# Heartland Dental - Lee's Summit Tenant Improvements **Market Street Center** Lee's Summit, Missouri 64082

# PROJECT NOTES

# GENERAL NOTES:

- DO NOT SCALE DRAWINGS. USE WRITTEN DIMENSIONS ONLY. SUBMIT ANY DISCREPANCIES TO THE ARCHITECT FOR CLARIFICATION
- ALL WORK SHALL BE IN COMPLIANCE WITH THE STANDARD BUILDING RECOGNIZED INDUSTRY STANDARDS, CRAFTSMANSHIP STANDARDS IN THE AREA, ALL MANUFACTURER RECOMMENDATIONS, AND ALL OTHER APPLICABLE CODES
- PROVIDE ACCESSIBILITY FOR THE PHYSICALLY HANDICAPPED CONFORMING TO THE AMERICANS WITH DISABILITIES ACT OF 2010. TO THE BEST OF OUR KNOWLEDGE, THIS BUILDING HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2018 IBC AND THE RULES AND REGULATIONS OF NEW CONSTRUCTION PER ADA
- THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR BUILDING THIS PROJECT IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS UNLESS A WRITTEN NOTIFICATION FROM THE OWNER OR ARCHITECT TO THE CONTRARY IS RECEIVED
- THE ARCHITECT DOES NOT GUARANTEE THE PERFORMANCE OF THE PROJECT IN ANY RESPECT OTHER THAN THAT OUR ARCHITECTURAL WORK AND JUDGEMENT RENDERED MEETS THE STANDARDS OF CARE OF OUR PROFESSION
- THE LOCATION OF THE EXISTING UTILITIES AND STRUCTURES SHOWN HEREON ARE APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND ACTUAL LOCATION OF SUCH, WHETHER SHOWN HEREON OR NOT, PRIOR TO ANY EXCAVATION. ANY DAMAGES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR
- THE CONTRACTOR SHALL PROVIDE ADEQUATE BRACING AND SHORING FOR ALL WORK DURING THE CONSTRUCTION PERIOD
- PROVIDE ILLUMINATED EXIT SIGNS WITH BATTERY BACKUP DESIGNATING EXITS AND WAYS OF TRAVEL THERETO
- FIRE BARRIER SHALL BE CONTINUOUS FROM OUTSIDE WALL TO OUTSIDE WALL, FROM A FIRE BARRIER TO ANOTHER FIRE BARRIER, OR A COMBINATION THEREOF, INCLUDING CONTINUITY THROUGH ALL CONCEALED SPACES SUCH AS THOSE FOUND ABOVE A CEILING, INCLUDING INTERSTITIAL SPACES
- 10. PASSAGES OF PIPES, CONDUITS, BUS DUCTS, CABLES, WIRES, AIRDUCTS, PNEUMATIC DUCTS, AND SIMILAR BUILDING SERVICE EQUIPMENT THROUGH FIRE BARRIERS SHALL BE PROTECTED AS FOLLOW
- 10.1. THE SPACE BETWEEN PENETRATING ITEM AND FIRE BARRIER SHALL BE FILLED WITH A MATERIAL CAPABLE OF MAINTAINING THE FIRE RESISTANCE RATING OF THE FIRE BARRIER PRODUCT. PRODUCT USED MUST MEET TEST METHODS ASTM E814 OR UL 1479 FOR FIRE RATING (PER 714.3.1.2 \$ 714.4.1.1.2 IBC 2018)
- FIRE BARRIERS SHALL BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH 2" 10.2. STENCILING (AT 12" O.C.) ABOVE ANY DECORATIVE CEILING AND CONCEALED SPACES WITH THE FOLLOWING:

### 10.2.1. FIRE/SMOKE BARRIER 10.2.2. PROTECT ALL OPENINGS

- PROVIDE AT LEAST I CLASS ABC 5 POUND FIRE EXTINGUISHER TO BE MOUNTED WHERE READILY VISIBLE AND ACCESSIBLE. ADDITIONAL UNITS MAY BE REQUIRED TO MEET A 75 FT. TRAVEL DISTANCE LIMITATION. INSTALL IN ACCORDANCE WITH NEPA IO OR PER LOCAL AUTHORITY.
- WHEN A BEAM OR COLUMN BECOMES PART OF A FIRE RATED WALL OR CEILING IT MUST 12. BE PROTECTED AND BE FIRE RATED AS IS THE WALL OR CEILING.
- SHELL MECHANICAL ROOM SHALL BE SEPARATED FROM THE REST OF THE BUILDING BY 13. ONE HOUR RATED FIRE-RESISTIVE CONSTRUCTION WITH ALL OPENINGS PROTECTED BY 45 MINUTE LABELED FIRE DOOR ASSEMBLY. ALL RATED WALLS, WINDOWS, AND DOORS SHALL BE CLEARLY IDENTIFIED ON ARCHITECTURAL DRAWINGS.
- THE FLOOR ON BOTH SIDES OF A DOOR SHALL BE LEVEL AND SHALL HAVE THE SAME ELEVATION ON BOTH SIDES OF THE DOOR, FOR A DISTANCE ON EACH SIDE EQUAL TO THE WIDTH OF THE WIDEST SINGLE DOOR.
- DOORS IN EXITS SHALL NOT BE SUBJECT TO THE USE OF A KEY FOR OPERATION FROM THE INSIDE OF THE BUILDING.
- 16. EVERY INTERIOR AND EXTERIOR DOOR IN THE BUILDING SHALL BE PROVIDED WITH HANDICAP HARDWARE (LEVERS, PANIC HARDWARE, OR U-SHAPE DESIGNED DEVICES, ETC.)
- PROVIDE J-MOLDS AND CORNER BEADS AT THE EDGES OF ALL EIFS SYSTEMS AND GYPSUM BOARD.

- 18. PROVIDE CONTINUOUS BLOCKING IN ALL STUD WALLS THAT ARE TO RECEIVE GRAB BARS, TOILET PARTITIONS, ETC.
- 19. ALL METAL STUD GAUGE DESIGN SHALL BE AS REQUIRED BY PERFORMANCE AND AS INDICATED IN THE DRAWINGS.
- 20. PROVIDE SEPARATION BETWEEN ALL DISSIMILAR METALS INCLUDING SCREWS, NAILS AND OTHER FASTENING DEVICES
- WHERE MATERIAL FASTENERS ARE NOT INDICATED, PROVIDE AS SPECIFIED BY THE MATERIAL MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES
- 22. USE ONLY 'LEAD-FREE' PIPE AND SOLDER FOR DOMESTIC WATER SYSTEM (SAFE DRINKING WATER ACT OF 1986)
- 23. GENERAL CONTRACTOR SHALL TREAT THE SOIL BENEATH THE SUITE SPACES WITH TERMITE POISON PER MANUFACTURER'S RECOMMENDATIONS
- 24. ALL WALLS TO BE ANCHORED BY POWER ACTUATED FASTENERS
- 25. ALL WOOD THAT IS IN DIRECT CONTACT WITH CEMENT, MASONRY OR EARTH SHALL BE PRESSURE TREATED.
- 26. BUILDING SIGNAGE IS TO BE PERMITTED UNDER SEPARATE COVER
- 27. GYPSUM BOARD WALLS AND CEILINGS SHALL BE INSTALLED PER THE GYPSUM CONSTRUCTION HANDBOOK, 6TH EDITION. LEVELS OF FINISH PER THE FOLLOWING:

LEVEL I:	IN CONCEALED SPACES, PLENUMS ABOVE CEILINGS, SERVI
	CORRIDORS AND SPACES NOT OPEN TO PUBLIC VIEW
LEVEL 2:	IN WAREHOUSE AND STORAGE SPACES
LEVEL 3:	IN AREAS TO RECEIVE HEAVY TEXTURED WALL FINISHES, C
	GRADE (HEAVY-DUTY) WALL COVERING
LEVEL 4:	IN AREAS TO RECEIVE FLAT PAINTS, LIGHT TEXTURES, RES
	(LIGHT-DUTY) WALL COVERING
LEVEL 5:	IN AREAS TO RECEIVE GLOSS, SEMI-GLOSS, OR ENAMEL P. UNTEXTURED FINISHES AND IN CRITICAL LIGHTING AREAS

# INSULATION NOTES

- PROVIDE FOIL-FACED BATT TYPE INSULATION IN EXTERIOR STUD WALLS TO MEET MINIMUM R-19
- FLAMESPREAD AND SMOKE DEVELOPMENT RATINGS FOR BATT INSULATION VAPOR RETARDER SHALL BE AS FOLLOWS
- 2.I. FLAMESPREAD: 25 2.2. SMOKE DEVELOPMENT: 450

# JOINTS AND SEALANT NOTES

- PROVIDE CONTINUOUS WATERPROOFING SILICONE BASED SEALANT AND BACKER ROD AT ALL STOREFRONT AND MASONRY JUNCTIONS AND TERMINATIONS. SEALANT SHALL MATCH STOREFRONT
- 2. PROVIDE CONTINUOUS SEALAND AND BACKER ROD AT ALL JUNCTIONS BETWEEN DISSIMILAR MATERIALS, I.E. BRICK TO EIFS ETC. DOW/CORNING #790
- 3. THE METAL EDGE SECUREMENT, EXCEPT GUTTER, SHALL BE INSTALLED AS TESTED IN ACCORDANCE WITH MOST CURRENT VERSION OF THE ANSI/SPRI EX-I, AMERICAN NATIONAL STANDARD FOR EDGE SYSTEMS USED WITH LOW-SLOPE ROOFING SYSTEMS
- 4. PROVIDE STANDING SEAM JOINTS AT ALL COPING SLICES FOR THERMAL EXPANSION. ALL SEAMS SHALL BE SEALED WITH DOW/CORNING #795 TYP.
- 5. PROVIDE CLOSURE END CAPS AND 90 DEGREE TRANSITIONS AT ALL EXPANSION JOINTS AND END WALL CAPS AT GRAVELSTOPS, TYP.
- 6. ALL METAL VENTS AND FLUES SHALL BE FLASHED WITH 'PORTALS PLUS' FLASHING BOOT, TYP. SEAL ALL METAL TO METAL CONNECTIONS WITH DOW/CORNING #795 (NOTE: NO CLEAR SILICONE SEALANT SHALL BE ALLOWED)
- 7. ANCHOR ALL PRESSURE TREATED WOOD BLOCKING AT TOP OF MASONRY WALLS UNDER COPING WITH 3/8" DIA. HOT DIPPED GALVANIZED ANCHORS AT 36" O.C.
- 8. ALL EXTERIOR JOINTS IN THE BUILDING ENVELOPE THAT ARE SOURCES OF AIR LEAKS SHALL BE CAULKED, GASKETED, WEATHER STRIPPED, OR OTHERWISE SEALED IN ACCORDANCE WITH SPECIFICATIONS
- 9. PROVIDE CONTROL JOINTS IN GYPSUM BOARD PER ASTM C-840 AND GA-216-10.

# DESIGN SUMMARY

, SERVICE ISHES, COMMERCIAL

ES, RESIDENTIAL AMEL PAINTS,

SHEPHERD, HARVEY & ASSOCIATES, INC.

4855 RIVER GREEN PARKWAY

CONTACT: BRAD SHEPHERD, P.E.

SUITE 400

DULUTH, GA 30096

PHONE: (770) 495-4007

# <u>SYNOPSIS:</u>

THE SCOPE OF WORK CONSISTS OF A FIRST GENERATION TENANT BUILD-OUT WITHIN AN EXISTING SHELL BUILDING, LOCATED IN LEE'S SUMMIT, MO. THE STRUCTURE INCLUDES, BUT IS NOT LIMITED TO, A 4" THICK CONCRETE SLAB, WOOD STUD FRAMING WITH EIFS/BRICK EXTERIOR VENEER WITH STEEL COLUMNS, WOOD JOISTS AND TPO ROOF SYSTEM ON PLYWOOD ROOF DECKING. INTERIOR CONSTRUCTION WILL COMPRISE OF METAL STUD FRAMING. ALL NEW CONSTRUCTION WILL MATCH THAT ALLOWED IN TYPE II-B CONSTRUCTION.

OCCUPANCY CLASSIFICATION: IBC CLASSIFICATION - BUSINESS\* (DENTAL OFFICE) LIFE SAFETY CODE CLASSIFICATION - BUSINESS (DENTAL OFFICE)

\*PER IBC 303.1.2, ALL ROOMS HAVING LESS THAN 50 PEOPLE AND HAVING NO MORE THAN 750 SQ. FT. SHALL BE CLASSIFIED AS SUPPORT SPACE FOR BUSINESS OCCUPANCY.

BUILDING CONSTRUCTION CONSTRUCTION TYPE: TYPE V-B SPRINKLERED: NO FIRE ALARM: NO

TENANT AREA: 4,200 SQ. FT. (GROSS SQUARE FOOTAGE) 4,066 SQ. FT. (NET SQUARE FOOTAGE)

OCCUPANT LOAD & EGRESS WIDTHS: 4,066 SQ. FT. / 150 SF/PERSON = 27.11 PERSONS 28 PERSONS \* 0.2 IN/PERSON = 5.6 INCHES REQUIRED, 68 INCHES PROVIDED

# PLUMBING CALCULATIONS

	OCCUPANCY: B (BUSINESS)	WATER CLOSETS		LAVATORIES			DRINKING		
		MALE	FEMALE	MALE	FEMALE	BATHTUBS/ FOUNTAINS SHOWERS		OTHER	
		I PER 25 FOR THE FIRST 50 AND I PER 50 FOR THE REMAINDER EXCEEDING 50		I PER 40 FOR THE FIRST 80 AND I PER 80 FOR THE REMAINDER EXCEEDING 80			I PER 100		
	# REQUIRED	I			I		I	I SERVICE SINK	
	# PROVIDED	I	I	I	I		I	I SERVICE SINK, I UNISEX RESTROOM	

CONTACTS	DESIGN CODES
TENANT HEARTLAND DENTAL 1200 NETWORK CENTRE DRIVE EFFINGHAM, IL 62401 DESIGN/PERMIT CONTACT: ANDREA HUGHES/NICOLE DESENDER PHONE: (636) 459-0430/(513) 910-7716 CONSTRUCTION CONTACT: MICHAEL VELASCO	<ul> <li>ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH:</li> <li>2018 INTERNATIONAL BUILDING CODE</li> <li>2017 NATIONAL ELECTRICAL CODE (NFPA 10)</li> <li>2018 INTERNATIONAL FIRE CODE</li> <li>2018 INTERNATIONAL MECHANICAL CODE</li> <li>2018 INTERNATIONAL PLUMBING CODE</li> <li>2018 INTERNATIONAL FUEL GAS CODE</li> <li>1CC/ANSI AIIT.I-2009, ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES</li> <li>2010 ADA STANDARDS</li> </ul>
PHONE: (972) 872-0887	VICINITY PLAN
ARCHITECT HILL FOLEY ROSSI & ASSOCIATES, LLC 3680 PLEASANT HILL ROAD SUITE 200 DULUTH, GA 30096 CONTACT: BRAD MCCULLOUGH, R.A. PHONE: (770) 622-9858	SITE Whok Bar SW Hok Cort Cut Reverse of the Cut Re
MEP ENGINEERING	QuikTrip 😨 🔪 🕼

Price Chopper PLAN NORTH

1 (007) OS DRAWING INDEX SHEET DRAWING NAME ARCHITECTURAL  $\bigcirc$ AOOI COVER SHEET  $\bigcirc$ A002 SPECIFICATIONS  $\bigcirc$ A003 SPECIFICATIONS  $\bigcirc$ A004 SPECIFICATIONS A005 SPECIFICATIONS  $\bigcirc$ ARCHITECTURE  $\bigcirc$ A006 U.L. DETAILS ENGINEERING  $\bigcirc$ GENERAL NOTES, DOOR & WINDOW SCHEDULES A007 3680 Pleasant Hill Road  $\bigcirc$ LIFE SAFETY PLAN, DETAILS & NOTES A008 Suite 200  $\bigcirc$ A009 ACCESSIBILITY STANDARDS Duluth, Georgia 30096 p 770.622.9858  $\bigcirc$ AlOI FLOOR PLAN f 770.622.9535  $\bigcirc$ www.hillfoleyrossi.com TREATMENT ROOM DETAILS Al*O*2  $\bigcirc$ © Copyright (as dated belo TREATMENT SUITE AND HYGIENE DETAILS AI03 drawing and all reproductions thereof a ty of Hill Foley Rossi & Associates, LLC nded for the sole use of the project  $\bigcirc$ A201 EXTERIOR ELEVATIONS wful. All copies are to be retu upon project completion RESTROOM PLAN, DETAILS & ELEVATIONS  $\bigcirc$ A501 sealed: 07-22-22  $\bigcirc$ A502 INTERIOR ELEVATIONS  $\bigcirc \land \bigcirc$ A503 INTERIOR ELEVATIONS  $\bigcirc$ A504 INTERIOR ELEVATIONS  $\bigcirc$ A505 INTERIOR ELEVATIONS  $\bigcirc$ A601 REFLECTED CEILING PLAN  $\bigcirc$ A602 REFLECTED CEILING PLAN DETAILS  $\bigcirc$ ROOM FINISH PLAN, DETAILS & SCHEDULES A801  $\bigcirc$ A802 ROOM FINISH DETAILS  $\bigcirc$ EQUIPMENT PLAN FIOI  $\bigcirc$ FIO2 DECOR AND FURNISHING PLAN  $\bigcirc$ FI03 EQUIPMENT SCHEDULES  $\bigcirc$ FIO4 BLOCKING DETAILS  $\bigcirc$ FIO5 BLOCKING DETAILS MECHANICAL / ELECTRICAL / PLUMBING  $\bigcirc$ MEPI UTILITIES SUMMARY & ZONE PLAN MECHANICAL  $\bigcirc$ MOOI MECHANICAL NOTES & LEGENDS  $\bigcirc$ MOO2 MECHANICAL SCHEDULES  $\bigcirc$ MOO3 MECHANICAL DETAILS  $\bigcirc$ MIOI MECHANICAL FLOOR PLAN S ELECTRICAL  $\bigcirc$ EOOI ELECTRICAL SPECIFICATIONS & SYMBOLS  $\bigcirc$ EIOI ELECTRICAL FLOOR PLAN - LIGHTING  $\bigcirc$ EIO2 ELECTRICAL FLOOR PLAN - POWER  $\bigcirc$ E500 ELECTRICAL SCHEDULES  $\bigcirc$ E5II ELECTRICAL DETAILS PLUMBING  $\bigcirc$ POOI PLUMBING NOTES & SPECIFICATIONS it et tlan  $\bigcirc$ POO2 PLUMBING SCHEDULES  $\bigcirc$ POO3 PLUMBING DETAILS  $\bigcirc$ POO4 PLUMBING DETAILS  $\bigcirc$ POO5 PLUMBING DETAILS  $\bigcirc$ POO6 PLUMBING RISER DIAGRAM  $\bigcirc$ PIOI | PLUMBING FLOOR PLAN - WASTE & VENT  $\bigcirc$ PIO2 PLUMBING FLOOR PLAN - WATER  $\bigcirc$ PIO3 PLUMBING FLOOR PLAN - MEDICAL GAS  $\bigcirc$ PIO4 PLUMBING FLOOR PLAN - NATURAL GAS KEY PLAN SITE M291 & SM MARKET STREE 10/25/22 Permit Comments 07/22/22 Construction mk date issue Cover Sheet

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HFR 22.911

**RELEASED FOR** CONSTRUCTION As Noted on Plans Revie

SECTION 011000 - SUMMARY	CISCA
1.1 PROJECT INFORMATION	CRI
A. Project Identification: A New Tenant Finish for Heartland Dental, Inc.	CSI
1. Project Location: Market Street Center, Leee's Summit, Missouri 64082	CSI
B. Tenant: Heartland Dental - 1200 Network Centre Drive Effingham, IL 62401	DHI
C. Architect: Hill Foley Rossi & Associates, LLC; 3680 Pleasant Hill Road, Suite 200; Duluth, Georgia	EIMA
30096	EJMA
D. The Work consists of: A tenant finish of approximately 4,200 S.F. for a new dental office within the	FM Approval
existing shell building.	GA
E. Work Under Separate Contracts:	GANA
1. Dental Equipment: To be supplied and installed by Dental Supplier; Patterson Dental, Inc. General	HMMA
Contractor to coordinate with supplier and Owner.	HPVA
F. Owner-Furnished Products: The following products will be furnished by Owner and shall be installed by	ICBO
Contractor as part of the Work:	ISSFA
1. Owner Provided Light Fixtures, where Occurs.	KCMA
1.2 WORK RESTRICTIONS	LGSEA
A. Contractor's Use of Premises: During construction, Contractor will have full use of site, building area, or	MCA
space indicated. Contractor's use of premises is limited only by Owner's right to perform or employ other	MFMA
contractors on portion of Project.	MFMA
B. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances,	MHIA
operable windows, or outdoor-air intakes.	MIA
• · · · ·	MPI
SECTION 012500 - SUBSTITUTION PROCEDURES	NAIMA
1.1 SUBSTITUTION PROCEDURES	NBGQA
A. Substitutions include changes in products, materials, equipment, and methods of construction from	NCMA
those required by the Contract Documents and proposed by the Contractor.	NECA
B. Substitution Requests: Submit three (3) copies of each request for consideration. Identify product or	NeLMA
fabrication or installation method to be replaced. Include Specification Section number and title and	NEMA
Drawing numbers titles.	NGA
1. Identify product to be replaced and show compliance with requirements for substitution. Include a	NOMMA
detailed comparison of significant qualities of proposed substitutions with those of the Work specified, a list	NSSGA
of changes needed to other parts of the Work required to accommodate proposed substitutions, and any	NTMA
proposed changes in the Contract Sum or the Contract Time should the substitution be accepted.	RFCI
C. Architect will review proposed substitutions and notify Contractor of their acceptance or rejection. If	SDI
necessary, Architect will request additional information or documentation for evaluation.	SJI
1. Architect will notify Contractor of acceptance or rejection of proposed substitution within five (5)	SMACNA SPFA
	SPEA

business days of receipt of request, or five (5) business days of receipt of additional information or documentation, whichever is later. D. Do not submit unapproved substitutions on Shop Drawings or other submittals.

### SECTION 012600 - CONTRACT MODIFICATION PROCEDURES 1.1 CONTRACT MODIFICATION PROCEDURES

A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustments to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions." B. Owner-Initiated Proposal Request: Architect will issue a detailed description of proposed changes in the

1. Proposal Request are not instruction either to stop work in progress or to execute the proposed change. 2. Within time specified in Proposal Request or five (5) business days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum or the Contract Time.

C. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect. D. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner

and Contractor on AIA Document G701, for all changes to the Contract Sum or the Contract Time. E. Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change on the Contract Sum or the Contract Time. F. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

## SECTION 013000 - ADMINISTRATIVE REQUIREMENTS

1.1 PROJECT MANAGEMENT AND COORDINATION A. Subcontract List: Submit a written summary identifying individuals of firms proposed for each portion

of the Work.

B. Key Personnel Names: Within fifteen (15) business days of starting Construction Operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project

site. List email addresses and telephone numbers. C. Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installations for each part of the Work.

D. Requests for Information (RFIs): On discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit and RFI. Use forms acceptable to Architect and Owner.

E. Provide a weekly or biweekly report by electronic communication (e-mail) to the Owner's Representative and Architect on progress against project schedule. General Contractor is to schedule a rough-in review notifying Owner and Architect of said review 2 weeks prior to schedule meeting date. Require attendance of each subcontractor or other entity concerned with current progress or involved in planning, coordination, or

performance of future activities. 2 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals. 1. Architect will furnish Contractor one set of digital data drawing files (plans only) of the Contract

Drawings for use in preparing Shop Drawings. a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.

B. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

1. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing including resubmittals. 2. Submit three copies of each action submittal. Architect will return two copies.

- 3. Submit two copies of each informational submittal. Architect will not return copies.
- 4. Architect will discard submittals received from sources other than Contractor.

C. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows: 1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item. 2. Name file with unique identifier, including project identifier, Specification Section number, and revision

identifier 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.

D. If Paper Submittals are used: Place a permanent label or title block on each submittal for identification. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect. Include the following information on the label: 1. Project name.

- 2. Date.
- 3. Name and address of Contractor. 4. Name and address of subcontractor or supplier.
- 5. Number and title of appropriate Specification Section.

E. Identify options requiring selection by Architect

F. Identify deviations from the Contract Documents on submittals. G. Contractor's Construction Schedule Submittal Procedure:

- 1. Submit required submittals in the following format:
- a. PDF electronic file. .3 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. 1. Submit electronic submittals via email as PDF electronic files.

a. Architect will return annotated file. Annotate and retain one (1) copy of file as an electronic Project

record document file. 1.4 ACTION SUBMITTALS

A. If Paper Copies are used: Submit four (4) paper copies of each submittal unless other indicated. Architect will return two (2) copies.

- B. Product Data: Mark each copy to show applicable products and options. Include the following:
- 1. Manufacturer's written recommendations, product specifications, and installation instructions. 2. Wiring diagrams showing factory-installed wiring.
- 3. Printed performance curves and operational range diagrams.
- 4. Testing by recognized testing agency. . Compliance with specified standards and requirements.

C. Shop Drawings: Prepare Project-specific information, drawing accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data. Submit on sheets at least 8-1/2 by 11 inches but no larger than 24 by 36 inches. Include the following:

1. Dimensions and identification of products 2. Fabrication and installation drawings and roughing-in and setting diagrams.

- 3. Wiring diagrams showing field-installed wiring.
- 4. Notation of coordination requirements 5. Notation of dimensions establishes by field measurement.

D. Samples: Submit Samples for review of kind, color, pattern, and texture and for a comparison of these characteristics between submittal and actual component as delivered and installed. Include name of manufacturer and product name on label.

### SECTION 014200 - REFERENCES

1.1 GENERAL REQUIREMENTS A. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless

otherwise indicated.

B. Abbreviations and Acronyms: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names are subject to change and are believed to be accurate and current as of the date of the Contract Documents.

AWI AWPA Association) AWS BHMA CIMA

Architectural Woodwork Institute American Wood Protection Association (Formerly: American Wood Preservers'

American Welding Society

Builders Hardware Manufacturers Association Cellulose Insulation Manufacturers Association

CISCA	Centings & Interior Systems Construction Association
CRI	Carpet and Rug Institute (The)
CSI	Cast Stone Institute
CSI	Construction Specification Institute (The)
DHI	Door and Hardware Institute
EIMA	EIFS Industry Members Association
EJMA	Expansion Joint Manufacturers Association, Inc.
FM Approvals	FM Approvals LLC
GA	Gypsum Association
GANA	Glass Association of North America
HMMA	Hollow Metal Manufacturers Association
HPVA	Hardwood Plywood & Veneer Association
ICBO	International Conference of Building Officials
ISSFA	International Solid Surface Fabricators Association
KCMA	Kitchen Cabinet Manufacturers Association
LGSEA	Light Gauge Steel Engineers Association
MCA	Metal Construction Association
MFMA	Maple Flooring Manufacturers Association, Inc.
MFMA	Metal Framing Manufacturers Association, Inc.
MHIA	Material Handling Industry of America
MIA	Marble Institute of America
MPI	Master Painters Institute
NAIMA	North American Insulation Manufacturers Association
NBGQA	National Building Granite Quarries Association, Inc.
NCMA	National Concrete Masonry Association
NECA	National Electrical Contractors Association
NeLMA	Northeastern Lumber Manufacturers' Association
NEMA	National Electrical Manufacturers Association
NGA	National Glass Association
NOMMA	National Ornamental & Miscellaneous Metals Association
NSSGA	National Stone, Sand & Gravel Association
NTMA	National Terrazzo & Mosaic Association, Inc. (The)
RFCI	Resilient Floor Covering Institute
SDI	Steel Door Institute
SJI	Steel Joist Institute
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SPFA	
	Spray Polyurethane Foam Alliance (SPI/SPFD - The Society of the Plastics Industry, Inc.;
	rethane Foam Division)
TCNA	Tile Council of North America, Inc.
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance
TMS	The Masonry Society
UL	Underwriters Laboratories Inc.
USGBC	U.S. Green Building Council
WCMA	Window Covering Manufacturers Association
WDMA	Window & Door Manufacturers Association (Formerly : NWWDA - National Wood
Window and	Door Association)
WI	Woodwork Institute (Formerly : WIC - Woodwork Institute of California)
WIC	Woodwork Institute of California (Now WI)
WMMPA	Wood Moulding & Millwork Producers Association

Ceilings & Interior Systems Construction Association

C. Code Agencies: Where abbreviations and acronyms are used in Specification or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names are subject to change and are believed to be accurate and current as of the date of the Contract Documents.

IAPMO International Association of Plumbing and Mechanical Officials International Code Council ICC

ICC-ES ICC Evaluation Service, Inc. NFPA National Fire Protection Association

# SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

1.1 SECTION REQUIREMENTS A. Use Charges: Installation and removal of and use charges for temporary facilities shall be included in

the Contract Sum unless otherwise indicated. B. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric

service. Install service to comply with NFPA 70.

C. Accessible Temporary Egress: Comply with applicable provisions in ICC A117.1. 1.2 TEMPORARY FACILITIES

A. Provide field offices, storage and fabrication sheds, and other support facilities as necessary for construction operations. Store combustible materials apart from building.

**1.3 EOUIPMENT** A. Fire Extinguisher: Portable, UL-rated; with class and extinguishing agent as required by locations and classes of fire exposures.

B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, selfcontained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited

2. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

3. Permanent HVAC Units: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return-air grille in system and remove at end of construction.

- 1.4 TEMPORARY UTILITY INSTALLATION
- A. General: Install temporary service or connect to existing service.
- 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services. B. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities

C. Heating and Cooling: Provide temporary heating and cooling required for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high

humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed D. Provide temporary lighting with local switching that provides adequate illumination for construction

operations, observations, inspections, and traffic conditions. 1.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

B. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control

operations lawfully, using environmentally safe materials. C. Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

D. When required, provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner and other tenants from fumes and noise.

1.6 OPERATIONS, TERMINATION, AND REMOVAL A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit

availability of temporary facilities to essential and intended uses. B. Remove each temporary facility when need for its service has ended, when it has been placed by authorized use of a permanent facility, or no later than Substantial Completion.

C. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period.

### SECTION 016000 - PRODUCT REQUIREMENTS 1.1 SECTION REQUIREMENTS

A. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.B. Comparable Product Request: Submit request for consideration of each comparable product. Identify

product or fabrication or installation method to be replaced. 1. Show compliance with requirements for comparable product requests

2. Architects will review the proposed product and notify Contractor of its acceptance or rejection. C. Compatibility of Options: If Contractor is given option of selecting between two or more products, select

product compatible with products previously selected.

D. Deliver, store, and handle products using means and methods that will prevent damage, deterioration and loss, including theft. Comply with manufacturer's written instructions. 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of

construction spaces.

2. Deliver products to Project site in manufacturer's original sealed container or packaging, complete with labels and instructions for handling, storing, unpacking, protecting, and installing. 3. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that

- products are undamaged and properly protected. 4. Store materials in a manner that will not endanger Project structure.
- 5. Store products that are subject to damage by the elements, under cover in a weathertight enclosure

above ground, with ventilation adequate to prevent condensation. E. Warranties specified in other Sections shall be in addition to, and run concurrent with, pother warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product

warranties do not relieve Contractor of obligations under requirements of the Contract Documents. 1.2 PRODUCT SELECTION PROCEDURES

A. Provide products that comply with the Contract Documents, are undamaged, and, unless otherwise indicated, are new at the time of installation.

