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MCC LONGVIEW COMMUNITY COLLEGE
METROPOLITAN COMMUNITY COLLEGE
500 SW LONGVIEW ROAD
LEE SUMMIT, MO 64081
Construction Documents

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ALTERNATES

- ALTERNATE 1: EXTERIOR WINDOWS**
- Base Bid: Do not provide the exterior windows shown. No exterior work except for new mechanical units and devices on the roof.
 - Add Alternate: Provide the exterior storefront windows as shown in the documents.

VICINITY MAP



DESIGN TEAM

ARCHITECT:
Hollis + Miller Architects
1828 Walnut Street Ste 922
Kansas City, MO 64108
CONTACT: Marissa Carroll
PHONE: 816.282.2983

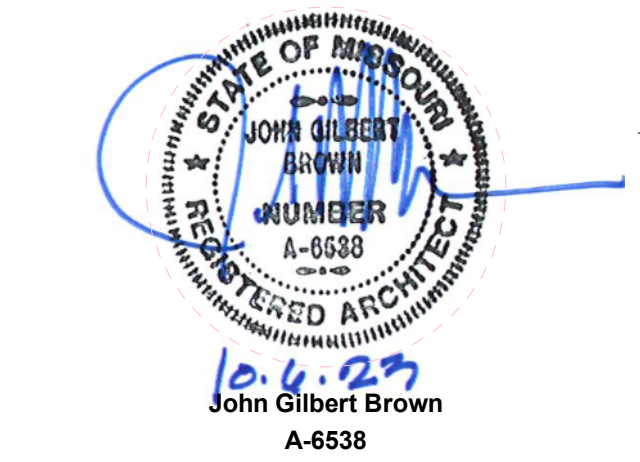
STRUCTURAL ENGINEER:
Apex Engineers
1625 Locust St
Kansas City, MO 64108
CONTACT: Logan Chamberlin
PHONE: 816.421.3222

MECH/ELECT ENGINEER:
RTM Engineering Consultants
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Suite 1075
Overland Park, KS 66210
CONTACT: Keith Hammerschmidt
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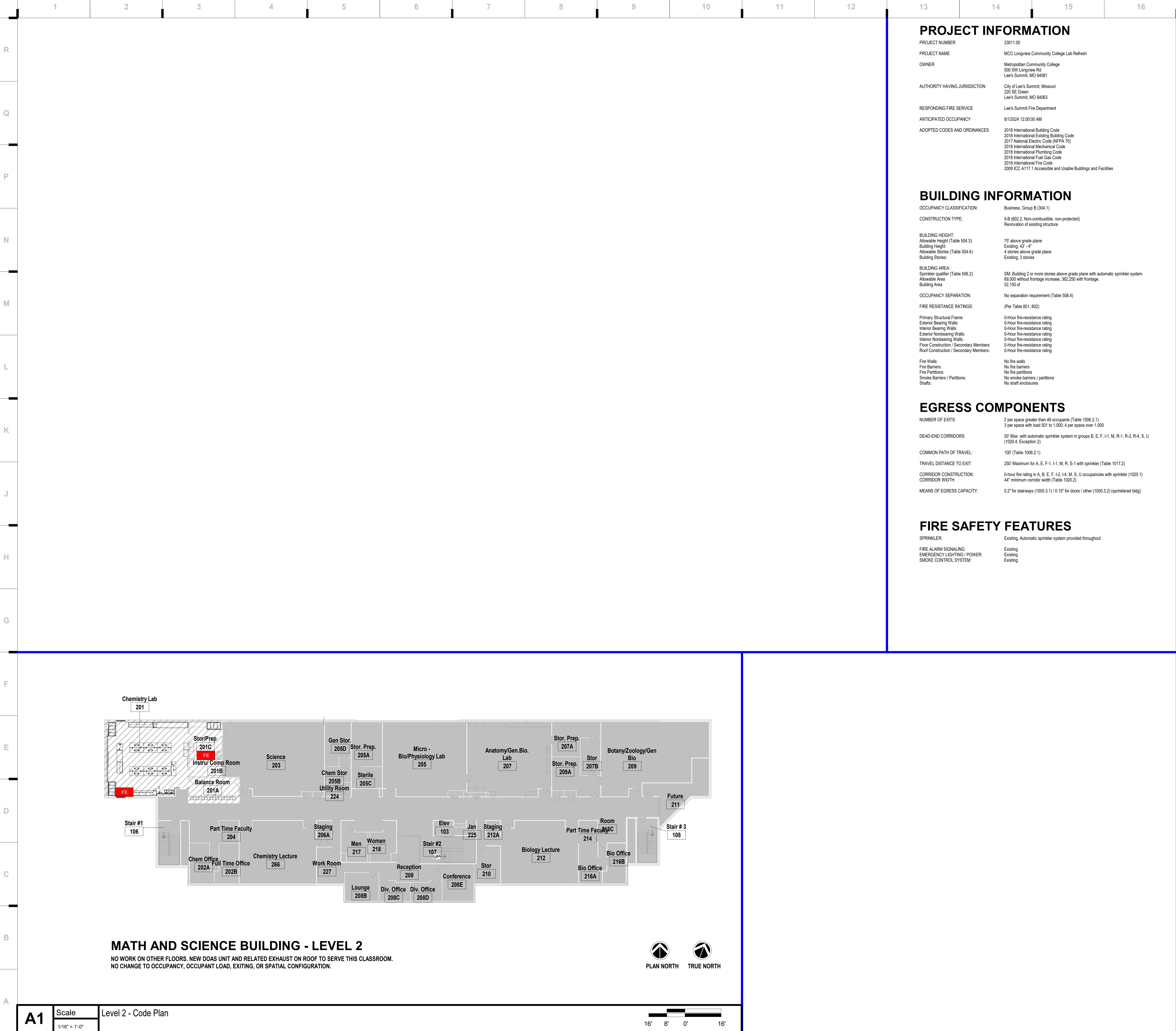
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G000



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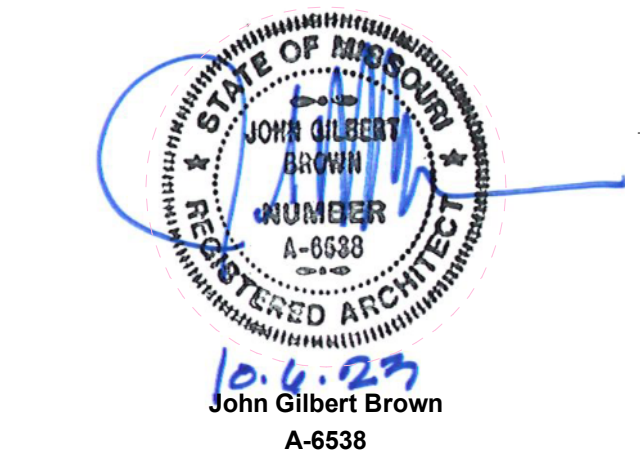
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CODE NOTES

- SCOPE OF PROJECT IS TO REPLACE EXISTING CASEWORK, FUME HOODS, AND RELATED COMPONENTS, 1:1.
- NO CHANGE TO EXISTING OCCUPANT LOAD.
- REFERENCE MECHANICAL AND STRUCTURAL SPECS AND DRAWINGS FOR RTU PLACEMENT AND SUPPORT.
- FIRE EXTINGUISHERS AND RELATED EQUIPMENT HAVE ONLY BEEN VERIFIED IN ROOMS RECEIVING WORK.
- ONLY ROOMS RECEIVING WORK HAVE BEEN VERIFIED.

CODE LEGEND

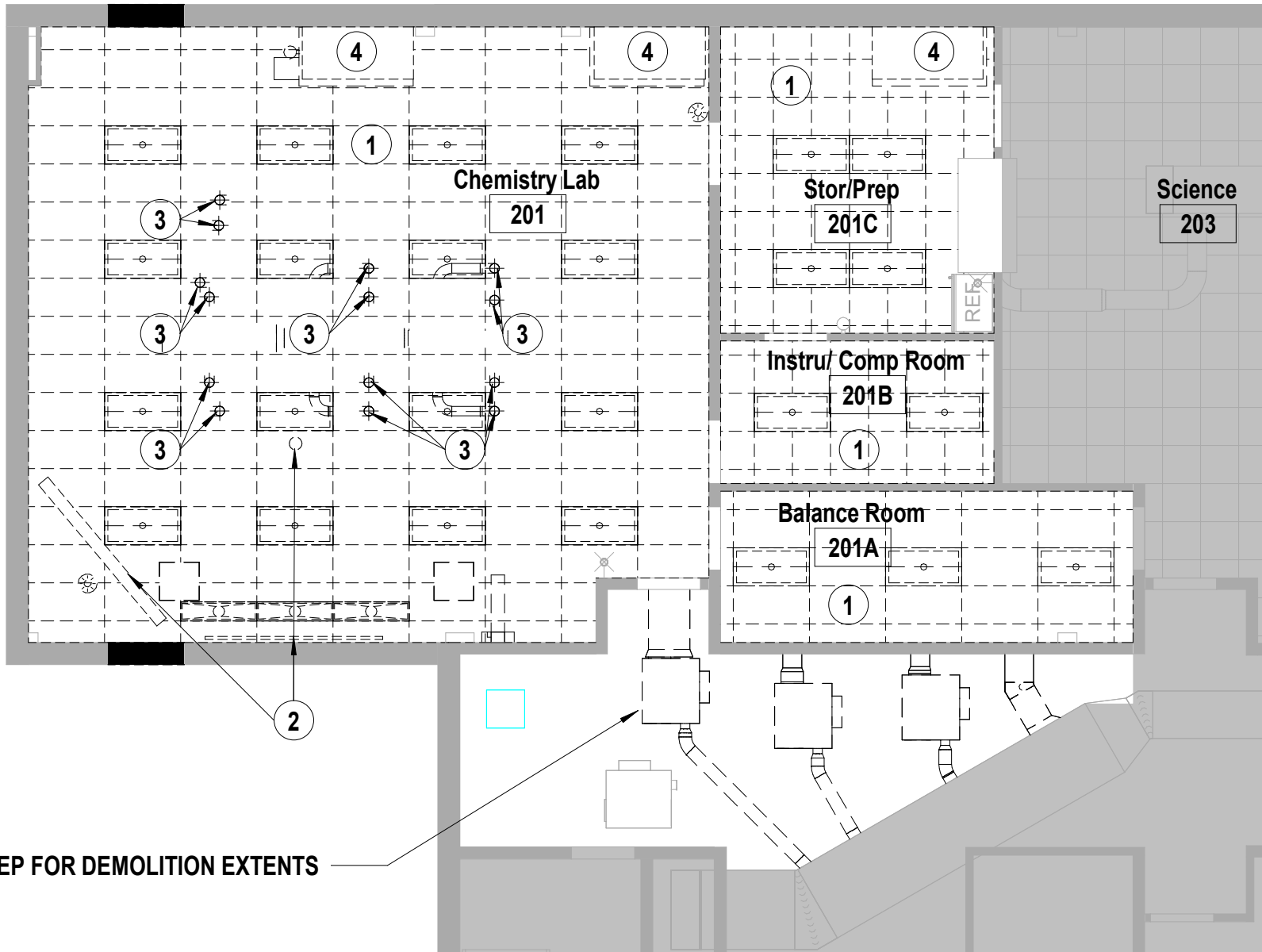
- EXISTING BUILDING - NO WORK
- EXISTING BUILDING - ALTERATION LEVEL 1
ALTERATIONS DO NOT INVOLVE SPACE
RECONFIGURATION
- FIRE EXTINGUISHER:
ON BRACKET; MOUNT HANDLE 48" MAX AFF
IN CABINET; BOTTOM OF CABINET 32" AFF



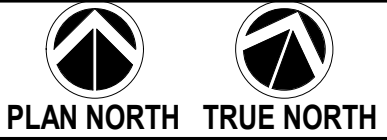
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G021

OVERALL CODE PLAN



K1 Scale 1/8" = 1'-0" Level 2 - Demolition Ceiling Plan



SOUTH WALL, LOOKING PLAN WEST



LOOKING PLAN WEST



LOOKING PLAN NORTHWEST



NORTH WALL

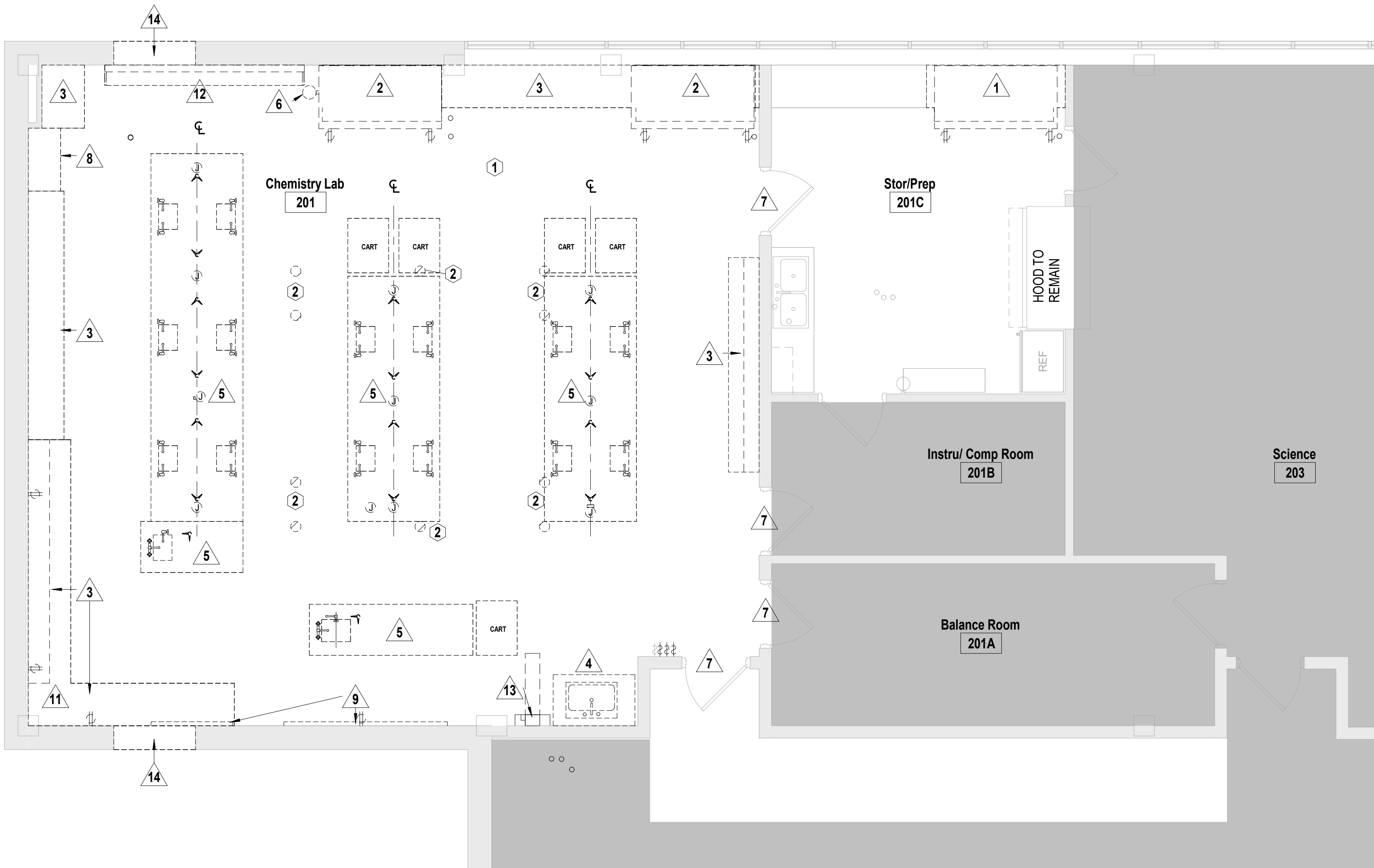


LOOKING PLAN EAST

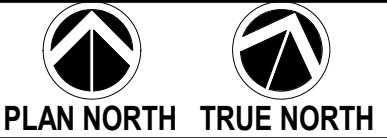


PREP 201C, PLAN NORTHEAST

K6 Scale Existing Images for Reference



A1 Scale 1/4" = 1'-0" Level 2 - Demolition



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DEMOLITION NOTES

FLOORS & BASE

- 1 REMOVE EXISTING BASE INCLUDING ADHESIVE. PREP FOR NEW BASE (ENTIRE ROOM).
- 2 REMOVE EXISTING CONCRETE SLAB AS REQUIRED FOR UNDER SLAB MECHANICAL, ELECTRICAL AND PLUMBING WORK. SAW CUT OR CORE CONCRETE PRIOR TO REMOVAL. DO NOT SAW CUT OR CORE INTO EXISTING FOUNDATIONS OR OTHER STRUCTURAL MEMBERS, SUCH AS EXISTING STRUCTURAL JOISTS. REF. STRUCT FOR FURTHER INFO. COORDINATE WITH MEP SHEETS FOR NEW WORK AND CAPPING OF ABANDONED SERVICES. ALL CORES, DEBRIS, AND SPOILS TO BE REMOVED.

WALLS

- 1 REMOVE EXISTING FUME HOOD AND RELATED CASEWORK, REFINISHING COUNTER AND END FACE WHERE CASEWORK REMAINS. PREP SPACE AS REQUIRED FOR NEW FUME HOOD AND BASES. REF MEP FOR FURTHER DIRECTION.
- 2 REMOVE EXISTING FUME HOOD AND RELATED COMPONENTS. REF MEP AND NEW PLANS FOR FURTHER DIRECTION.
- 3 REMOVE EXISTING CASEWORK, SHELVING, & RELATED COMPONENTS.
- 4 REMOVE EXISTING SINK AND BASE. REF MEP FOR FURTHER DIRECTION ON PLUMBING. RETAIN TOILET ACCESSORIES TO BE REINSTALLED.
- 5 REMOVE EXISTING LAB CASEWORK, SINKS, AND ALL RELATED FIXTURES. REF MEP FOR DIRECTION ON RELOCATION OR CAPPING OF WATER AND GAS LINES.
- 6 RELOCATED EXISTING FIRE EXTINGUISHER AS SHOWN ON NEW PLANS AND ELEVATIONS.
- 7 REMOVE EXISTING DOOR KNOB/HANDLE. REF DOOR HARDWARE SPECIFICATIONS FOR NEW HARDWARE AND DOOR FUNCTION.
- 8 REMOVE EXISTING EYEWASH AND SHOWER UNIT. REF MEP FOR FURTHER DIRECTION ON CAPPING/REUSE OF WATER LINE.
- 9 REMOVE EXISTING MARKERBOARDS/TACKBOARDS INCLUDING ADHESIVE AND BRACKETS.
- 10 REMOVE EXISTING PROJECTION SCREEN AND PROJECTOR.
- 11 EXISTING COUNTER TOP LAB EQUIPMENT TO BE RETURNED TO THE OWNER.
- 12 REMOVE EXISTING RAIL OF COAT HOOKS & SUPPORTS.
- 13 DEMO DISCONNECT PER MEP'S DIRECTIONS.
- 14 REF SECTIONS AND DETAILS ON A001 FOR DIRECTION ON CUTTING NEW OPENING FOR WINDOW.

CEILINGS

- 1 REMOVE EXISTING LAY-IN ACOUSTICAL TILE, SUSPENSION SYSTEM, AND LIGHTING FIXTURES. EXISTING HANGER WIRE MAY BE REUSED FOR NEW SUSPENSION SYSTEM. REF MEP FOR ADDITIONAL DIRECTION ON FIXTURES AND CEILING DEVICES.
- 2 REMOVE EXISTING PROJECTOR AND PROJECTION SCREEN. VERIFY W/ OWNER IF ITEMS SHALL BE RETURNED OR DISPOSED OF.
- 3 REMOVE EXISTING ELEPHANT TRUNKS. REF MEP FOR FURTHER DIRECTION.
- 4 REF MEP FOR DUCT/ ADDITIONAL DEMOLITION INSTRUCTIONS AT DEMOLISHED FUME HOOD.

GENERAL

ALL TOILET ACCESSORIES (SOAP AND PAPER TOWEL DISPENSERS) TO BE REINSTALLED.

ALL WAPs, CEILING MOUNTED CAMERAS, CLOCKS, AND FIRE PROTECTION DEVICES TO BE REINSTALLED.

REFER TO MEP SHEETS FOR EXISTING PLUMBING, GAS, AND ELECTRICAL CONDUIT TO BE CAPPED

ALL EXISTING FIRE EXTINGUISHERS TO REMAIN. REF PLANS AND ELEVATIONS FOR ITEMS TO BE RELOCATED.

REPLACE ALL DAMAGED CEILING TILES IN AREAS WHERE CEILINGS ARE DISTURBED TO PERFORM OVERHEAD WORK.

