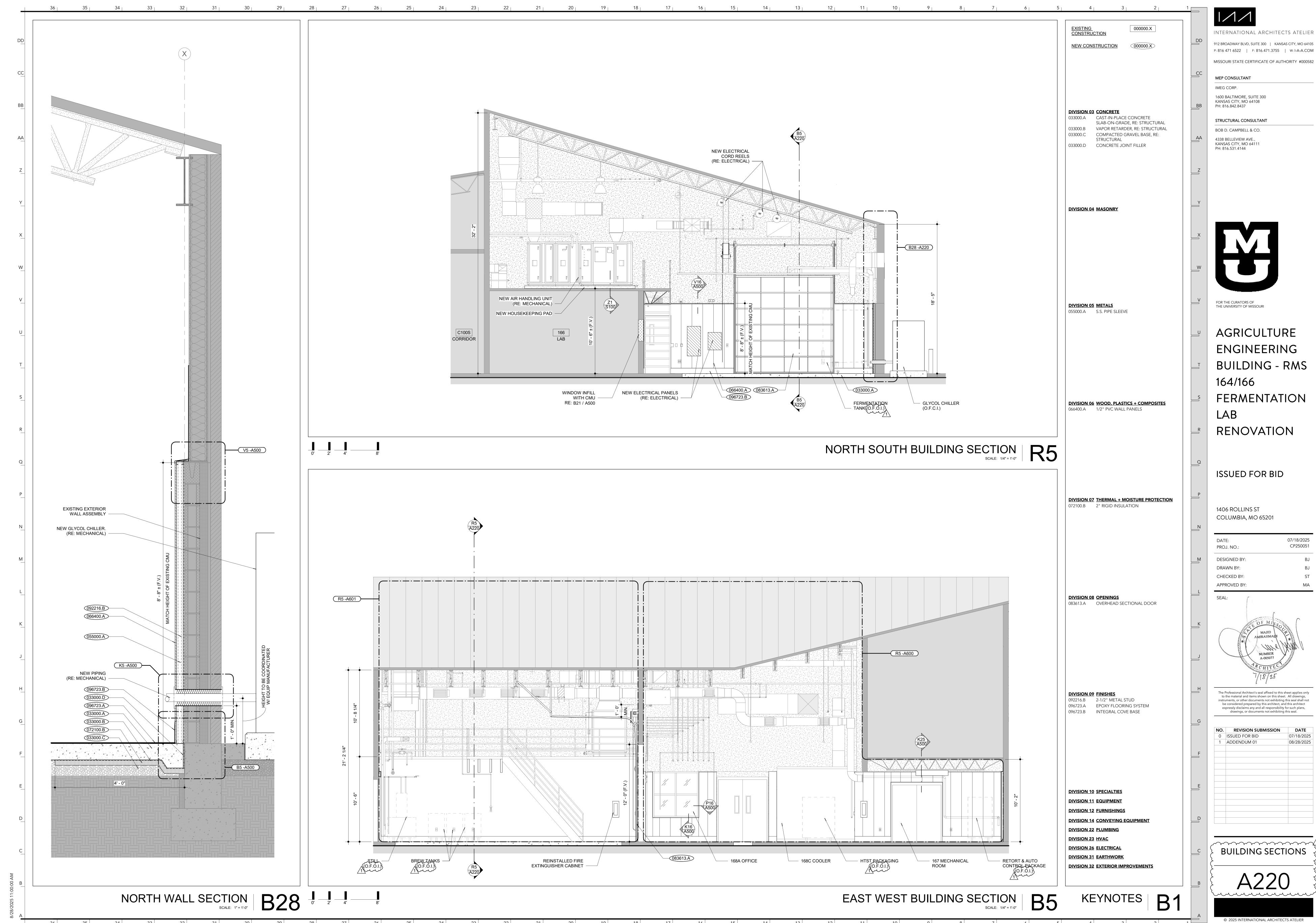
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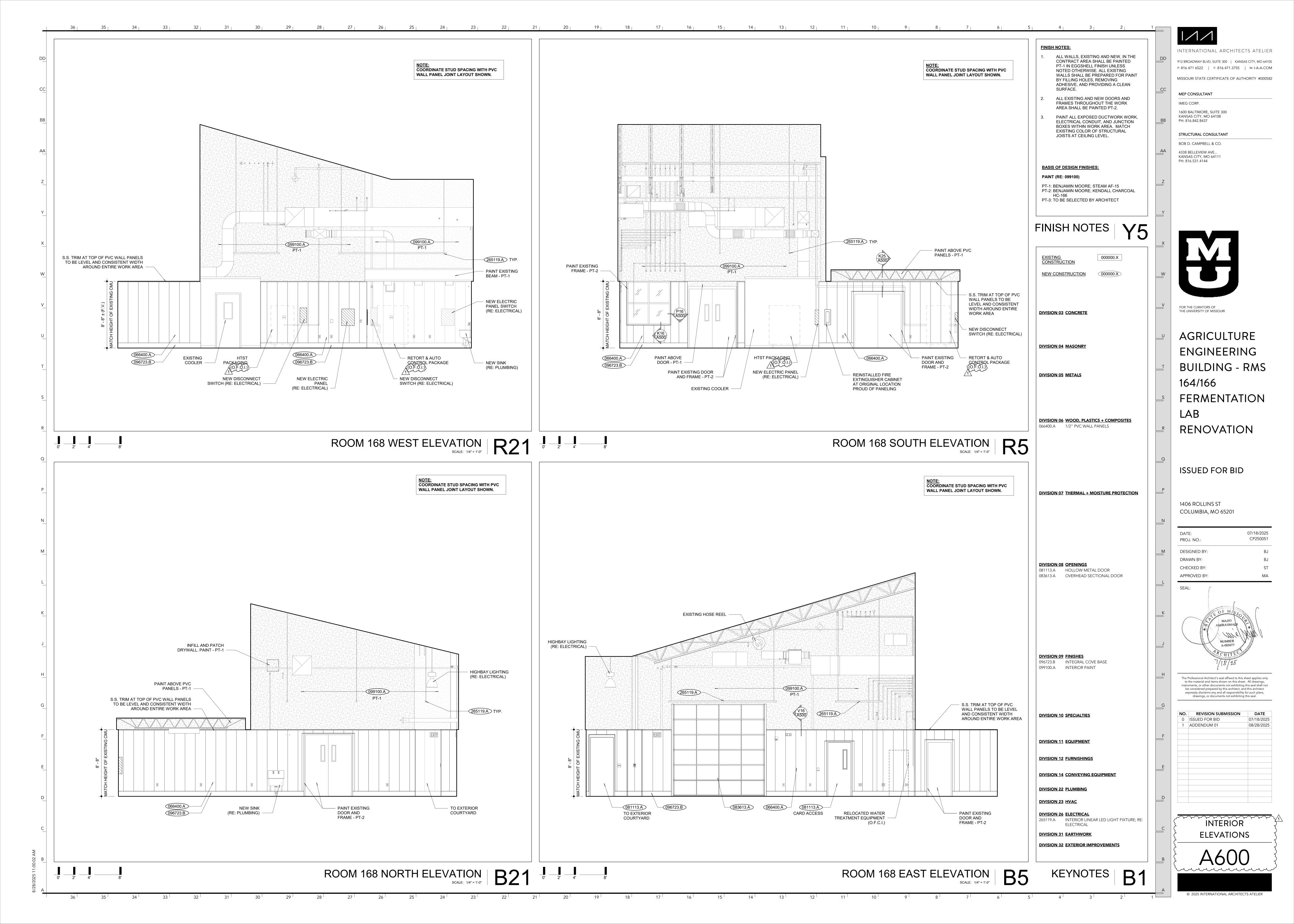
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