1. Provide products complete with accessories, trim, finish, and other devices and components needed for a complete installation and the intended use and effect.

2. Where products are accompanied by the term "as selected," Architect will make selection.

3. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristic of products.

B. Where the following headings are used to list products or manufacturers, the Contractor's options for product selection are as follows: 1. Products:

a. Where requirements include "one of the following," provide one of the products listed that complies

with requirements. b. Where requirements do not include "one of the following," provide one of the products listed that

complies with requirements or a comparable product. 2. Manufacturers:

of the listed manufacturers.

C. Wh require	irements by one of the listed manufacturers or another manufacturer. ere Specifications require "match Architect's sample," provide a product that complies with ements and matches Architect's sample. Architect's decision will be final on whether a proposed et matches.	
D. Wh similar density	ere Specifications include the phrase "as selected by Architect from manufacturer's full range" or phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, , or texture from manufacturer's product line that includes both standard and premium items.	
	MPARABLE PRODUCTS hitect will consider Contractor's request for comparable product when the following conditions are ed:	
1. Evi consis with c	dence that the proposed product does not require revisions to the Contract Documents, that it is stent with the Contract Documents and will produce the indicated results, and that it is compatible other portions of the Work. tailed comparison of significant qualities of proposed product with those named in the Specifications	
3. Lis	t of similar installations for completed projects, if requested. mples, if requested.	
	ION 017000 - EXECUTION AND CLOSEOUT REQUIREMENTS	
A. Cut	CUTION REQUIREMENTS ting and Patching: uctural Elements: When cutting and patching structural elements, notify Architect of locations and	
detail	s of cutting and await directions from Architect before proceeding. Shore, brace, and support ural elements during cutting and patching.	
2. Op that r decrea	erational Elements: Do not cut and patch operation elements and related components in a manner esulted in reducing their capacity to perform as intended or that results in increased maintenance or ased operational life or safety. sual Elements: Do not cut and patch construction in a manner that results in visual evidence of	
cuttin	g and patching. Do not cut and patch exposed construction in a manner that would, in Architect's on, reduce the building's aesthetic qualities.	
recom	nufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written mendations and instructions for installation of products and equipment.	
A. Cor	DSEOUT SUBMITTALS atractor's List of Incomplete Items: Initial submittal at Substantial Completion. tified List of Incomplete Items: Final Submittal at Final Completion.	
C. Ope D. PD media.	eration and Maintenance Data: Submit one (1) copy of manual F Electronic File: Assemble manual into a composite electronically indexed file. Submit on digital	
F. Rec	ord Drawings: Submit one (1) set of annotated record prints. ord Digital Data Files: Submit data file and one (1) set of plots. 3STANTIAL COMPLETION PROCEDURES	
A. Pre reason	pare a list of items to be completed and corrected ("punch list"), the value of items on the list, and s why the Work is not complete.	
comple	mittals Prior to Substantial Completion: Before requesting Substantial Completion inspection, ete the following:	
	tain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of fork and access to services and utilities. Include occupancy permits, operating certificates, and similar es.	
2. Su	es. bmit closeout submittals specified in other sections, including project record documents, operations naintenance manuals, property surveys, similar final record information, warranties, workmanship	
bonds 3. Su mater	anitematic manuals, property surveys, similar manufactoria mornation, warranties, workmanship s, maintenance service agreements, final certifications, and similar documents. bmit maintenance material submittals specified in other sections, including tools, spare parts, extra ials, and similar items, and deliver to location designated by Architect. bmit test/adjust/balance records.	
5. Su C. Pro	bmit changeover information related to Owner's occupancy, use, operation, and maintenance. cedures Prior to Substantial Completion: Before requesting Substantial Completion inspection,	
1. Ad	ete the following: vise Over of pending insurance changeover requirements. Ike final changeover of permanent locks and deliver keys to Owner.	
3. Co 4. Pe	mplete startup and testing of systems and equipment. rform preventive maintenance on equipment used prior to Substantial Completion.	
5. Ad 6. Pa	vise Owner of changeover in heat and other utilities. rticipate with Owner in conducting inspection and walk-through with local emergency responders.	
8. Co	move temporary facilities and controls. mplete final cleaning requirements, including touchup painting. uch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.	
D. Insp	bection: Submit a written request for inspection for substantial completion. On receipt of request, ect will proceed with inspection or advise Contractor of unfulfilled requirements. Architect will	
must b	e the Certificate of Substantial Completion after inspection or will advise Contractor of items that e completed or corrected before certificate will be issued.	
A. Sub	AL COMPLETION PROCEDURES omittals Prior to Final Completion: Before requesting inspection for determining final completion, ete the following:	
1. Sul	omit a final Application for Payment. bmit certified copy of Architect's Substantial Completion inspection list of items to be completed or	
	rted (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item een completed or otherwise resolved.	
insura	rtificate of Insurance: Submit evidence of final, continuing insurance coverage complying with ance requirements.	
B. Sub	bmit pest-control final inspection report. mit a written request for final inspection for acceptance. On receipt of request, Architect will either d with inspection or notify Contractor of unfulfilled requirements. Architect will prepare final	
Certific	cate for Payment after inspection or will advise Contractor of items that must be completed or red before certificate will be issued.	
comp	inspection: Request reinspection when the Work identified in previous inspection as incomplete is leted or corrected. TERIALS	
A. In-j	place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use als that visually match in-place adjacent surfaces to the fullest extent possible.	
surface	aning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that	
1.6 OPI A. Dire	damage finished surfaces. ERATION AND MAINTENANCE DOCUMENTATION ectory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and als, listing items and their location to facilitate ready access to desired information.	
B. Org	anization: Unless otherwise indicated, organize manual into separate sections for each system and tems, and separate sections for each piece of equipment not part of a system.	
C. Orga for fol 1. Ma	anize data into three-ring binders with identification on front and spine of each binder, and envelopes ded drawings. Include the following: nufacturer's operation and maintenance documentation intenance and service schedule	
3. Ma	intenance and service schedule intenance service contracts. Include name and telephone number of service agents ergency instructions.	
5. Spa 6. Wii	re parts list and local sources of maintenance materials. ring diagram.	
1.7 REC	pies of warranties. Include procedures to follow and required notifications for warranty claims. CORD DRAWINGS ord Prints: Maintain a set of prints of the Contract Drawings and Shop Drawings, incorporating new	
and revolution	vised drawings as modifications are issued. Mark to show actual installation varies from that shown Ily. Accurately record information in an acceptable drawing technique.	
1. Ide prom	ntify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a inent location.	
A. Exis indicat locatio	AMINATION AND PREPARATION ting Condition: The existence and location of underground and other utilities and construction ed as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and n of underground utilities, mechanical and electrical systems, and other construction affecting the	
Work. B. Befo	re proceeding with each component of the Work, examine substrates, area, and conditions, with	
and ot	er or Applicator present where indicated, for compliance with requirements for installation tolerances ner conditions affecting performance. rify compatibility with and suitability of substrates	
2. Exa 3. Exa	umine roughing-in for mechanical and electrical systems. Imine walls, floors, and roofs for suitable conditions.	
C. Proc D. Tak	e d with installation only after unsatisfactory conditions have been corrected. e field measurements as required to fit the Work properly. Where portions of the Work are indicated	
E. Veri	o other construction, verify dimensions of construction by field measurements before fabrication. fy space requirements and dimensions of items shown diagrammatically on Drawings. TALLATION	
A. Loc indicat	ate the Work and component of the Work accurately, in correct alignment and elevation, as ed.	
1. Ma 2. Coi 3. Ma	ke vertical work plumb and make horizontal work level. nceal pipes, ducts, and wiring in finished areas unless otherwise indicated. intain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied	
	s. ply with manufacturer's written instructions and recommendations. duct construction operations so no part of the Work is subjected to damaging operations or loading in	
excess D. Ten prepar	of that expected during normal conditions of occupancy. aplates: Obtain and distribute to the parties involved templates for work specified to be factory ed and field installed.	
Ē. Ātta numbe	chment: Provide blocking and attachment plates and anchors and fasteners of adequate size and r to securely anchor each component in place. Where size and type of attachments are not indicated,	
1. Mc	size and type required for load conditions. Funting Heights: Where mounting heights are not indicated, mount components at heights directed chitect.	
F. Join	chitect. hts: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange for the best visual effect. Fit exposed connections together to form hairline joints.	
G. Use 1.10 CU	products, cleaners, and installation materials that are not considered hazardous. ITTING AND PATCHING	
B. Prot	ride temporary support of work to be cut. ection: Protect in-place construction during cutting and patching to prevent damage. Provide ion from adverse weather conditions for portions of Project that might be exposed during cutting and	
protect	non from adverse weather conditions for portions of Project that might be exposed during cutting and ing operations.	
patchi	ere existing services/systems are required to be removed, relocated, or abandoned, by such	

b. Where requirements do not include "one of the following," provide a product that compiles with

1. Cut holes and slots neatly to minimum size required, and with minimum disturban surfaces. Temporarily cover openings when not in use. ch with durable seams that are as invisible as possible. Provide materials and com ements specified in other Sections.

- estore exposed finishes of patched areas and extend finish restoration into adjoin er that will minimize evidence of patching and refinishing.
- here walls or partitions that removed extend one finished area into another, patc surfaces in the new space. Provide an even surface of uniform finish, color, textur
- here patching occurs in a painted surface, prepare substrate and apply primer and appropriate for substrate over the patch, and apply final paint coat over entire up ning the patch. Provide additional coats until patch blends with adjacent surface EANING
- an Project site and work areas daily, including common areas. Dispose of materia move liquid spills promptly. nere dust would impair proper execution of the Work, Broom-clean or vacuum t
- move debris from concealed spaces before enclosing the space. nplete the following cleaning operations before requesting inspection for certifica
- ean Project site, yard, and grounds, in areas disturbed by construction activities. ve stains, spills, and foreign deposits. Rake grounds that are neither planted nor -textured surface. weep paved areas broom clean. Remove spills, stains, and other foreign deposits.
- emove labels that are not permanent. ean transparent materials, including mirrors. Remove excess glazing compound
- ean exposed finishes to a dust-free condition, free of stains, films, and foreign sub rete floors broom clean. cuum carpeted surfaces and wax resilient flooring.
- ipe surfaces of mechanical and electrical equipment. Remove excess lubrication ances. Clean plumbing fixtures. Clean light fixtures, lamps, globes, and reflectors place disposable air filters and clean permanent air filters. Clean exposed surface
- ters, and grills. PERATION AND MAINTENANCE MANUAL PREPARATION eration and Maintenance Manuals: Assemble a complete set of operation and mai
- ting operation and maintenance of each system, subsystem, and piece of equipm nufacturer's Data: Where manuals contain manufacturers' standard printed data
- ent to product or component installed. Mark each sheet to identify each product orated into the Work. If data include more than one item in a tabular format, ide priate references from the Contract Documents. Identify data applicable to the W nces to information not applicable.
- epare supplementary text if manufacturers' standard printed data are unavailabl nation is necessary for proper operation and maintenance of equipment or system wings: Prepare drawings supplementing manufacturers' printed data to illustrate ment parts of equipment and systems and to illustrate control sequence and flow EMONSTRATION AND TRAINING
- age qualified instructors to instruct Owner's personnel to adjust, operate, and ma stem, and equipment not part of a system. Include a detailed review of the follow clude instruction for basis of system design and operational requirements, review gency procedures, operations, adjustments, troubleshooting, maintenance, and
- <u> 10N 042000 UNIT MASONRY</u>
- s section includes concrete masonry unit and brick masonry unit.
- ALITY ASSURANCE
- gle-source Responsibility for Masonry Units: Obtain exposed masonry units of a t or a uniform blend within the ranges accepted for these characteristics, from one manufacturer for each different product required. zle-source Responsibility for Mortar Materials: Obtain mortar ingredients of a un
- ing color for exposed masonry, from one manufacturer for each cementitious con ource or producer for each aggregate.
- LIVERY, STORAGE, AND HANDLING e masonry units and materials on elevated platforms, under cover, and in a dry l pration or damage. If units become wet, do not install until they are in an air-drie
- DJECT CONDITIONS tection of Masonry: During erection, cover tops of walls, projections, and sills wit
- ng at end of each day's work. Cover partially completed masonry when constructi not apply uniform floor or roof loads for at least 12 hours and concentrated loads uilding masonry wall or columns. -Weather Requirements: Adhere to ACI 5.30 and ACI 530.1.
- -Weather Requirements: Protect unit masonry work when temperature and hum
- e excessive evaporation of water from mortar and grout. Provide artificial shade cooled materials as required. Do not apply mortar to substrates with temperat l above.
- RODUCTS NUFACTURERS
- sonry Units: Subject to compliance with requirements. See Masonry Schedule in nufacturer and type.
- Reinforcement, Ties, and Anchors:
- <u>r-O-Wal, Inc</u>. <u>ckman Building Products, Inc</u>.
- rp. of America
- NCRETE MASONRY UNITS
- ovide shapes indicated and as follows for each form of concrete masonry unit requ wide special shapes for lintels, corners, jambs, sash, control joints, headers, bond
- ovide bullnose units for outside corners, unless otherwise indicated.
- ovide square-edged units for outside corners, except where indicated as bullnose crete Masonry Units: ASTM C 90 and as follows:
- nit Compressive Strength: Provide units with minimum average net-area compres ted below:

ht Classification: Lightweight. egral Water Repellent: Provide units produced with liquid polymeric, Integral wat ture that does not reduce flexural bond strength. Units made with integral water as a wall assembly made with mortar containing integral water-repellent manufa e according to ASTM E 514, with test period extended to 24 hours, show no visibl ck of the test specimen. duct: Subject to compliance with requirements, provide units made with "Dry-Bl

- ovide shapes indicated and as follows for each form of brick required. ovide units without cores or frogs and with exposed surfaces finished for ends of s
- r applications that would otherwise expose unfinished brick surfaces. vide special shapes for applications requiring brick of size, form, color, and textu es that cannot be produced by sawing.
- Brick: ASTM C 216 and as follows: ade and Unit Compressive Strength: Provide units with grade and minimum ave essive strength indicated below:
- ·· SW. psi.
- ication: Use where brick is exposed, unless otherwise indicated. INFORCING STEEL
- l Reinforcing Bars: Material and grade as follows:
- steel complying with ASTM A 615 (ASTM A 615M) e 60 (Grade 400)
- INT REINFORCEMENT
- eral: Provide joint reinforcement formed from the following: lvanized carbon-steel wire, coating class as follows:
- I A 641, Class 1, for interior walls; and ASTM A 153, Class B-2, for exterior ription: Welded-wire units prefabricated with deformed continuous side rods and lengths of not less than 10 feet, with prefabricated corner and tee units, and con ements indicated below
- single-wythe masonry, provide type as follows with single pair of side rods: Tru nuous diagonal cross rods spaced not more than 16 inches o.c. multi-wythe masonry, provide type as follows: Truss design with continuous di
- not more than 16 inches o.c. nber of Side Rods for Multi-wythe Concrete Masonry: One side rod for each face ry units more than 4 inches in width, plus 1 side rod for each wythe of masonry 4
- ovide integral drips on cross rods at cavity walls.
- ES AND ANCHORS, GENERAL
- eral: Provide ties and anchors specified in subsequent articles that comply with r and size of this Article, unless otherwise indicated : Galvanized Carbon-Steel Wire: ASTM A 82; with ASTM A 153, Class B-2 coati inch
- JUSTABLE ANCHORS FOR CONNECTING TO STRUCTURAL FRAME
- vide 2-piece assemblies as described below, allowing vertical or horizontal differ en wall and fame parallel to plane of wall but resisting tension and compression
- r anchorage to steel framing, provide manufacturer's standard anchors with crim
- eter wire anchor section for welding to steel and triangular-shaped wire tie section 1 inch of masonry face and as follows: Vire Diameter: 0.1875 inch.

- JUSTABLE MASONRY-VENEER ANCHORS eral: Provide 2-piece assemblies allowing vertical or horizontal differential movement between wall all framing parallel to plane of wall but resisting tension and compression forces perpendicular to it,
- chment over sheathing to metal studs, and with the following structural performance characteristics:
- uctural Performance Characteristics: Capable of withstanding a 100-lbf (445-N) load in either tension pression without deforming over, or developing play in excess of, 0.05 inch (1.3 mm). ew-Attached, Masonry-Veneer Anchors: units consisting of a wire tie section and a metal anchor
- complying with the following requirements: ire Tie Shape: Triangular.

- a. Where requirements "one of the following," provide a product that complies with requirements by one

		As Noted on F	-ians Rev
ance of adjacent	b. Wire Tie Length: As required to extend 1 $1/2$ inches (38 mm) into masonry wythe of veneer face. 2 Anchor Section: Rib-stiffened, sheet-metal plate with screw holes top and bottom 0.0747 inch (1.0 mm)	Development Serv Lee's Summ 11(09)	rices Dep dt. Misso 2022
omply with installation	3. Anchor Section: Rib-stiffened, sheet-metal plate with screw holes top and bottom, 0.0747 inch (1.9 mm) thick by 2 3/4 inch (70 mm) wide by 3 inches (75 mm) high; fabricated into tee shape with 2 projecting tabs, 3/4 inch (19 mm) wide by 1 inch (25 mm) long; with slotted holes for connection of vertical legs of triangular wire tie specially formed to fit another section.	ĬČ	TE
ining construction in a tch and repair floor and	triangular wire tie specially formed to fit anchor section. 4. Slip-in, Masonry-Veneer Anchors: Units consisting of a wire tie section and a wire anchor section designed to be slipped into metal studs as sheathing is installed. Anchor section locks in place by fitting to		A
ure, and appearance. and intermediate paint unbroken surface	inside of metal stud and has an eye to receive wire tie section. Wire tie section has a vertical leg that slips into the eye of the anchor section and allows vertical adjustment. Both sections are made from 3/16 inch (4.8 mm) galvanized wire.		
aces.	5. Steel Drill Screws for Steel Studs: ASTM C 954 except manufactured with hex washer head and neoprene washer, No. 10 (4.8 mm) diameter by length required to penetrate steel stud flange by not less		C C C
rials lawfully. the entire work area, as	than 3 exposed threads, and with the following corrosion protective coating: a. Organic polymer coating with salt-spray resistance to red rust of more than 800 hours per ASTM B 117 6. Available Products: Subject to compliance with requirements, products that may be incorporated in the		S (
ication of Substantial	Work include, but are not limited to, the following: a. Screw-Attached, Masonry-Veneer Anchors. i. <u>Dur-O-Wal, Inc.;</u> D/A 213		S
s. Sweep paved areas;	ii. <u>Heckman Building Products, Inc.;</u> Pos-I-Tie b. Organic-Polymer-Coated, Steel Drill Screws:		A
or paved to a smooth, s.	i. <u>Elco Industries, Inc.</u> ; Dril-Flex ii. <u>ITW-Buildex</u> ; Traxx 2.9 EMBEDDED FLASHING MATERIALS		8
ds. substances. Sweep	A. Sheet-Metal Flashing: Fabricate from the following metal complying with requirements specified in Division 7 Section "Flashing and Sheet Metal". B. Vinyl Sheet Flashing: Flexible sheet flashing especially formulated from virgin polyvinyl chloride with	ARCHITECTU	JRE
-	plasticizers and other modifiers to remain flexible and waterproof in concealed masonry applications, black in color, and of thickness indicated below:	ENGINEERIN	
n and foreign ors. Taces of diffusers,	<ol> <li>Thickness: 20 mils (0.5 mm)</li> <li>Application: Use where flashing is fully concealed in masonry.</li> <li>MISCELLANEOUS MASONRY ACCESSORIES</li> </ol>	3680 Pleasant Hill Suite 200	Road
naintenance data	A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Type 2, Class A, Grade 1; compressible up to 35 percent; of width and thickness indicated; formulated from the following material: 1. Neoprene	Duluth, Georgia 30 p 770.622.9858	
oment not part of a	2. Urethane 3. Polyvinyl chloride	f 770.622.9535 www.hillfoleyrossi.c	
ata, include only sheets ct or component identify each item using	B. Preformed Control-Joint Gaskets: Material as indicated below, designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated. C. Styrene-Butadiene Rubber Compound: ASTM D 2000, Designation M2AA-805.	© Copyright (as dated below). This drawing and all reproductions three	eof are the
Work and delete	D. Polyvinyl Chloride: ASTM D 2287, General Purpose Grade, Type PVC-65406. E. Bond-Breaker Strips: Asphalt-saturated, organic roofing felt complying with ASTM D	property of Hill Foley Rossi & Associates, L It is intended for the sole use of the projec hereon. Reproduction without the written of HFR is unlawful. All copies are to be return upon project completion.	ect named consent of
ble where the stems. rate the relationship of	F. Bond-Breaker Strips: Asphalt-saturated, organic roofing felt complying with ASTM D 226, Type 1 (No. 15 asphalt felt). G. Weep Holes: Provide the following:	sealed: 07-22-22	
ow diagrams. maintain systems,	1. Round Plastic Tubing: Medium-density polyethylene, 3/8 inch outside diameter by 4 inches long 2. Wicking Material: Material as indicated below, in length required to produce 2-inch exposure on exterior and 18 inches in cavity between wythes:	-	
owing: iew of documentation,	a. Cotton sash cord b. Fibrous glass rope	STATE OF MISSION	ar -
d repairs.	<ul> <li>3.0 EXECUTION</li> <li>3.1 EXAMINATION</li> <li>A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances</li> </ul>	S SCOTO	0
	and other conditions affecting performance of unit masonry. Do not proceed with installation until unsatisfactory conditions have been corrected.	NUMBER	199944 B
a uniform texture and ne source and by a	<ul> <li>B. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of unit masonry.</li> <li>C. Examine rough-in and built-in construction to verify actual locations of piping connections prior to</li> </ul>	A 200600000	
uniform quality,	installation. 3.2 REPAIRING, POINTING, AND CLEANING A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or if		
component and from	units do not match adjoining units. Install new units to match adjoining units; install in fresh mortar or grout, pointed to eliminate evidence of replacement.		
ry location to prevent lried condition.	B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point-up joints, including corners, openings, and adjacent construction, to application of sealants. C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and		
with waterproof action is not in progress.	smears prior to tooling joints. D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows: 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.		
ids for at least 3 days	2. Wet wall surfaces with water prior to application of cleaners; remove cleaners promptly by rinsing thoroughly with clear water.		
umidity conditions ade and wind breaks ratures of 100 degrees	3. Clean brick by bucket and brush hand-cleaning method described in BIA Technical Note No. 20 Revised, using the following masonry cleaner: a. Job-mixed detergent solution.		
l'atures or 100 auge	<ul> <li>b. Proprietary acidic cleaner, applied in compliance with directions of acidic cleaner manufacturer.</li> <li>4. Clean concrete masonry by cleaning method indicated in NCMA TE 8-2 applicable to type of stain present on exposed surfaces.</li> </ul>		
in Contract Documents	present on exposed surfaces. E. Protection: Provide final protection and maintain conditions that ensure unit masonry is without damage and deterioration at time of Substantial Completion.		
	SECTION 054000 - COLD-FORMED METAL FRAMING 1.0 GENERAL	Summit	
	1.1 QUALITY ASSURANCE A. Installer Qualifications: Engage an experienced Installer who has completed cold-formed metal framing	5	
required.	similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.		Ð
onding, and other	<ul> <li>B. Welding Standards: Comply with applicable provisions of AWS D1.1 "Structural Welding CodeSteel" and AWS D1.3, "Structural Welding CodeSheet Steel."</li> <li>1.2 DELIVERY, STORAGE, AND HANDLING</li> </ul>	, ee	Driv
se.	A. Protect cold-formed metal framing from corrosion, deformation, and other damage during delivery, storage, and handling.	rtland Dental - L6 t Street Center Summit, Missouri 64082 Heartland Dental	Centre Drive 62401
ressive strength	2.0 PRODUCTS 2.1 MATERIALS A. Galvanized-Steel Sheet: ASTM A 446, zinc coated according to ASTM A 525 as follows:	tal uri 6	< Centr . 62401
water-repellent ter repellent, when	1. G 60 typical coating except as noted below. 2. G 90 coating for studs used as brick back-up.	Dental Center Missouri	vork , IL
ter repellent, when ufacturer's mortar sible water or leaks on	3. Grade: Grade A, 33,000 psi minimum yield strength, 20 percent elongation. 2.2 WALL FRAMING A. Steel Studs: Manufacturer's standard C-shaped steel studs of web depths and gage indicated, with lipped	Lanc it, M Etanc	Netv Jhan
-Block" by W.R. Grace	flanges, and complying with the following: 1. Flange Width: 1-5/8 inches minimum. 2. Web: Punched.	tland Dental Street Center Summit, Missouri Heartland Dental	1200 Network Effingham, IL (
	B. Steel Track: Manufacturer's standard U-shaped steel track, unpunched, of web depths indicated, with straight flanges, and complying with the following:		ш ≒
of sills and caps and for	<ol> <li>Design Uncoated-Steel Thickness: Matching steel studs.</li> <li>Flange Width: Manufacturers standard deep flange where indicated, standard flange elsewhere.</li> <li>FRAMING ACCESSORIES</li> </ol>	Hear Market Lee's S For:	
xture on exposed	<ul> <li>A. Fabricate steel-framing accessories of the same material and finish used for framing members, with a minimum yield strength of 33,000 psi.</li> <li>2.4 ANCHORS, CLIPS, AND FASTENERS</li> </ul>		
average net-area	A. Steel Shapes and Clips: ASTM A 36, zinc coated by the hot-dip process according to ASTM A 123. B. Expansion Anchors: Fabricated from corrosion-resistant materials, with capability to sustain, without		
	failure, a load equal to 5 times the design load, as determined by testing per ASTM E 488 conducted by a qualified independent testing agency. C. Powder-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from		
	corrosion-resistant materials, with capability to sustain, without failure, a load equal to 10 times the design load, as determined by testing per ASTM E 1190 conducted by a qualified independent testing agency. D. Mechanical Fasteners: Corrosion-resistant coated, self-drilling, self-threading steel drill screws.		
	E. Head Type: Low-profile head beneath sheathing, manufacturer's standard elsewhere. F. Welding Electrodes: Comply with AWS standards.		
	2.5 MISCELLANEOUS MATERIALS A. Galvanizing Repair Paint: SSPC-Paint 20 or DOD-P-21035, with dry film containing a minimum of 94 percent zinc dust by weight.		
and plain cross rods into complying with	<ul> <li>2.6 FABRICATION</li> <li>A. Fabricate cold-formed metal framing and accessories plumb, square, true to line, and with connections securely fastened, according to manufacturer's recommendations and the requirements of this Section.</li> </ul>		
Complying with Truss design with	<ul> <li>B. Fabricate framing assemblies in jig templates.</li> <li>C. Cut framing members by sawing or shearing; do not torch cut.</li> </ul>		
s diagonal cross rods	<ul> <li>D. Fasten cold-formed metal framing members by welding or screw fastening, as standard with fabricator.</li> <li>Wire tying of framing members is not permitted.</li> <li>E. Comply with AWS requirements and procedures for welding, appearance and quality of welds, and</li> </ul>		
ce shell of hollow y 4 inches or less in	methods used in correcting welding work. F. Locate mechanical fasteners and install according to cold-framed metal framing manufacturer's		
	instructions with screw penetrating joined members by not less than 3 exposed screw threads. G. Fasten other materials to cold-formed metal framing by welding, bolting, or screw fastening, according to manufacturer's recommendations.	07/22/22 For	
th requirements for ating. Wire Diameter:	H. Reinforce, stiffen, and brace framing assemblies to withstand handling, delivery, and erection stresses. Lift fabricated assemblies to prevent damage or distortion.	mk date issu	
alling. White primes	<ul> <li>I. Fabrication Tolerances: Fabricate assemblies to a maximum allowable tolerance variation from plumb, level, and true to line of 1/8 inch in 10 feet (1:960) and as follows:</li> <li>1. Spacing: Space individual framing members no more than plus or minus 1/8 inch from plan location.</li> </ul>	Specificatio	ns
ferential movement on forces perpendicular	Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials. 2. Squareness: Fabricate each cold-formed metal framing assembly to a maximum out-of-square		
imped 1/4 inch- tion sized to extend	tolerance of 1/8 inch. 30 EXECUTION		
1011 Sizeu to extenu	3.1 EXAMINATION A. Examine supporting substrates and abutting structural framing for compliance with requirements, including installation tolerances and other conditions affecting performance of cold-formed metal framing.		

A. Grout bearing surfaces uniform and level to ensure full contact of bearing flanges or track webs on

B. Install cold-formed metal framing and accessories plumb, square, true to line, and with connections

securely fastened, according to manufacturer's recommendations and the requirements of this Section.

Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

3.3 INSTALLATION, GENERAL

supporting concrete or masonry construction.

A. Cold-formed metal framing may be shop or field fabricated for installation, or it may be field assembled. HFR 22.911

**RELEASED FOR** CONSTRUCTION As Noted on Plans Review C. Cut framing members by sawing or shearing; do not torch cut.

D. Fasten cold-formed metal framing members by welding or screw fastening, as standard with fabricator. Wire tying of framing members is not permitted. E. Comply with AWS requirements and procedures for welding, appearance and quality of welds, and

methods used in correcting welding work. F. Locate mechanical fasteners and install according to cold-framed metal framing manufacturer's instructions with screw penetrating joined members by not less than 3 exposed screw threads. G. Install framing members in one-piece lengths, unless splice connections are indicated for track or tension members.

H. Provide temporary bracing and leave in place until framing is permanently stabilized. I. Do not bridge building expansion and control joints with cold-formed metal framing. Independently

frame both sides of joints. J. Erection Tolerances: Install cold-formed metal framing to a maximum allowable tolerance variation from plumb, level, and true to line of 1/8 inch in 10 feet (1:960) and as follows:

3.5 NONLOAD-BEARING CURTAIN WALL INSTALLATION

A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to supporting structure as indicated. B. Squarely seat studs against webs of top and bottom tracks except where deflection tracks are detailed.

C. Fasten both flanges of studs to top and bottom track, unless otherwise indicated. D. Isolate steel framing from building structure at locations indicated to prevent transfer of vertical loads

while providing lateral support. E. Install deflection track where indicated and anchor to building structure.

F. Connect studs with vertical slide clips where indicated to continuous angles or supplementary framing

anchored to building structure.

G. Space studs as indicated. H. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped

surfaces and similar requirements I. Install horizontal bridging in curtain wall studs, spaced in rows not more than 48 inches apart. Fasten at each stud intersection.

J. Install additional row of horizontal bridging in curtain wall stud beneath deflection track when

curtainwall studs are not fastened to an additional top track. K. Bridging: Cold-rolled steel channel, clip angle fastened to webs of punched studs.

L. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, fasteners, and stud girts, to provide a complete and stable curtain wall framing system

3.6 REPAIRS AND PROTECTION

A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed coldformed metal framing with galvanizing repair paint according to ASTM A 780 and the manufacturer's instructions.

### SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

### 1.0 GENERAL 1.1 SECTION REQUIREMENTS

A. Submittals: ICC-ES evaluation reports for treated wood.

2.0 PRODUCTS 2.1 WOOD PRODUCTS, GENERAL

A. Lumber: provide dressed lumber, S4S, marked with grade stamp of inspection agency.

2.2 TREATED MATERIALS A. Fire-Retardant-Treated Materials: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10'-6" beyond the centerline of the burners at any time during the test.

1. Use Interior Type A unless otherwise stated.

2. For enclosed roof framing, framing in attic spaces or above ceilings, and where high-temperature fireretardant treatment is indicated, provide material with design adjustment factors of not less than 0.85 for

modulus of elasticity and 0.75 for extreme fiber in bending for Project's climatological zone. 3. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.