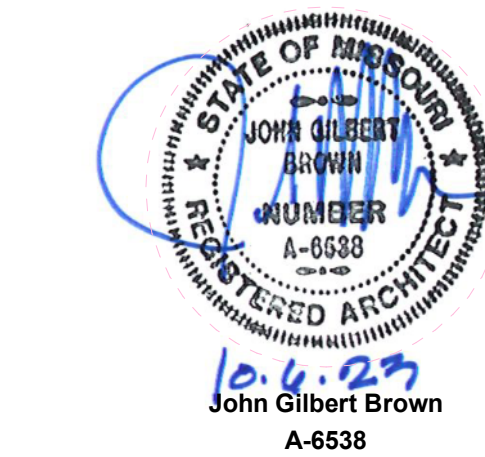
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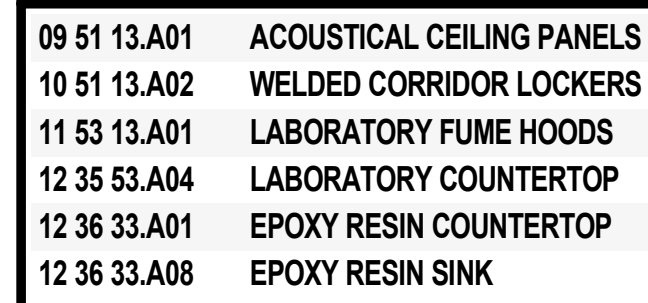
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DA101



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1	City Comments	12/19/23

1. REFER TO SHEET G000 FOR SHEET INDEX
2. DO NOT SCALE THIS DRAWING
3. ALL NEW INTERIOR WALLS ARE WALL TYPE 13C UNLESS NOTED OTHERWISE.
4. INTERIOR DIMENSIONS ARE TO THE FOLLOWING, UNLESS NOTED OTHERWISE:
 - A. TO FACE OF STUD
 - B. TO FACE OF MASONRY UNIT
 - C. TO FACE OF DOOR AND WINDOW ROUGH OPENINGS
5. COORDINATE LOCATIONS WHERE BACKING IS REQUIRED FOR WALL HUNG CASEWORK, MARKERBOARDS, WALL HUNG ACCESSORIES AND TECHNOLOGY
6. "MIR" STANDS FOR MIRRORED LAYOUT.
7. COORDINATE WALL REPAIR AND INSTALLATION OF NEW DOORS AND WINDOWS WITH DEMOLITION SHEETS
8. COORDINATE FINISHES TO REMAIN WITH DEMOLITION SHEET
9. NEW STUDENT LAB CASEWORK AND DEMO STATION TO BE PLACED IN THE SAME LOCATION AS DEMOLISHED CASEWORK.

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FLOOR & REFLECTED CEILING PLANS - LEVEL 2



PLAN NORTH TRUE NORTH



12 36 33.A01
ADA HEIGHT

12 36 33.A08
INTEGRAL EPOXY; TYP ALL
SINKS SET IN COUNTERS

ADA SINK

3" 3" 7" 7" 5"

43" 6' - 2"

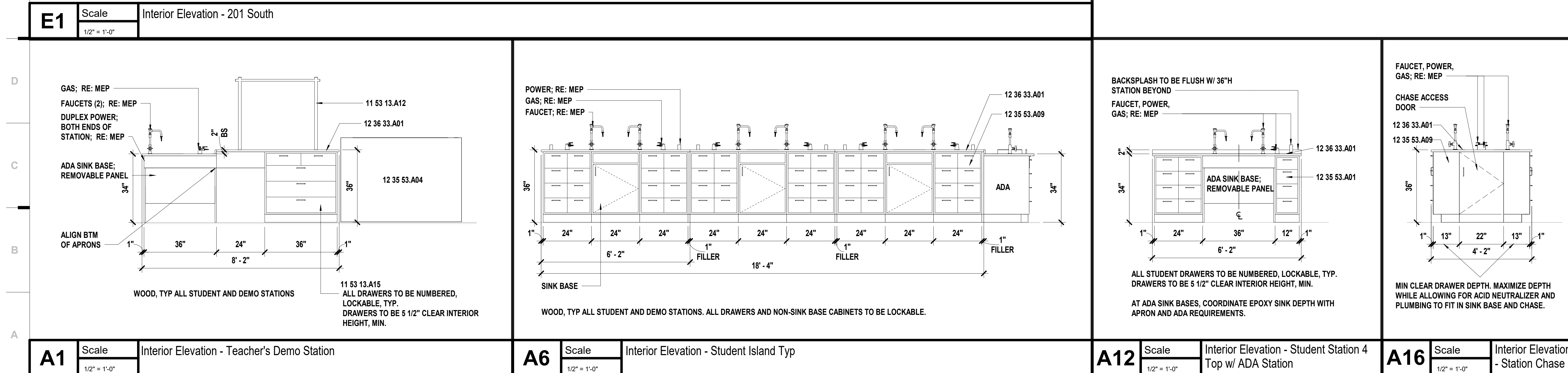
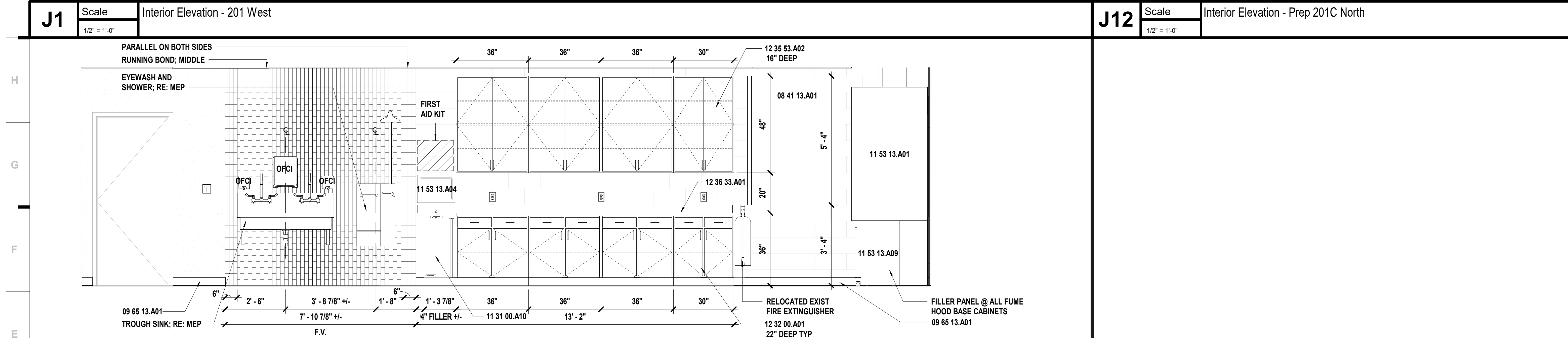
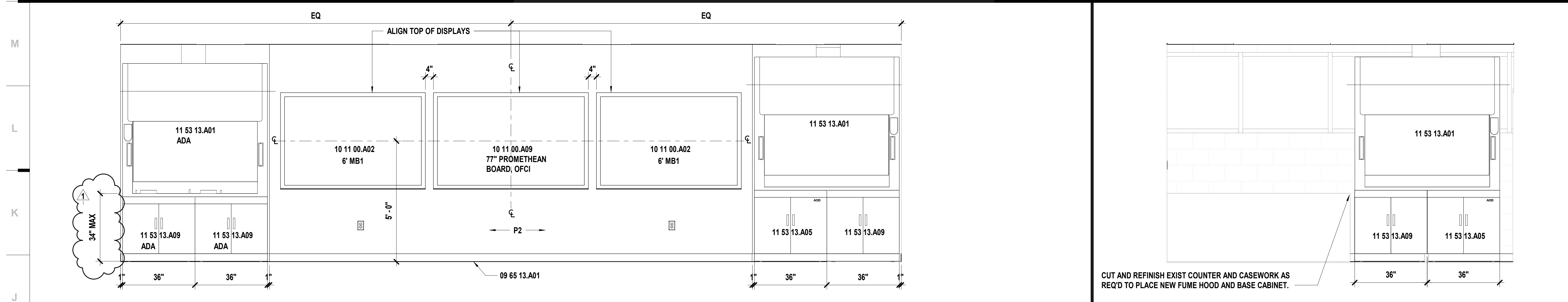
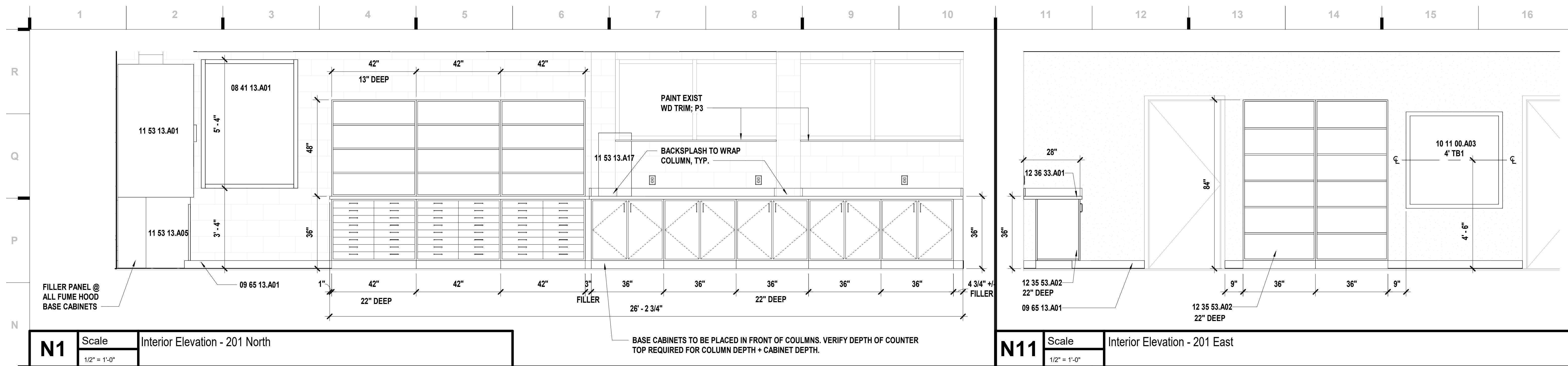
31"

621

ALIGN FUME HOOD
FURR-OUTS W/
EXIST FURR-OUT;
BOTH SIDES _____



1 VERIFY FULL DEPTH OF WATER BOX + ICE MAKER.
COUNTER BUMPS OUT AND SHOULD HAVE 1" OVERHANG
PLUS THE TOTAL DEPTH.



SHEET KEYNOTE LEGEND

08 45 13.A.01	THERMAL BREAK STOREFRONT FRAMING (4.5")
09 65 13.A.01	RESILIENT BASE
10 11 00.A.02	MARKERBOARDS
10 13 00.A.01	TACKBOARDS
10 11 00.A.09	ELECTRONIC MARKERBOARDS
11 31 00.A.10	ICE MAKER
11 53 13.A.01	LABORATORY FUME HOODS
11 53 13.A.04	FIRE BLANKET CABINET
11 53 13.A.05	ACID/CORROSIVE STORAGE CABINET
11 53 13.A.09	
11 53 13.A.12	UPRIGHT ROD AND CROSS BAR ASSEMBLY
11 53 13.A.15	SCIENCE DEMONSTRATION TABLE
11 53 13.A.17	
12 20 00.A.01	BASE CABINET
12 35 53.A.01	PLASTIC LAMINATE LABORATORY CASEWORK
12 35 53.A.02	
12 35 53.A.04	LABORATORY COUNTERTOP
12 35 53.A.09	ISLAND WORKSTATION
12 36 33.A.01	EPOXY RESIN COUNTERTOP

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SHEET MATERIAL FINISH LEGEND

ID	MATERIAL	COLOR/FINISH
P1	Paint	REPOSE GRAY SW7015
P2	Paint	BLUEBLOOD SW6966
P3	Paint	CAVIAR SW 6990
RB1	Resilient Base & Accessories	BLACK
T1	Tile	AZUR GLOSS

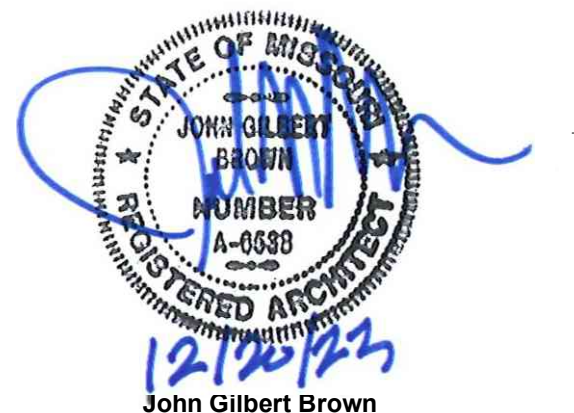
SHEET NOTES

1. REFER TO SHEET G000 FOR SHEET INDEX
2. COORDINATE LOCATIONS WHERE BACKING REQUIRED FOR WALL HUNG CASEWORK, MARKERBOARDS, AND TECHNOLOGY
3. COLOR/MATERIAL TRANSITIONS ARE NOTED WHEN THEY DO NOT OCCUR AT INSIDE CORNERS
4. ALL EXPOSED SURFACES TO BE FINISHED.
5. ALL STUDENT STATIONS AND DEMO STATIONS TO BE WOOD LABORATORY CASEWORK. ALL PERIMETER CASEWORK TO BE WHITE METAL LABORATORY CASEWORK.
6. ALL BACKSPLASH MATERIAL TO MATCH COUNTERTOP MATERIAL. UNO, ALL COUNTERTOPS TO BE EPOXY RESINOUS LAB COUNTERTOPS.
7. PROVIDE 4" BACKSPLASH, UNO
8. PROVIDE 1" OVERHANG AT ALL COUNTERTOPS, UNO
9. PROVIDE ONE 2" DIAMETER GROMMET PER 30 INCH OF KNEE-SPACE AT COUNTERS - COORDINATE EXACT LOCATION WITH OWNER
10. REFER TO PLUMBING DRAWINGS FOR LOCATIONS OF SINKS, GAS, AND OTHER PLUMBING FIXTURES LOCATED WITHIN CASEWORK
11. ALL WOOD BASE CABINETS ARE TO BE 22 1/2" DEEP, UNO (STANDARD FOR BOD).
12. ALL METAL BASE CABINETS ARE TO BE 22" DEEP, UNO (STANDARD FOR BOD).
13. ALL UPPER CABINETS ARE TO BE 16" DEEP, UNO
14. ALL TALL STORAGE AND WARDROBE CABINETS ARE TO BE 22" DEEP, UNO
15. ALL SCIENCE CASEWORK TO HAVE LOCKS.
16. PROVIDE WOOD CLEAT AT BACK AND SIDE WALLS OF ALL COUNTERTOPS WITH NO BASE CABINET BELOW.
17. REFER TO MEP SHEETS FOR LOCATION DIAGRAM OF SWITCHES, THERMOSTATS, FIRE ALARM STROBES TO BE OUTSIDE ADJACENT TO ENTRY DOORS OR AT OUTSIDE CORNERS WITHIN ROOMS
18. COORDINATE WITH ELECTRICAL SHEETS FOR HEIGHT OF OUTLETS A.F.F. AND/OR ABOVE COUNTERTOPS
19. COORDINATE WITH MECHANICAL SHEETS FOR LOCATIONS OF WALL MOUNTED GRILLES AND REGISTERS
20. ALL FUME HOOD BASES TO BE PROVIDED BY FUME HOOD MANUF. FUME HOODS TO BE STANDARD GRAY.

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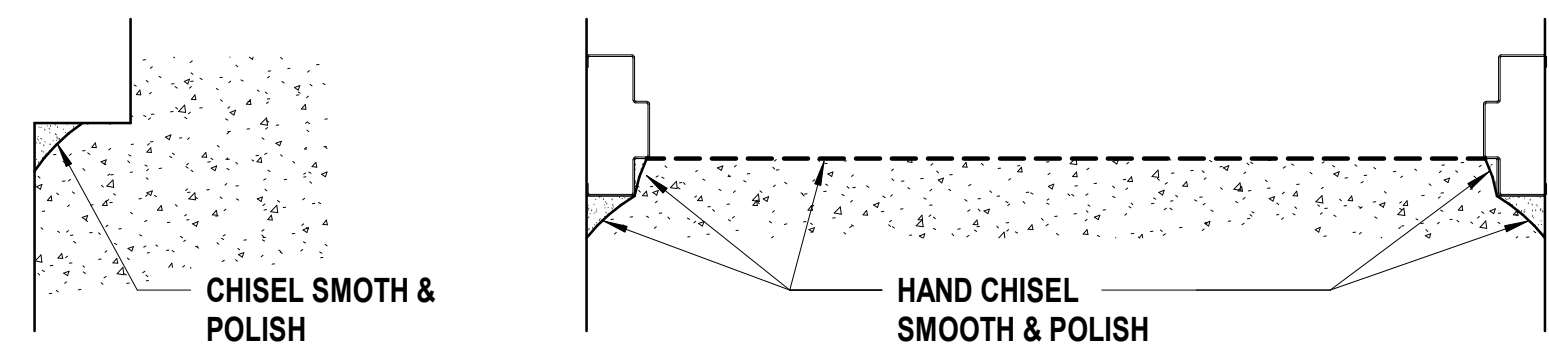
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A621

INTERIOR ELEVATIONS

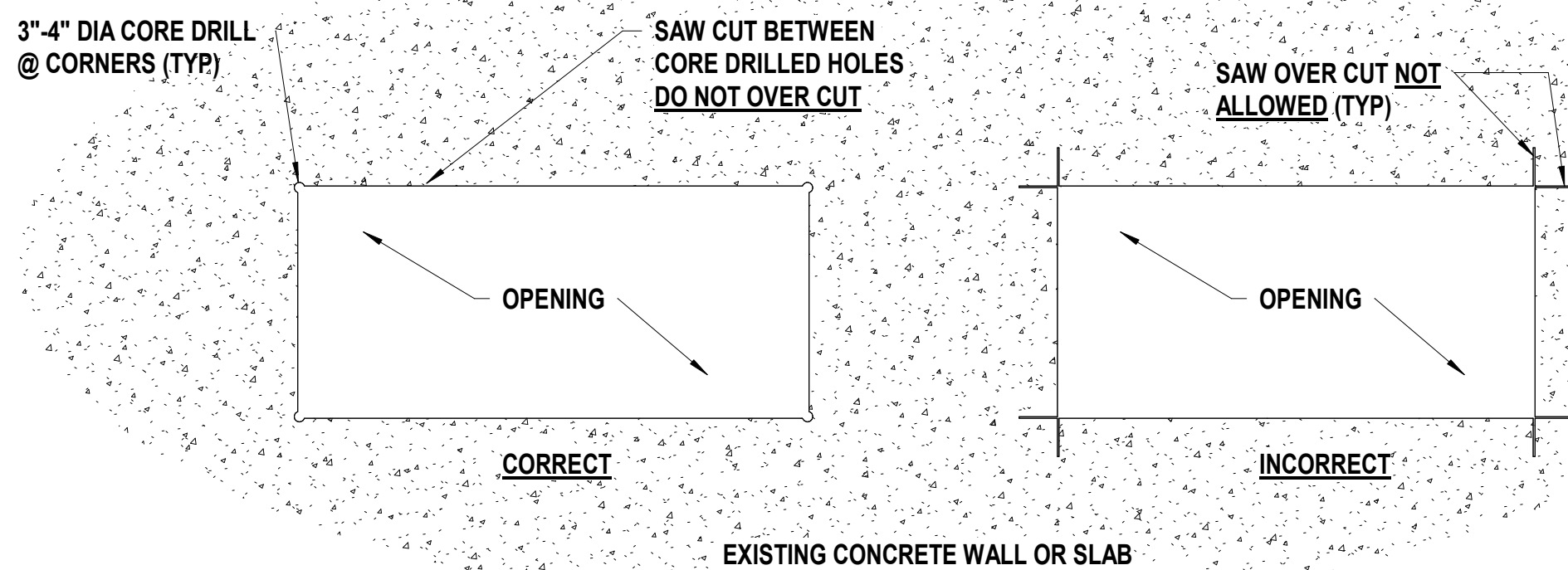


INSIDE CORNERS TYPICAL

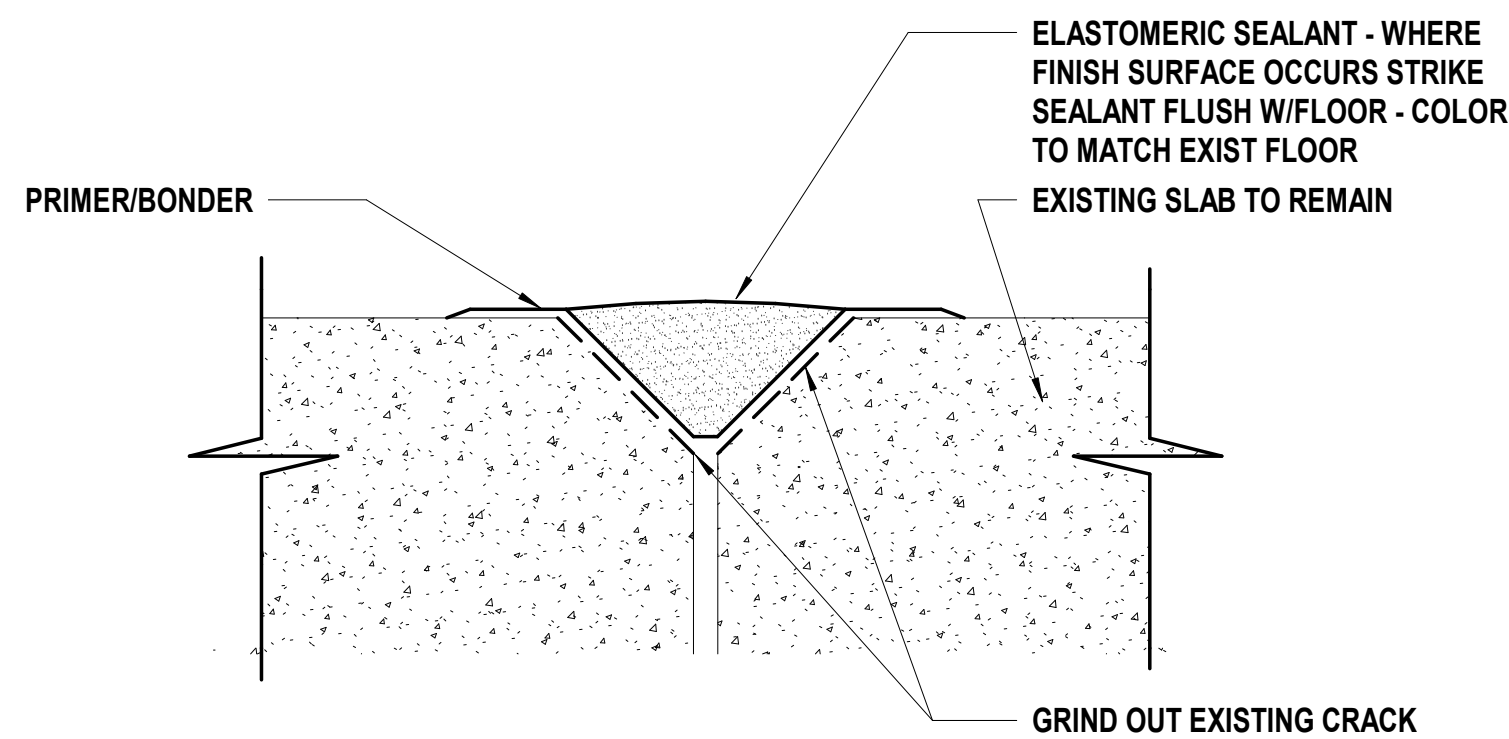
DOOR JAMBS TYPICAL

**COORDINATE EACH CONDITION
W/LOCATION OF METAL
TRANSITION STRIPS**

P1	Scale	Details @ Polished Concrete
	1 1/2" = 1'-0"	



