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APPLICABLE CODES:  
 2018 INTERNATIONAL BUILDING CODE  
 2018 INTERNATIONAL PLUMBING CODE  
 2018 INTERNATIONAL MECHANICAL CODE  
 2018 INTERNATIONAL FUEL GAS CODE  
 2018 INTERNATIONAL FIRE CODE  
 2017 NATIONAL ELECTRIC CODE  
 ICC/ANSI A117.1-2009, ACCESSIBLE AND USABLE BUILDINGS FACILITIES

TENANT USE GROUP: B - BUSINESS  
 CONSTRUCTION TYPE: TYPE V-B, UNPROTECTED, NON-SPRINKLED  
 CODE AREA: 2,215 SF  
 OCCUPANT LOAD: 53 PEOPLE  
 WAITING AREA: 496 SF/15 =33  
 GENERAL OFFICE: 1595 SF/150 =11  
 BREAK AREA: 124 SF/15 =9

EXITS REQUIRED: 2 PER SECTION 1006.2.1  
 EXITS SEPARATION REQUIRED: > 1/3 MAX DIAGONAL = 24'-0"  
 EXIT WIDTH REQUIRED: 32" FOR EACH DOOR PER 1010.1.1  
 TRAVEL DISTANCE: 300' PER TABLE 1017.2

**PLUMBING FIXTURES:**

TOILET REQ'D: 1 WOMEN / 1 MEN  
 TOILET PROVIDED: 1 WOMEN / 1 MEN

SINK REQ'D: 1 WOMEN / 1 MEN  
 SINK PROVIDED: 1WOMEN / 1 MEN

DRINKING FOUNTAIN REQ'D: 0  
 DRINKING FOUNTAIN PROVIDED: BOTTLED WATER @ BREAK ROOM

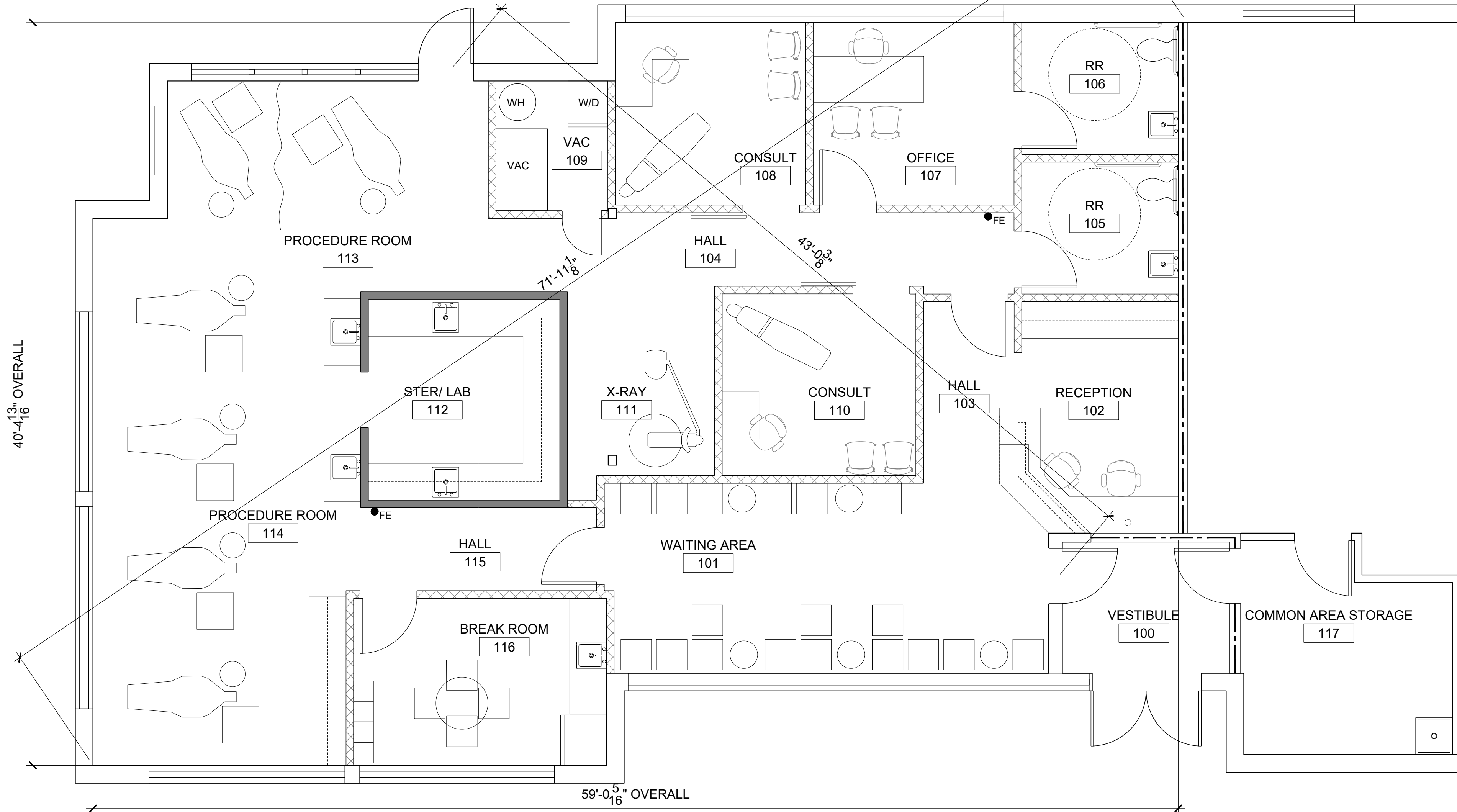
SERVICE SINK REQ'D: 1  
 SERVICE SINK PROVIDED: PROVIDED

**ACTIVE FIRE SAFETY FEATURES:**

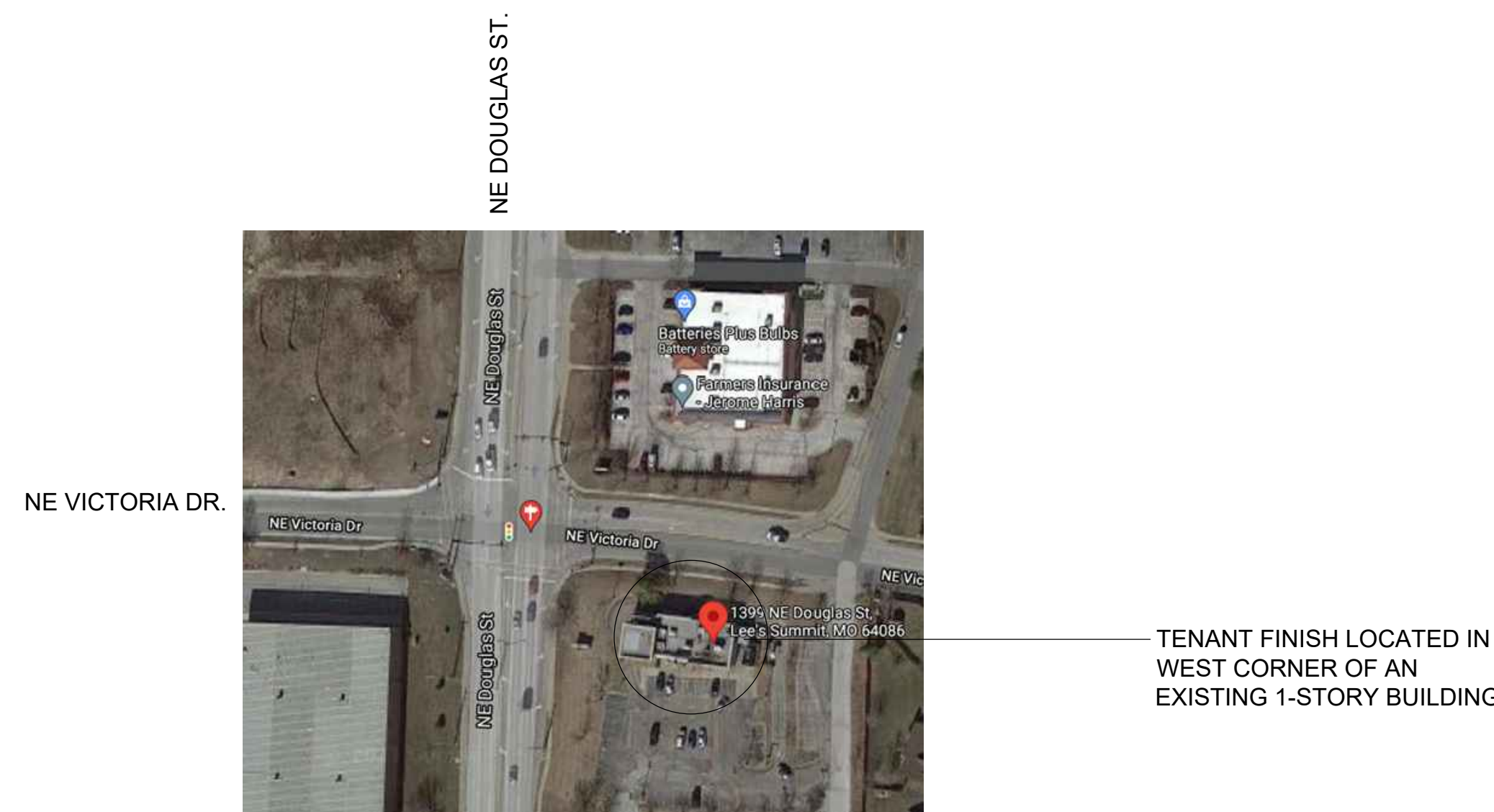
EXIT SIGNS: BATTERY BACK-UP POWERED  
 EMERGENCY LIGHTS: BATTERY BACK-UP POWERED  
 FIRE EXTINGUISHERS: PROVIDE PER NFPA 10  
 FIRE ALARM: NOTIFICATION / ALARM SYSTEM PROVIDED  
 MANUAL PULLS NOT REQUIRED

● FE TYPE 2A-10B; FIRE EXTINGUISHER  
 INSTALL AT 4'-0" A.F.F. TO THE HANDLE.  
 COORDINATE FINAL LOCATIONS WITH  
 TENANT & FIRE MARSHAL.

**3 CODE DATA**



**2 CODE PLAN**  
 SCALE: 1/4" = 1'-0" NORTH



**1 VACINITY MAP**  
 NOT TO SCALE NORTH

TENANT FINISH LOCATED IN WEST CORNER OF AN EXISTING 1-STORY BUILDING



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**LAKWOOD ORTHODONTICS**  
 A TENANT FINISH FOR:

1399 NE DOUGLAS ST  
 LEE'S SUMMIT, MO 64086



08/13/2021

PROJECT NO. 210407  
**DRAWING ISSUANCE**  
 08/13/2021 BUILDING PERMIT

SHEET NUMBER  
**A0.0**  
 CODE PLAN

## DOOR SCHEDULE

DR NO.	DOOR SIZE	DOOR FINISH	DOOR TYPE	FRAME TYPE	HARDWARE	REMARKS
100	EXISTING	ONYX, ON18 (ARCHITECTURAL WOOD DOORS)	-	-	-	EXISTING DOOR, FRAME & HARDWARE TO REMAIN
101	3'-0" x 8'-0"	ONYX, ON18 (ARCHITECTURAL WOOD DOORS)	B	1	2	
102	3'-0" x 8'-0"	ONYX, ON18 (ARCHITECTURAL WOOD DOORS)	B	1	2	
103	3'-0" x 8'-0"	ONYX, ON18 (ARCHITECTURAL WOOD DOORS)	A	1	1	
104	3'-0" x 8'-0"	ONYX, ON18 (ARCHITECTURAL WOOD DOORS)	A	1	5	
105	3'-0" x 8'-0"	ONYX, ON18 (ARCHITECTURAL WOOD DOORS)	A	2	3	
106	3'-0" x 8'-0"	ONYX, ON18 (ARCHITECTURAL WOOD DOORS)	A	1	4	
107	3'-0" x 8'-0"	ONYX, ON18 (ARCHITECTURAL WOOD DOORS)	A	1	5	
108	3'-0" x 8'-0"	ONYX, ON18 (ARCHITECTURAL WOOD DOORS)	A	2	3	
109	3'-0" x 8'-0"	ONYX, ON18 (ARCHITECTURAL WOOD DOORS)	A	1	1	
110	EXISTING	ONYX, ON18 (ARCHITECTURAL WOOD DOORS)	-	-	-	EXISTING DOOR, FRAME & HARDWARE TO REMAIN
111	3'-0" x 8'-0"	ONYX, ON18 (ARCHITECTURAL WOOD DOORS)	A	1	1	
112	3'-0" x 8'-0"	ONYX, ON18 (ARCHITECTURAL WOOD DOORS)	B	1	1	

**HARDWARE SCHEDULE:**

**SET 1**

- (3) BUTTS
- (1) PASSAGE SET
- (1) STOP DOOR SILENCERS

**SET 3-BARN DOORS**

- REAL SLIDING HARDWARE SF-AE06S AERO KIT FOR BARN DOOR STAINLESS STEEL
- (2) 18" LADDER HANDLES STOPS

**SET 5- RESTROOMS**

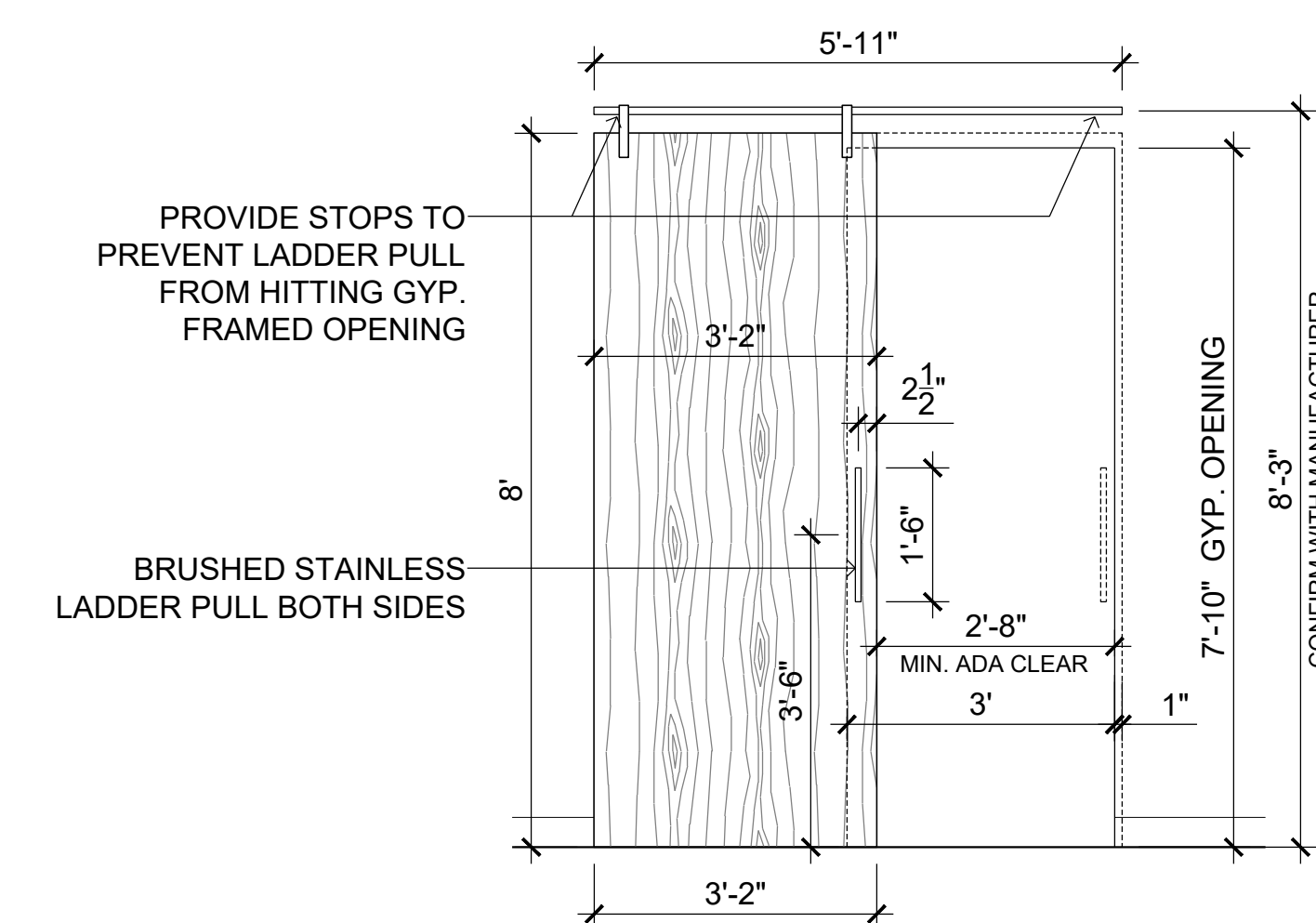
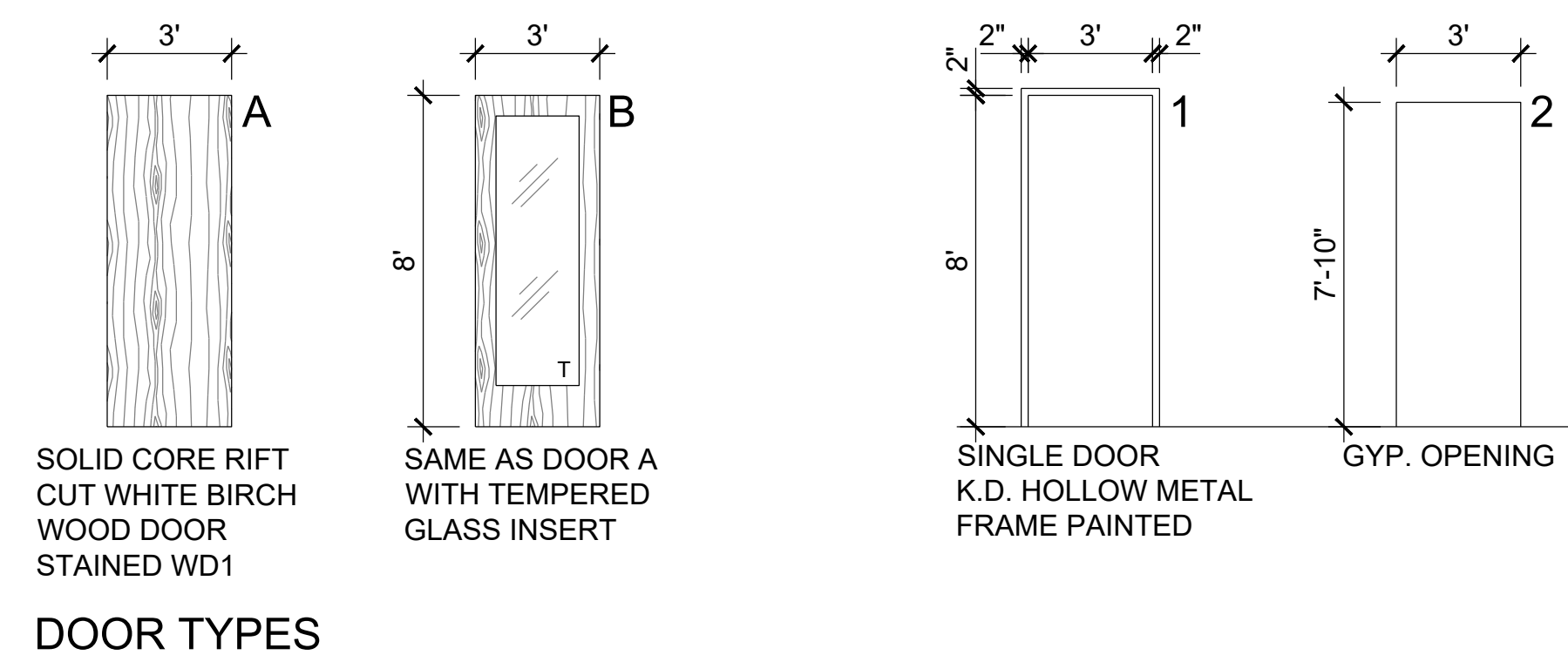
- (3) BUTTS
- (1) PRIVACY LOCK SET W/ OCCUPIED INDICATOR
- (1) STOP DOOR SILENCERS

**SET 2-ENTRY**

- (3) BUTTS
- (1) CARD READER LOCK SET
- (1) STOP DOOR SILENCERS CLOSER HOLD OPEN

**SET 4-OFFICE**

- (3) BUTTS
- (1) OFFICE LOCK SET
- (1) STOP DOOR SILENCERS



**1 BARN DOOR INSTALL**  
SCALE: 1/2" = 1'-0"



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# LAKWOOD ORTHODONTICS

A TENANT FINISH FOR:

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LEE'S SUMMIT, MO 64086



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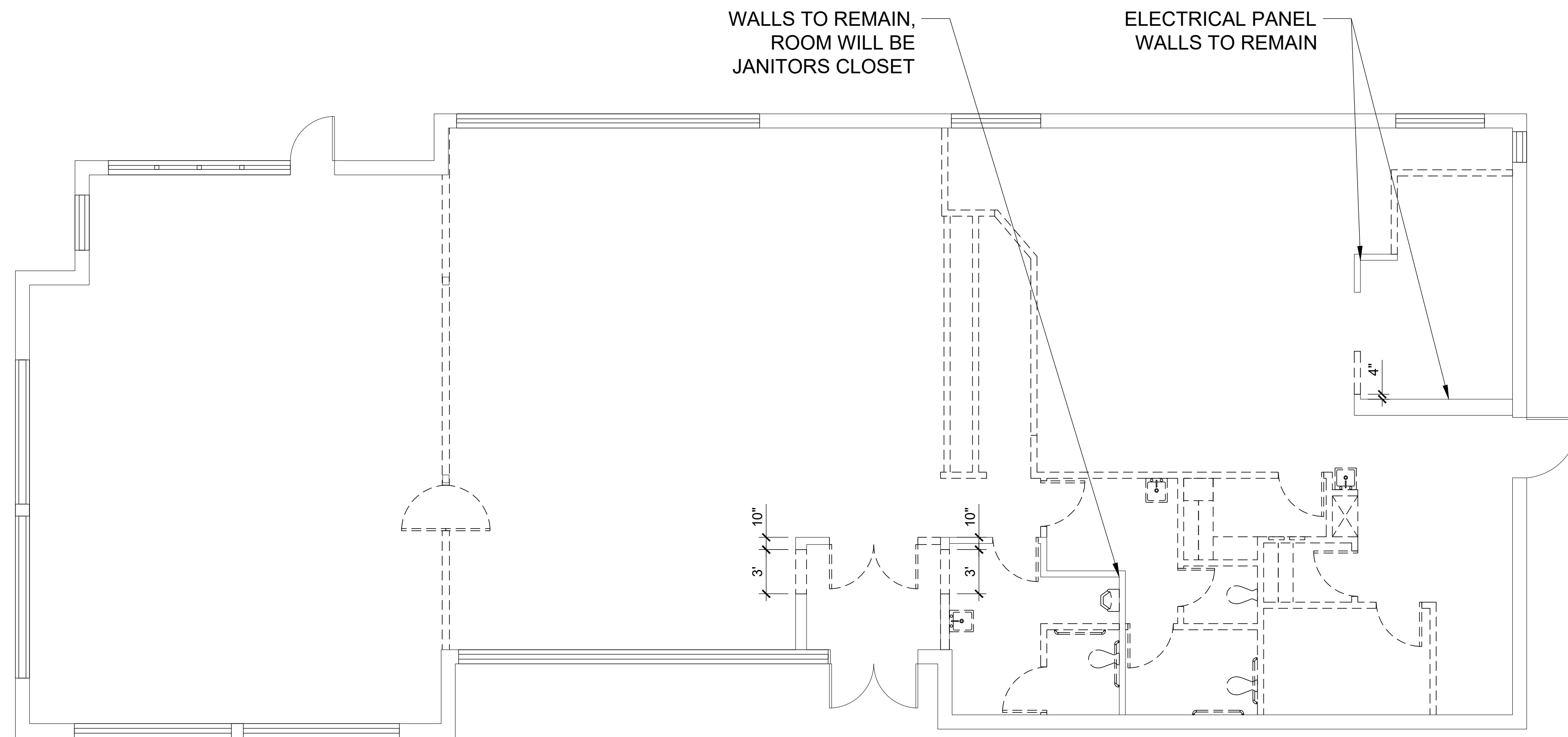
SHEET NUMBER

# A1.0

DEMO PLAN

### DEMO SCOPE OF WORK:

1. REMOVE ALL WALLS/DOORS/CASEWORK/PLUMBING SHOWN DASHED.
2. REMOVE GYP BOARD SHEATHING ON PERIMETER WALLS AND INTERIOR WALLS TO REMAIN.
3. REMOVE FLOORING & BASE THROUGHOUT.
4. REMOVE CEILING, LIGHT FIXTURES AND MECHANICAL REGISTERS THROUGHOUT.
5. REMOVE ALL ELECTRICAL DEVICES, WIRING AND CONDUIT BACK TO ELECTRICAL PANEL.
6. REMOVE ALL PLUMBING FIXTURES AND CAP PIPING AT FLOOR.
7. REMOVE HVAC DUCT WORK BACK TO TRUNK LINE. EXISTING HVAC UNITS SHALL REMAIN.
8. REMOVE ALL RESTAURANT RELATED MECHANICAL EQUIPMENT WITHIN SPACE AND ON THE ROOF. PROPERLY COVER ANY RESULTING ROOF OPENINGS FOR ROOF PATCH BY OTHERS.