4. Identify with appropriate classification marking of a testing and inspecting agency acceptable to authorities having jurisdiction.

### 2.3 LUMBER

A. Miscellaneous Dimension Lumber: Construction or No. 2 grade with 15 percent maximum moisture content of any species. Provide for nailers, blocking, and similar members. B. Utility Shelving: Mixed southern pine, No. 1: SPIB; or Spruce-pine-fir, Select Merchantable or No. 1

Common: NeLMA, NLGA, WCLIB, or WWPA; within 15 percent minimum moisture content. 2.4 PLYWOOD BACKING PANELS A. Equipment Backing Panels: Plywood, Exterior, AC, fire-retardant treated, not less than 3/4 inch

nominal thickness.

2.5 FASTENERS

A. Fasteners: Size and type indicated. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M 1. Power-Driven Fasteners: CABO BER-272.

3.0 EXECUTION

3.1 INSTALLATION

A. Set miscellaneous rough carpentry to required levels and lines, with members plumb, true to line, cut and fitted. Locate nailers, blocking, and similar supports to comply with requirements for attaching other constructio

B. Securely attach miscellaneous rough carpentry to substrates, complying with the following:

1. CABO NER-272 for power-driven fasteners.

### SECTION 064100 - ARCHITECTURAL WOOD CASEWORK

O GENERAL 1.1 SECTION REQUIREMENTS

A. Submittals: Shop Drawings, Samples showing the full range of colors available for each type of finish and AWI Quality Certification Program certificates.

B. Fabricator Qualifications: Certified participant in AWI's Quality Certification Program.

C. Installer Qualifications: Fabricator of products. D. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is

completed, and HVAC system is operating.

1.2 ARCHITECTURAL CABINETS

A. Quality Standard: AWI, AWMAC, and WI's "Architectural Woodwork Standards." B. Plastic-Laminate Cabinets: Premium grade.

1. Type of Construction: Frameless.

2. Cabinet and Door and Drawer Front Interface Style: Flush overlay.

3. Laminate Cladding: Horizontal surfaces other tops, Grade HGS; postformed surfaces, Grade HGP; vertical surfaces, Grade HGS; edges, Grade HGS; semiexposed surfaces, thermoset decorative panels.

4. Drawer Sides and Backs: Thermoset decorative panels.

5. Drawer Bottoms: Thermoset decorative panels.

2.0 PRODUCTS

2.1 MATERIALS A. Wood: Maximum Moisture Content: 5 to 10 percent

B. Medium-Density Fiberboard: ANSI A208.2, Grade 130, made with binder containing no urea

formaldehvde. C. Particleboard: ANSI A208.1, Grade M-2, made with binder containing no urea formaldehyde. D. Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1, made with adhesive containing no

urea formaldehvde.

E. High-Pressure Decorative Laminate: NEMA LD3.

1. Manufacturers: a. <u>Wilsonart</u>; Division of Wilsonart Engineered Surfaces

b. Formica Corporation; A Fletcher Building company

c. <u>Nevamar;</u> Panolem Industries International, Inc.

d. Or Owner-approved Equal. 2.2 CABINET HARDWARE AND ACCESSORY MATERIALS

A. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 135 degrees of opening. B. Wire Pulls: Back mounted, solid metal, 4 inches long, 5/16 inch in diameter. C. Catches: Magnetic catches, BHMA A156.9, B03141.

D. Adjustable Shelf Standards and Supports: BHMA A156.9, B04102; with shelf brackets, B04112 or as

noted per drawings. Shelf rests in "Shelf Rests" Paragraph below are installed in holes drilled in cabinet sides and partitions. E. Shelf Rests: BHMA A156.9, B04013; metal, two-pin type with shelf hold-down clip

F. Drawer Slides: BHMA A156.9, B05091. Grades in five slides subparagraphs below correspond to the following initial load test requirer Grade 2: 20 lbf, Grade 1: 50 lbf; Grade 1HD-100: 100 lbf; Grade 1HD-200: 200 lbf.

1. Box Drawer Slides: Grade 1.

2. File Drawer Slides: Grade 1HD-100. 3. Pencil Drawer Slides: Grade 1.

4. Keyboard Slides: Grade 1HD-100.

5. Trash Bin Slides: Grade 1HD-100 G. Drawer and Door Locks: BHMA A156.11, E07041

H. Exposed Hardware Finishes: Comply with BHMA A156.18 for BHMA code number indicated.

1. Finish: Satin Stainless Steel: BHMA 630. J. Furring, Blocking, Shims, and Hanging Strips: Fire-retardant-treated blocking in enclosed walls and Softwood or hardwood lumber, kiln dried to 15% moisture content.

3.0 EXECUTION 3.1 FABRICATION

A. Complete fabrication to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting. 3.2 INSTALLATION

A. Before installation, condition cabinets to average prevailing humidity conditions in installation areas.

B. Install cabinets to comply with referenced quality standard for grade specified. C. Install cabinets level, plumb, true, and straight. Shim as required with concealed shims. Install level and

plumb (including tops) to a tolerance of 1/8 inch in 96 inches. D. Scribe and cut cabinets to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.

E. Anchor cabinets to anchors or blocking built in or directly attached to substrates. Fasten with countersunk concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed nailing, countersunk and filled flush.

F. Cabinets: Install so doors and drawers are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Fasten wall cabinets through back, bear top and bottom, at ends and not more than 16 inches o.c. with No. 10 wafer-head screws size for 1-inch penetration into wood framing, blocking, or hanging strips or No. 10 wafer-head sheet metal screws through metal backing or metal framing behind wall finish.

SECTION 064200 - WOOD PANELING

1.0 GENERAL 1.1 SECTION REQUIREMENTS

A. Submittals: Shop Drawings and Samples showing the full range of colors available for each type of finish and AWI Quality Certification Program certificates.