L1	Scale	Typical Saw-Cut Opening in Existing Detail
	1/2" = 1'-0"	



H1	Scale	Flooring Crack Repair Detail
	1/2" = 1'-0"	

MATERIAL FINISH LEGEND

MATERIAL	ID	KEYNOTE	MANUFACTURER	STYLE/MODEL NO	COLOR/FINISH	COMMENTS
Ceiling	CLG1	09 51 13.A01	ARMSTRONG	ULTIMA #1915, BEVELED, 86185	WHITE	24"X 48", TYPICAL, NRC .75. USE WITH 9/16" SUPERFINE SUSPENSION SYSTEM
Concrete Finish	CON1	03 30 00.A26	HI-TECH SYSTEMS, PROSOCO LS	HT SPALL-TX3; FOLLOWED BY CONSOLIDECK, POLISH GUARD & CONCRETE PROTECTOR SB	CLEAR	GROUT COAT WITH DENSIFIER AND SEALER
Paint	P1	09 91 23.A02	SHERWIN WILLIAMS	REFER TO MASTER SPEC	REPOSE GRAY SW7015	FIELD
Paint	P2	09 91 23.A02	SHERWIN WILLIAMS	REFER TO MASTER SPEC	BLUEBLOOD SW6966	ACCENT, TEACHING WALL
Paint	P3	09 91 23.A02	SHERWIN WILLIAMS	REFER TO MASTER SPEC	CAVIAR SW 6990	HOLLOW METAL DOORS AND FRAMES
Resilient Base & Accessories	RB1	09 65 13.A01	ROPPE	STANDARD TOE BASE	BLACK	4"
Tile	T1	09 30 00.A01	WOW CERAMIC TILE, VIRGINIA TILE	BEJMAT	AZUR GLOSS	5X15 cm (2"X6")

ROOM FINISH SCHEDULE

ROOM		FLOOR		WALLS				CEILING	Finish Remarks
NO	Name	Finish	Base	North	East	South	West	Finish	
201	Chemistry Lab	CON1	RB1	P1	P1	P1	P2	CLG1	1
201A	Balance Room							CLG1	3
201B	Instru/ Comp Room							CLG1	3
201C	Stor/Prep			P1				CLG1	2

DOOR SCHEDULE

DOOR				Frame		Fire Rating	Remarks
Number	Size	Type	Glass	Type	Material		
201	3'-0" x 7'-0" x 1 3/4"	--	--	--	HM	--	Existing, new HW
201A.1	3'-0" x 7'-0" x 1 3/4"	--	--	--	HM	--	Existing, new HW
201B	3'-0" x 7'-0" x 1 3/4"	--	--	--	HM	--	Existing, new HW
201C	3'-0" x 7'-0" x 1 3/4"	--	--	--	HM	--	Existing, new HW

**REF SPEC 087100 FOR NEW
DOOR HARDWARE SETS. NO
OTHER CHANGES TO THE
DOORS THEMSELVES.**

ROOM SCHEDULE REMARKS

1. DOOR FRAMES TO BE PAINTED P3. REFINISH ALL WOOD DOORS WITH A CLEAR COAT, REF 099300.
2. PATCH AND REFINISH WALL WHERE EXISTING FUME HOOD WAS REMOVED.
3. CEILING WORK ONLY. RE: MEP FOR ADDITIONAL INFO.

GENERAL FINISH NOTES

1. REFER TO FINISH FLOOR PLANS, REFLECTED CEILING PLANS, ELEVATIONS, AND DETAILS FOR EXTENT OF MULTIPLE FINISHES.
2. DO NOT PAINT NATURAL OR MANUFACTURED STONE, BRICK, GLAZED BLOCK OR ANY OTHER PREFINISHED MATERIALS.
3. DO NOT PAINT ALUMINUM OR OTHER NON-FERROUS METALS THAT ARE PREFINISHED.
4. MATCH VERTICAL FINISH OF ALL INTERIOR GYPSUM BOARD SOFFITS TO HORIZONTAL FINISH AS NOTED ON RCP OR ROOM FINISH SCHEDULE, UNO.
5. PAINT ALL EXPOSED CEILINGS DESIGNATED AS 'OTS' AS INDICATED ON ROOM FINISH SCHEDULE. PAINTING INCLUDES, BUT IS NOT LIMITED TO: EXPOSED STRUCTURE, JOISTS, METAL DECKING, EXISTING TECTUM PANELS, DUCTWORK AND MECHANICAL EQUIPMENT.
6. PAINT ALL EXPOSED STEEL, UNO.
7. PAINT ALL INTERIOR HOLLOW METAL DOORS AND FRAMES COLOR P3, UNO.
8. PAINT OR FINISH THE FOLLOWING ITEMS TO MATCH ADJACENT PAINT OR FINISH:
 - a. ELECTRICAL PANELS IN FINISHED ROOMS
 - b. GRILLES, LOUVERS ETC. PRIMED OR SPECIFIED TO BE PAINTED
 - c. UNFINISHED SPEAKER OUTLET GRILLES
 - d. VISIBLE PORTIONS OF DUCTWORK AND MECH EQUIPMENT BEHIND VENTS, GRILLES AND DIFFUSERS

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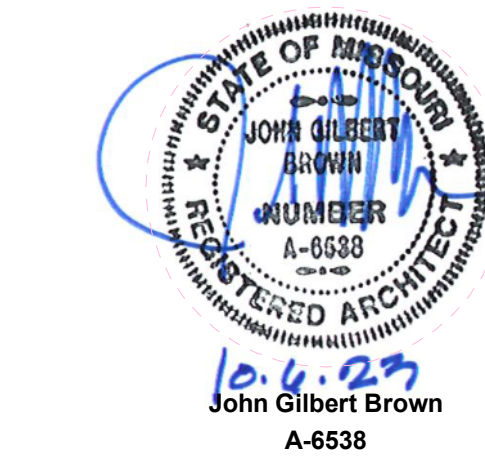
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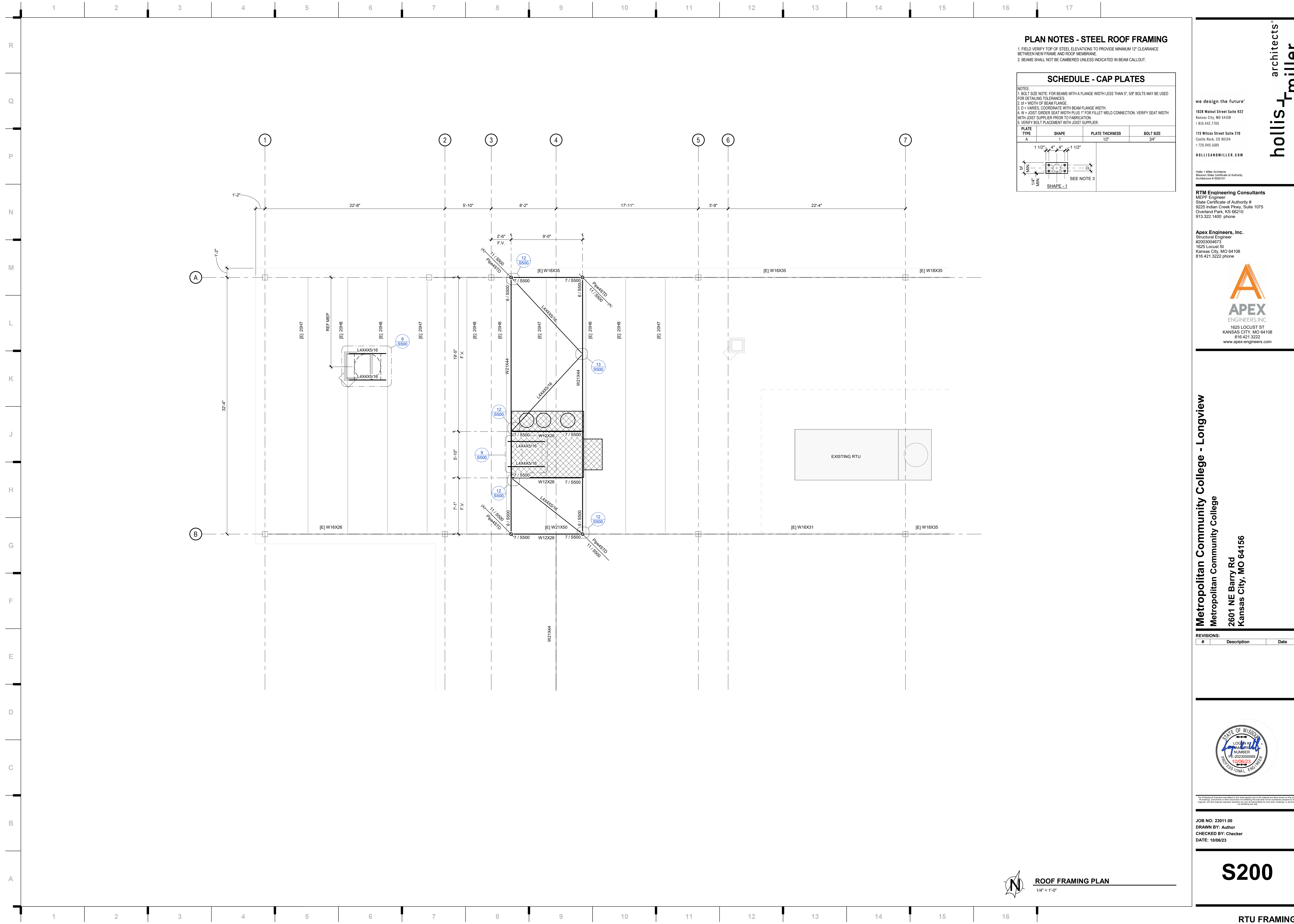
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A681



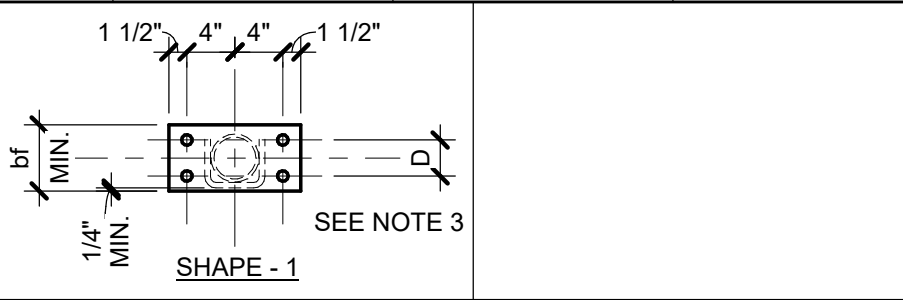
PLAN NOTES - STEEL ROOF FRAMING

- 1. FIELD VERIFY TOP OF STEEL ELEVATIONS TO PROVIDE MINIMUM 12" CLEARANCE BETWEEN NEW FRAME AND ROOF MEMBRANE.
- 2. BEAMS SHALL NOT BE CAMBERED UNLESS INDICATED IN BEAM CALLOUT.

SCHEDULE - CAP PLATES

- NOTES:
- 1. BOLT SIZE NOTE: FOR BEAMS WITH A FLANGE WIDTH LESS THAN 5", 5/8" BOLTS MAY BE USED FOR DETAILING TOLERANCES.
 - 2. B = WIDTH OF BEAM FLANGE.
 - 3. D = VARIES, COORDINATE WITH BEAM FLANGE WIDTH.
 - 4. W = JOIST GIRDER SEAT WIDTH PLUS 1" FOR FILLET WELD CONNECTION. VERIFY SEAT WIDTH WITH JOIST SUPPLIER PRIOR TO FABRICATION.
 - 5. VERIFY BOLT PLACEMENT WITH JOIST SUPPLIER.

PLATE TYPE	SHAPE	PLATE THICKNESS	BOLT SIZE
A	1	1/2"	3/4"



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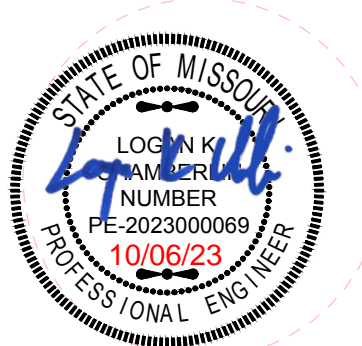


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ROOF FRAMING PLAN

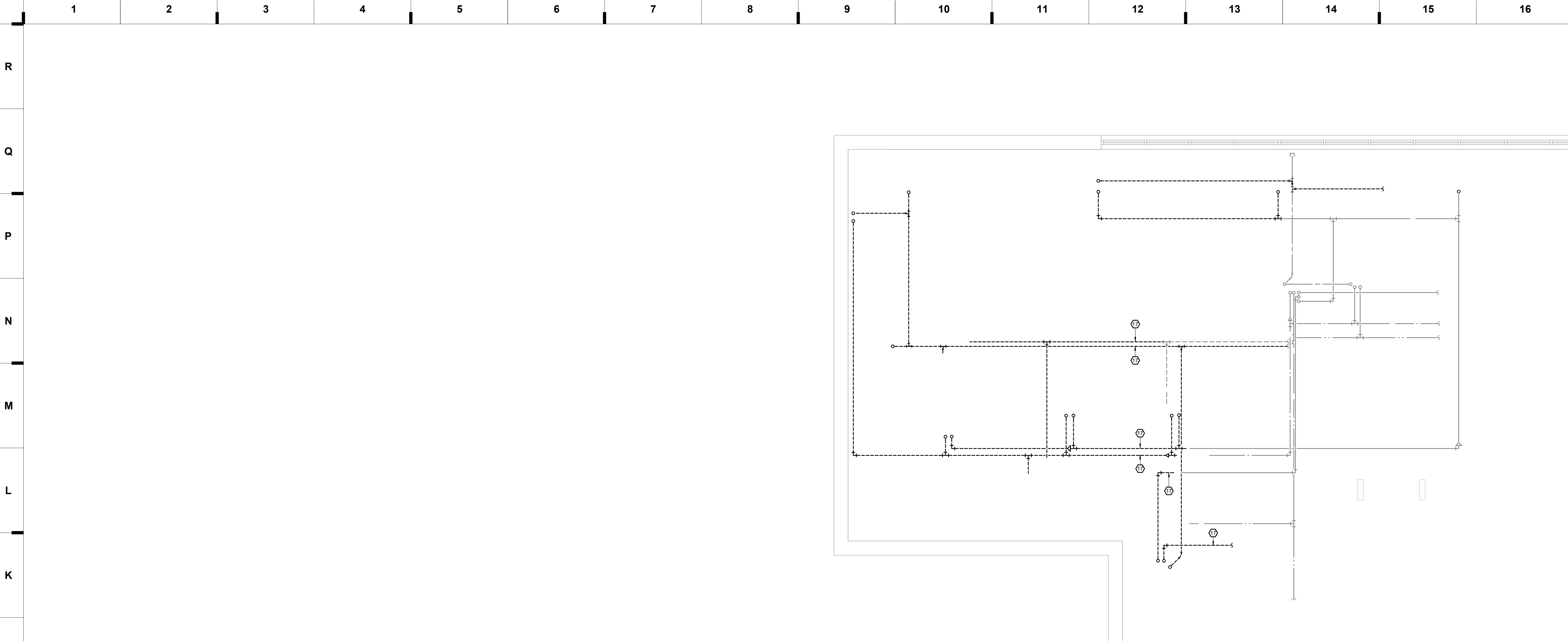
1/4" = 1'-0"

S200

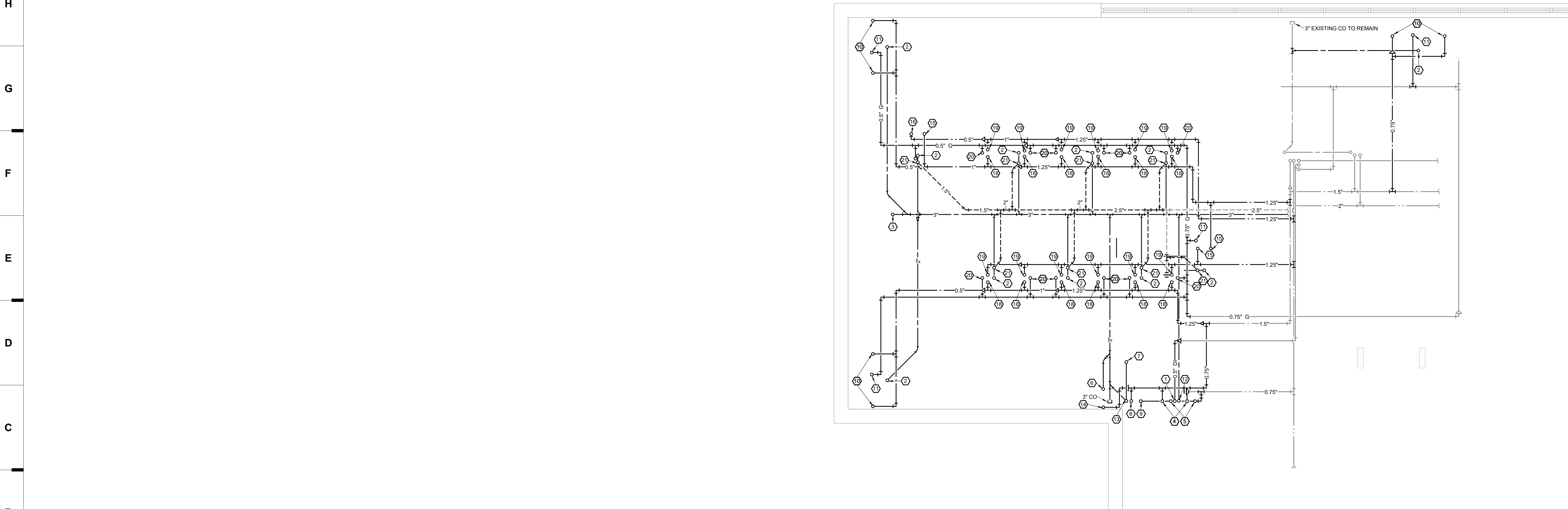
RTU FRAMING

 Please consider the environment before printing this document.

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2
P101
FIRST FLOOR PLUMBING PLAN
SCALE: 1/4" = 1'-0"



1
P101
FIRST FLOOR PLUMBING PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:
REFER TO SHEET ME100 FOR GENERAL NOTES.

