ENGINEERING ARCHITECTURE FIELD SERVICES

### CAMDEN FAMILY HEALTH, INC. NICHOLAS COUNTY, WEST VIRGINIA CAMDEN-ON-GAULEY RICHWOOD CLINIC

#### **ADDENDUM #3**

June 30, 2022

#### THRASHER PROJECT #060-10260

#### TO WHOM IT MAY CONCERN:

A Pre-Bid Conference was held on Tuesday, June 21, 2022 on the above-referenced project. The following are clarifications and responses to questions posed by contractors for the above reference project.

#### A. GENERAL

A cut sheet for the dental air compressor is included in this addendum.

### **B.** SPECIFICATIONS

Updated Division 123216 Section 2.1.A

#### C. DRAWINGS

Sheets A1.02, A1.03, A4.01, A6.01

### D. QUESTIONS AND RESPONSES

#### **QUESTION**

1. Could Southern Cabinetry, Inc. be listed in the casework spec as an acceptable manufacturer?

#### **RESPONSE**

Southern Cabinetry, Inc. can be included as an acceptable manufacturer. Division 123216 Section 2.1.A shall be revised to include Southern Cabinetry, Inc.

#### **QUESTION**

2. On the REVISED Page #A6.01 "Door Schedule", Doors 210, 211, 212, 213, 215, 216, 221 & 222 says Door Type 'T' but there is no Type 'T' elevation. Please clarify.

#### **RESPONSE**

This is production error from the drafting program. The door type shall be Type "F."

#### **QUESTION**

3. On Page #A1.01 "Ground Floor Plan – Demolition", Keyed Note #10 states to remove existing ceiling w/ grid for the BASE BID with the exception of a closet/storage area. On Page #A1.05 "Ground Floor RCP – New", Alternate Note #1 states that all acoustical ceiling tile and grid are in ALTERNATE #1. Should the

alternate not be accepted, please confirm that the contractor is to leave the ground floor rooms with no ceiling finish and open to structure above.

#### RESPONSE

This is confirmed for all locations on the ground where gypsum board ceiling is not specified.

#### **QUESTION**

4. On Page #A1.05 "Ground Floor RCP – New", please clarify if the painting of existing drywall ceiling and bulkhead are included in base bid or alternate.

#### **RESPONSE**

Painting the existing drywall ceiling and new bulkhead is not included in the base bid. As a clarification, the new bulkhead is only included in Alternate #1; therefore painting will be included if Alternate #1 is accepted.

#### **OUESTION**

5. On Page #A4.01 "Interior Elevations (Restrooms)", Keyed Note #s: 2, 3, 7, 8, 12, 13 & 14 are not tagged. Please clarify if these items are in scope.

#### **RESPONSE**

These items are not included and shall be omitted.

#### **OUESTION**

6. On In Addendum #1, Q/A #13 asked about the Utility Shelf in specifications but not addressed in the response. Please clarify if this item is in scope.

#### **RESPONSE**

The utility shelf is included in the scope. Please provide a stainless steel unit from the same manufacturer of the mop and broom holder. Shelf shall be installed on the opposite wall of the of the mop and broom holder. Mount shelf 48" above finish floor.

#### **QUESTION**

7. Could casework elevations be provided for Room #223 "Reception"?

#### RESPONSE

Sheet A1.04 provides adequate dimensions for quantitative take-offs. The countertop is "L" shaped with no cabinets below. The countertop shall be mounted at 30" above finish floor. The countertop shall be support by brackets and wall blocking such that non interfere with seating aligned with the reception windows.

#### **QUESTION**

8. On Page #A1.03 "Ground Floor Plan – New", are the Dental Air/Vacuum Equipment & Panoramic X-Ray Unit Owner supplied/Contractor Installed? If not, could the basis of design be given?

#### RESPONSE

The Dental Air/Vacuum Equipment & Panoramic X-Ray Unit shall be owner supplied and owner installed. The final plumbing and electrical hookups shall be performed by the contractor.

#### **QUESTION**

9. Drawing A1.03 Note 1,6 and 7 Dental equipment "Owner to order and contractor to receive and install". We have never installed the dental equipment that was always done by supplier. Please confirm that we are to install?

#### RESPONSE

Please see response provided in the previous question.

#### **QUESTION**

10. Is med gas certification required for air and vacuum lines?

#### RESPONSE

Yes, med gas certification is required for the air and vacuum lines.

#### **OUESTION**

11. Can specs be provided for med air compressor?

#### **RESPONSE**

A cut sheet for the product is provided. It is model number P-22.

#### **QUESTION**

- 12. Drawing A1.05 says mechanical equipment and lighting shall be included in base bid.
  - a. Looks like the mechanical equipment is included in base bid. Please confirm
  - b. E3.00 says lighting is part of the alternate. Please confirm.

#### RESPONSE

Mechanical equipment is included in the Base Bid.

Lighting is only included in Alternate #1. The existing lighting would be reused on the ground if Alternate #1 is note executed.

#### **OUESTION**

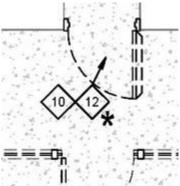
13. Drawing A1.03 note 8 "remove or construct on top of existing stair" Please explain.

#### RESPONSE

Please clarify location of this statement. "Remove or construct on top of existing stair" cannot be identified on Sheet A1.03.

#### **QUESTION**

14. Please see question below:



On the demo pages there are several keynotes like pictured above. Please clarify if this means both notes attached are a part of alternate #1 or if note 12, for example, is a part of alternate #1.

#### **RESPONSE**

Asterisk identifies that Sheet Keynote #12 is a part of Alternate #1. Sheet Keynote #10 is not a part of Alternate #1. Other locations with multiple sheet keynotes will follow the same rule. An asterisk must be placed next to each sheet keynote.

#### **QUESTION**

15. Please see question below: On Page #A1.02 "First Floor Demo", the vault room is tagged with Note 10 indicating to remove the existing ceiling, but on Page #A1.06 "First Floor RCP", it shows only to remove a portion of the ceiling. Please clarify if we are to remove the entire ceiling or just a certain amount.

#### RESPONSE

On Sheet A1.02, Sheet Keynote #10 shall be omitted in the existing vault room. To clarify, removing a portion of the existing ceiling is related to providing an opening for the new supply air duct.

#### **QUESTION**

16. Does the 151 days to substantial completion only apply to the base bid? If so, could the amount of additional days be provided should the alternate be accepted?

#### RESPONSE

The amount of days to substantial complete does include Alternate #1.

### **CLARIFICATIONS**

If you have any questions or comments, please feel free to contact me at your earliest convenience. As a reminder, bids will be received until 1:30 p.m. on Tuesday, July 19, 2022 at Camden Family Health, 10003 Webster Road, Camden-On-Gauley, WV 26208. Good luck to everyone and thank you for your interest in the project.

Sincerely,

THE THRASHER GROUP, INC.

CASEY ARTHUR, MBA, AIA, NCARB, LEED AP

Senior Architect



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#### SECTION 123216 - MANUFACTURED PLASTIC-LAMINATE-CLAD CASEWORK

#### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section includes plastic-laminate-clad cabinets of stock design.

#### 1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Sustainable Design Submittals:
  - 1. <u>Product Data</u>: For adhesives, indicating that product contains no urea formaldehyde.
  - 2. <u>Product Data</u>: For composite wood products, indicating compliance with requirements for formaldehyde emissions.
- C. Shop Drawings: For plastic-laminate-clad casework.
- D. Samples: For casework and hardware finishes.

#### 1.4 INFORMATIONAL SUBMITTALS

A. Sample warranty.

#### 1.5 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

#### 1.6 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of casework that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period: Five years from date of Substantial Completion.