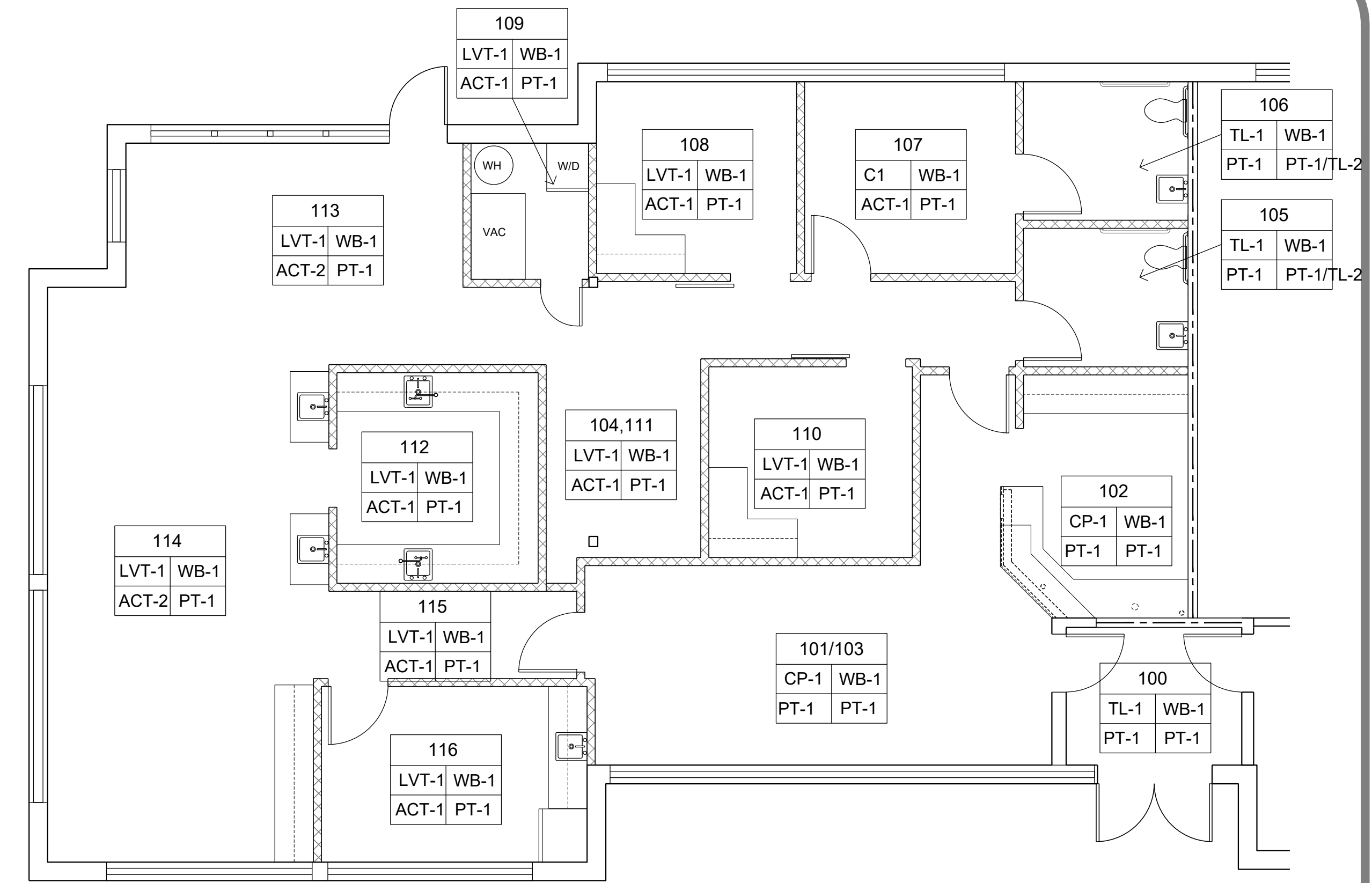
# 1 DEMOLITION PLAN

SCALE: 3/16" = 1'-0"

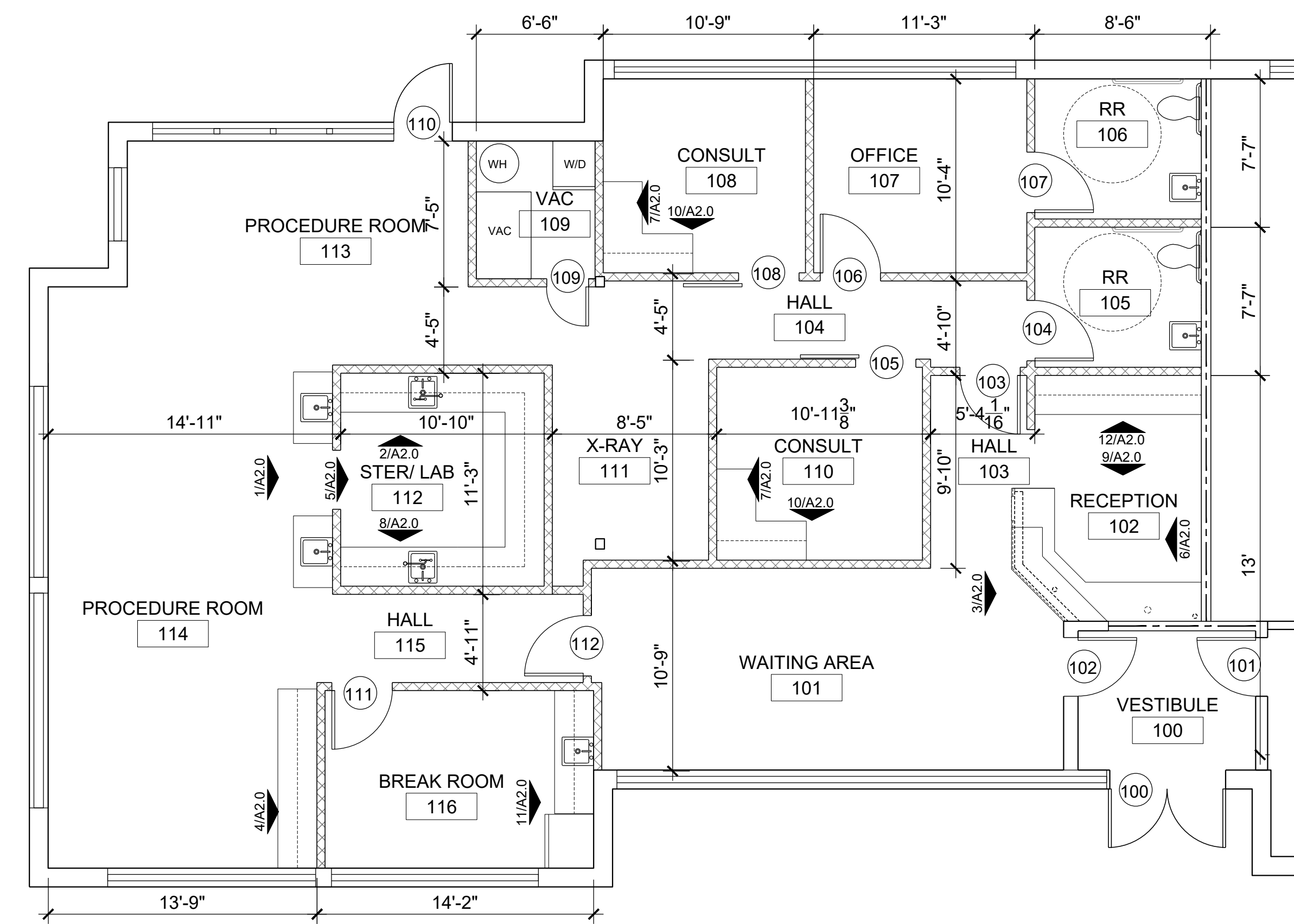


FINISH SCHEDULE				
#	PRODUCT	MANUFACTURE	COLOR	MODEL/ PATTERN
CP-1	CARPET TILE	TARKETT	TBD	TBD
LVT-1	LVT	TARKETT	BLANCHED PINE PLWD	5134, 6" X 48"
WB-1	RUBBER WALL BASE	ROPPE	170 WHITE	4" H BASE
TL-1	RR FLOOR CERAMIC TILE	MSI	CONCRETO GRIGIO	NCONGRI2424, 24" X 24" MATTE
TL-2	RR WALL TILE	TBD	TBD	TBD
TL-3	BREAKROOM-BACKSPLASH	TBD	TBD	TBD
ACT-1	CEILING TILE	USG RADAR	WHITE	2'X4' FLAT SQUARE EDGE
PT-1	PAINT	SHERWIN WILLIAMS	SW 7103-WHITETAIL	SW 7103, FINISH: EGGSHELL
PL-1	PLASTIC LAMINATE	FORMICA	5887-NT	NATURELLE FINISH
PL-2	PLASTIC LAMINATE	FORMICA	7223C-AC	
SS-1	QUARTZ COUNTERTOP	METRO QUARTZ	M4015	CALZADA

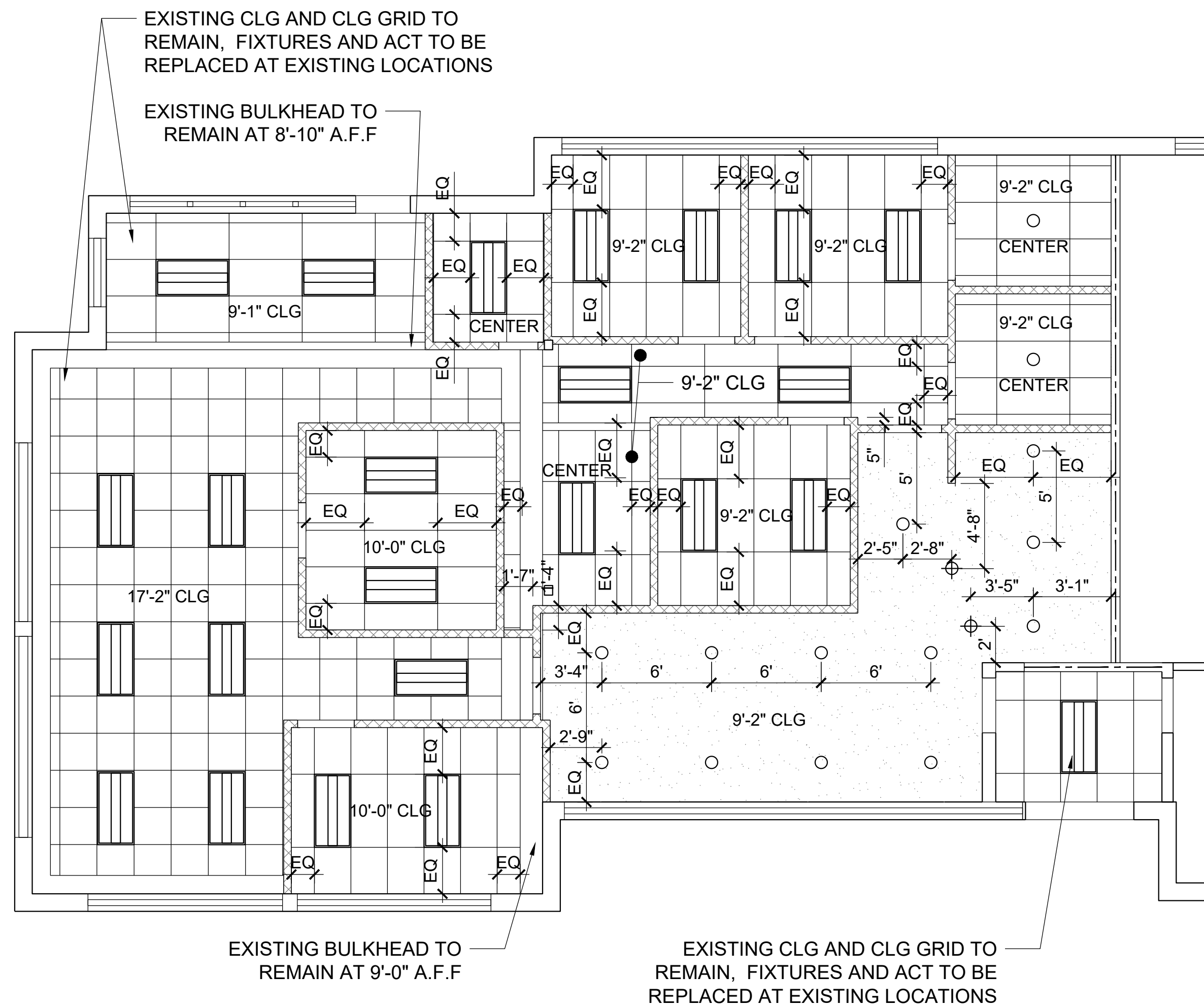
FINISH KEY		ROOM #
FLOOR FINISH	---	---
CEILING FINISH	---	---
	---	---
	---	---



**2 FINISH PLAN**  
SCALE: 3/16" = 1'-0"  
NORTH



**1 FLOOR PLAN**  
SCALE: 3/16" = 1'-0"  
NORTH



CEILING LEGEND	
	GYPSUM BOARD CEILING
	LAY-IN GRID & ACOUSTICAL CEILING TILE, COMMERCIAL GRADE, WHITE
	2x4 LOW PROFILE CENTER BASKET DIRECT/INDIRECT RECESSED LED LIGHT FIXTURE
	PENDANT LIGHT
	RECESSED CAN LIGHTS

FLOOR PLAN LEGEND	
	EXISTING WALL TO REMAIN
	25 GA. 3 5/8" METAL STUDS @ 16" O.C. EXTENDING TO DECK WITH 5/8" TYPE 'X' GYP. BD. ON BOTH SIDES EXTENDING TO DECK
	1 HOUR FIRE RATED WALL
	LOW WALL AT RECEPTION DESK, SEE ELEVATIONS

**3 REFLECTED CEILING PLAN**  
SCALE: 3/16" = 1'-0"  
NORTH



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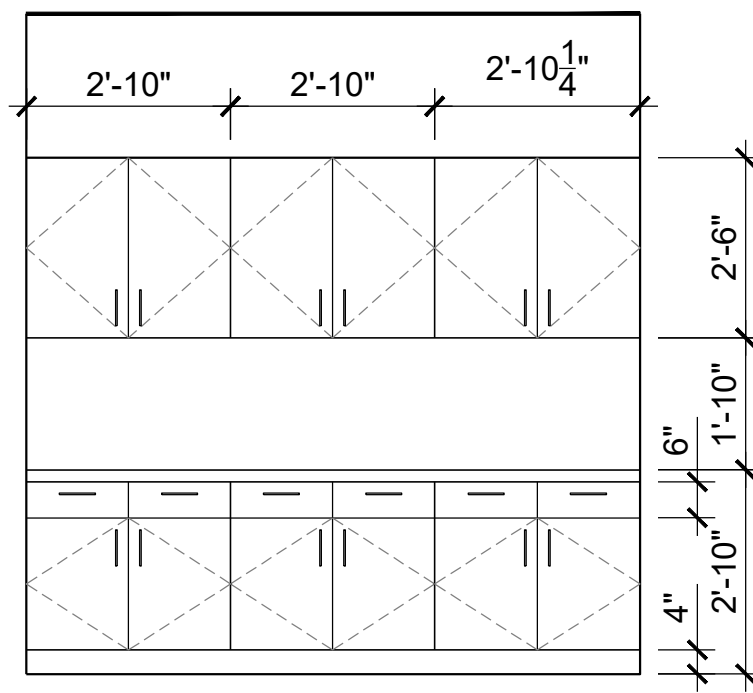


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**A1.1**  
FLOOR PLAN



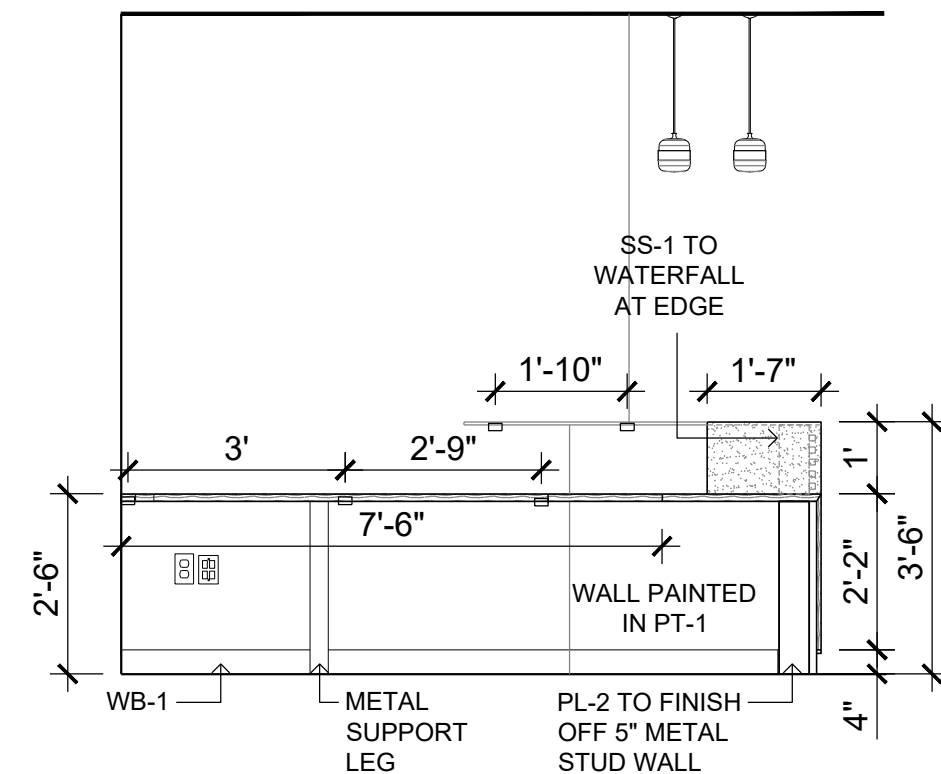
**NOTES (RECEPTION CABINETS)**

COUNTERTOP LAMINATE:  
PL1: FORMICA 5887-NT MILLENIUM OAK

DOORS, BASE & SIDES:  
PL2: FORMICA -949C-AN COLOR:WHITE

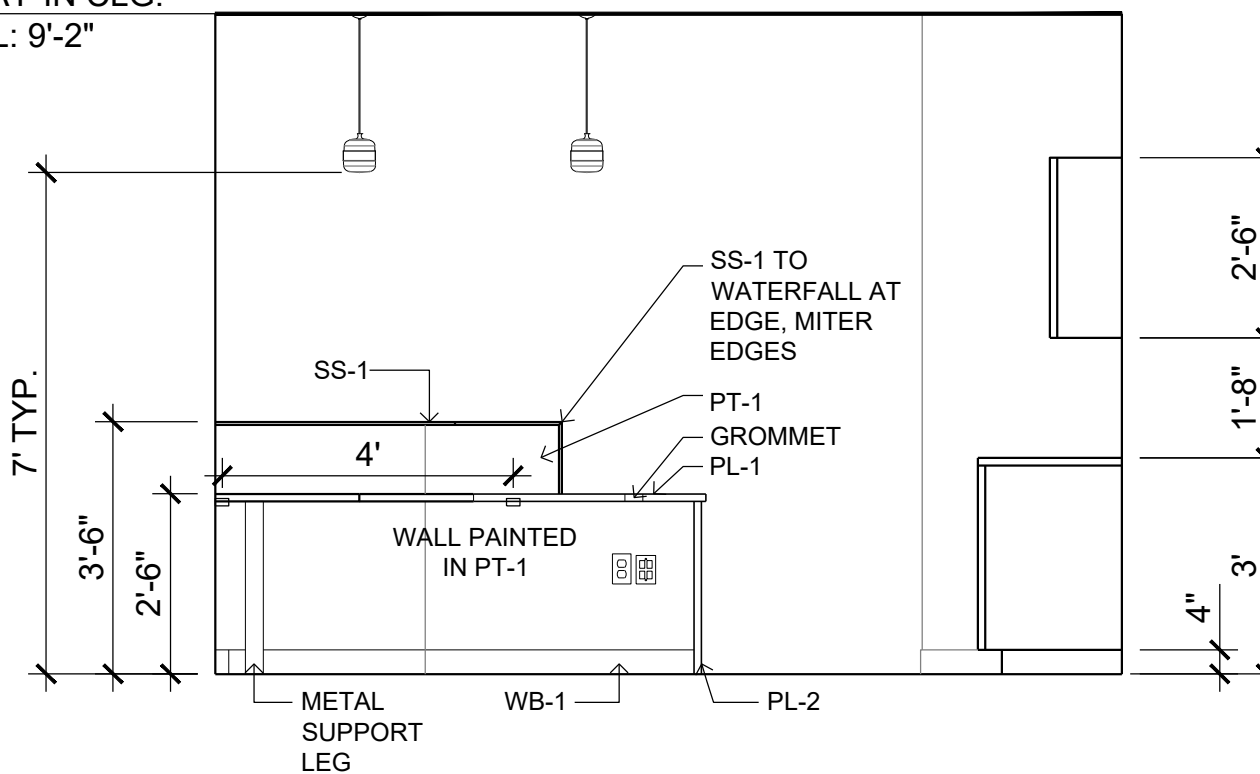
HARDWARE: MOCKETT- DP128 SERIES 6-11/16" ROUND TOP DRAWER PULL, COLOR: STAINLESS STEEL

**12 ELEVATION**  
SCALE: 3/8" = 1'-0" RECEPTION



**9 ELEVATION**  
SCALE: 3/8" = 1'-0" RECEPTION

LAY-IN CLG.  
EL: 9'-2"