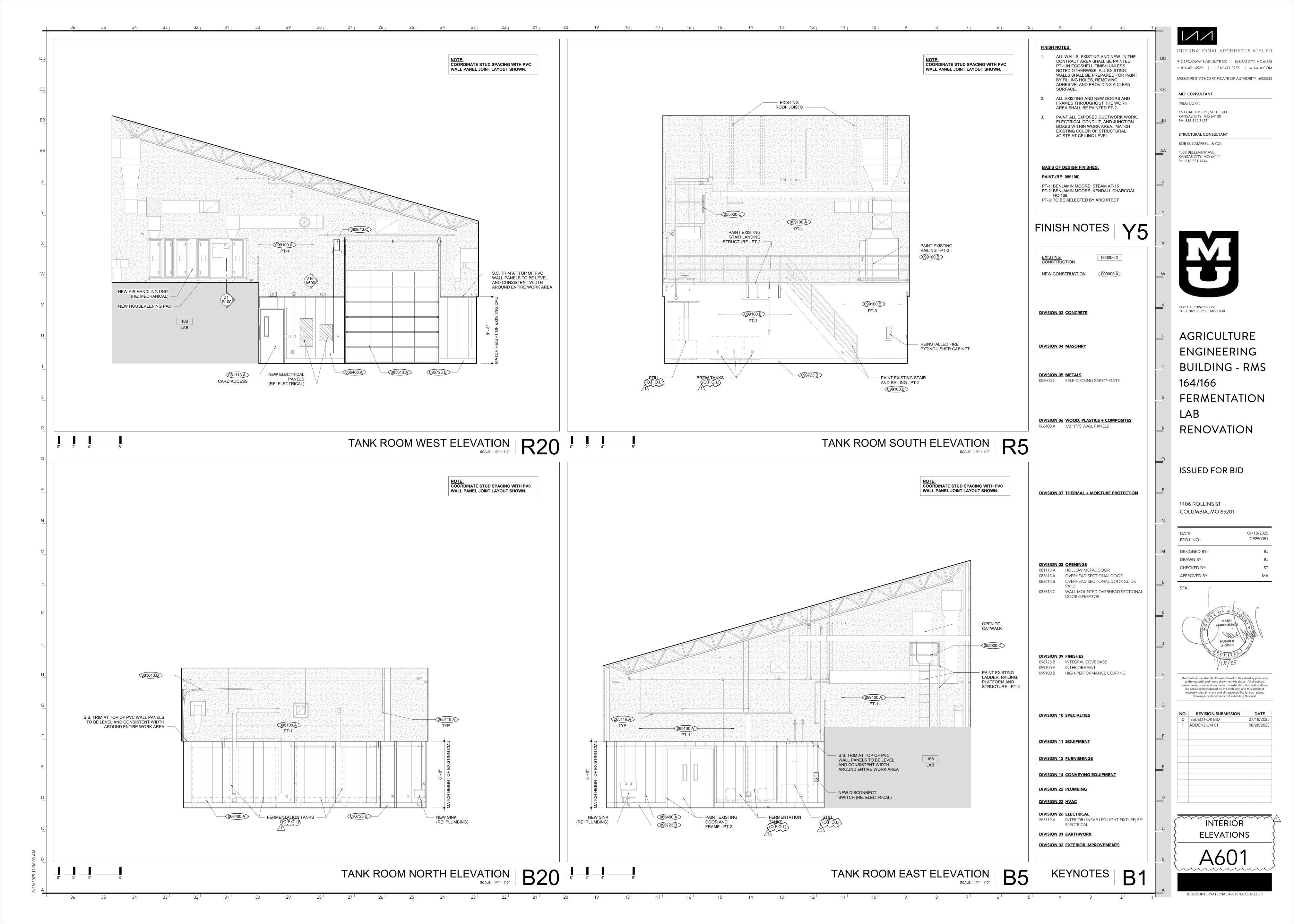
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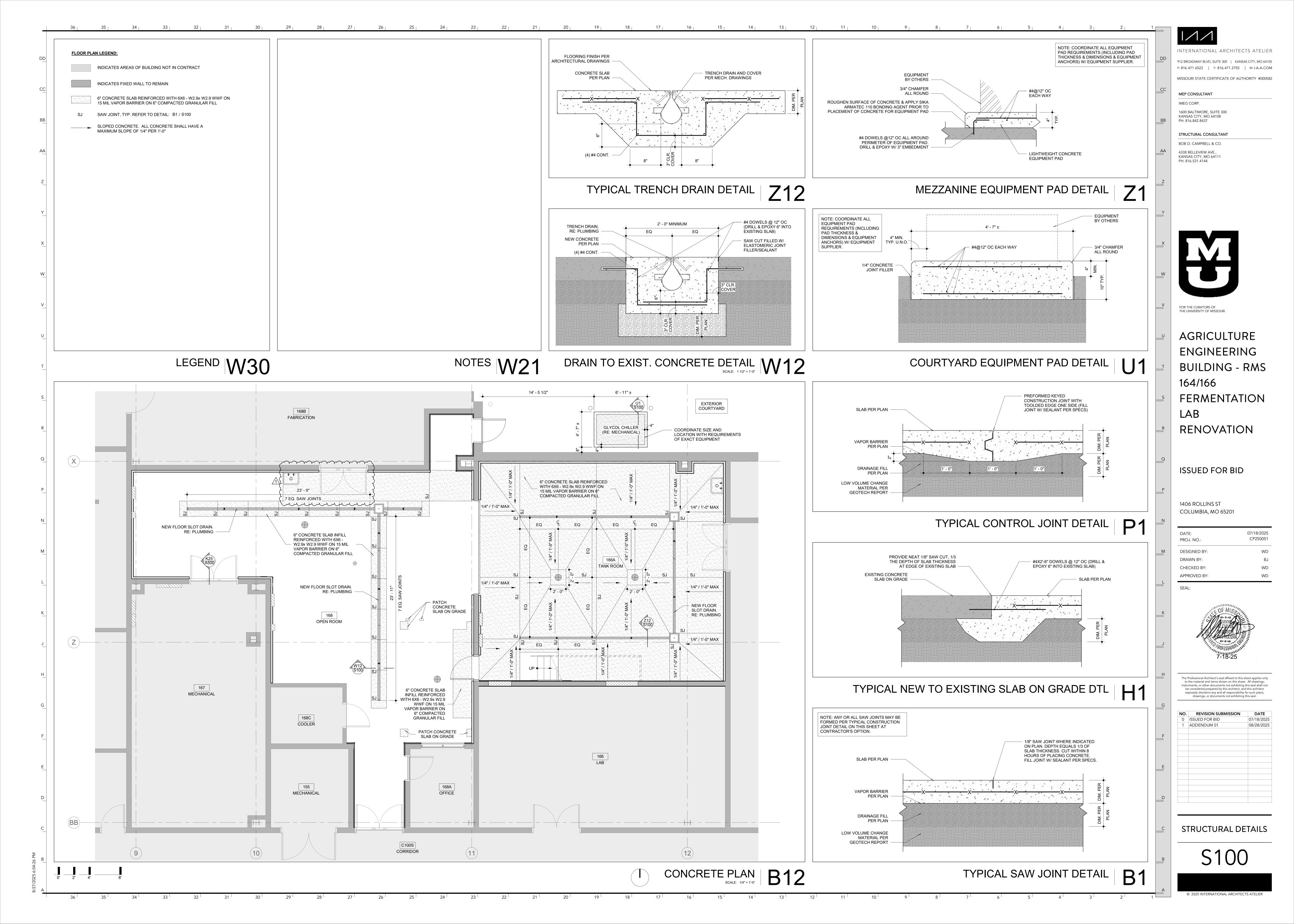
FLOOR PLANS