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#### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. <u>Manufacturers:</u> Subject to compliance with requirements, provide products by one of the following:
  - 1. Chandler.
  - 2. Advanced Cabinet Systems (ACS).
  - 3. Diversified Fixture.
  - 4. Hausmann Industries, Inc.
  - 5. Mica-Tec.
  - 6. <u>Terrill Manufacturing Company</u>.
  - 7. Windham Millwork, Inc.
  - 8. Southern Cabinetry, Inc. 3

#### 2.2 CASEWORK, GENERAL

- A. Quality Standard: Unless otherwise indicated, comply with the AWI/AWMAC/WI's "Architectural Woodwork Standards" for grades of casework indicated for construction, finishes, installation, and other requirements.
  - 1. Grade: Custom.
  - 2. Provide inspections of casework fabrication and installation together with labels and certificates from AWI certification program indicating that casework complies with requirements of grades specified.
- B. Product Designations: Drawings indicate sizes, configurations, and finish materials of manufactured plastic-laminate-clad casework by referencing designated manufacturer's catalog numbers. Other manufacturers' casework of similar sizes and door and drawer configurations, of same finish materials, and complying with the Specifications may be considered. See Section 016000 "Product Requirements."

#### 2.3 PLASTIC-LAMINATED-FACED CABINETS

- A. Design: Frameless cabinet construction with the following door and drawer-front style:
  - 1. Flush overlay.
- B. Grain Direction for Wood-Grain Plastic Laminate:
  - 1. Doors: Vertical with continuous vertical matching.
  - 2. Drawer Fronts: Vertical with continuous vertical matching.
  - 3. Face Frame Members: Lengthwise.
  - 4. End Panels: Vertical.
  - 5. Bottoms and Tops of Units: Side to side.
  - 6. Knee Space Panels: Vertical.
  - 7. Aprons: Horizontal.

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#### C. Exposed Materials:

- 1. Plastic-Laminate Grade: HGL.
  - a. Colors and Patterns: As selected by Architect from manufacturer's full range.
- 2. Edgebanding: Plastic laminate matching adjacent surfaces.

#### D. Semiexposed Materials:

- 1. Plastic Laminate: Grade VGS unless otherwise indicated. Provide plastic laminate for semiexposed surfaces unless otherwise indicated.
  - a. Colors and Patterns: As selected by Architect from manufacturer's full range.
  - b. Provide plastic laminate of same grade as exposed surfaces for interior faces of doors and drawer fronts and other locations where opposite side of component is exposed.
- 2. Unless otherwise indicated, provide specified edgebanding on all semiexposed edges.

#### E. Concealed Materials:

- 1. Plywood: Hardwood plywood.
- 2. Particleboard.
- 3. MDF.

#### 2.4 MATERIALS

- A. <u>Composite Wood Products</u>: Formaldehyde emission rates shall not be greater than the following when tested according to ASTM D 6007 or ASTM E 1333:
  - 1. Hardwood Plywood: 0.05 ppm.
  - 2. Particleboard: 0.09 ppm.
  - 3. MDF More Than 5/16 Inch (8 mm) Thick: 0.11 ppm.
  - 4. MDF 5/16 Inch (8 mm) or Less in Thickness: 0.13 ppm.
- B. Maximum Moisture Content for Lumber: 7 percent for hardwood and 12 percent for softwood.
- C. Hardwood Plywood: HPVA HP-1, particleboard core except where veneer core is indicated.
- D. Softwood Plywood: DOC PS 1.
- E. Particleboard: ANSI A208.1, Grade M-2.
- F. MDF: Medium-density fiberboard, ANSI A208.2, Grade 130.
- G. Plastic Laminate: High-pressure decorative laminate complying with NEMA LD 3.
  - 1. <u>Manufacturers:</u> Subject to compliance with requirements, provide products by one of the following:
    - a. Arborite.

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- b. <u>Formica Corporation</u>.
- c. Lamin-Art, Inc.
- d. <u>Nevamar</u>; a Panolam Industries International, Inc. brand.
- e. Pionite, a Panolam Industries International, Inc. brand.
- f. Wilsonart LLC.
- H. <u>Adhesives</u>: Do not use adhesives that contain urea formaldehyde.

#### 2.5 CASEWORK HARDWARE AND ACCESSORIES

- A. Hardware, General: Unless otherwise indicated, provide manufacturer's standard satin-finish, commercial-quality, heavy-duty hardware.
  - 1. Use threaded metal or plastic inserts with machine screws for fastening to particleboard except where hardware is through-bolted from back side.
- B. Frameless Concealed Hinges (European Type): BHMA A156.9, Type B01602, self-closing.
- C. Wire Pulls: Solid stainless-steel wire pulls, fastened from back with two screws.
- D. Door Catches: Zinc-plated, nylon-roller spring catch or dual, self-aligning, permanent magnet catch.
- E. Door and Drawer Bumpers: Self-adhering, clear silicone rubber.
- F. Drawer Slides: BHMA A156.9, Type B05091.
- G. Drawer and Hinged-Door Locks: Cylindrical (cam) type, five-pin tumbler, brass with chrome-plated finish, and complying with BHMA A156.11, Grade 1.
  - 1. Provide a minimum of two keys per lock and six master keys.
  - 2. Provide locks on every door and drawer.
    - a. Masterkey for up to 500 key changes.
- H. Adjustable Shelf Supports: Single-pin metal shelf rests complying with BHMA A156.9, Type B04013.

#### PART 3 - EXECUTION

#### 3.1 CASEWORK INSTALLATION

- A. Grade: Install casework to comply with same quality standard grade as item to be installed.
- B. Install casework level, plumb, and true in line; shim as required using concealed shims. Where casework abuts other finished work, apply filler strips and scribe for accurate fit, with fasteners concealed where practical.

Camden Family Health, Inc. Camden-On-Gauley Richwood Clinic REVISED: Addendum #3
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- C. Base Cabinets: Set cabinets straight, level, and plumb. Adjust subtops within 1/16 inch of a single plane. Align similar adjoining doors and drawers to a tolerance of 1/16 inch. Bolt adjacent cabinets together with joints flush, tight, and uniform.
- D. Wall Cabinets: Hang cabinets straight, level, and plumb. Adjust fronts and bottoms within 1/16 inch of a single plane. Fasten cabinets to hanging strips, masonry, framing, wood blocking, or reinforcements in walls and partitions. Align similar adjoining doors to a tolerance of 1/16 inch.
- E. Fasten casework to adjacent units and to masonry, framing, wood blocking, or reinforcements in walls and partitions to comply with the AWI/AWMAC/WI's "Architectural Woodwork Standards."
- F. Install hardware uniformly and precisely. Set hinges snug and flat in mortises unless otherwise indicated. Adjust and align hardware so moving parts operate freely and contact points meet accurately. Allow for final adjustment after installation.
- G. Adjust operating hardware so doors and drawers operate smoothly without warp or bind. Lubricate operating hardware as recommended by manufacturer.
- H. Clean finished surfaces, touch up as required, and remove or refinish damaged or soiled areas to match original factory finish, as approved by Architect.