**6 ELEVATION**  
SCALE: 3/8" = 1'-0" RECEPTION

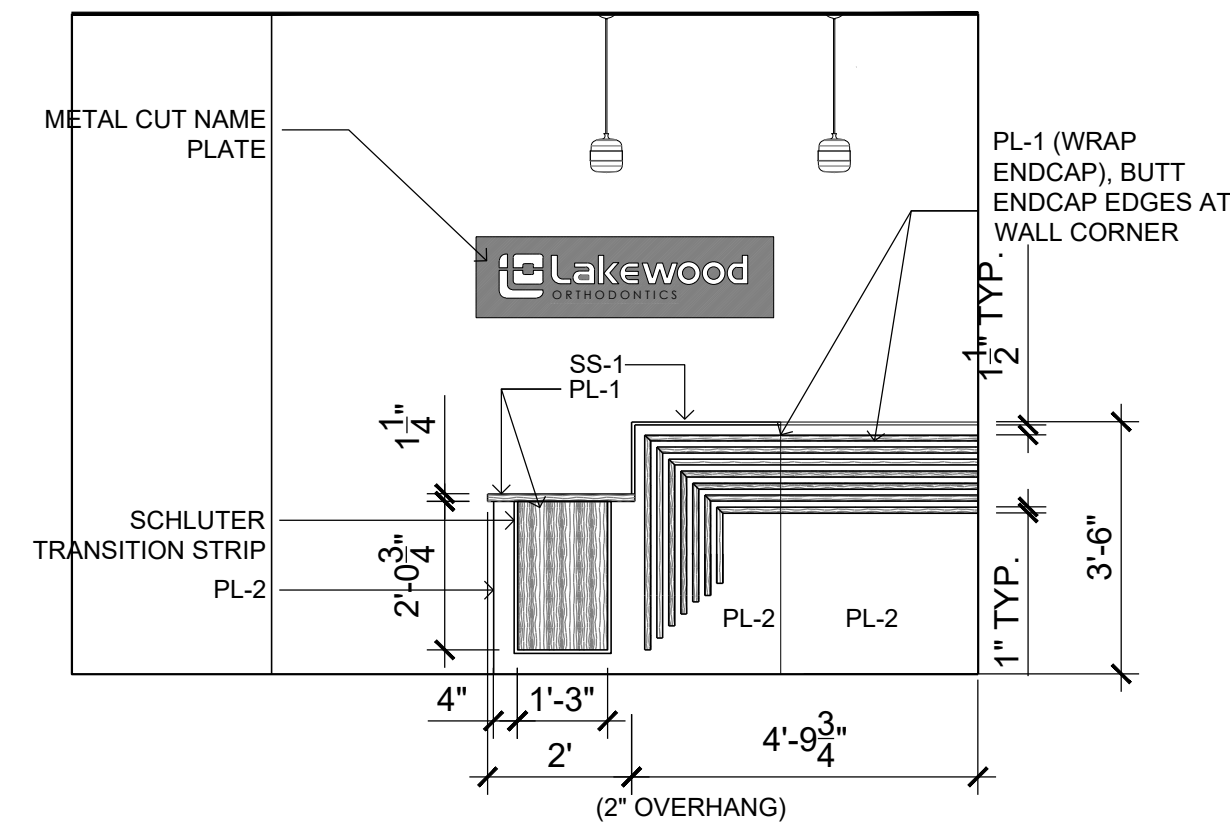
**NOTES (RECEPTION DESK)**

METAL LEG: DOUG MOCKETT TL28P-3 28-1/8" TABLE LEG 3" DIA. WITH PLATE LEVELER IN MATTE BLACK

GROMMET: 3" DOUG MOCKETT GROMMET IN WALNUT BROWN

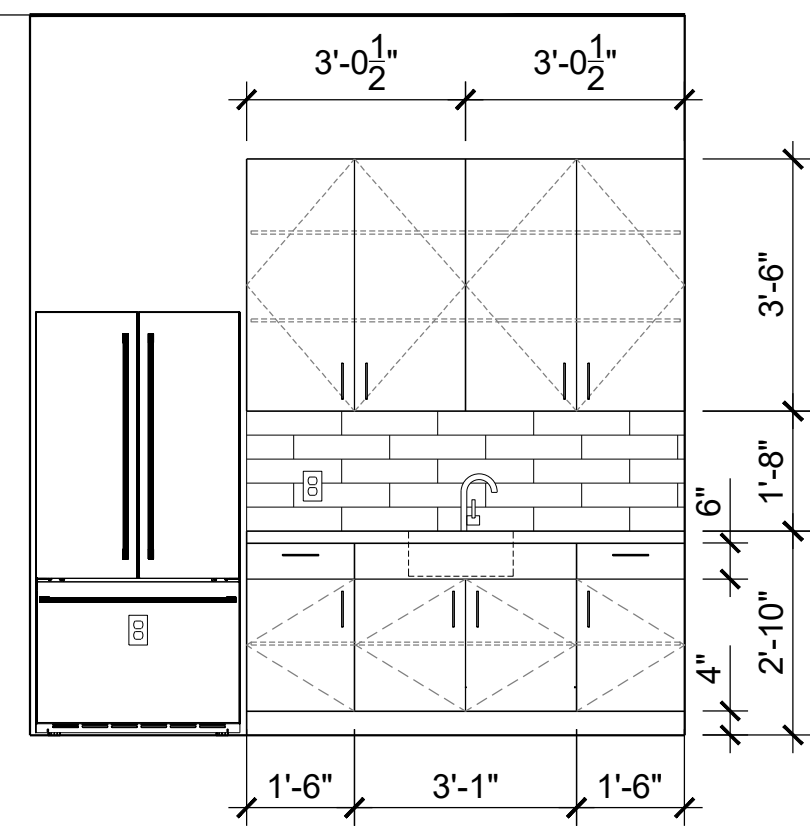
SUPPORT BRACKET: CENTERLINE NOTED HIDDEN IN WALL 22" FLOATING COUNTERTOP STUDS SUPPORT BRACKET

SCHLUTER TRIM: SCHLUTER-RODEC MODEL: RO 100 GS

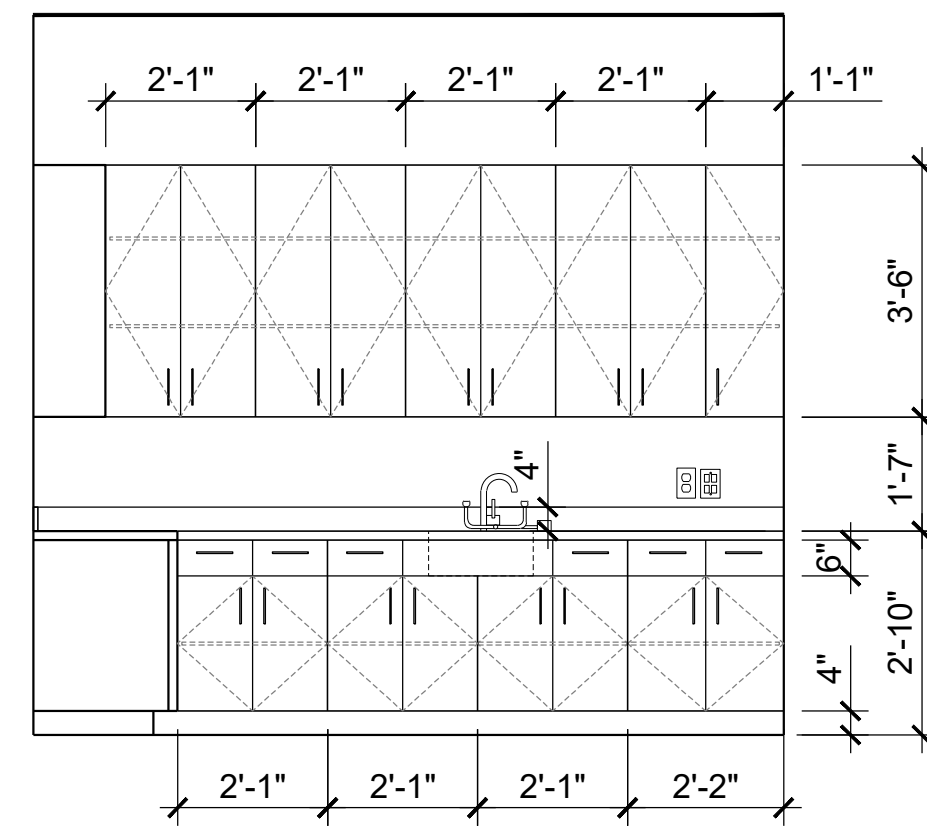


**3 ELEVATION**  
SCALE: 3/8" = 1'-0" RECEPTION

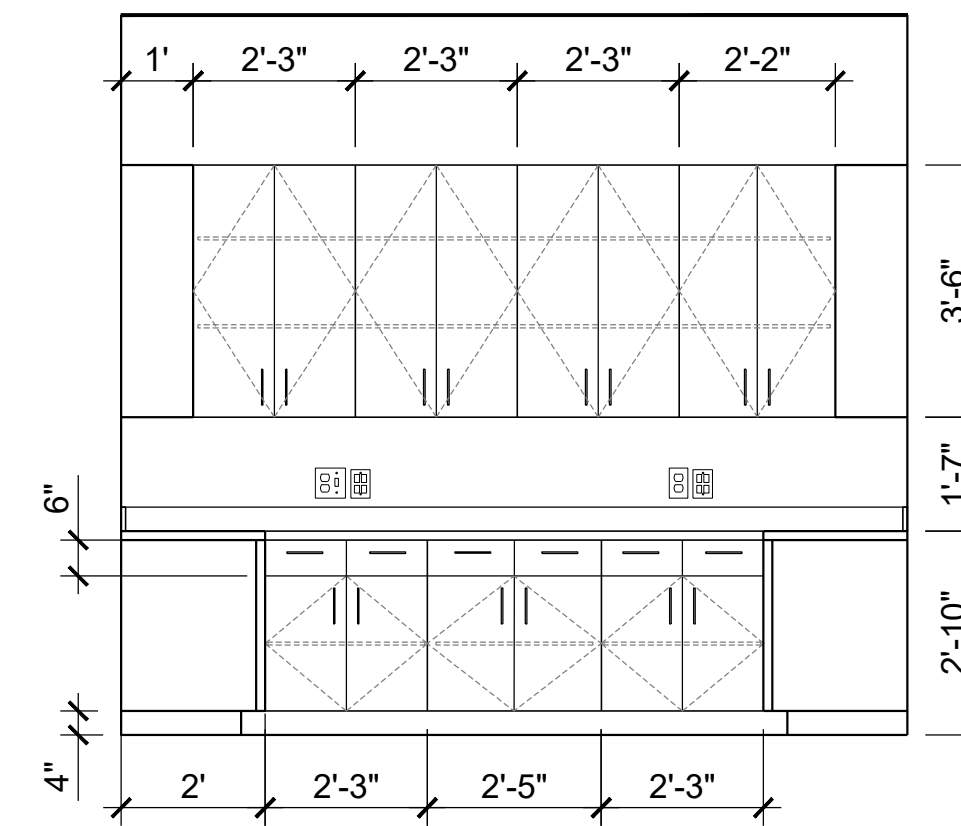
LAY-IN CLG.  
EL: 10'-0"



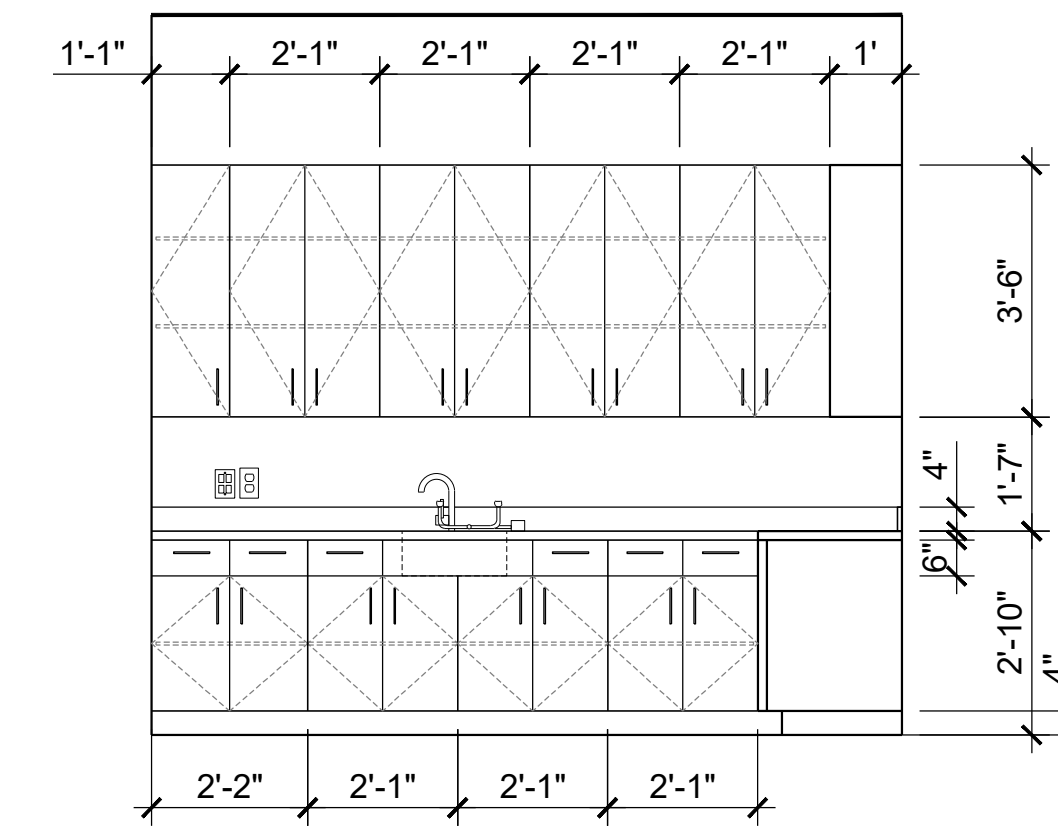
**11 ELEVATION**  
SCALE: 3/8" = 1'-0" BREAK RM



**8 ELEVATION**  
SCALE: 3/8" = 1'-0" STER / LAB



**5 ELEVATION**  
SCALE: 3/8" = 1'-0" STER / LAB



**2 ELEVATION**  
SCALE: 3/8" = 1'-0" STER / LAB

**NOTES (BREAKROOM)**

COUNTERTOP LAMINATE:  
PL1: FORMICA 5887-NT MILLENIUM OAK

DOORS, BASE & SIDES:  
PL2: FORMICA -949C-AN COLOR:WHITE

HARDWARE: MOCKETT- DP128 SERIES 6-11/16" ROUND TOP DRAWER PULL, COLOR: STAINLESS STEEL

FAUCET: DELTA-TRINSIC COLLECTION,MODEL DSP-K-9159-DST

SINK: HIGOLD- STAINLESS STEEL TOPMOUNT SINK MODEL SUS304

**NOTES (CONSULT)**

COUNTERTOP LAMINATE:  
PL1: FORMICA 5887-NT MILLENIUM OAK

UPPER CABINETS:  
PL1: FORMICA 5887-NT MILLENIUM OAK

**NOTES (PROCEDURE CABINETS)**

COUNTERTOP LAMINATE:  
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DOORS, BASE & SIDES:  
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**NOTES (STER/ LAB)**

COUNTERTOP LAMINATE:  
PL1: FORMICA 5887-NT MILLENIUM OAK

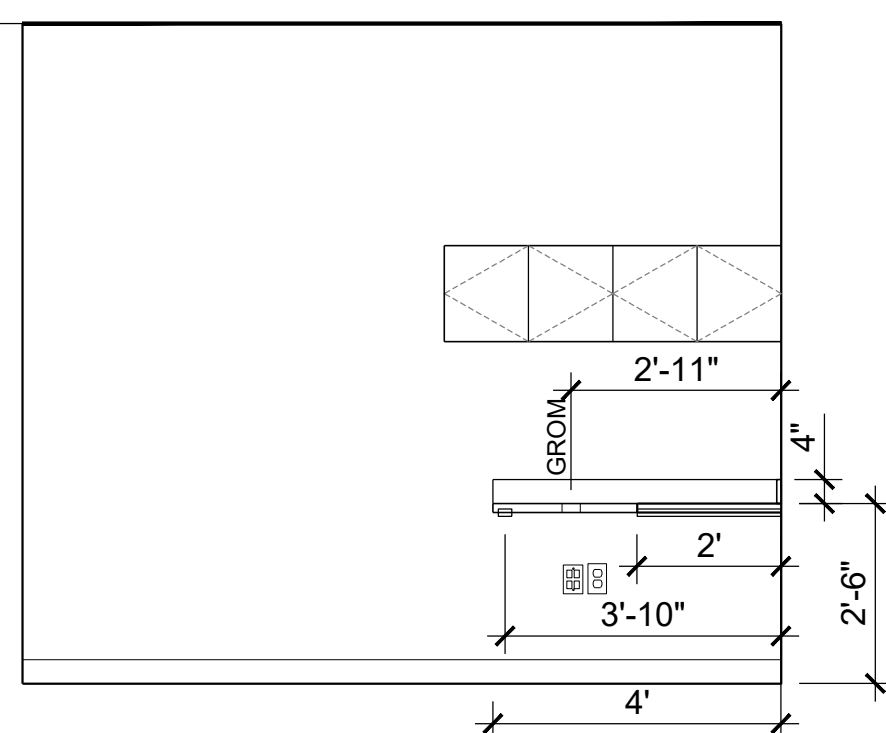
DOORS, BASE & SIDES:  
PL2: FORMICA -949C-AN COLOR:WHITE

HARDWARE: MOCKETT- DP128 SERIES 6-11/16" ROUND TOP DRAWER PULL, COLOR: STAINLESS STEEL

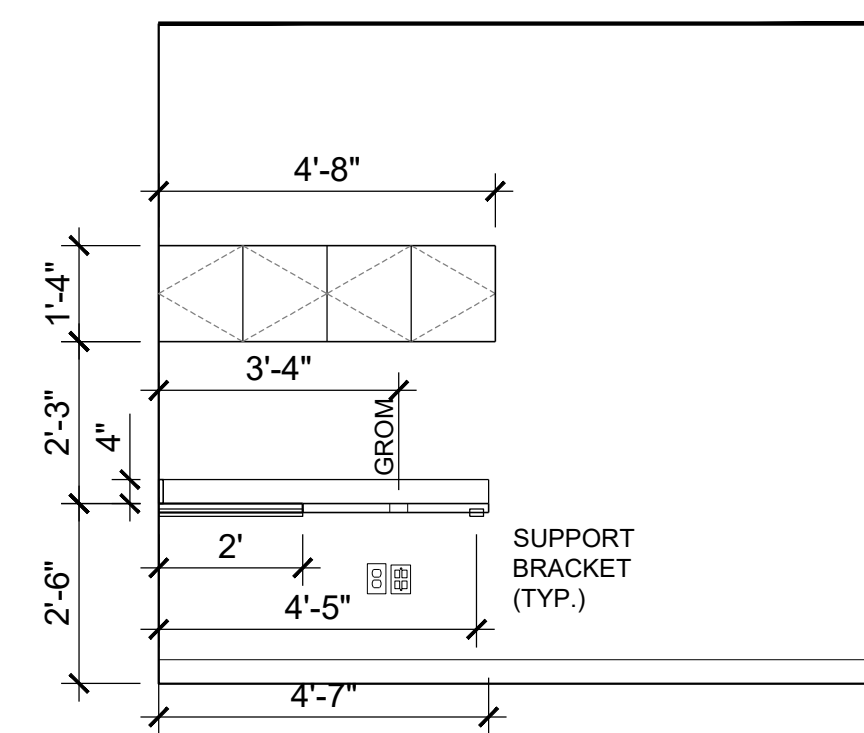
FAUCET: DELTA-TRINSIC COLLECTION,MODEL DSP-K-9159-DST

SINK: HIGOLD- STAINLESS STEEL TOPMOUNT SINK MODEL SUS304

LAY-IN CLG.  
EL: 9'-2"

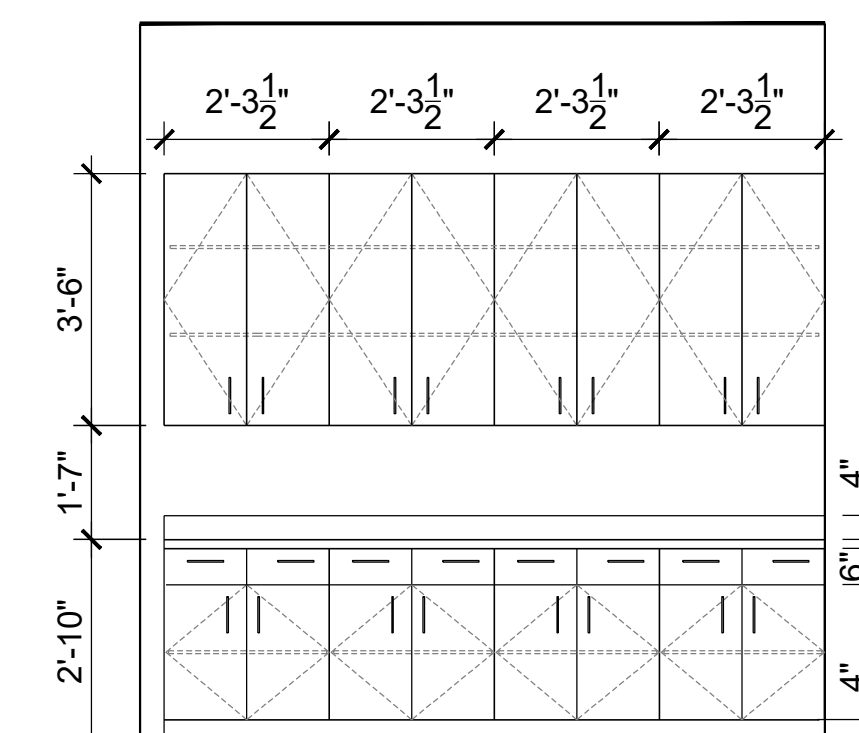


**10 ELEVATION**  
SCALE: 3/8" = 1'-0" CONSULT

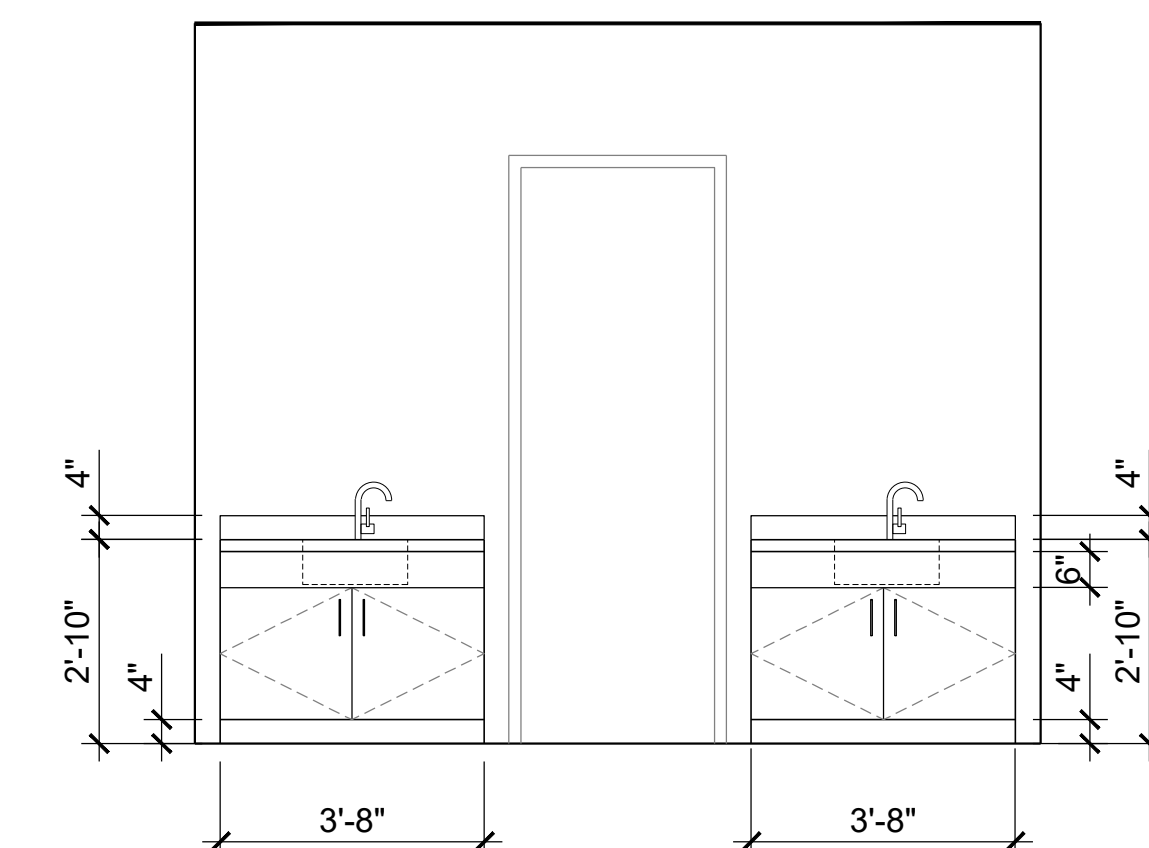


**7 ELEVATION**  
SCALE: 3/8" = 1'-0" CONSULT

LAY-IN CLG.  
EL: 10'-0"



**4 ELEVATION**  
SCALE: 3/8" = 1'-0" PROCEDURE



**1 ELEVATION**  
SCALE: 3/8" = 1'-0" PROCEDURE



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**A2.0**  
ELEVATIONS





1.0 SCOPE:

- A. The work included under this contract consists of the furnishing of all labor, materials, tools, transportation, services, etc., necessary to complete the installation of the electrical systems and other items herein listed, all as directed by the Architect or Engineer, which work is comprised of, but not limited to the following principal items:
  - 1. Electrical system for light and power:
    - a. Systems of conduit, conductors, and boxes.
    - b. Receptacles and wiring devices.
    - c. Lighting fixtures and lamps.
    - d. Power service to the various motors.
    - e. Complete lighting and power systems.
    - f. All systems, wiring and conduit as required.
  - 2. Control wiring and electrical installation and connections for items in other contracts as may be listed in the drawings.
  - 3. Empty conduit and boxes for future installation of telephone wiring and miscellaneous systems.
  - 4. Rough-in and final connection to equipment furnished by others.
  - 5. All cable ties for low voltage cable systems located in plenums utilized for air movement that are not installed in conduit shall be 25/50 flame and smoke rated, Hellermann Tyton T50R2C2UL or equivalent.
- B. Raceway wiring systems shall be concealed in all finished parts of the building, where possible. Where the raceways are exposed, they shall be run parallel with the building walls in a neat and workmanlike manner. Should it appear necessary to expose any conduit or wiring in finished spaces, it shall be brought to the Architect's attention immediately and this Contractor shall rearrange associated work as directed to facilitate an approved installation. Contractor to coordinate with mechanical trades to avoid ductwork and piping.