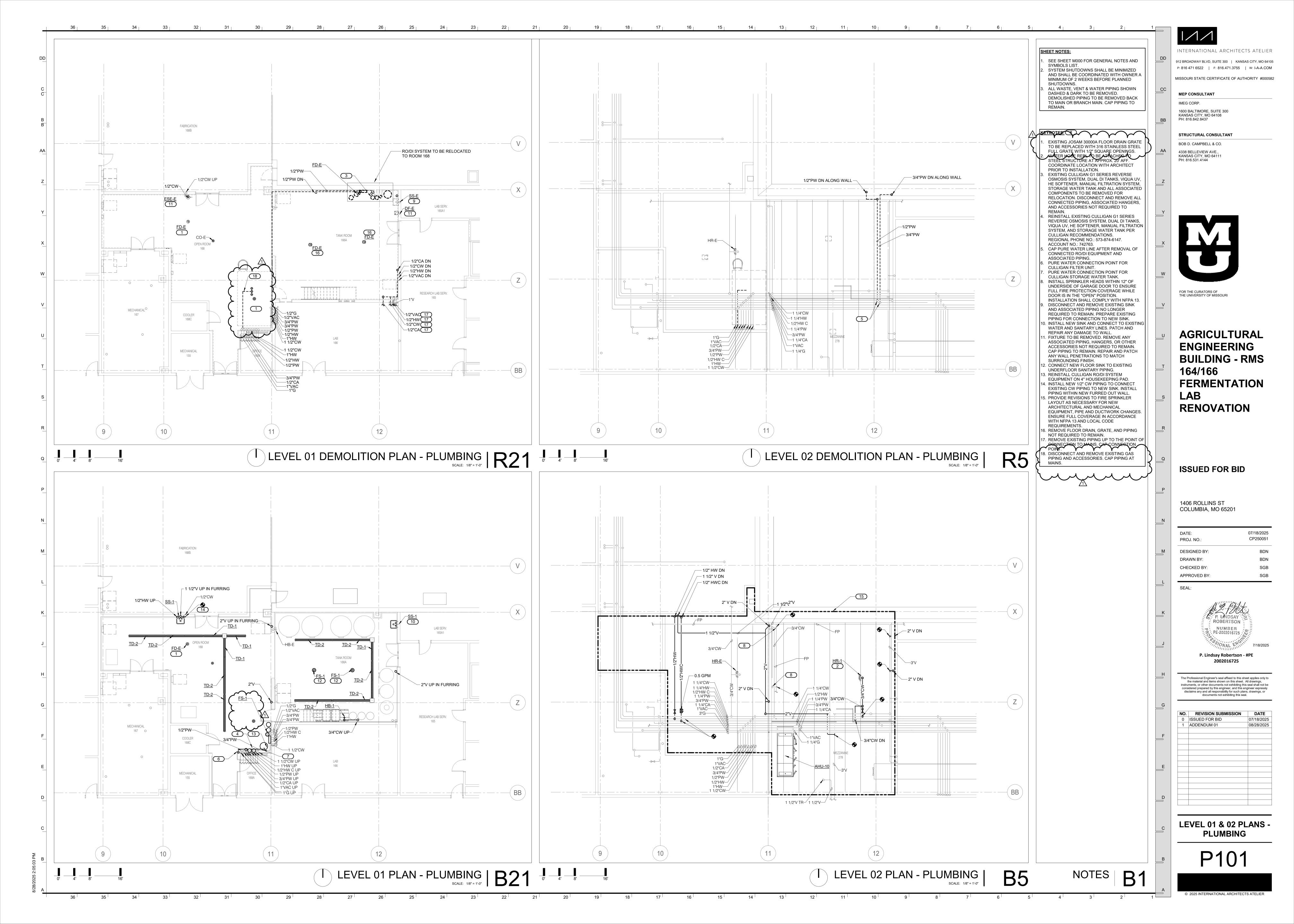


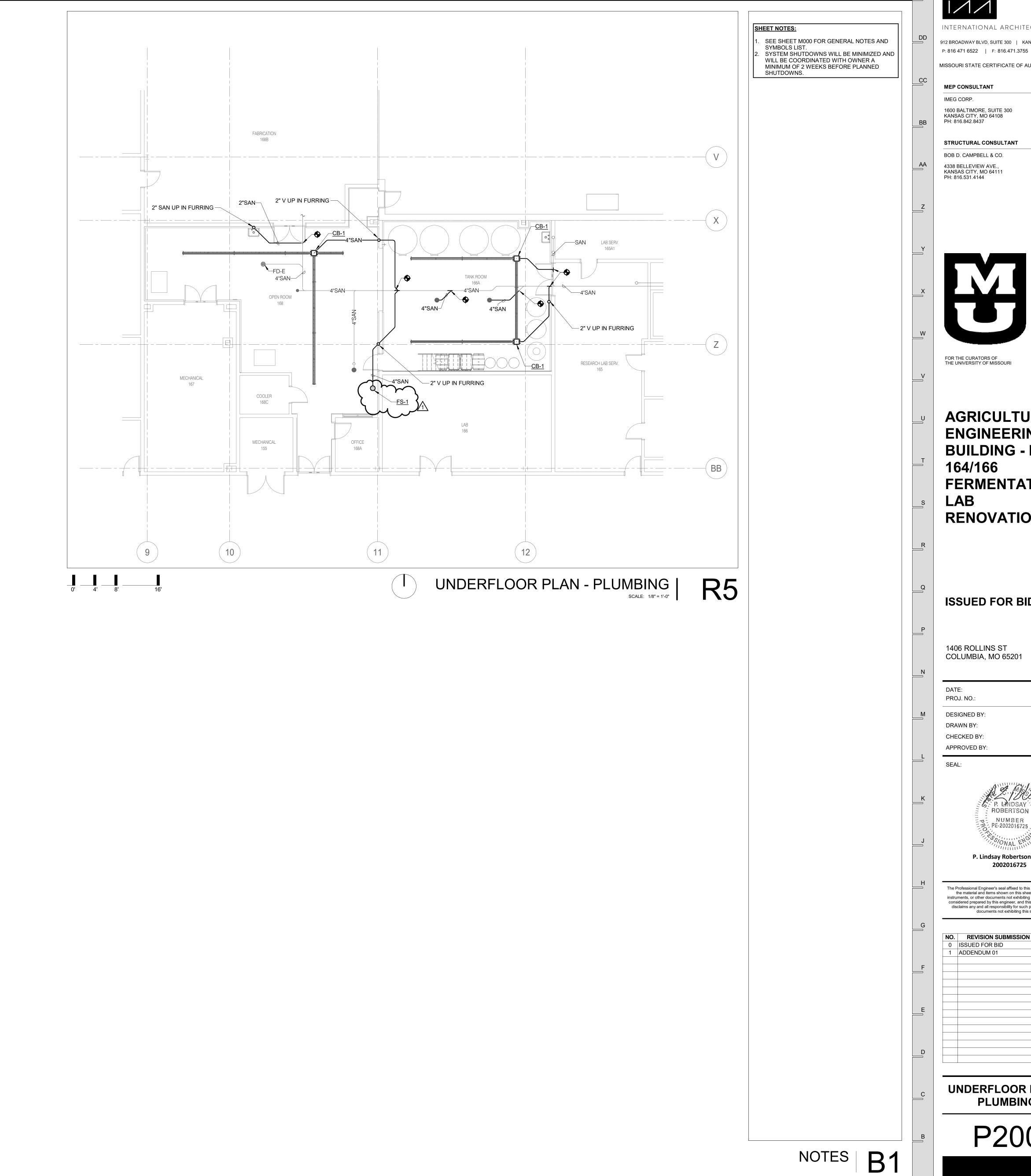
DATE:	07/18/2025
PROJ. NO.:	CP250051
DESIGNED BY:	ВЈ
DRAWN BY:	BJ
CHECKED BY:	ST
APPROVED BY:	MA