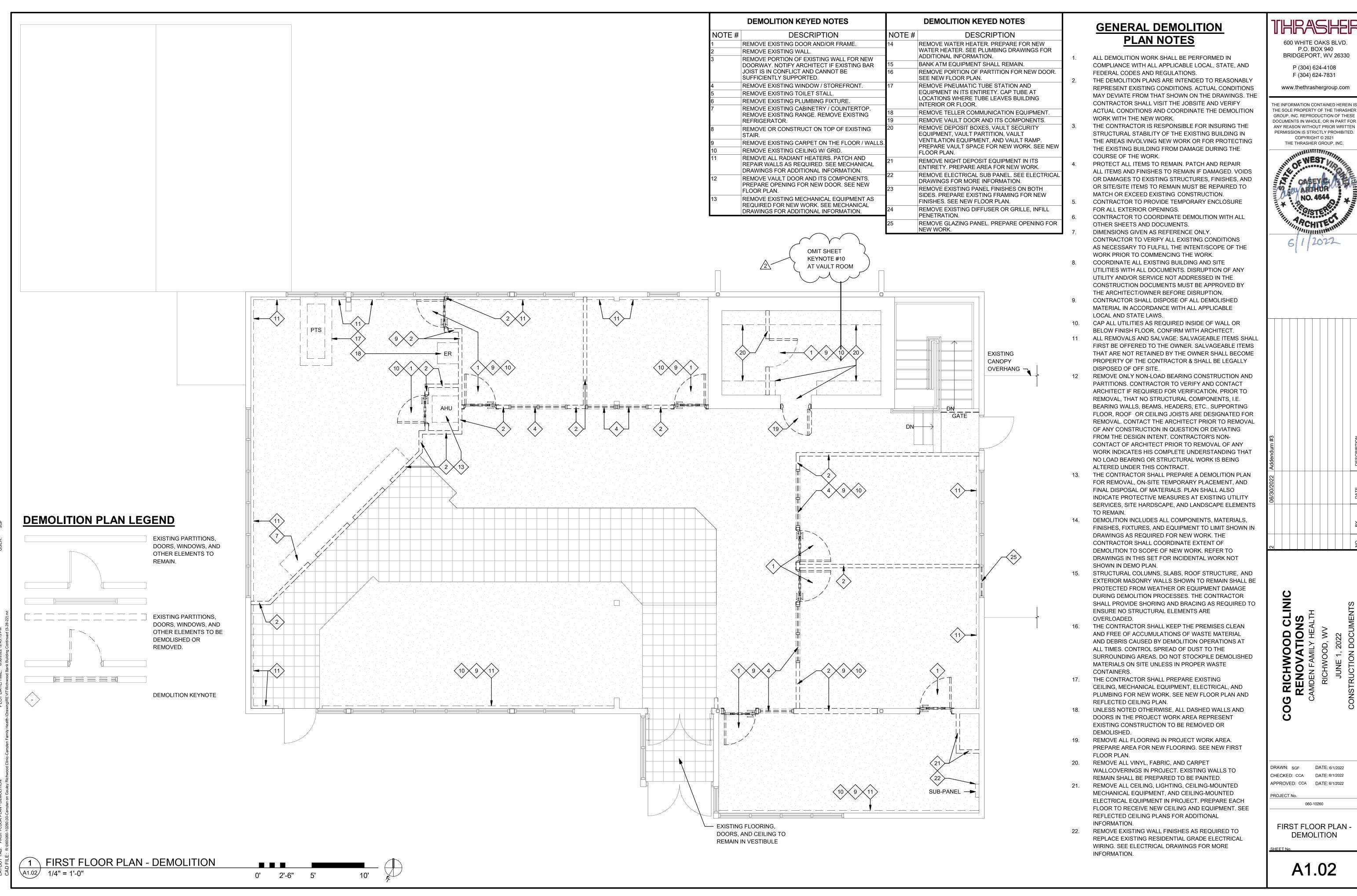
**END OF SECTION 123216** 

Camden Family Health, Inc. Camden-On-Gauley Richwood Clinic

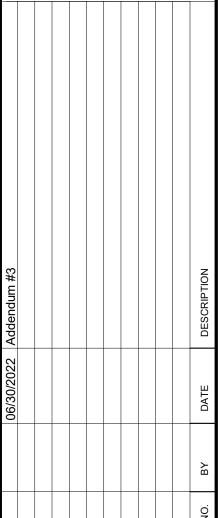
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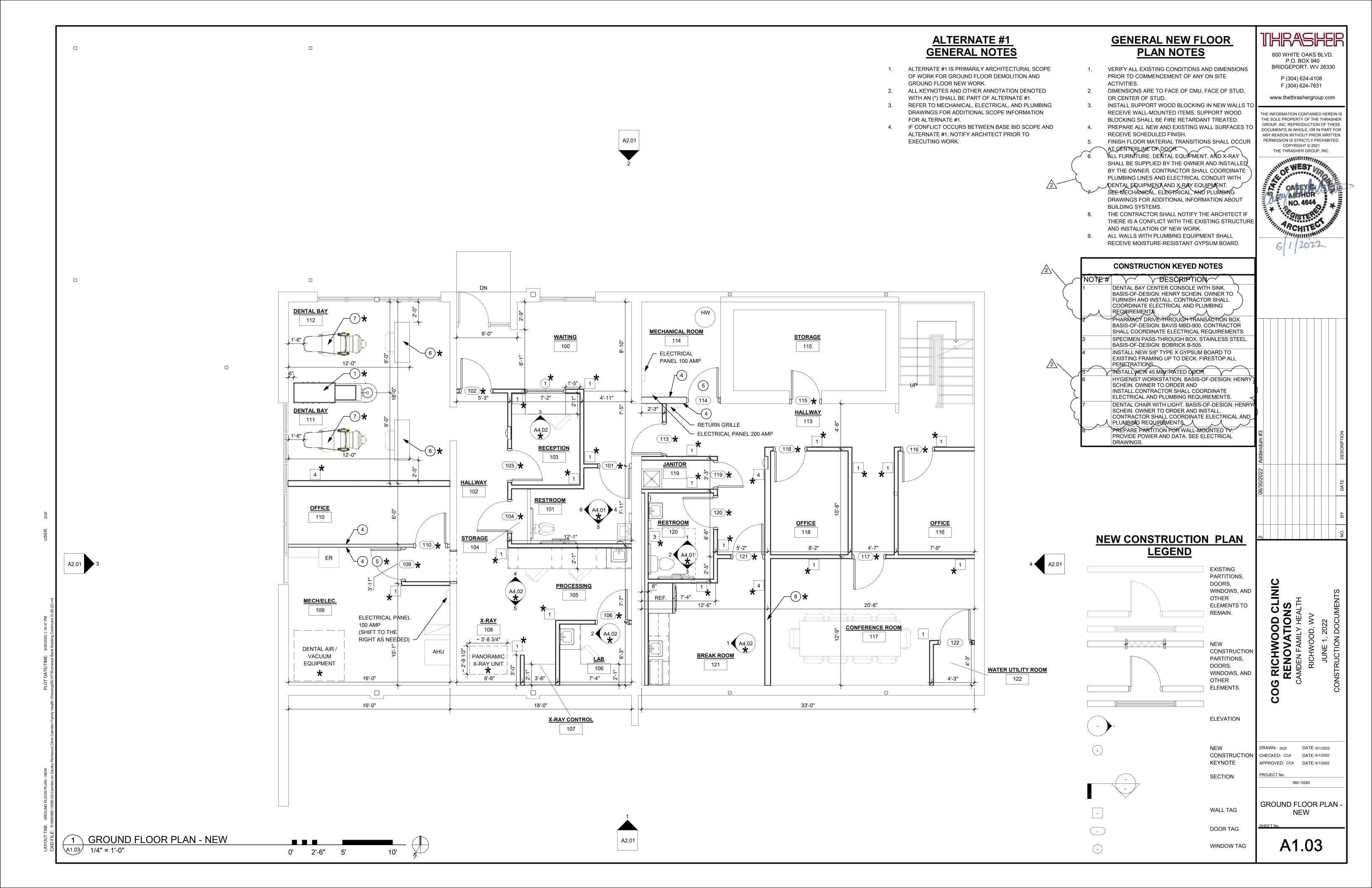