2.0 RACEWAYS:

- A. All electrical conductors are to be installed in metal raceways, unless specifically specified or noted otherwise. Galvanized steel or intermediate steel conduit as permitted by code. No conduit smaller than 3/4" to be used. Use compression type fittings. Provide flexible conduit connection for final connection to each motor not to exceed 3' in length and recessed lighting fixtures not to exceed 6' in length. Provide pull wires in all empty conduit systems. Identify terminus of each pull wire. All exposed raceways shall be installed with runs parallel and/or perpendicular with building walls. Fasten all rigid/non-flexible conduit every 8' and 2' from each box. Conduit shall be EMT where not subject to mechanical damage as permitted by National Electric Code (N.E.C.). EMT connectors and couplings 4" and smaller shall be compression type. Type IMC Cable with ground wire is allowed in concealed spaces only, behind walls and above ceiling.
- B. Conduit bushings shall be provided and installed inside all disconnects, pull boxes, panelboards, switchboard or similar type equipment and where permitted by National Electric Code (N.E.C.).

3.0 WIRES AND CABLES:

- A. Electrical conductors, soft annealed copper with conductivity 98% of that of pure, stranded copper, 90 degree 600V insulation and equal to General Cable Company. Wire and cable for all feeders, subfeeders, motor circuits and high ambient location type shall be THHN. All other branch circuit wiring shall be type XHHN or THHN. Minimum wire size shall be #12 gauge AWG. Control wiring may be #14 gauge.
- B. For conductors #4 or small use the following color-code:
  - 208Y/120V, 3-phase: black, red, blue, white.
  - 480Y/277V, 3-phase: brown, orange, yellow, gray.
  - Green shall be used for ground wire conductor.
- C. Contractor shall use the following color designations and be consistent throughout the project. Color designation for switch legs and or travelers: Violet, Pink or Purple may be used.
- C. Conductor Material Applications:
  - a. Branch Circuits: Copper, Solid for No. 10 AWG and smaller; stranded for No. 10 AWG and larger.
- D. Conductor insulation and multi-conductor cable application and wiring methods:
  - a. Exposed Branch Circuits, Including in Crawlspace: Type THHN, single conductors in raceway.
  - b. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Metal-clad cable, Type IMC.

4.0 GROUNDING:

- A. Ground all electrical apparatus in accordance with N.E.C. and as specified herein. Provide a separate grounding conductor for all lighting, receptacle and equipment circuits. All cabinets, switchboards, equipment cases, motor frames, interior metal cold water piping systems, and system neutral conductors shall be effectively grounded. Use solderless pressure type connectors, no perforated strap connectors will be allowed. Ensure continuous bond where flexible conduit is used. Provide bonding jumper inside all flexible conduit. Grounding per N.E.C. 250, and any local requirements.
- B. All patient care areas shall meet grounding requirements of NEC Article 517.13. Where type MC cable is used, the metal sheathing shall be listed as an acceptable grounding path.

5.0 SPLICE AND TAPS:

- A. Make splices at junction boxes, pull boxes, or outlet boxes only.

6.0 CABINETS, JUNCTION AND PULL BOXES:

- A. Flush or surface mounted as indicated on drawings. Provide where shown on drawings and where required by code. Construct of cold gauge steel for flush surface mounting.

7.0 OUTLET BOXES:

- A. General Electric, Appleton, Steel City or Raco hot dipped galvanized steel boxes, or equal. Install at terminal of each conduit run, each outlet, or device. Provide size, type and design to suit structural conditions. Adequate to accommodate size and number of raceways, conductors, device or fixture served. Provide plaster rings or covers on boxes where required on exposed work, use approved cast ferrous alloy outlet, junction boxes and fittings. Fixture or device cover shall completely conceal the size outlet box used. Install 3/8" fixture stud for lighting fixtures where required. Locate ceiling outlets to work with architectural features as directed. Switches installed 48" above floor on strike side of door as finally hung. Receptacles and telephone outlets, 18" above finished floor unless otherwise noted. Verify all outlet locations on job with Architect.

8.0 DISCONNECT SWITCHES:

- A. Heavy duty NEMA type 'HD' - same manufacturer as panelboards. Plastic nameplate properly engraved with name of equipment served, secured to switch cover. Fuses shall be Busmann of sizes and types scheduled.

9.0 MOTOR AND CONTROL WIRING AND CONNECTIONS:

- A. This Contractor to provide all necessary conduit, boxes and supports to equipment furnished by Owner and as indicated on drawings. Provide a disconnect switch and starter if required.

10.0 LABELING:

- A. Contractor shall label each and every j-box above ceiling with a permanent marker with panel and circuit number.
- B. Outlets, adhesive film label, machine printed clear background with black letters, by thermal transfer or equivalent process. Minimum letter height shall be 1/4 inch. Face plate shall be labeled with panel and circuit number.
- C. Interior equipment self-adhesive, engraved, laminated acrylic or melamine label: adhesive backed, with white letters on a dark-gray background. Minimum letter height shall be 3/8 inch (10 mm).

11.0 WIRING DEVICES:

- A. Duplex receptacles shall be Hubbell #5352-X grounding type, 20A, 125V; G.F.C.I. shall be Hubbell GF-5352-X, 20A, 125V; duplex, G.F.C.I. TYPE. Wall toggle switches shall be Hubbell Number 1221-X and Number 1223-X for single pole and three way types respectively. Other switch, receptacle, and outlet device variations shall be by Hubbell of "Spec. Grade" quality. Equivalent devices of P & S or Leviton will be acceptable in lieu of the above listed devices. Contractor to verify color and finish of cover plates and devices with Architect before purchase.

12.0 LIGHTING FIXTURES:

- A. This Contractor shall furnish and install complete, unless otherwise specified, a lighting fixture on each and every lighting outlet shown on the drawings of each type scheduled by letter and description. All fixtures shall be equipped with lamps as scheduled or specified herein. All fixtures installed in suspended ceilings must be securely fastened to framing members per NEC 410-36b and local seismic code requirements.

END OF SECTION



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A TENANT FINISH FOR:  
**LAKWOOD ORTHODONTICS**  
1399 NE DOUGLAS ST  
LEE'S SUMMIT, MO 64086



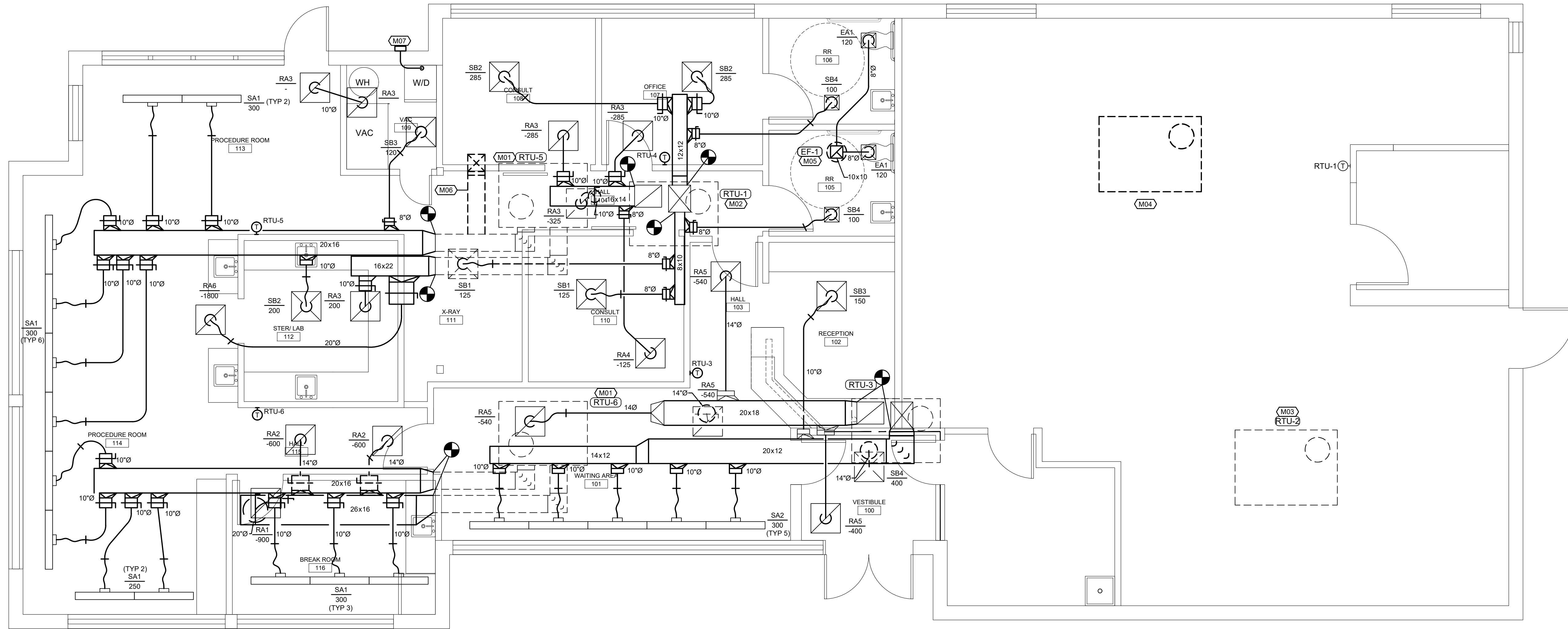
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SHEET NUMBER  
**MEP1.2**  
SPECIFICATIONS



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**FLOOR PLAN-MECHANICAL**   
SCALE: 1/4"=1'-0"

**(M##) FLOOR PLAN NOTES**

1. EXISTING ROOFTOP UNIT TO REMAIN. REMOVE ALL ASSOCIATED DUCTWORK, DIFFUSERS AND THERMOSTAT. FIELD VERIFY EXACT LOCATION OF UNIT AND PROVIDE NEW DUCTWORK AS SHOWN. CLEAN UNIT, GREASE ALL BEARINGS, LEAK-CHECK AND CHARGE REFRIGERANT SYSTEM, REPLACE FILTERS, AND CLEAN OUTDOOR AND INDOOR COILS. PROVIDE FLEXIBLE CONNECTORS ON THE SUPPLY AND RETURN AIR DUCT CONNECTIONS. TRANSITION TO DUCT SIZES SHOWN.
2. REMOVE EXISTING 5-TON ROOFTOP UNIT AND ALL ASSOCIATED DUCTWORK, DIFFUSERS AND THERMOSTAT. PROVIDE NEW 3-TON ROOFTOP UNIT IN SAME LOCATION PROVIDING CURB ADAPTER AS REQUIRED. PROVIDE CURB ADAPTER, SHIM UNIT AND CURB LEVEL FOR PROPER CONDENSATE DRAINAGE. PROVIDE FLEXIBLE CONNECTORS ON SUPPLY AND RETURN AIR DUCT CONNECTIONS. TRANSITION TO DUCT SIZES SHOWN.
3. EXISTING ROOFTOP UNIT TO REMAIN. REMOVE ALL ASSOCIATED DUCTWORK, DIFFUSERS AND THERMOSTAT. CLEAN UNIT, GREASE ALL BEARINGS, LEAK-CHECK AND CHARGE REFRIGERANT SYSTEM, REPLACE FILTERS, AND CLEAN OUTDOOR AND INDOOR COILS. PROVIDE FLEXIBLE CONNECTORS ON THE SUPPLY AND RETURN AIR DUCT CONNECTIONS. INSTALL NEW THERMOSTAT IN LOCATION SHOWN PROVIDING AN ADDITIONAL 20FT. OF WIRING FOR FUTURE RELOCATION.
4. REMOVE EXISTING PACKAGED ROOFTOP UNIT, ROOF CURB, ALL ASSOCIATED DUCTWORK, DIFFUSERS AND THERMOSTAT.
5. PROVIDE ROOF MOUNTED EXHAUST FAN AND CURB. FAN SHALL BE INTERLOCKED WITH LIGHTS. COORDINATE WITH ELECTRICIAN.
6. REMOVE DUCTWORK AS SHOWN. CAP AND SEAL MAIN DUCT OPENING AIR AND WATER TIGHT.
7. PROVIDE 4" DRYER VENT EXHAUST DUCT EXTENDED TO THE EXTERIOR WALL. PROVIDE DRYER VENT CAP WITH FLASHED AND SEALED WITH EXTERIOR WALL.



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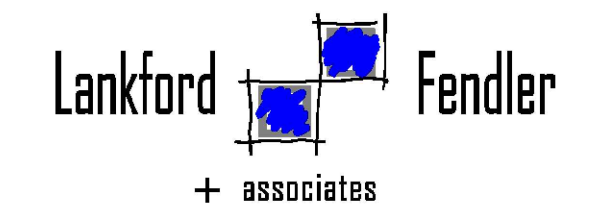


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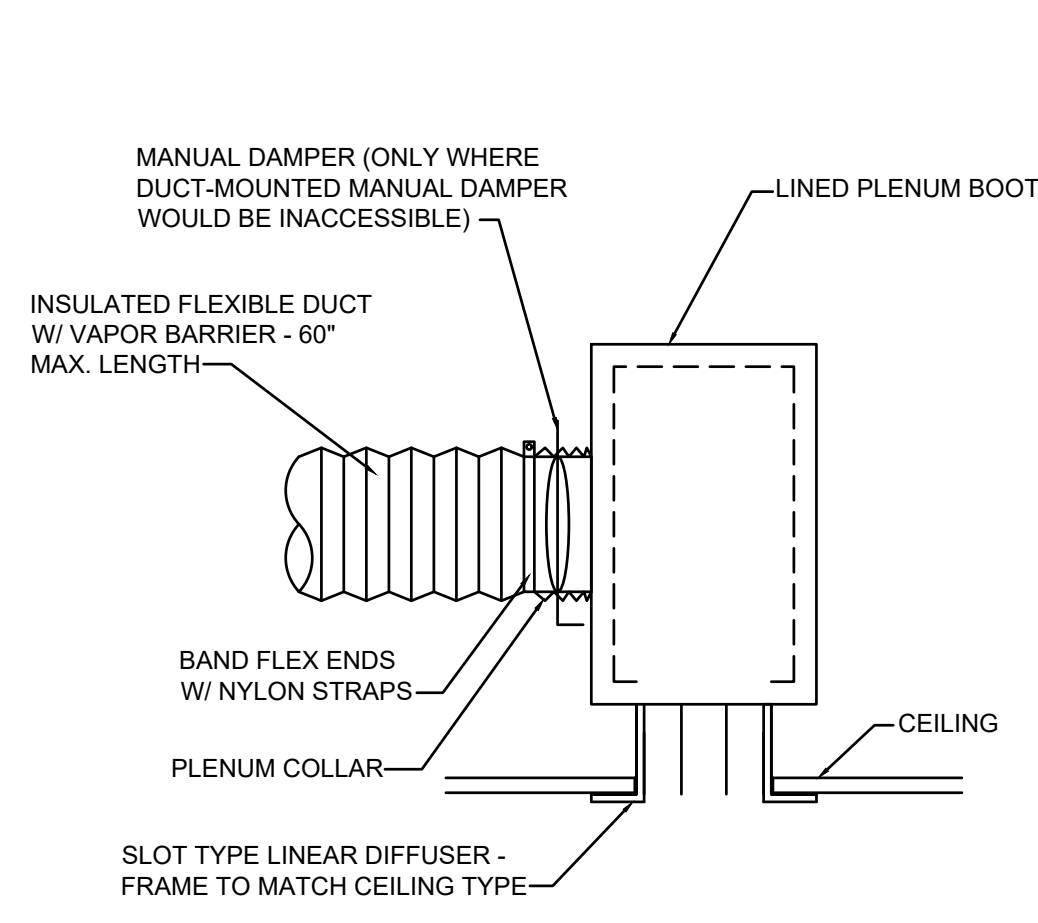


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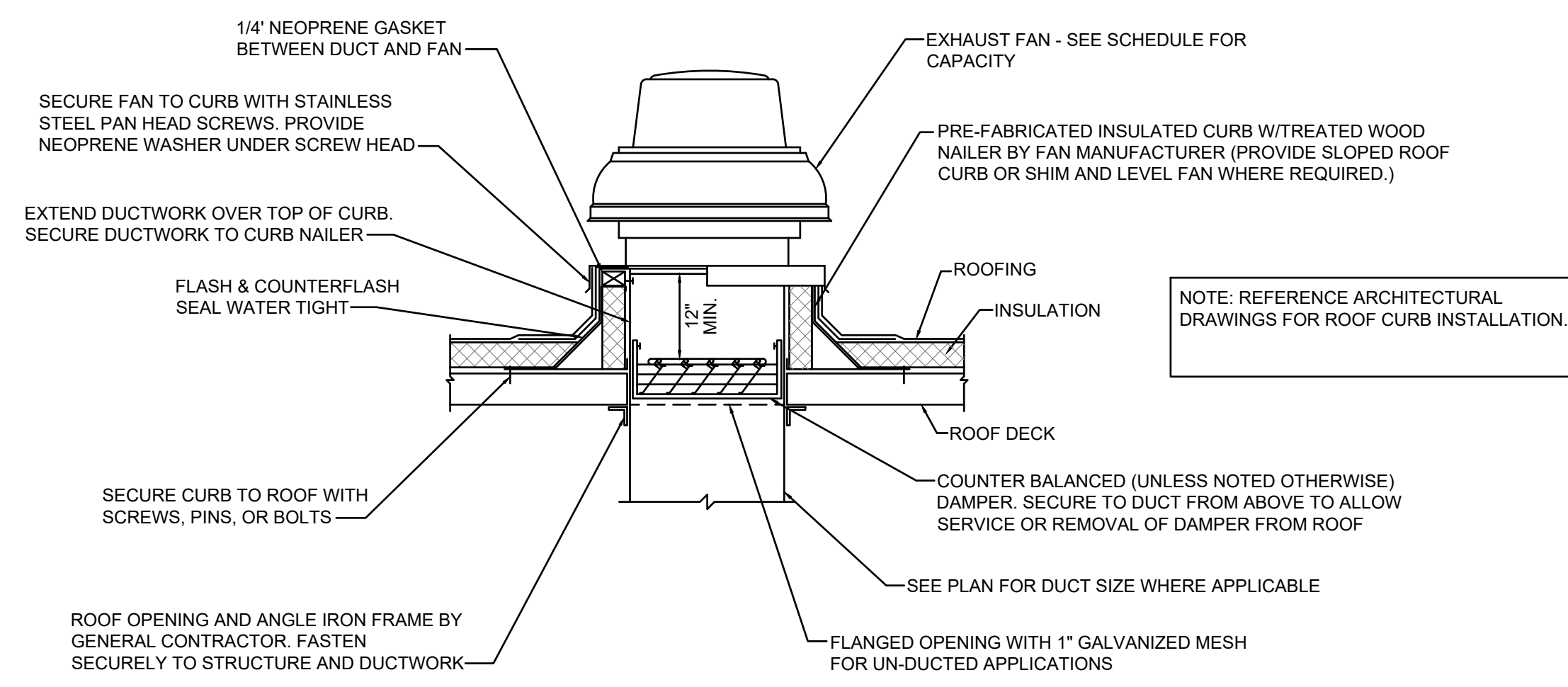


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SHEET NUMBER  
**M1.0**  
FLOOR PLAN-  
MECHANICAL



**LINEAR DIFFUSER DETAIL**  
NO SCALE



**ROOF MOUNTED EXHAUST FAN DETAIL**  
NO SCALE

ROOFTOP UNIT SCHEDULE (GAS-FIRED)																							
MARK NO.	MANUFACTURER	NEW/ EXISTING	MODEL	AIRFLOW CFM	MIN O.A. CFM	EXT. S.P. (IN W.G.)	COOLING						HEATING-GAS				ELECTRICAL			HP	NOTES		
							A.M.B. (°F)	E.D.B. (°F)	E.W.B. (°F)	L.D.B. (°F)	L.W.B. (°F)	TOTAL MBH	SENS. MBH	STAGES	EER	INPUT MBH	OUTPUT MBH	STAGES	VOLT			ø	HZ
RTU-1	LENNOX	NEW	KGA036	1020	155	0.5	105	78	66.2	57	56.5	35	28	1	10.7	65	52	1	208	3	60	1	1.4
RTU-2	LENNOX	EXISTING	KGA092	3000	450	-	105	78	66.2	57	56.5	90	72	-	-	180	144	2	208	3	60	-	4.5
RTU-3	LENNOX	EXISTING	KGA060	2000	300	-	105	78	66.2	57	56.5	58	46.4	-	-	150	120	2	208	3	60	-	4.5
RTU-5	LENNOX	EXISTING	GCS18-060	2125	320	-	105	78	66.2	57	56.5	58	46.4	-	-	120	96	1	208	3	60	-	4.5
RTU-6	LENNOX	EXISTING	GCS18-060	2000	300	-	105	78	66.2	57	56.5	58	46.4	-	-	120	96	1	208	3	60	-	4.5

NOTES:  
 1. PROVIDE WITH WALL MOUNTED 24/7 PROGRAMMABLE THERMOSTAT, DISCONNECT SWITCH, AND CONDENSATE DRAIN TRAP.  
 2. PROVIDE WITH 2" MERV 8 FILTERS.  
 3. PROVIDE WITH DRY BULB ECONOMIZER. INCLUDE WITH BAROMETRIC RELIEF DAMPER.  
 4. PROVIDE WITH CURB ADAPTER. FIELD VERIFY DIMENSIONS OR EXISTING CURB.  
 5. PROVIDE NEW WALL MOUNTED 24/7 PROGRAMMABLE THERMOSTAT.

FAN SCHEDULE														
MARK NO.	MANUFACTURER	MODEL	TYPE	AIRFLOW (CFM)	S.P. (IN W.G.)	FAN TYPE	RPM	DRIVE	ELECTRICAL				HP/ WATTS	NOTES
									VOLT	ø	HZ	WATTS		
EF-1	GREENHECK	CUE-070D	DOWNBLAST	240	0.3	CENT	1550	DIRECT	120	1	60	1/30	1	

NOTES:  
 1. PROVIDE WITH ROOF CURB AND DISCONNECT SWITCH.