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STRUCTURAL CONSULTANT



AGRICULTURAL ENGINEERING BUILDING - RMS FERMENTATION RENOVATION

ISSUED FOR BID

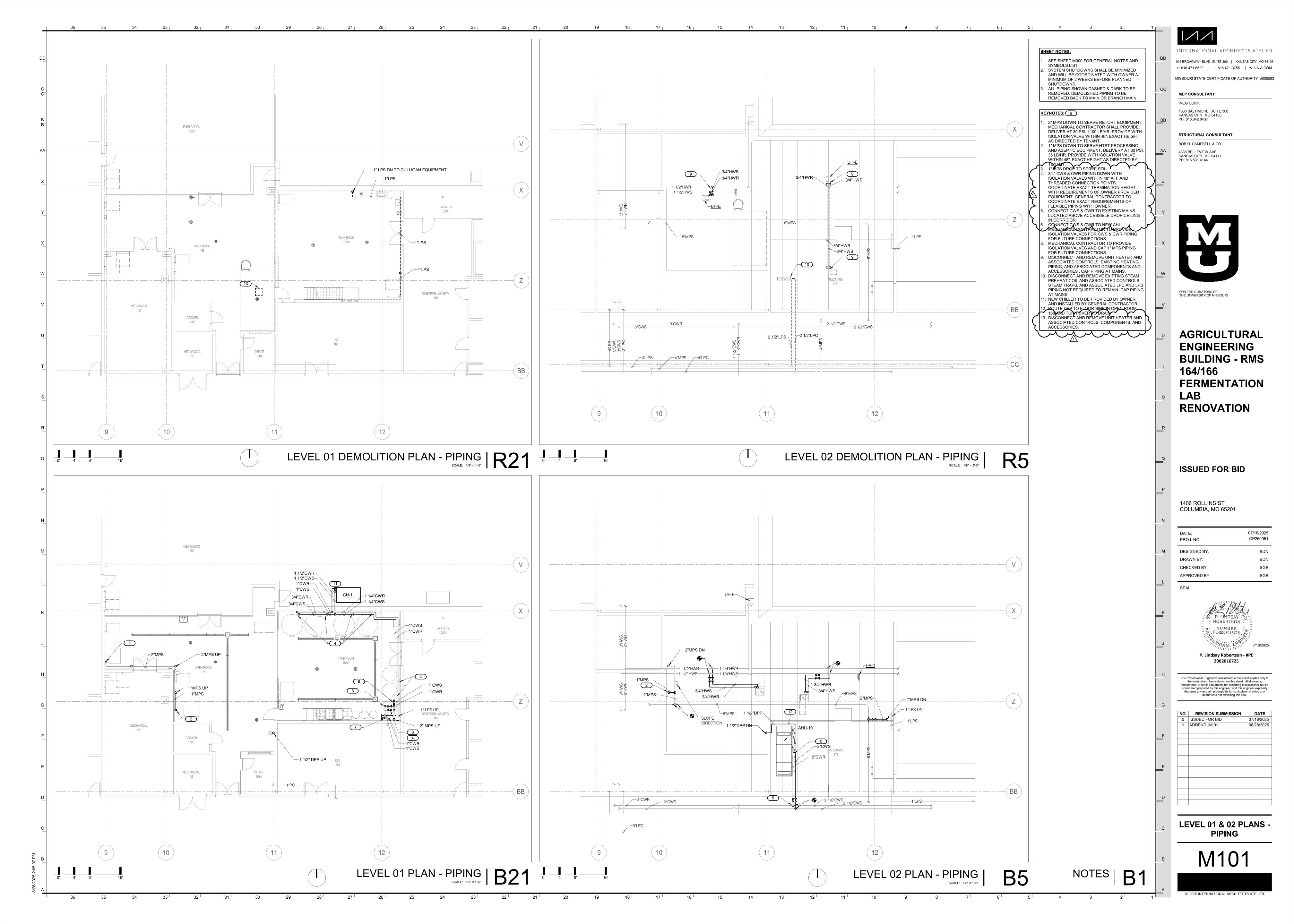
DATE: PROJ. NO.:	07/18/2025 CP250051
DESIGNED BY: DRAWN BY: CHECKED BY:	BDN BDN SGB
APPROVED BY:	SGB

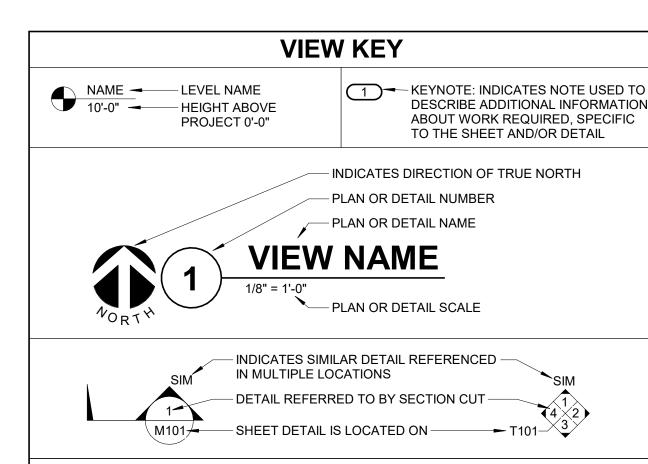
P. Lindsay Robertson - #PE

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NO.REVISION SUBMISSIONDATE0ISSUED FOR BID07/18/2025

UNDERFLOOR PLAN -PLUMBING





LINE TYPE AND TAG KEY:

T.C.C.

INSTALLATION TYPE

CONTROLS, ETC.

AIR HANDLING UNITS, ETC.

NEW WORK BY THIS CONTRACTOR (WIDE LINE) ---- NEW

---- EXISTING TO BE REMOVED (SHORT DASHED PATTERN) — — NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)

---- EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN) — — EXISTING UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

HALFTONING DOES NOT MODIFY SCOPE.