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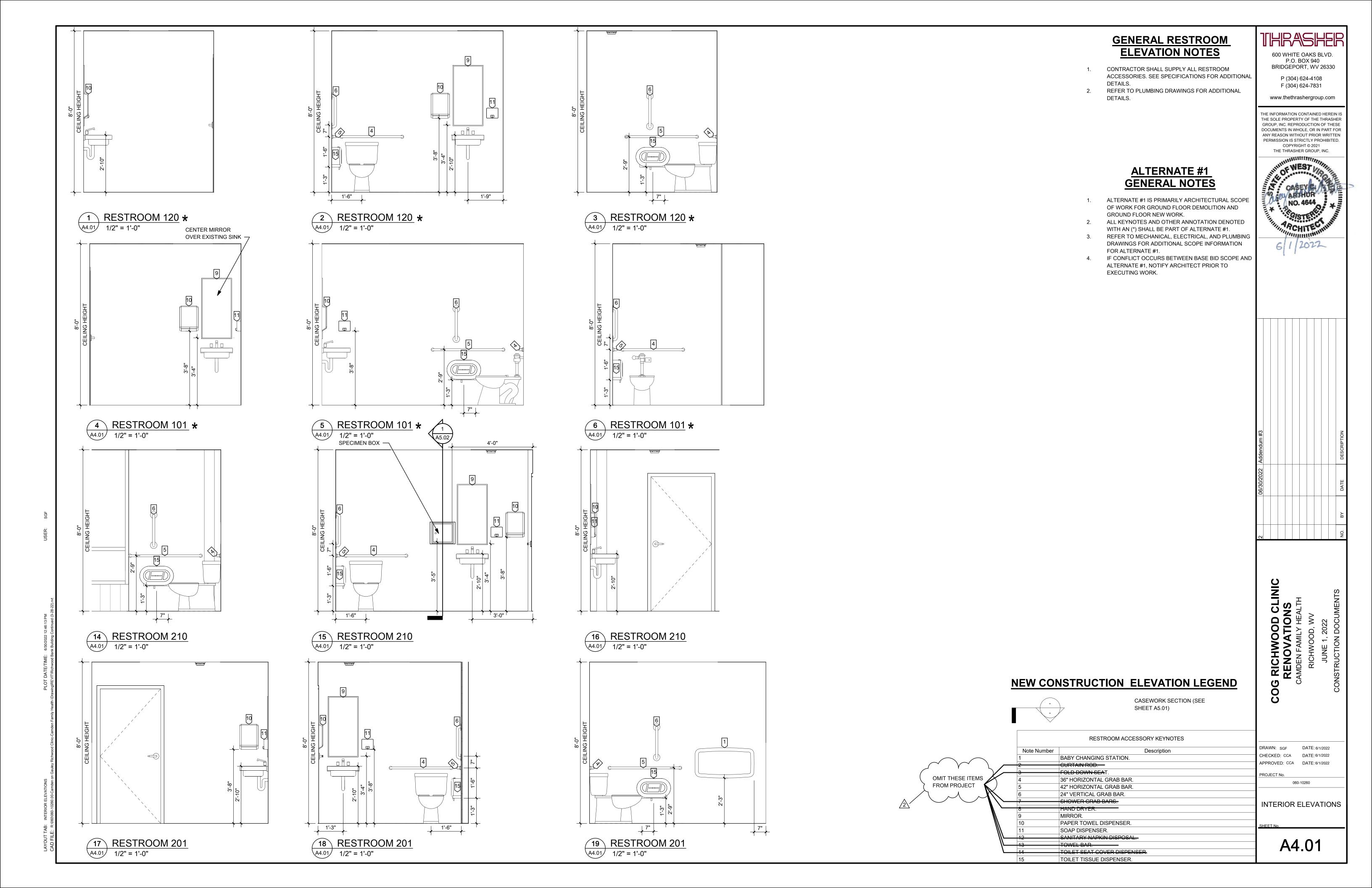
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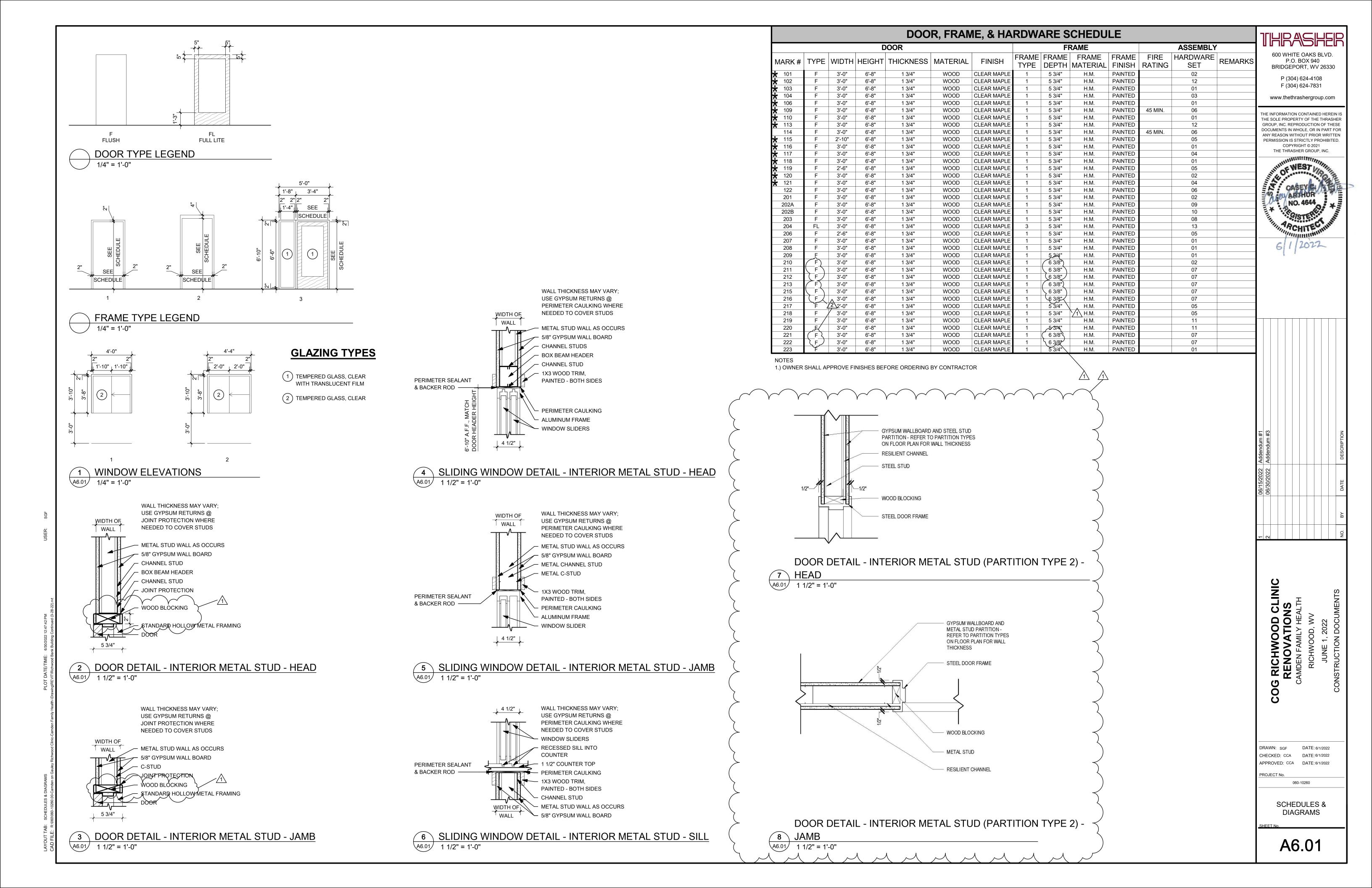












# ○ PLUMBING KEY NOTES

- 1/2" HOT AND COLD WATER LINES DOWN FROM ABOVE FLOOR.
   1/2" HOT AND COLD WATER LINES UP TO ABOVE FLOOR.