PLAN HEX NOTES:

- 0.5" DI UP, ROUTE EXISTING TO CENTER OF SINK
- 2.0" WASTE UP TO ACID REDUCER
- 3.0" WASTE UP TO SERVE FINISH FLOOR GRADE CLEANOUT
- 0.5" CW UP TO SERVE SINK
- 0.5" HW UP TO SERVE SINK
- 2.0" WASTE UP TO SERVE TRAPPED FLOOR SINK
- 3.0" WASTE UP TO TRAPPED FLOOR DRAIN
- 0.75" CW UP TO SERVE MIXING VALVE FOR EYE WASH SHOWER
- 0.75" HW UP TO SERVE MIXING VALVE FOR EYE WASH SHOWER
- 0.5" CW UP TO SERVE CHEMISTRY HOOD SINK
- 0.5" NATURAL GAS UP TO SERVE CHEMISTRY HOOD TURRET
- 2.0" WASTE UP TO SERVE SINK
- 2.0" CIRCUIT VENT UP
- 0.5" CW UP TO SERVE ICE MACHINE
- 0.5" CW UP TO SERVE LAB STATION,
- 0.5" HW UP TO SERVE LAB STATION
- REMOVE PORTION OF EXISTING PIPING AND ALL ASSOCIATED HANGERS, INSULATION, ETC. FIELD VERIFY EXISTING SIZE, ELEVATION, LOCATION, ETC.
- 0.75" CW UP TO SERVE LAB STATION SINKS
- 0.75" HW UP TO SERVE LAB STATION SINKS
- 0.5" NATURAL GAS UP TO SERVE LAB STATION TURRET
- 1.5" VENT UP

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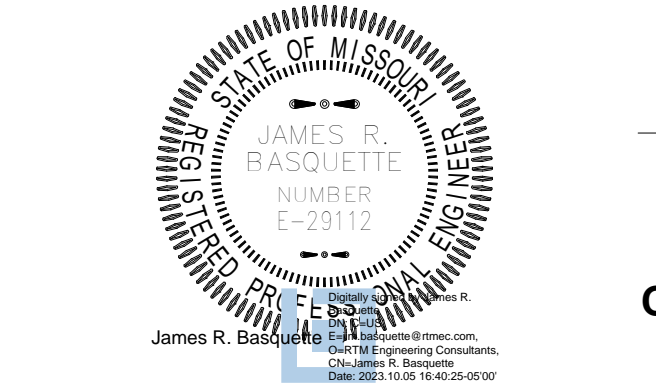
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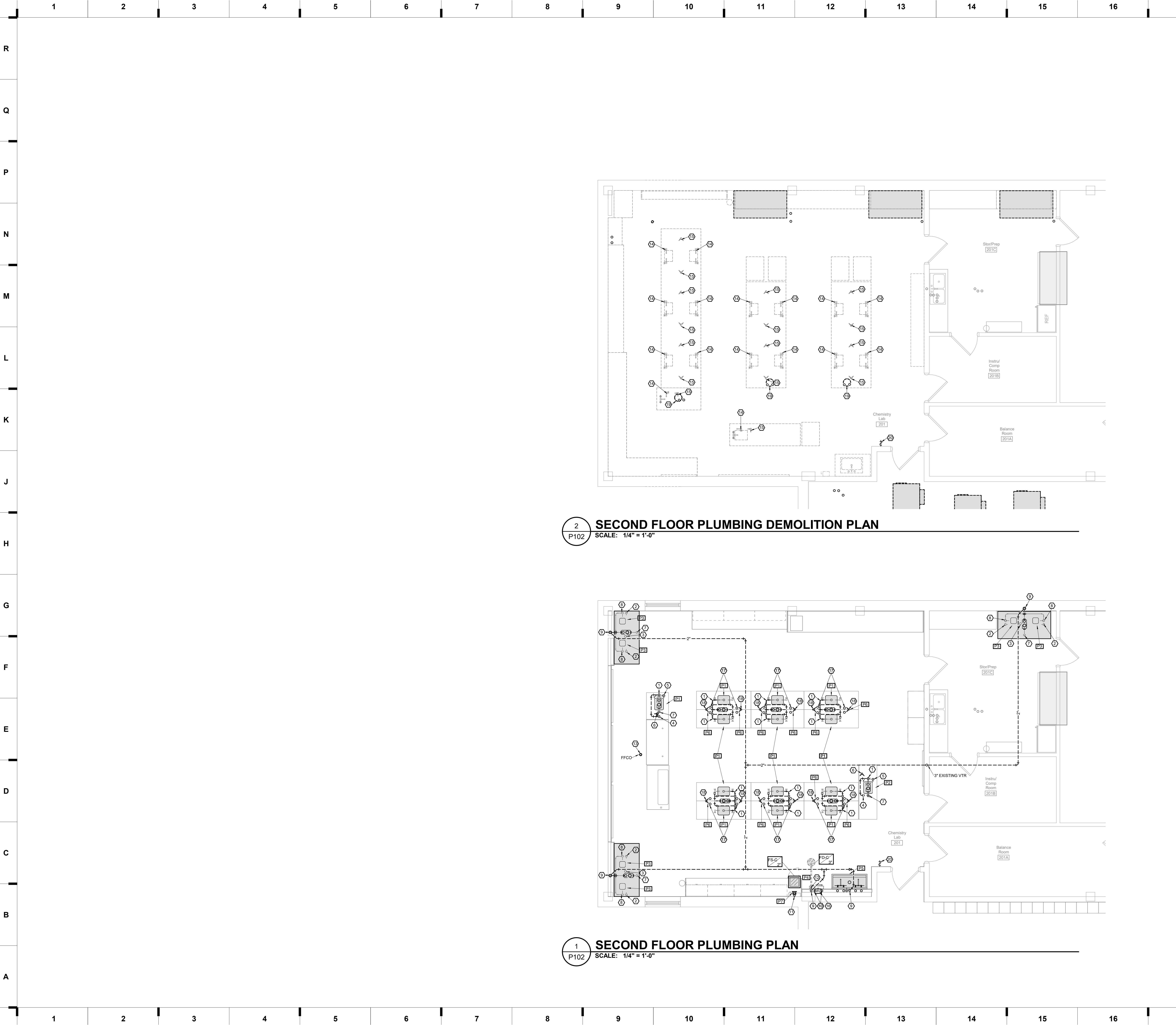
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- GENERAL NOTES:**
REFER TO SHEET ME100 FOR GENERAL NOTES.
- PLAN HEX NOTES:**
- 1.5" VENT UP, 2.00" WASTE DOWN, ROUTE WASTE TO ACID REDUCER FROM SINK
 - 0.5" CW DOWN TO SERVE CHEMISTRY HOOD SINK
 - 0.5" NATURAL GAS UP TO SERVE CHEMISTRY HOOD TURRET
 - 1.5" VENT DOWN
 - 0.5" CW, 0.5" HW DOWN TO SERVE LAB STATION
 - 0.5" NATURAL GAS DOWN TO SERVE LAB STATION
 - 2.0" WASTE DOWN
 - 2.0" WASTE DOWN, ROUTE TO ACID REDUCER FROM SINK
 - 2.0" VENT UP
 - 0.5" CW, 0.5" HW DOWN TO SERVE EYE WASH STATION MIXING VALVE TO REMAIN
 - 0.5" CW UP TO SERVE ICE MACHINE
 - 0.5" TEMPERED WATER DOWN TO SERVE EYE WASH STATION ROUTE TO MIXING VALVE
 - 4.00" WASTE DOWN
 - REMOVE EXISTING SINK AND ALL ASSOCIATED PIPING, FAUCETS, ETC. PREPARE FOR REPLACEMENT SINK PER IMPROVEMENT PLANS
 - REMOVE EXISTING GAS TURRETS AND ASSOCIATED PIPING TO BELOW FLOOR. MAINTAIN EXISTING EMERGENCY GAS SHUT-OFF SOLENOID.
 - INSTALL MIXING VALVE ABOVE ACCESSIBLE CEILING
 - 0.75" CW, 0.75" HW DOWN TO SERVE LAB STATION SINKS, 0.5" PIPE TO EACH CONNECTION
 - 0.5" NATURAL GAS DOWN TO SERVE LAB STATION TURRET
 - REMOVE NEUTRALIZATION BASIN AND ALL ASSOCIATED PIPING
 - EXISTING GAS SHUT-OFF SHALL REMAIN WITH REVISION OF GAS PIPING

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P102

SECOND FLOOR PLUMBING PLAN

PLUMBING FIXTURE SCHEDULE

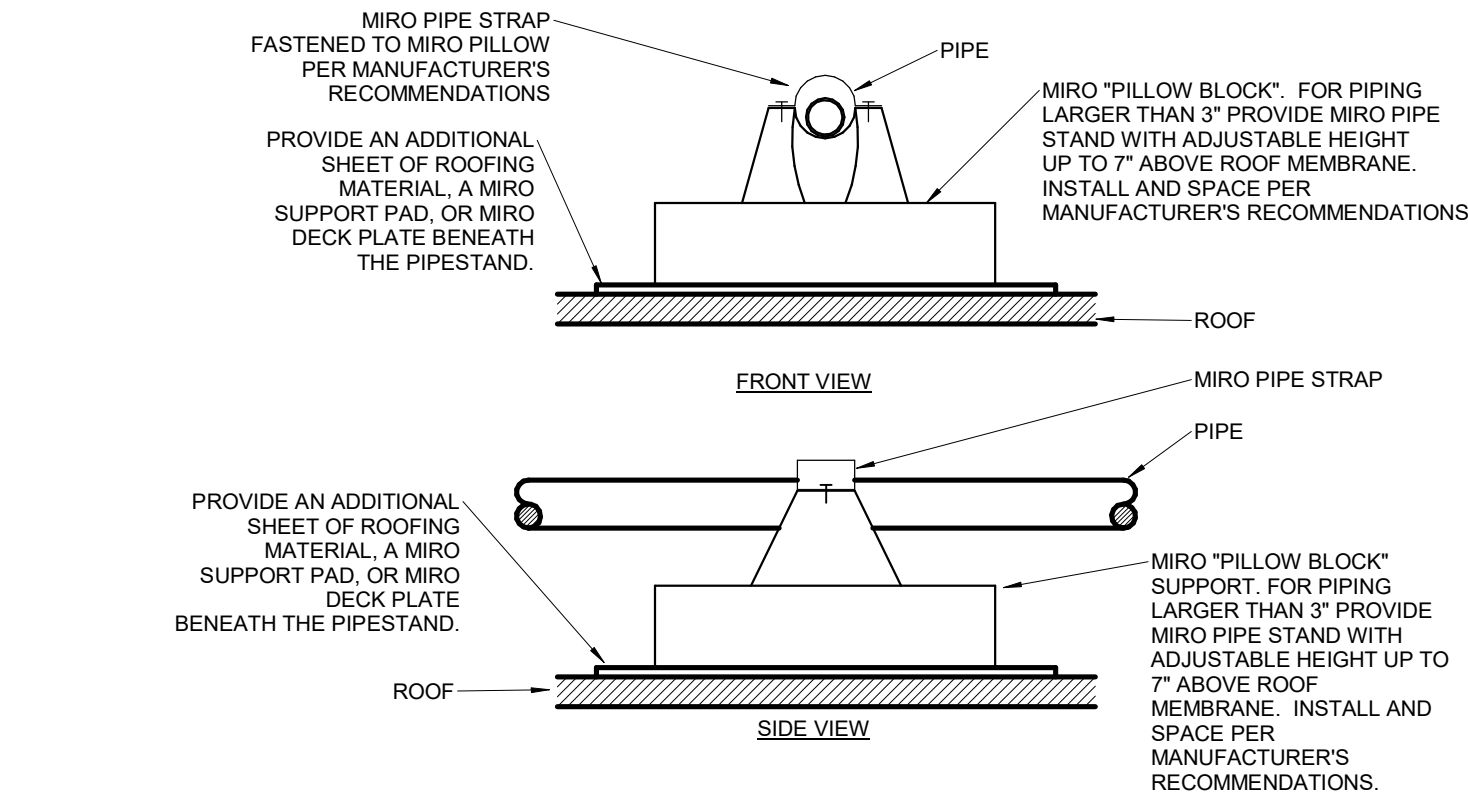
PLAN MARK	DESCRIPTION	MANUFACTURER	MODEL	TRIM	CONNECTION SIZES					NOTES
					CW	HW	W	W	V	
P1	LAB SINK	REFER TO ARCHITECTURAL PLANS	EPOXY INTEGRAL WITH COUNTERTOP	FAUCET: (2) CHICAGO FAUCETS 900 SERIES LAB, 895-317GN2BWB7CP, DECK MOUNTED 4" CENTER SET, 6" RIGID GOOSENECK SPOUT WITH ATMOSPHERIC VACUUM BREAKER, (1) REMOVABLE LABORATORY NOZZLE FOR LAB HOSE AND (1) VACUUM PUMP ASPIRATOR. AERATORS SHALL BE INTERCHANGEABLE. 4" WRISTBLADE HANDLE, GRID STRAINER	0.5	0.5	2	1.5		FAUCET HOLES TO MATCH FAUCET SPECIFIED. COORDINATE WITH COUNTERTOP SUPPLIER NUMBER OF HOLES. PROVIDE POINT OF USE NEUTRALIZATION BASIN AT EACH SINK - STRIEM LB-2S
P2	ADA LAB SINK	REFER TO ARCHITECTURAL PLANS	EPOXY INTEGRAL WITH COUNTERTOP	FAUCET: (2) CHICAGO FAUCETS 900 SERIES LAB, 895-317GN2BWB7CP, DECK MOUNTED 4" CENTER SET, 6" RIGID GOOSENECK SPOUT WITH ATMOSPHERIC VACUUM BREAKER, (1) REMOVABLE LABORATORY NOZZLE FOR LAB HOSE AND (1) VACUUM PUMP ASPIRATOR. AERATORS SHALL BE INTERCHANGEABLE. 4" WRISTBLADE HANDLE, GRID STRAINER	0.5	0.5	2	1.5		FAUCET HOLES TO MATCH FAUCET SPECIFIED. COORDINATE WITH COUNTERTOP SUPPLIER NUMBER OF HOLES. PROVIDE POINT OF USE NEUTRALIZATION BASIN AT EACH SINK - STRIEM LB-2S
P3	CHEMISTRY HOOD LAB SINK	LABCONCO	OVAL CUPSINK	FAUCET: CHICAGO FAUCETS 900 SERIES LAB, 895-317GN2BWB7CP, DECK MOUNTED 4" CENTER SET, 6" RIGID GOOSENECK SPOUT WITH ATMOSPHERIC VACUUM BREAKER, (1) REMOVABLE LABORATORY NOZZLE FOR LAB HOSE, 4" WRISTBLADE HANDLE, GRID STRAINER	0.5	0.5	2	1.5		FAUCET HOLES TO MATCH FAUCET SPECIFIED. PROVIDE POINT OF USE NEUTRALIZATION BASIN AT EACH SINK - STRIEM LB-2S
P4	RECESSED SAFETY STATION WITH DRAIN PAN, SURFACE MOUNTED	Guardian Equipment	GBF2173	RECESSED SAFETY STATION SURFACE MOUNTED WITH DRAIN AND WALL MOUNTED EXPOSED SHOWER HEAD. PROVIDE WITH EMERGENCY THERMOSTATIC MIXING VALVE TO MEET ANSI Z358.1 REQUIREMENTS.	-	-	-	-		EMERGENCY SHOWER/ EYEWASH SHALL BE APPROVED AND INSTALLED PER ACCESSIBILITY.
P5	2 STATION HAND WASHING TROUGH SINK	ELKAY	EWMAAR20C	FAUCET: (2) CHICAGO MODEL 631-1N8PCABCP, 3" GOOSENECK SPOUT WITH 1.5 GPM FLOW CONTROL, 4" WRISTBLADE HANDLE WALL MOUNTED, POLISHED CHROME. PROVIDE ASSE: 10/0 MIXING VALVE SET TO 100°F F NOT INTEGRAL TO FAUCET, GRID STRAINER. COORDINATE WITH SINK MANUFACTURER OF LOCATING A 3RD HOL FOR DI WATER LOCATION	-	-	-	-		FAUCET HOLES TO MATCH FAUCET SPECIFIED. FIXTURE ASSEMBLY MUST BE APPROVED BY AND INSTALLED PER BUILDING CODE ACCESSIBLE REQUIREMENTS. PROVIDE INSULATION KIT ON ALL FLOOR ACCESSIBLE FIXTURES WITH EXPOSED TRAP AND SUPPLIES
P6	LABORATORY GAS TURRET	T&S BRASS AND BROZE WORKS, INC.	BL-4200-6	POLISHED CHROME PLATED BRASS BODY, SERRATED TIP OUTLETS AT 90 DEGREES AND 3/8" NPT FEMALE INLET	-	-	-	-		
P7	ICE MAKER VALVE BOX	GUY GRAY	BMB75	0.25" OUTLET, COMPRESSION ANGLE VALVE, 20 GAUGE UNPAINTED STEEL BOX	0.5	-	-	-		

DRAINAGE PIPE SPECIALTY SCHEDULE

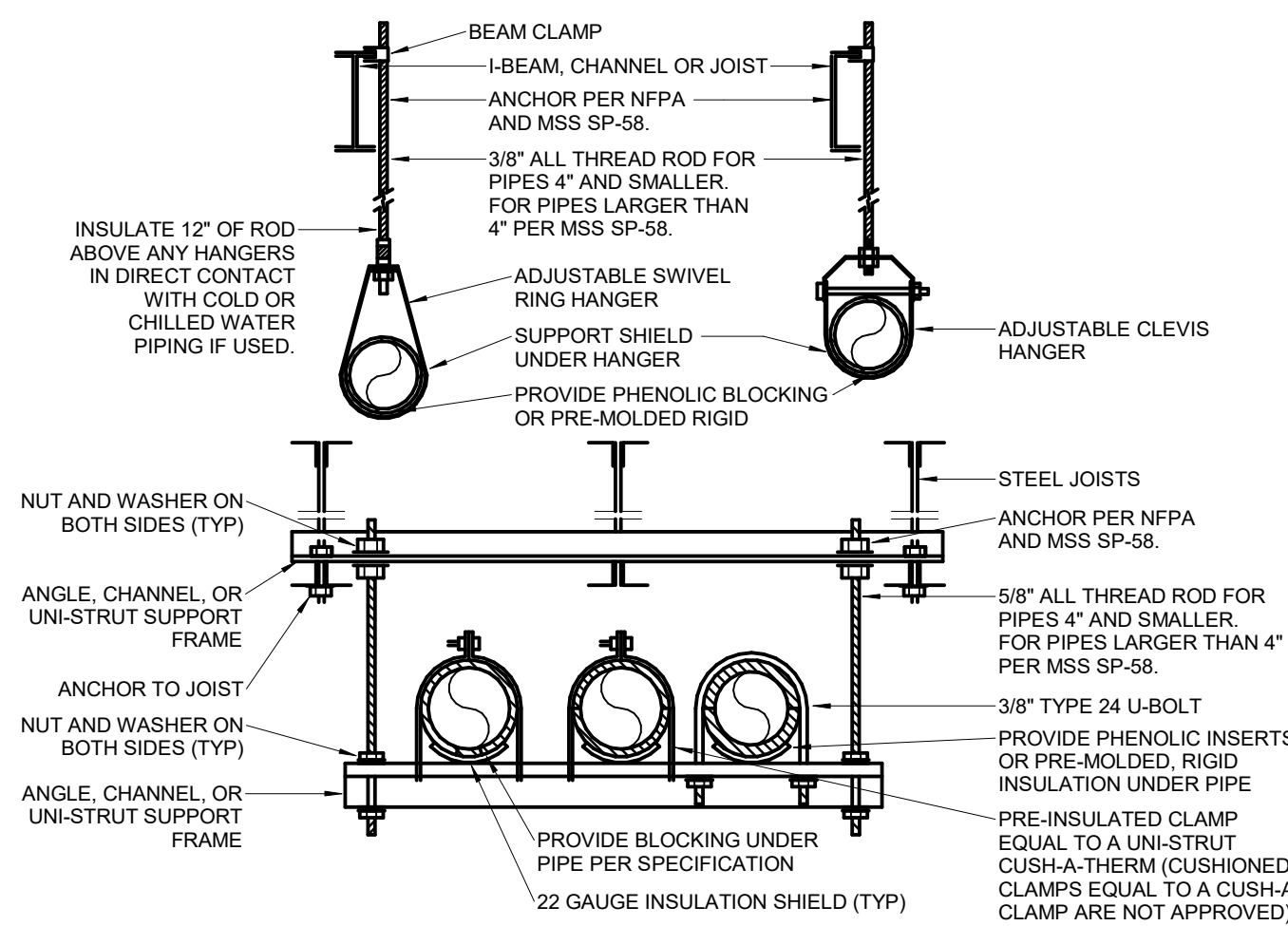
PLAN MARK	DESCRIPTION	MANUFACTURER	MODEL	TRIM	NOTES
FD-C	NEUTRALIZATION TANK FOR ADA SINK 7" ROUND FLOOR DRAIN	J.R. SMITH	LB-2-ADA 3020-F-C	NICKEL BRONZE TOP, NICKEL BRONZE STRAINER, NICKEL BRONZE DEEPGAGE CONTROL FLANGE, DEEP SEAL TRAP AND ACID-RESISTANT COATING.	DRAIN SIZE SHALL MATCH SANITARY BRANCH SERVING DRAIN. REFERENCE PLANS FOR SIZE.
FFCO	FINISHED FLOOR CLEANOUT	J.R. SMITH	4023	HARD FLOOR: ROUND CHROME PLATED SCOTATED COVER, CARPET AREAS: NICKEL BRONZE TOP AND CARPET CLAMP OR CARPET MARKER.	VERIFY FLOOR MATERIALS USED FROM ARCHITECTURAL PLANS. CLEANOUT TO BE FULL SIZE OF SOIL PIPE UP TO AND INCLUDING 4-INCH ID. REFERENCE PLANS FOR SOIL PIPE SIZE.
FS-C	FLOOR SINK	J.R. SMITH	2450	ACID RESISTANT COATING, SEEPAGE CONTROL FLANGE, REMOVAL STRAINER, 10" DEEP BODY.	DRAIN SIZE SHALL MATCH SANITARY BRANCH SERVING DRAIN. REFERENCE PLANS FOR SIZE.
NTS	NEUTRALIZATION TANK	STRIEM	LB-2-ADA	POINT OF USE NEUTRALIZATION BASIN AT EACH SINK.	
WCO	WALL CLEANOUT	J.R. SMITH	4532 WITH CLEANOUT PLUG OR 4513 WITH COUNTERSUNK PLUG	PROVIDE CLEANOUT PLUG AND STAINLESS STEEL ACCESS COVER IN FINISHED AREAS. PROVIDE COUNTER SUNK PLUG IN UNFINISHED AREAS.	CLEANOUT TO BE FULL SIZE OF SOIL PIPE UP TO AND INCLUDING 4-INCH ID. REFERENCE PLANS FOR SOIL PIPE SIZE.