'TAG'-E TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

	CONTRACTOR ABBREVIATION KEY
ABBR:	DESCRIPTION:
C.C.	CIVIL CONTRACTOR
C.M.	CONSTRUCTION MANAGER
E.C.	ELECTRICAL CONTRACTOR
F.P.C.	FIRE PROTECTION CONTRACTOR
G.C.	GENERAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
S.C.	SECURITY CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR

THE FOLLOWING SCHEDULE SHALL BE ADHERED TO UNLESS THEY CONSTITUTE A VIOLATION OF APPLICABLE CODES OR ARE NOTED OTHERWISE ON THE DRAWINGS. THE INSTALLATION OF

X

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RMC CONDUIT WILL BE PERMITTED IN PLACE OF ALL CONDUIT SPECIFIED IN THIS SCHEDULE. REFER TO CONDUIT AND BOXES SPECIFICATION 26 05 33 FOR ADDITIONAL INFORMATION.

TEMPERATURE CONTROLS CONTRACTOR

CONDUIT INSTALLATION SCHEDULE

VENTILATION CONTRACTOR

FEEDERS: SWITCHBOARDS. DISTRIBUTION PANELS.

PANELBOARDS, MOTOR CONTROL CENTERS, ETC.

MECHANICAL EQUIPMENT FEEDERS: PUMPS, CHILLERS,

FLOOR MOUNTED EQUIPMENT FEEDERS: PUMPS, ETC.

(INCLUDE NO MORE THAN 6 FEET OF LFMC TO PUMP)

WET AND DAMP LOCATIONS: (CONDUIT, BOXES, FITTINGS,

INSTALLED AND EQUIPPED TO PREVENT WATER ENTRY)

IN WALLS AND ABOVE FINISHED CEILINGS

WALL, EXPOSED ABOVE CEILINGS

THERWISE NOTED

UNDERFLOOR

CONTROLS (LIGHTING, POWER, BUILDING AUTOMATION, ETC.)

INTERIOR LOCATIONS WITH FINISHED CEILING AND WALLS: CONCEALED

INTERIOR LOCATIONS WITHOUT FINISHED CEILINGS: CONCEALED IN

EXISTING INTERIOR LOCATIONS WITH FINISHED CEILINGS AND WALLS:

CONCEALED IN WALLS AND ABOVE FINISHED CEILING UNLESS

BRANCH CIRCUITS: LIGHTING, RECEPTACLES,

	ELEC	TRICAL	SYMBOL LIST
SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
GB	<u>GB</u>	26 05 26	GROUND BUS
E E	<u>ECONN</u>	26 05 33	ELECTRICAL CONNECTION
	<u>JB</u>	26 05 33	JUNCTION BOX
	<u>WM-#</u>	26 05 35	MULTI OUTLET SYSTEM
	<u>EPO</u>	26 09 16 26 32 13	EMERGENCY STOP / POWER OFF (N.C. AND N.O CONTACT)
ES	<u>ES</u>	26 09 16	EMERGENCY STOP, N.C. CONTACT
	PANEL '###'	26 24 16	PANELBOARD - SURFACE MOUNT
	<u>MD-#</u>	26 28 16	MANUAL DISCONNECT. REFER TO DISC/STA SCHEDULE.
	FCS-#	26 28 16	FUSED COMBINATION STARTER REFER TO DISC/STA STARTER
	TR-#/DTR-#	26 22 00	TRANSFORMER. REFER TO TRANSFORMER SCHEDULE
	DS-#/FDS-#/DSS-#	26 28 16	DISCONNECT SWITCH FUSED DISCONNECT SWITCH INTERLOCKED RECEPTACLE DISCONNECT. REFER TO DISC/STA SCHEDULE
РВ	<u>PB</u>	26 29 23	LOW VOLTAGE PUSHBUTTON MOTOR OPERATOR

	OPERATOR	
	ELECTRICAL EQUIPMENT TAGS	
TAG:	DESCRIPTION:	RELATED SPECIFICATION
<u>CR-#</u>	CORD REEL	26 27 26
<u>DP-#</u>	DISTRIBUTION PANEL	26 24 16
DTR-#	TRANSFORMER - DISTRIBUTION TYPE REFER TO TRANSFORMER SCHEDULE	26 12 19 26 12 13 26 12 16 26 12 21
MCC-#	MOTOR CONTROL CENTER, REFER TO MOTOR CONTROL SCHEDULE	26 14 19
<u>MD-#</u>	MANUAL SWITCH, REFER TO DISCONNECT AND STARTER SCHEDULE	26 24 19
<u>R-#</u>	RELAY	26 09 39
SPD-#	SURGE PROTECTION DEVICE	26 43 00
<u>UD-#</u>	UNDERFLOOR DUCT - TRENCH DUCT - CELLULAR FLOOR DUCT	26 05 38
VFD-#	VARIABLE FREQUENCY DRIVE	26 29 23
<u>WD-#</u>	WALL DUCT	26 05 38

COATED

RMC

PVC RTRC

CONCRETE

ENCASED

	ELE	CTRICAL	. SYMBOL LIST
SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
COMMON AND SEQUENCE OF OPERATION SUBSCRIPTS			SUBSCRIPTS: TYPE / PROGRAMMING WG = WIRE GUARD IS REQUIRED W = WEATHERPROOF # = 15, 30, 75, 110, 177 CANDELA RATING CD = CANDELA RATING SELECTED BY NICE- DESIGNER
F	FA-130	28 31 00	FIRE ALARM MANUAL PULL STATION
a B	FA-200	28 31 00	FIRE ALARM VISUAL ALARM DEVICE, CEILING OR WALL MOUNT
			# = CANDELA RATING. CD = CANDELA RATING SELECTED BY NICET DESIGNER
R1		28 13 00	CARD READER

ELECTRICAL SYMBOL LIST

SECTION:

26 27 26

26 27 26

26 27 26

26 27 26

26 27 26

26 27 26

REC-DUP

REC-DUP-GFI

REC-DUP-WP

REC-SIM-520R

REC-SIM-530R

REC-SIM-550R

REC-SIM-620R

REC-SIM-630R

REC-SIM-650R

REC-SIM-720R

REC-SIM-730R

REC-SIM-750R

REC-SIM-1420R

REC-SIM-1430R

REC-SIM-1450R

REC-SIM-1460R

REC-SIM-1520R

REC-SIM-1530R

REC-SIM-1550R

REC-SIM-L520R

REC-SIM-L530R

REC-SIM-L620R

REC-SIM-L630R

REC-SIM-L720R

REC-SIM-L730R

REC-SIM-L1420R

REC-SIM-L1430R

REC-SIM-L1520R

REC-SIM-L1620R

REC-SIM-L1630R

REC-SIM-L2120R

REC-QUAD-GFI

SYMBOL:

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-OI

SPEC DESCRIPTION:

26 27 26 DUPLEX RECEPTACLE, 125V

DUPLEX GFI RECEPTACLE, 125V

SIMPLEX RECEPTACLE, 125V

RECEPTACLE 125V, 50A, 125V

RECEPTACLE, 6-20R, 250V

RECEPTACLE, 6-30R, 250V

RECEPTACLE, 6-50R, 250V

RECEPTACLE, 7-20R, 277V

RECEPTACLE, 7-30R, 277V

RECEPTACLE, 7-50R, 277V

RECEPTACLE, 14-20R, 125/250V

RECEPTACLE, 14-30R, 125/250V

RECEPTACLE, 14-50R, 125/250V

RECEPTACLE, 14-60R, 125/250V

RECEPTACLE, 15-20R, 250V, 3PH

RECEPTACLE, 15-30R, 250V, 3PH

RECEPTACLE, 15-50R, 250V, 3PH

RECEPTACLE, 15-60R, 250V, 3PH

RECEPTACLE, LOCKING TYPE, L5-20R, 125V

RECEPTACLE, LOCKING TYPE, L5-30R, 125V

RECEPTACLE, LOCKING L6-20R, 250V

RECEPTACLE, LOCKING L6-30R, 250V

RECEPTACLE, LOCKING L7-20R, 277V

RECEPTACLE, LOCKING L7-30R, 277V

RECEPTACLE, L16-20R, 480V, 3PH

RECEPTACLE, L16-30R, 480V, 3PH

QUAD RECEPTACLE, 125V

QUAD RECEPTACLE, USB 125V

26 27 26 QUAD GFI RECEPTACLE, 125V

RECEPTACLE, LOCKING L14-20R, 125/250V

RECEPTACLE, LOCKING L14-30R, 125/250V

RECEPTACLE, LOCKING L15-20R, 250V, 3PH

RECEPTACLE, LOCKING L15-30R, 250V, 3PH

RECEPTACLE, LOCKING L21-20R, 120/208V, 3PH

RECEPTACLE, LOCKING L21-30R, 120/208V, 3PH

QUAD GFI WEATHERPROOF RECEPTACLE, 125V

RECEPTACLE, 125V

DUPLEX GFI WEATHERPROOF RECEPTACLE 125V

ELECTRICAL RENOVATION NOTES:

- THESE NOTES APPLY TO ALL ELECTRICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, LIGHTING, POWER, FIRE ALARM, AND OTHER LOW VOLTAGE SYSTEMS. 1. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD
- SURVEYS, EXISTING BUILDING DOCUMENTS. CONTRACTOR SHALL REVIEW EXISTING CONDITIONS AND REPORT CONFLICTS. NOT ALL EXISTING EQUIPMENT, LUMINAIRES, AND CONDUIT ARE SHOWN. CONTRACTOR
- SHALL REVIEW EXISTING CONDITIONS AND REPORT CONFLICTS. CONTRACTOR SHALL REVIEW EXISTING CONDITIONS PRIOR TO FABRICATION OF CABLE
- TRAY, BUSWAY, CONDUIT RACKS, AND OTHER SYSTEMS. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS. 4. ELECTRICAL CONTRACTOR SHALL REVIEW EXISTING CONDITIONS TO VERIFY ACCESSIBILITY
- TO THE AREAS OF THEIR WORK INCLUDING WALLS, FLOOR, CEILINGS, CEILING TILES/GRID, AND ROOF. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE CUTTING, REMOVAL. PATCHING, AND REINSTALLATION OF AFFECTED AREAS ASSOCIATED WITH THEIR WORK BY COORDINATING WITH THE GENERAL CONTRACTOR OR QUALIFIED CONTRACTOR. CONTRACTOR SHALL NOTIFY THE PRIME CONTRACTOR OF AFFECTED AREAS PRIOR TO
- WHERE EXISTING ELECTRICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, CONDUIT, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING ELECTRICAL SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.

	EQUIPMENT ABBREVIATION KEY
ABBR:	DESCRIPTION:
AD	AUTOMATIC DOOR OPERATOR WITH SENSOR
DB	DOOR BELL
DOOR	DOOR OPERATOR, ELECTRIC
EWCC	ELECTRIC WATER COOLER CONDENSER
FAN	CEILING FAN
FDO	FIRE DOOR OPERATOR
FFE	OWNER FURNISHED FIXTURES, FURNITURE, AND EQUIPMENT
FURN	OWNER FURNITURE
OHD	OVERHEAD DOOR
PFR	PLUMB FIXTURE RECEPT FOR LV VALVE POWER
PP	PUSH PAD AUTOMATIC DOOR OPERATOR (REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATION)
PW	POWER WASHER SPECIAL RECEPTACLE

ELECTRICAL ABBREVIATION KEY

ABBR:	DESCRIPTION:	
ABV	ABOVE	
AFC	ABOVE FINISHED CEILING	
AFF	ABOVE FINISHED FLOOR	
AFG	ABOVE FINISHED GRADE	
ASR	ARCHITECTURAL SURFACE RACEWAY	
ВС	BELOW COUNTER	
С	CONDUIT (BRANCH CIRCUIT OR FEEDER CONTEXT)	
CO	CONDUIT AND BOX ROUGH-IN ONLY (ROUGH-IN ONLY)	
EG	EQUIPMENT GROUND	
EGC	EQUIPMENT GROUNDING CONDUCTOR	
EOL	END OF LINE	
EPO	EMERGENCY POWER OFF	
GFR	GROUND FAULT REMOTE	
HOA	HAND/OFF/AUTO	
ITR	IT RACK MOUNTED RECEPTACLE	
NC	NORMALLY CLOSED	
NEMA#	NEMA RATING	
NIC	NOT IN CONTRACTED SCOPE	
NO	NORMALLY OPEN	
ROOF	EQUIPMENT LOCATED ON ROOF ABOVE	
SM	SURFACE MOUNTED	
TYP	TYPICAL	
UG	UNDERGROUND	
UON	UNLESS OTHERWISE NOTED	

LUMINAIRE CIRCUIT AND CONTROL KEY

F1 = FIXTURE TAG 1 = CIRCUIT NUMBER

LUMINAIRE a = SWITCH DESIGNATION

*IF LABEL IS ORIENTED HORIZONTALLY A SLASH WILL SEPARATE THIS INFORMATION. EX: F1/1/a/NL

ELECTRICAL SYMBOL LIST			
SYMBOL:	SPEC TAG:	SPEC SECTION:	DESCRIPTION:
\$ ##	SW-1P SW-2P SW-3W SW-4W	26 09 33	SWITCH SUBSCRIPTS: BLANK = SINGLE POLE 2 = TWO POLE 3 = THREE WAY 4 = FOUR WAY W = WEATHERPROOF

ELECTRICAL SYMBOL LIST			
SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
			LINEAR LUMINAIRES
• •	REFER TO LU SCHED		INDUSTRIAL LUMINAIRE
			WALL/CEILING EMERGENCY EXIT SIGN
4			EMERGENCY UNIT

ELECTRICAL INSTALLATION NOTES:

- 1. THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE 2010 (LATEST PUBLISHED) ADA STANDARDS FOR ACCESSIBLE DESIGN. REFER TO THE ADA STANDARDS FOR ALL CONFIGURATION DETAILS ON THIS PAGE FOR ADDITIONAL INFORMATION. CIRCUIT NUMBERS ARE SHOWN FOR CIRCUIT IDENTIFICATION. CIRCUITING SHALL AGREE WITH NUMBERING ON THE PANEL PROVIDED. COMMON NEUTRALS MAY NOT BE USED FOR BRANCH
- CIRCUITS. BALANCE THE LOAD ON PANEL AS EVENLY AS POSSIBLE BETWEEN EACH PHASE. EMERGENCY BRANCH WIRING FOR FEEDERS AND BRANCH CIRCUITS SHALL BE ROUTED IN SEPARATE RACEWAY, JUNCTION BOXES, PULL BOXES, AND CABINETS. WIRING FOR EACH BRANCH SHALL BE INDEPENDENT FROM OTHER BRANCHES, INCLUDING THE NORMAL
- 3. FLUSH MOUNT ALL LIGHTING CONTROL DEVICES AT +42" FROM FLOOR (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED. 4. FLUSH MOUNT ALL DUPLEX RECEPTACLES AND TECHNOLOGY OUTLETS AT +18" FROM FLOOR (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED. RECEPTACLES AND OUTLETS MAY BE SURFACE MOUNTED WHEN CONDUIT IS SPECIFIED EXPOSED. MOUNT
- EXTERIOR LOCATED RECEPTACLES WITH WHILE-IN-USE COVERS AT +20" FROM FINISHED GRADE (CENTER DIMENSIONS) TO MAINTAIN INSTALLATION ADA COMPLIANCE. . ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF
- THROUGH-PENETRATION FIRESTOPS. REFER TO DIVISION 7 FOR ADDITIONAL INFORMATION AND REQUIREMENTS SPECIFIC TO FIRESTOPPING. 6. CONNECTION FOR ELECTRIC WATER COOLERS (EWC) SHALL BE A JUNCTION BOX CONCEALED BEHIND WATER COOLER ACCESS PLATE OR BE A GFI RECEPTACLE LOCATED
- DIRECTLY BELOW AND CENTERED ON EWC. CONTRACTOR SHALL VERIFY TYPE OF EWC TO BE INSTALLED. 7. MOUNT ALL FIRE ALARM PULL STATIONS AT +42" FROM FLOOR (CENTERLINE DIMENSION) EXCEPT WHERE OTHERWISE NOTED.

8. INSTALL ALL WALL MOUNTED FIRE ALARM NOTIFICATION DEVICES AT 90" ABOVE FINISHED

- FLOOR OR 6" BELOW THE CEILING, WHICHEVER IS LOWER, EXCEPT WHERE OTHERWISE NOTED. HEIGHT SHALL BE MEASURED TO THE TOP OF THE DEVICE. 9. CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING MOUNTED DEVICES AND EQUIPMENT WITH LUMINAIRES, SPRINKLER, AND CEILING DIFFUSERS. CENTER ALL DEVICES IN CEILING TILE PATTERN. SMOKE DETECTORS, CARBON MONOXIDE DETECTORS, AND OCCUPANCY/VACANCY SENSORS SHALL BE LOCATED NO CLOSER THAN 3 FEET TO AN AIR SUPPLY DIFFUSER OR RETURN GRILLE. CARBON MONOXIDE DETECTORS SHALL BE LOCATED
- 10 PLUS FT FROM FIRE PLACES, COOKING, AND SIMILAR FUEL-BURNING APPLIANCES. 10. CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE, AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS, AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION, THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS, OR CONNECTION LOCATIONS TO ACCOMMODATE
- FURNITURE AND/OR EQUIPMENT. 11. ELECTRICAL AND TECHNOLOGY EQUIPMENT SHALL BE MOUNTED TO AVOID IMPEDANCE OF, OPERATION OF, AND/OR ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF ELECTRICAL AND TELECOMMUNICATIONS EQUIPMENT, ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR, SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
- 12. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
- 13. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO THE WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND
- AUDIO/VISUAL, AND OTHER ELECTRICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS. 15. ELECTRICAL IDENTIFICATION. REFER TO SPECIFICATION SECTION 26 05 53 FOR COLOR/LABEL REQUIREMENTS FOR CONDUIT, BOX, CABLE/WIRE, AND EQUIPMENT.

14. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY

RECEPTACLE SUBSCRIPT KEY:

DEVICE KEY: DEVICE # = MOUNTING (IF APPLICABLE)
1 = CIRCUIT NUMBER

*IF LABEL IS ORIENTED HORIZONTALLY A SLASH WILL SEPARATE THIS

ELECTRICAL MOUNTING SUBSCRIPT KEY:

- MOUNT AT +6" TO CENTERLINE ABOVE COUNTER OR BACKSPLASH
- MOUNT AT CEILING (DEVICE OR ROUGH-IN CONTEXT) MOUNT ORIENTED HORIZONTALLY

INFORMATION. EX: A / 1

- MOUNT IN CASEWORK MOUNT IN MODULAR FURNITURE
- WIRING DEVICE, OCCUPANCY CONTROLLED MOUNT IN SURFACE RACEWAY
- SURFACE MOUNTED
- W WEATHERPROOF WIRING DEVICE, NEMA 3R WHILE-IN-USE COVER, WR LISTED WG WIRE GUARD
- WP WEATHERPROOF SHADED DEVICE INDICATES DEVICE IS CONNECTED TO AN EMERGENCY CIRCUIT.

DEVICE P

LIGHTING SYSTEM DESCRIPTION KEY:

THE DESIGN DOCUMENTS DESCRIBE THE OPERATIONAL PERFORMANCE REQUIREMENTS OF THE LIGHTING CONTROL SYSTEM. THE PROJECT MAY REQUIRE ONE OR MORE LIGHTING CONTROL STRATEGIES FOR THE PROJECT. REFER TO THE ELECTRICAL SYMBOL KEY, SPECIFICATION SECTION 26 09 33 LIGHTING CONTROL SYSTEMS, AND THE DRAWINGS TO DETERMINE THE DESIGN APPLICATION FOR EACH SPACE. THE POTENTIAL STRATEGIES ARE AS FOLLOWS:

- STANDALONE LIGHTING CONTROL DEVICES: INDEPENDENT (STANDALONE) DEVICES RADITIONALLY OPERATING AT LINE OR LOW VOLTAGE, FIELD CONFIGURABLE WITH OTHER STANDALONE DEVICES TO PROVIDE AN OVERALL LIGHTING CONTROL SYSTEM.
- ROOM BASED LIGHTING CONTROLS: INTEGRATED SYSTEM COMPRISED OF SWITCH STATIONS, SENSORS, ROOM CONTROLLERS, CONTROL PANELS, AND ACCESSORIES. OPERATING AT LINE AND/OR LOW VOLTAGE, CONFIGURED AS AN INTEGRATED OVERALL 'INTELLIGENT' LIGHTING CONTROL SYSTEM. LIGHTING CONTROL ZONES AND POWER CIRCUITS COMMONLY ALIGN.
- NETWORK BASED LIGHTING CONTROLS: INTEGRATED SYSTEM COMPRISED OF SWITCH STATIONS, SENSORS, ROOM CONTROLS, CONTROL PANELS, DIMMER RACKS, AND ACCESSORIES, OPERATING AT LINE AND/OR LOW VOLTAGE, CONFIGURED AS AN INTEGRATED OVERALL 'INTELLIGENT' LIGHTING CONTROL SYSTEM FOR ADVANCED ARCHITECTURALLY BASED LIGHTING CONTROL SYSTEMS. LIGHTING CONTROL ZONES COMMONLY ASSOCIATED WITH ONE OR MORE BRANCH POWER CIRCUITS WITHIN THE SAME CONTROL ZONE.