- 3. 2" WASTE LINE DOWN FROM ABOVE.
   4. 3" WASTE LINE DOWN FROM ABOVE.
   5. CONNECT TO EXISTING WASTE LINE AT THIS LOCATION. CONTRACTOR TO FIELD VERIFY ALL EXISTING INVERTS OF EXISTING WASTE LINES BEFORE STARTING CONSTRUCTION. IF THERE IS AN ISSUE CONTRACTOR TO NOTIFY ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
- 6. 1 1/2" MEDICAL VACUUM AND 1/2" MEDICAL AIR UP. COORDINATE EXACT LOCATION OF MEDICAL VACUUM AND MEDICAL AIR OUTLETS BEFORE STARTING CONSTRUCTION TO VERIFY PROPER LOCATIONS OF MEDICAL VAC AND MEDICAL AIR RISERS FROM BELOW
- 7. MEDICAL VACUUM LINE DOWN FROM ABOVE FLOOR.
- 8. MEDIČAL AIR SUPPLY LINE DOWN FROM ABOVE FLOOR. 9. CONTRACTOR TO PROVIDE AND INSTALL 2" CONDUIT WITH LONG SWEEP ELBOWS . CONTRACTOR SHALL COORDINATE REQUIRED LOCATION OF CONDUIT WITH DENTAL EQUIPMENT SUPPILIER BEFORE INSTALLING CONDUIT BELOW FLOOR.



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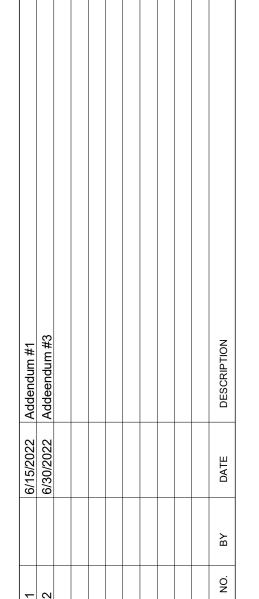
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F (304) 624-7831

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- ALL KEYNOTES AND OTHER ANNOTATION DENOTED WITN AN (\*) SHALL BE PART OF ALTERNATE #1.
- IF CONFLICT OCCURS BETWEEN BASE BID SCOPE OF WORK AND ALTERNATE #1, NOTIFY ARCHITECT PRIOR TO EXECUTING WORK.

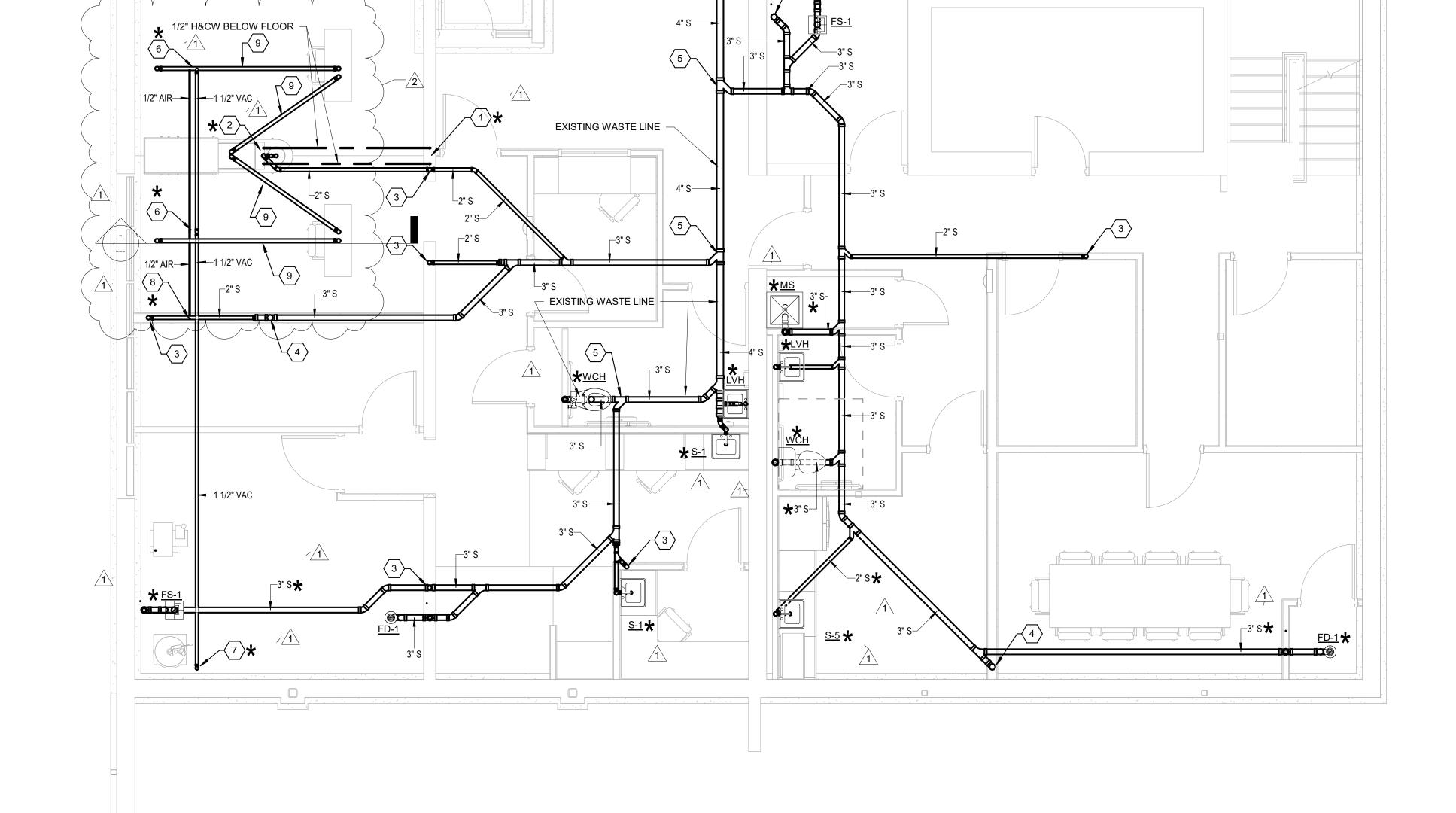


CHECKED: KES DATE: 10/09/20 APPROVED: KES DATE: 10/09/20

060-10260

**BELOW GROUND** FLOOR NEW WORK
PLAN - PLUMBING
SHEET No.

P3.01



EXISTING WASTE LINE

1 BELOW GROUND FLOOR PLUMBING PLAN - NEW

P3.01 1/4" = 1'-0"