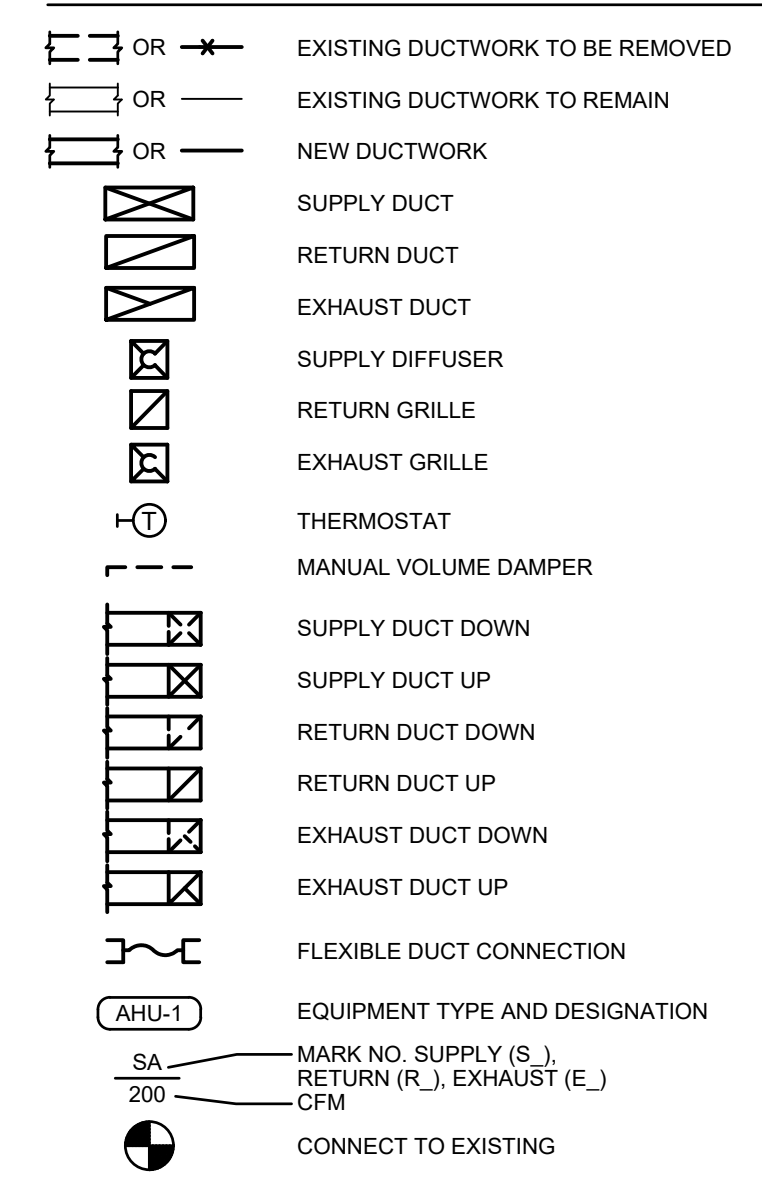
DIFFUSER SCHEDULE									
MARK	MANUFACTURER	MODEL	FACE SIZE (IN.)	NECK SIZE (IN.)	NO. OF SLOTS	FRAME TYPE	FINISH	NOTES	
SA1	PRICE	SDS100	6X48	10"	3 (1")	LAY-IN	WHITE	1	
SA2	PRICE	SDS100	6X48	10"	3 (1")	LAY-IN	WHITE	1.3	
SB1	PRICE	SPD	24X24	8"	NA	LAY-IN	WHITE		
SB2	PRICE	SPD	24X24	10"	NA	LAY-IN	WHITE		
SB3	PRICE	SPD	24X24	10"	NA	SURFACE	WHITE	2.4	
SB4	PRICE	SPD	12X12	8"	NA	SURFACE	WHITE	2.4	
RA1	PRICE	PDOR	24X24	16"	NA	LAY-IN	WHITE		
RA2	PRICE	PDOR	24X24	14"	NA	LAY-IN	WHITE		
RA3	PRICE	PDOR	24X24	10"	NA	LAY-IN	WHITE		
RA4	PRICE	PDOR	24X24	8"	NA	LAY-IN	WHITE		
RA5	PRICE	PDOR	24X24	14"	NA	LAY-IN	WHITE	2	
RA6	PRICE	PDOR	24X24	20"	NA	LAY-IN	WHITE		
EA1	PRICE	PDOR	12X12	8"	NA	LAY-IN	WHITE	2	

NOTES:  
 1. PROVIDE WITH INSULATED SUPPLY PLENUM.  
 2. PROVIDE WITH OPPOSED BLADE DAMPER AND PLASTER FRAME.  
 3. PROVIDE WITH OPPOSED BLADE DAMPER.  
 4. PROVIDE WITH PLASTER FRAME.  
 \*CONTRACTOR SHALL VERIFY CEILING TYPE PRIOR TO ORDERING DIFFUSERS.

**GENERAL NOTES (TYPICAL ALL SHEETS)**

- A. MECHANICAL CONTRACTOR IS RESPONSIBLE TO SEE THAT WORK MEETS AND IS IN ACCORDANCE WITH ALL REQUIREMENTS OF FEDERAL, STATE, AND LOCAL LAWS AND CODES AND/OR REQUIREMENTS, INCLUDING HEALTH CODES AND BUILDING OWNER.
- B. CUTTING AND PATCHING OF FLOORS, WALLS, CEILING, ETC., REQUIRED IN STRICT ACCORDANCE WITH THE RULES AND REGULATIONS OF THE ARCHITECT'S AND/OR BUILDING OWNER REQUIREMENTS.
- C. COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION TO AVOID ROUTING CONFLICTS.
- D. ANY MATERIAL REMOVED THAT OWNER DOES NOT WISH TO RETAIN SHALL BE REMOVED FROM PROJECT SITE AND DISPOSED OF BY CONTRACTOR.
- E. MECHANICAL CONTRACTOR SHALL AIR BALANCE ALL GRILLES TO CFMS SHOWN ON PLANS.
- F. MECHANICAL CONTRACTOR SHALL PROVIDE NEW 1" FARR TYPE PLEATED FILTERS ON ALL ROOFTOP UNITS WHICH ARE IN PROJECT SCOPE OF WORK PRIOR TO BALANCING. PROVIDE TEMPORARY FILTERS ON RETURN AIR OPENINGS DURING CONSTRUCTION.
- G. UPON REQUEST FOR ELECTRONIC FILES, CONTRACTOR SHALL FILL OUT, SIGN AND RETURN ELECTRONIC MEDIA RELEASE FORM FROM ENGINEER AND PROVIDE PAYMENT FOR FEES STIPULATED ON ELECTRONIC MEDIA RELEASE FORM. UPON RECEIPT OF COMPLETED RELEASE FORM AND PAYMENT, ELECTRONIC FILES WILL BE RELEASED.
- H. REPLACE EXISTING THERMOSTATS/SENSORS WITH NEW. THERMOSTAT COVERS SHALL BE WHITE IN COLOR UNLESS OTHERWISE NOTED. THERMOSTATS/SENSORS SHALL BE INSTALLED AND CALIBRATED PRIOR TO TEST AND BALANCE. INTEGRATE NEW DIGITAL THERMOSTATS/SENSORS INTO THE EXISTING BUILDING ENERGY MANAGEMENT SYSTEM AS REQUIRED.

**MECHANICAL SYMBOLS**



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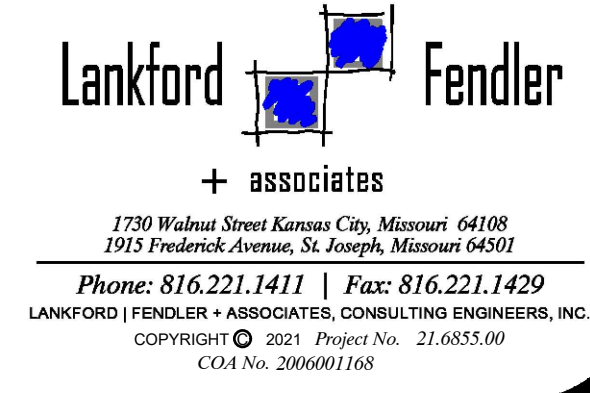
LAKWOOD ORTHODONTICS

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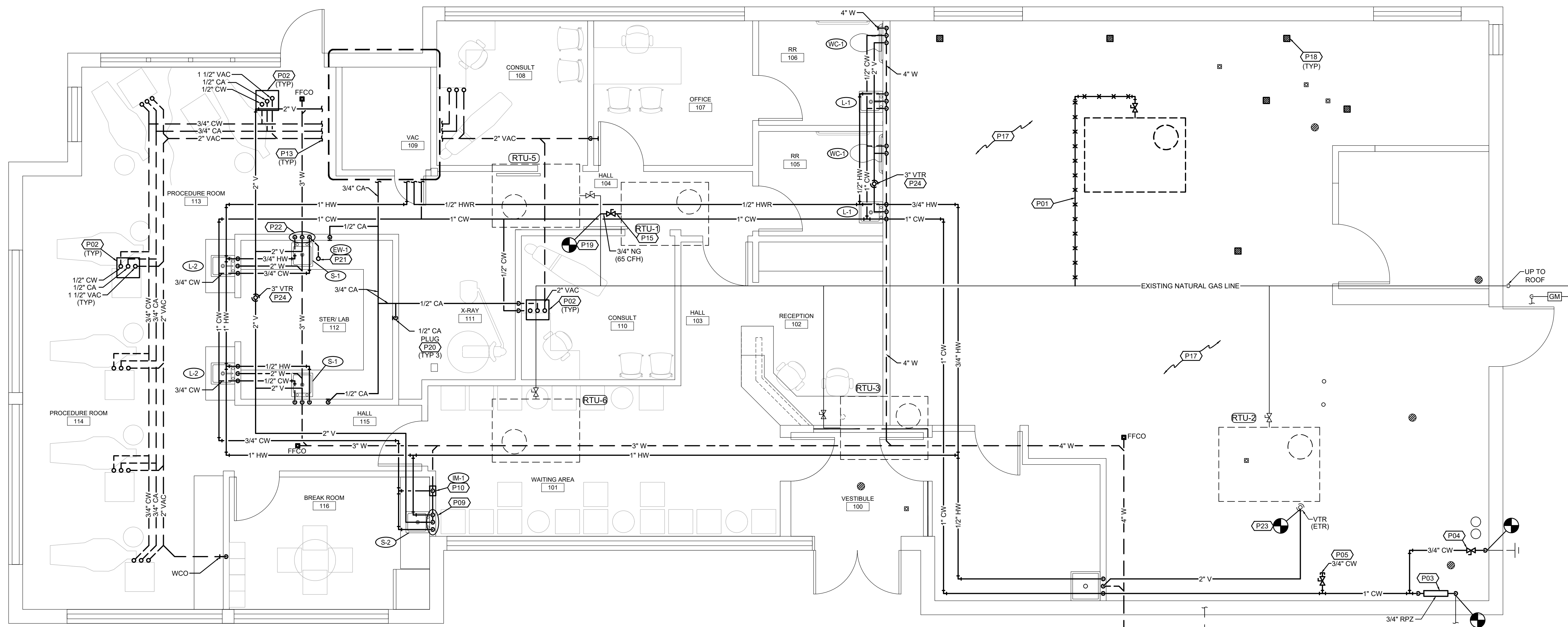
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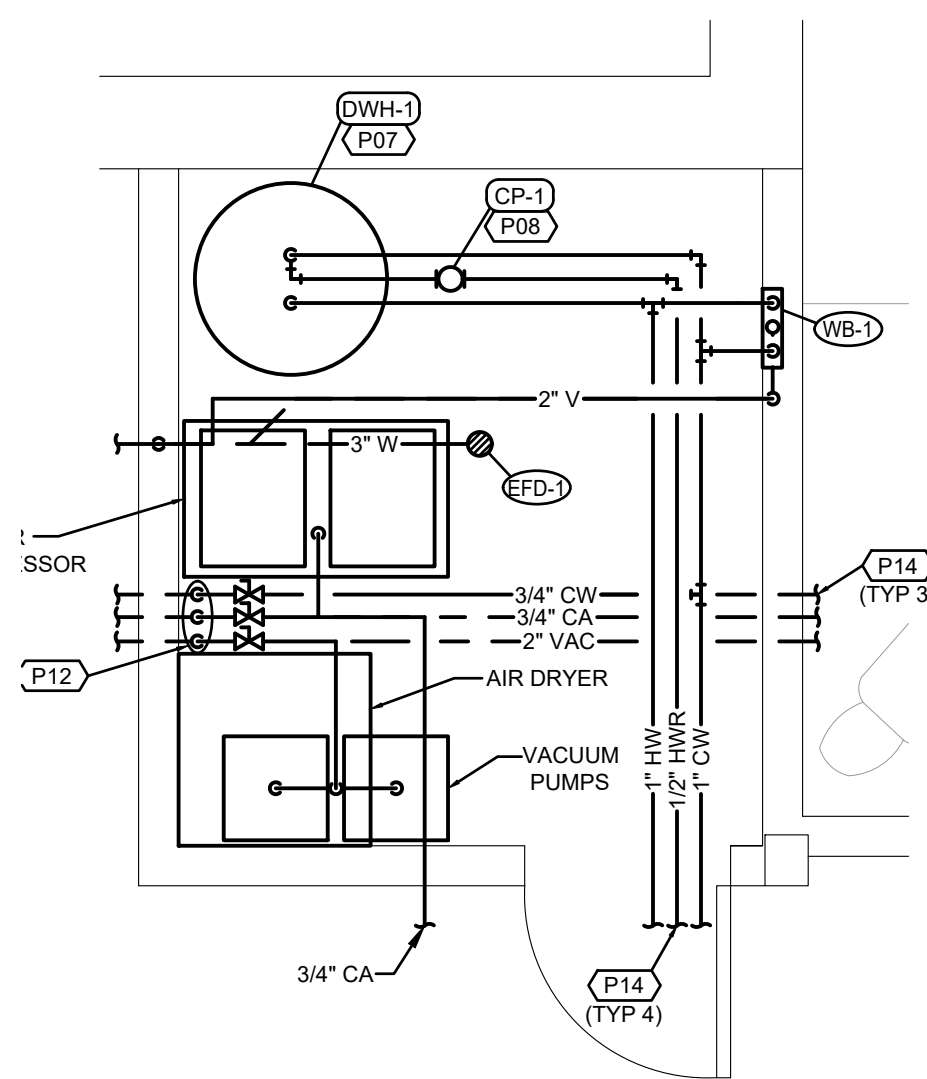
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**FLOOR PLAN-PLUMBING**  
SCALE: 1/4"=1'-0"

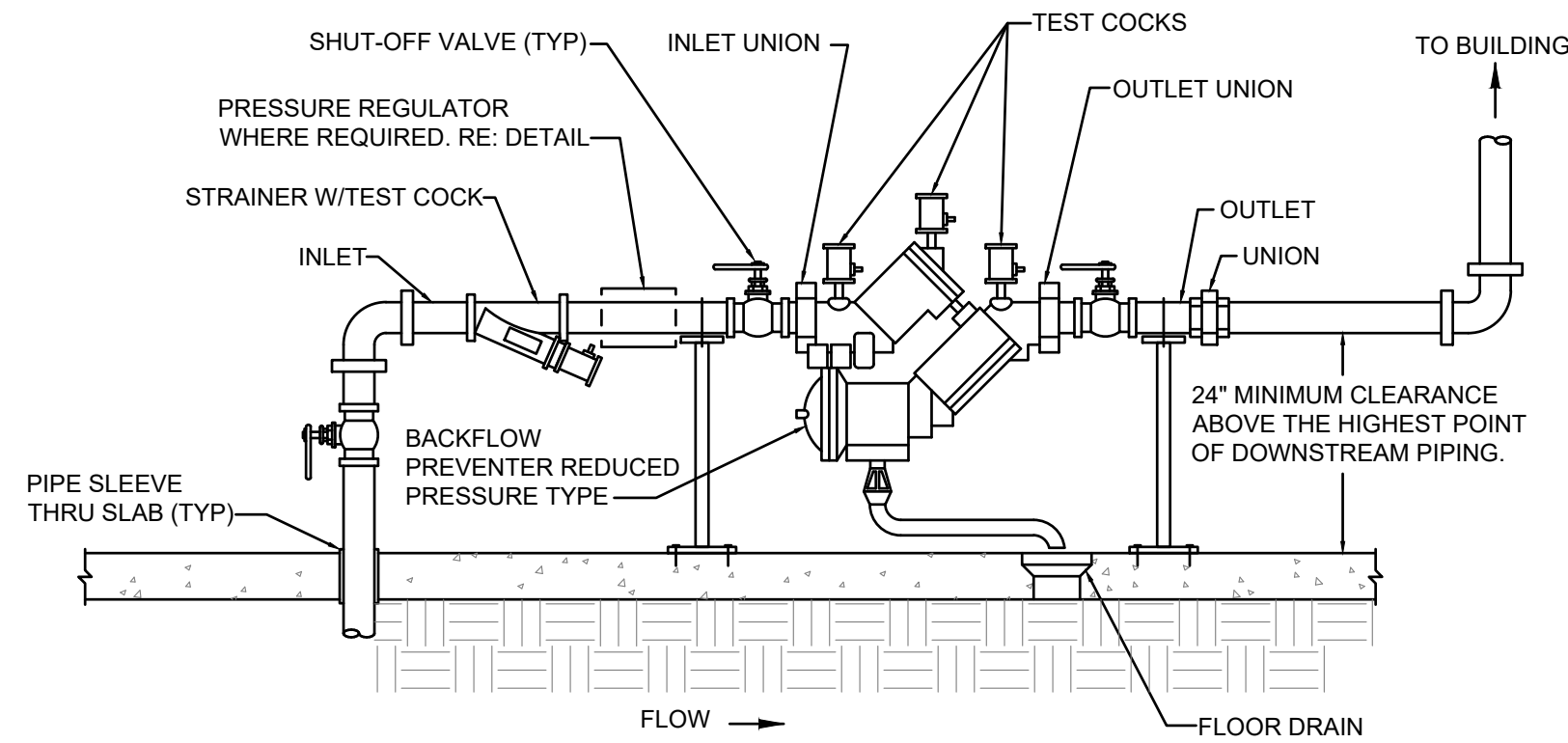
**FLOOR PLAN NOTES**

- EXISTING INACTIVE NG PIPING TO BE REMOVED AND CAPPED BACK TO MAIN.
- TERMINAL BOX BY OTHERS, PROVIDE ACCESSORIES AND SHUT-OFF VALVES FOR CHAIR CONNECTIONS. MAKE FINAL CONNECTIONS TO EQUIPMENT.
- PROVIDE NEW 1" RPZ BACKFLOW PREVENTER, WATTS 009 OR EQUIVALENT. INSTALL PER MANUFACTURER'S REQUIREMENTS. PROVIDE DRAIN LINE FROM BACKFLOW PREVENTER TO NEAREST FLOOR DRAIN. RE: DETAIL.
- CONNECT TO EXISTING WALL HYDRANT. PROVIDE ACCESSIBLE SHUT-OFF VALVE.
- PROVIDE 3/4" CW STUB-OUT FOR FUTURE TENANT.
- CONNECT TO NEAREST EXISTING WASTE PIPING OF EQUAL OR GREATER SIZE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION OF EXISTING PIPING PRIOR TO CONSTRUCTION.
- PROVIDE NEW ELECTRIC WATER HEATER MOUNTED FROM ABOVE CEILING. INSTALL PER MANUFACTURER'S REQUIREMENTS. PROVIDE FULL SIZED DRAIN LINES FROM DRAIN PAN AND T&P RELIEF VALVE TO NEAREST FLOOR DRAIN AND INDIRECT WASTE. RE: DETAIL.
- PROVIDE HOT WATER RECIRCULATING PUMP SUSPENDED FROM STRUCTURE UTILIZING ALL THREAD RODS. INSTALL PER MANUFACTURER'S REQUIREMENTS.
- 1/2" CW AND HW DOWN IN WALL TO SINK FAUCET. 2" W DOWN, 1 1/2" V UP. ROUTE PIPING UNDER CABINET TO FIXTURE.
- 1/2" CW DOWN IN WALL TO ICE-MAKER BOX.
- PROVIDE ACCESSIBLE SHUT-OFF VALVES FOR CW, CA AND VAC.
- 3/4" CW, 3/4" CA AND 2" VAC DOWN. ROUTE CW, CA AND VAC PIPING UNDERGROUND AS SHOWN ON FLOOR PLAN.
- REFER TO ENLARGEMENT FOR CONTINUATION.
- REFER TO OVERALL PLAN FOR CONTINUATION.
- CONNECT 3/4" NG TO ROOF TOP UNIT WITH GAS COCK, DIRT LEG AND UNION.
- EXISTING FLOOR DRAINS/SINKS TO BE PLUGGED.
- EXISTING INACTIVE NG PIPING FROM KITCHEN EQUIPMENT TO BE REMOVED AND CAPPED BACK TO MAIN SOURCE.
- EXISTING GREASE INTERCEPTOR AND ALL ASSOCIATED APPURTENANCES TO BE REMOVED. CAP ALL PIPING CONNECTIONS WATER TIGHT.
- CONNECT TO NEAREST EXISTING NATURAL GAS PIPING OF EQUAL OR GREATER SIZE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION OF EXISTING PIPING PRIOR TO CONSTRUCTION.
- COORDINATE FINAL LOCATION OF CA PLUG WITH OWNER PRIOR TO CONSTRUCTION.
- 1/2" CW TO EMERGENCY EYE WASH. ROUTE PIPING UNDER COUNTER. COORDINATE FINAL LOCATION OF EMERGENCY EYE WASH WITH OWNER PRIOR TO CONSTRUCTION.
- 3/4" CW AND 3/4" HW DOWN IN WALL. ROUTE 1/2" CW AND HW TO SINK FAUCET AND 1/2" CW AND HW TO EMERGENCY EYE WASH. 2" W DOWN, 1 1/2" V UP.
- CONNECT TO NEAREST EXISTING VENT THRU ROOF PIPING OF EQUAL OR GREATER SIZE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION OF PIPING.
- KEEP VENT THRU ROOF 10' MINIMUM FROM FRESH AIR INTAKES.

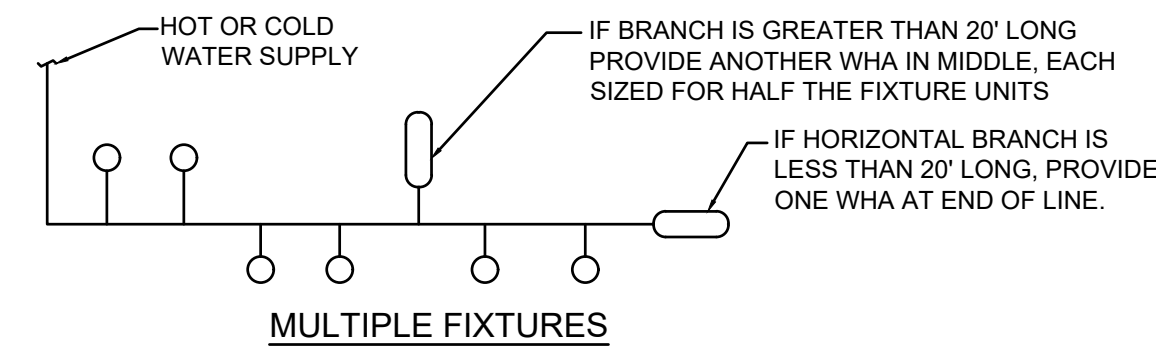
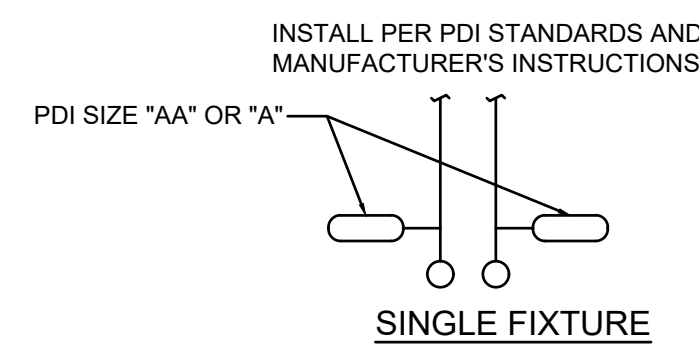


**VAC ROOM ENLARGEMENT**  
SCALE: 1/2"=1'-0"

- NOTES:**
1. PROVIDE PRESSURE REGULATOR, SET TO 75 PSI WHERE SOURCE PRESSURE EXCEEDS 80 PSI. INSTALL DOWNSTREAM OF BACKFLOW PREVENTER OUTLET. RE: DETAIL.
  2. ARRANGEMENT SHOWN IS SCHEMATIC. MODIFY TO SUIT CONDITIONS. INSTALL SO BFP CAN BE SERVICED AND TESTED IN ACCORDANCE W/ ALL RULES & REGULATIONS OF LOCAL AUTHORITIES.
  3. ROUTE DRAIN AS INDICATED ON PLANS.
  4. SUPPORT AS REQUIRED FROM SLAB.