PIPE MATERIAL SCHEDULE

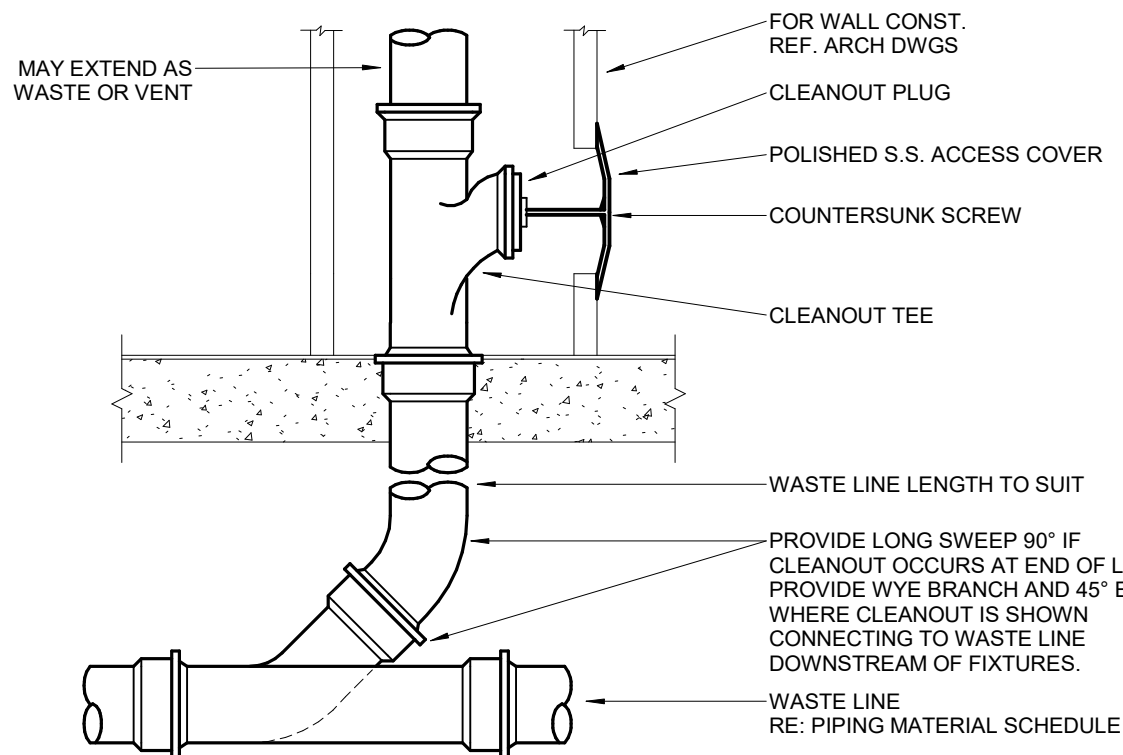
SYSTEM	PIPING					FITTINGS			MAX. WORKING		FIELD TEST		DESIGN NOTES (HIDE)
	SIZE	TYPE	SCHEDULE	GRD	ASTM	MATERIAL	MATERIAL	TYPE	PRESS. (PSI)	TEMP. (°F)	PRESS. (PSI)	TIME	
DOMESTIC WATER ABOVE GRADE	ALL	L	-	-	B88	CP	CP	SJ	120	40-180	150	1 HR	DOMESTIC WATER ABOVE GRADE
DOMESTIC WATER BELOW GRADE	ALL	K	-	-	B88	CP	CP	SJ	120	40-180	150	1 HR	DOMESTIC WATER BELOW GRADE
TEMPERATURE & PRESSURE RELIEF DRAIN	ALL	M	-	-	B88	CP	CP	DRS	10 ft	140-210	10 ft	1 HR	TEMPERATURE & PRESSURE
NATURAL GAS ABOVE GRADE	0.5" - 2.5"	CW	40	A	A53	CSBLK	MI	THRD	1	-	100	1 HR	NATURAL GAS ABOVE GRADE
ACID WASTE & VENT ABOVE GRADE (IN RETURN AIR PLENUMS)	ALL	DWV	40	-	F1673	PVDF	PVDF	DRSF	10 FT	50-180	10 FT	1 HR	ACID WASTE & VENT ABOVE GRADE. ACID WASTE & VENT PIPING SHALL BE NONCOMBUSTIBLE AND LISTED & LABELED TO HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84 OR UL 723



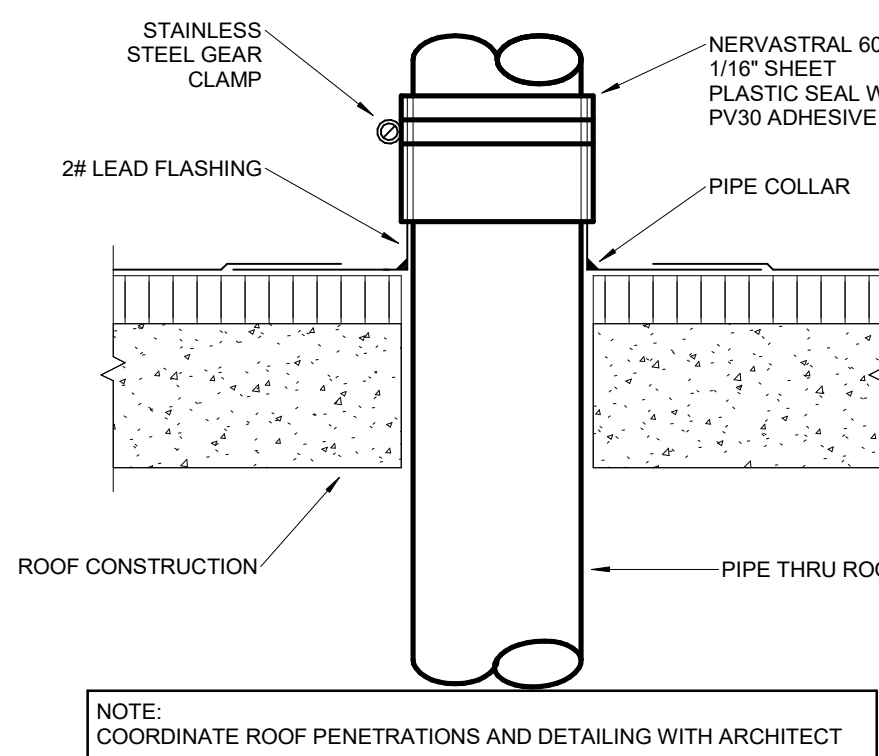
9 ROOF PIPE SUPPORT DETAIL
P401 SCALE: NOT TO SCALE



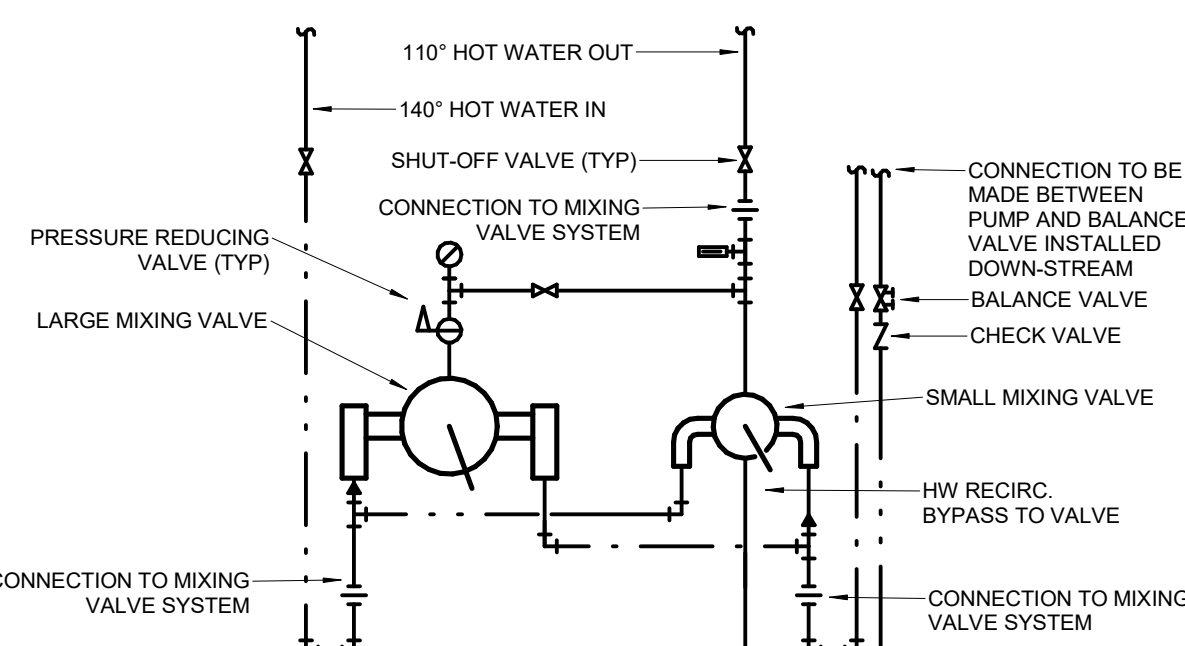
8 PIPE HANGER DETAIL
P401 SCALE: NOT TO SCALE



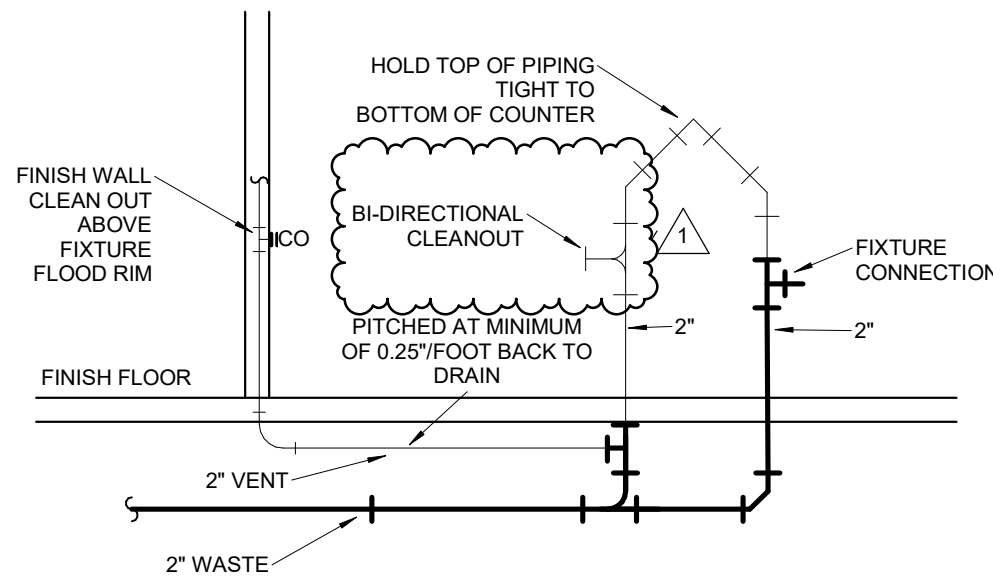
7 WALL CLEANOUT DETAIL
P401 SCALE: NOT TO SCALE



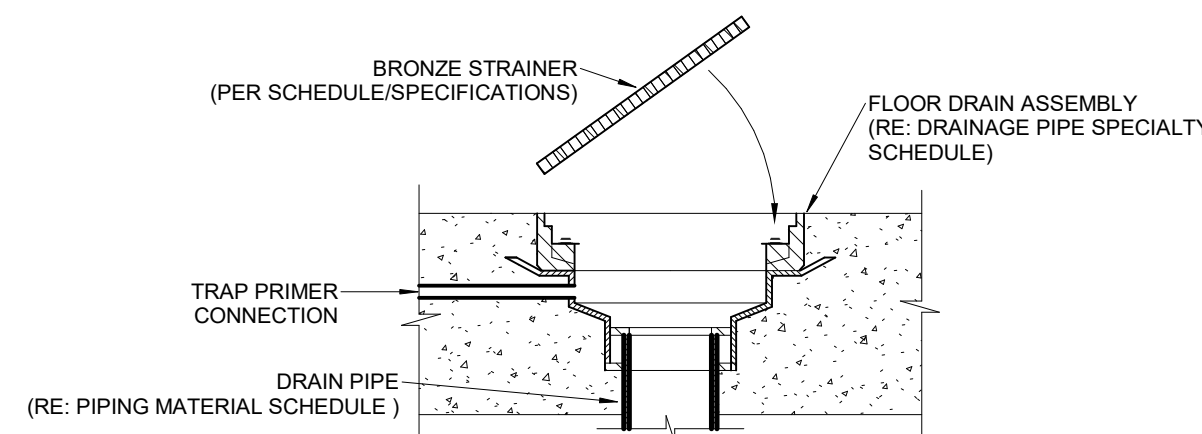
6 VENT THRU ROOF DETAIL
P401 SCALE: NOT TO SCALE



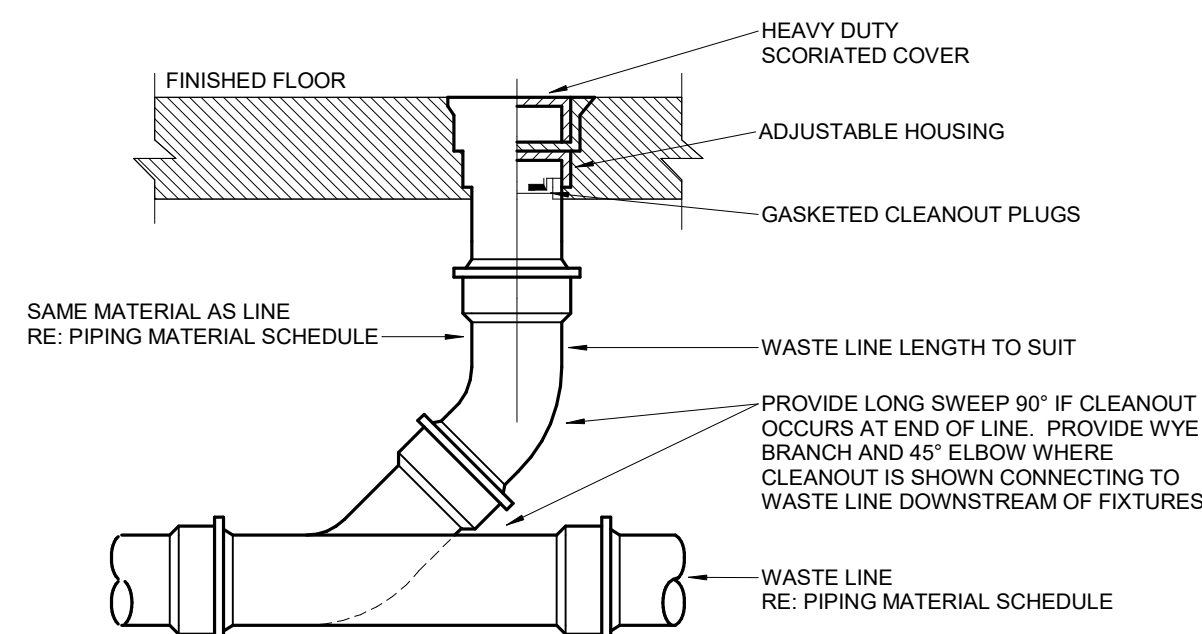
5 MIXING VALVE DETAIL
P401 SCALE: NOT TO SCALE



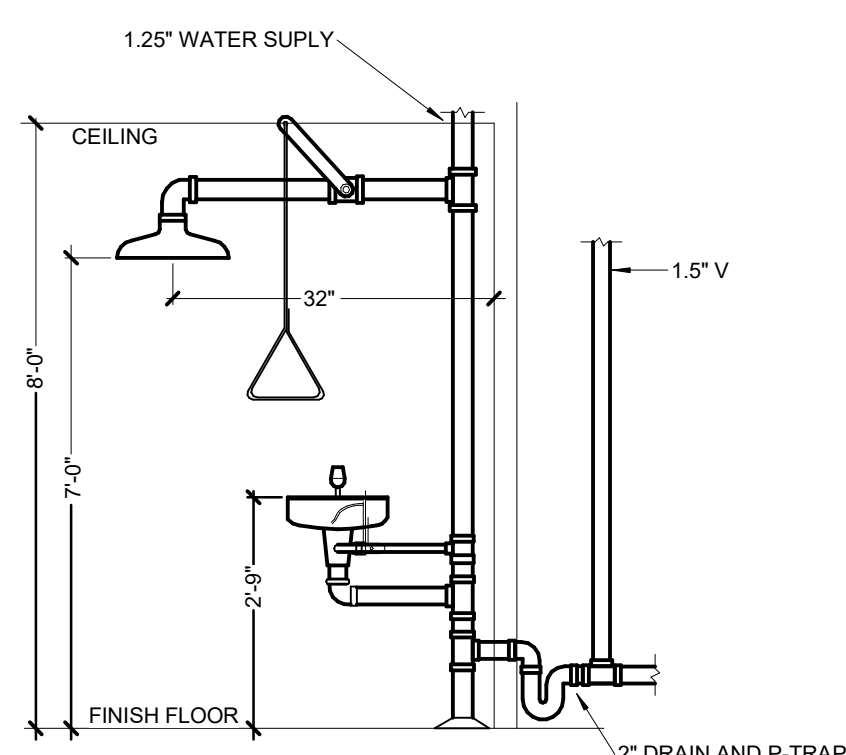
4 ISLAND VENT DETAIL
P401 SCALE: NOT TO SCALE



3 FLOOR DRAIN DETAIL
P401 SCALE: NOT TO SCALE



2 FLOOR CLEANOUT DETAIL
P401 SCALE: NOT TO SCALE



1 EMERGENCY EYE WASH STATION
P401 SCALE: NOT TO SCALE

GENERAL NOTES:

REFER TO SHEET ME100 FOR GENERAL NOTES.

SCHEDULE LEGEND

ABBREVIATED SCHEDULE HEADINGS

EFFICIENCY	MINIMUM EFFICIENCY OF WATER HEATER
GPH	GALLONS PER HOUR
HP	HORSEPOWER
LOAD	NOMINAL CONNECTED GAS LOAD TO UNIT, USED TO SIZE GAS PIPING
NPSH	NET POSITIVE SECTION HEAD
OUTPUT	MINIMUM REQUIRED OUTPUT TO MEET GPH RISE AS SCHEDULED
RPM	REVOLUTIONS PER MINUTE

PIPE MATERIAL SCHEDULE

ATP	TARACO TRUSS PIPE
BLK	BLACK
BS	BELL & SPIGOT
CF	CRIMPED FITTING
CI	CAST IRON
CP	COPPER
CS	CARBON STEEL
CTD	PIPE LINE SERVICE COMPANY X-TRU-COAT HIGH DENSITY POLYETHYLENE COATING EXTRUDED OVER PIPE
CW	CONTINUOUS WELD
DI	DUCTILE IRON
DR	DRAINAGE FITTING
GLV	GALVANIZED
HF	HEAT FUSED
LC	LEAD CAULKING
MI	MALLEABLE IRON
MJ	MECHANICAL JOINT
NO	NEOPRENE GASKET
NH	NO-HUB
PE	POLYETHYLENE
PVC	POLYVINYL CHLORIDE
S	BRAZED JOINT - SILVER BRAZING ALLOY
SJ	SPOUNDER JOINT 95-5 TIN-ANTIMONY
SS	SEAMLESS STEEL
SS	STANDARD STRENGTH - SERVICE WEIGHT
SW	SOLVENT WELD
THRD	THREADED
TS	TY-SEAL
VCP	VITRIFIED CLAY PIPE
WELD	WELDED
XH	EXTRA HEAVY

PUMP SCHEDULE

AB	ALL BRONZE
AI	ALL IRON
BF	BRONZE FITTED
BMCS	BASE MOUNTED CLOSED COUPLED END SUCTION
BMES	BASE MOUNTED END SUCTION
BMHS	BASE MOUNTED HORIZONTAL SPLIT CASE
BMVSC	BASE MOUNTED VERTICAL SPLIT CASE
C	CONDENSER WATER
CH	CHILLED HOT WATER
CW	CHILLED WATER
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
HW	HEATING HOT WATER
IL	IN-LINE

WATER HEATER SCHEDULE

PTRV	PRESSURE & TEMPERATURE RELIEF VALVE
------	-------------------------------------

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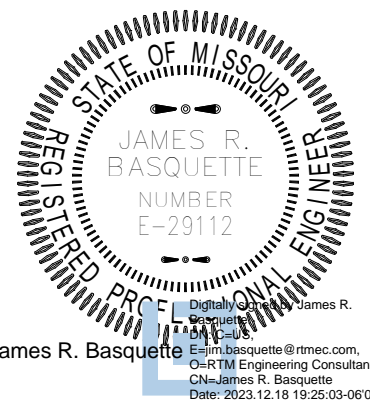
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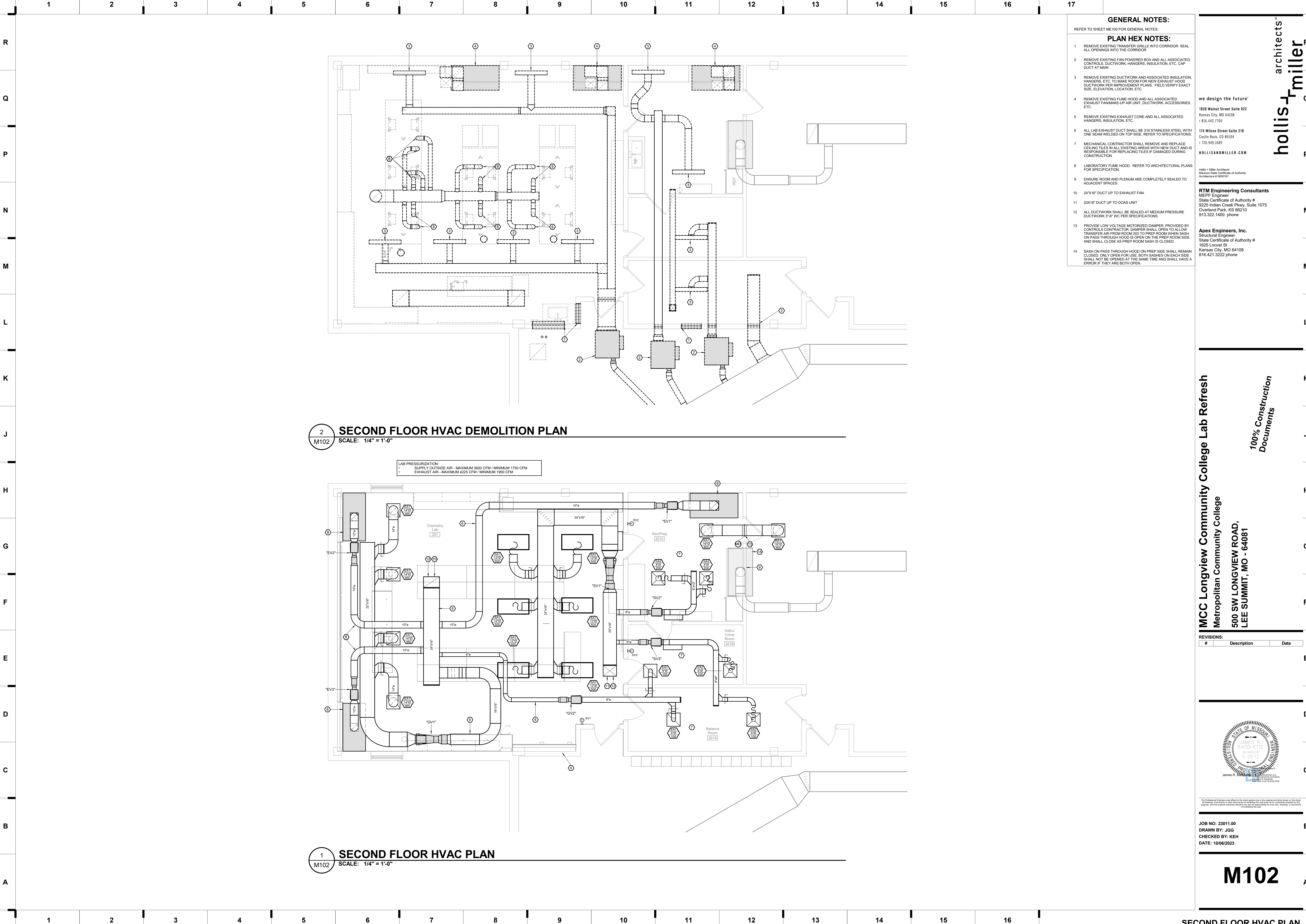
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DATE: 10/06/2023

P401



GENERAL NOTES:
REFER TO SHEET ME100 FOR GENERAL NOTES.