## GROUND FLOOR PLUMBING PLAN - NEW P3.02 1/4" = 1'-0"

# ○ PLUMBING KEY NOTES

- 2" WASTE LINE DOWN.
   3" WASTE LIONE DOWN.
- 3. 1/2" HOT AND COLD WATER UP. 4. CONNECT NEW 4" FLUE DUCT TO EXISTING FLUE DUCT AT THIS LOCATION.
- 5. CONNECT NEW COLD WATER LINE TO EXISTING COLD WATER LINE AT THIS LOCATION. 6. CONNECT NEW HOT WATER LINE TO EXISTING HOT WATER LINE AT THIS
- LOCATION.
- CONNECT NEW 2" VENT LINE TO EXISTING 2" VENT LINE AT THIS LOCATION.
   EXISTING 2" VENT LINE UP.
- 9. 1/2" HOT AND COLD WATER LINES UP FROM BELOW FLOOR.
  10. PROVIDE AND INSTALL AN AIR ADMINTANCE VALVE.
  11. PROVIDE AND INSTALL A 1 1/2" REDUCED PRESSURE BACKFLOW PREVENTER
- AT THIS LOCATION. 12. 1 1/2" COLD WATER LINE DOWN.
- 13. 1 1/2" COLD WATER LINE UP.
- 14. 3" WASTE, 1 1/2" COLD WATER, 3/4" HOT WATER AND 3/4" HOT WATER RECIRCULATION LINES IN SOFFIT.
- 15. 2" WAST ELINE DOWN FROM ABOVE.
- 16. 3" WASTE LINE DOWN FROM ABOVE.
- 17. 1/2" HOT AND COLD WATER DOWN TO BELOW FLOOR.
- 18. SEE SITE UTILITY PLAN FOR CONTINUATION.
- 19. 2" VENT LINE UP. 20. PROVIDE AND INSTALL NEW GAS WATER HEATER AT THIS LOCATION PER MANUFACTURERS RECOMMENDATIONS. ROUTE T&P VALVE TO FLOOR SINK
- 21. 3/4" GAS LINE DOWN TO AIR HANDLER UNIT. CONNECT TO UNIT PER MANUFACTURERS RECOMMENDATION.
- 22. 3/4" GAS LINE UP.
- 23. FRESH AIR INTAKE TO BE ROUTED TO AN AIR SOURCE OUTSIDE OF EQUIPMENT ROOM. INCOMING FRESH AIR TEMPERATURE MUST NOT EXCEED
- ROOM TEMPERATURE BY MORE THAN 20 DEGREES FAHRENHEIT. 24. DO NOT INSTALL TIGHT BENDS IN FRESH AIR INTAKE HOSES. TIGHT BENDS
- WILL CAUSE THEM TO COLLAPSE, LEADING TO COMPRESSOR FAILURE. 25. ROUTE 1" FRESH AIR INTAKE TO OUTSIDE, TURN DOWN AND PROVIDE BUG SCREEN. INSTALL PER MANUFACTURERS RECOMMNEDATION.
- 26. ROUTE AIR COMPRESSOR DRAIN TO FLOOR SINK WITH AIR GAP. INTSALL A MINUMUM OF 10'-0" FROM BUILDING OR EQUIPMENT EXHAUST. INSTALL PER MANUFACTURERS RECOMMENDATION.
- 27. ROUTE 2" MEDICAL VACUUM EXHAUST UP.
- 28. 1 1/2" MEDICAL VACUUM DOWN TO BELOW FLOOR.
- 29. 1/2" MEDICAL AIR DOWN TO BELOW FLOOR. 30. 1/2" MEDICAL AIR LINE UP FROM BELOW FLOOR COORDINATE WITH MEDICAL
- SUPPLY EQUIPMENT FOR EXACT LOCATION OF OUTLETS BEFORE STARTING CONSTRUCTION. 31. 1 1/2" MEDICAL VACUUM LINE UP FROM BELOW FLOOR COORDINATE WITH MEDICAL SUPPLY EQUIPMENT FOR EXACT LOCATION OF OUTLETS BEFORE
- STARTING CONSTRUCTION.
- 32 INSTALL MEDICAL VACUUM AND ALL PIPING PER MANUFACTURERS RECOMMENDATION.
- 33 INSTALL MEDICAL AIR COMPRESSOR AND ALL PIPING PER MANUFACTURERS RECOMMENDATION.
- 34. CONTRACTOR TO STUB UP 2" CONDUIT. CONTRACTOR SHALL COORDINATE REQUIRED STUB UP LOCATIONS WITH DENTAL EQUIPMENT SUPPILIER BEFORE INSTALLING CONDUIT.

# ALTERNATE #1 GENERAL NOTES



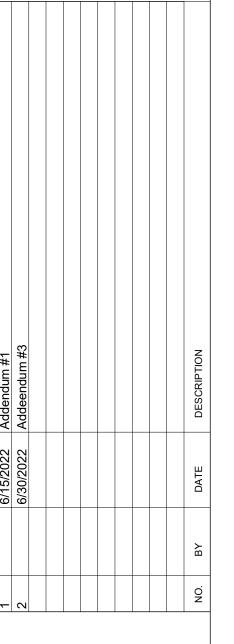
ALTERNATE #1. IF CONFLICT OCCURS BETWEEN BASE BID SCOPE OF WORK AND ALTERNATE #1, NOTIFY ARCHITECT PRIOR TO EXECUTING WORK.



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DRAWN: DEB DATE: 05/02/22 CHECKED: KES DATE: 05/02/22 APPROVED: TTG DATE: 05/02/22

PROJECT No. 060-10260

GROUND FLOOR NEW WORK PLAN -PLUMBING

P3.02

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## PowerAir<sup>™</sup> Compressor Installation

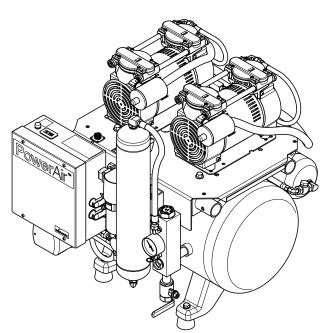
**Applies to Models:** 

P21 - 115 Volts P22, P32 - 230 Volts P52, P72 - 230 Volts

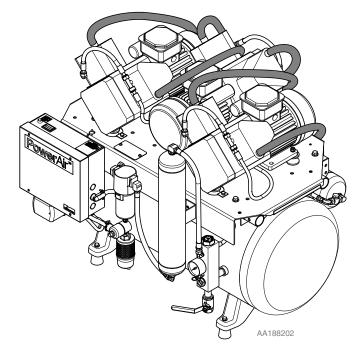


### **Equipment Alert**

Compressor system must be installed per local plumbing and electrical codes.

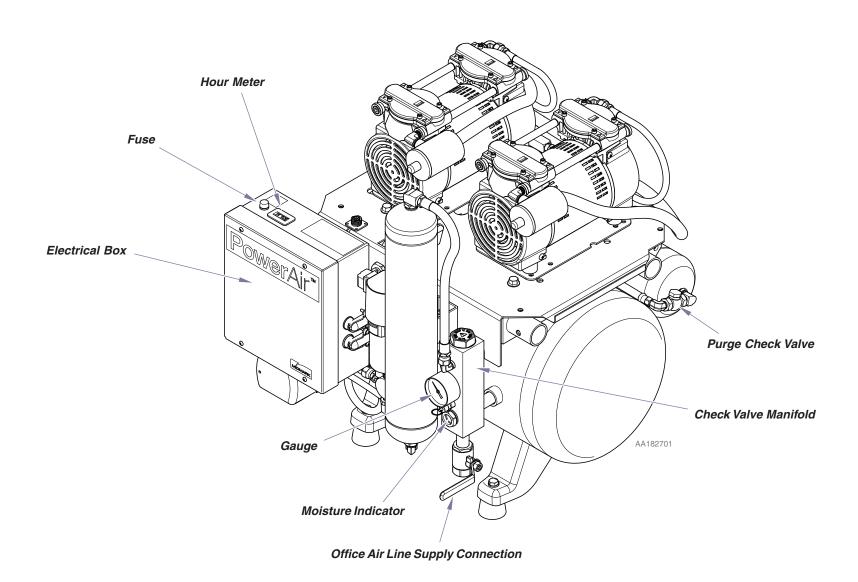


Model P21 (115 Volt) or P22 (230 Volt) - Twin .75 HP Heads



Model P72 - Triple 1.6 HP Heads

# Compressor Main Component Locations



2

P22 Model Shown Components Shown are Typical on all PowerAir™ Compressor Models

# Compressor Site Requirements

**Electrical Models** 

P21	P22	P32	P52	P72
115	208-230	208-230	208-230	208-230
20 Amps	20 Amps	20 Amps	30 Amps	40 Amps
	115	115 208-230	115 208-230 208-230	115 208-230 208-230 208-230

**Plumbing** 

Fresh Air Intake Line	
Туре	PVC
Line Sizing	1" Minimum (Provided by Contractor)
Compressor Connections	1" MPT or 1" PVC Slip Connectors
Drain	
Туре	Poly Tube (Provided with Install Kit)
Delivery Line	
	3/8" to 3/4" Copper, as site layout dictates. Terminate in mechanical
Main Trunk Line	room with 1/2" FPT. Flex hose provided for service connection.
Operatory Branch Lines	FPT at Operatory junction box location.