**INTERIOR BACKFLOW PREVENTER DETAIL**  
NO SCALE (FOR PIPE SIZES 2" OR LESS)

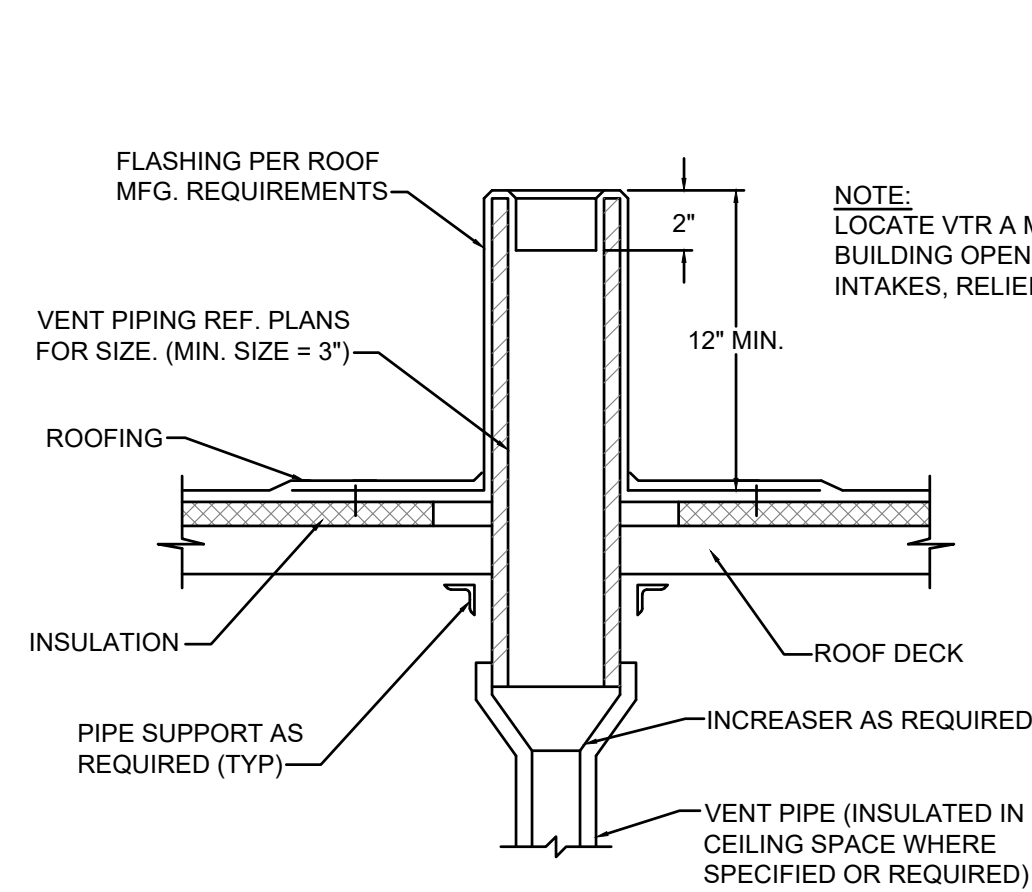


PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
AA	1/2"	1-3
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1 1/4"	61-113
E	1 1/2"	114-154
F	2"	155-330

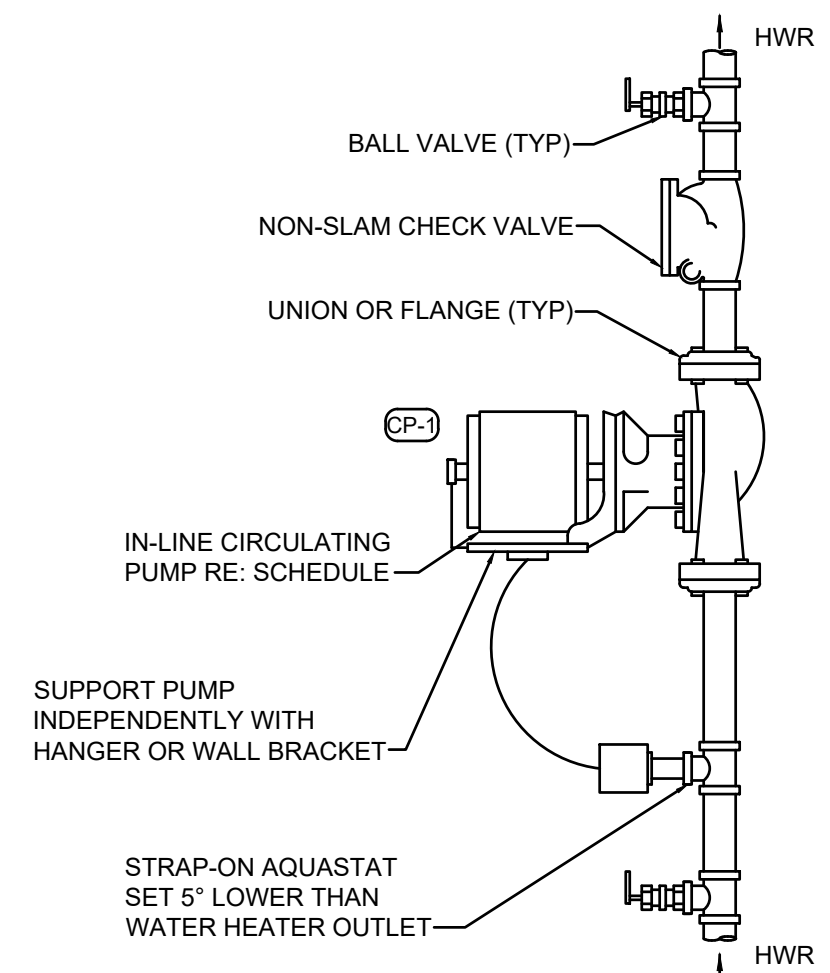
FIXTURE	TYPE OF SUPPLY CONTROL	WEIGHT IN FIXTURE - UNITS					
		TOTAL	C.W.	H.W.	TOTAL	C.W.	H.W.
WATER CLOSET 1.66 GPF	FLUSH TANK	5	5	-	2.5	2.5	-
LAVATORY	FAUCET	2	1.5	1.5	1	1	1
SINK	FAUCET	4	3	3	1.4	1	1
ICE MAKER	EQUIPMENT CONNECTION	1	1	-	1	1	-

DO NOT PROVIDE AIR CHAMBERS. PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE # 1010, AND ANSI # A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS PER THE TABLES SHOWN ABOVE, BUT NOT LESS THAN WATER CONNECTION SIZE.

**WATER HAMMER ARRESTER DETAIL**  
NO SCALE

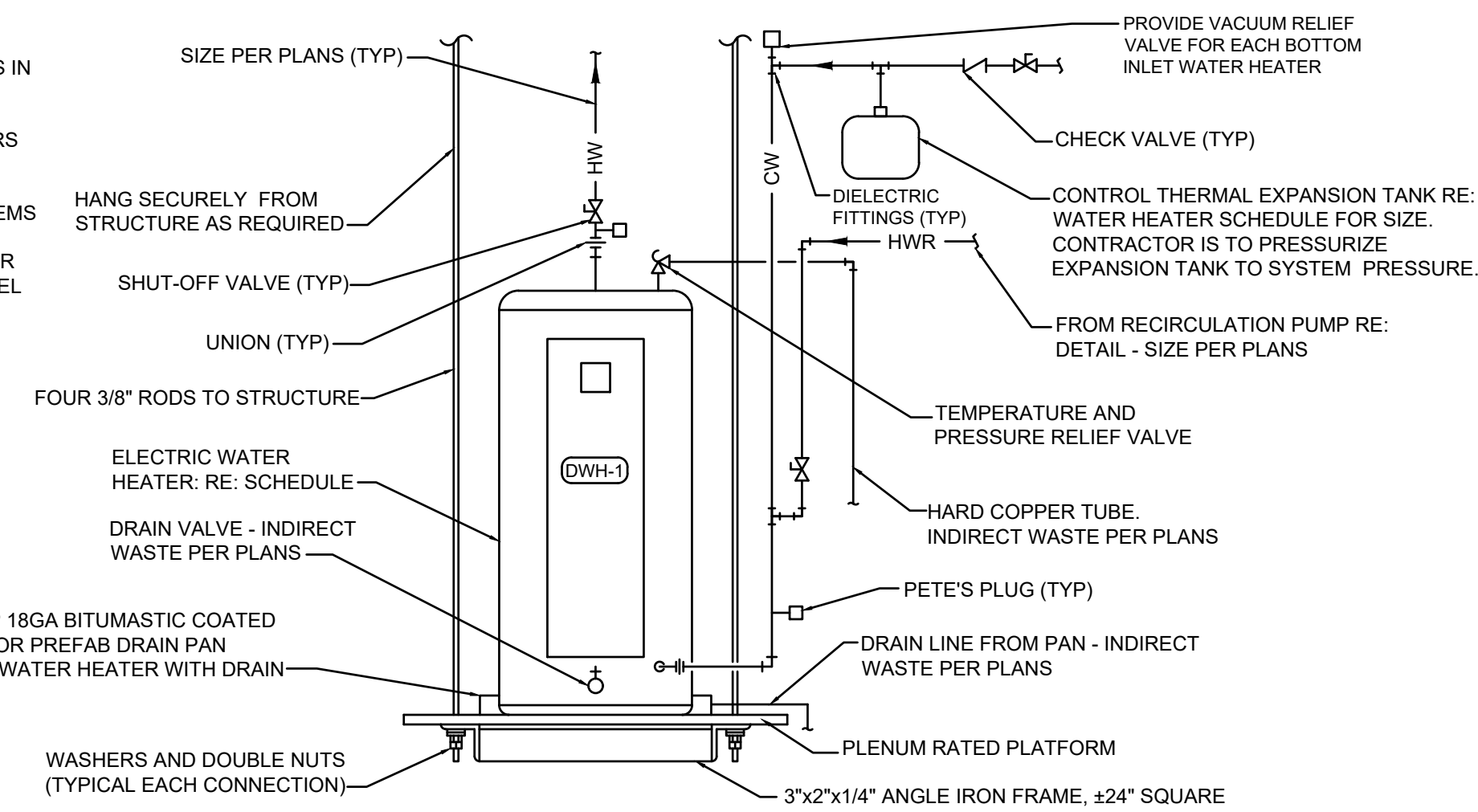


**VENT THRU ROOF DETAIL**  
NO SCALE

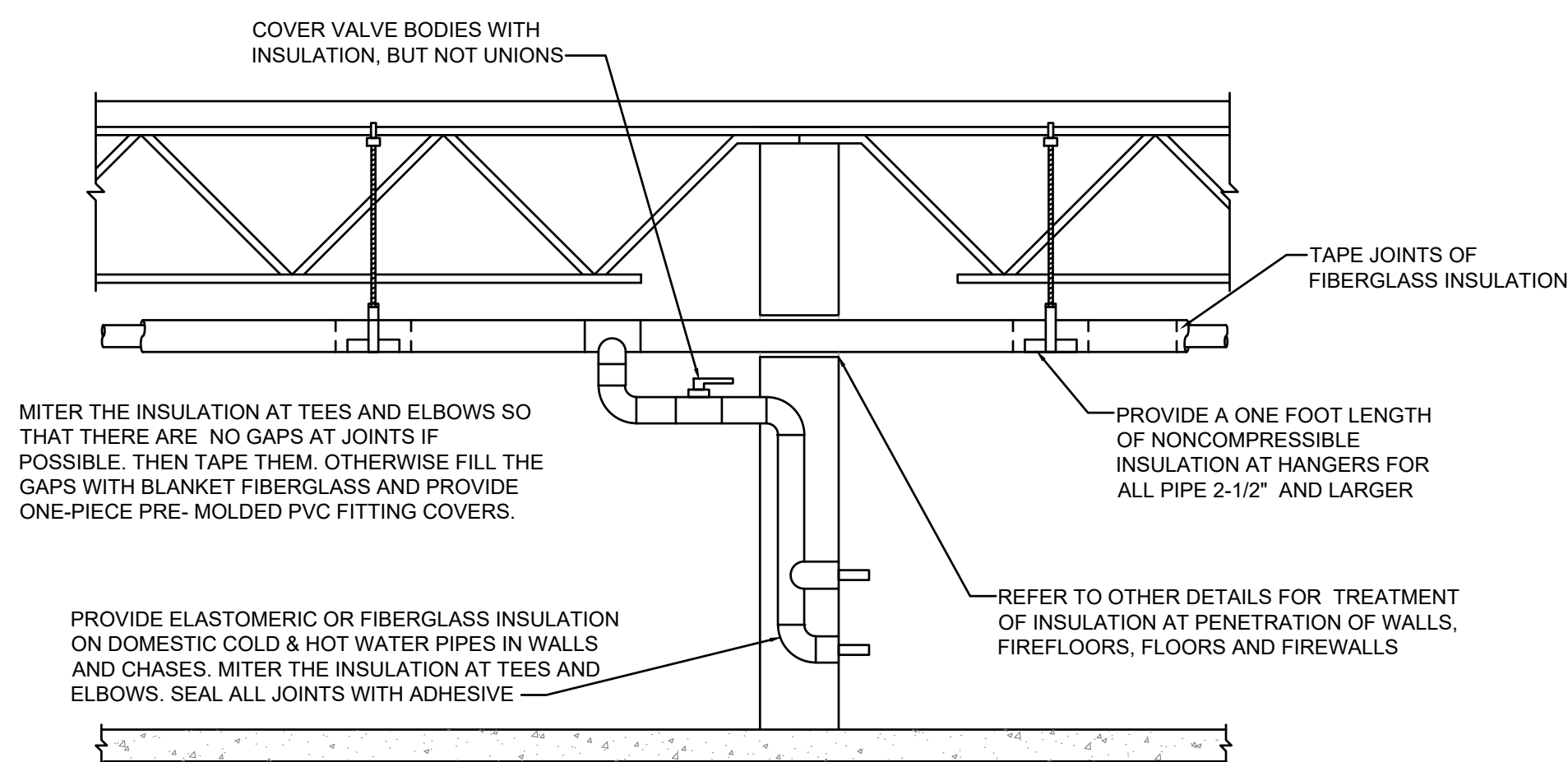


**CIRCULATING PUMP DETAIL**  
NO SCALE

- NOTES:**
1. CONTRACTOR TO INSTALL WHERE INDICATED ON PLANS IN ACCESSIBLE LOCATION.
  2. INSTALL PER MANUFACTURERS RECOMMENDATIONS.
  3. FOR DOMESTIC WATER SYSTEMS UTILIZING PVC, CPVC OR PEX, PROVIDE 18" MINIMUM COPPER OR BREADED STAINLESS STEEL HOSE CONNECTIONS.

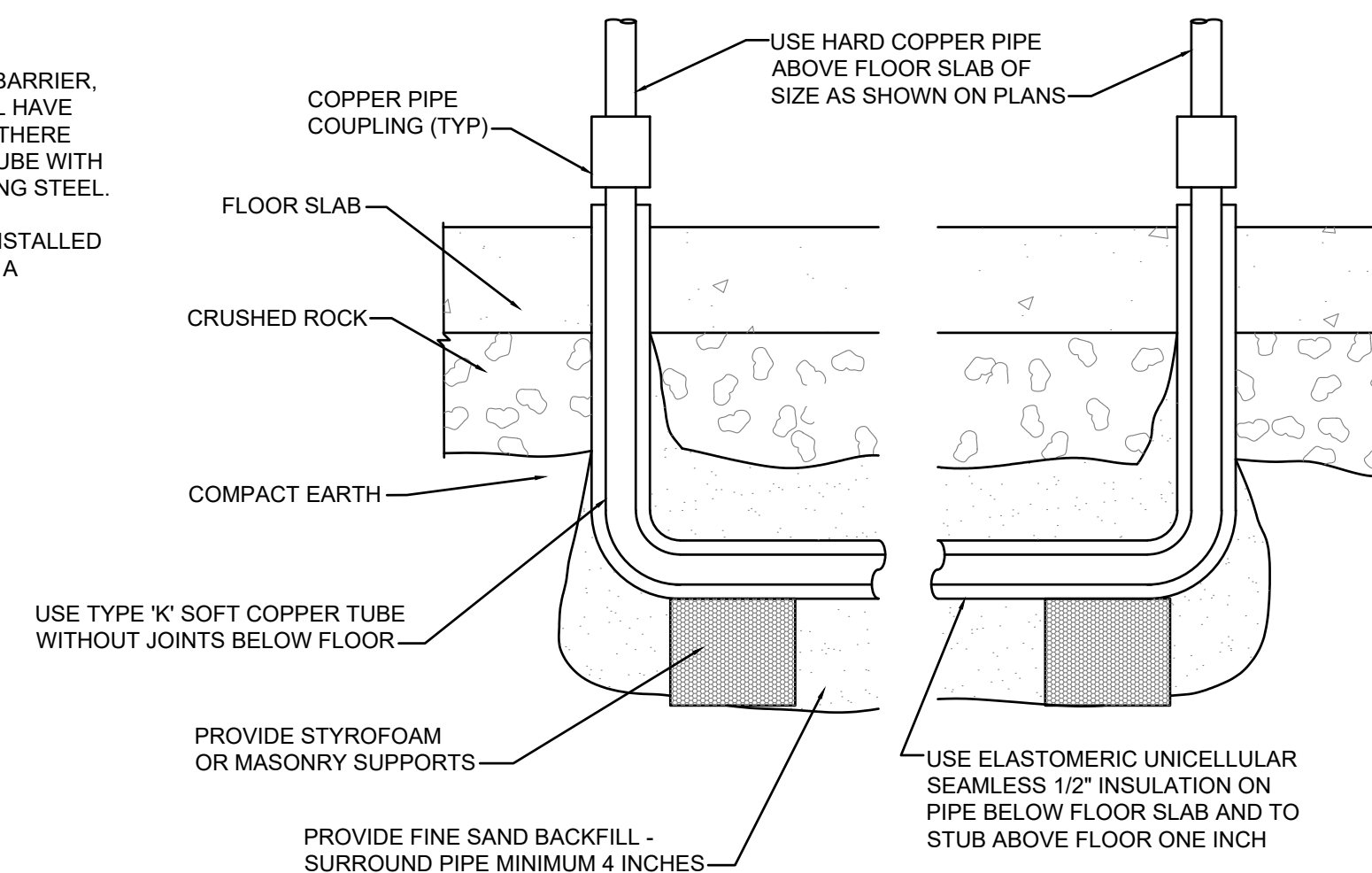


**ELECTRIC WATER HEATER DETAIL**  
NO SCALE SIZE UP TO 40 GALLON WITH RECIRCULATION PUMP



**PIPE INSULATION DETAIL**  
NO SCALE

- NOTES:**
1. IF FLOOR SLAB IS EXISTING, SAW CUT, EXCAVATE, BACKFILL, REPAIR VAPOR BARRIER, PATCH CONCRETE FLOOR. PIPE SHALL HAVE LONG RADIUS TURNS WITHOUT KINKS. THERE SHALL BE NO CONTACT OF COPPER TUBE WITH OTHER PIPE, CONDUIT, OR REINFORCING STEEL.
  2. IF HOT AND COLD WATER PIPES ARE INSTALLED IN SAME TRENCH, SEPARATE THEM BY A MINIMUM OF TWELVE INCHES.



**WATER PIPE UNDER SLAB DETAIL**  
NO SCALE

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A TENANT FINISH FOR:  
**LAKWOOD ORTHODONTICS**  
1399 NE DOUGLAS ST  
LEE'S SUMMIT, MO 64086