1. Aluminum: 0.0320 inch thick

E. Conductor Heads: Fabricate from the following material:

A. Submittals: Shop Drawings and Samples showing the full range of colors available for each type of finish and AWI Quality Certification Program certificates. B. Installer Qualifications: Minimum of 5 years experience in finish carpentry.	2. Galvanized Steel: 0.0276 inch thick 3. Coil-Coated Galvanized Steel: 0.0276 inch thick F. Scuppers: Fabricate from the following material:
C. Environmental Limitations: Do not deliver or install paneling until building is enclosed, wet work is completed, and HVAC system is operating.	<ol> <li>Aluminum: 0.0320 inch thick</li> <li>Galvanized Steel: 0.0276 inch thick</li> </ol>
2.0 PRODUCTS 2.1 WOOD PANELING A. Quality Standard: AWI, AWMAC, and WI's "Architectural Woodwork Standards."	<ul> <li>3. Coil-Coated Galvanized Steel: 0.0276 inch thick</li> <li>G. Exposed Trim, Gravel Stops, and Fasciae: Fabricate from the following material:</li> <li>1. Aluminum: 0.050 inch thick</li> </ul>
<ul> <li>B. Flush Wood Paneling (Wood-Veneer Wall Surfacing): Premium grade.</li> <li>1. Wood Species: White birch, plain sliced.</li> <li>2. Matching of Advisor Veneer Veneer Blacking matching</li> </ul>	2. Galvanized Steel: 0.0276 inch thick 3. Coil-Coated Galvanized Steel: 0.0276 inch thick
<ol> <li>Matching of Adjacent Veneer Leaves: Pleasing match.</li> <li>Veneer Matching within Panel Face: Center-balance match.</li> <li>Panel matching: Select and arrange panels for similarity of grain pattern and color between adjacent</li> </ol>	H. Copings: Fabricate from the following material: 1. Aluminum: 0.050 inch thick 2. Columnized Steel: 0.0006 inch thick
panels. 2.2 MATERIALS	2. Galvanized Steel: 0.0396 inch thick 3. Coil-Coated Galvanized Steel: 0.0396 inch thick 2.4 COIL-COATED GALVANIZED STEEL SHEET FINISH
A. Wood Moisture Content: 5 to 10 percent. B. Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1, made with adhesive containing no urea	A. High-Performance Organic Coating Finish: Apply the following system by coil-coating process on galvanized steel sheet as recommended by coating manufacturers and applicator.
formaldehyde C. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln dried to 15 percent moisture content.	B. Coil-Coated Steel Sheet Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:
3.0 EXECUTION 3.1 SHOP FINISHING OF WOOD PANELING	<ol> <li><u>Atlas Aluminum Corporation;</u></li> <li><u>MM Systems Corporation;</u></li> <li>Peterson Aluminum Corporation;</li> </ol>
A. Finishes: Same grades as items to be finished. B. Shop finish transparent-finished wood paneling at fabrication shop. 1. Apply two coats of sealer or primer to concealed surfaces of woodwork.	3.0 EXECUTION 3.1 INSTALLATION
2. Apply a wash coat sealer to paneling made from closed-grain wood before staining and finishing. 3. After staining, if any, apply paste wood filler to open-grain woods and wipe off excess. Tint filler to	A. Unless otherwise indicated, install sheet metal flashing and trim to comply with performance requirements, manufacturer's installation instructions, and SMACNA's "Architectural Sheet Metal Manual
match stained wood. C. Transparent Finish:	Anchor units of Work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install Work with laps, joints, and seams that will be permanently watertight and weatherproof.
<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or Semigloss. Verify finish with Owner.</li> <li>INSTALLATION</li> </ol>	<ul> <li>B. Expansion Provisions: Provide for thermal expansion of exposed sheet metal Work. Space movement joints at maximum of 10 feet with no joints allowed within 24 inches of corner or intersection.</li> </ul>
A. Before installation, condition paneling to average prevailing humidity conditions in installation areas B. Install paneling to comply with referenced quality standards for grade specified.	Where lapped or bayonet-type expansion provisions in Work cannon be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch
C. Install paneling level, plumb, true and straight to a tolerance of 1/8 inch in 96 inches. D. Scribe and cut stile and rail wood paneling to fit adjoining work, refinish cut surfaces, and repair	<ul> <li>deep, filled with mastic sealant (concealed within joints).</li> <li>3.2 CLEANING AND PROTECTION</li> <li>A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or</li> </ul>
damaged finish at cuts. E. Anchor paneling to supports with conceal panel-hanger clips and by blind nailing on back-up strips, splined-connection strips, and similar associated trim and framing. Use fine finishing nails or finishing	<ul><li>deterioration of finishes.</li><li>B. Provide final protection and maintain conditions that ensure sheet metal flashing and trim Work</li></ul>
screws for exposed nailing, countersunk and filled flush with woodwork.	during construction is without damage or deterioration other than natural weathering at the time of Substantial Completion.
SECTION 064600 - WOOD TRIM 1.1 SECTION REQUIREMENTS	SECTION 078413 - PENETRATION FIRESTOPPING
A. Section includes standing and running trim, jambs, and frames. B. Submittals: Shop Drawings and Samples showing the full range of colors, textures, and patterns available for each type of finish.	<ul> <li>1.1 SECTION REQUIREMENTS         <ul> <li>A. Submittals: Product Data and Installer certificates signed by Installer certifying that products hav been installed in compliance with requirements</li> </ul> </li> </ul>
C. Installer Qualifications: Minimum of 5 years experience. D. Environmental Limitations for Interior Wood Trim: Do not deliver or install interior wood trim until	2.1 PENETRATION FIRESTOPPING A. Manufacturers: One of the following:
building is enclosed, wet work is completed, and HVAC system is operating. 2.1 WOOD TRIM	1. <u>Grace Construction Products;</u> 2. <u>Hilti, Inc.;</u>
A. Quality Standard: AWI, AWMAC, and WI's "Architectural Woodwork Standards." B. Interior Trim for Transparent Finish: Premium grade, clear, poplar or white birch as noted on plans, plain sliced/plain sawn.	3. <u>Johns Manville;</u> 4. <u>Rector Seal Corporation;</u> 5.Specified Technologies, Inc.;
1. Fire Rated Interior Frames and Jambs (where required): Products fabricated from fire-retardant particle board or fire-retardant, medium-density fiberboard with veneered exposed surfaces and listed and labeled by	6. <u>3M Fire Protection Products;</u> 7. <u>Tremco, Inc.;</u> Tremco Fire Protection Systems Group;
a testing and inspecting agency acceptable to authorities having jurisdiction, for 20 minutes fire rating, based on testing according to NFPA 252.	<ul> <li>8.<u>USG Corporation</u></li> <li>B. Provide penetration firestopping materials that are compatible with one another, substrates, and</li> </ul>
C. Interior Trim for Opaque Finish: #1 Custom grade, made from any closed-grain hardwood. 2.2 INTERIOR STANDING AND RUNNING TRIM A. Interior Hardwood Lumber Trim: Premium grade, clear, kiln-dried, poplar or white birch.	penetrating items, if any. C. Penetration in Fire-Resistance-Rated Walls and Horizontal Assemblies: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure
B. Wood Moldings: WMMPA WM 4 made to patterns in WMMPA WM 12 from kiln-dried stock. 1. Hardwood Moldings for Transparent Finish: Premium grade, clear, kiln-dried, poplar or white birch.	differential of 0.01-inch wg. 1. F-Rating at Fire-Resistance-Rated Walls: Not less than that of construction penetrated.
2. Profiles: Sizes per drawings. C. Wood Moisture Content for Interior Woodwork: 5 to 10 percent. D. Blocking and Shims: Softwood or hardwood lumber, kiln-dried.	2.F-Rating at Horizontal Assemblies: At least 1 hour, but not less than that of construction penetrated. 3.T-Rating at Horizontal Assemblies: At least 1 hour, but not less than the fire-resistance rating of
E. Interior Trim for Opaque Finish: #1 Custom grade, made from any closed-grain hardwood. 2.3 SHOP PRIMING	construction penetrated except for penetrations within the cavity of a wall. D. Penetration in Smoke Barriers: Provide penetration firestopping with ratings determined per UL 1479.
A. Shop prime wood trim for opaque finish with one coat of specified wood primer. 2.4 SHOP FINISHING OF INTERIOR WOOD TRIM	1. L-Rating: Not exceeding 5.0 cfm/sq. ft. of penetration opening at 0.30-inch wg at both ambient and elevated temperatures
A. Finishes: Same grade as items to be finished. B. Shop finish transparent-finished interior wood trim at fabrication shop 1. Apply one coat of sealer of primer to concealed surfaces of wood trim. Apply two coats to end-grain	E. Exposed Penetration Firestopping: Provide products with flame-spread and smoke-developed indexed of less than 25 and 450, respectively, as determined per ASTM E 84.
surfaces. 2. Apply a wash coat sealer to wood trim made from closed-grain wood before staining and finishing.	F. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping manufacturer and approved by qualified testing and inspecting agency.
3. After staining, if any, apply paste wood filler to open grain woods and wipe off excess. Tint filler to match stained wood. C. Transparent Finish:	<ul><li>3.1 INSTALLATION</li><li>A. General: Install penetration firestopping to comply with manufacturer's written installation</li></ul>
	in struction and published drawings for products and explications indicated
1. Finish: System - 8, water-based cross linking acrylic.	instruction and published drawings for products and applications indicated.
<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION</li> </ol>	B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanentl to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon
<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or semigloss - Verify with Owner.</li> </ol>	B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanentl
<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION         <ul> <li>Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>Install wood trim to comply with referenced quality standard for grade specified</li> <li>Install wood trim level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.</li> <li>Scribe and cut wood trim to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.</li> </ul> </li> </ol>	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanentl to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping. Include the following information on labels:</li> <li>1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."</li> <li>2. Designation of applicable testing and inspecting agency.</li> <li>3. Manufacturer's name.</li> </ul>
<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION         <ul> <li>Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>Install wood trim to comply with referenced quality standard for grade specified</li> <li>Install wood trim level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.</li> </ul> </li> </ol>	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanentl to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping. Include the following information on labels:</li> <li>1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."</li> <li>2. Designation of applicable testing and inspecting agency.</li> <li>3. Manufacturer's name.</li> <li>4. Installer's name.</li> <li>3.2 PENETRATION FIRESTOPPING SCHEDULE</li> </ul>
<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION         <ul> <li>A. Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>B. Install wood trim to comply with referenced quality standard for grade specified</li> <li>C. Install wood trim level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.</li> <li>D. Scribe and cut wood trim to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>E. Anchor wood trim to anchors or blocking built in or directly attached to substrates. Fasten with countersunk concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed nailing, countersunk and filled flush with woodwork.</li> <li>F. Interior Standing and Running Trim: Install with minimum number of joints possible using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96</li> </ul> </li> </ol>	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanentl to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping. Include the following information on labels:</li> <li>1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."</li> <li>2. Designation of applicable testing and inspecting agency.</li> <li>3.Manufacturer's name.</li> <li>4.Installer's name.</li> <li>3.2 PENETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: 3M Fire Protection Products</li> <li>1. Firestopping with No Penetrating Items: FS-1: 3-M Firedam 150 + Acrylic Latex Sealant with 3-M Fire Barrier Packing Material PM4 with Sealant with gaps larger than 1 inch.</li> </ul>
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<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION         <ul> <li>A. Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>B. Install wood trim to comply with referenced quality standard for grade specified                 C. Install wood trim level, plumb, true, and straight. Shim as required with concealed shims. Install level                 and plumb to a tolerance of 1/8 inch in 96 inches.                 D. Scribe and cut wood trim to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.                 E. Anchor wood trim to anchors or blocking built in or directly attached to substrates. Fasten with                 countersunk concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed                 nailing, countersunk and filled flush with woodwork.                 F. Interior Standing and Running Trim: Install with minimum number of joints possible using full-length                 pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96                 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in                 adjacent and related members.</li> </ul> </li> <li>SECTION o76200 - SHEET METAL FLASHING AND TRIM     <ul> <li>1.0 GENERAL</li> <li>1.1 SUMMARY         <ul> <li>A. This Section includes sheet metal flashing and trim in the following categories:</li> </ul> </li> </ul></li></ol>	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanentl to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping. Include the following information on labels:</li> <li>1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."</li> <li>2. Designation of applicable testing and inspecting agency.</li> <li>3. Manufacturer's name.</li> <li>4. Installer's name.</li> <li>3.2 PENETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: 3M Fire Protection Products</li> <li>1. Firestopping with No Penetrating Items: FS-1: 3-M Firedam 150 + Acrylic Latex Sealant with 3-M Fire Barrier Packing Material PM4 with Sealant with gaps larger than 1 inch.</li> <li>2. Firestopping for Metallic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier IC 15WB+ Sealant.</li> <li>3. Firestopping for Plastic Piping Penetrations: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 1 1/2 Hour rate</li> </ul>
<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION         <ul> <li>A. Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>B. Install wood trim to comply with referenced quality standard for grade specified</li> <li>C. Install wood trim to comply with referenced quality standard for grade specified</li> <li>C. Install wood trim to comply with referenced quality standard for grade specified</li> <li>C. Install wood trim to another in the following work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>D. Scribe and cut wood trim to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>E. Anchor wood trim to anchors or blocking built in or directly attached to substrates. Fasten with countersunk concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed nailing, countersunk and filled flush with woodwork.</li> <li>F. Interior Standing and Running Trim: Install with minimum number of joints possible using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.</li> </ul> </li> <li>SECTION o76200 - SHEET METAL FLASHING AND TRIM         <ul> <li>A. This Section includes sheet metal flashing and trim in the following categories:                 <ul> <li>Cravel stops</li> <li>Gravel stops</li> </ul> </li> </ul></li></ol>	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanentl to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyour seeking to remove penetrating items or firestopping. Include the following information on labels:</li> <li>1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."</li> <li>2. Designation of applicable testing and inspecting agency.</li> <li>3. Manufacturer's name.</li> <li>4. Installer's name.</li> <li>3.2 PENETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: 3M Fire Protection Products</li> <li>1. Firestopping with No Penetrating Items: FS-1: 3-M Firedam 150 + Acrylic Latex Sealant with 3-M Fire Barrier Packing Material PM4 with Sealant with gaps larger than 1 inch.</li> <li>2. Firestopping for Metallic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier IC 15WB+ Sealant.</li> <li>3. Firestopping for Plastic Piping Penetrations: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 1 1/2 Hour rate for piping larger than 1 1/2 inch diameter.</li> <li>4. Firestopping for Grouping of Penetrants: FS-4: 3-M Fire Barrier Pass through Devices - Size as required or STI Firestop - EZ Path # EZDP133CAK with kit.</li> <li>5. Refer to M/P/E Drawings for additional penetration firestoppings.</li> </ul>
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<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION         <ul> <li>A. Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>B. Install wood trim to comply with referenced quality standard for grade specified</li> <li>C. Install wood trim level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.</li> <li>D. Scribe and cut wood trim to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>E. Anchor wood trim to anchors or blocking built in or directly attached to substrates. Fasten with countersunk concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed nailing, countersunk and filled flush with woodwork.</li> <li>F. Interior Standing and Running Trim: Install with minimum number of joints possible using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.</li> </ul> </li> <li>SECTION or/6200 - SHEET METAL FLASHING AND TRIM         <ul> <li>1.0 GENERAL</li> <li>1.1 SUMMARY</li> <li>A. This Section includes sheet metal flashing and trim in the following categories:                 <ul> <li>1. Exposed trim</li> <li>2. Gravel stops</li> <li>3. Fasciae</li> <li>4. Copings</li> <li>5. Metal Flashing</li> <li>1.2 QUALITY ASSURANCE</li> <li>A. Installer Qualifications: Engage an experienced installer who has completed sheet metal flashing and trim work simila</li></ul></li></ul></li></ol>	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanentl to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping. Include the following information on labels:</li> <li>1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."</li> <li>2. Designation of applicable testing and inspecting agency.</li> <li>3. Manufacturer's name.</li> <li>4. Installer's name.</li> <li>3.2 PENETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: 3M Fire Protection Products</li> <li>1. Firestopping with No Penetrating Items: FS-1: 3-M Firedam 150 + Acrylic Latex Sealant with 3-M Fire Barrier Packing Material PM4 with Sealant with gaps larger than 1 inch.</li> <li>2. Firestopping for Metallic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier IC 15WB+ Sealant.</li> <li>3. Firestopping for Plastic Piping Penetrations: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 1 1/2 Hour rate for piping larger than 1 1/2 inch diameter.</li> <li>4. Firestopp ing for Grouping of Penetrants: FS-4: 3-M Fire Barrier Pass through Devices - Size as required or STI Firestop - EZ Path # EZDP133CAK with kit.</li> <li>5. Refer to M/P/E Drawings for additional penetration firestoppings.</li> </ul>
<ol> <li>Finisĥ: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION         <ul> <li>A. Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>B. Install wood trim to comply with referenced quality standard for grade specified</li> <li>C. Install wood trim level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.</li> <li>D. Scribe and cut wood trim to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>E. Anchor wood trim to anchors or blocking built in or directly attached to substrates. Fasten with countersunk concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed nailing, countersunk and filled flush with woodwork.</li> <li>F. Interior Standing and Running Trim: Install with minimum number of joints possible using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.</li> </ul> </li> <li>SECTION or of 200 - SHEET METAL FLASHING AND TRIM         <ul> <li>1.0 GENERAL</li> <li>1.1 SUMMARY</li> <li>A. This Section includes sheet metal flashing and trim in the following categories:             <ul> <li>1. Exposed trim</li> <li>2. Gravel stops</li> <li>3. Fasciae</li> <li>4. Copings</li> <li>5. Metal Flashing</li> </ul> </li> <li>1.2 QUALITY ASSURANCE</li> <li>A. Installer Qualifications: Engage an experienced installer who has completed sheet metal flashing and trim work similar in material, design, and extent to that</li></ul></li></ol>	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanentl to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping - Do Not Disturb. Notify Building Management of Any Damage."</li> <li>a. Designation of applicable testing and inspecting agency.</li> <li>a. Manufacturer's name.</li> <li>4. Installer's name.</li> <li>3.2 PENETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: 3M Fire Protection Products</li> <li>1. Firestopping with No Penetrating Items: FS-1: 3-M Firedam 150 + Acrylic Latex Sealant with 3-M Fire Barrier Packing Material PM4 with Sealant with gaps larger than 1 inch.</li> <li>2. Firestopping for Metallic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier IC 15WB+ Sealant.</li> <li>3. Firestopping for Plastic Piping Penetrations: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 1 1/2 Hour rate for piping larger than 1 /2 inch diameter.</li> <li>4. Firestopping for Grouping of Penetrations: FS-4: 3-M Fire Barrier Pass through Devices - Size as required or STI Firestop - EZ Path # EZDP133CAK with kit.</li> <li>5. Refer to M/P/E Drawings for additional penetration firestoppings.</li> </ul>
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<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION         <ul> <li>A. Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>Binstall wood trim level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.</li> <li>D. Scribe and cut wood trim to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>E. Anchor wood trim to anchors or blocking built in or directly attached to substrates. Fasten with countersunk concealed fasteners and blind naling. Use fine finishing nails or finishing screws for exposed nailing, countersunk and filled flush with woodwork.</li> <li>F. Interior Standing and Running Trim: Install with minimum number of joints possible using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.</li> </ul> </li> <li>SECTION or_66200 - SHEET METAL FLASHING AND TRIM         <ul> <li>1.0 GENERAL</li> <li>1.1 SUMMARY</li> <li>A. This Section includes sheet metal flashing and trim in the following categories:                 <ul> <li>Exposed trim</li> <li>Gravel stops</li> <li>Fasciae</li> <li>4. Copings</li> <li>5. Metal Flashing</li> <li>1.3 URMARY</li> <li>A. Installer Qualifications: Engage an experienced installer who has completed sheet metal flashing and trim work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performa</li></ul></li></ul></li></ol>	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanentl to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping. Include the following information on labels:</li> <li>1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."</li> <li>2. Designation of applicable testing and inspecting agency.</li> <li>3. Manufacturer's name.</li> <li>4. Installer's name.</li> <li>3. PENETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: 3M Fire Protection Products</li> <li>1. Firestopping with No Penetrating Items: FS-1: 3-M Firedam 150 + Acrylic Latex Sealant with 3-M Fire Barrier Packing Material PM4 with Sealant with gaps larger than 1 inch.</li> <li>2. Firestopping for Metallic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier IC 15WB+ Sealant.</li> <li>3. Firestopping for Plastic Piping Penetrations: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 1 1/2 Hour rate for piping larger than 1 1/2 inch diameter.</li> <li>4. Firestopping for Grouping of Penetrants: FS-4: 3-M Fire Barrier Pass through Devices - Size as required or STI Firestop. JOINT SEALANTES</li> <li>1.0 GENERAL</li> <li>1.1 SUMMARY</li> <li>A. This Section includes joint sealants for the following locations:</li> <li>1. Control and expansion joints in cast-in-place concrete</li> <li>2. Control and expansion joints in unit masonry</li> <li>3. Joints between materials listed above.</li> <li>4. Perimeter joints between materials listed above and frames of doors and windows</li> <li>5. Other joints as indicated.</li> <li>1.2 SYSTEM PERFORMANCE REQUIREMENTS</li> <li>A. Provide elastomeric joint sealants that have been produced and installed to establish and to maintain watertight and airtight continuous seals without causing staining or deterioration of joint substrates.</li> <li>1.3 SUBMITTALS</li> <li>A. Product data from manufacturers</li></ul>
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<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION</li> <li>Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>Install wood trim to comply with referenced quality standard for grade specified</li> <li>C. Install wood trim level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.</li> <li>D. Scribe and cut wood trim to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>E. Anchor wood trim to anchors or blocking built in or directly attached to substrates. Fastem with concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed nailing, countersunk and filled flush with woodwork.</li> <li>F. Interior Standing and Running Trim: Install with minimum number of joints possible using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.</li> </ol> SECTION or foco - SHEET METAL FLASHING AND TRIM 1.0 GENERAL 1.1 SUMMARY 3. Fasciae 4. Copings 3. Fasciae 4. Coping threat relations: Engage an experienced installer who has completed sheet metal flashing and trim work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance. 1.3 PROJECT CONDITIONS A. Coordinate Work of this Section with interfacing and adjoining Work for proper sequencing of each installation. Ensure best possible weat	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanent to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping. Include the following information on labels:</li> <li>1. The words "Warning - Penetration Firestopping. Do Not Disturb. Notify Building Management of Any Damage."</li> <li>2. Designation of applicable testing and inspecting agency.</li> <li>3. Manufacturer's name.</li> <li>4. Installer's name.</li> <li>3.2 PENETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: 3M Fire Protection Products</li> <li>1. Firestopping with No Penetrating Items: FS-1: 3-M Firedam 150 + Acrylic Latex Sealant with 3-M Fire Barrier Packing Material PM<sub>4</sub> with Sealant with gaps larger than 1 inch.</li> <li>2. Firestopping for Metallic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier IC 15WB+Sealant.</li> <li>3. Firestopping for Plastic Piping Penetrations: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 1 1/2 Hour rate for piping larger than 1 1/2 inch diameter.</li> <li>4. Firestopping for Grouping of Penetrations: FS-4: 3-M Fire Barrier Pass through Devices - Size as required or STI Firestop - E Path # EZDP13(3CAK with kit.</li> <li>5. Refer to M/P/E Drawings for additional penetration firestoppings.</li> </ul> SECTION orgotio - JOINT SEALANTS 1.0 GENERAL 1.1 SUMMARY A. This Section includes joint sealants for the following locations: 1. Control and expansion joints in cast-in-place concrete 2. Control and expansion joints in cast-in-place concrete 2. Other joints a sufficient. 1.2 SYSTEM PERFORMANCE REQUIREMENTS A. Provide elastomeric joint sealants that have been produced and installed to establish and to maintain watertight and airtight continuous seals without casing staining or deterioration of joint substrates. 1.3 SUBMITIALS A. Product data from manufacturers for each j
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<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION</li> <li>Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>Install wood trim to comply with referenced quality standard for grade specified</li> <li>Cinstall wood trim to ten qual straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.</li> <li>Scribe and cut wood trim to that diojoining work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>Anchor wood trim to anchors or blocking built in or directly attached to substrates. Fasten with countersunk concealed fasteners and blind nalling. Use fine finishing nails or finishing screws for exposed nailing, countersunk and filled flush with woodwork.</li> <li>F. Interior Standing and Running Trim: Install with minimum number of joints possible using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.</li> <li>SECTION OroScoo - SHEET METAL FLASHING AND TRIM</li> <li>1.0 GENERAL</li> <li>1.1 SUMMARY</li> <li>A. This Section includes sheet metal flashing and trim in the following categories:         <ul> <li>Lizposed trim</li> <li>Gravel stops</li> <li>Section includes sheet metal flashing and trim in the following categories:</li> <li>Lizposed trim</li> <li>Gravel stops</li> <li>Metal Flashing</li> </ul> </li> <li>2.0 CPRUE Qualifications: Engage an experienced installer who has completed sheet metal flashing and trim work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.<td><ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanent to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping. Include the following information on labels:</li> <li>1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."</li> <li>2. Designation of applicable testing and inspecting agency.</li> <li>3. Manufacturer's name.</li> <li>4. Installer's name.</li> <li>2. PENETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: 3M Fire Protection Products</li> <li>1. Firestopping offor No Penetrating Items: FS-1: 3-M Firedam 150 + Acrylic Latex Sealant with 3-M Fire Barrier Packing Material PM4 with Sealant with gaps larger than 1 inch.</li> <li>2. Firestopping for No Penetrating Items: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 1 1/2 Hour rate for piping larger than 1 1/2 inch diameter.</li> <li>4. Firestopping for Orouping of Penetratis: FS-3: 3-M Fire Barrier Packing for Grouping of Penetratis: FS-4: 3-M Fire Barrier Pass through Devices - Size as required or STI Firestop - EZ PH # EZDP13/2GAK with kit.</li> <li>5. Refer to M/P/E Drawings for additional penetration firestoppings.</li> </ul> SECTION orgoto - JOINT SEALANTS 1.0 GENERAL 1.1 SUMMARY A. This Section includes joint sealants for the following locations: 1. Control and expansion joints in unit masorny 3. Joints between different materials listed above. 4. Perimeter joints between materials listed above. 4. Provide elastomeric joint sealants that have been produced and installed to establish and to maintain watertight and airtight continuous seals without causing staning or deterioration of joint substrates. 3. JSUBMITTALS A. Provide clastomeric joint sealants that have been produced and installed to establish and to maintain watertight and airtight continuous seals without</td></li></ol>	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanent to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping. Include the following information on labels:</li> <li>1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."</li> <li>2. Designation of applicable testing and inspecting agency.</li> <li>3. Manufacturer's name.</li> <li>4. Installer's name.</li> <li>2. PENETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: 3M Fire Protection Products</li> <li>1. Firestopping offor No Penetrating Items: FS-1: 3-M Firedam 150 + Acrylic Latex Sealant with 3-M Fire Barrier Packing Material PM4 with Sealant with gaps larger than 1 inch.</li> <li>2. Firestopping for No Penetrating Items: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 1 1/2 Hour rate for piping larger than 1 1/2 inch diameter.</li> <li>4. Firestopping for Orouping of Penetratis: FS-3: 3-M Fire Barrier Packing for Grouping of Penetratis: FS-4: 3-M Fire Barrier Pass through Devices - Size as required or STI Firestop - EZ PH # EZDP13/2GAK with kit.</li> <li>5. Refer to M/P/E Drawings for additional penetration firestoppings.</li> </ul> SECTION orgoto - JOINT SEALANTS 1.0 GENERAL 1.1 SUMMARY A. This Section includes joint sealants for the following locations: 1. Control and expansion joints in unit masorny 3. Joints between different materials listed above. 4. Perimeter joints between materials listed above. 4. Provide elastomeric joint sealants that have been produced and installed to establish and to maintain watertight and airtight continuous seals without causing staning or deterioration of joint substrates. 3. JSUBMITTALS A. Provide clastomeric joint sealants that have been produced and installed to establish and to maintain watertight and airtight continuous seals without
<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION</li> <li>A Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>Install wood trim two, plumb, true, and straight. Shin as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.</li> <li>Seribe and cut wood trim to find holining. Uver, fefnish cut surfaces, and repair damaged finish at cuts.</li> <li>Anchor wood trim to anchors or blocking built in or directly attached to substrates. Fasten with countersumk concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed nailing, countersumk and filled flumb with woodwork.</li> <li>I. Interior Standing and Running Trim: Install with minimum number of joints possible using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96 inches long, exceept where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.</li> <li>SECTION or6200 - SHEET METAL FLASHING AND TRIM.</li> <li>1.0 GENERAL</li> <li>1.1 SUMMARY</li> <li>A This Section includes sheet metal flashing and trim in the following categories:         <ul> <li>1.5 ground trim</li> <li>2. Gravel stops</li> <li>3. Fasciae</li> <li>4. Copings</li> <li>Metal Flashing</li> <li>2.0 Gravel stops</li> <li>3. PROJECT CONDITIONS</li> <li>A. Coordinate Work of this Section with interfacing and adjoining Work for proper sequencing of each installation. Ensure best possible weather resistance, durability of Work, and protection of materials and finishes.</li> </ul> </li> <li>A. Gavanized Steel Sheet: ASTM A 526, G 90, commercial quality, or ASTM A 527, G 90, lock-forming quality,</li></ol>	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanentl to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping. Include the following information on labels:</li> <li>1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."</li> <li>2. Designation of applicable testing and inspecting agency.</li> <li>3. Manufacturer's name.</li> <li>4. Installer's name.</li> <li>4. Installer's name.</li> <li>4. Installer's name.</li> <li>4. Installer's name.</li> <li>5. PETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: 3M Fire Protection Products</li> <li>1. Firestopping with No Penetrating Items: FS-1: 3-M Fired Bartier Latex Sealant with 3-M Fire Barrier Packing Material PM4 with Sealant with gaps larger than 1 inch.</li> <li>2. Firestopping of No Penetrating Items: FS-4: 3-M Fire Barrier Ultra Plastic Pipe - 1 1/2 Hour rate for piping larger than 1 i/2 inch diameter.</li> <li>4. Firestopping for Grouping of Penetrants: FS-4: 3-M Fire Barrier Pass through Devices - Size as required or STI Firestop- EZ PAI &amp; EZ PENETAL</li> <li>5. Refer to M/P/E Drawings for additional penetration firestoppings.</li> </ul> <b>SECTION Orgoto - JOINT SEALANTS</b> 1.0 GENERAL 1.1 SUMMARY A. This Section includes joint sealants for the following locations: 1. Control and expansion joints in unit masoury 3. Joints between different materials listed above. 4. Perinder joints between materials listed above. 4. Provide elastomeric joint sealants that have been produced and installed to establish and to maintain watertight and airtight continuous seals without causing staining or deterioration of joint substrates. 3. SUBMITTALS A. Provide elastomeric joint sealants that have been produced and installed to establish and to maintain watertight and airtight continuous sea
<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION</li> <li>A Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>B. Install wood trim to comply with referenced quality standard for grade specified</li> <li>C. Install wood trim to anchors or blocking built in or directly attached to substrates. Fasten with countersumk concealed fasteners and blind nalling. User finishing nails or finishing screws for exposed nailing, countersumk and filled flush with woodwork.</li> <li>F. Interior Standing and Running Tim: Install with minimum number of joints possible using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.</li> <li>EXECTION orfocoo - SHEET METAL FLASHING AND TRIM</li> <li>10 GENERAI.</li> <li>11 SUMMARY</li> <li>A This Section includes sheet metal flashing and trim in the following categories:         <ul> <li>1. Exposed trim</li> <li>2. Gravel stops</li> <li>3. Fasciae</li> <li>4. Copings</li> <li>5. Metal Plashing</li> </ul> </li> <li>2. QUALITY ASSURANCE</li> <li>A. Installer Qualifications: Engage an experienced installer who has completed sheet metal flashing and trim work similar in material, design, and extent to that indicated for this Project and with a record of successful in service performance.</li> <li>3. PROJECT CONDITIONS</li> <li>A. Coordinate Work of this Section with interfacing and adjoining Work for proper sequencing of each installation. Ensure best possible weather resistance, durability of Work, and protection of materials and finishes.</li> <li>2.0 PRODUCTS</li> <li>A. Galvanized Steel Sheet: AST</li></ol>	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanentl to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping. Include the following information on labels:</li> <li>1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."</li> <li>2. Designation of applicable testing and inspecting agency.</li> <li>3. Manufacturer's name.</li> <li>4. Installer's name.</li> <li>2. 2. PENETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: 3M Fire Protection Products</li> <li>1. Firestopping of Nenetrating Items: FS-1: 3-M Firedam 150 + Acrylic Latex Sealant with 3-M Fire Barrier Packing Material PM4 with Sealant with gaps larger than 1 inch.</li> <li>2. PENETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: 3M Fire Protection Products</li> <li>1. Firestopping for Plastic Piping Penetrations: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 1 1/2 Hour rate for piping larger than 1 1/2 inch diameter.</li> <li>4. Firestopping for Grouping of Penetratis: FS-4: 3-M Fire Barrier Ultra Plastic Pipe - 1 1/2 Hour rate for spiping parents e ZD PizgCAK with kit.</li> <li>5. Refer to M/P/E Drawings for additional penetration firestoppings.</li> </ul> <b>SECTION oryopot - JOINT SEALANTS</b> <ul> <li>1. Outro And expansion joints in cast-in-place concrete</li> <li>2. Control and expansion joints in unit masomy</li> <li>3. Joints between different materials listed above.</li> <li>4. Perimeter joints between Metrical Bisted above and frames of doors and windows</li> <li>5. Other joints as indicated.</li> <li>1. SUSMINTLAS</li> <li>A. Provide elastomeric joint sealants that have been produced and installed to establish and to maintain wateright and airight continuous seals without causing staining or deterioration of joint substrates. <ul> <li>3. SUBMITTALS</li> <li>A. Product data from manufacturers for each jo</li></ul></li></ul>
<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Shear: Satin or semigloss - Verify with Owner.</li> <li>Si INSTALLATION</li> <li>A Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>B. Install wood trim to prophy with referenced quality stundard for grade specified</li> <li>C. Install wood trim to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>D. Seribe and cut wood trim to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>D. Seribe and cut wood trim to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>F. Interior Standing and Running Trim: Install with motive overk.</li> <li>F. Interior Standing and Running Trim: Install with minimum number of joints possible using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96 inches.</li> <li>D. GENERAL</li> <li>O GENERAL</li> <li>Submark and related members.</li> </ol> <b>EVELON Ory6200 - SHEET METAL FLASHING AND TRIM</b> 10 GENERAL 13 Raciae 4. Copings 3 Raciae 4. Copings 3 Raciae 4. Copings 3 Raciae 4. Copings 3 Maciae 3. Console stopes 3. Raciae 4. Copings 3. Maciae 4. Copings 3. Maciae 4. Copings 3. Action includes sheet metal flashing and extent to that indicated for this Project and with a record of successful in-service performance. 4. Copings 3. Maciae 4. Copings 3. Coordinate Work of this Section with interfacing and adjoining Work for proper sequencing of each installation. Ensure best possible weather resistance, durability of Work, and protection of materials and finishes. 2. O ROUECT CONDITIONS 4. Gavanized Steel Sheet: ASTM A 526, G 90, commercial quality, or ASTM A 527, G 90	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanent to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping. Do Not Disturb. Notify Building Management of Any Damage.</li> <li>2. Designation of applicable testing and inspecting agency.</li> <li>3. Manufacturer's name.</li> <li>4. Installer's name.</li> <li>3. ENERTRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: "3M Fire Protection Products</li> <li>1. Firestopping with No Penetrating Items: FS-1: 3-M FiredBam 150 + Acrylic Latex Sealant with 3-M Fire Barrier Packing Material PM4 with Sealant with gaps larger than 1 inch.</li> <li>2. Firestopping for Metallic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier IC 15/WB+ Sealant.</li> <li>3. Firestopping for Plastic Piping Penetrations: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 1 1/2 Hour rate for piping larger than 1 1/2 inch diameter.</li> <li>4. Firestopping for Plastic Piping Penetrations: FS-4: 3-M Fire Barrier Pass through Devices - Size as required or STI Firestop - EZ Path # EZDP133CAK with kit.</li> <li>5. Refer to M/P/E Drawings for additional penetration firestoppings.</li> </ul> SECTION orgoto - JOINT SEALANTS 1.0 GENERAI 1.0 GENERAI 1.1 SUMMARY A. This Section includes joint sealants for the following locations: 1. Control and expansion joints in cast-in-place concrete 2. Other joints as indicated. 1.2 SYSTEM PERFORMANCE REQUIREMENTS A. Provide clastomeric joint sealants that have been produced and installed to establish and to maintain watertight and airtight continuous seals without causing staining or deterioration of joint substrates. 1.3 SUBMITTLES A. Product data from manufacturers for each joint sealant product required. B. Sampleations similar in material, design, and extent to that indicated for Project that have resulted in c
<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION</li> <li>A Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>Install wood trim to comply with referenced quality standard for grade specified</li> <li>C. Install wood trim to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>E. Anchor wood trim to anchors or blocking built in or directly attached to substrates. Tasten with countersunk concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed nailing, countersunk aconcealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed nailing, countersunk aconcealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed incless long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.</li> </ol> SECTON or of 2000 or SHEET METAL FLASHING AND TRIM 1.0 GENERAL 1.0 GENERAL 1.1 SUMMARY A This Section includes sheet metal flashing and trim in the following categories: 1. Exposed trin 2. Fastiae 4. Copping 3. Metal Plashing 1.2 QUALITY ASSURANCE A. Installer Qualifications: Engage an experienced installer who has completed sheet metal flashing and trim work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance. 1.3 PROJECT CONDITIONS 3. Gordinate Work of this Section with interfacing and adjoining Work for proper sequencing of each installation. Ensure best possible weather resistance, durability of Work, and protection of materials and finishes. 2.0 Floating Steel Sheet: ASTM A 526, G 90, commercial quality, or ASTM A 527, G 90, lock-forming quality, hot-dip galvanized steel	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanend to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping. Include the following information on labels:</li> <li>1. The words "Warning - Penetration Firestopping. Do Not Disturb. Notify Building Management of Any Damage.</li> <li>2. Designation of applicable testing and inspecting agency.</li> <li>3. Annufacturer's name.</li> <li>4. Installer's name.</li> <li>3. PENETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: "3M Fire Protection Products</li> <li>1. Firestopping with No Penetrating Items: FS-1: 3-M FiredBam 150 + Acrylic Latex Sealant with 3-M Fire Barrier Packing Material PM4 with Scalant with gaps larger than 1 inch.</li> <li>2. Firestopping for Plastic Piping Penetrations: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 1 1/2 Hour rate for piping larger than 1 1/2 inch diameter.</li> <li>4. Firestopping for Plastic Piping Penetrations: FS-4: 3-M Fire Barrier Pass through Devices - Size as required or STI Firestop. EZ Path # EZDP133CAK with kit.</li> <li>5. Refer to M/P/E Drawings for additional penetration firestoppings.</li> </ul> SECTION orgoto - JOINT SEALANTS 1.0 GENERAI. 1.0 GENERAI. 1.2 SUMANCE REQUIREMENTS A. This Section includes joint sealants for the following locations: 1. Control and expansion joints in cast-in-place concrete 2.Other joints as indicated. 1.2 SWTEM PERFORMANCE REQUIREMENTS A. Provide clastomeric joint sealants that have been produced and installed to establish and to maintain watertight and airtight continuous seals without causing staining or deterioration of joint substrates. 1.3 UBMITTALS A. Provide clast form maurifacturers for each product equired. B. Samples for initial selection purposes in form of manufacturer's standard bead samples, consisting of studue grouts showing
<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Shean: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION</li> <li>A Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>Binstall wood trim to comply with referenced quality standard for grade specified</li> <li>C. Install wood trim to the digioning work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>E. Anchor wood trim to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>E. Anchor wood trim to anchors or blocking built in or directly attached to substrates. Fasten with countersunk and filed flush with woodwork.</li> <li>F. Interior Standing and Running Trim: Install with minimum number of joints possible using full-length pieces (from maximum length of humber available) to greatest extent possible. Do not use pieces less than 96 inches on generate and related members.</li> </ol> SECTON or5e200 - SHEET METAL FLASHING AND TRIM 10 GENBRAL 10 GENBRAL 11 SUMMANY A. This Section includes sheet metal flashing and trim in the following categories: <ol> <li>Exposed trim</li> <li>Gravel stops</li> <li>Metal Flashing</li> <li>Corrolations: Engage an experienced installer who has completed sheet metal flashing and trim work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance. 3.9 ROKICE 3.9 RokICE 3.1 RISTALE 3.0 Gravitations: Engage an experienced installer who has completed sheet metal flashing and trim work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance. 3.9 ROKICE 3.0 RODUCTS 2.1 RISTALE 3.1 RISTALE 3.4 Galvanized Steel Sheet: ASTM A 526, G 90, commercial quality, or ASTM A 527, G 90, lock-forming quality, hor dt</li></ol>	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanent to surfaces adjacent to and within 6 inches (150 mm) of firestopping cloge so labels will be visible to anyon seeking to remove penetrating items or firestopping. Include the following information on labels: <ol> <li>The works "Warning - Penetration Firestopping. Include the following information on labels:</li> <li>The works "Warning - Penetration Firestopping. Include the following information on labels:</li> <li>The works "Warning - Penetration Firestopping. To Not Disturb. Notify Building Management of Any Damage."</li> <li>Lesignation of applicable testing and inspecting agency.</li> <li>Manufacturer's name.</li> <li>PENETRATION FIRESTOPPING SCHEDULE</li> <li>Basis for schedule: 2M Fire Protection Products</li> <li>Firestopping for Metallic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier IC 15/WB+ Sealant.</li> <li>Firestopping for Metallic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier IC 15/WB+ Sealant.</li> <li>Firestopping for Grouping of Penetrations: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 11/2 Hour rate for piping larger than 1 i/2 inch diameter.</li> <li>Firestopping for Grouping of Penetratis: FS-4: 3-M Fire Barrier Pass through Devices - Size as required or TIF Hirestop.</li> <li>Steffer to M/P/E Drawings for additional penetration firestoppings.</li> </ol></li></ul> <li> <b>EXETUON CryOtic - JOINT SEALANTS</b> 1.0 GENERAL 1.1 (SUMMARY A. This Section includes joint sealants for the following locations: 1. Outrol and expansion joints in unit masomy 3Joints between different materials listed above. 4. Perimeter joints between materials listed above. 3. Portion tas sindicated. 1.2 SUSTEM PERFORMANCE REQUIREMENTS A. Product data from manufacturers for each joint sealant product required. 3. SUBMITIALS A. Product data from manufacturers for each joint sealant materials end or working f</li>
<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Sheen: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION</li> <li>A. Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>Install wood trim to comply with referenced quality standard for grade specified</li> <li>C. Install wood trim to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>E. Anchor wood trim to a fundion built in or directly attached to substrates. Tasten with countersunk concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed nailing, countersunk aconcealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed nailing, countersunk aconcealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed nailing, countersunk aconcealed fasteners and blind nailing.</li> <li>F. Interior Standing and Running Trim: Install with minimum number of joints possible. Do not use pieces less than 96 inches long, except where shorter single-length pieces form maximum length of lumber available lo greatest extent possible. Do not use pieces less than 96 inches long.</li> <li>Station includes sheet metal flashing and trim in the following categories:         <ul> <li>I. Styposed trim</li> <li>Gravel stops</li> <li>Beaciae</li> <li>Copings</li> <li>Metal Flashing</li> <li>Z QUALTY ASSURANCE</li> <li>Anstalle Qualifications: Engage an experienced installer who has completed sheet metal flashing and trim work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.</li> <li>PRODECT CONDITONS</li> <li>A Coordinate Work of this Section with interfacing and adjoining Work for proper sequencing of each installation. Ensure best poss</li></ul></li></ol>	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanend to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping. Include the following information on labels:</li> <li>J. The work "Warning - Penetration Firestopping. Include the following information on labels.</li> <li>J. The work "Warning - Penetration Firestopping. Include the following information on labels:</li> <li>J. Besignation of applicable testing and inspecting agency.</li> <li>J. Manufacturer's name.</li> <li>J. PENETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: 3M Fire Protection Products</li> <li>Firestopping for Metallic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier Packing Material PM4 with Scalant with gas larger than 1 inch.</li> <li>J. Firestopping for Metallic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier IC 15WB+ Scalant.</li> <li>J. Firestopping for Metallic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier Packing Material PA4 with Scalark with hat PA4 with Scalark.</li> <li>J. Firestopping for Grouping of Penetrations: FS-3: 3-M Fire Barrier Pass through Devices - Size as required or STI Firestopping for Grouping of Penetrations: FS-4: 3-M Fire Barrier Pass through Devices - Size as required or STI Firestop- EZ Path &amp; EZDP1:32CAK with kit.</li> <li>J. GENERAL</li> <li>1.3 SUMMARY</li> <li>A. This Section includes joint sealants for the following locations:</li> <li>1. Control and expansion joints in cast-in-place concrete</li> <li>2. Control and expansion joints in cast-in-place concrete</li> <li>2. Control and expansion joints in cast-in-place concrete</li> <li>2. Sourth PERFORMANCE REQUIREMENTS</li> <li>A. Provide clastomeric joint sealants that have been produced and installed to establish and to maintain weateright and airtight continuous seals without causing staining or deterioration of joint suithrates.</li> <li>1</li></ul>
<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Shen: Satin or semigloss - Verify with Owner.</li> <li>INSTALLATION</li> <li>A Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>Install wood trim to comply with referenced quality standard for grade specified</li> <li>C. Install wood trim to the adjoining work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>E. Anchor wood trim to average built in or directly attached to substrates. Fasten with connersunk concealed fasteners and blind nalling. Use fine finishing gails or finishing screws for exposed that any theory of the top of the substrates. Fasten with connersunk and fasting full-length prices are necessary. Scarf running joints possible using full-length prices (from maximum length of humber available) to greatest extent possible. Do not use pieces less than 96 inches long, cocopt where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.</li> <li>SECION COSCOO - SHEET METAL FLASHING AND TRIM.</li> <li>1 O GENRRI</li> <li>1 A SUMMARY</li> <li>A. This Section includes sheet metal flashing and trim in the following categories:         <ul> <li>1. Stayoed trim</li> <li>3. Gravel stops</li> <li>9. Metal Flashing</li> <li>2. Gruvel 177 ASSURANCE</li> <li>A. Installer Qualifications: Engage an experienced installer who has completed sheet metal flashing and trim mork similar in material, design, and extent to thai indicated for this Project and with a record of successful in-service performance.</li> <li>2. PROLUCT S</li> </ul> </li> <li>A. Gavanized Steel Sheet: ASTM A 526, G 90, commercial quality, or ASTM A 527, G 90, lock-forming quality, hot-dig galanized steel sheet with h.2.0 percent copper, mill phosphatized where indicated for biarting and trim mork sing of solubl</li></ol>	<ol> <li>Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanent to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping. Include the following information on labels:         <ul> <li>The word: Warning - Penetration Firestopping.</li> <li>Designation of applicable testing and inspecting agency.</li> <li>Manufacturer's name.</li> <li>Penstrika Firestopping with No Penetrating Items: FS-1: 3-M Firedam 150 + Acrylic Latex Sealant with 3-M Fire Barrier Facking Material PMA with Sealant with gas larger than 1 inch.</li> <li>Firestopping for Metallic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier IC 15WB+ Sealant.</li> <li>Firestopping for Orelastic Piping Penetrations: FS-3: 3-M Fire Barrier Pass through Devices - Size as required or SIT Firestop-Diz Data M &amp; EDDP132GAK with hit.</li> <li>Riestopping for Grouping of Penetratics: FS-3: 3-M Fire Barrier Pass through Devices - Size as required or SIT Firestop-EZ Data M &amp; EDDP132GAK with hit.</li> <li>Refer to M/P/E Drawings for additional penetration firestoppings.</li> </ul> </li> <li>Control and expansion joints in unit massory</li> <li>Joints between different materials listed above.</li> <li>Pervide elastomeric joint sealants for the following locations:</li> <li>Control and expansion joints in unit massory</li> <li>Joints between different materials listed above.</li> <li>Pervide elastomeric joint sealants that have been produced and installed to establish and to matintal wateright and airtight continuous seals without causing staining or deterioration of joint subtracts.</li> <li>SUBMITTALS</li> <li>Product data from manufacturers for each joint sealant product required.</li> <li>Single Source Responsibility for Joint Sealant Materials. Tobai product spoced</li></ol>
<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Shen: Satin or semigloss - Verify with Owner.</li> <li>HNSTALLATION</li> <li>A Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>Binstall wood trim io comply with referenced quality standard for grade specified</li> <li>C. Install wood trim io comply with referenced quality standards on grade specified</li> <li>C. Install wood trim in the adjuining work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>E. Anchor wood trim to fit adjuining work, refinish cut surfaces, and repair damaged finish at cuts.</li> <li>E. Anchor wood trim to anchors or blocking built in or directly attached to substrates. Fasten with countersumk sonoealded fasteners and bhind nalling. Use fine finishing acrews for exposed thing, conservation and stager in adjacent and related members.</li> <li>EXCION orofoco - SHEET METAL FLASHING AND TRIM.</li> <li>I. SUMMARY</li> <li>A. This Societ nine diverse single-length pieces are necessary. Scarf running joints and stager in adjacent and related members.</li> <li>E. WILL YASURANCE</li> <li>A. This Societ ring</li> <li>Frescine</li> <li>Frescine</li> <li>Prescine</li> <li>A constaller, design, and extent to that indicated for this Project and with a record of successful in-service performance.</li> <li>PROVECTONDITION</li> <li>A. Convoltated Sheet: ASTM A 526, G 90, commercial quality, or ASTM A 527, G 90, lock-forming quality, hot-dip galvanized steel sheet with 0.20 percent copper, mill phosphatized where indicated for this project and with a resord of successful in-service performance.</li> <li>PROUECTS</li> <li>A. Galvanized Steel Sheet: ASTM A 526, G 90, commercial quality, or ASTM A 527, G 90, lock-forming quality, hot-dip galvanized steel sheet metal flashing and trim two finishes.</li> <li>Col-Colated Galvanized Steel Sheet: Time-coated, commerci</li></ol>	<ol> <li>Identify penetration firstopping with preprinted metal or plastic labels. Attach labels permanend to surfaces adjacent to and within 6 inches (150 mm) of firstopping edge so labels will be visible to anyon seeking to remove penetrating items or firstopping. Include the following information on labels:</li> <li>The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."</li> <li>Designation of applicable testing and inspecting agency.</li> <li>Monifordurer's name.</li> <li>PENETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: 3M Fire Protection Products</li> <li>Firestopping for Metallic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier IC 15/WB+Scalant.</li> <li>Firestopping for Metallic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier IC 15/WB+Scalant.</li> <li>Firestopping for Plastic Piping Penetrations: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 11/2 Hour rate for piping larger than 1 // inch diameter.</li> <li>Hirestopping for Coupling of radditional penetration firestoppings.</li> </ol> <b>SECTION Or2000 - JOINT SELACNTS</b> <ol> <li>GENERAL</li> <li>GENERAL</li> <li>GENERAL</li> <li>GENERAL</li> <li>GENERAL</li> <li>GURNERAL</li> <li>SUMMARY</li> <li>This Section includes joint sealants for the following locations:</li> <li>Control and expansion joints in cast-in-place concrete</li> <li>Control and expansion joints in cast-in-place concrete</li> <li>Control and expansion joints in cast-in-place concrete</li> <li>Control and expansion joints in cast-in-gale concrete</li> <li>Control and exp</li></ol>
<ul> <li>1. Finish: System - 8, water-based cross linking acrylic.</li> <li>2. Bitalla ALATION</li> <li>A Before installation, condition wood trim to average prevailing humidity conditions in installation area.</li> <li>B. Install wood trim in complexity with referenced quality standard for grade specified</li> <li>C. Install wood trim in the sphurb, true, and straight. Shim as required with concealed shims. Install level and plumb to the obterance of 1/6 link in 66 inches, mich not a strafees, and reguind maged minish at cents.</li> <li>D. Schube and cut wood trim to fit adjoining work, sum directly attached to substrates. These with concealed fastmers and blind maling. Use fine finishing nails or finishing serves for exposed nailing, countersumk and filled flush with woodwork.</li> <li>F. Insterior Standing and Running Trim: Install with minimum number of joints possible using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.</li> <li>CETCION Orofoco - SHEET METAL FLASHING AND TRIM.</li> <li>1. SUMMARY</li> <li>A. This Section includes sheet metal flashing and trim in the following categories:         <ul> <li>1. Stavias</li> <li>2. QUALTY ASSURANCI</li> <li>A. Installer Qualifications: Engage an experienced installer who has completed sheet metal flashing and trim work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.</li> <li>2. PROJECT CONDITION</li> <li>A. Ordwarized Iskewith the access on percent oppen, mill phosphatized where indicated for printing the service of davanized Steel Sheet Ymeical and adjoining Work for proper sequencing of each installation. Essure bet possible weather resistance, durability of Work, and prote</li></ul></li></ul>	<ol> <li>Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanend to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyon seeking to remove penetrating items or firestopping Do Not Disturb. Notify Building Management of Any Damage."</li> <li>Designation of applicable testing and inspecting agency.</li> <li>Munificaturer's name.</li> <li>PENETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: 3M Fire Protection Products</li> <li>Firestopping with NO Penetrating Items: FS-1: 3-M Firedam 150 + Acrylic Latex Scalant with 3-M Fire Barrier Packing Material PMA with Scalant with gaps larger than 1 inch.</li> <li>Firestopping for Matalic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier IC 15/WH+Scalant.</li> <li>Firestopping for Plastic Piping Penetrations: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 1 1/2 Hour rate for piping larger than 1 /2 inch diameter.</li> <li>Firestopping for Causing of Penetratis: FS-3: 3-M Fire Barrier Plastic Pipe - 1 1/2 Hour rate for piping larger than 1 /2 inch diameter.</li> <li>Firestopping for Causing of Paditional penetration firestoppings.</li> </ol> SECTION Or2GOO - JOINT SELALNTS <ol> <li>GENERAL</li> <li>GENERAL</li> <li>GENERAL</li> <li>GENERAL</li> <li>GENERAL</li> <li>SUMMYTAL</li> <li>SUMMYTAL</li> <li>A. This Section includes joint scalants for the following locations:</li> <li>Control and expansion joints in cat-in-place concrete</li> <li>Oother joints as indicated.</li> <li>SYSTEM PERFORMANCE REQUERENTES</li> <li>Greve Columa etapaison joints in cat-in-place concrete</li> <li>Oother joints as indicated.</li> <li>SYSTEM PERFORMANCE REQUERENTES</li> <li>MOrvide elastomeric joint scalants that have been produce do and windows</li> <li>Other joints as indicated.</li> <li>System APEREADEMANCE REQUERENTES</li> <li>MORUE ALL PREADEMANCE REQUERE</li></ol>
<ol> <li>Finsh: System - 8, water-hased cross linking acrylic.</li> <li>Shen: Sain or semiglos - Verify with Owner.</li> <li>INSTALLATION</li> <li>A before installation, condition wood trim to overage prevailing humidity conditions in installation area.</li> <li>Install wood trim to complex with referenced quality standard for grade specified</li> <li>Charlow and trim to complex with referenced quality standard for grade specified</li> <li>D. Scribe and out wood trim to anchors or blocking built in or directly attached to substrates. Tasten with concelled fasteners and blind mailing. Use fine finishing nails or finishing serves for exposed nailing, countersunk and filled flush with woodwork.</li> <li>I. Interior Standing and Running Trim: Install with minimum number of joints possible using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.</li> <li>SECTION ordeoor SHEET METAL FLASHING AND TRIM.</li> <li>O GENERAL</li> <li>Stomman Langth of Linkber available) to greatest extent possible using full-length pieces (from maximum length of lumber available) to greatest extent possible. Joints possible using full-length pieces (from maximum length of lumber available) to greatest extent possible. Joints and stagger in adjacent and related members.</li> <li>SECTION ordeoor SHEET METAL FLASHING AND TRIM.</li> <li>A This Section includes sheet metal flashing and trim in the following categories:         <ul> <li>I. Spribe and Jungton And And And And And And And And And An</li></ul></li></ol>	<ul> <li>B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanent to surfaces adjacent to and within 6 inches (150 nm) of firestopping leage so labels will be visible to anyon seeking to remove penetrating litems or firestopping. Include the following information on labels:</li> <li>1. The works "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."</li> <li>2. Designation of applicable testing and inspecting agency.</li> <li>3. Manufacturer's name.</li> <li>3. PENETRATION FIRESTOPPING SCHEDULE</li> <li>A. Basis for schedule: 3M Fire Protection Products</li> <li>Firestopping for Matalic. Nonmetallic Phys. Conduit, or Thiong: Fis-2: 3-M Fire Barrier Valuing Material PM4 with Sealant with gas larger than 1 incl.</li> <li>Firestopping for Matalic. Nonmetallic Phys. Conduit, or Thiong: Fis-2: 3-M Fire Barrier 10: 15 WB + Schen.</li> <li>Firestopping for Matalic. Nonmetallic Phys. Conduit, or Thiong: Fis-2: 3-M Fire Barrier 10: 17 WB + Schen.</li> <li>Firestopping for Couping of Penetrations: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 1 1/2 Hour rate or piping larger than 1 incl.</li> <li>Firestopping for Couping of Penetratics: FS-3: 3-M Fire Barrier Plast Hough Devices - Size as required or STI Firestopping for Grouping of interactions: FS-3: 3-M Fire Barrier Plastic Piping Penetrations:</li> <li>Control and expansion joints in cust-in-place concrete</li> <li>Control and expansion joints in unit manory</li> <li>Joints between different materials listed above and frames of doors and windows</li> <li>Other joints as indicated.</li> <li>StySTEM PARON ANXCE REQUIREMENTS</li> <li>A. Tho'ded data from manufacturers for each joint sealant product required.</li> <li>M. Samples for initial selection purposes in form of manufacturer's standard bead samples, consisting of strate and substrates.</li> <li>StySTEM PARON MAXCE REQUIREMENTS</li> <li>M. Samples for initial selection required.</li> <li>M. Samples for initial selection required.&lt;</li></ul>
<ol> <li>Finish: System - 8, water-based cross linking acrylic.</li> <li>Shen: Satin or semigloss - Verify with Owner.</li> <li>Sin NSTALLATION</li> <li>A Before installation, condition wood trim to everage prevailing humidity conditions in installation area.</li> <li>Binstill wood trim to complex with referenced quality standard for grade specified</li> <li>Chatall wood trim to anchors or blocking built in or directly attached to substrates. Fasten with concurrent with an anchor wood trim to anchors or blocking built in or directly attached to substrates. Fasten with concurrent with and filed flush with woodwork.</li> <li>F. Interior Standing and Rumning Trim: Install with minimum number of joints possible using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.</li> <li>CENTON or of 200 or SHEET METAL FLASHING AND TRIM.</li> <li>M SWMARY</li> <li>A This Section includes shet metal flashing and trim in the following categories:         <ul> <li>Cay and trim in the following categories:</li> <li>Stasting</li> <li>Cay and trim in the following categories:</li> <li>Stasting</li> <li>Stasting</li> <li>Stasting</li> <li>Stasting</li> <li>Stasting</li> <li>Cay and the area of the stasting and trim in the following categories:</li> <li>Stasting</li> <li>Stasting</li> <li>Stasting</li> <li>Cay and trians:</li> <li>Cay and</li></ul></li></ol>	<ol> <li>Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanent to surfaces adjacent to and within 6 inches (150 mm) of firestopping labels the following information on labels:         <ol> <li>The words "Warring - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."</li> <li>Designation of applicable testing and inspecting agency.</li> <li>Manufacturer's name.</li> <li>Jastaller's name.</li> <li>PENETRATION FIRESTOPPING SCHEDULE</li> <li>The absoluter's name.</li> <li>PENETRATION FIRESTOPPING SCHEDULE</li> <li>The absoluter's name.</li> <li>PENETRATION FIRESTOPPING SCHEDULE</li> <li>The absolute in the absolute in the second schedule: 3M Fire Protection Products</li> <li>PENETRATION FIRESTOPPING SCHEDULE</li> <li>The stopping for Matline, Nonmetallie Pheye, Conduit, or Thubing: FS-2: 3-M Fire Barrier L12 (SWB+Selant.</li> <li>Strestopping for Plastic Piping Penetrations: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 11/2 Hour rate for piping larger than 11/2 inch diameter.</li> <li>Firestopping for Coronjang O Penetration: FS-3: 3-M Fire Barrier Plass through Devices - Size as required or MFIRE Darking for additional penetration firestoppings.</li> </ol></li> <li>Centron and expansion joints in cust-in-place concrete</li> <li>Control and expansion joints in unit masony</li> <li>Joints between different materials listed above: and frames of doors and windows</li> <li>Staffer to MFIRE Darking Election purposes in form of manditure' required.</li> <li>Staffer M PERFORMANCE REQUIREMENTS</li> <li>Provide elastomeric joint sealants that have been produced and installed to establish and to maintain wateright and airtight continuous seals without causing staining or deterioration of joint substrates.</li> <li>Staffer to</li></ol>

a. Acrylic-Emulsion Sealant:

			RELEASED FOR CONSTRUCTION As Noted on Plans Review
2. Galvanized Steel: 0.0276 inch thick	i. <u>Pecora Corp.</u> : AC-20;	2.2 MATERIALS	Development Services Departr
3. Coil-Coated Galvanized Steel: 0.0276 inch thick F. Scuppers: Fabricate from the following material:	ii. <u>Sonneborn Building Products Div</u> ., ChemRex, Inc.: Sonolac; iii. <u>Tremco, Inc</u> .: Tremco Acrylic Latex 834. b.Silicone-Emulsion Sealant:	A. Hot-Rolled Steel Sheets and Strip: Commercial-quality carbon steel, pickled and oiled, complying with ASTM A 569.	Stand Western
<ol> <li>Aluminum: 0.0320 inch thick</li> <li>Galvanized Steel: 0.0276 inch thick</li> <li>Coil-Coated Galvanized Steel: 0.0276 inch thick</li> </ol>	6. Sincone-Emulsion Sealant: i. <u>Dow Corning Corp</u> .: Trade Mate Paintable Glazing Sealant. 2.3 JOINT SEALANT BACKING	<ul><li>B. Cold-Rolled Steel Sheets: Carbon steel complying with ASTM A 366, commercial quality, or ASTM A 620.</li><li>C. Supports and Anchors: Fabricated from not less than 18 gage thick steel sheet.</li></ul>	
G. Exposed Trim, Gravel Stops, and Fasciae: Fabricate from the following material: 1. Aluminum: 0.050 inch thick 2. Galvanized Steel: 0.0276 inch thick	A. Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.	2.3 DOORS A. Steel Doors: Provide 1-3/4-inch thick doors of materials and ANSI/SDI 100 grades and model specified below:	
3. Coil-Coated Galvanized Steel: 0.0276 inch thick H. Copings: Fabricate from the following material:	B. Plastic Foam Joint Fillers: Preformed, compressible, resilient, nonstaining, nonwwaxing, nonextruding strips of flexible plastic foam of material indicated below and of size, shape, and density to	1. Exterior Doors: Grade II, heavy-duty, Model 2, seamless design, minimum 0.0516-inch thick galvanized steel sheet faces.	
1. Aluminum: 0.050 inch thick 2. Galvanized Steel: 0.0396 inch thick 2. Gail Coated Calvanized Steel: 0.0006 inch thick	control sealant depth and otherwise contribute to producing optimum sealant performance: 1. Open-cell polyurethane foam 3.0 EXECUTION	2.4 FRAMES A. Provide metal frames for doors, transoms, sidelights, borrowed lights, and other openings, according to ANSI/SDI 100. Fabricate frames of minimum 0.0478-inch thick cold-rolled steel sheet.	
3. Coil-Coated Galvanized Steel: 0.0396 inch thick 2.4 COIL-COATED GALVANIZED STEEL SHEET FINISH A. High-Performance Organic Coating Finish: Apply the following system by coil-coating process on	3.1 PREPARATION A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply	<ul> <li>B. Fabricate frames with mitered or coped and continuously welded corners.</li> <li>C. Door Silencers: Except on weather-stripped frames, drill stops to receive 3 silencers on strike jambs</li> </ul>	S S
galvanized steel sheet as recommended by coating manufacturers and applicator. B. Coil-Coated Steel Sheet Manufacturers: Subject to compliance with requirements, manufacturers	with recommendations of joint sealant manufacturer and the following requirements: 1. Remove all foreign material from joint substrates that could interferer with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion	of single-door frames and 2 silencers on heads of double-door frames. 2.6 FABRICATION A. Exposed Fasteners: Unless otherwise indicated, provide countersunk flat or oval heads for exposed	
offering products that may be incorporated in the Work include, but are not limited to, the following: 1. <u>Atlas Aluminum Corporation;</u> 2. <u>MM Systems Corporation;</u>	and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.	screws and bolts. B. Thermal-Rated (Insulating) Assemblies: At exterior locations and elsewhere as shown or	
3. <u>Peterson Aluminum Corporation;</u> 3.0 EXECUTION	2. Clean concrete, masonry, unglazed surfaces of ceramic tile, and similar porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a	scheduled, provide doors fabricated as thermal-insulating door and frame assemblies. C. Hardware Preparation: Prepare doors and frames to receive mortised and concealed hardware	
3.1 INSTALLATION A. Unless otherwise indicated, install sheet metal flashing and trim to comply with performance requirements, manufacturer's installation instructions, and SMACNA's "Architectural Sheet Metal Manual."	clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air. 3. Remove laitance and form release agents from concrete.	according to final door hardware schedule and templates provided by hardware supplier. Comply with applicable requirements of SDI 107 and ANSI A115 Series specifications for door and frame preparation for hardware.	ARCHITECTURE
Anchor units of Work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install Work with	4. Clean metal, glass, porcelain enamel, glazed surfaces of ceramic tile, and other nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering	D. Reinforce doors and frames to receive surface-applied hardware. Drilling and tapping for surface- applied hardware may be done at Project site.	ENGINEERING
laps, joints, and seams that will be permanently watertight and weatherproof. B. Expansion Provisions: Provide for thermal expansion of exposed sheet metal Work. Space movement joints at maximum of 10 feet with no joints allowed within 24 inches of corner or intersection.	with adhesion of joint sealants. 3.2 INSTALLATION OF JOINT SEALANTS A. Comply with joint sealant manufacturer's printed installation instructions applicable to products	E. Locate hardware as indicated on Shop Drawings or, if not indicated, according to the Door and Hardware Institute's (DHI) "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."	3680 Pleasant Hill Road Suite 200
Where lapped or bayonet-type expansion provisions in Work cannon be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch	and applications indicated, except where more stringent requirements apply. B. Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint	2.7 FINISHES, GENERAL A. Apply primers and organic finishes to doors and frames after fabrication:	Duluth, Georgia 30096 p 770.622.9858
deep, filled with mastic sealant (concealed within joints). 3.2 CLEANING AND PROTECTION	sealants as applicable to materials, application, and conditions indicated. C. Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint	2.8 STEEL SHEET FINISHES A. Factory priming for Field-Painted Finish: Apply shop primer that complies with ANSI A224.1	f 770.622.9535 www.hillfoleyrossi.com
<ul> <li>A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.</li> <li>B. Provide final protection and maintain conditions that ensure sheet metal flashing and trim Work</li> </ul>	configuration, and providing uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability. Install sealants at the same time sealant backings are installed.	acceptance criteria, is compatible with finish paint systems indicated, and has capability to provide a sound foundation for field-applied topcoats. Apply primer immediately after surface preparation and pretreatment.	© Copyright (as dated below). This drawing and all reproductions thereof are the
during construction is without damage or deterioration other than natural weathering at the time of Substantial Completion.	D. Tooling of nonsag Sealants: Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air	3.1 EXECUTION 3.2 INSTALLATION	property of Hill Foley Rossi & Associates, LLC.(HFR). It is intended for the sole use of the project named hereon. Reproduction without the written consent of HFR is unlawful. All copies are to be returned to HFR
SECTION 078413 - PENETRATION FIRESTOPPING	pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents that discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.	<ul> <li>A. Install steel doors, frames, and accessories according to Shop Drawings, manufacturer's data, and as specified.</li> <li>B. Placing Frames: Comply with provisions of SDI 105, unless otherwise indicated. Set frames</li> </ul>	upon project completion. sealed: 07-22-22
1.1 SECTION REQUIREMENTS A. Submittals: Product Data and Installer certificates signed by Installer certifying that products have been installed in compliance with requirements	E. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated. 3.4 CLEANING	accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is completed, remove temporary braces and spreaders, leaving surfaces smooth and	Sealed: 07-22-22
2.1 PENETRATION FIRESTOPPING A. Manufacturers: One of the following:	A. Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealants and of products in which joints occur.	undamaged. C. In masonry construction, install at least 3 wall anchors per jamb adjacent to hinge location on hinge jamb and at corresponding heights on strike jamb. Acceptable anchors include masonry wire anchors and	
1. <u>Grace Construction Products;</u> 2. <u>Hilti, Inc.;</u>	SECTION 079200 - JOINT SEALANTS 1.1 SECTION REQUIREMENTS	D. Door Installation: Fit hollow-metal doors accurately in frames, within clearances specified in	ATE OF MISS
3. <u>Johns Manville;</u> 4. <u>Rector Seal Corporation;</u> 5. <u>Specified Technologies, Inc.;</u>	<ul> <li>A. Product Data and color Samples.</li> <li>B. Environmental Limitations: Do not proceed with installation of joint sealants when ambient and</li> </ul>	ANSI/SDI 100.	*O SCOT O
6. <u>3M Fire Protection Products;</u> 7. <u>Tremco, Inc</u> .; Tremco Fire Protection Systems Group;	substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 40 deg. F.	SECTION 081113 - HOLLOW METAL DOORS AND FRAMES	NUMBER -2006008936
8. <u>USG Corporation</u> B. Provide penetration firestopping materials that are compatible with one another, substrates, and	<ul> <li>2.1 JOINT SEALANTS</li> <li>A. Low-Emitting Materials: Sealants shall comply with the following limits for VOC content:</li> <li>1. Architectural Sealant: 250 g/L.</li> </ul>	1.1 SECTION REQUIREMENTS A. Submittals: Product Data and Shop Drawings. 2.0 PRODUCTS	ARCHITEC INT
penetrating items, if any. C. Penetration in Fire-Resistance-Rated Walls and Horizontal Assemblies: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure	2.Other Sealants: 420 g/L. 3.Sealant Primers for Nonporous Substrates: 250 g/L.	2.1 HOLLOW METAL DOORS AND FRAMES A. <u>Manufacturers</u> : One of the following:	,
differential of 0.01-inch wg. 1. F-Rating at Fire-Resistance-Rated Walls: Not less than that of construction penetrated.	4.Sealant Primers for Porous Substrates: 775 g/L. 5.Modified Bituminous Sealant Primers: 500 g/L. 6.Other Sealant Primers: 750 g/L.	<ol> <li><u>Amweld Building Products, LLC;</u></li> <li><u>Ceco Door Products;</u> an Assa Abloy Group Company;</li> <li>Curries Company: on Assa Abley Croup Company;</li> </ol>	
2.F-Rating at Horizontal Assemblies: At least 1 hour, but not less than that of construction penetrated. 3.T-Rating at Horizontal Assemblies: At least 1 hour, but not less than the fire-resistance rating of construction penetrated except for penetrations within the cavity of a wall.	B. Low-Emitting Materials: 1. Exterior reactive sealants shall have a VOC content of not more than 50 g/L or 4 percent by weight,	3. <u>Curries Company;</u> an Assa Abloy Group Company; 4. <u>Fleming Door Products Ltd.;</u> an Assa Abloy Group Company; 5. <u>Kewanee Corporation (The);</u>	
D. Penetration in Smoke Barriers: Provide penetration firestopping with ratings determined per UL 1479.	whichever is greater. 2.Other exterior caulks and sealants shall have a VOC content of not more than 30 g/L or 2 percent by	6. <u>Pioneer Industries, Inc;</u> 7. <u>Steelcraft;</u> an Ingersoll-Rand company;	
<ol> <li>L-Rating: Not exceeding 5.0 cfm/sq. ft. of penetration opening at 0.30-inch wg at both ambient and elevated temperatures</li> <li>Exposed Penetration Firestopping: Provide products with flame-spread and smoke-developed</li> </ol>	weight, whichever is greater. 3.Interior sealants shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources	<ul> <li>8. or Owner-approved equal.</li> <li>B. Fire-Rated Doors and Frames: Labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, based on testing at positive pressure according to NFPA 252 or UL 10C.</li> </ul>	
indexed of less than 25 and 450, respectively, as determined per ASTM E 84. F. Accessories: Provide components for each penetration firestopping system that are needed to	Using Small-Scale Environmental Chambers". C. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible	<ol> <li>Where indicated, provide doors that have a temperature rise rating of 450 deg. F (250 deg. C).</li> <li>Doors: Complying with SDI A250.8 for level and model and SDI A250.4 for physical-endurance</li> </ol>	
install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping manufacturer and approved by qualified testing and inspecting agency.	with one another made with joint substrates under service and application conditions. D. Sealant for General Exterior Use Where Another Type is Not Specified: 1. Single-component, non-sag urethane sealant, ASTM C 920, Type S; Grade NS; Class 25; and for Use NT.	level indicated, 1-3/4 inches (44 mm) thick unless otherwise indicated. 1. Interior Doors: Level 1 and Physical Performance Level C (Standard Duty), Model 1 (Full Flush). 2.Exterior Doors (when required): Level 2 and Physical Performance Level B (Heavy Duty) Model 2	
3.1 INSTALLATION A. General: Install penetration firestopping to comply with manufacturer's written installation instruction and published drawings for products and applications indicated.	a. <u>Products</u> : One of the followings: i. <u>BASF Building Systems;</u> Sonolastic Ultra;	(Seamless), metallic-coated steel sheet faces.	
B. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanently	ii. <u>Bostik, Inc.;</u> Chem-Calk 915 or 916; iii. <u>Pecora Corporation;</u> Dynatrol I-XL;	a. Thermal-Rated (Insulated) Doors: Where indicated, provide doors with thermal-resistance value (R-	amit
to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyone seeking to remove penetrating items or firestopping. Include the following information on labels:	iv. <u>Termco Incorporated;</u> Dymonic or Vulkem 116. E. Sealant for Use in Interior Joints in Ceramic Tile and Other Hard Surfaces in Kitchens and Toilet	Value) of not less than 2.1 deg. F x h x sq. ft./ Btu (0.370 K x sq.m/W) when tested according to ASTM C 1363.	nmr
1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage." 2. Designation of applicable testing and inspecting agency.	Rooms and around Plumbing Fixtures: 1. Single-component, mildew-resistant silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; and for Use NT; formulated with fungicide.	<ul> <li>3. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcement plates from same material as door face sheets.</li> <li>D. Frames: ANSI A250.8; conceal fastenings unless otherwise indicated.</li> </ul>	Su
3. Manufacturer's name. 4. Installer's name.	a. <u>Products</u> : One of the followings: i. <u>BASF Building Systems;</u> Omniplus;	1. Steel Sheet for Interior Frames: 0.042-inch- (1.0-mm-) minimum thickness. 2.Steel Sheet for Exterior Frames: 0.053-inch- (1.3-mm-) minimum thickness, metallic coated.	ee's Drive
3.2 PENETRATION FIRESTOPPING SCHEDULE A. Basis for schedule: 3M Fire Protection Products 1. Firestopping with No Penetrating Items: FS-1: 3-M Firedam 150 + Acrylic Latex Sealant with 3-M Fire	ii. <u>Dow Corning Corporation;</u> 786 Mildew Resistant; iii. <u>GE Advanced Materials - Silicones;</u> Sanitary SCS1700; iv. <u>May National Associates, Inc.;</u> Bondaflex Sil 100 WF;	3. Interior Frame Construction: Knocked down or Face welded, per door schedule. 4. Exterior Frame Construction: Face welded. 5. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcement plates from same	Lee D tre D
Barrier Packing Material PM4 with Sealant with gaps larger than 1 inch. 2.Firestopping for Metallic, Nonmetallic Pipes, Conduit, or Tubing: FS-2: 3-M Fire Barrier IC 15WB+	v. <u>Pecora Corporation</u> ; 898; vi. <u>Tremco Incorporated</u> ; Tremsil 200 Sanitary.	material as frames. 6.Frame Anchors: Not less than 0.042 inch (1.0 mm) thick.	
Sealant. 3.Firestopping for Plastic Piping Penetrations: FS-3: 3-M Fire Barrier Ultra Plastic Pipe - 1 1/2 Hour rated for piping larger than 1 1/2 inch diameter.	<ul> <li>F. Sealant for Interior Use at Perimeters of Doors and Window Frames:</li> <li>1. Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.</li> <li>a. Products: One of the followings:</li> </ul>	<ul> <li>E. Door Silencers: Three on strike jambs of single-door frames and two on heads of double-door frames.</li> <li>F. Grout Guards: Provide where mortar might obstruct hardware operations.</li> </ul>	ental nter issouri ( bental vork Ce vork Ce
4. Firestopping for Grouping of Penetrants: FS-4: 3-M Fire Barrier Pass through Devices - Size as required or STI Firestop - EZ Path # EZDP133CAK with kit.	i. <u>BASF Building Systems;</u> Sonolac; ii. <u>Bostik, Inc.;</u> Chem-Calk 600;	G. Prepare doors and frames to receive mortised and concealed hardware according to SDI A250.6 and BHMA A156.115.	
5. Refer to M/P/E Drawings for additional penetration firestoppings.	iii. <u>May National Associates, Inc.;</u> Bondaflex 600 or Bondaflex Sil-A 700; iv. <u>Pecora Corporation;</u> AC-20+;	<ul> <li>H. Reinforce doors and frames to receive surface-applied hardware.</li> <li>I. Prime Finish: Manufacturer's standard, factory-applied coat of lead- and chromate-free primer</li> </ul>	nd [ et C nit, n rtlan Ne ghau
<u>SECTION 079010 - JOINT SEALANTS</u> 1.0 GENERAL 1.1 SUMMARY	v. <u>Schnee-Morehead, Inc.;</u> SM 8200; vi. <u>Tremco Incorporated;</u> Tremflex 834. G. Acoustical Sealant:	complying with SDI A250.10 acceptance criteria. 2.2 MATERIALS A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, suitable for exposed applications.	rtland t street ( summit, Heartlar 1200 Né Effingha
A. This Section includes joint sealants for the following locations: 1. Control and expansion joints in cast-in-place concrete	1. Non-sag, paintable, non-staining latex sealant complying with ASTM C 832 that effectively reduces airborne sound transmission as demonstrated by testing according to ASTM E 90.	<ul> <li>B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, free of scale pitting, or surface defects.</li> <li>C. Metallic-Coated Steel Sheet: ASTM A 653/ A 653M, G60 (Z180 or) A60 (ZF180).</li> </ul>	al s \$
2.Control and expansion joints in unit masonry 3.Joints between different materials listed above. 4.Perimeter joints between materials listed above and frames of doors and windows	a. <u>Products</u> : One of the following: i. <u>Pecora Corporation;</u> AC-20 FTR or AIS-919; ii. <u>USG Corporation;</u> SHEETROCK Acoustical Sealant.	<ul> <li>D. Frame Anchors: ASTM A 879/A 879M, 4Z (12G) coating designation; mill phosphatized.</li> <li>1. For anchors built into exterior walls, sheet steel complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.</li> </ul>	He Marl For:
5. Other joints as indicated. 1.2 SYSTEM PERFORMANCE REQUIREMENTS	2.2 MISCELLANEOUS MATERIALS A. Provide Sealant backings of material that are non-staining, are compatible with joint substrates,	E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M. 3.0 EXECUTION	
A. Provide elastomeric joint sealants that have been produced and installed to establish and to maintain watertight and airtight continuous seals without causing staining or deterioration of joint	sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.	<ul> <li>3.1 INSTALLATION</li> <li>A. Install hollow metal frames to comply with SDI A250.11.</li> <li>1. Fire-Rated Frames: Install according to NFPA 80.</li> </ul>	
substrates. 1.3 SUBMITTALS A. Product data from manufacturers for each joint sealant product required.	<ul> <li>B. Cylindrical Sealant Backings: ASTM C 1330, of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.</li> <li>C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer</li> </ul>	<ul> <li>B. Install doors to provide clearances between doors and frames as indicated in SDI A250.11.</li> <li>C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime</li> </ul>	
B. Samples for initial selection purposes in form of manufacturer's standard bead samples, consisting of strips of actual products showing full range of colors available, for each product exposed to view.	for preventing sealant from adhering to rigid, inflexible joint-filler materials or join surfaces at back of joint. Provide self-adhesive tape where applicable.	coat and apply touchup of comparable air-drying rust -inhibitive primer. Use galvanizing repair paint for metallic coated surfaces.	
<ul> <li>1.4 QUALITY ASSURANCE</li> <li>A. Installer Qualifications: Engage an experienced Installer who has completed joint sealant applications similar in material, design, and extent to that indicated for Project that have resulted in</li> </ul>	D. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from pre-construction joint-sealant-substrate tests and field tests.	SECTION 081416 - FLUSH WOOD DOORS	
construction with a record of successful in-service performance. B. Single Source Responsibility for Joint Sealant Materials: Obtain joint sealant materials from a	3.1 INSTALLATION A. Comply with ASTM C 1193.	<ul><li>1.1 SECTION REQUIREMENTS</li><li>A. Submittals: Samples for factory-finished doors.</li></ul>	
single manufacturer for each different product required. 1.5 DELIVERY, STORAGE, AND HANDLING A. Deliver materials to Project site in original unopened containers or bundles with labels indicating	<ul> <li>B. Install sealant backings to support sealants during application and to produce cross-sectional shapes and depths of installed sealants that allow optimum sealant movement capability.</li> <li>C. Install bond-breaker tape behind sealants where backings are not used between sealants and backs</li> </ul>	2.0 PRODUCTS 2.1 FLUSH WOOD DOORS	
manufacturer, product name and designation, color, expiration period for use, pot life, curing time, and mixing instructions for multi-component materials.	of joints. D. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal	A. Manufacturers: One of the following: 1. <u>Eagle Plywood &amp; Door Manufacturing, Inc</u> .; 2. <u>Eggers Industries;</u>	
<ul> <li>B. Store and handle materials in compliance with manufacturer's recommendations to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.</li> <li>1.6 PROJECT CONDITIONS</li> </ul>	perimeters, control joints, openings, and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions. Comply with ASTM C 919.	3. <u>Graham;</u> an Assa Abloy Group Company; 4. <u>Mohawk Flush Doors, Inc</u> .: a Masonite Company;	
A. Environmental Conditions: Do not proceed with installation of joint sealants under the following conditions:	SECTION 081100 - STEEL DOORS AND FRAMES 1.0 GENERAL	5. <u>Oshkosh Architectural Door Company;</u> 6. <u>Vancouver Door Company;</u> 7. VT Industries, Inc.;	
1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealant manufacturer	1.1 SUMMARY A. This section includes steel doors and frames.	8.Or Owner-approved equal. 2.2 DOOR CONSTRUCTION, GENERAL	
2.When joint substrates are wet 2.0 PRODUCTS 2.1 MATERIALS, GENERAL	<ul> <li>1.2 SUBMITTALS</li> <li>A. Shop Drawings showing fabrication and installation of steel doors and frames. Include details of each frame type, elevations of door design types, conditions at openings, details of construction, location</li> </ul>	<ul> <li>A. Quality Standards: WDMA I.S.I-A.</li> <li>B. Fire-Rated Wood Doors: Labeled by a testing and inspecting agency acceptable to authorities having jurisdiction based on testing at positive pressure according to NFPA 252 or UL 10C.</li> </ul>	07/22/22 For Construction
A. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by	and installation requirements of door and frame hardware and reinforcements, and details of joints and connections. Show anchorage and accessory items.	1. Where indicated, provide doors that have a temperature rise rating of 450 deg. F. (250 deg. C.). C. Low-Emitting Materials: Provide doors made with adhesives and composite wood products that do	mk date issue
sealant manufacturer based on testing and field experience. B. Colors: Provide color of exposed joint sealants to comply with the following: 1. Provide selections made by Architect from manufacturer's full range of standard colors for products of	<ul> <li>1.3 QUALITY ASSURANCE</li> <li>A. Provide doors and frames complying with ANSI/SDI 100 "Recommended Specifications for Standard Steel Doors and Frames" and as specified.</li> </ul>	not contain urea formaldehyde. D. WDMA I.S.I-A Performance Grade:	Specifications
type indicated 2.2 LATEX JOINT SEALANTS	1.4 DELIVERY, STORAGE, AND HANDLING A. Deliver doors and frames cardboard-wrapped or crated to provide protection during transit and job	<ol> <li>Heavy Duty unless otherwise indicated.</li> <li>Extra Heavy Duty: Public toilets, janitor's closets, and patient rooms.</li> <li>Particleboard-Core Doors: Provide blocking in particleboard cores or provide structural composite</li> </ol>	
A. Provide manufacturer's standard one-part, nonsag, mildew-resistant, paintable latex sealant of formulation indicated that is recommended for exposed applications on interior and protected exterior locations and that accommodates indicated percentage change in joint width existing at time of installation	storage. B. Inspect doors and frames on delivery for damage. Minor damages may be repaired provided refinished items match new work and are acceptable to Architect; otherwise, remove and replace damaged	lumber cores instead of particleboard cores for doors with exit devices or protection plates. F. Fire-Protection-Rated Doors: Provide core specified or mineral core as needed to provide fire-	
without failing either adhesively or cohesively. B. Acrylic-Emulsion Sealant: Provide product complying with ASTM C 834 that accommodates joint	items as directed. 2.0 PRODUCTS	protection rating indicated. Provide the following for mineral core doors: 1. Composite blocking where required to eliminate through-bolting hardware. 2. Laminated-edge construction.	
movement of not more than 5 percent in both extension and compression for a total of 10 percent. C. Silicon Emulsion Sealant: Provide product complying with ASTM C 834 and, except for weight loss measured per ASTM C 792, with ASTM C 920 that accommodates joint movement of not more than 25	2.1 MANUFACTURERS A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:	3. Formed-steel edges and astragals for pairs of doors. 2.3 FLUSH WOOD DOORS	
percent is both extension and compression for a total of 50 percent. D. Available Products: Subject to compliance with requirements, latex joint sealants that may be	1. Steel Doors and Frames: a. <u>Amweld Building Products, Inc.;</u>	<ul> <li>A. Doors for Transparent Finish:</li> <li>1. Interior Solid-Core Doors: Premium grade, five-ply, particleboard or structural composite lumber cores.</li> <li>a. Faces: Grade A rotary-cut select white birch or plain sliced select white maple.</li> </ul>	
incorporated in the Work include, but are not limited to, the following: 1. Products: Subject to compliance with requirements, provide one of the following: a. Acrylic-Emulsion Sealant:	b. <u>Ceco Door Products;</u> c. <u>Republic Builders Products;</u> d.Steelcraft.	a. Faces: Grade A rotary-cut select white birch or plain sliced select white maple. b.Veneer Matching: Slip and running or Pleasing match. c. Pair matching and set matching.	

d.<u>Steelcraft</u>.

c. Pair matching and set matching.

d.Continuous matching for doors with transoms.

C. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass 2.4 LOUVERS AND LIGHT FRAMES Noise Reduction: Test according to ASTM E 90, with ratings determined by ASTM E 1332, as B. Metal Protection: 1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact performance requirements and is not less than the thickness indicated. A. Light Frames: Wood beads of same species as door faces. 1. At fire-rated doors provide wood-veneered beads for use in doors of fire-protection rating indicated. 1. Outdoor-Indoor Transmission Class: Minimum 30. surfaces with materials recommended by manufacturer for this purpose or by installing nonconductive 2.4 GLASS PRODUCTS Windborne-Debris Impact Resistance: Pass missile-impact and cyclic-pressure tests when tested 3.0 EXECUTION Fully Tempered Float Glass: ASTM C 1048, Kind FT (fully tempered), Condit spacers 3.1 FABRICATION AND FINISHING according to ASTM E 1886 and testing information in ASTM E 1996 for Wind Zone 4. 2. Where aluminum is in contact with concrete or masonry, protect against corrosion by painting contact unless otherwise indicated, Type I, Class 1 (clear), Quality-Q3. 1. Large-Missile Test: Enhanced Protection E for glazed openings located within 30 feet of grade. surfaces with bituminous paint 1. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion Factory fit doors to suit frame-opening sizes indicated and to comply with clearances specified. C. Set continuous sill members and flashing in full sealant bed as specified in Section 079200 "Joint K. Thermal Movements: Allow for thermal movements resulting from ambient and surface edge of glass as installed unless otherwise indicated. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with 2.5 LAMINATED GLASS Sealants" to produce weathertight installation DHI-WDHS-2. temperature changes: Install components plumb and true in alignment with established lines and grades. 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces. C. Cut and trim openings to comply with referenced standards. Windborne Debris Impact-Resistant Laminated Glass: Comply with requiren 1. Trim light openings with moldings indicated. 2. Thermal Cycling: No buckling; stress on glass; sealant failure; excess stress on framing, anchors, and Install glazing as specified in Section 088000 "Glazing". for laminated glass except laminate glass with one of the following to comply with inte 1. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware according to 2. Factory install glazing in doors indicated to be factory finished. fasteners; or reduction of performance when tested according to AAMA 501.5. written instructions: a. High Exterior Ambient-Air Temperature: That which produces an exterior metal-surface temperature of entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent 1. Polyvinyl butyral interlayer: 3. Factory install louvers in prepared openings. 2. Polyvinyl butyral interlayers reinforced with polyethylene terephthalate film: Factory finish doors (optional) indicated for transparent finish with stain and manufacturer's 180 deg F. possible. standard finish complying with WDMA TR-6, catalyzed polyurethane for grade specified for doors. b.Low Exterior Ambient-Air Temperature: 0 deg F. 3.3 ERECTION TOLERANCES 3. Ionomeric polymer interlayer; c. Interior Ambient-Air Temperature: 75 deg F. A. Erection Tolerances: Install aluminum-framed entrances and storefronts to comply with the 4. Cast-in-place and cured-transparent-resin interlayer; 1. Sheen: Satin or Semigloss - verify with Owner Representative. 5. Cast-in-place and cured-transparent-resin interlayer reinforced with polyethylene 3.2 INSTALLATION 2.3 FRAMING following maximum tolerances: A. Framing Members: Manufacturer's extruded- or formed-aluminum framing members of thickness 1. Plumb: 1/8 inch in 10 feet; 1/4 inch in 40 feet. 2.6 INSULATING GLASS A. Install doors to comply with manufacturer's written instructions and WDMA I.S.I-A, and as 2. Level: 1/8 inch in 20 feet; 1/4 inch in 40 feet. Insulating-Glass Units: Factory-assembled units consisting of sealed lites of s required and reinforced as required to support imposed loads. indicated. dehydrated interspace, qualified according to ASTM E 2190. 1. Install doors to comply with NFPA 80. 1. Construction: Thermally broken 3. Alignment: a. Where surfaces abut in line or are separated by reveal or protruding element up to 1/2 inch wide, limit Align and fit doors in frames with uniform clearances and bevels. Machine doors for hardware. 2. Glazing System: Retained mechanically with gaskets on four sides. 1. Sealing System: Dual seal, with manufacturer's standard and secondary sealants. offset from true alignment to 1/16 inch. 2. Perimeter Spacer: Manufacturer's standard spacer material and construction. Seal cut surfaces after fitting and machining. 3. Glazing Plane: Front. C. Clearances: As follows, unless otherwise indicated: b. Where surfaces are separated by reveal or protruding element from 1/2 to 1 inch wide, limit offset from 4. Finish: Color anodic finish. 3. Desiccant: Molecular sieve or silica gel, or a blend of both. true alignment to 1/8 inch. 5. Fabrication Method: Field-fabricated stick system. 2.7 GLAZING SEALANTS 1. 1/8 inch at heads, jambs, and between pairs of doors. 2.1/8 inch from bottom of door to top of decorative floor finish or covering. Backer Plates: Manufacturer's standard, continuous backer plates for framing members, if not c. Where surfaces are separated by reveal or protruding element of 1 inch wide or more, limit offset from Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTI true alignment to 1/4 inch. integral, where framing abuts adjacent construction. NS, Class 50, Use NT. 3.1/4 inch from bottom of door to top of threshold. 4. Location: Limit variation from plane to 1/8 inch in 12 feet; 1/2 inch over total length. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with non-staining, 1. Manufacturers: Subject to compliance with requirements, available manufacturers 4. Comply with NFPA 80 for fire-rated doors. 3.4 FIELD QUALITY CONTROL may be incorporated into the Work include, but are not limited to the following: non-ferrous shims for aligning system components. Repair, refinish, or replace factory-finished doors damaged during installation, as directed by Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections. Materials: a. BASF Corporation; Construction Systems; Architect Field Quality-Control Testing: Perform the following test on representative areas of aluminum-1. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated. b. Dow Corning Corporation; framed entrances and storefronts. c. GE Construction Sealants; Momentive Performance Materials Inc.; a. Sheet and Plate: ASTM B 209. SECTION 084113 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS 1. Water-Spray Test: Before installation of interior finishes has begun, three areas designated by Architect d. May National Associates, Inc.; a subsidiary of Sika Corporation; b.Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221. 1.0 GENERAL shall be tested according to AAMA 501.2 and shall not evidence water penetration. c. Extruded Structural Pipe and Tubes: ASTM B 429/B 429M. e. <u>Pecora Corporation;</u> 1.1 SUMMARY d.Structural Profiles: ASTM B 308/B 308M. C. Aluminum-framed entrances and storefronts will be considered defective if they do not pass tests f. Polymeric Systems, Inc.; A. Section includes: 2. Steel Reinforcement: Manufacturer's standard zinc-rich, corrosion-resistant primer complying with and inspections. g.<u>Sika Corporation;</u> 1. Exterior storefront framing. D. Prepare test and inspection reports. SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface h.Tremco Incorporated. 2. Storefront framing for punched openings. 3.5 MAINTENANCE SERVICE preparation methods according to recommendations in SSPC-SP COM, and prepare surfaces according to 2.8 GLAZING TAPES 3. Exterior manual-swing entrance doors and door frame units. applicable SSPC standard. A. Entrance Door Hardware: A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent so 1.2 ACTION SUBMITTALS 1. Initial Maintenance Service: Beginning at Substantial Completion, provide six months' full maintenance by skilled employees of entrance door hardware Installer. Include quarterly preventive maintenance, repair a. Structural Shapes, Plates and Bars: ASTM A 36/A 36M. non-staining and non-migrating in contact with nonporous surfaces; with or without Product Data: For each type of product. b.Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M. recommended in writing by tape and glass manufacturers for application indicated; 1. Include construction details, material descriptions, dimensions of individual components and profiles, or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper c. Hot-Rolled Sheet and Strip: ASTM A 1011/A 1011M. ASTM C 1281 and AAMA 800 for products indicated below: and finishes. entrance door hardware operation at rated speed and capacity. Use parts and supplies that are the same as 2.4 ENTRANCE DOOR SYSTEMS 1. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous p B. Shop Drawings: For aluminum-framed entrances and storefronts. Include plans, elevations, those used in the manufacture and installation of original equipment. Entrance Doors: Manufacturer's standard glazed entrance doors for manual-swing operation. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated sections, full-size details, and attachments to other work. 1. Door Construction: 2-inch overall thickness, with minimum 0.125-inch thick, extruded-aluminum tubular both surfaces; and complying with AAMA 800 for the following types: 1. Include details of provisions for assembly expansion and contraction and for draining moisture occurring SECTION 088000 - GLAZING rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated 1. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary seals within the assembly to the exterior. 2.AAMA 810.1, Type 2, for glazing applications in which tape is used in combination and fillet welded or that incorporate concealed tie rods. 2. Include full-size isometric details of each vertical-to-horizontal intersection of aluminum-framed 1.0 GENERAL 2.Door Design: Wide stile; 5-inch nominal width. liquid sealant. 1.1 SUMMARY entrances and storefronts, showing the following: 3. Glazing Stops and Gaskets: Beveled or square, snap-on, extruded-aluminum stops and preformed gaskets. 2.9 MISCELLANEOUS GLAZING MATERIALS A. Section includes: a. Joinery, including concealed welds; 2.5 ENTRANCE DOOR HARDWARE General: Provide products of material, size, and shape complying with referen 1. Glass for windows, doors, and storefront framing. b.Anchorage; General: Provide entrance door hardware and entrance door hardware sets indicated in door and with requirements of manufacturers of glass and other glazing materials for applicati 2.Glazing sealants and accessories. c. Expansion provisions; a proven record of compatibility with surfaces contacted in installation. frame schedule for each entrance door to comply with requirements in this Section. 1.2 ACTION SUBMITTALS d.Glazing; 1. Entrance Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and products Cleaners, Primers, and Sealers: Types recommended by sealant or gasket ma A. Product Data: For each type of product. e. Flashing and drainage. complying with BHMA standard referenced. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardne Glass Samples: For each type of the following products; 12 inches square. 3. Show connection to and continuity with adjacent thermal, weather, air, and vapor barriers. 2. Sequence of Operation: Provide electrified door hardware function, sequence of operation, and interface 1. Insulated glazing units. Entrance Door Hardware Schedule: Prepared by or under supervision of supplier, detailing with other building control systems indicated. Spacers: Elastomeric blocks or continuous extrusions of hardness required Glazing Accessory Samples: For sealants and colored spacers, in 12-inch lengths. Install sealant fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final 3. Opening-Force Requirements: Samples between two strips of material representative in color of the adjoining framing system. maintain glass lites in place for installation indicated. entrance door hardware schedule with doors, frames, and related work to ensure proper size, thickness, Edge Blocks: Elastomeric material of hardness needed to limit glass lateral 1 a. Egress Doors: Not more than 15 lbf to release the latch, not more than 30 lbf to set the door in motion and hand, function, and finish of entrance door hardware. 1.3 INFORMATIONAL SUBMITTALS not more than 15 lbf to open the door to its minimum required width. walking) A. Qualification Data: For Installer and manufacturers of insulating-glass units with sputter-coated, 1.3 INFORMATIONAL SUBMITTALS Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell materi b. Accessible Interior Doors: Not more than 5 lbf to fully open door. low-E coatings. Qualification Data: For Installer. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities to control glazing sealant depth and otherwise produce optimum glazing sealant perfo B. Product Certificates: For glass. Energy Performance Certificates: For aluminum-framed entrances and storefronts, accessories, and of each type of entrance door hardware are indicated in "Entrance Door Hardware Sets" Article. Products 2.10 FABRICATION OF GLAZING UNITS Product Test Reports: For coated glass, insulating glass, and glazing sealants, for tests performed by components, from manufacturer are identified by using entrance door hardware designations as follows: Fabricate glazing units in sizes required to fit openings indicated for Project, a qualified testing agency Product Test Reports: For aluminum-framed entrances and storefronts, for tests performed by 1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door clearances, edge and surface conditions, and bite complying with written instructions 1. For glazing sealants, provide test reports based on testing current sealant formulations within previous manufacturer and witnessed by a qualified testing agency. hardware type required for the purpose of establishing minimum requirements. Manufacturers' names are manufacturer and referenced glazing publications, to comply with system performance 36-month period. D. Sample Warranties: For special warranties. abbreviated in "Entrance Door Hardware Sets" Article. 1. Allow for thermal movements from ambient and surface temperature changes actir D. Sample Warranties: For special warranties. 1.4 QUALITY ASSURANCE 2. References to BHMA Standards: Provide products complying with these standards and requirements for members and glazing components. 1.4 QUALITY ASSURANCE Installer Qualifications: An entity that employs installers and supervisors who are trained and description, quality, and function. a. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces. Manufacturer Qualifications for Insulating-Glass Units with Sputter-Coated, Low-E Coatings: A approved by manufacturer. C. Pivot Hinges: BHMA A156.4, Grade 1. 3.0 EXECUTION qualified insulating-glass manufacturer who is approved and certified by coated-glass manufacturer. 1.5 WARRANTY 1. Offset-Pivot Hinges: Provide top, bottom, and intermediate offset pivots at each door leaf. 3.1 EXAMINATION B. Installer Qualifications: A qualified installer who employs glass installers for this Project who are A. Special Warranty: Manufacturer agrees to repair or replace components of aluminum-framed Butt Hinges: BHMA A156.1, Grade 1, radius corner. Examine framing, glazing channels, and stops, with Installer present, for con certified under the National Glass Association's Certified Glass Installer Program. entrances and storefronts that do not comply with requirements or that fail in materials or workmanship 1. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, following: 1.5 DELIVERY, STORAGE, AND HANDLING within specified warranty period 1. Manufacturing and installation tolerances, including those for size, squareness, and prevents removal of pin while entrance door is closed. A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass 1. Failures include, but are not limited to, the following: 2. Exterior Hinges: Stainless steel, with stainless-steel pin. 2. Presence and functioning of weep systems. and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes. a. Structural failures including, but not limited to, excessive deflection. 3. Minimum required face and edge clearances. 3. Oualities: B. Comply with insulating-glass manufacturer's written instructions for venting and sealing units to b. Noise or vibration created by wind and thermal and structural movements. a. For doors up to 87 inches high, provide three hinges per leaf. 4. Effective sealing between joints of glass-framing members. avoid hermetic seal ruptures due to altitude change. c. Water penetration through fixed glazing and framing areas. b.For doors more than 87 and up to 120 inches high, provide four hinges per leaf. B. Proceed with installation only after unsatisfactory conditions have been corre 1.6 FIELD CONDITIONS d.Failure of operating components Mortise Auxiliary Locks: BHMA A156.5, Grade 1. 3.2 PREPARATION 2. Warranty Period: 10 years from date of Substantial Completion. Automatic and Self-Latching Flush Bolts: BHMA A156.3, Grade 1. Panic Exit Devices: BHMA A156.3, Grade 1, listed and labeled by a testing and inspecting agency a. Special Finish Warranty: Standard form in which manufacturer agrees to repair finishes or replace G. A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature Clean glazing channels and other framing members receiving glass immediat acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305. aluminum that shows evidence of deterioration of factory-applied finishes within specified warranty conditions are outside limits permitted by glazing material manufacturers and when glazing channel Remove coatings not firmly bonded to substrates. Cylinders: BHMA A156.5, Grade 1. B. Examine glazing units to locate exterior and interior surfaces. Label or mark substrates are wet from rain, frost, condensation, or other causes. period. H. eterioration includes, but is not limited to, the following 1. Keying: Master key system. Permanently inscribe each key with a visual key control number and include 1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits exterior and interior surfaces are readily identifiable. Do not use materials that leave a. Color fading more than 5 Hunter units when tested according to ASTM D 2244. permitted by sealant manufacturer or are below 40 deg F. completed Work. notation to be furnished by Owner. 3.3 GLAZING, GENERAL Strikes: Provide strike with black-plastic dust box for each latch or lock bolt; fabricated for b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214. 1.7 WARRANTY A. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer agrees to replace Comply with combined written instructions of manufacturers of glass, sealan c. Cracking, checking, peeling, or failure of paint to adhere to bare metal. aluminum framing coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined i. Warranty Period: 10 years from date of Substantial Completion. Operating Trim: BHMA A156.6. glazing materials, unless more stringent requirements are indicated, including those Closers: BHMA A156.4, Grade 1, with accessories required for a complete installation, sized as as defects developed from normal use that are not attributed to glass breakage or to maintaining and publications 2.0 PRODUCTS required by door size, exposure to weather, and anticipated frequency of use; adjustable to comply with field Protect glass edges from damage during handling and installation. Remove 2.1 MANUFACTURERS cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and conditions and requirements for opening force. Project site and legally dispose of off Project site. Damaged glass includes glass with e A. Manufacturers: Subject to compliance with requirements, available manufacturers offering other indications of deterioration in coating. 1. Warranty Period: 10 years from date of Substantial Completion. imperfections that, when installed, could weaken glass, impair performance, or impai products that may be incorporated into the Work include, but are not limited to the following: Concealed Overhead Holders: BHMA A156.8, Grade 1. Apply primers to joint surfaces where required for adhesion of sealants, as de Door Stops: BHMA A156.16, Grade 1, floor or wall mounted, as appropriate for door location B. Manufacturer's Special Warranty for Laminated Glass: Manufacturer agrees to replace laminated-1. <u>CMI Architectural;</u> indicated, with integral rubber bumper. glass units that deteriorate within specified warranty period. Deterioration of laminated glass is defined as preconstruction testing. 2. <u>EFCO Corporation;</u> Weather Stripping: Manufacturer's standard replaceable components. defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning Install setting blocks in sill rabbets, sized and located to comply with reference 3. Kawneer North America; an Alcoa company; N. laminated glass contrary to manufacturer's written instructions. Defects include edge separation, 1. Compression Type: Made of ASTM D 2000, molded neoprene, or ASTM D 2287, molded PVC. publications, unless otherwise required by glass manufacturer. Set blocks in thin cour 4.TRACO: delamination materially obstructing vision through glass, and blemishes exceeding those allowed by sealant suitable for heel bead. 2.Sliding Type: AAMA 701/702, made of wool, polypropylene, or nylon woven pile with nylon-fabric or Vistawall Architectural Products; referenced laminated-glass standard. Do not exceed edge pressures stipulated by glass manufacturers for installing aluminum-strip backing. 6.<u>YKK AP America Inc</u>. 1. Warranty Period: 10 years from date of Substantial Completion. Provide spacers for glass lites where length plus width is larger than 50 inche Weather Sweeps: Manufacturer's standard exterior-door bottom sweep with concealed fasteners on Source Limitations: Obtain all components of aluminum-framed entrance and storefront system, О. Manufacturer's Special Warranty for Insulating Glass: Manufacturer agrees to replace insulating-1. Locate spacers directly opposite each other on both inside and outside faces of glass including framing and accessories, from single manufacturer. mounting strip. Silencers: BHMA A156.16, Grade 1. glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as and spacing to preserve required face clearances, unless gaskets and glazing tapes are 2.2 PERFORMANCE REQUIREMENTS failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and Thresholds: BHMA A156.21, raised thresholds beveled with a slope of not more than 1:2, with demonstrated ability to maintain required face clearances and to comply with system General Performance: Comply with performance requirements specified, as determined by testing cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the of aluminum-framed entrances and storefronts representing those indicated for this Project without failure maximum height of 1/4 inch. requirements. obstruction of vision by dust, moisture, or film on interior surfaces of glass. 2. Provide 1/8-inch minimum bite of spacers on glass and use thickness equal to seala due to defective manufacture, fabrication, installation, or other defects in construction. 2.6 GLAZING 1. Warranty Period: 10 years from date of Substantial Completion. compressed thickness of tape A. Glazing: Comply with Section 088000 "Glazing". tape, use thickness slightly less than final 1. Aluminum-framed entrances and storefronts shall withstand movements of supporting structure 2.7 ACCESSORIES 2.0 PRODUCTS Provide edge blocking where indicated or needed to prevent glass lites from r shortening, long-term creep, and deflection including, but not limited to, story drift, twist, column 2.1 MANUFACTURERS Fasteners and Accessories: Manufacturer's standard corrosion-resistant, non-staining, nonglazing channel, as recommended in writing by glass manufacturer and according to a from uniformly distributed and concentrated live loads. bleeding fasteners and accessories compatible with adjacent materials. A. Manufacturers: Subject to compliance with requirements, available manufacturers offering referenced glazing publications. 2. Failure also includes the following: products that may be incorporated into the Work include, but are not limited to the following: Set glass lites in each series with uniform pattern, draw, bow, and similar cha a. Thermal stresses transferring to building structure. 1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and 1. AGC Glass Company North America, Inc.; Set glass lites with proper orientation so that coatings face exterior or interior structural movements, wind loads, or vibration. b.Glass breakage. 2. Cardinal Glass Industries; Where wedge-shaped gaskets are driven into one side of channel to pressuriz 2. Reinforce members as required to receive fastener threads. c. Noise or vibration created by wind and thermal and structural movements. 3. Guardian Industries Corp.; SunGuard; opposite side, provide adequate anchorage so gasket cannot walk out when installation Anchors: Three-way adjustable anchors with minimum adjustment of 1 inch that accommodate d.Loosening or weakening of fasteners, attachments, and other components. B. . 4.<u>Oldcastle BuildingEnvelope;</u> fabrication and installation tolerances in material and finish compatible with adjoining materials and movement e. Failure of operating units. K. Square cut wedge-shaped gaskets at corners and install gaskets in a manner i 5. <u>Pilkington North America;</u> recommended by manufacturer. B. Structural Loads: 6.<u>PPG Industries, Inc.;</u> PPG Flat Glass; gasket manufacturer to prevent corners from pulling away; seal corner joints and but Concealed Flashing: Manufacturer's standard corrosion-resistant, non-staining, non-bleeding 1. Design Wind Pressures: Determine design wind pressures applicable to Project according to ASCE/SEI 7, flashing compatible with adjacent materials. recommended by gasket manufacturer. 7. Viracon, Inc.; based on heights above grade indicated on Drawings: 3.4 CLEANING AND PROTECTION B. Source Limitations for Glass: Obtain from single source from single manufacturer for each glass D. Bituminous Paint: Cold-applied asphalt-mastic paint complying with SSPC-Paint 12 requirements a. Basic Wind Speed: NA; A. Protect glass from contact with contaminating substances resulting from con except containing no asbestos, formulated for 30-mil thickness per coat. b.Importance Factor: NA; C. Source Limitations for Glazing Accessories: Obtain from single source from single manufacturer for Examine glass surfaces adjacent to or below exterior masonry surfaces at frequent int 2.8 FABRICATION c. Exposure Category: NA. construction, but not less than once a month, for buildup of dirt, scum, alkaline depo each product and installation method. Form or extrude aluminum shapes before finishing. 2. Other Design Loads: As indicated on Drawings. 1. If, despite such protection, contaminating substances do come into contact with gla 2.2 PERFORMANCE REQUIREMENTS Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of C. Deflection of Framing Members: At design wind pressure, as follows: immediately as recommended in writing by glass manufacturer. Remove and replace A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding. 1. Deflection Normal to Wall Plane: Limited to edge of glass in a direction perpendicular to glass plane not cleaned without damage to coatings. loads (where applicable) without failure, including loss or glass breakage attributable to the following: Fabricate components that, when assembled, have the following characteristics: exceeding 1/175 of the glass edge length for each individual glazing lite or an amount that restricts edge Remove and replace glass that is damaged during construction period. defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and 1. Profiles that are sharp, straight, and free of defects or deformations. deflection of individual glazing lites to 3/4 inch, whichever is less. Wash glass on both exposed surfaces not more than four days before date sch airtight; deterioration of glazing materials; or other defects in construction. 2. Deflection Parallel to Glazing Plane: Limited to 1/360 of clear span or 1/8 inch, whichever is smaller. 2. Physical and thermal isolation of glazing from framing members. that establish date of Substantial Completion. Wash glass as recommended in writing B. Structural Performance: Glazing shall withstand the following design loads within limits and under 3. Accommodations for thermal and mechanical movements of glazing and framing to maintain required Structural: Test according to ASTM E 330 as follows: conditions indicated determined according to the IBC and ASTM E 1300. manufacturer. glazing edge clearances. 1. When tested at positive and negative wind-load design pressures, assemblies do not evidence deflection 3.5 INSULATING LAMINATED GLASS SCHEDULE 1. Design Wind Pressures: Determine design wind pressures applicable to Project according to ASCE/SEI 7, 4. Provisions for field replacement of glazing from exterior. exceeding specified limits. A. Glass Type GL-1: Low-E-coated, clear insulating laminated glass. based on heights above grade indicated on Drawings. 5. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible. 2. When tested at 150 percent of positive and negative wind-load design pressures, assemblies, including a. Basic Wind Speed: N/A. 1. Overall Unit Thickness: 1-3/16 inch. Entrance Door Frames: Reinforce as required to support loads imposed by door operation and for anchorage, do not evidence material failures, structural distress, or permanent deformation of main framing b.Importance Factor: N/A. 2. Minimum Thickness of Outdoor Lite: 6 mm. installing entrance door hardware. members exceeding 0.2 percent of span. 3. Outdoor Lite: Fully tempered clear float glass. c. Exposure Category: N/A. 3. Test Durations: As required by design wind velocity, but not less than 10 seconds. 1. At exterior doors, provide compression weather stripping at fixed stops. 2. Maximum Lateral Deflection: For glass supported on all four edges, limit center-of-glass deflection at 4. Interspace Content: Air. Entrance Doors: Reinforce doors as required for installing entrance door hardware. Air Infiltration: Test according to ASTM E 283 for infiltration as follows: 5. Indoor Lite: Clear laminated glass with two plies of fully tempered float glass. design wind pressure to not more than 1/50 times the short-side length or 1 inch, whichever is less. 1. At pairs of exterior doors, provide sliding-type weather stripping retained in adjustable strip and mortised 1. Fixed Framing and Glass Area: 3. Differential Shading: Design glass to resist thermal stresses induced by differential shading within a. Minimum Thickness of Each Glass Ply: 6 mm. a. Maximum air leakage of 0.06 cfm/sq. ft. at a static-air-pressure differential of 6.24 lbf/sq. ft. into door edge. individual glass lites. b.Interlayer Thickness: 0.060 inch. 2. At exterior doors, provide weather sweeps applied to door bottoms. 2. Entrance Doors: Windborne Debris Impact Resistance: Exterior glazing shall comply with enhanced protection 6.Low-E Coating: Pyrolytic or sputtered on second or third surface. Entrance Door Hardware Installation: Factory install entrance door hardware to the greatest extent a. Pair of Doors: Maximum air leakage of 1.0 cfm/sq. ft. at a static-air-pressure differential of 1.57 lbf/sq. ft. testing requirements in ASTM E 1996 for Wind Zone 4 when tested according to ASTM E 1886. Test 7. Winter Nighttime U-Factor: 0.30 maximum. possible. Cut, drill, and tap for factory-installed entrance door hardware before applying finishes. b.Single Doors: Maximum air leakage of 0.5 cfm/sq. ft. at a static-air-pressure differential of 1.57 lbf/sq. ft. specimens shall be no smaller in width and length than glazing indicated for use on Project and shall be 8.Summer Daytime U-Factor: 0.30 maximum. After fabrication, clearly mark components to identify their locations in Project according to Shop Water Penetration under Static Pressure: Test according to ASTM E 331 as follows: installed in same manner as glazing indicated for use on Project. 9. Visible Light Transmittance: 60 percent minimum. Drawings 1. No evidence of water penetration through fixed glazing and framing areas when tested according to a 2.9 ALUMINUM FINISHES 1. Large-Missile Test: Enhanced Protection E for glazed openings located within 30 feet of grade. 10. Solar Heat Gain Coefficient: 0.40 maximum. minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less D. Thermal and Optical Performance Properties: Provide glass with performance properties specified, Safety glazing required. A. Color Anodic Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm or thicker. 11. than 15 lbf/sq. ft. as indicated in manufacturer's published test data, based on procedures indicated below: 1. Color: Black. 2. Maximum Water Leakage: No uncontrolled water penetrating assemblies or water appearing on 1. For insulating-glass units, properties are based on units of thickness indicated for overall unit and for SECTION 088300 - MIRRORS 3.0 EXECUTION assemblies' normally exposed interior surfaces from sources other than condensation. Water leakage does each lite. 3.1 EXAMINATION not include water controlled by flashing and gutters, or water that is drained to exterior. 1.1 SECTION REOUIREMENTS 2.U-Factors: Center-of-glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer Seismic Performance: Aluminum-framed entrances and storefronts shall withstand the effects of A. Examine areas, with Installer present, for compliance with requirements for installation tolerances Submittals: Product Data and Shop Drawings. program, expressed as Btu/sq. ft. x h x deg F. and other conditions affecting performance of the Work. Glazing Publications: Comply with the following published recommendation earthquake motions determined according to ASCE/SEI 7. 1. Seismic Drift Causing Glass Fallout: 3. Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 B. Proceed with installation only after unsatisfactory conditions have been corrected. Complying with criteria for passing based on building occupancy type when tested according to AAMA 501.6 1. GANA's "Glazing Manual" unless more stringent requirements are indicated. Refer and based on LBL's WINDOW 5.2 computer program. 3.2 INSTALLATION at design displacement and 1.5 times the design displacement. definitions of glass and glazing terms not otherwise defined in this Section or in refere 2.3 GLASS PRODUCTS - GENERAL Energy Performance: Certify and label energy performance according to NFRC as follows: A. General: 2. GANA Mirror Division's "Mirrors, Handle with Extreme Care: Tips for the Profession A. Glazing Publications: Comply with published recommendations of glass product manufacturers and 1. Comply with manufacturer's written instructions. 1. Thermal Transmittance (U-factor): Fixed glazing and framing areas shall have U-factor of not more than Handling of Mirrors". organizations below unless more stringent requirements are indicated. See these publications for glazing 0.30 Btu/sq. ft. x h x deg. F as determined according to NFRC 100. 2. Do not install damaged components. 2.1 MIRRORS, GENERAL terms not otherwise defined in this Section or in referenced standards. 3. Fit joints to produce hairline joints free of burrs and distortion. A. Manufacturers: One of the following: 2. Solar Heat Gain Coefficient: Fixed glazing and framing areas shall have a solar heat gain coefficient of no

greater than 0.40 as determined according to NFRC 200. 3. Condensation Resistance: Fixed glazing and framing areas shall have an NFRC-certified condensation

resistance rating of no less than 35 as determined according to NFRC 500.

4. Rigidly secure non-movement joints.

5.Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and

to prevent impeding movement of moving joints. 6. Seal perimeter and other joints watertight unless otherwise indicated.

1. GANA Publications: "Laminated Glazing Reference Manual" and "Glazing Manual". 2. IGMA Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use". B. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one

1. Arch Aluminum & Glass Co., Inc.

2. <u>Binswanger Mirror</u>; a division of Vitro America, Inc. 3. Donisi Mirror Company.

4.<u>Gardner Glass, Inc.</u>

component lite of units with appropriate certification label of IGCC.