### **Environmental**

Equipment Room Ambient  Temperature - Operational  40° - 104° Fahrenheit / 4° - 40° Celsius
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### Installation Kit Provided with Compressors Feet with Hardware Elbow for Indicator for **Operatory Line** Coalescing Filter Connection

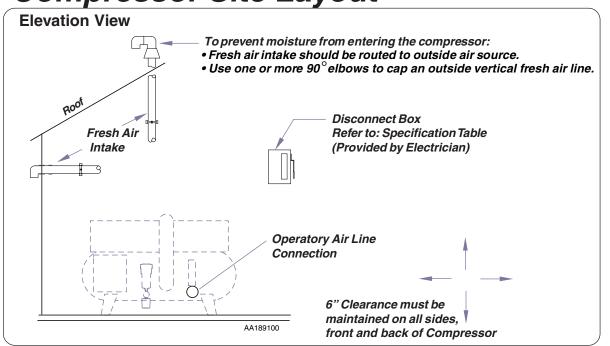
Exhaust Silencer

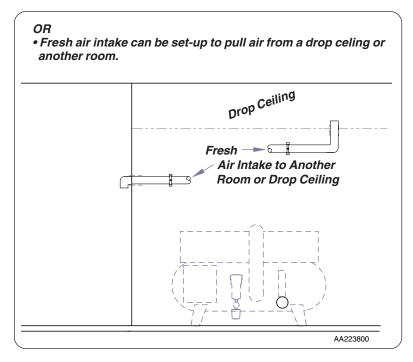
Fresh Air Intake Hose Length - 10'

Oil

Operatory Air Line AA189300 Length - 6'

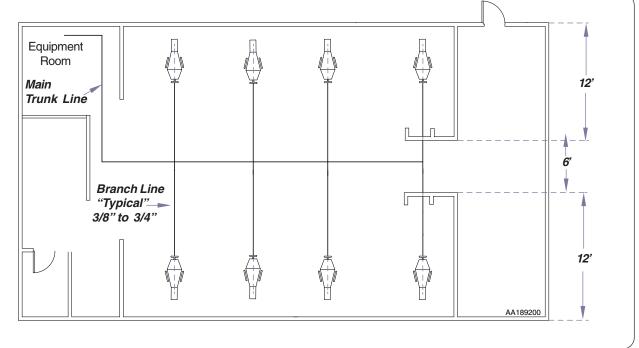
# Compressor Site Layout





### **Sample Plumbing Layout**

AIR LINE SIZING CHART						
<b>Compressor CFM</b>	Main Header Line					
@ 80 psig	Size					
5 - 10	3/8" ODT					
10 - 20	1/2" ODT					
20 - 30	5/8" ODT					
30 - 40	3/4" ODT					



# Important Information

#### Intended Use

To provide compressed air during general examinations and procedures conducted by qualified dental professionals.

### Electromagnetic Interference

This Midmark Liquid Ring Vacuum is designed and built to minimize electromagnetic interference with other devices.

However, if interference is noticed between another device and these units:

- Remove interfering device from room
- Plug interfering device into an isolated circuit
- Increase separation between unit and interfering device
- Contact Midmark if interference persists

### Disposal of Equipment

At the end of product life, the unit(s), accessory, and other consumable goods may become contaminated from normal use. Consult local codes and ordinances for proper disposal of equipment, accessories and other consumable goods.

### Transportation / Storage Conditions



Keep dry



Maximum stacking height (palletted units)



Fuse rating specification



Caution hot surface



Consult User Guide for important information.



Proper shipping orientation



Fragile



Protective earth ground

IPXO Ordinary Equipment

This product has been evaluated with respect to electrical shock, fire & mechanical hazards only, in accordance with UL60601-1 and CAN/CSA C22.2 NO. 601.1.



#### **DANGER**

Indicates an imminently hazardous situation which <u>will</u> result in serious or fatal injury if not avoided. This symbol is used only in the most extreme conditions.



#### WARNING

Indicates a potentially hazardous situation which *could* result in serious injury if not avoided.

CAUTION

Indicates a potentially hazardous situation which <u>may</u> result in minor or moderate injury if not avoided. It may also be used to alert against unsafe practices.

**Equipment Alert** 

Indicates a potentially hazardous situation which could result in equipment damage if not avoided

#### Note

Amplifies a procedure, practice, or condition.

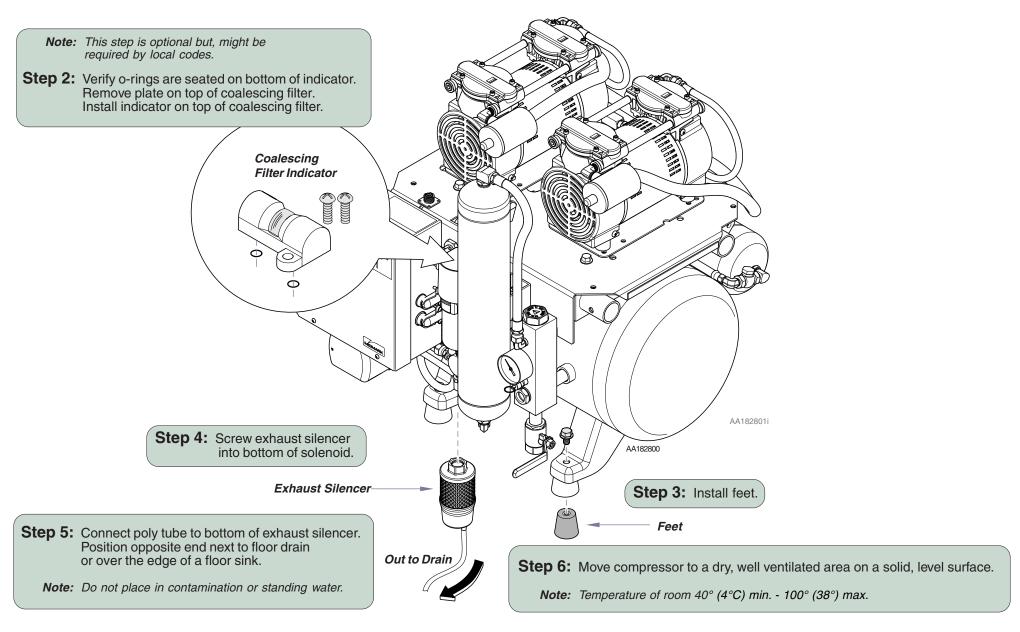
AA2369

# Before you Install...

**Step 1:** Remove compressor and accessories from shipping skid.

## Equipment Alert

Compressor system must be installed in an air conditioned and or ventilated room to ensure operational ambient temperature of 40° to 104° Fahrenheit (4° - 40° Celsius). A 6" clearance is required on the rear and one side to allow air flow around the unit. Failure to do so could cause premature loss of system performance and void warranty.



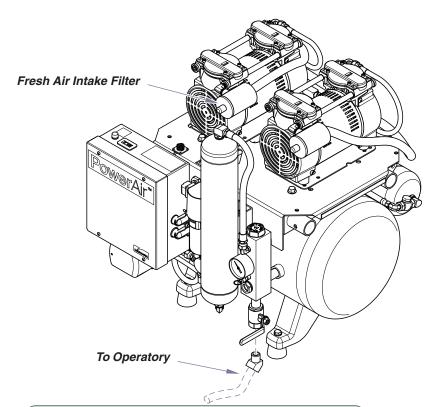
# Installation Plumbing Connections



### **Equipment Alert**

To prevent moisture from entering the compressor...

- Incoming fresh air temperature must not exceed room temperature by more than 20° Fahrenheit or -6 Celsius.
- Fresh air intake should be routed to an air source outside the equipment room.
- Refer to "Site Layout" in this manual for routing recommendations.
- •Tight bends in the fresh air intake hoses may cause them to collapse, potentially leading to premature compressor failure.

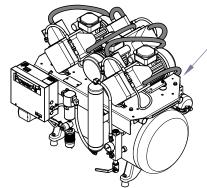


Step 7: Install elbow to valve.