PLAN HEX NOTES:

- 1 REMOVE EXISTING TRANSFER GRILLE INTO CORRIDOR. SEAL ALL OPENINGS INTO THE CORRIDOR
- 2 REMOVE EXISTING FAN POWERED BOX AND ALL ASSOCIATED CONTROLS, DUCTWORK, HANGERS, INSULATION, ETC. CAP DUCT AT MAIN
- 3 REMOVE EXISTING DUCTWORK AND ASSOCIATED INSULATION, HANGERS, ETC. TO MAKE ROOM FOR NEW EXHAUST HOOD. DUCTWORK PER IMPROVEMENT PLANS. FIELD VERIFY EXACT SIZE, ELEVATION, LOCATION, ETC.
- 4 REMOVE EXISTING FUME HOOD AND ALL ASSOCIATED EXHAUST FANMAKE-UP AIR UNIT, DUCTWORK, ACCESSORIES, ETC.
- 5 REMOVE EXISTING EXHAUST CONE AND ALL ASSOCIATED HANGERS, INSULATION, ETC.
- 6 ALL LAB EXHAUST DUCT SHALL BE 316 STAINLESS STEEL WITH ONE SEAM WELDED ON TOP SIDE. REFER TO SPECIFICATIONS.
- 7 MECHANICAL CONTRACTOR SHALL REMOVE AND REPLACE CEILING TILES IN ALL EXISTING AREAS WITH NEW DUCT AND IS RESPONSIBLE FOR REPLACING TILES IF DAMAGED DURING CONSTRUCTION.
- 8 LABORATORY FUME HOOD. REFER TO ARCHITECTURAL PLANS FOR SPECIFICATION.
- 9 ENSURE ROOM AND PLENUM ARE COMPLETELY SEALED TO ADJACENT SPACES.
- 10 24"x16" DUCT UP TO EXHAUST FAN.
- 11 20X16" DUCT UP TO DOAS UNIT
- 12 ALL DUCTWORK SHALL BE SEALED AT MEDIUM PRESSURE DUCTWORK 3'-6" WC PER SPECIFICATIONS.
- 13 PROVIDE LOW VOLTAGE MOTORIZED DAMPER, PROVIDED BY CONTROLS CONTRACTOR. DAMPER SHALL OPEN TO ALLOW TRANSFER AIR FROM ROOM 203 TO PREP ROOM WHEN SASH ON PASS THROUGH HOOD IS OPEN ON THE PREP ROOM SIDE AND SHALL CLOSE AS PREP ROOM SASH IS CLOSED.
- 14 SASH ON PASS THROUGH HOOD ON PREP SIDE SHALL REMAIN CLOSED. ONLY OPEN FOR USE. BOTH SASHES ON EACH SIDE SHALL NOT BE OPENED AT THE SAME TIME AND SHALL HAVE A ERROR IF THEY ARE BOTH OPEN.

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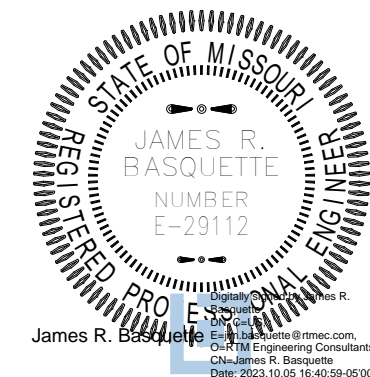
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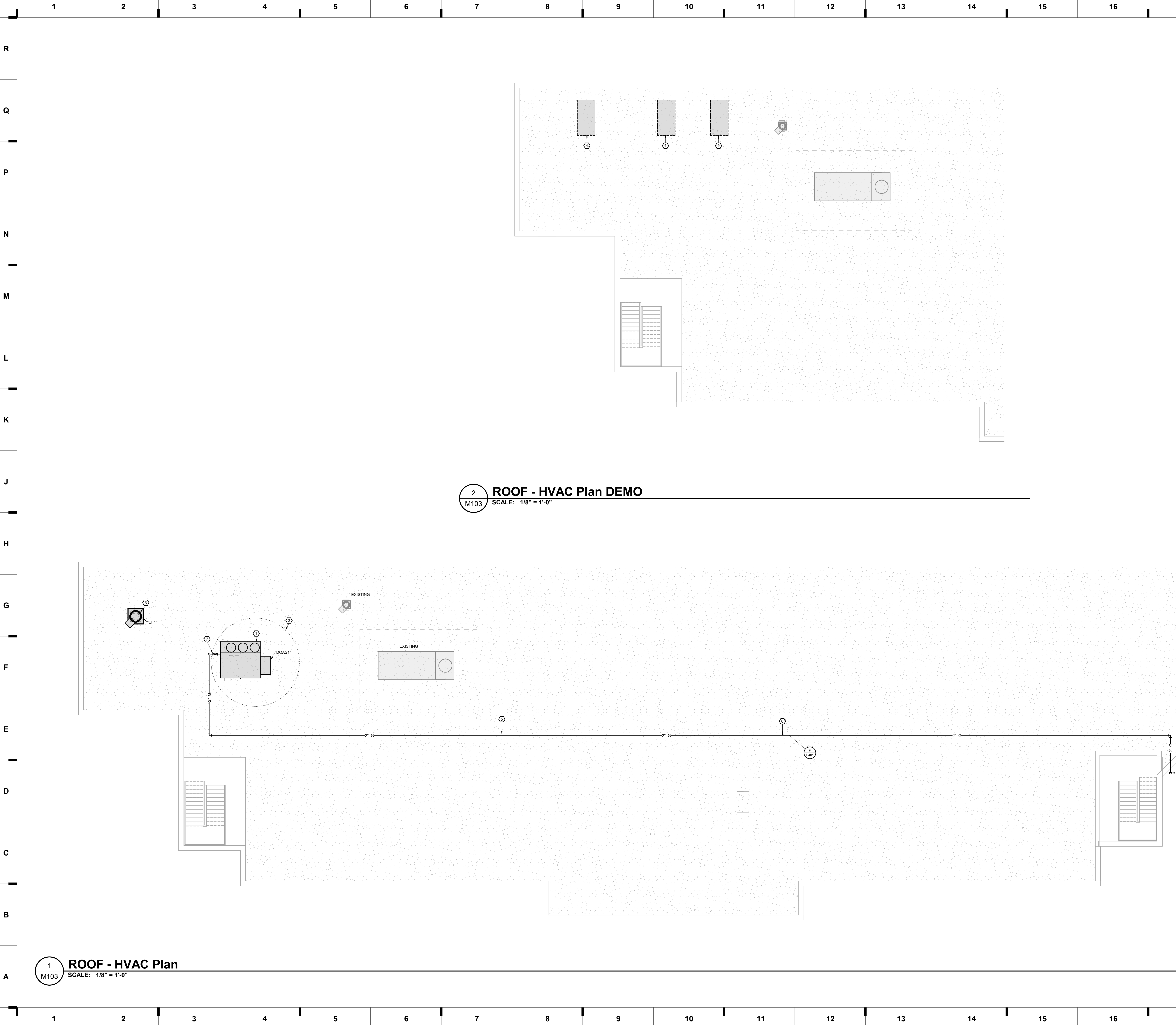


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M102

SECOND FLOOR HVAC PLAN



- GENERAL NOTES:**
REFER TO SHEET ME100 FOR GENERAL NOTES.
- PLAN HEX NOTES:**
1. MAINTAIN MANUFACTURER RECOMMENDED CLEARANCES. COORDINATE ROUGH-IN LOCATION WITH OTHER TRADES. (TYPICAL)
 2. CIRCLE REPRESENTS THE 10'-0" MINIMUM DISTANCE REQUIRED FOR OUTSIDE AIR INTAKE CLEARANCE FROM EXHAUST, FLUE, VENT OR ANY OTHER SOURCE OF CONTAMINATED AIR. NOT EXHAUST FANS, FLUE OUTLETS, PLUMBING VENTS, ETC. SHALL BE LOCATED INSIDE THIS CIRCLE.
 3. MAINTAIN CODE REQUIRED MINIMUM 10'-0" CLEARANCE FROM ROOF EDGE.
 4. REMOVE EXISTING EXHAUST FAN / MAU ASSOCIATED WITH LABORATORY EXHAUST HOOD AND PATH ROOF AS REQUIRED PER ARCHITECTURAL PLANS.
 5. PAINT EXPOSED GAS PIPING ON ROOF WITH 2 COATS OF EPOXY ENAMEL PAINT.
 6. GAS PIPING ON ROOF, SUPPORT AS PER DETAIL. (TYPICAL)
 7. PROVIDE GAS COCK AND DIRT LEG AT EACH PIECE OF GAS FIRED EQUIPMENT.
 8. ROUTE 2" GAS PIPE DOWN ALONG SIDE OF BUILDING TO EXISTING BUILDING REGULATOR. AFTER REGULATOR CONNECT 2" PIPE ROUTE TO ROOF AND RECONNECT PIPE TO THE EXISTING 1/2" PIPE.
 9. 2" NATURAL GAS PIPE CONNECTED TO DOAS1 SIZED FOR 7" WC PER TABLE 402.4(2) 2018 IFGC. SIZED FOR 400 CFH.
 10. PAINT EXPOSED GAS PIPING WITH 2 COATS OF EPOXY ENAMEL PAINT. PAINT AS DIRECTED BY ARCHITECT.

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Professional Engineer
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E-29112
James R. Rasquette, Inc.
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Missouri State Certificate of Authority #
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M103

ROOF HVAC PLAN

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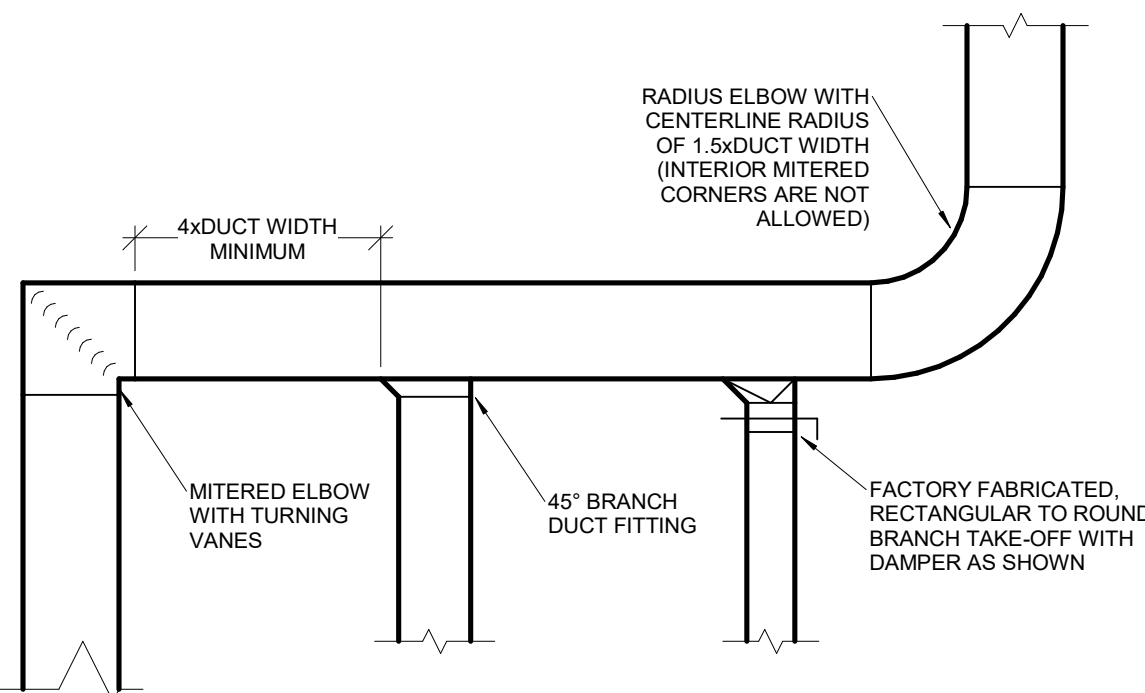
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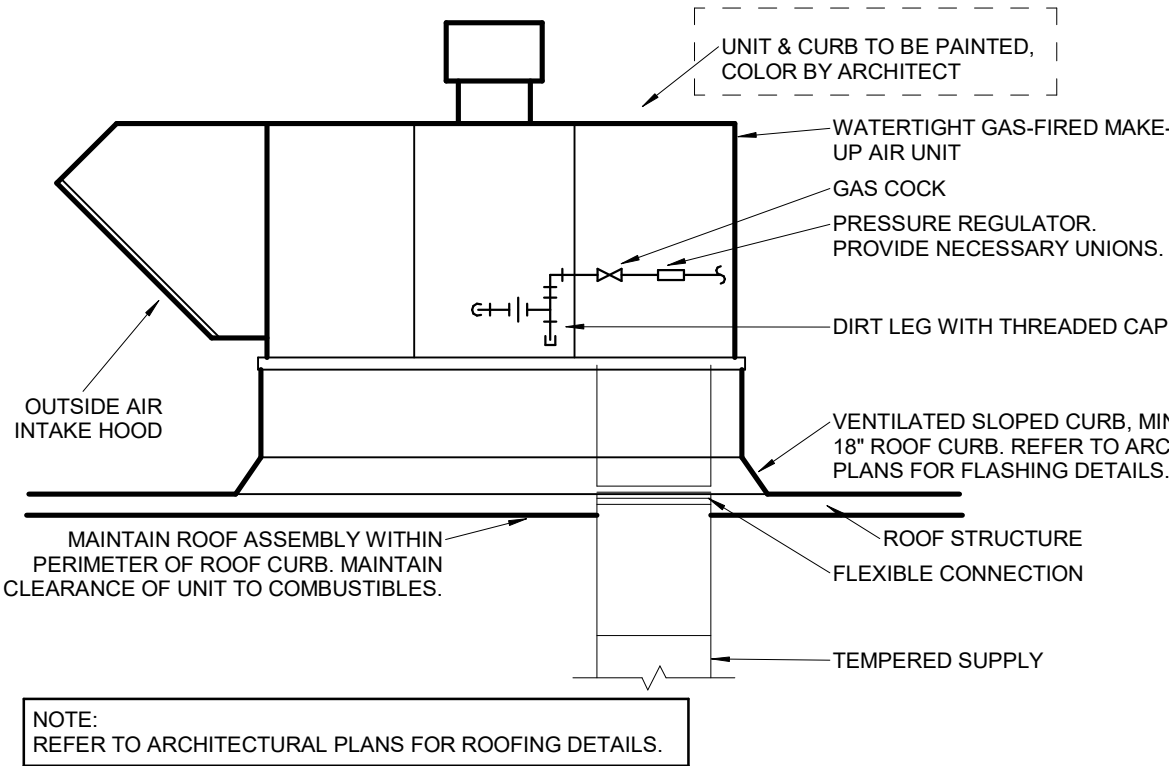
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GENERAL NOTES:

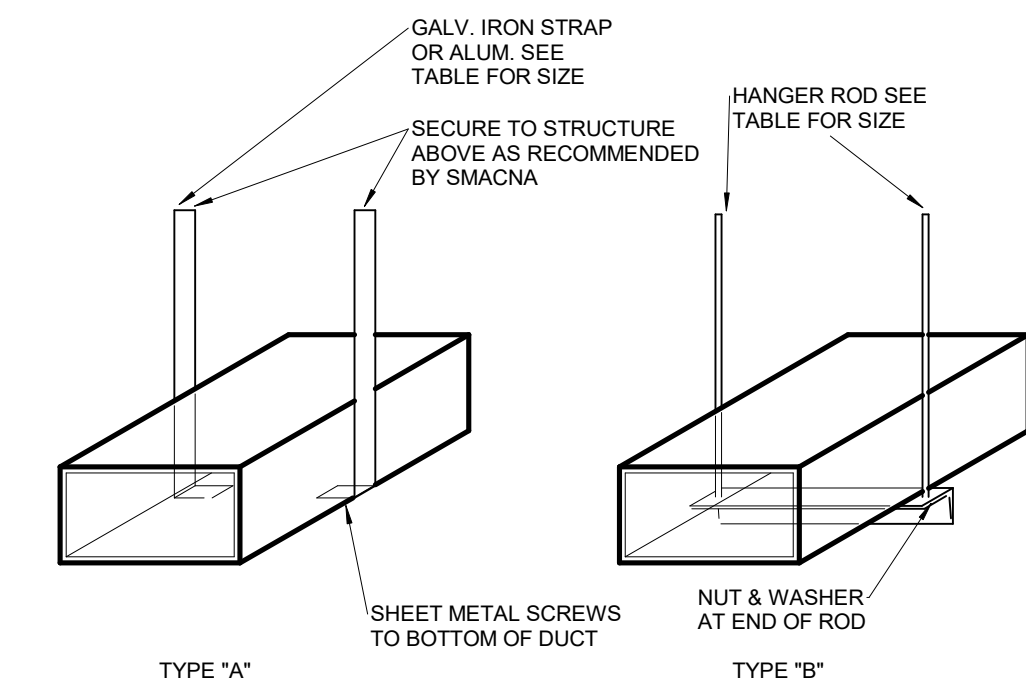
REFER TO SHEET ME100 FOR GENERAL NOTES.