			CONSTRUCTION As Noted on Plans Revi
ass that complies with	5. <u>Gilded Mirrors, Inc.</u> 6. <u>Independent Mirror Industries, Inc.</u>		Lee's Summit Missou 1 (1992)222
dition A (uncoated)	7. <u>Lenoir Mirror Company.</u> 8. <u>Maran-Wurzell Glass &amp; Mirror</u> . 9. National Class Industries		Ő –
ion parallel to bottom	9. <u>National Glass Industries</u> . 10. <u>Stroupe Mirror Co., Inc</u> . 11. <u>Virginia Mirror Company, Inc</u> .		
rements specified above interlayer manufacturer's	<ol> <li><u>Walker Glass Co., Ltd</u>.</li> <li>Or approved equal.</li> <li>Glass Mirrors, General: ASTM C 1503; manufactured using copper-free, low-lead mirror coating</li> </ol>		
internayer manufacturer s	<ul> <li>Glass Mirrors, General: ASTM C 1503; manufactured using copper-free, low-lead mirror coating process.</li> <li>C. Safety Glazing Products: For film-backed tempered mirrors, provide products complying with</li> </ul>		
	testing requirements in 16 CFR 1201 for Category II materials. 1.3 MATERIALS		
ne terephthalate film.	<ul> <li>A. Tempered Clear Glass: Mirror Glazing Quality, for blemish requirements; and comply with ASTM C 1048 for Kind FT, Condition A, tempered float glass.</li> <li>B. Mirror Mastic: An adhesive setting compound, asbestos free, produced specifically for setting</li> </ul>		S
of glass separated by a	mirrors and certified by both mirror manufacturer and mastic manufacturer as compatible with glass coating and substrates on which mirrors will be installed.		A
5.	C. Film Backing for Safety Mirrors: Film backing and pressure-sensitive adhesive; both compatible with mirror backing paint as certified by mirror manufacturer. 1.4 FABRICATION		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
STM C 920, Type S, Grade	<ul><li>A. Mirror Edge Treatment: Rounded polished</li><li>1. Seal edges of mirrors with edge sealer after edge treatment to prevent chemical or atmospheric</li></ul>		
ers offering products that	penetration of glass coating. B. Film-Backed Safety Mirrors: Apply film backing with adhesive coating over mirror backing paint as recommended in writing by film-backing manufacturer.		HITECTURE INEERING
	<ul> <li>1.5 INSTALLATION</li> <li>A. Provide a minimum air space of 1/8 inch (3 mm) between back of mirrors and mounting surface for</li> </ul>		asant Hill Road
	air circulation between back of mirrors and face of mounting surface. B. Wall-Mounted Mirrors: Install mirrors with mastic and mirror hardware. Attach mirror hardware securely to mounting surfaces with mechanical fasteners installed so heads do not impose point loads on		Suite 200 , Georgia 30096
	backs of mirrors. 1. Top and Bottom Aluminum J-Channels: Provide setting blocks 1/8 inch (3 mm) thick by 4 inches (100	-	7 0 . 6 2 2 . 9 8 5 8 7 0 . 6 2 2 . 9 5 3 5
	mm) long at quarter points. 2.Mirror Clips: Place a felt or plastic pad between mirror and each clip. Locate clips so they are		illfoleyrossi.com
solids elastomeric tape; out spacer rod as d; and complying with	symmetrically placed and evenly spaced. 3.Apply mastic to comply with mastic manufacturer's written instructions for coverage and to allow air circulation between back of mirrors and face of mounting surface.	This drawing an property of Hill F	yright (as dated below). d all reproductions thereof are the oley Rossi & Associates, LLC.(HFR). r the sole use of the project named
s pressure.	C. Remove non-permanent labels, and clean surfaces immediately after installation.	hereon. Reproduc HFR is unlawful.	tion without the written consent of All copies are to be returned to HFR on project completion.
ated with adhesive on ealant.	SECTION 092550 - GYPSUM BOARD ASSEMBLIES 1.1 GENERAL 1.2 SUMMARY	sealed:	07-22-22
ealant. on with a full bead of	<ul> <li>1.2 SUMMARY</li> <li>A. This Section includes the following:</li> <li>1. Non-load bearing steel framing members for gypsum board assemblies.</li> </ul>	-	- instantion
erenced glazing standard,	2.Gypsum board assemblies attached to steel framing. 1.3 DELIVERY, STORAGE, AND HANDLING	MININE O	FMISSER
ation indicated, and with manufacturer.	<ul> <li>Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer or supplier.</li> <li>B. Store materials inside under cover and keep them dry and protected against damage from weather,</li> </ul>	6 50	BHP A
ness of 85, plus or minus	direct sunlight, surface contamination, corrosion, construction traffic, and other causes. Neatly stack gypsum panels flat to prevent sagging.	RA.	UMBER
l by glass manufacturer to l movement (side	C. Handle gypsum board to prevent damage to edges, ends, and surfaces. Do not bend or otherwise damage metal corner beads and trim.	0.4.2	006008936
erial), of size and density	1.4 PROJECT CONDITIONS A. Environmental Conditions, General: Establish and maintain environmental conditions for applying and finishing gypsum board to comply with ASTM C 840 and with gypsum board manufacturer's	Mininini,	CHITEOM
erformance.	recommendations. B. Room Temperatures: For non-adhesive attachment of gypsum board to framing, maintain not less		
ct, with edge and face ons of product ance requirements.	than 40 deg F. For adhesive attachment and finishing of gypsum board, maintain not less than 50 deg F for 48 hours prior to application and continuously after until dry. Do not exceed 95 deg F when using temporary heat sources.		
ting on glass framing	C. Ventilation: Ventilate building spaces, as required, for drying joint treatment materials. Avoid drafts during hot dry weather to prevent finishing materials from drying too rapidly.		
	<ul> <li>2.1 PRODUCTS</li> <li>2.2 MANUFACTURERS</li> <li>A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:</li> </ul>		
ompliance with the	<ol> <li>Steel Framing and Furring:</li> <li>a. <u>Clark Steel Framing;</u></li> </ol>		
and offsets at corners.	b. <u>Consolidated Systems, Inc.;</u> c. <u>Dale Industries, Inc.;</u>		
prrected.	d. <u>Dietrich Industries, Inc.;</u> e. <u>Marino Industries Corp.;</u> f. Gold Bond Building Products Div., National Gypsum Co.;		
	g. <u>Unimast Inc</u> . 2.Gypsum Board and Related Products:	. <u>+</u>	
iately before glazing.	a. <u>Domtar Gypsum;</u> b. <u>Georgia-Pacific Corp</u> .;	ummit	
rk units as needed so that ve visible marks in the	c. <u>Gold Bond Building Products Div</u> ., National Gypsum Co.; d. <u>United States Gypsum Co</u> . 2.3 FRAMING COMPONENTS		
ants, gaskets, and other	<ul> <li>A. Provide components with the following characteristics:</li> <li>1. Minimum Thickness of Base (Uncoated) Metal: 0.0179 inch, unless otherwise indicated.</li> </ul>	S S	)e
se in referenced glazing e damaged glass from	2.Depth: Indicated. 3.Protective Coating: Manufacturer's standard corrosion- resistant coating. 4.Steel Studs and Runners: ASTM C 645, with flange edges bent back 90 deg and doubled over to form 3/16	Lee's	Drive
h edge damage or other pair appearance.	inch minimum lip (return). 5. Component Sizes and Spacings: As indicated but not less than that required to comply with ASTM C 754		64082 al entre 2401
determined by enced glazing	with a maximum deflection of L/120 at 5 lbf per sq. ft lateral loading condition. 6.Suspended Framing: Provide components of sizes indicated but not less than that required to comply with ASTM C 754 for conditions indicated.	tal	ntal Cei 624
ourse of compatible	7. Wire for Hangers and Ties: ASTM A 641, Class 1 zinc coating, soft temper. 8. Steel Rigid Furring Channels: ASTM C 645, hat-shaped, depth of 7/8 inch, and minimum thickness of	Dental Center	Summit, Missouri 64082 Heartland Dental 1200 Network Centre I Effingham, IL 62401
ing glass lites. ches. lass. Install correct size	base (uncoated) metal as follows: 9.Fasteners for Metal Framing: Provide fasteners of type, material, size, corrosion resistance, holding	Heartland Den Market Street Center	land Netw ham
are used that have em performance	power, and other properties required to fasten steel framing and furring members securely to substrates involved; complying with the recommendations of gypsum board manufacturers for applications indicated.	Heartland Market Street	Heartl 200 h Effingl
alant width. With glazing	SECTION 092900 - GYPSUM BOARD 1.1 SECTION REQUIREMENTS	artis et St	
n moving sideways in to requirements in	<ul> <li>A. Submittals: Product Data.</li> <li>1.2 PERFORMANCE REQUIREMENTS</li> <li>A. Fire-Resistance-Rated Assemblies: Provide materials and construction identical to those tested in</li> </ul>	166 1ark	For:
characteristics.	assemblies per ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction		
rior as specified. rize sealant or gasket on ttion is subjected to	B. STC-Rated Assemblies: Provide materials and construction identical to those tested in assemblies per ASTM E 90 and classified per ASTM E 413 by a qualified independent testing and inspecting agency.		
er recommended by	<ul> <li>2.1 PANEL PRODUCTS</li> <li>A. Provide in maximum lengths available to minimize end-to-end butt joints.</li> <li>B. Interior Gypsum Board: ASTM C 1396/ C 1396M, in thickness indicated, with manufacturer's</li> </ul>		
outt joints with sealant	standard edges. Type X - Regular type unless otherwise indicated. 1. <u>Manufacturers</u> : One of the following:		
onstruction operations. intervals during	a. <u>American Gypsum.</u> b. <u>CertainTeed Corp.</u> c. <u>Georgia-Pacific Gypsum LLC</u> .		
posits, or stains. glass, remove substances ce glass that cannot be	d. <u>National Gypsum Company</u> . e. <u>Temple-Inland</u> .		
-	<ul> <li>f. <u>USG Corporation</u>.</li> <li>C. Glass-Mat, Water-Resistant Gypsum Backing Board: ASTM C 1178/C 1178M, of thickness indicated (5/8" U.N.O). Regular type unless otherwise indicated.</li> </ul>		
scheduled for inspections ing by glass	1. Products: One of the following: a. <u>CertainTeed Corp.</u> ; GlasRoc Tile Backer.		
	b. <u>Georgia-Pacific Gypsum LLC.;</u> DensShield Tile Backer. c. <u>USG Corporation;</u> Fiberock.		
	2.2 ACCESSORIES A. Trim Accessories: ASTM C 1047, formed from galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet.		
	1. Provide cornerhead at outside corners unless otherwise indicated. 2. Provide LC-bead (J-bead) at exposed panel edges.		
	<ul> <li>3. Provide control joints where indicated.</li> <li>B. Aluminum Accessories: Extruded-aluminum accessories indicated with Class II, clear anodic finish;</li> <li>AA-C12C22A31 or Class II, color anodic finish; AA-C12C22A32/A34</li> </ul>	07/22	2/22 For
	1. Manufacturers: One of the following: a. <u>Fry Reglet Corp</u> .	mk dat	Construction
	b. <u>Gordon, Inc</u> . c. <u>Pitteon Industries</u> .	Snec	ifications
	d.Or as approved by Architect. C. Joint-Treatment Materials: ASTM C 475/ C 475M 1. Joint Tape: Paper unless otherwise recommended by panel manufacturer.		
	2. Joint Compounds: Setting-type taping compound and drying-type, ready-mixed, compounds for topping. 3. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound.	1	
ions: fer to this publication for	<ul> <li>D. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.</li> <li>1. Adhesive shall have a VOC content of 50 g/L or less.</li> </ul>	1	
ferenced standards. ssional on the Care and	2.Adhesive shall comply with Green Seal's GS-36 and with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions	<b> </b>	
	from Various Sources Using Small-Scale Environmental Chambers". E. Sound-Attenuation Blankets: ASTM C 665, Type I (unfaced). Provide thickness to match stud thickness. Anchor to avoid settlement.		
	3.1 INSTALLATION A. install gypsum board to comply with ASTM C 840.	A	004
	1. Isolate gypsum board assemblies from abutting structural and masonry work. Provide edge trim and		

1. Isolate gypsum board assemblies from abutting structural and masonry work. Provide edge trim and acoustical sealant.

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<ul> <li>2.Single-Layer Fastening Methods: Fasten gypsum panels to support with screws.</li> <li>3.Multilayer Fastening Methods: Fasten base layers and face layer separately to supports with screws.</li> <li>B. Install cementitious backer units to comply with ANSI A108.11.</li> </ul>	<ul> <li>B. Install acoustical panels with undamaged edges and fit accurately into suspensions system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide a neat, precise fit.</li> <li>C. Install acoustical tiles in coordination with suspensions system and exposed moldings and trim.</li> </ul>
<ul> <li>C. Fire-Resistance-Rated Assemblies: Comply with requirements of listed assemblies</li> <li>D. Finishing Gypsum Board: ASTM C 840.</li> <li>1. At concealed areas, unless a higher level of finish is required for fire-resistance-rated assemblies, provide</li> <li>Level 1 finish: Embed tape at joints.</li> </ul>	<ul><li>Place splines or suspensions system flanges into kerfed edges so tile-to-tile joints are closed by double lap material.</li><li>1. Fit adjoining tile to form flush, tight joints. Scribe and cut tile for accurate fit at borders and around penetrations through tile.</li></ul>
2.At substrates for tile, provide Level 2 finish: Embed tape and apply separate first coat of joint compound to tape, fasteners, and trim flanges.	D. Arrange directionally patterned acoustical units as indicated on Drawings.
3. Unless otherwise indicated, provide Level 4 finish: Embed tape and apply separate first, fill and finish coats of joint compound to tape, fasteners, and trim flanges. 4. Where indicated, provide Level 5 finish: Embed tape and apply separate first, fill, and finish coats of joint	SECTION 096500 - RESILIENT FLOORING 1.0 GENERAL 1.1 SECTION REQUIREMENTS
compound to tape, fasteners, and trim flanges. Apply skim coat to entire surface. E. Glass-Mat, Water-Resistant Backing Panels: Finish according to manufacturer's written	A. Submittals: Product Data and Samples. B. Extra Materials:
instructions. SECTION 093000 - TILING	1. Resilient Wall Base: Deliver to Owner at least 25 linear feet of each type of color of resilient wall base installed. 2. Resilient Floor Tile: Deliver to Owner one box for every 50 boxes or fraction thereof, of each type and
1 SECTION REQUIREMENTS A. Submittals: Product Data and Samples.	color of resilient floor tile installed. 2.0 PRODUCTS
<ul> <li>B. Obtain tile of each type and color or finish from same production run for each contiguous area.</li> <li>C. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling ceramic tile packages.</li> </ul>	2.1 RESILIENT BASE (RB-1, RB-2, AND RB-3) A. Manufacturer: 1. <u>Johnsonite</u> .
A. CERAMIC TILE A. Ceramic tile that complies with Standard grade requirements in ANSI A137.1, "Specifications for	<ul><li>B. Color and Pattern: Per Drawings.</li><li>C. ASTM F 1861, Type TV (vinyl).</li></ul>
Ceramic Tile." B. Tile Type (Porcelain, glass) per drawing for floor and wall tiles.	<ul> <li>D. Group (Manufacturing Method): I (solid, homogeneous).</li> <li>E. Style: Cove (base with toe): RB-1, RB-2. Straight (flat or toeless): RB-3</li> </ul>
1. Manufacturers: Per drawings. 2.Module Size: Varies per product selected. 3.Thickness: Varies per product selected.	<ul> <li>F. Minimum Thickness: 0.080 inch (2.0 mm)</li> <li>G. Height: 4 inches (102 mm), 6 inches (152 mm) and 7 inch per drawings.</li> <li>H. Lengths: Coils in manufacturer's standard lengths.</li> </ul>
4. Face: Pattern of design indicated, with manufacturer's standard edges. 5. Finish: Varies per product.	I. Outside Corners: Job formed. (No rounded corners) J. Inside Corners: Job formed. (Square corner/ mitered)
5. Color and Pattern: As selected. 7. Grout Color: As selected.	K. Finish: Satin. 2.2 RESILIENT MOLDING ACCESSORY
3. Mounting: Varies per product selected and pre-mounted sheets of tiles factory assembled and grouted in field.	<ul> <li>A. Manufacturers: One of the following:</li> <li>1. <u>Burke Mercer Flooring Products</u>; Division of Burke Industries, Inc.</li> </ul>
9. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoining flat tile. Provide shapes as follows, selected from manufacturer's standard shapes:	2. <u>Flexco, Inc.</u> 3. <u>Johnsonite.</u> 4. <u>R.C.A. Rubber Company (The).</u>
n Base: Coved D. Wainscot Cap for Thin-Set Mortar Installations: Surface bullnose	5. <u>Roppe Corporation, USA.</u> 6. <u>VPI, LLC;</u> Floor Products Division.
c. External Corners for Thin-Set Mortar Installations: Surface bullnose d.Internal Corners: Field-butted square corners. For coved base and cap use angle pieces designed to fit	<ul> <li>B. Color: As selected by Owner from manufacturer's standard colors.</li> <li>C. Description: Carpet bar for tackless installations, Reducer strip for resilient floor covering, Joiner</li> </ul>
with stretcher shapes. .2 INSTALLATION MATERIALS A. Low-Emitting Materials: Adhesives and fluid-applied waterproofing membranes shall have a VOC	for tile and carpet, etc. D. Material: Rubber or Vinyl E. Profile and Dimensions: Submit samples for selection.
content of 65g/L or less. B. Low-Emitting Materials: Adhesives and fluid-applied waterproofing membranes shall comply with	2.3 RESILIENT TILE FLOORING (RF-1) A. Products:
Green Seal's GS-36 and wit the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources	1. <u>Armstrong World Industries, Inc</u> .; EXCELON "ChromaSpin" B. Color: Muslin
Jsing Small-Scale Environmental Chambers". C. Waterproofing Membranes for Thin-Set Installations: ANSI A118.10, fabric-reinforced liquid-latex or elastomeric polymer product.	<ul> <li>Size: 12" x 12" (305mm x 305mm)</li> <li>Composed of polyvinyl chloride resin binder, plasticizers, fillers, and pigments with colors dispers throughout its thickness. Vinyl composition tile shall conform to the requirements of ASTM E 1066. Class</li> </ul>
D. Setting and Grouting Materials: Comply with material standards in ANSI's "Specifications for the installation of Ceramic Tile" that apply to materials and methods indicated.	throughout its thickness. Vinyl composition tile shall conform to the requirements of ASTM F 1066, Class - Through Pattern. E. Overall Thickness: .125 in.
. Thin-Set Mortar Type: Latex-Portland cement. . Manufacturers: One of the following:	<ul> <li>F. Interlayer Material: per manufacturer.</li> <li>G. Fire-Test Response: ASTM E 648 Critical Radiant Flux of 0.45 watts per sq. cm. or greater, Class 1</li> </ul>
. <u>Bostik, Inc.</u> i. <u>Laticrete International, Inc.</u>	H. ASTM E 662 (Smoke Generation) Maximum Specific Optical Density of 450 or less 2.4 RESILIENT TILE FLOORING (RF-2)
ii. <u>MAPEI Corporation.</u> v. <u>TEC;</u> a subsidiary of H.B. Fuller Company v. Or approved equal.	A. Products: 1. <u>Mannington Commercial</u> ; Nature's Paths Select
2. Water-Cleanable Tile-Setting Epoxy: a. Manufacturers: One of the following:	<ul> <li>B. Color and Pattern: Chatham Oak - Java (12153).</li> <li>C. Sheet Size: Plank 5" x 48" (127mm x 1219.3mm).</li> <li>D. Luxury Vinyl Plank with micro-beveled edges. Class 3, Type B (ASTM F 1700)</li> </ul>
. <u>Bostik, Inc.</u> i. <u>Laticrete International, Inc.</u>	<ul> <li>E. Overall Thickness: .100 in.</li> <li>F. Interlayer Material: per manufacturer.</li> </ul>
ii. <u>MAPEI Corporation.</u> v. <u>Summitville Tiles, Inc</u> .	<ul> <li>G. Backing Class: Class A (fibrous).</li> <li>H. Fire-Test Response: Critical radiant flux classification of Class I, not less than 0.45 W/sq. cm. per</li> </ul>
v. <u>TEC;</u> a subsidiary of H.B. Fuller Company vi. Or approved equal.	ASTM E 648. I. ASTM E 662 (Smoke Generation) Maximum Specific Optical Density of 450 or less.
3.Grout Type: Water-Cleanable Epoxy: a.Manufacturers: One of the following: a. Bostik, Inc.	<ul> <li>J. Wearing Surface: Quantum Guard HP urethane aluminum oxide topcoat cured by UV process, 0</li> <li>in. thick.</li> <li>2.5 INSTALLATION ACCESSORIES</li> </ul>
ii. <u>Laticrete International, Inc.</u> iii. <u>MAPEI Corporation.</u>	A. Trowelable Leveling and Patching Compounds: Latex-modified or blended hydraulic cement-base formulation provided or approved by flooring manufacturer for applications indicated.
v. <u>Summitville Tiles, Inc</u> . <i>v</i> . <u>TEC</u> ; a subsidiary of H.B. Fuller Company	B. Adhesives: Water-resistant type recommended by manufacturer to suit floor covering and substra conditions indicated.
vi. Or approved equal. .1 INSTALLATION	<ol> <li>Low-Emitting Materials: Adhesives shall have a VOC content of 50 g/L or less.</li> <li>Heat-Welding Bead: Solid-strand product of floor covering manufacturer.</li> </ol>
A. Comply with TCA's "Handbook for Ceramic Tile Installation" for TCA installation methods specified in tile installation schedules. Comply with parts of ANSI A108 Series "Specifications for Installation of Ceramic Tile" that are referenced in TCA installation methods, specified in tile installation schedule, and	1. Color: Match floor covering. 3.0 EXECUTION 3.1 INSTALLATION
apply to types of setting and grouting materials used. 1. For installation indicated below, follow procedures in ANSI's "Specifications for the Installation of	A. Prepare concrete substrates according to ASTM F 710. Verify that substrates are dry and free of curing compounds and vapor retarder has been installed.
Ceramic Tile" for provide 95 percent mortar coverage. a. Tile floors in wet areas.	<ul> <li>B. Unroll sheet floor coverings and allow them to stabilize before cutting and fitting.</li> <li>C. Maintain uniformity of resilient sheet flooring direction, and match edges for color shading at</li> </ul>
p. Tile floors in laundries. c. Tile floors composed of tiles 8 by 8 inches (200 by 200 mm) or larger.	seams. D. Minimize number of seams; place seams in inconspicuous and low-traffic areas, at least 6 inches
<ul> <li>I. Tile floors composed of rib-backed tiles.</li> <li>Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping</li> </ul>	<ul> <li>(152 mm) away from parallel joints in substrates.</li> <li>E. Adhesively install resilient wall base and accessories.</li> <li>F. Install wall base in maximum lengths possible. Apply to walls, columns, pilasters, casework, and</li> </ul>
ixtures, and other penetrations so plates, collars, or covers overlap tile. Lay tile in grid pattern unless otherwise indicated. Align joints where adjoining tiles on floor, base,	other permanent fixtures in rooms or areas where base is required. G. Install reducer strips at edges of floor coverings that would otherwise be exposed.
<ul><li>valls, and trim are the same size.</li><li>Where indicated, prepare substrates to receive waterproofing by applying a reinforced mortar bed</li></ul>	SECTION 096800 - CARPETING
that complies with ANSI A108.1A and is sloped 1/4 inch per foot (1:50) toward drains. E. Install waterproofing to comply with ANSI A108.13.	1.0 GENERAL 1.1 SECTION REQUIREMENTS
<ul> <li>Do not install tile over waterproofing until waterproofing has cured and been tested to determine hat it is watertight.</li> <li>Apply sealer to cleaned stone tile flooring according to sealer manufacturer's written instructions.</li> </ul>	A. Submittals: Product Data and Samples. 2.0 PRODUCTS
<ul> <li>Appry sealer to chance stole the nooring according to sealer manufacturer's written instructions.</li> <li>Interior Floor Tile Installation Method(s):</li> <li>Over Concrete Subfloors: TCA F115 (thin-set mortar, epoxy grout)</li> </ul>	2.1 CARPET TILE (CP-1) A. <u>Product</u> : Per Drawings B. Eibar Content: Solution O Extreme Nulen
2. Over Waterproof Membranes on Concrete Subfloors: TCA F122 (thin-set mortar) . Interior Wall Tile Installation Method(s):	<ul> <li>B. Fiber Content: Solution Q Extreme Nylon</li> <li>C. Face Construction: 1/12 D6</li> <li>D. Gauge: 1/12</li> </ul>
1. Over Metal Studs or Furring: TCA W245 with thin-set mortar (thin-set mortar on glass-mat, water- resistant backer board).	E. Pile Thickness: 0.108 inches F. Tufted Yarn Weight: 18 oz/sq. yd.
ECTION 095100 - ACOUSTICAL CEILINGS	<ul><li>G. Primary Backing: Woven Polypropylene</li><li>H. Secondary Backing: EcoWorx Tile</li></ul>
o GENERAL 1 SECTION REQUIREMENTS A. Submittals: Product Data and Samples.	<ul> <li>Size: Per Drawings</li> <li>J. Critical Radiant Flux Classification: Not less than 0.45 W/sq. cm. per ASTM E 648.</li> </ul>
<ul> <li>Submittals: Froduct Data and Samples.</li> <li>2 PERFORMANCE REQUIREMENTS</li> <li>A. Seismic Standard: Acoustical ceilings shall withstand the effects of earthquake motions determined</li> </ul>	<ul> <li>K. Emissions: Provide carpet that complies with testing and product requirements of CRI's "Green Label Plus" program.</li> <li>2.2 INSTALLATION ACCESSORIES</li> </ul>
according to ASCE/SEI 7. B. Fire-Resistance-Rated Assemblies: When required, provide materials and construction identical to	A. Carpet Tile Adhesives: Pressure-sensitive type that complies with flammability requirements for installed carpet tile and is recommended by carpet tile manufacturer for conditions indicated for
hose tested in assemblies per ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.	releasable installation. 1. Low-Emitting Materials: Adhesives shall have a VOC content of 50 g/L or less.
0 PRODUCTS 1 ACOUSTICAL TILE -ACT-1 A. Manufacturer:	3.0 EXECUTION 3.1 INSTALLATION
A. Manufacturer: <u>Armstrong World Industries, Inc.</u> 3. Classification: As follows, per ASTM E 1264:	<ul> <li>A. Comply with CRI 104.</li> <li>B. Carpet Tile Installation Method: As recommended by manufacturer.</li> <li>1. Install borders parallel to walls, when required.</li> </ul>
2. Pattern: Medium texture.	SECTION 099000 - PAINTING AND COATING
3. Light Reflectance (LR) Coefficient: Not less than 0.82. 4. Noise Reduction Coefficient (NRC): Not less than 0.55.	1.0 GENERAL 1.1 SECTION REQUIREMENTS
5. Ceiling Attenuation Class (CAC): Not less than 33. 5. Surface-Burning Characteristics: Class A.	A. Submittals: 1. Product Data. Include printout of MPI's "MPI Approved Products List" with product highlighted.
C. Color: White. D. Edge Detail: Angled Tegular. Thickness: 5/8 inch	<ul> <li>2.Samples.</li> <li>B. Mockups: Full-coat finish Sample of each type of coating, color, and substrate, applied where</li> </ul>
<ul> <li>E. Thickness: 5/8 inch.</li> <li>F. Modular Size: 24 by 24 inches.</li> <li>2 CEILING SUSPENSION SYSTEM</li> </ul>	directed. C. Extra Materials: Deliver to Owner 1 gal. (3.8 L) of each color and type of finish coat paint used on Project in containers, properly labeled and sealed
A. Ceiling Suspension System: Direct hung; ASTM C 635, intermediate-duty structural classification . Manufacturer:	Project, in containers, properly labeled and sealed. 2.0 PRODUCTS 2.1 PAINT
. <u>Armstrong World Industries, Inc.</u> . Product: "Prelude XL" - 15/16 exposed tee grid.	A. Manufacturers: 1. <u>Benjamin Moore &amp; Co.</u>
<ul> <li>Face Finish: White.</li> <li>Attachment Devices: Sized for 5 times the design load indicated in ASTM C 635, Table 1, Direct</li> <li>Jung, upless otherwise indicated. Comply with seismic design requirements for local area where project is</li> </ul>	<ul> <li>2. Sherwin-Williams Company (The).</li> <li>B. MPI Standards: Provide materials that comply with MP standards indicated and listed in its "MPI</li> </ul>
<ul> <li>Hung, unless otherwise indicated. Comply with seismic design requirements for local area where project is being constructed.</li> <li>Wire Hangers, Braces, and Ties: Zinc-coated carbon-steel wire; ASTM A 641/A 641M, Class 1 zinc</li> </ul>	Approved Products List".  1. Interior Painting Materials:  2. Primer Scalar Latavi MBL #50
coating, soft temper. Size: Provide yield strength at least 3 times the hanger design load (ASTM C 635, Table 1, Direct Hung),	a. Primer Sealer, Latex: MPI #50 b. Primer Sealer, Institutional Low Odor/VOC: MPI #149 c. Primer, Latex, for Interior Wood: MPI #39.
but not less than 0.135 inch (3.5 mm) diameter wire. D. Access: Identify upward access tile with manufacturer's standard unobtrusive markers for each	d. Primer, Galvanized, Water Based: MPI #134. e. Latex, Interior, Semigloss, (Gloss Level 5): MPI #54.
access unit. .3 MISCELLANEOUS MATERIALS A. Acoustical Tile Adhesive: Type recommended by acoustical tile manufacturer, bearing UL label for	<ul><li>f. Latex, Institutional Low Odor/VOC, Semigloss (Gloss Level 5): MPI #147.</li><li>g. Latex, High Performance Architectural, Semigloss (Gloss Level 5): MPI #141.</li></ul>
<ul> <li>A. Acoustical Tile Adhesive: Type recommended by acoustical tile manufacturer, bearing UL label for</li> <li>Class 0-25 flame spread.</li> <li>B. Pre-finish white wall angle - anchor to stud framing per manufacturer's recommendation.</li> </ul>	h. Alkyd, Interior, Semigloss (Gloss Level 5): MPI #47. i. Alkyd, Quick Dry, Semigloss (Gloss Level 5): MPI #81.
3.0 EXECUTION	2.Staining and Clear Finishing Materials: a.Wood Filler Paste: MPI #91

3.0 EXECUTION 3.1 INSTALLATION

A. Install acoustical ceiling to comply with ASTM C 636/C 636M and seismic design requirements indicated, according to manufacturer's written instructions and CISCA's "Ceiling Systems Handbook".