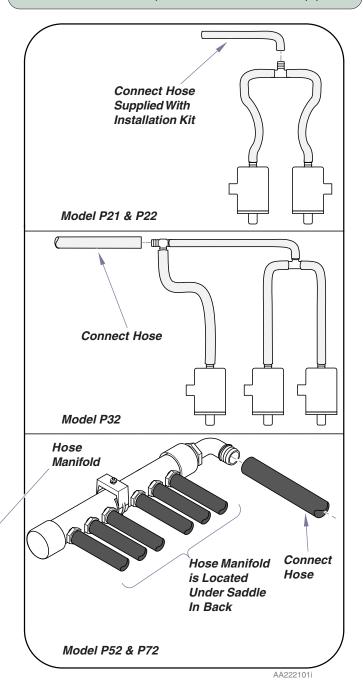
Connect hose assembly to valve.

Connect office air supply line.

Note: Hose assembly included in the installation kit.



**Step 8:** Connect fresh air intake hose to barbed fitting behind compressor to fresh air intake pipe.



# Installation Electrical Connections

\*Refer to Specification Sheet for Electrical Ratings in this manual. P21-115 Model 115 Volt Source Single Phase, 60 Hz 20 Amp Fuse Circuit Breaker Box (Electrician Supplied) P22, P32, P52, P72 Models

Low Voltage **Control Wires** 

208-230 Volt Source Single Phase, 60 Hz 20 Amp Fuse Circuit Breaker Box (Electrician Supplied)

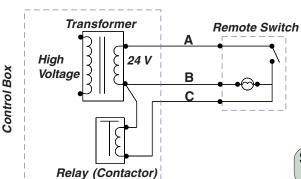


#### WARNING

Connect in accordance with NEC Class 2, wiring methods.

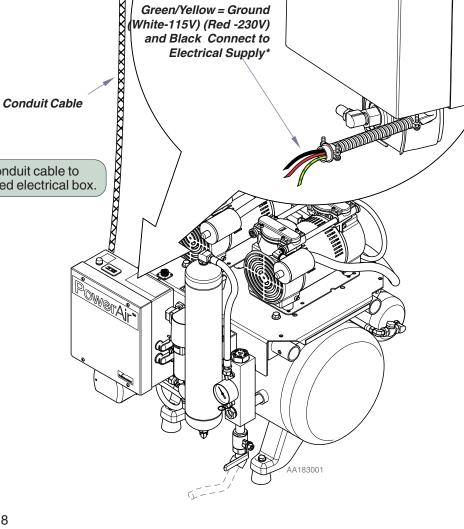
**Step 9:** Connect remote panel wires to Low Voltage Control wires if applicable.

#### Remote Panel



Step 10: Connect conduit cable to user supplied electrical box.

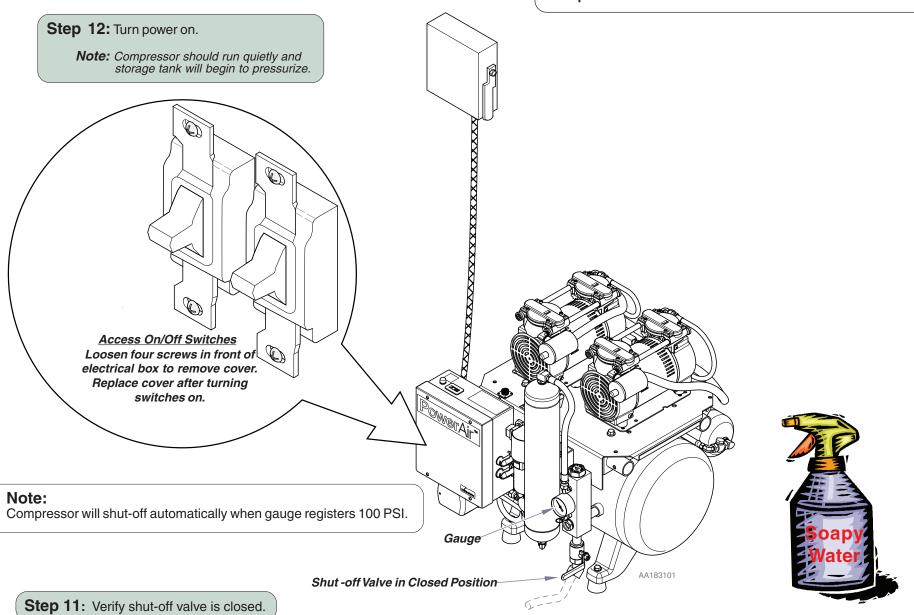
Control Panel Cross Wiring								
Brand	Wire							
Brand	Α	B (Light)	С					
Midmark	Blue	White	Red					
Air Techniques	Yellow	Brown	Orange					
DentalEz	Black	Brown	Yellow					
Matrx	Red	Blue	White					
Apollo	Blue	White	Red					



# Installation Check & Test

**WARNING** 

The On/Off switch controls only the secondary circuit power. The main power source must be turned off to remove all power in the control box. The circuit breaker panel is the main power disconnect.



**Step 13:** Use soapy water to check for pressure leaks.

# Installation Check & Test

#### Note:

Monitor line pressure gauge when testing for leaks.

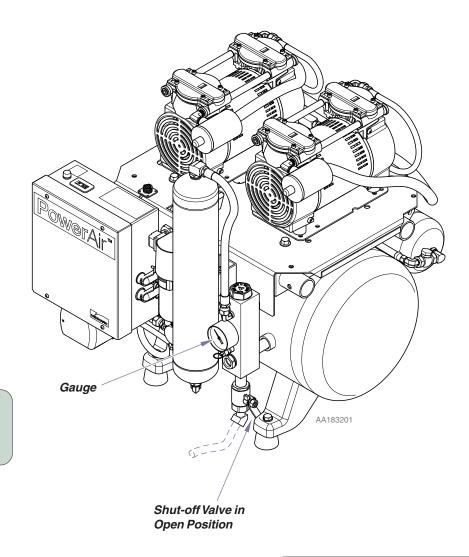
**Step 14:** Open the shut-off valve slowly and allow air to flow into the office air system.

**Step 15:** Allow office line to pressurize for 20-30 seconds. Check storage pressure gauge reading.

**Step 16:** Check gauge reading after 10 minutes.

**Note:** If the storage pressure gauge registers a lower reading, an air leak exists. Locate the

leak(s) and repair.



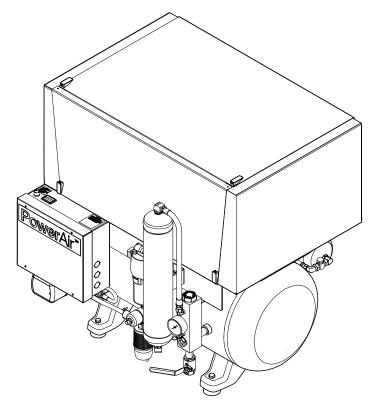
**WARNING** 

Always disconnect the power before servicing. The head(s) surface(s) can be very hot depending on compressor usage. Do not touch these parts during or directly after operation.

Verify all leaks are sealed.

Air leaks are the main cause of premature compressor failures!

# Specification Sheet PowerAir™ Compressors



Classifications: Class 1, No Applied Part

AA183300

Model	# Users	CFM @ 80 PSI	Total HP	Tank Capacity	Voltage	Total Amps	Breaker Size	Sound Level (dBA)	Sound Level (dBA) With Quiet Cover	Dimensions H x W x D (IN.)	Dimensions With Sound Cover H x W x D (IN.)	Product Weight (LBS.)
P21	1 - 3	5.2	1.5	10	115	16.0	20	65	60	27 x 26 x 24	32 x 26 x 25	225
P22	1 - 3	5.2	1.5	10	208-230	7.0	20	65	60	27 x 26 x 24	32 x 26 x 25	225
P32	3 - 5	7.8	2.25	20	208-230	11.0	20	67	62	29 x 33 x 26	33 x 33 x 28	295
P52	5 - 7	10.6	3.2	20	208-230	20.0	30	70	65	31 x 33 x 26	33 x 33 x 28	345
P72	7 - 10	15.9	4.8	32	208-230	29.0	40	73	68	33 x 40 x 27	39 x 40 x 30	425

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