LIGHTING CONTROL SYSTEM DESIGNATION: THE FOLLOWING KEY MAY BE USED AS AN EXAMPLE TO DETERMINE THE DESIGNATED LIGHTING CONTROL SYSTEM FOR EACH SPACE. REFER TO ELECTRICAL COVERSHEET FOR ELECTRICAL SYMBOLS LIST AND DEVICE SPECIFICATION TAG. REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

- STANDALONE LIGHTING CONTROL DEVICES: CONTROL STATION COMMONLY DEFINED BY AN ALPHA CHARACTER WITH SUBSCRIPTS.
- A. EXAMPLE SYMBOL "S", SPECIFICATION TAG "SW-1P", DESCRIPTION "SWITCH-
- SINGLE POLE SWITCH". B. EXAMPLE CONTROL DESIGNATION: a, b, c (WHEN REQUIRED TO CLARIFY DESIGN
- C. SINGLE POLE LIGHT SWITCH "SA" CONTROLS LUMINAIRES WITH THE SUBSCRIPT "a" WITHIN THE SAME SPACE. D. REFER TO THE LIGHT CONTROL SEQUENCE OF OPERATION TAG {L#-##} FOR A

COMPLETE DESCRIPTION OF THE LIGHTING CONTROL REQUIREMENTS.

LUMINAIRE

CONTROL

LIGHTING CONTROL NOTES:

1. LOWER CASE ALPHA SUBSCRIPTS "a, b, c" INDICATE LINE VOLTAGE OR ROOM BASED LIGHTING CONTROL SYSTEMS. REFER TO DRAWINGS TO DETERMINE IF LINE VOLTAGE CONTROL (S, S3, S4, ETC) OR {#B} ROOM BASED CONTROLLER SYSTEM (#B) IS

REFER TO SHEET E-600 FOR LUMINAIRE SCHEDULE

REQUIRED.

ELECTRICAL SHEET INDEX		
E000	ELECTRICAL COVERSHEET	
E101	LEVEL 01 & 02 PLANS - LIGHTING	
E102	LEVEL 01 & 02 PLANS - POWER	
E103	LEVEL 01 & 02 PLANS - SYSTEMS	
E400	ELECTRICAL DETAILS	
E500	ELECTRICAL DIAGRAMS	
E600	ELECTRICAL SCHEDULES	
E700	ELECTRICAL PANEL SCHEDULES	
GRAND TOTAL: 8		

INTERNATIONAL ARCHITECTS ATELIER

912 BROADWAY BLVD, SUITE 300 | KANSAS CITY, MO 64105 P: 816 471 6522 | F: 816.471.3755 | W: I-A-A.COM

MISSOURI STATE CERTIFICATE OF AUTHORITY #000582

MEP CONSULTANT IMEG CORP. 1600 BALTIMORE, SUITE 300

KANSAS CITY, MO 64108 PH: 816.842.8437

STRUCTURAL CONSULTANT BOB D. CAMPBELL & CO. 4338 BELLEVIEW AVE., KANSAS CITY, MO 64111 PH: 816.531.4144



FOR THE CURATORS OF THE UNIVERSITY OF MISSOURI

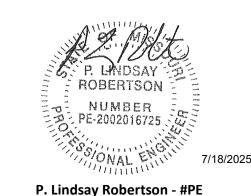
AGRICULTURAL ENGINEERING BUILDING - RMS 164/166 **FERMENTATION** LAB RENOVATION

ISSUED FOR BID

1406 ROLLINS ST COLUMBIA, MO 65201

DATE: 07/18/2025 CP250051 PROJ. NO.: DESIGNED BY: DRAWN BY: CHECKED BY:

APPROVED BY: SEAL:



2002016725 The Professional Engineer's seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments, or other documents not exhibiting this seal shall not be considered prepared by this engineer, and this engineer expressly

disclaims any and all responsibility for such plans, drawings, or documents not exhibiting this seal.

NO.	REVISION SUBMISSION	DATE	
0	ISSUED FOR BID	07/18/202	
1	ADDENDUM 01	08/28/202	

ELECTRICAL COVERSHEET

NOTES:

ELECTRICAL SPECIFICATIONS:

MAIN VOLTAGE: 460V/3PH/60HZ MINIMUM CIRCUIT AMPACITY (MCA): 26 AMPS MAXIMUM OVERCURRENT PROTECTION (MOP): 40 AMPS

WEIGHT SPECIFICATIONS: ESTIMATED SHIPPING WEIGHT: APPROXIMATELY 1,800 LBS ESTIMATED OPERATING WEIGHT: APPROXIMATELY 2,700 LBS

COOLING CAPACITIES: AT 90 °F AMBIENT

25 °F GLYCOL: 63861 BTU/HR (18.7KW)

30 °F GLYCOL: 71968 BTU/HR (21.1KW)

35 °F GLYCOL: 80635 BTU/HR (23.6KW)

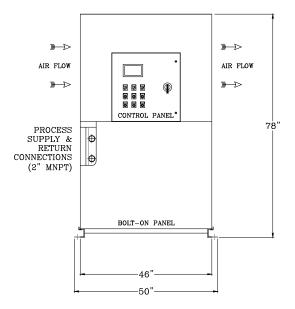
SOUND PRESSURE LEVEL: 77 dB @ 1m

OPTIONS:

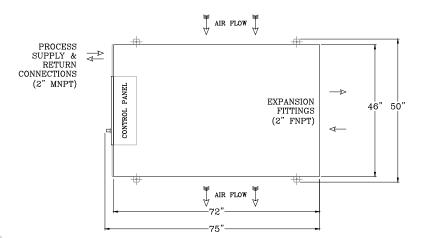
1HP PROCESS PUMP EXTREME LOW AMBIENT PACKAGE

PROElliot HARDWARE

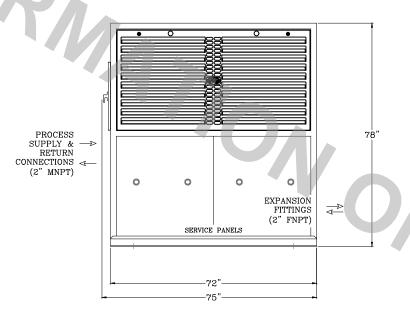
PROEIIIot - CELLULAR CHILLER MONITORING SYSTEM



CONTROL PANEL END ELEVATION



PLAN VIEW



SIDE ELEVATION

Drawing No.

206422

Model:

3M109E100H Single 9HP

UNIVERSITY OF MISSOURI -AGRICULTURAL **ENGINEERING BUILDING COURTYARD**

Diawii By	JS	8/13/25
Rev.	Date	Description
	-	-

- 1. Options added to the chiller equipment (i.e. pumps, heat recovery, tank size, etc.) may affect the configuration (i.e. weight, dimensions, electrical requirements, etc.). Please verify final configuration of equipment.
- 2. Dimensional tolerance: +/- 2" nominal.

PRO Refrigeration, Inc. 326 8th Street SW Auburn, WA 98001

T: (253) 735-9466 / F: (253) 735-2631 www.prochiller.com



PRO REFRIGERATION, INC. RESERVES THE RIGHT TO CHANGE EQUIPMENT CONFIGURATION WITHOUT NOTICE