3 DUCTWORK CONSTRUCTION DETAIL
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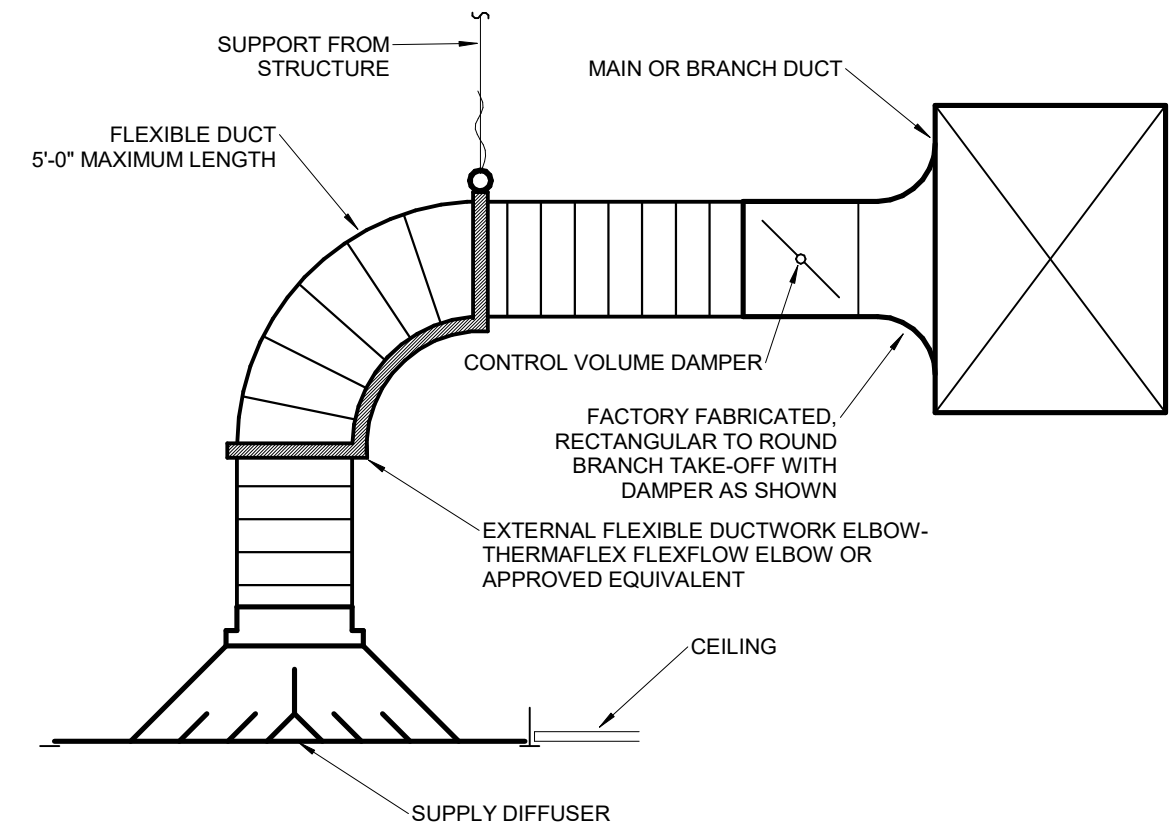
5 MAKE-UP AIR UNIT DETAIL
SCALE: NOT TO SCALE



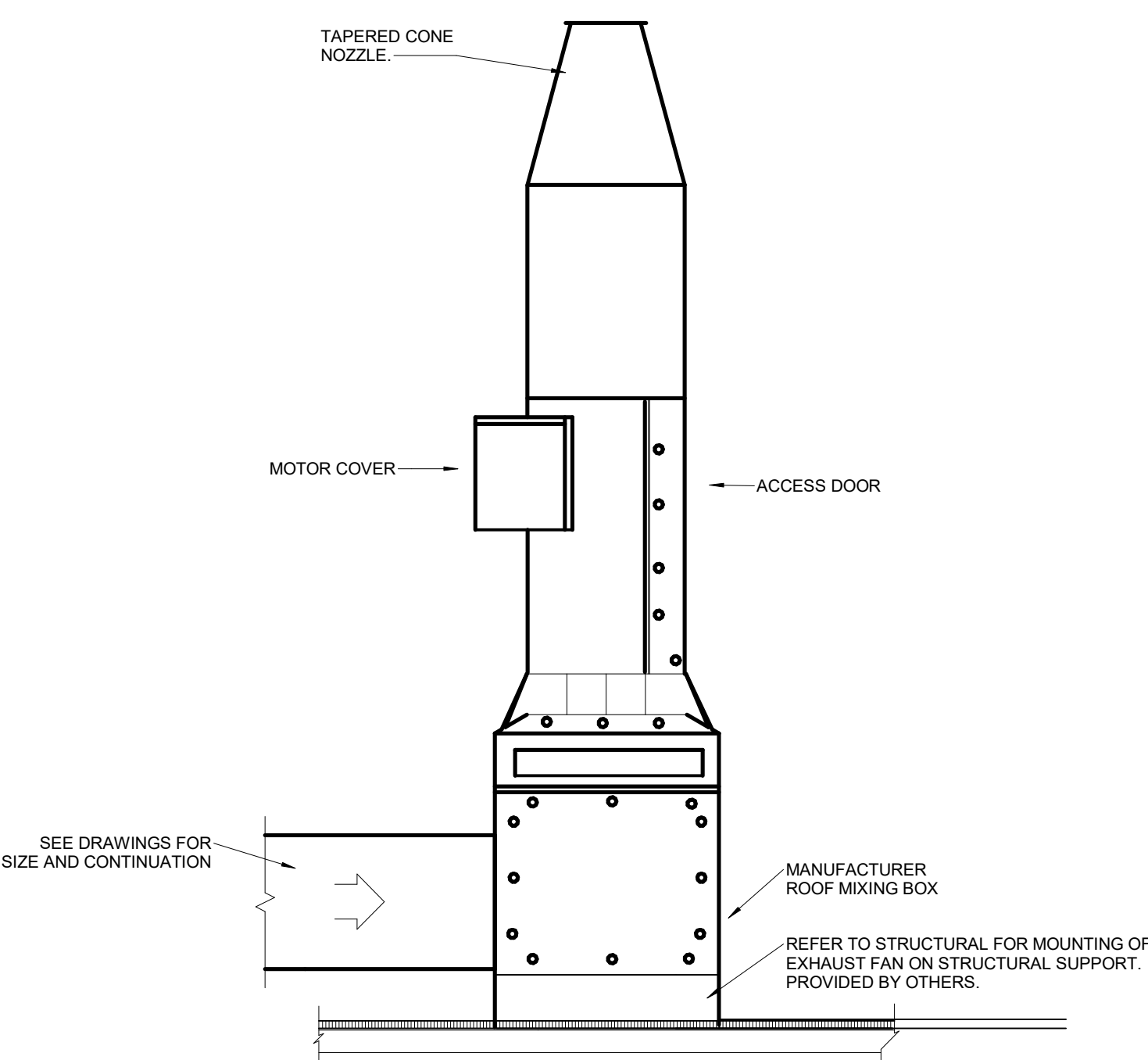
DUCT HANGER SCHEDULE					
DUCT SIZE (INCH)	TYPE OF HANGER	HANGER SPACING (FT)	STRAP SIZE	ROD SIZE (INCH)	ANGLE FOR BRACING
UP TO 12	A	8'-0"	1"x16GA	N.A.	N.A.
13 TO 18	A	8'-0"	1"x16GA	N.A.	N.A.
19 TO 30	A/B	8'-0"	1"x16GA	1/4"	1-1/2"x1-1/2"x1/8"
31 TO 42	B	8'-0"	N.A.	1/4"	1-1/2"x1-1/2"x1/8"
43 TO 54	B	8'-0"	N.A.	1/4"	1-1/2"x1-1/2"x1/8"
55 TO 60	B	8'-0"	N.A.	1/4"	1-1/2"x1-1/2"x1/8"
61 TO 84	B	8'-0"	N.A.	1/4"	1-1/2"x1-1/2"x3/16"
85 TO 96	B	8'-0"	N.A.	1/4"	1-1/2"x1-1/2"x3/16"
OVER 96	B	8'-0"	N.A.	3/8"	2"x2"x1/4"

NOTES:
1. FOR SEVERAL DUCTS ON ONE HANGER, TYPE "B" MAY BE USED. SIZE OF HANGER WILL BE SELECTED ON THE SUM OF DUCT WIDTHS EQUAL TO MAX WIDTH OF DUCT SCHEDULE.
2. ON TYPE "A" HANGER, PROVIDE 3 HANGERS AT EACH TAKE-OFF OR BRANCH.

2 DUCT SUPPORT DETAIL
SCALE: NOT TO SCALE



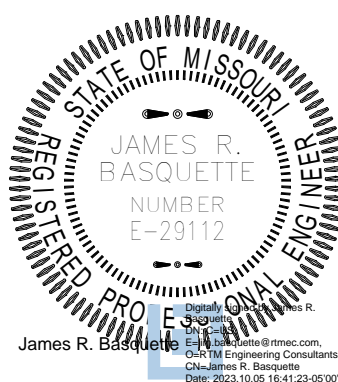
4 CEILING DIFFUSER DETAIL
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1 EXHAUST FAN DETAIL
SCALE: NOT TO SCALE

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REFER TO SHEET ME100 FOR GENERAL NOTES

ABBREVIATED SCHEDULE HEADINGS	
A	AMPS
CAP	CAPACITY
CFM	CUBIC FEET PER MINUTE
DB	DRY BULB
E.A.T.	ENTERING AIR TEMPERATURE
E.S.P.	EXTERNAL STATIC PRESSURE INCLUDES ALL WORK EXTERNAL TO UNIT
E.W.T.	ENTERING WATER TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EST	ESTIMATED
FLA	FULL LOAD AMPS
FFM	FEET PER MINUTE
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR/LB	GRAINS OF MOISTURE PER POUND OF DRY AIR
HP	HORSEPOWER
IN	INCH
ISP	INLET STATIC PRESSURE
L.A.T.	LEAVING AIR TEMPERATURE
L.W.T.	LEAVING WATER TEMPERATURE
LBS	POUNDS
LOAD	NOMINAL CONNECTED GAS LOAD TO UNIT, USED TO SIZE GAS PIPING
MCA	MINIMUM CIRCUIT CAPACITY
MIN	MINIMUM
MOP	MAXIMUM OVERCURRENT PROTECTION
NC	NOMINATE NOISE CRITERIA RATING
NPSH	NET POSITIVE SUCTION HEAD
OA	OUTSIDE AIR
OUTPUT	MINIMUM REQUIRED OUTPUT TO SATISFY SCHEDULED HEAT REQUIREMENTS
PPH	POUNDS PER HOUR
PSI	POUNDS PER SQUARE INCH
RPM	REVOLUTIONS PER MINUTE
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SHC	SENSIBLE HEAT CAPACITY
TCC	TOTAL COOLING CAPACITY
TEMP	TEMPERATURE
THC	TOTAL HEAT CAPACITY
WB	WET BULB
WPD	WATER PRESSURE DROP

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* AIR VALVES PROVIDED BY THE CONTROLS CONTRACTOR.

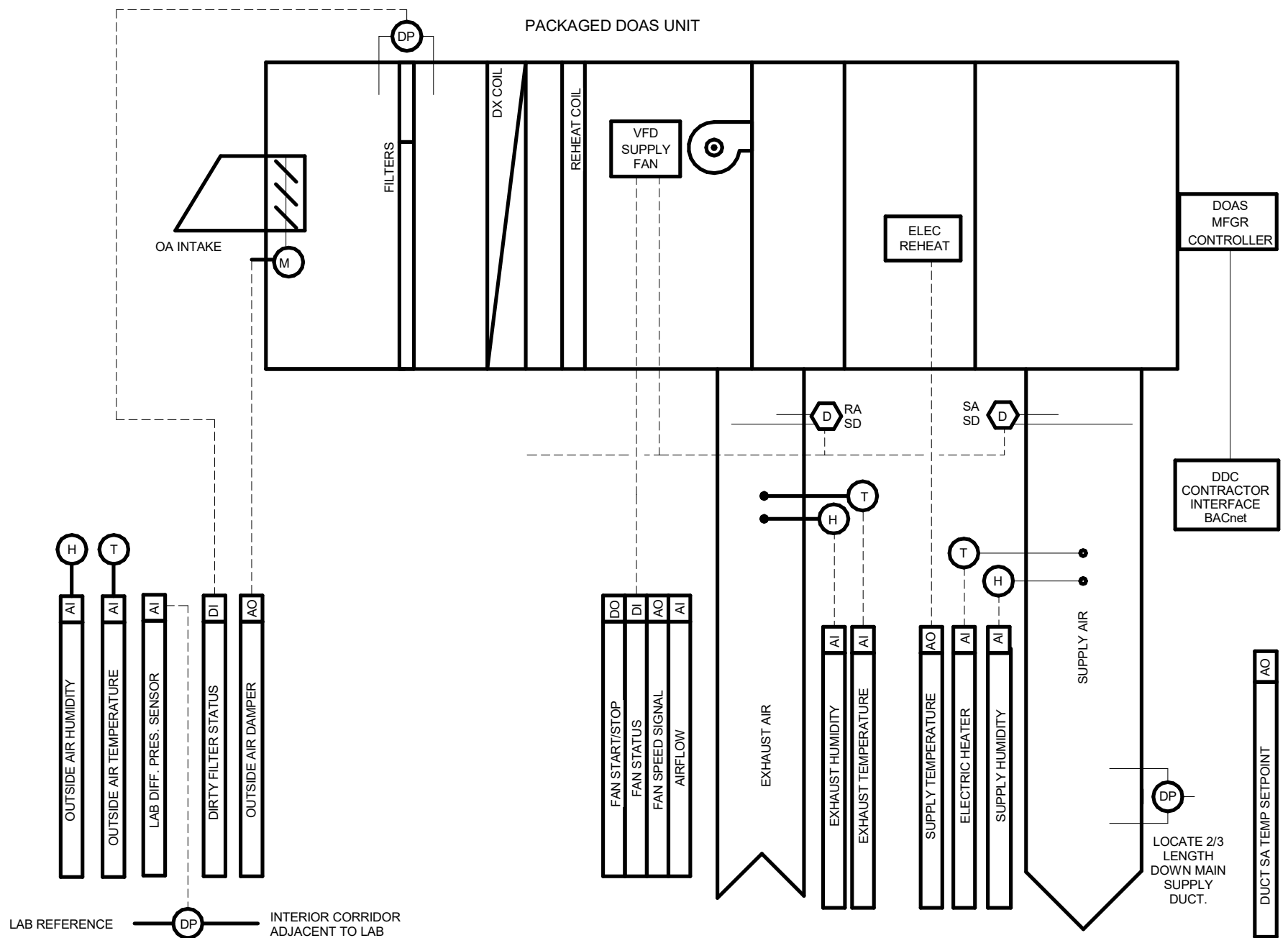
PLAN MARK	MANUFACTURER	MODEL	APPLICATION	FINISH	EXHAUST WHITE	FRAME TYPE	VOLUME DAMPER	MAXIMUM NC	MINIMUM THROW (FT)	MAXIMUM THROW (FT)	MAXIMUM AP (IN WG)	NOTES
EAT	TITUS	PAR-24 x 24	EXHAUST	WHITE	GRD	No	30	0	0	0	0	24x24 SQUARE PERFORATED FACE WITH ROUND DUCT CONNECTION
RA1	TITUS	PAR-24 x 24	RETURN	WHITE	GRD	No	30	0	0	0	0	24x24 SQUARE PERFORATED FACE WITH ROUND DUCT CONNECTION
SA1	TITUS	TRI-TEC-AL	SUPPLY	WHITE	GRD	No	30	5	18	0	0	24"x48" PERFORATED FACE - ALL MINIMUM BACKPAN, HIGH VOLUME, LOW VELOCITY
SA2	TITUS	OMN-24 x 24	SUPPLY	WHITE	GRD	No	30	0	0	0	0	24x24 SQUARE PLAQUE FACE WITH ROUND DUCT CONNECTION

PLAN MARK	MANUFACTURER	MODEL	AIR FLOW (CFM)	EST. ESP (IN WG)	VOLTAGE	PHASE	FLA	MOTOR (HP)	NOTES
EF1	COOK	195TCNHBLE14	4,225	2	460	3	8	5	CURB,DM,VFD,EPC,WC

ROOFTOP DEDICATED OUTSIDE AIR INT. (CONSTANT VOLUME SUPPLY, VARIABLE DC COOLING, HEAT PUMP HEATING DOWN TO 10°F WITH SECONDARY ELECTRIC HEAT, VARIABLE SUPPLY TEMPERATURE, DEHUMIDIFICATION AND DISCHARGE TEMPERATURE CONTROL, VIA MODULATING HOT GAS REHEAT, FILTER MONITORING, SMOKE CONTROL).

DAS UNIT MANUFACTURER SHALL PROVIDE BACNET COMPLIANT CONTROLLER AND ALL PROGRAMMING REQUIRED TO MEET THE SEQUENCE OF OPERATION AS DESCRIBED ABOVE. DDC CONTROLS CONTRACTOR SHALL PROVIDE ALL HARDWARE, SOFTWARE, AND WIRING. THE CONTRACTOR SHALL PROVIDE ALL WIRING, TERMINALS, LABELING, AND GRAPHICS NECESSARY LIST EACH INDIVIDUAL CONTROL POINT SHOWN ON THE DIAGRAM AND PROVIDED IN THE SEQUENCE ABOVE. DDC SYSTEM SHALL BE CAPABLE OF SENDING ALL OUTPUTS AND ACCEPTING ALL INPUTS LISTED IN THE SEQUENCE ABOVE. THE CONTRACTOR SHALL PROVIDE ALL HARDWARE, SOFTWARE, AND WIRING PROVIDED BY MANUFACTURER SHALL BE PROVIDED BY MECHANICAL CONTRACTOR AND/OR DDC CONTRACTOR.

M401 SCALE: NOT TO SCALE



LABORATORY CONTROLS CONTRACTOR SHALL PROVIDE ALL CONTROLLERS AND DEVICES NECESSARY TO ACCOMPLISH THE FOLLOWING SEQUENCES FOR LABORATORY SUPPLY AND EXHAUST CONTROL.

LABORATORY CONTROL SYSTEM

- LAB CONTROLLER SHALL BE ABLE TO ACCEPT INPUT FROM BUILDING DDC CONTROL SYSTEM AND RESET VALUE OF AIRFLOW TO THE SPACE. AIRFLOW AMOUNT SHALL BE A USER INPUT AND SHALL BE ADJUSTABLE FROM (35% TO 100%).

- LAB EXHAUST FAN SHALL BE CONTROLLED WITH VFD PROVIDED BY CONTROLS CONTRACTOR. SHALL MAINTAIN NEGATIVE PRESSURE OF SPACE TO ADJACENT SPACES.

- FUME HOOD

- SASH POSITION SENSOR SHALL MONITOR THE FREE AREA IN THE FUME HOOD SASH PLANE AND MAINTAIN 100 FPM ACROSS SASH OPENING.

- FUME HOOD MONITOR SHALL MONITOR THE REQUIRED EXHAUST AIRFLOW RATE BASED ON SASH POSITION SENSOR. SHALL MAINTAIN 100 FPM ACROSS SASH OPENING. DURING TIMES OF HOOD NOT BEING USED SASH SHALL REMAIN CLOSED.

COMPLIANCE WITH ALL APPLICABLE CODES.

- FUME HOOD EXHAUST AIR VALVE
- AIR VALVE SHALL MODULATE TO MAINTAIN THE FUME HOOD MINIMUM FPM ACROSS HOOD SASH.
- WHEN THE DIFFERENTIAL PRESSURE ACROSS A FUME EXHAUST VALVE DROPS BELOW THE MINIMUM OPERATING DIFFERENTIAL PRESSURE, THE FUME HOOD MONITOR SHALL GENERATE AN AUDIBLE AND VISUAL ALARM.

ROOM PRESSURIZATION:
- SUPPLY AIR VALVES AND GENERAL EXHAUST AIR VALVES SHALL WORK WITH HOOD EXHAUST AIR VALVES TO MAINTAIN NEGATIVE PRESSURE IN SPACE WHILE ALSO MAINTAIN SPACE COOLING / HEATING NEEDS.
- FUME HOOD EXHAUST VALVE INCREASE OF AIR FLOW - GENERAL EXHAUST AIR VALVE SHALL

- FUME HOOD EXHAUST VALVE, INCREASE OF AIR FLOW - GENERAL EXHAUST AIR VALVE SHALL DECREASE AIRFLOW SIMULTANEOUSLY WITH FUME HOOD EXHAUST VALVE TO MAINTAIN FUME HOOD VELOCITY WHILE ALSO MAINTAINING SPACE DIFFERENTIAL.

- ROOM TEMPERATURE SETPOINT NOT MET, SUPPLY AIR VALVE SHALL OPEN TO MEET ROOM TEMPERATURE SETPOINT, SUPPLY AIR VALVE SHALL MAINTAIN CONSTANT AIRFLOW TO MAINTAIN NEGATIVE SPACE.

UNOCCUPIED: TEMPERATURE SETBACK SHALL DECREASE SUPPLY AIR FLOW TO MEET TEMPERATURE SETBACK SETTING (ADJUSTABLE). GENERAL EXHAUST AIR VALVE AND EXHAUST FAN SHALL DECREASE TO 50% MINIMUM WHILE STILL MAINTAINING NEGATIVE PRESSURE SPACE VERSUS ADJACENT SPACES.

MINIMUM 2 HOURS (ADJUSTABLE) WARM UP REQUIRED TO CATCH SYSTEM BACK UP.

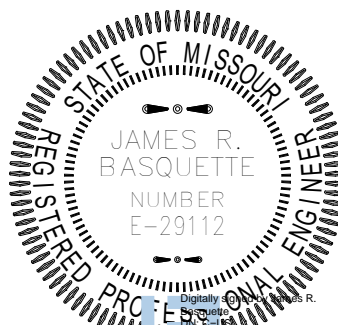
EXTENDED BREAK UNOCCUPIED: FUME EXHAUST HOODS CAN BE DECREASED TO MAINTAIN 60 FPM ACROSS SASH AND AIR VALVES SHALL SIMULTANEOUSLY MODULATE TO MAINTAIN 60 FPM. GENERAL EXHAUST CAN DECREASE TO 50% MINIMUM WHILE MAINTAINING NEGATIVE PRESSURE IN SPACE VERSUS SUPPLY AIR VALVE. SUPPLY AIR VALVE SHALL MAINTAIN SPACE TEMPERATURE SETPOINT OF SETBACK TEMPERATURE.