PROJECT NO. 210407  
**DRAWING ISSUANCE**  
08/13/2021 PERMIT

SHEET NUMBER  
**P2.0**  
PLUMBING  
DETAILS

PLUMBING FIXTURE SCHEDULE								
MARK NO.	FIXTURE TYPE	MANUFACTURER	MODEL NO.	DESCRIPTION	MINIMUM CONNECTION SIZE			
					CW	HW	WASTE	VENT
WC-1	WATER CLOSET (ADA)	AMERICAN-STANDARD	215AA.004 "CADET PRO"	FLOOR MOUNTED FLUSH TANK, WHITE VITREOUS CHINA, HIGH EFFICIENCY (1.6 GPF), ELONGATED POWER WASH BOWL, FULLY GLAZED 2" TRAP WAY, CLOSE-COUPLED TANK, 16-1/2" RM HEIGHT. ACCESSORIES: CHURCH 95008SCT WHITE OPEN FRONT SEAT LESS COVER WITH SELF SUSTAINING CHECK HINGES, BOLTS AND CAPS, LOOSE KEY ANGLE STOP AND CHROME-PLATED RISER. NOTE: HANDLE TO BE ON WIDE SIDE OF FIXTURE.	1/2"	-	4"	2"
L-1	LAVATORY (ADA)	AMERICAN-STANDARD	0356.421 "LUCERNE"	VITREOUS CHINA, 20" X 18", FRONT OVERFLOW, INTEGRAL BACK CHICAGO FAUCETS MODEL 2200-E2805A BCP DECK MOUNTED, SINGLE HOLE CERAMIC DISC MIXING FAUCET WITH 4-3/4" SPOUT WITH SINGLE LEVER HANDLE AND VANDAL RESISTANT NON-ERATING OUTLET (0.5 GPM). ACCESSORIES: PROVIDE LEONARD 170-LF LEAD FREE BRONZE THERMOSTATIC MIXING VALVE WITH 0.25 GPM MINIMUM FLOW RATE, INTEGRAL CHECK VALVES, DISCHARGE SET AT 105 F, MOUNTED DOWNSTREAM OF FIXTURE STOPS, WITH HOT AND COLD WATER PIPED TO VALVE, TEMPERED AND COLD WATER TO LAVATORY. CHICAGO FAUCETS MODEL 327-XCP GRID DRAIN, 1-1/4" X 1-1/2" 17 GA. SEMI-CAST BRASS P-TRAP WITH CLEANOUT, CHROME-PLATED RISERS WITH LOOSE KEY ANGLE STOPS AND J.R. SMITH CONCEALED ARM LAVATORY SUPPORT. PROVIDE WITH FULLY MOLDED FLEXIBLE VINYL INSULATION KIT COVER TRAP, SUPPLIES AND STOPS, TRUBRO E-Z LAV GUARD. NOTE: MOUNT FIXTURE 34" ABOVE FINISHED FLOOR.	1/2"	1/2"	1-1/2"	1-1/2"
L-2	LAVATORY (ADA)	AMERICAN-STANDARD	475.047 "AQUALYN"	COUNTERTOP, VITREOUS CHINA, 20" X 17" OVAL, FRONT OVERFLOW, SELF-RIMMING CHICAGO FAUCETS MODEL 2200-E2805A BCP DECK MOUNTED, SINGLE HOLE CERAMIC DISC MIXING FAUCET WITH 4-3/4" SPOUT WITH SINGLE LEVER HANDLE AND VANDAL RESISTANT NON-ERATING OUTLET (0.5 GPM). ACCESSORIES: PROVIDE LEONARD 170-LF LEAD FREE BRONZE THERMOSTATIC MIXING VALVE WITH 0.25 GPM MINIMUM FLOW RATE, INTEGRAL CHECK VALVES, DISCHARGE SET AT 105 F, MOUNTED DOWNSTREAM OF FIXTURE STOPS, WITH HOT AND COLD WATER PIPED TO VALVE, TEMPERED AND COLD WATER TO LAVATORY. CHICAGO FAUCETS MODEL 327-XCP GRID DRAIN, 1-1/4" X 1-1/2" 17 GA. SEMI-CAST BRASS P-TRAP WITH CLEANOUT AND CHROME-PLATED RISERS WITH LOOSE KEY ANGLE STOPS. PROVIDE WITH FULLY MOLDED FLEXIBLE VINYL INSULATION KIT TO COVER TRAP, SUPPLIES AND STOPS, TRUBRO E-Z LAV GUARD.	1/2"	1/2"	1-1/2"	1-1/2"
S-1	SINK	ELKAY	LR1722PD	SINGLE COMPARTMENT SELF RIMMING SINK, 18 GA, TYPE 304 STAINLESS STEEL, 7-5/8" DEEP BOWL, MOEN MODEL 87039 DECK MOUNTED FAUCET WITH 1255 DURA-LAST CARTRIDGE, SINGLE LEVER HANDLE, SINGLE HOLE MOUNTING WITH OPTIONAL DECK PLATE, AERATOR LIMITED TO 1.5 MAX. GPM, 120° SPOUT ROTATION, PULLOUT SPRAY WITH 68" BRAIDED HOSE. ACCESSORIES: ELKAY LK-35 STRAINER WITH 1-1/2" TAILPIECE, 1-1/2" 17 GA. SEMI-CAST BRASS P-TRAP WITH CLEANOUT, CHROME-PLATED RISERS WITH LOOSE KEY ANGLE STOPS.	1/2"	1/2"	2"	1-1/2"
S-2	SINK	ELKAY	LRAD-1918	SINGLE COMPARTMENT SELF RIMMING SINK, 18 GA, TYPE 304 STAINLESS STEEL, 6-1/2" DEEP BOWL, DELTA MODEL 9913-DST BSSA DECK MOUNTED FAUCET WITH CERAMIC OPERATING CARTRIDGE, SINGLE LEVER HANDLE, 2 FUNCTION PULL DOWN 6-5/8" SWING SPOUT WITH MAGNETIC DOCKING, DUAL CHECK AND 1.8 GPM AERATOR, 1 OR 3 HOLE MOUNTING WITH OPTIONAL DECK PLATE. ACCESSORIES: ELKAY LK-35 STRAINER WITH 1-1/2" TAILPIECE, 1-1/2" 17 GA. SEMI-CAST BRASS P-TRAP WITH CLEANOUT, CHROME-PLATED RISERS WITH LOOSE KEY ANGLE STOPS.	1/2"	1/2"	2"	1-1/2"
IM-1	ICE MAKER WALL BOX	SIOLUX CHIEF	696-G1000 SERIES	RECESSED ICE MAKER WALL BOX WITH QUARTER TURN VALVE AND 1/2" INLET, ABS COVER.	1/2"	-	-	-
EFD-1	EQUIPMENT FLOOR DRAIN	J.R. SMITH	2210Y	MEDIUM CAPACITY, MEDIUM DUTY DUGO CAST IRON BODY, SEDIMENT BUCKET AND GRATE, NO HUB OUTLET. PROVIDE WITH 3591 OVAL FUNNEL WHERE DRAIN RECEIVES INDIRECT WASTE AND TRAP PRIMER CONNECTION.	-	-	3"	1-1/2"
EW-1	EYE WASH	GUARDAN	G1805	DECK MOUNTED SWIVEL ACTIVATED EYE WASH WITH DUAL SPRAY HEADS AND DUST COVERS, RIGHT HAND MOUNTING, EMERGENCY SIGNAGE. ACCESSORIES: PROVIDE WITH 1/2" INLET VALVE AND STRAINER, G6020 THERMOSTATIC MIXING VALVE WITH STOP VALVES ON SUPPLIES, 13 GPM CAPACITY.	1/2"	-	-	-
WB-1	WASHER WALL BOX	SIOLUX CHIEF	696-2313 SERIES	RECESSED SUPPLY AND DRAIN WALL BOXES WITH QUARTER TURN VALVES, MIN SHOCK ARRESTORS, SWEAT WATER CONNECTIONS, 2" DRAIN, ABS COVERS.	1/2"	1/2"	2"	1-1/2"

### WATER HEATER SCHEDULE (ELECTRIC)

MARK NO.	MANUFACTURER	MODEL NO.	TANK LINING	TANK CAPACITY (GAL)	RECOVERY (GPH @ 80 F)	INPUT (KW)	THERMAL EXPANSION TANK MODEL NO.	ELECTRICAL			NOTES
								VOLT	Ø	HZ	
DWH-1	A.O. SMITH	DEL-40	GLASS	40	23	4.5	PLT-12	208	1	60	1,2

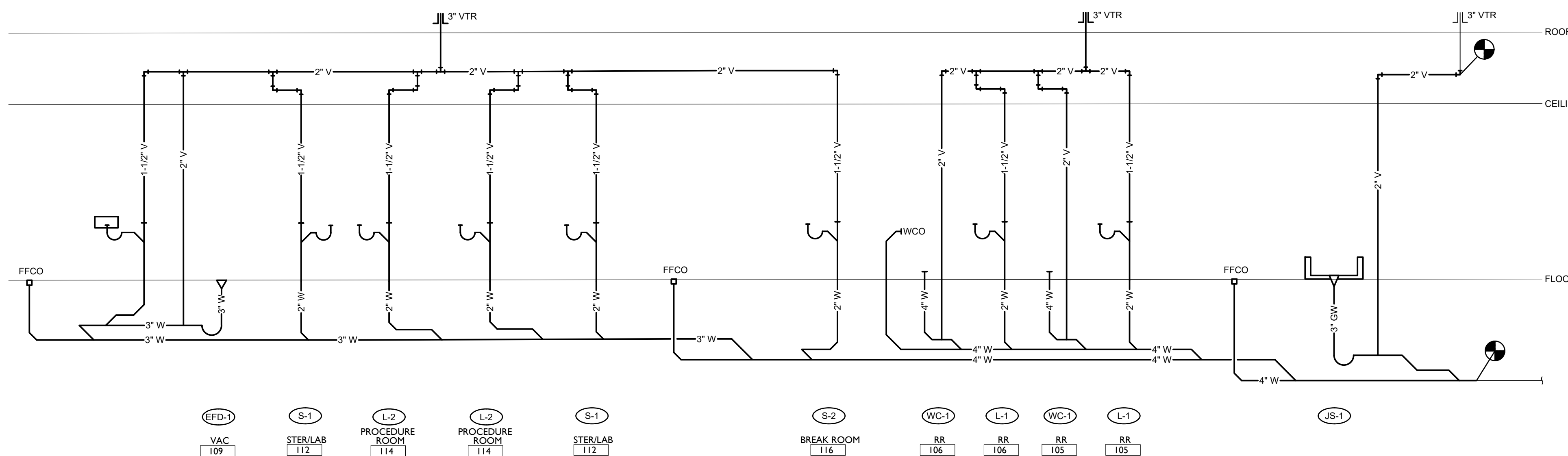
NOTES: 1. PROVIDE WITH TEMPERATURE AND PRESSURE RELIEF VALVE AND DRAIN.  
2. PROVIDE WITH CONTROL THERMAL EXPANSION TANK, WATTS MODEL, SCHEDULED WITH WATTS SCV SERVICE CHECK VALVE.

\*HEATING KW IS NET CAPACITY AT VOLTAGE AND PHASE INDICATED.

### PLUMBING PUMP SCHEDULE

MARK NO.	MANUFACTURER	MODEL	USE	TYPE	FLOW (GPM)	HEAD (FT.)	RPM	ELECTRICAL				NOTES
								VOLT	Ø	HZ	HP	
CR-1	BELL & GOSSETT	PL30B	RECIRC	INLINE	1	15	2450	120	1	60	1/12	1

NOTES: 1. PROVIDE WITH A QUASIT AND AUTOMATIC TIMER KIT.



**WASTE AND VENT RISER DIAGRAM**  
NO SCALE

### GENERAL NOTES (TYPICAL ALL SHEETS)

- PLUMBING CONTRACTOR IS RESPONSIBLE TO SEE THAT WORK MEETS AND IS IN ACCORDANCE WITH ALL REQUIREMENTS OF FEDERAL, STATE, AND LOCAL LAWS AND CODES AND/OR REQUIREMENTS, INCLUDING HEALTH CODES AND BUILDING OWNER.
- ALL EXISTING PIPING SHOWN ON DRAWINGS IS SCHEMATIC AND IS BASED ON EXISTING RECORD DRAWINGS PROVIDED BY THE OWNER AND DO NOT REFLECT EXACT EXISTING CONDITIONS. CONTRACTOR TO FIELD VERIFY EXACT DEPTH AND/OR LOCATIONS ON JOB SITE. CONTRACTOR SHALL REROUTE NEW WORK TO ACCOMMODATE EXACT LOCATIONS OF EXISTING UTILITIES, STUBOUTS AND/OR CONNECTIONS.
- CUTTING AND PATCHING OF FLOORS, WALLS, CEILING, ETC., REQUIRED IN STRICT ACCORDANCE WITH THE RULES AND REGULATIONS OF THE ARCHITECT'S AND/OR BUILDING OWNER REQUIREMENTS.
- COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION TO AVOID ROUTING CONFLICTS.
- ANY MATERIAL REMOVED THAT OWNER DOES NOT WISH TO RETAIN SHALL BE REMOVED FROM PROJECT SITE AND DISPOSED OF BY CONTRACTOR.
- INSTALL ELASTOMERIC JOINT SEALER AROUND ALL PIPES PASSING THRU INTERIOR NON-RATED CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR/ROOF SLABS. FOR FIRE RATED INTERIOR CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR/ROOF SLABS SEAL ALL PIPES. INSTALL FIRESTOP MATERIALS IN ALL GAPS PRIOR TO SEALANT APPLICATION. INSTALL SEALER ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
- PLUMBING CONTRACTOR SHALL MAKE FINAL CONNECTION TO ALL EQUIPMENT BY OTHERS. VERIFY CONNECTIONS SIZES AND REQUIREMENTS.
- PIPING ROUTED BELOW COUNTER IN CABINETS SHALL BE ROUTED AS NOTED. NOT TO INTERFERE WITH DRAWERS, SHELVES, EQUIPMENT, ETC., AND SUPPORT FROM BACK WALL OF CABINET.
- PLUMBING CONTRACTOR SHALL SCAN FLOOR UTILIZING GROUND PENETRATING RADAR PRIOR TO ANY CORE DRILLING OR SAW CUTTING OF SLAB AND SHALL VERIFY PLACEMENT WITH BUILDING OWNER'S REPRESENTATIVE PRIOR TO DRILLING.
- PLUMBING CONTRACTOR SHALL PROVIDE PRO-SET SYSTEMS 'TRAP GUARD' IN ALL FLOOR DRAIN TRAPS WITHIN PROJECT SCOPE OF WORK.
- UPON REQUEST FOR ELECTRONIC FILES, CONTRACTOR SHALL FILL OUT, SIGN AND RETURN ELECTRONIC MEDIA RELEASE FORM FROM ENGINEER AND PROVIDE PAYMENT FOR FEES STIPULATED ON ELECTRONIC MEDIA RELEASE FORM. UPON RECEIPT OF COMPLETED RELEASE FORM AND PAYMENT, ELECTRONIC FILES WILL BE RELEASED.
- ALL CABLE TIES FOR LOW VOLTAGE SYSTEMS LOCATED IN PLENUMS UTILIZED FOR AIR MOVEMENT THAT ARE NOT INSTALLED IN CONDUIT SHALL BE 25/50 FLAME AND SMOKE RATED, HELLERMANN TYTON T50 R2C2UL OR EQUIVALENT.

### PLUMBING SYMBOLS

- X — X — X — EXISTING TO REMAIN
- X — X — X — EXISTING TO BE REMOVED
- — — — NEW PIPING
- CW — COLD WATER
- HW — HOT WATER
- HWR — HOT WATER RETURN
- NG — NATURAL GAS
- CA — COMPRESSED AIR
- V — SANITARY VENT ABOVE GROUND/FLOOR
- - - - - SANITARY VENT BELOW GROUND/FLOOR
- W — SANITARY WASTE ABOVE GROUND/FLOOR
- - - - - SANITARY WASTE BELOW GROUND/FLOOR
- VAC — VACUUM
- [Symbol] — BALANCE VALVE
- [Symbol] — GAS SHUT-OFF COCK
- [Symbol] — SHUT OFF VALVE
- [Symbol] — IN-LINE PUMP
- [Symbol] — FLOOR DRAIN OR EQMT FLOOR DRAIN
- [Symbol] — PIPE DROP/PIPE RISE
- [Symbol] — BOTTOM OUTLET TEE
- WCO — WALL CLEAN OUT
- [Symbol] — FINISHED FLOOR CLEANOUT
- [Symbol] — SANITARY VENT THROUGH ROOF
- [Symbol] — EQUIPMENT TYPE AND DESIGNATION
- [Symbol] — PLUMBING FIXTURE DESIGNATION
- [Symbol] — EXISTING TO REMAIN
- [Symbol] — CONNECT TO EXISTING



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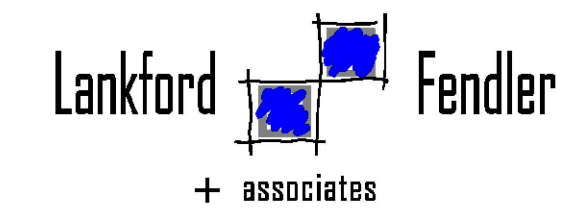


A TENANT FINISH FOR:  
**LAKWOOD ORTHODONTICS**  
1399 NE DOUGLAS ST  
LEE'S SUMMIT, MO 64086



8/13/2021

PROJECT NO. 210407  
**DRAWING ISSUANCE**  
08/13/2021 PERMIT



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SHEET NUMBER  
**P2.1**  
PLUMBING SCHEDULES,  
NOTES, AND SYMBOLS

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LAKELWOOD ORTHODONTICS

A TENANT FINISH FOR:

1399 NE DOUGLAS ST  
LEE'S SUMMIT, MO 64086

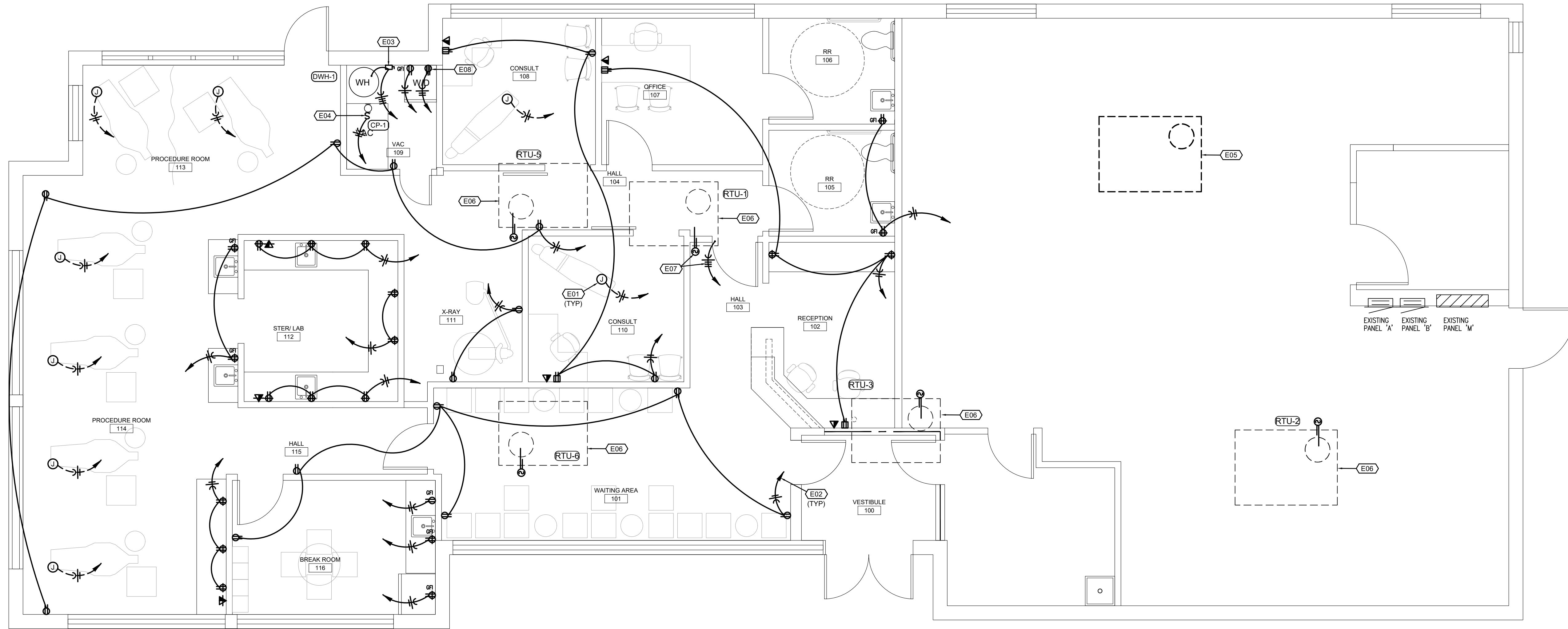


8/13/2021

PROJECT NO. 210407  
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SHEET NUMBER

**E1.0**  
FLOOR PLAN-  
POWER



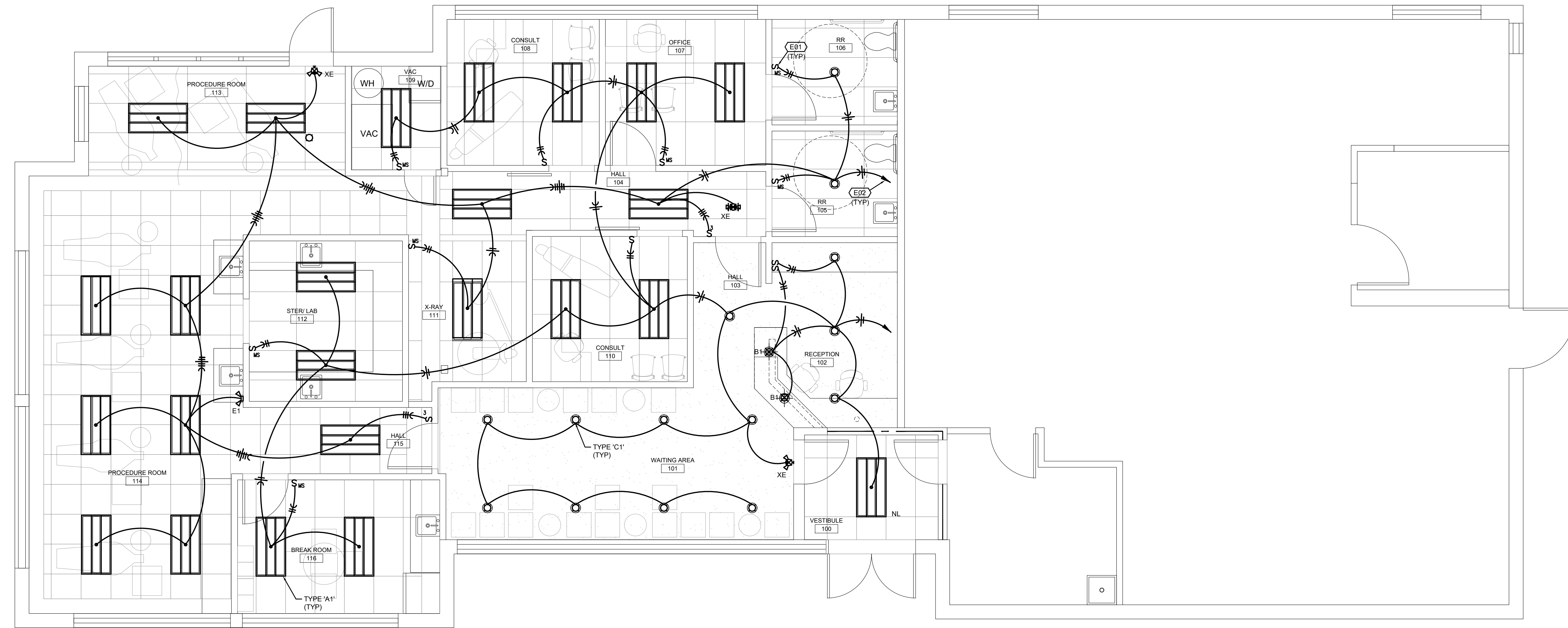
**FLOOR PLAN-POWER** N  
SCALE: 1/4"=1'-0"

**GENERAL NOTES POWER**

- A. ALL PATIENT CARE AREAS UTILIZING MC CABLE SHALL USE HCFMC TYPE MC CABLE AND SHALL MEET GROUNDING REQUIREMENTS OF NEC ARTICLE 517.13. WHERE MC CABLE IS USED, THE METAL SHEATHING SHALL BE LISTED AS AN ACCEPTABLE GROUNDING PATH.
- B. RECEPTACLES INSTALLED WITHIN ANY PATIENT CARE AREAS SHALL BE TAMPER RESISTANT, HOSPITAL GRADE 120 VOLT, 20 AMP DUPLEX TYPE.

**FLOOR PLAN NOTES**

- 1. MAKE 120 VOLT, 20 AMP POWER CONNECTION TO DENTAL CHAIR. PROVIDE RECEPTACLE AND FLOOR BOX AS REQUIRED. COORDINATE EXACT LOCATION WITH DENTAL CHAIR INSTALLER.
- 2. HOMERUN TO EXISTING 120/208 VOLT PANEL 'A' AND TERMINATE ON A 20A/1P BREAKER.
- 3. PROVIDE A 30A/3P, NON-FUSED DISCONNECT IN A NEMA 1 ENCLOSURE AND MAKE CONNECTION TO WATER HEATER. HOMERUN TO EXISTING PANEL 'A' AND TERMINATE ON A NEW 20A/3P BREAKER.
- 4. PROVIDE A 20A/1P TOGGLE SWITCH FOR DISCONNECTING MEANS AND MAKE CONNECTION TO PUMP. HOMERUN TO EXISTING PANEL 'A' AND TERMINATE ON A 20A/1P BREAKER.
- 5. EXISTING ROOFTOP UNIT TO BE REMOVED. REMOVE ALL ASSOCIATED WIRING AND CONDUIT BACK TO SOURCE.
- 6. EXISTING ROOFTOP UNIT TO REMAIN. PROVIDE NEW DUCT DETECTOR IN RETURN AIR DUCT. INTERLOCK WITH FAN FOR SHUTDOWN OF UNIT UPON DETECTION OF SMOKE. PROVIDE KEYS RESET AN ALARM IN CEILING BELOW UNIT.
- 7. MAKE POWER CONNECTION TO NEW ROOFTOP UNIT. HOMERUN TO EXISTING PANEL 'A' AND TERMINATE ON A 20A/3P BREAKER. PROVIDE NEW DUCT DETECTOR IN RETURN AIR DUCT. INTERLOCK WITH FAN FOR SHUTDOWN OF UNIT UPON DETECTION OF SMOKE. PROVIDE KEYS RESET AN ALARM IN CEILING BELOW UNIT.
- 8. PROVIDE 30A, 250 VOLT RECEPTACLE FOR DRYER. COORDINATE EXACT RECEPTACLE TYPE WITH DRYER PLUG. HOMERUN TO PANEL 'A' AND TERMINATE ON A NEW 30A/2P BREAKER.



**FLOOR PLAN-LIGHTING**  
SCALE: 1/4"=1'-0"

- FLOOR PLAN NOTES**
- DUAL TECHNOLOGY WALL SWITCH OCCUPANCY SENSOR BY WATTSTOPPER OR HUBBELL.
  - HOMERUN TO EXISTING 120/208 VOLT PANEL 'A' AND TERMINATE ON A 20A/1P BREAKER.