TYPE	POINT	DESCRIPTION	UNITS	TREND	ALARM	TOTALIZE
AI	EXT-1	ELECTRIC HEATING LAT	DEG F	X	X	
AI	DAT-1	DISCHARGE AIR TEMPERATURE	DEG F	X	X	
AI	SAV-1	SUPPLY AIR VALVE - EAT	CMF	X	X	
AI	EXT-2	OUTSIDE AIR TEMPERATURE	DEG F	X	X	
AI	SAV-F	SUPPLY AIR VALVE AIRFLOW	DEG F	X	X	
AI	SAV-E	EXHAUST AIR VALVE AIRFLOW	DEG F	X	X	
AI	EF-F	EXHAUST AIR FLOW	CFM	X	X	
AI	DH-JAL	DUCT PRESS. EXHAUST	INCH WC	X	X	
DI	EF-S	EXHAUST FAN STATUS	OFF ON	X	X	X
DO	EF-C	EXHAUST FAN COMMAND	OFF ON	X	X	
AO	EF-O	EXHAUST FAN VFD OUTPUT	%	X	X	
AO	EH-O	ELECTRIC HEATING OUTPUT	%	X	X	
AO	EAO	EXHAUST AIR VALVE OUTPUT	%	X	X	
AO	EA-O	EXHAUST AIR VALVE OUTPUT	%	X	X	
AO	DAT-SP	DISCHARGE AIR TEMP SETPOINT	DEG F	X	X	
AO	EAP-SP	EXHAUST AIR PRESS. SETPOINT	INCH WC	X	X	

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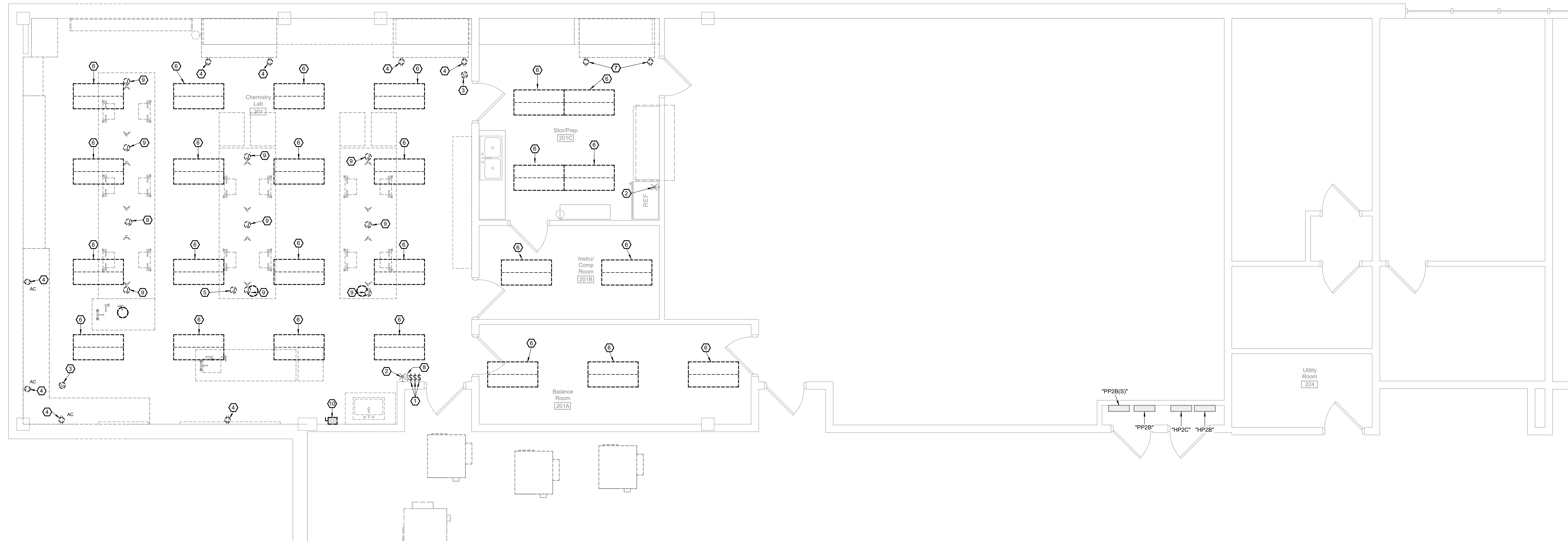
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DATE: 10/06/2023

M401



1
ED101

ELECTRICAL DEMOLITION PLAN - LEVEL 2
SCALE: 1/4" = 1'-0"

- GENERAL NOTES:**
REFER TO SHEET ME100 FOR GENERAL NOTES.
- PLAN HEX NOTES:**
- CONTRACTOR SHALL DEMOLISH EXISTING LIGHT SWITCHES. NEW LIGHT SWITCHES SHOWN ON LIGHTING PLAN SHALL BE LOCATED IN PLACE OF DEMOLISHED SWITCHES.
 - EXISTING FIRE ALARM STROBE SHALL REMAIN AS EXISTING.
 - EXISTING LIGHTING CONTROL DEVICE SHALL BE DEMOLISHED.
 - CONTRACTOR SHALL DEMOLISH EXISTING ELECTRICAL DEVICE INCLUDING ALL ASSOCIATED WIRING, CONDUIT AND RACEWAY, ETC. CONTRACTOR SHALL ALSO MAKE ANY REQUIRED SPLICES AND CONNECTIONS TO MAINTAIN CIRCUIT FOR ANY EXISTING TO REMAIN DOWNSTREAM DEVICES.
 - CONTRACTOR SHALL DEMOLISH POWER AND DATA SERVING EXISTING PROJECTOR.
 - CONTRACTOR SHALL DEMOLISH EXISTING LIGHT FIXTURE. NEW LIGHT FIXTURE AND CONTROLS SHALL TIE INTO EXISTING CIRCUIT SERVING DEMOLISHED FIXTURES FROM UNSWITCHED PORTION OF EXISTING CIRCUIT.
 - CONTRACTOR SHALL DEMOLISH EXISTING RECEPTACLES ON DEMOLISHED LAB HOOD. CIRCUIT SERVING DEMOLISHED RECEPTACLES SHALL REMAIN AND SERVE NEW RECEPTACLES ON NEW HOOD. CONTRACTOR SHALL MAKE ALL EXTENSIONS AND SPLICES TO EXTEND EXISTING CIRCUIT TO NEW HOOD RECEPTACLES.
 - EXISTING EMERGENCY GAS SHUTOFF SHALL REMAIN AS EXISTING.
 - EXISTING SURFACE MOUNTED RECEPTACLE SHALL BE DEMOLISHED. EXISTING CIRCUIT SHALL SERVE NEW SURFACE RECEPTACLE SHOWN ON IMPROVEMENT PLAN. CONTRACTOR SHALL MAKE ALL NECESSARY SPLICES AND CONNECTIONS TO EXTEND CIRCUIT TO NEW DEVICE LOCATION.
 - EXISTING DISCONNECT SWITCH SERVING EXISTING EXHAUST SYSTEM SHALL BE DEMOLISHED INCLUDING ALL ASSOCIATED WIRING, CONDUIT, RACEWAY ETC BACK TO PANEL OF ORIGIN.

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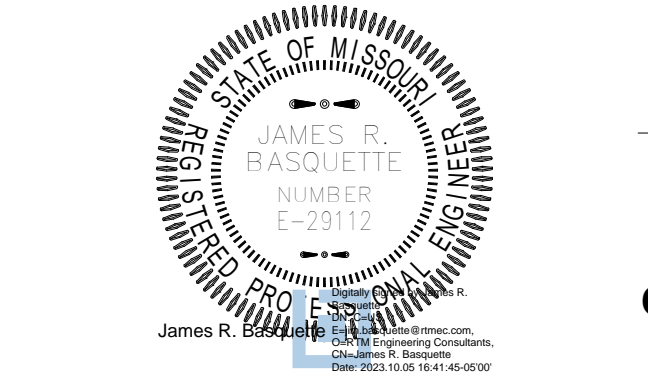
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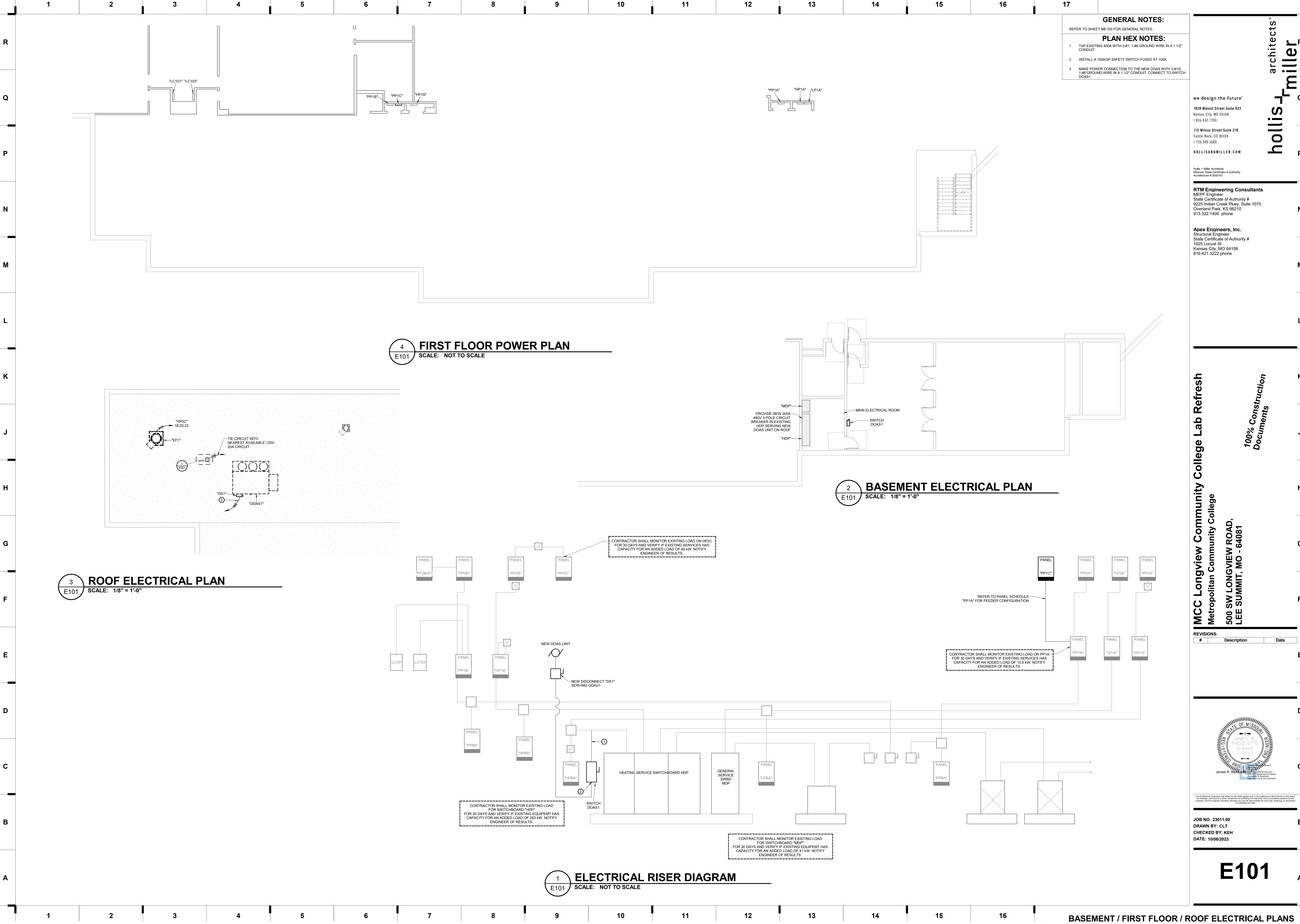
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ED101



GENERAL NOTES:
REFER TO SHEET ME100 FOR GENERAL NOTES.

PLAN HEX NOTES:

- 1 TAP EXISTING 400A WITH 3-#1, 1-#6 GROUND WIRE IN A 1 1/2" CONDUIT.
- 2 INSTALL A 100A/3P SAFETY SWITCH FUSED AT 100A.
- 3 MAKE POWER CONNECTION TO THE NEW DOAS WITH 3-#10, 1-#6 GROUND WIRE IN A 1 1/2" CONDUIT. CONNECT TO SWITCH DOAS1.

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JOB NO: 23011.00
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1	2	3	4	5	6	7											
EXISTING CIRCUIT BREAKER PANELBOARD SCHEDULE																	
PANEL NAME: "PP1A"		LOCATION: LEVEL 1 FED BY: EXISTING MOUNTING: SURFACE		VOLTAGE: 120/208V, 3Ph, 4W ENCLOSURE: WESTINGHOUSE MANUFACTURER: WESTINGHOUSE PANEL TYPE: WESTINGHOUSE		MAIN TYPE: MCB BUS RATING (A): 225 MCB RATING (A): 225 MIN. AIC RATING (A): EXISTING											
CKT	LOAD DESCRIPTION	CIRCUIT CONFIGURATION	VD%	CB	P	TYPE	A	B	C	TYPE	P	CB	VD%	CIRCUIT CONFIGURATION	LOAD DESCRIPTION	CKT	
1	EXISTING LOAD	--	--	20	1	--	0	0		--	1	20	--	--	EXISTING LOAD	2	
3	EXISTING LOAD	--	--	20	1	--		0	0	--	1	20	--	--	EXISTING LOAD	4	
5	EXISTING LOAD	--	--	20	1	--			0	0	--	1	20	--	--	EXISTING LOAD	6
7	EXISTING LOAD	--	--	20	1	--	0	0		--	1	20	--	--	EXISTING LOAD	8	
9	EXISTING LOAD	--	--	20	1	--		0	0	--	1	20	--	--	EXISTING LOAD	10	
11	EXISTING LOAD	--	--	20	1	--			0	0	--	1	20	--	--	EXISTING LOAD	12
13	EXISTING LOAD	--	--	20	1	--	0	0		--	1	20	--	--	EXISTING LOAD	14	
15	EXISTING LOAD	--	--	20	1	--		0	0	--	1	20	--	--	EXISTING LOAD	16	
17	EXISTING LOAD	--	--	20	1	--			0	0	--	1	20	--	--	EXISTING LOAD	18
19	EXISTING LOAD	--	--	20	1	--	0	0		--	1	20	--	--	EXISTING LOAD	20	
21	EXISTING LOAD	--	--	20	1	--		0	0	--	1	20	--	--	EXISTING LOAD	22	
23	EXISTING LOAD	--	--	20	1	--			0	0	--	1	20	--	--	EXISTING LOAD	24
25	EXISTING LOAD	--	--	20	1	--	0	0		--	1	20	--	--	EXISTING LOAD	26	
27	EXISTING LOAD	--	--	20	1	--		0	0	--	1	20	--	--	EXISTING LOAD	28	
29	SPACE	--	--	20	1	--			0	0	--	1	20	--	--	EXISTING LOAD	30
31	SPACE	--	--	1	--	--	0			--	1	20	--	--	EXISTING LOAD	32	
33	SPACE	--	--	1	--	--				--	1	--	--	--	SPACE	34	
35	SPACE	--	--	1	--	--				--	1	--	--	--	SPACE	36	
37	PP1C	4#1, #8G, 1-1/2"	0.85%	100	3	--	7920	--		--	1	--	--	--	SPACE	38	
39	--	--	--	--	--	--		7920	--		1	--	--	--	SPACE	40	
41	--	--	--	--	--	--			8760	--	1	--	--	--	SPACE	42	
CONNECTED PHASE LOAD							7920 VA	7920 VA	8760 VA								
*PHASE DIVERSIFIED LOAD							7920 VA	7920 VA	8760 VA								
*PHASE DIVERSIFIED AMPS							66 A	66 A	73 A								
										CALCULATED PANEL AMPS:							
										73 A							
(DIVERSIFIED LOADS CALCULATED PER THE NATIONAL ELECTRIC CODE.)																	
NOTES/ACCESSORIES:																	
1. BOLDDED AND UNDERLINED CCT NUMBER INDICATED NEW CIRCUIT BREAKER.																	

CIRCUIT BREAKER PANELBOARD SCHEDULE																			
PANEL NAME: "PP1C"			LOCATION: FED BY: "PP1A" MOUNTING: SURFACE			VOLTAGE: 120/208V, 3Ph, 4W ENCLOSURE: NEMA 1 MANUFACTURER: SQUARE D PANEL TYPE: NQ						MAIN TYPE: MLO BUS RATING (A): 100 MCB RATING (A): N/A MIN. AIC RATING (A): 10000 A							
CKT	LOAD DESCRIPTION	CIRCUIT CONFIGURATION	VD%	CB	P	TYPE	A	B	C	TYPE	P	CB	VD%	CIRCUIT CONFIGURATION	LOAD DESCRIPTION	CKT			
1	CLASS 201 AC RECEPT	2#12, #12G, 3/4"	1.40%	20	1	--	540	540				1	20	1.61%	2#12, #12G, 3/4"	CLASS 201 AC RECEPT	2		
3	CLASS 201 TEACHING WALL	2#12, #12G, 3/4"	3.51%	20	1	--		1080	1920			1	20	5.13%	2#12, #12G, 3/4"	LAB STATION RECEPT	4		
5	LAB STATION RECEPT	2#12, #12G, 3/4"	4.73%	20	1	--			1920	1920		1	20	5.77%	2#12, #12G, 3/4"	LAB STATION RECEPT	6		
7	LAB STATION RECEPT	2#12, #12G, 3/4"	5.73%	20	1	--	1920	1920				1	20	5.41%	2#12, #12G, 3/4"	LAB STATION RECEPT	8		
9	LAB STATION RECEPT	2#12, #12G, 3/4"	5.45%	20	1	--		1920	2000			3	20	2.52%	4#12, #12G, 3/4"	SV2	10		
11	LAB STATION RECEPT	2#12, #12G, 3/4"	6.05%	20	1	--			1920	2000	--	--	--	--	--	--	12		
13	SV3	4#10, #10G, 3/4"	0.72%	25	3	--	1000	2000				--	--	--	--	--	14		
15	--	--	--	--	--	--		1000	--			--	1	--	--	SPACE	16		
17	--	--	--	--	--	--			1000	--	--	1	--	--	--	SPACE	18		
19	SPACE	--	--	--	1	--	--	--			--	1	--	--	--	SPACE	20		
21	SPACE	--	--	--	1	--	--	--	--		--	1	--	--	--	SPACE	22		
23	SPACE	--	--	--	1	--	--	--	--	--		1	--	--	--	SPACE	24		
25	SPACE	--	--	--	1	--	--	--	--	--	--	1	--	--	--	SPACE	26		
27	SPACE	--	--	--	1	--	--	--	--	--	--	1	--	--	--	SPACE	28		
29	SPACE	--	--	--	1	--	--	--	--	--	--	1	--	--	--	SPACE	30		
CONNECTED PHASE LOAD							7920 VA	7920 VA	8760 VA	CALCULATED PANEL AMPS: 73 A									
*PHASE DIVERSIFIED LOAD							7920 VA	7920 VA	8760 VA										
*PHASE DIVERSIFIED AMPS							66 A	66 A	73 A										
NOTES/ACCESSORIES:																		(DIVERSIFIED LOADS CALCULATED PER THE NATIONAL ELECTRIC CODE.)	
1. PROVIDE BLANK SPACE COVER WHERE "SPACE" IS SHOWN ON SCHEDULE																		PANEL TOTALS	
																		TOTAL CONNECTED LOAD: 24600 VA	
																		TOTAL DIVERSIFIED LOAD: 24600 VA	
CONTROLLING LOAD: N/A																			

EXISTING CIRCUIT BREAKER PANELBOARD SCHEDULE																				
PANEL NAME: "PP2B(S)"		LOCATION: LEVEL 2 FED BY: PP2B MOUNTING: SURFACE				VOLTAGE: 120/208V, 3Ph, 4W ENCLOSURE: WESTINGHOUSE MANUFACTURER: WESTINGHOUSE PANEL TYPE: WESTINGHOUSE				MAIN TYPE: EXISTING BUS RATING (A): EXISTING MCB RATING (A): EXISTING MIN. AIC RATING (A): EXISTING										
CKT	LOAD DESCRIPTION	CIRCUIT CONFIGURATION	VD%	CB	P	TYPE	A	B	C	TYPE	P	CB	VD%	CIRCUIT CONFIGURATION	LOAD DESCRIPTION	CKT				
1	LAB STATION RECEPT	2#12, #12G, 3/4"	4.97%	20	1	--	1920	1920		--	1	20	4.69%	2#12, #12G, 3/4"	LAB STATION RECEPT	2				
3	LAB STATION RECEPT	2#12, #12G, 3/4"	4.65%	20	1	--		1920	1920	--	1	20	4.37%	2#12, #12G, 3/4"	LAB STATION RECEPT	4				
5	LAB STATION RECEPT	2#12, #12G, 3/4"	4.33%	20	1	--			1920	1920	--	1	20	4.04%	2#12, #12G, 3/4"	LAB STATION RECEPT	6			
7	EXISTING LOAD	--	--	20	1	--	0	1920		--	1	20	4.86%	2#12, #12G, 3/4"	HOOD RECEPT	8				
9	EXISTING LOAD	--	--	20	1	--			0	1920	--	1	20	6.18%	2#12, #12G, 3/4"	HOOD RECEPT	10			
11	EXISTING LOAD	--	--	20	1	--				0	1920	--	1	20	--	EXISTING LOAD	12			
13	EXISTING LOAD	--	--	20	1	--	0	0		--	1	20	--	--	EXISTING LOAD	14				
15	EXISTING LOAD	--	--	20	1	--		0	0	--	1	20	--	--	EXISTING LOAD	16				
17	EXISTING LOAD	--	--	20	1	--			0	0	--	1	20	--	--	EXISTING LOAD	18			