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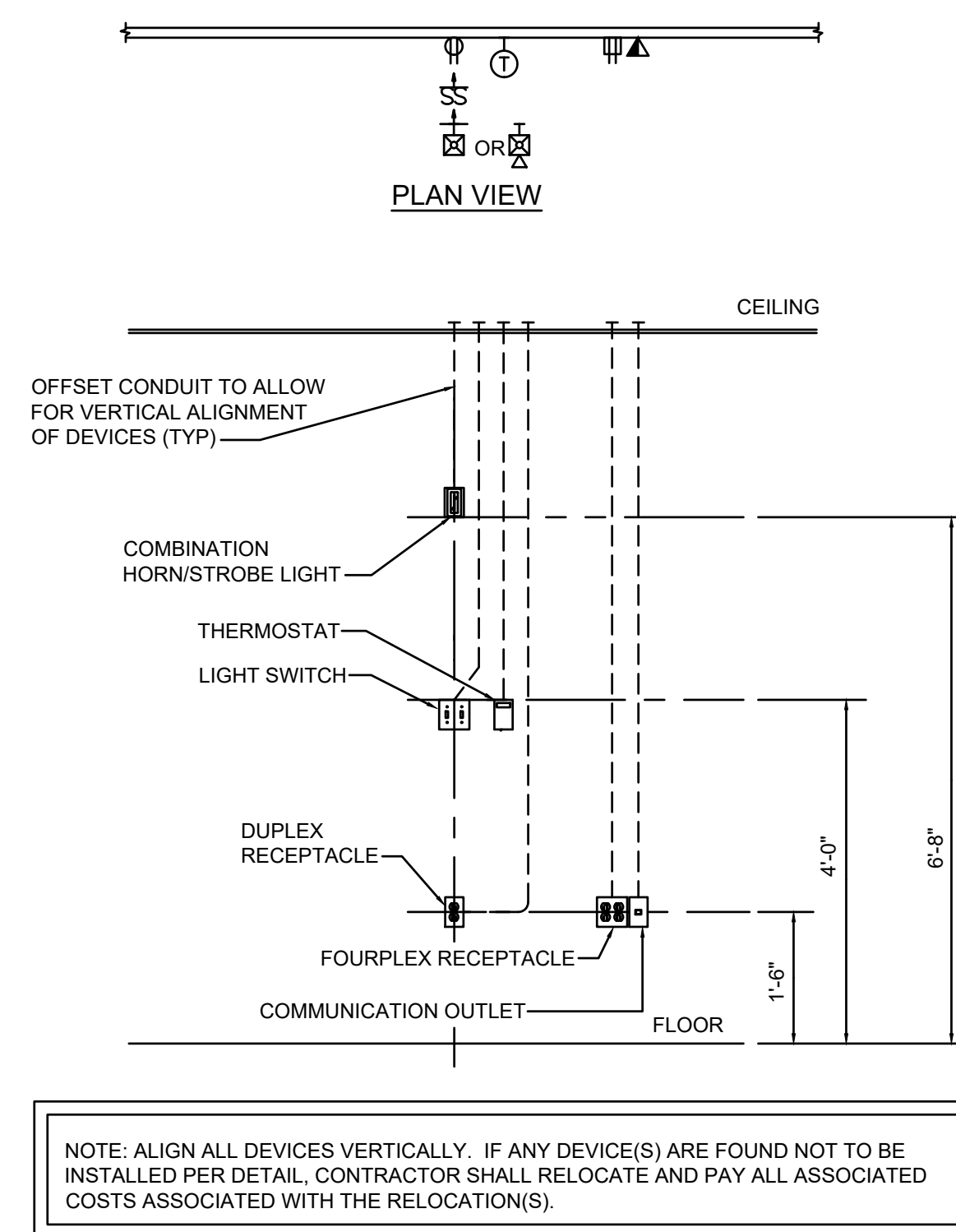


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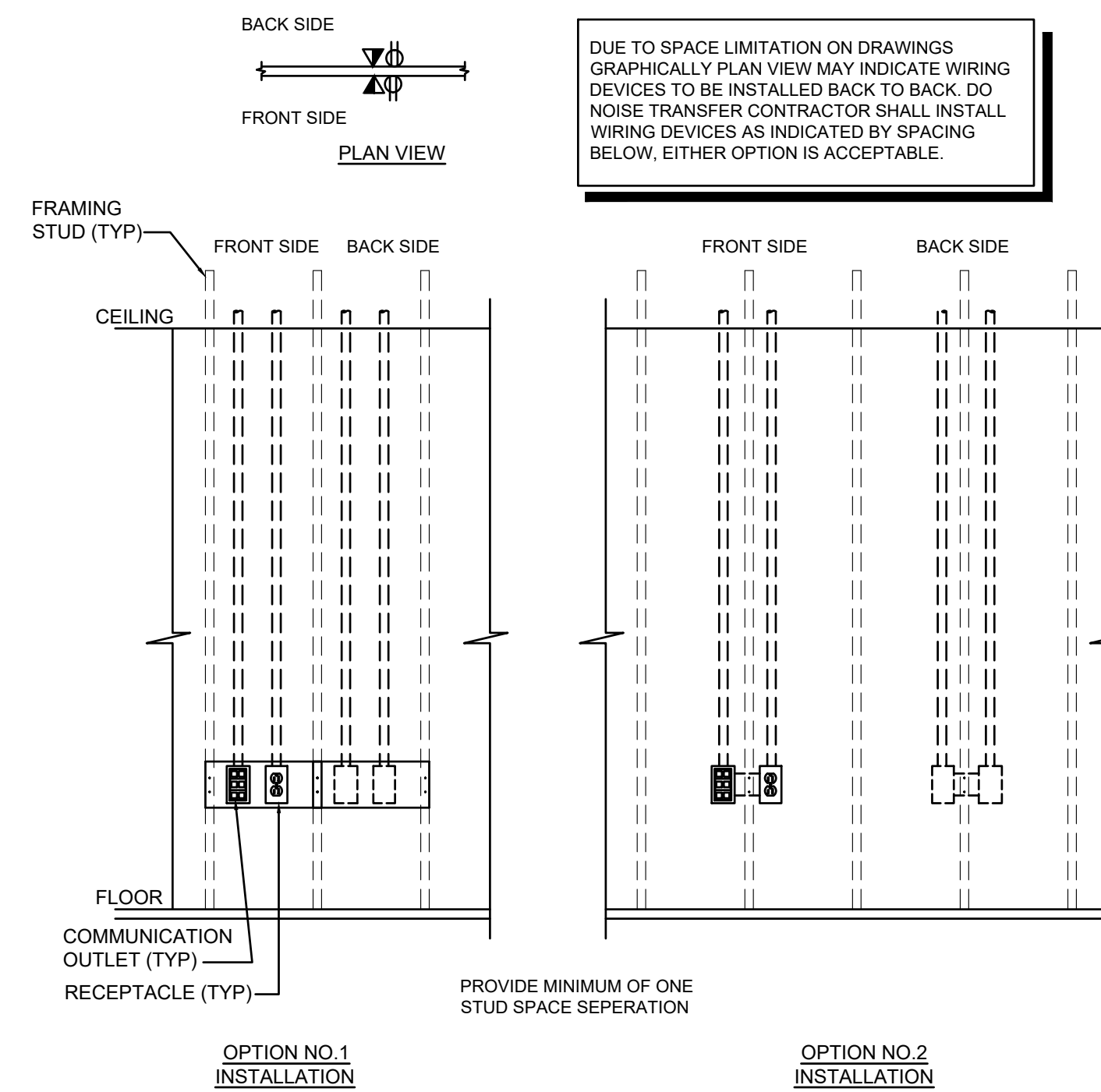


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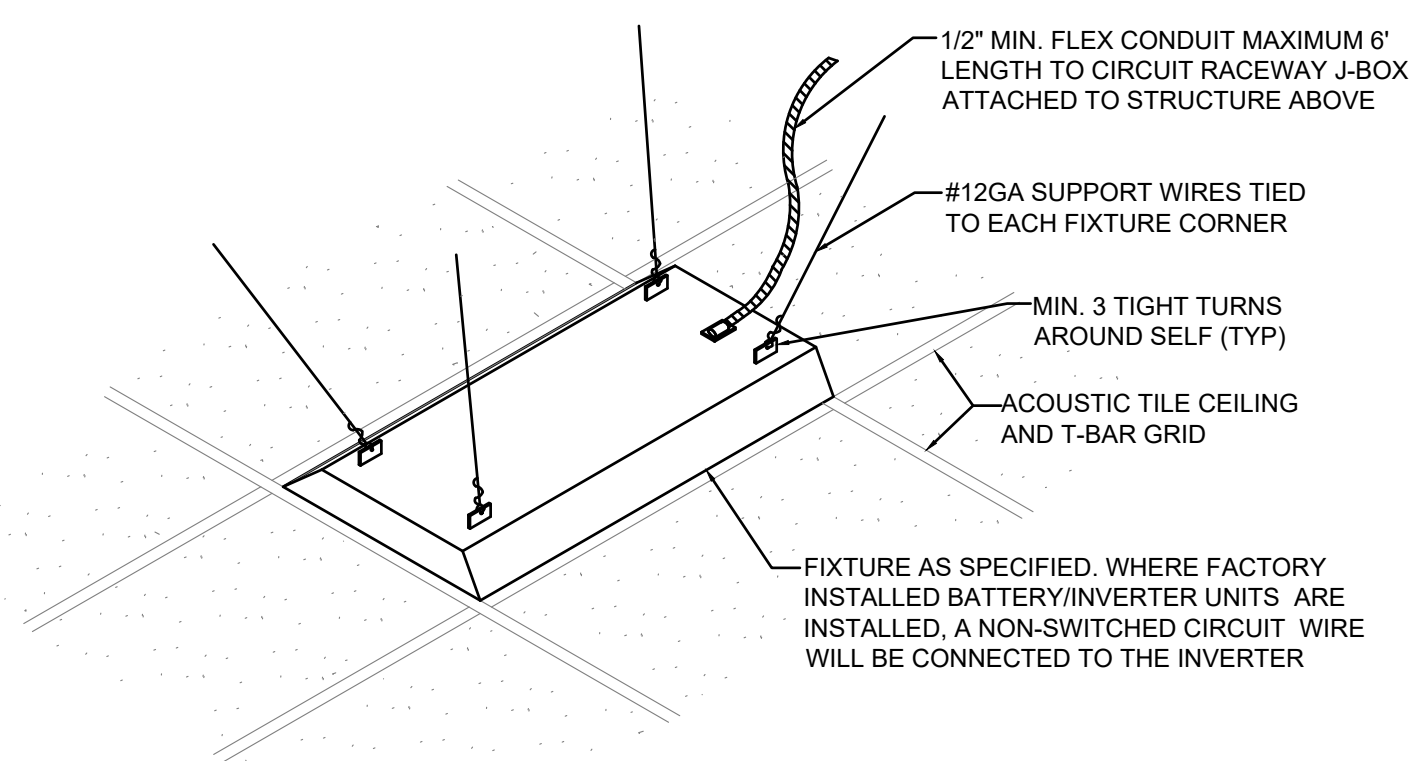
SHEET NUMBER  
**E2.0**  
FLOOR PLAN-LIGHTING



**WALL MOUNTING DEVICE DETAIL**  
NO SCALE



**TYPICAL MOUNTING OUTLET DETAIL**  
NO SCALE



**LIGHT FIXTURE MOUNTING AND BRACING DETAIL**  
NO SCALE

BRANCH CIRCUIT COPPER CONDUCTOR AND CONDUIT SIZING CHART *						
OVERCURRENT PROTECTION DEVICE RATING (AMPS)	REQUIRED CONDUCTOR SIZE	EQUIPMENT GROUNDING CONDUCTOR SIZE	SINGLE PHASE 2 WIRE + GND. CONDUIT SIZE	SINGLE PHASE 3 WIRE + GND. CONDUIT SIZE	THREE PHASE 3 WIRE + GND. CONDUIT SIZE	THREE PHASE 4 WIRE + GND. CONDUIT SIZE
15	12 AWG	12 AWG	3/4"	3/4"	3/4"	3/4"
20	12 AWG	12 AWG	3/4"	3/4"	3/4"	3/4"
25	10 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
30	10 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
35	8 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
40	8 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
45	6 AWG	10 AWG	3/4"	3/4"	3/4"	1"
50	6 AWG	10 AWG	3/4"	3/4"	3/4"	1"
60	4 AWG	10 AWG	1"	1"	1"	1-1/4"
70	4 AWG	8 AWG	1"	1"	1"	1-1/4"
80	3 AWG	8 AWG	1"	1-1/4"	1-1/4"	1-1/4"
90	2 AWG	8 AWG	1"	1-1/4"	1-1/4"	1-1/4"
100	1 AWG	8 AWG	1-1/4"	1-1/2"	1-1/2"	1-1/2"

- \* = UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- \* = UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL BRANCH CIRCUITS AND FEEDERS TO BE PROVIDED WITH A NEUTRAL WIRE.
- \* = ALL CONDUCTORS SIZED ON THE POWER RISER DIAGRAM OR IN BRANCH CIRCUIT CONDUCTOR TABLE ARE BASED ON 3 CURRENT CARRYING CONDUCTORS IN A RACEWAY OR CABLE. CONDUCTORS SHALL BE DERATED IN ACCORDANCE WITH THE NEC IF 4 OR MORE CONDUCTORS ARE PLACED IN A RACEWAY OR CABLE.



LIGHT FIXTURE SCHEDULE					
TYPE	MANUFACTURER	LAMPS	WATTS VOLTS	DESCRIPTION	NOTES
A1	WESTGATE LIGHTING LP-2X4-MV-40K-DS	LED 4400 LUMEN 3500K, 80 CRI	40 120	2X4 RECESSED LED TROFFER WITH DIFFUSE FLAT PANEL, WHITE HOUSING, 0-10V DIMMING DRIVER.	
B1	TO BE SELECTED	LED 3500K, 80 CRI	35 120	DECORATIVE LED PENDANT	
C1	WESTGATE LIGHTING RSLC6-BF-40K	LED 9000 LUMEN 4000K, 80 CRI	12 120	NOMINAL 6" DIAMETER LED DOWNLIGHT, WHITE TRIM RING, 0-10V DIMMING DRIVER.	
E1	SURE-LITES APEL	LED W/ FIXTURE	1.5 120	WHITE, POLYCARBONATE, NICAD BATTERY, EMERGENCY LIGHTING UNIT.	
XE	SURE-LITES APC-F-R	LED W/ FIXTURE	2 120	COMBINATION EXIT SIGN AND EMERGENCY LIGHTING UNIT, NICAD BATTERY, RED LETTERS, WHITE HOUSING.	1

SPECIFIC NOTES:  
1. REFERENCE PLANS FOR MOUNTING, NUMBER OF FACES AND ARROWS.

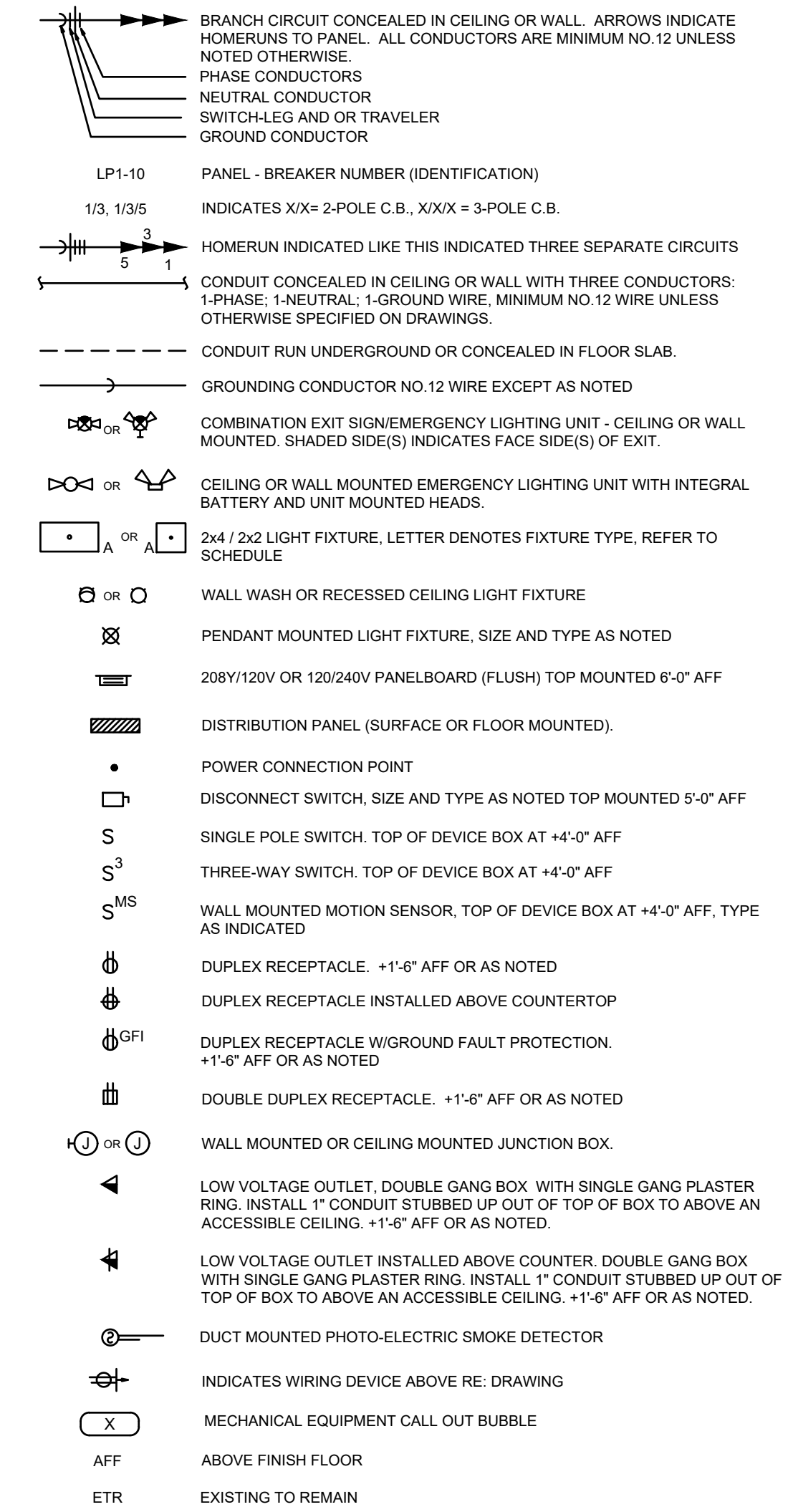
SUBSTITUTION NOTES:  
THE LIGHTING DESIGN FOR THIS PROJECT IS BASED UPON THE MANUFACTURERS SPECIFIED. IF AN ADDITIONAL SUBSTITUTION IS DESIRED BY THE CONTRACTOR, A SUBSTITUTION REQUEST SUBMITTAL MUST BE PROVIDED AS FOLLOWS:  
S1. SUBSTITUTION REQUEST MUST BE RECEIVED BY THE ENGINEER IN WRITING 10 DAYS PRIOR TO BID. FAILURE TO SUBMIT CONSTITUTES A GUARANTEE TO SUPPLY THE SPECIFIED FIXTURES.  
S2. INFORMATION IS TO BE SUPPLIED COMPARING PHOTOMETRY, (WITH FLOOR PLANS INDICATING POINT BY POINT CALCULATIONS) DIMENSIONS, MATERIAL COMPOSITION, FINISH, VISUAL APPEARANCE AS WELL AS THE "CONTRACTOR NET" PRICING. SAMPLES ARE TO BE PROVIDED UPON REQUEST.  
S3. GREAT CARE, TIME AND EXPENSE HAVE BEEN USED TO PROVIDE OUR CLIENT WITH THE LIGHTING AND CONTROLS SYSTEM. THEREFORE, FOR EACH AND EVERY TYPE OF FIXTURE OFFERED AS AN UNSOLICITED ALTERNATE, A \$500.00 FEE WILL BE CHARGED TO THE CONTRACTOR FOR REVIEW OF THE ALTERNATE FIXTURE. THIS CHARGE IS IN NO WAY A GUARANTEE OF APPROVAL, BUT IS SOLELY TO COMPENSATE THE ENGINEER FOR TIME SPENT VALIDATING EQUALITY AND COMPATIBILITY WITH THE PROJECT REQUIREMENTS. THIS REIMBURSEMENT MUST BE RECEIVED BY THE ENGINEER PRIOR TO ANY REVIEW COMMENCING.  
S4. PACKAGING OF LIGHT FIXTURES WILL NOT BE CONSIDERED OR APPROVED.  
S5. MANUFACTURER'S REPRESENTATIVE AGENTS SHALL BE ALLOWED TO OFFER MINI-LOT PRICING FOR SPECIFIED LIGHTING FIXTURES.  
S6. LIGHTING CONTROLS PRICING SHALL BE COMPLETELY SEPARATE OF ANY LIGHT FIXTURE PRICING. ANY LIGHTING CONTROLS PRICING THAT IS SUBMITTED WITH LIGHT FIXTURE PRICING (UNIT OR MINI-LOT) WILL BE IMMEDIATELY REJECTED IN ITS ENTIRETY.

GENERAL NOTE:  
G1. ELECTRICAL CONTRACTOR SHALL VERIFY CEILING TYPE PRIOR TO ORDERING ANY LIGHT FIXTURES.  
G2. ELECTRICAL CONTRACTOR SHALL COORDINATE DIMMING DRIVERS/BALLASTS WITH DIMMING SWITCHES/SYSTEMS AND SHALL INCLUDE ALL REQUIRED CONTROL WIRING.

## GENERAL NOTES (TYPICAL ALL SHEETS)

- REFER TO ARCHITECTS REFLECTED CEILING PLANS FOR EXACT PLACEMENT OF LIGHT FIXTURES, SPEAKER AND F.A. DEVICES IN THE CEILING SYSTEM.
- REFER TO ARCHITECTURAL DETAILS AND ELEVATIONS FOR COORDINATION OF LOCATION OF ALL WIRING DEVICES BEFORE ROUGH-IN OF J-BOXES.
- WIRING TO BE REMOVED BACK TO THE NEAREST DEVICE TO REMAIN. WIRING SHALL NOT BE TAKEN PAST THE FIRST JUNCTION BOX BEFORE THE PANELBOARD.
- ANY MATERIAL REMOVED THAT OWNER DOES NOT WISH TO RETAIN SHALL BE REMOVED FROM PROJECT SITE AND DISPOSED OF BY THE CONTRACTOR.
- NEW CIRCUITRY SHOWN FOR NEW/EXISTING POWER AND LIGHTING IS DIAGRAMMATIC AND IS INTENDED TO SHOW WHICH DEVICES ARE TO BE GROUPED ON INDIVIDUAL CIRCUITS. EXISTING WIRING THAT CONFORMS TO THE INTENT OF THE DRAWINGS MAY BE USED.
- PROVIDE UPDATED, TYPEWRITTEN PANELBOARD DIRECTORY FOR EACH PANELBOARD WHICH CIRCUITS HAVE BEEN ADDED TO OR MODIFIED.
- SUPPORT ALL LIGHT FIXTURES WITH A MINIMUM OF (4) 12 GA. HANGER WIRES TO STRUCTURE ABOVE.
- CONNECT EXIT AND EMERGENCY LIGHTS TO HOT LEG, NOT SWITCH LEG.
- WHERE MORE THAN ONE SWITCH IS INDICATED ON DRAWINGS SIDE BY SIDE, CONTRACTOR SHALL INSTALL SWITCHES UNDER ONE COMMON FACE PLATE.

## ELECTRICAL SYMBOLS



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COMPLY WITH all laws, codes, ordinances and regulations with authorities having jurisdiction and with requirements of the Landlord, if applicable. Do not start work until all permits and required approvals are obtained.



LAKWOOD ORTHODONTICS

A TENANT FINISH FOR:

1399 NE DOUGLAS ST  
LEE'S SUMMIT, MO 64086



8/13/2021

PROJECT NO. 210407  
DRAWING ISSUANCE  
08/13/2021 PERMIT



SHEET NUMBER  
**E3.1**  
ELECTRICAL SCHEDULES,  
NOTES, AND SYMBOLS

LANKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC.  
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