b.Alkyd, Sanding Sealer, Clear: MPI #102

c. Stain, Semitransparent, for Interior Wood: MPI #90

occurately into suspensions system runners	d.Varnish, Interior, Polyurethane, Oil-Modified, Satin (Gloss Level 4): MPI #57	
rations to provide a neat, precise fit.	e. Varnish, Interior, Polyurethane, Oil-Modified, Gloss (Gloss Level 6): MPI #56	
system and exposed moldings and trim. tile-to-tile joints are closed by double lap of	f. Varnish, Polyurethane, Moisture-Cured, Gloss (Gloss Level 6): MPI #31 g.Varnish, Aliphatic Polyurethane, Two-Component (Gloss Level 6 or 7): MPI #78	SECTION 123623 - PLASTIC COUNTERTOPS
	C. Material Compatibility: Provide materials that are compatible with one another and with	1.0 GENERAL
for accurate fit at borders and around	substrates. 1. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat	1.1 SECTION REQUIREMENTS
ated on Drawings.	for use in paint system and one substrate indicated.	A. Submittals: Shop Drawings, Samples showing the full range of colors, textures, and pattern available for each type of finish and AWI Quality Certification Program certificates.
-	D. Use interior paints and coatings that comply with the following limits for VOC content:	B. Fabricator Qualifications: Certified participant in AWI's Quality Certification Program.
	<ol> <li>Nonflat Paints, Coatings: 150 g/L</li> <li>Dry-Fog Coatings: 400 g/L</li> </ol>	C. Installer Qualifications: Fabricator of products.
	3. Primers, Sealers, and Undercoaters: 200 g/L	D. Environmental Limitations: Do not deliver or install countertops until building is enclosed, wet work is completed, and HVAC system is operating.
	4. Anticorrosive and Antirust Paints Applied to Ferrous Metals: 250 g/L	2.0 PRODUCTS
i	5. Clear Wood Finishes, Varnishes: 350 g/L 6. Clear Wood Finishes, Lacquers: 550 g/L	2.1 PLASTIC-LAMINATE COUNTERTOPS
each type of color of resilient wall base	7. Stains: 250 g/L	<ul> <li>A. Quality Standard: AWI, AWMAC, and WI's "Architectural Woodwork Standards."</li> <li>B. Plastic-Laminate Countertops: Premium or Custom grade.</li> </ul>
xes or fraction thereof, of each type and	E. Colors: As selected.	1. Laminate Grade: HGS for flat countertops, HGP for post-formed countertops
	3.0 EXECUTION 3.1 PREPARATION	2. Grain Direction: Parallel to cabinet fronts.
	A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual"	3.Edge Treatment: Same as laminate cladding on horizontal surfaces. 2.2 MATERIALS
	applicable to substrates indicated.	A. Wood Moisture Content: 5 to 10 percent.
	B. Remove hardware, lighting fixtures, and similar items that are not to be painted. Mask items that cannot be removed. Reinstall items in each area after painting is complete.	B. Medium-Density Fiberboard: ANSI A208.2, Grade 130, made with binder containing no urea
	C. Clean and prepare surface in an area before beginning painting in that area. Schedule painting so	formaldehyde. C. Particleboard: ANSI A208.1, Grade M-2, made with binder containing no urea formaldehyde.
).	cleaning operations will not damage newly painted surfaces.	D. Softwood Plywood: DOC PS 1.
or toeless): RB-3	3.2 APPLICATION	E. High-Pressure Decorative Laminate: NEMA LD 3.
ch per drawings.	A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.	1. Manufacturers:
ch per drawings.	B. Paint exposed surfaces, new and existing, unless otherwise indicated.	a. <u>Wilsonart International;</u> Div. of Premark International, Inc. b. or Approved equal.
	1. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces.	F. Grommets for Cable Passage through Countertops: 2 inch O.D., molded-plastic grommets and
	2.Paint surfaces behind permanently fixed equipment or furniture with prime coat only. 3.Paint the back side of access panels.	matching plastic caps with slot for wire passage.
	4. Color-code mechanical piping in accessible ceiling spaces.	1. Product: a. <u>Doug Mockett &amp; Company, Inc</u> OG or SG series.
	5. Do not paint prefinished items, items with an integral finish, operating parts, and labels unless otherwise	3.0 EXECUTION
, Inc.	Indicated. C. Apply paints according to manufacturer's written instruction.	3.1. FABRICATION
	1. Use brushes only for exterior painting and where the use of other applicators is not practical.	A. Complete fabrication to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide
	2. Use rollers for finish coat on interior walls and ceilings.	ample allowance for scribing, trimming, and fitting.
	D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections, cut in sharp lines and color breaks.	3.2 INSTALLATION
ard colors.	1. If undercoats or other conditions show through topcoat, apply additional coats until cured fill has a	A. Before installation, condition countertops to average prevailing humidity condition in installation areas.
er strip for resilient floor covering, Joiner	uniform paint finish, color, and appearance.	B. Install countertops to comply with referenced quality standard for grade specified.
	E. Apply stains and transparent finishes to produce surface films without color irregularity, cloudiness, holidays, lap marks, brush marks, roller tracking, runs, sags, ropiness, or other surface	C. Install countertops level, plumb, true and straight. Shim as required with concealed shims. Install
	imperfections. Cut in sharp lines and color breaks. Use multiple coats to produce a smooth surface film of	level and plumb to a tolerance of 1/8 inch in 96 inches. D. Scribe and cut countertops to fit adjoining work, refinish cut surfaces, and repair damaged finish at
	even luster.	cuts.
	3.3 INTERIOR PAINT APPLICATION SCHEDULE A. Concrete Masonry Units:	E. Anchor countertops securely to base units. Seal space between backsplash and wall.
	1. Semigloss, Institutional Low-Odor/VOC Latex: Two coats over latex block filler: MPI INT 4.2E.	SECTION 123640 - STONE COUNTERTOPS
	B. Steel:	1.0 GENERAL
s, fillers, and pigments with colors dispersed	<ol> <li>Semigloss, Alkyd Enamel: Two coats over quick-drying alkyd primer: MPI INT 5.1E.</li> <li>Galvanized Metal:</li> </ol>	1.1 SECTION REQUIREMENTS
o the requirements of ASTM F 1066, Class 2	1. Semigloss, Institutional Low Odor/VOC Latex: One coat over waterborne galvanized-metal primer:	A. Submittals: Shop Drawings and Stone Samples at least 12 inches (300 mm) square.
	MPI INT 5.3N.	<ul> <li>B. Verify dimensions of stone countertops by field measurements and indicate on Shop Drawings.</li> <li>2.0 PRODUCTS</li> </ul>
	D. Wood: Including non-stained architectural woodwork. 1. Semigloss, Institutional Low Odor/VOC Latex: Two coats over latex primer for wood: MPI INT 6.3V.	2.1 STONE
of 0.45 watts per sq. cm. or greater, Class 1.	E. Gypsum Board:	A. Granite: ASTM C 615
otical Density of 450 or less	1. Satin or Semigloss (verify with Owner) Institutional Low Odor/VOC Latex: Two Coats over low	<ol> <li>Description: Uniform, fine-grained, stone.</li> <li>Varieties and Sources: Product per drawings.</li> </ol>
	odor/VOC Tinted primer/sealer: MPI INT 9.2M	3. Finish: Polished.
	3.3 INTERIOR STAIN AND CLEAR FINISH APPLICATION SCHEDULE A. Wood substrates, non-traffic surfaces, including wood trim, architectural woodwork, doors,	2.2 SETTING MATERIALS
	windows, wood-based panel products.	<ul><li>A. Water-Cleanable Epoxy Adhesive: ANSI A118.3.</li><li>1. Manufacturers: One of the following:</li></ul>
'ype B (ASTM F 1700)	1. Semitransparent Stain: Two coats: MPI INT 6.1G.	a. Bonsal, W.R. Company.
	2.Semigloss of Gloss Alkyd Varnish over Stain: Two coats over sanding sealer and stain: MPI INT 6.1P. 3.Satin or Gloss Oil-Modified Polyurethane Varnish over Stain: Three coats over stain: MPI INT 6.1J.	b. Bonstone Materials Corporation.
		c. <u>C-Cure.</u> d. Custom Building Broducts
f Class I, not less than 0.45 W/sq. cm. per	SECTION 101400 - SIGNAGE	d. <u>Custom Building Products.</u> e. <u>Laticrete International, Inc.</u>
	1.0 GENERAL 1.1 SECTION REQUIREMENTS	f. MAPEI Corp.
ptical Density of 450 or less. um oxide topcoat cured by UV process, 0.20	A. Submittals: Product Data, Shop Drawings, and Samples.	B. Sealant: Mildew-resistant, neutral-curing, silicone sealant.
un onde topcout curcu by 0 v process, 0.20	1.2 SIGNS, GENERAL	C. Stone Sealer: Colorless, stain-resistant sealer that does not affect color or physical properties of stone surfaces, as recommended by stone producer for application indicated.
	A. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Carriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC A117.1.	1. Manufacturers: One of the following:
nodified or blended hydraulic cement-based nanufacturer for applications indicated.	2.0 PRODUCTS	a. <u>Bostik Findley Inc.</u>
ifacturer to suit floor covering and substrate	2.1 PANEL SIGNS	b. <u>Custom Building Products</u> c. <u>Hillyard, Inc.</u>
	A. Manufacturers: One of the following:	d. <u>HMK Stone Care System.</u>
of 50 g/L or less. ring manufacturer.	1. <u>ASI Sign Systems, Inc</u> . 2. <u>Best Sign Systems, Inc</u> .	e. Miracle Sealants Company.
ing manufacturer.	3. Or approved equal.	f. Stone Care International, Inc.
	B. Interior Panel Signs: Enamel-filled, reverse-engraved clear acrylic or Reverse silk-screened clear	2.3 COUNTERTOP FABRICATION
erify that substrates are dry and free of	acrylic with opaque background with beveled edges and square or rounded corners. 1. Finishes and Colors: As selected from manufacturer's full range.	A. Comply with recommendations in MIA's "Dimensional Stone - Design Manual VI." 1. Thickness: 1-1/4 inches (30 mm).
erily that substrates are ury and nee of	2. Tactile Characters: Characters and Grade 2 Braille raise 1/32 inch (0.8 mm) above surface with	2. Edge Detail: Straight, slightly eased at top, 1-1/4 inch (30 mm) bullnose, or 3/8 inch (10 mm) radius with
before cutting and fitting.	contrasting colors.	2-1/2 inch apron, location vary per plan.
, and match edges for color shading at	3. Provide signs for all rooms mounted on the wall beside the room door. 2.2 MATERIALS	<ul> <li>B. Splashes: 3/4 inch (20 mm) nominal thickness backsplashes and end splashes.</li> <li>1. Height: 7 inches, unless noted otherwise.</li> </ul>
us and low-traffic areas, at least 6 inches	A. Acrylic Sheet: ASTM D 4802, Category A-1 (cell-cast sheet), Type UVA (UV absorbing).	2. Top-Edge Detail: Straight, slightly eased at corner.
	B. Plastic Laminate: High-pressure laminate engraving stock with face and core in contrasting colors.	C. Fabricate molded edges with machines having abrasive shaping wheels made to reverse contour of
walls, columns, pilasters, casework, and	3.0 EXECUTION 3.1 INSTALLATION	edge profile. Form corners of molded edges as indicated with outside corners slightly eased. D. Seams: Fabricate countertops without seams, preferred, but for joining in field, with seams 1/16
equired.	A. Locate signs where indicated or directed by Architect. Install signs level, plumb, and at heights	(1.5 mm) in width.
ald otherwise be exposed.	indicated, with sign surfaces free from distortion and other defects in appearance.	E. Cutouts and Holes:
	<ul> <li>B. Wall-Mounted Signs:</li> <li>1. Two-Face Tape: Mount signs to smooth, non-porous surfaces, other than vinyl</li> </ul>	1. Undercounter Fixtures: Make cutouts for undercounter fixtures in shop using template or pattern furnished by fixture manufacturer. Form cutouts to smooth, even curves.
	2. Mechanical Fasteners: Use non-removable mechanical fasteners placed through predrilled holes.	a. Edge Detail: Vertical, slightly eased at top and bottom surfaces and projecting 3/16 inch (5 mm) into
		fixture opening.
		2. Counter-Mounted Fixtures: Prepare countertops in shop for field cutting openings for counter-mounted fixtures. Mark tops for cutouts and drill holes at corners of cutout locations. Make corner holes of largest
		radius practical.

ensure uniform spacing.

3.2 CLEANING

immediately.

items. 3.0 EXECUTION 3.1 INSTALLATION

A.

# ange of colors, textures, and pattern ogram certificates. Quality Certification Program.

ments and indicate on Shop Drawings.

3. Fittings: Drill countertops in ship for plumbing fittings, undercounter soap dispensers, and similar

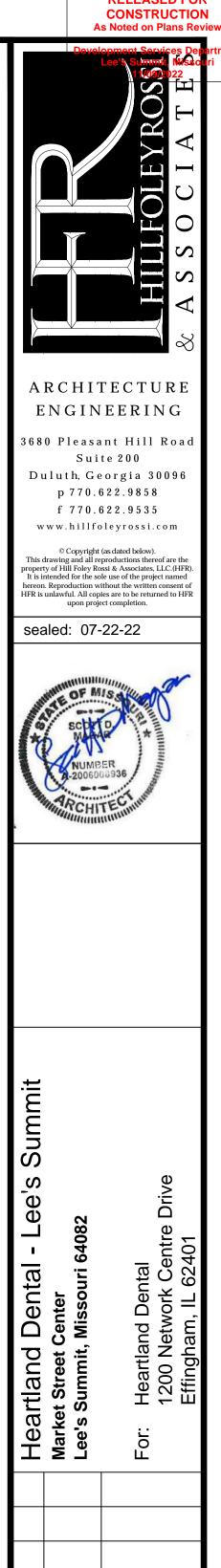
Install countertops over plywood subtops with a full spread of water-cleanable epoxy adhesive. B. Space seams with 1/16 inch (1.5 mm) gap for filling with grout sealant. Use temporary shims to

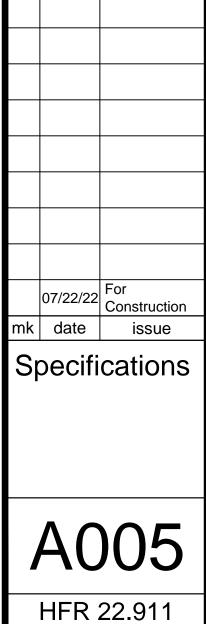
ensure uniform spacing and use clamps to eliminate lipping.C. Complete cutouts not finished in shop. Mask areas of countertops adjacent to cutouts while cutting. D. Install backsplash and end splashes by adhering to wall with water-cleanable epoxy adhesive. Leave 1/16 inch (1.5 mm) gap between countertop and splash for filling with sealant. Use temporary shims to

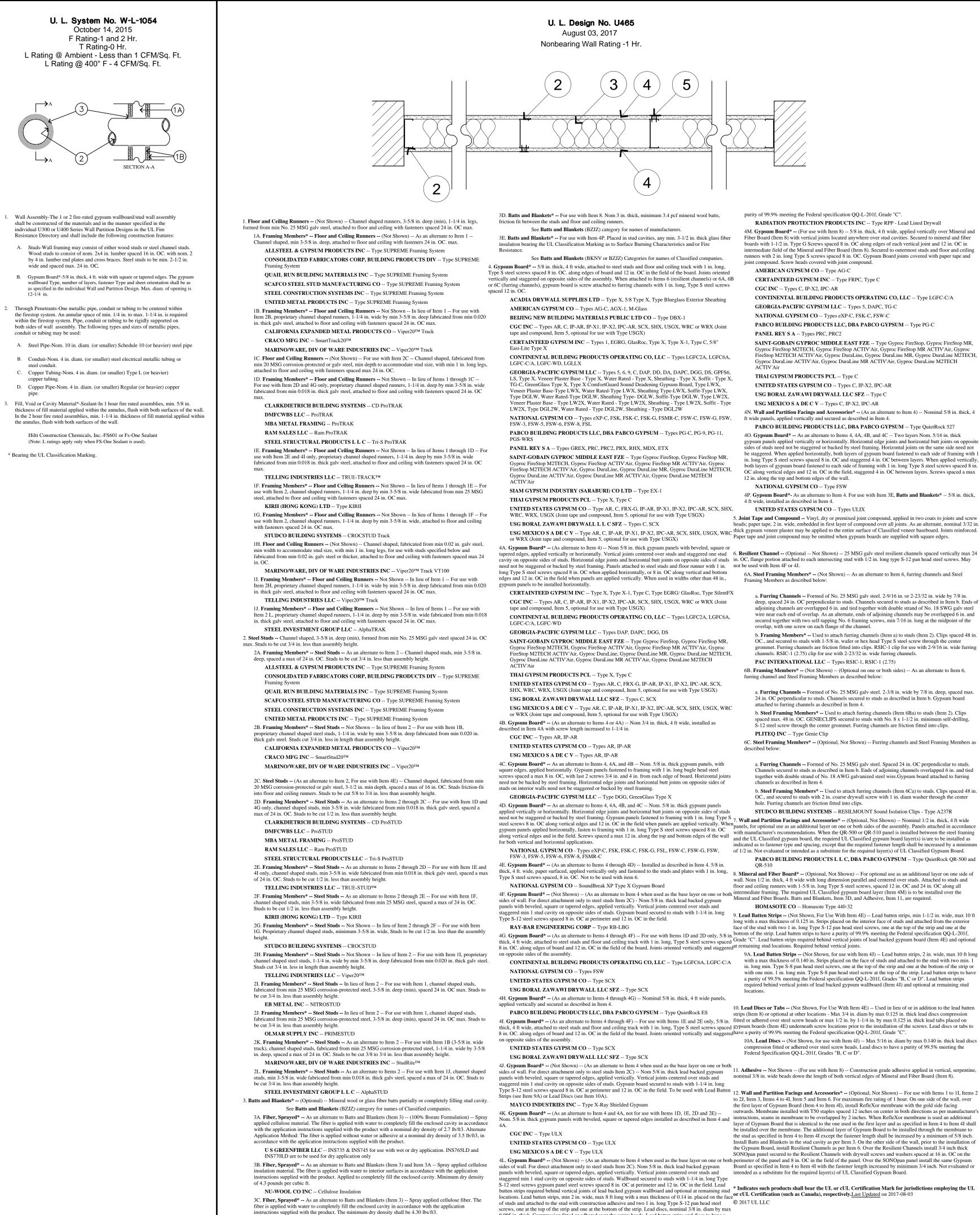
E. Grout seams to comply with ANSI A108.10. Tool grout uniformly and smoothly with plastic tool. F. Apply sealant to seams and to gap between countertops and splashes.

A. Clean countertops as work progresses. Remove adhesive, grout, mortar, and sealant smears

B. Clean stone countertops not less than six days after completion of sealant installation, using clean water and soft rags. Do not use materials or methods that could damage stone. C. Apply stone sealer to comply with stone producer's and sealer manufacturer's written instructions.







INTERNATIONAL CELLULOSE CORP -- Celbar-RL

0.085 in thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a

3E. Batts and Blankets\* -- For use with Item 4P. Placed in stud cavities, any min. 3-1/2 in. thick glass fiber

See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly. When attached to Items 6 (resilient channels) or 6A, 6B or 6C (furring channels), gypsum board is screw attached to furring channels with 1 in. long, Type S steel screws

ACADIA DRYWALL SUPPLIES LTD -- Type X, 5/8 Type X, Type Blueglass Exterior Sheathing

CERTAINTEED GYPSUM INC -- Types 1, EGRG, GlasRoc, Type X, Type X-1, Type C, 5/8"

CONTINENTAL BUILDING PRODUCTS OPERATING CO, LLC -- Types LGFC2A, LGFC6A,

LS, Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, G-C, GreenGlass Type X, Type X ComfortGuard Sound Deadening Gypsum Board, Type LWX, Veneer Plaster Base-Type LWX, Water Rated-Type LWX, Sheathing Type-LWX, Soffit-Type LWX Type DGLW, Water Rated-Type DGLW, Sheathing Type- DGLW, Soffit-Type DGLW, Type LW2X, Veneer Plaster Base - Type LW2X, Water Rated - Type LW2X, Sheathing - Type LW2X, Soffit - Type

PABCO BUILDING PRODUCTS LLC, DBA PABCO GYPSUM -- Types PG-C, PG-9, PG-11,

SAINT-GOBAIN GYPROC MIDDLE EAST FZE -- Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH

UNITED STATES GYPSUM CO -- Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX,

4A. Gypsum Board\* -- (As alternate to Item 4) -- Nom 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud 6. Resilient Channel -- (Optional -- Not Shown) -- 25 MSG galv steel resilient channels spaced vertically max 24 need not be staggered or backed by steel framing. Panels attached to steel studs and floor runner with 1 in. not be used with Item 4F or 4J. long Type S steel screws spaced 8 in. OC when applied horizontally, or 8 in. OC along vertical and bottom

CERTAINTEED GYPSUM INC -- Type X, Type X-1, Type C, Type EGRG/ GlasRoc, Type SilentFX CGC INC -- Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX (Joint

SAINT-GOBAIN GYPROC MIDDLE EAST FZE -- Type Gyproc FireStop, Gyproc FireStop MR, FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH

UNITED STATES GYPSUM CO -- Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX,

4C. Gypsum Board\* -- As an alternate to Items 4, 4A, and 4B -- Nom. 5/8 in. thick gypsum panels, with square edges, applied horizontally. Gypsum panels fastened to framing with 1 in. long bugle head steel ews spaced a max 8 in. OC, with last 2 screws 3/4 in. and 4 in. from each edge of board. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of

applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs gypsum panels applied horizontally, fasten to framing with 1 in. long Type S steel screws spaced 8 in. OC

NATIONAL GYPSUM CO - Types eXP-C, FSK, FSK-C, FSK-G, FSL, FSW-C, FSW-G, FSW,

4E. Gypsum Board\* -- (As an alternate to Items 4 through 4D) -- Installed as described in Item 4. 5/8 in.

sides of wall. For direct attachment only to steel studs Item 2C) - Nom 5/8 in. thick lead backed gypsum

8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered<sup>at</sup> remaining stud locations. Required behind vertical joints.

sides of wall. For direct attachment only to steel studs Item 2C) -- Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to studs with 1-1/4 in. long

4K. Gypsum Board\* -- (As an alternate to Item 4 and 4A, not for use with Items 1D, 1E, 2D and 2E) --

staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel © 2017 UL LLC

purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". RADIATION PROTECTION PRODUCTS INC -- Type RPP - Lead Lined Drywall 4M. Gypsum Board\* -- (For use with Item 8) -- 5/8 in. thick, 4 ft wide, applied vertically over Mineral and

Fiber Board (Item 8) with vertical joints located anywhere over stud cavities. Secured to mineral and fiber boards with 1-1/2 in. Type G Screws spaced 8 in. OC along edges of each vertical joint and 12 in. OC in intermediate field of the Mineral and Fiber Board (Item 8). Secured to outermost studs and floor and ceiling runners with 2 in. long Type S screws spaced 8 in. OC. Gypsum Board joints covered with paper tape and joint compound. Screw heads covered with joint compound. AMERICAN GYPSUM CO -- Type AG-C

CERTAINTEED GYPSUM INC -- Type FRPC, Type C

CGC INC -- Types C, IP-X2, IPC-AR CONTINENTAL BUILDING PRODUCTS OPERATING CO, LLC -- Type LGFC-C/A

GEORGIA-PACIFIC GYPSUM LLC -- Types 5, DAPC, TG-C NATIONAL GYPSUM CO -- Types eXP-C, FSK-C, FSW-C

PABCO BUILDING PRODUCTS LLC, DBA PABCO GYPSUM -- Type PG-C

PANEL REY S A -- Types PRC, PRC2

### SAINT-GOBAIN GYPROC MIDDLE EAST FZE -- Type Gyproc FireStop, Gyproc FireStop MR. Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL -- Type C UNITED STATES GYPSUM CO -- Types C, IP-X2, IPC-AR

USG BORAL ZAWAWI DRYWALL LLC SFZ -- Type C

USG MEXICO S A DE C V -- Types C, IP-X2, IPC-AR 4N. Wall and Partition Facings and Accessories\* -- (As an alternate to Item 4) -- Nominal 5/8 in. thick, 4

ft wide panels, applied vertically and secured as described in Item 4. PABCO BUILDING PRODUCTS LLC, DBA PABCO GYPSUM -- Type QuietRock 527 4O. **Gypsum Board\*** -- As an alternate to Items 4, 4A, 4B, and 4C -- Two layers Nom, 5/16 in, thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing. Horizontal joints on the same side need not be staggered. When applied horizontally, both layers of gypsum board fastened to each side of framing with 1 in, long Type S steel screws spaced 8 in. OC and staggered 4 in. OC between layers. When applied vertically both layers of gypsum board fastened to each side of framing with 1 in. long Type S steel screws spaced 8 in. OC along vertical edges and 12 in. OC in the field, staggered 4 in. OC between layers. Screws spaced a max

12 in. along the top and bottom edges of the wall. NATIONAL GYPSUM CO -- Type FSW

4P. Gypsum Board\*- As an alternate to Item 4. For use with Item 3E, Batts and Blankets\* -- 5/8 in. thick, 4 ft wide, installed as described in Item 4. UNITED STATES GYPSUM CO -- Types ULIX

5. Joint Tape and Compound -- Vinyl, dry or premixed joint compound, applied in two coats to joints and screw heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nominal 3/32 ir USG MEXICO S A DE C V -- Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced. <sup>•</sup> Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges.

Framing Members as described below:

cavity on opposite sides of studs. Horizontal edge joints and horizontal butt joints on opposite sides of studs in. OC, flange portion attached to each intersecting stud with 1/2 in. long type S-12 pan head steel screws. May 6A. Steel Framing Members\* -- (Not Shown) -- As an alternate to Item 6, furring channels and Steel

> a. Furring Channels -- Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel.

b. Framing Members\* -- Used to attach furring channels (Item a) to studs (Item 2). Clips spaced 48 in. OC., and secured to studs with 1-5/8 in. wafer or hex head Type S steel screw through the center mmet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels. PAC INTERNATIONAL LLC -- Types RSIC-1, RSIC-1 (2.75)

6B. Framing Members\* -- (Not Shown) -- (Optional on one or both sides) -- As an alternate to Item 6, furring channel and Steel Framing Members as described below:

a. Furring Channels -- Formed of No. 25 MSG galv steel, 2-3/8 in, wide by 7/8 in, deep, spaced may 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 4.

b. Steel Framing Members\* -- Used to attach furring channels (Item 6Ba) to study (Item 2), Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. PLITEQ INC -- Type Genie Clip

6C. Steel Framing Members\* -- (Optional, Not Shown) -- Furring channels and Steel Framing Members as described below: a. Furring Channels -- Formed of No. 25 MSG galv steel, Spaced 24 in. OC perpendicular to studs.

hannels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.Gypsum board attached to furring channels as described in Item 4. b. Steel Framing Members\* -- Used to attach furring channels (Item 6Ca) to studs. Clips spaced 48 in.

OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips. STUDCO BUILDING SYSTEMS -- RESILMOUNT Sound Isolation Clips - Type A237R

need not be staggered or backed by steel framing. Gypsum panels fastened to framing with 1 in. long Type S 7. Wall and Partition Facings and Accessories\* -- (Optional, Not Shown) -- Nominal 1/2 in. thick, 4 ft wide steel screws 8 in. OC along vertical edges and 12 in. OC in the field when panels are applied vertically. When panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the OR-500 or OR-510 panel is installed between the steel framin along vertical edges and in the field. Screws spaced a max 12 in. along the top and bottom edges of the wall and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board. PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM -- Type QuietRock QR-500 and

OR-510 41. Cypsun board - (1's an attende to item to be an attended to item to be attended to the stude and plates with 1 in. long, thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the stude and plates with 1 in. long, 8. Mineral and Fiber Board\* -- (Optional, Not Shown) -- For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to studs and floor and ceiling runners with 1-5/8 in. long Type S steel screws, spaced 12 in. OC and 24 in. OC along all 4F. **Gypsum Board\*** -- (Not Shown) -- (As an alternate to Item 4 when used as the base layer on one or both intermediate framing. The required UL Classified gypsum board layer (Item 4M) is to be installed over the sides of wall. For direct attachment only to steel stude Item 2C) - Nom 5/8 in. thick lead backed gypsum

HOMASOTE CO -- Homasote Type 440-32

Federal Specification QQ-L-201f, Grades "B, C or D".

long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the 4G. Gypsum Board\* -- (As an alternate to Items 4 through 4F) -- For use with Items 1D and 2D only, 5/8 in. bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum board (Item 4E) and optional

> 9A. Lead Batten Strips -- (Not Shown, for use with Item 4J) -- Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification OO-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4J) and optional at remaining stud

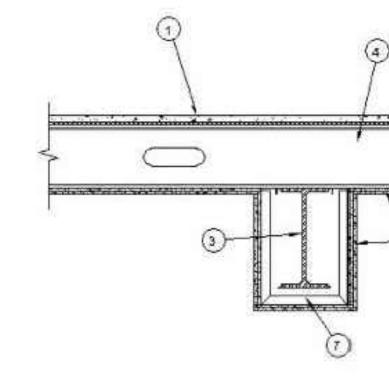
10. Lead Discs or Tabs -- (Not Shown, For Use With Item 4E) -- Used in lieu of or in addition to the lead batten strips (Item 8) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression

41. Gypsum Board\* -- (As an alternate to Items 4 through 4F) -- For use with Items 1E and 2E only, 5/8 in. fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed or thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced gypsum boards (Item 4E) underneath screw locations prior to the installation of the screws. Lead discs or tabs to 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggeredhave a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". 10A. Lead Discs -- (Not Shown, for use with Item 4J) -- Max 5/16 in. diam by max 0.140 in. thick lead discs npression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the

> 11. Adhesive -- Not Shown -- (For use with Item 8) -- Construction grade adhesive applied in vertical, serpentine, nominal 3/8 in. wide beads down the length of both vertical edges of Mineral and Fiber Board (Item 8).

Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten 12. Wall and Partition Facings and Accessories\* -- (Optional, Not Shown) -- For use with Items 1 to 11, Items 2 to 2J, Item 3, Items 4 to 4I, Item 5 and Item 6. For maximum fire rating of 1 hour. On one side of the wall, over the first laver of Gynsum Board (Item 4 to Item 4I), install RefleXor membrane with the gold side facing outwards. Membrane installed with T50 staples spaced 12 inches on center in both directions as per manufactur Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 4 and instructions, seams in membrane to be overlapped by 2 inches. When RefleXor membrane is used an addition layer of Gypsum Board that is identical to the one used in the first layer and as specified in Item 4 to Item 4I shall be installed over the membrane. The additional layer of Gypsum Board to be installed through the membrane to the stud as specified in Item 4 to Item 4I except the fastener length shall be increased by a minimum of 5/8 inch Install Batts and Blankets in the stud cavity as per Item 3. On the other side of the wall, prior to the installation the Gypsum Board, install Resilient Channels as per Item 6. Over the Resilient Channels install 3/4 inch thick SONOpan panel secured to the Resilient Channels with drywall screws and washers spaced at 16 in. OC on the 4L. Gypsum Board\* -- (Not Shown) -- (As an alternate to Item 4 when used as the base layer on one or both perimeter of the panel and 8 in. OC in the field of the panel. Over the SONOpan panel install the same Gypsun sides of wall. For direct attachment only to steel studs Item 2C). Nom 5/8 in. thick lead backed gypsum Board as specified in Item 4 to Item 4I with the fastener length increased by minimum 3/4 inch. Not evaluated or panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face



Flooring System -- The flooring system shall consist of one of the following: System No. 1

Finish Flooring -- Min 19/32 in. thick wood structural panels, min grade "Underlayment" or "Single-Floor" Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered. Long edges shall be T & G.

System No. 2 Subflooring -- Min 15/32 in. thick plywood or min 7/16 in. thick oriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered.

Vapor Barrier -- (Optional) - Nom 0.010 in. thick commercial rosin-sized building paper. Finish Flooring -- Min 19/32 in. thick wood structural panels, min grade "Underlayment" or "Single-Floor" Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered. Long edges shall be T & G.

### System No. 3

Subflooring -- Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered Vapor Barrier -- (Optional) - Nom 0.010 in. thick commercial asphalt saturated felt. Finish Flooring - Floor Topping Mixture\* -- Min 3/4 in. thickness of floor topping mixture having a

minimum compressive strength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design. UNITED STATES GYPSUM CO -- Types LRK, HSLRK, CSD

USG MEXICO S A DE C V -- Types LRK, HSLRK, CSD

Floor Mat Materials\* -- (Optional) - Floor mat material loose laid over the subfloor. Refer to manufacturer's structions regarding the minimum thickness of floor topping over each floor mat material UNITED STATES GYPSUM CO -- Types SAM, LEVELROCK® Brand Sound Reduction Board LEVELROCK® Brand Floor Underlayment SRM-25

Alternate Floor Mat Materials\* -- (Optional) - Nom 3/8 in. thick floor mat material loose laid over the subfloor. Floor topping thickness shall be as specified under Floor Topping Mixture. GRASSWORX LLC -- Type SC50

## System No. 4

Subflooring -- Min 19/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered Vapor Barrier -- (Optional) - Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture\* -- Min 1-1/2 in. thickness of floor topping mixture having a mir compressive strength of 1000 psi and a cast density of 100 plus or minus 5 pcf. Foam concentrate mixed 40:1 by volume with water and expanded at 100 psi through nozzle. Mixture shall consist of 1.4 cu feet of preformed foam concentrate to 94 lbs Type I Portland cement, 300 lbs of sand with 5-1/2 gal of water. ELASTIZELL CORP OF AMERICA -- Type I

## System No. 5

Subflooring -- Min 19/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered. **Vapor Barrier** -- (Optional) - Nom 0.030 in. thick commercial asphalt saturated felt. Floor Mat Materials\* -- (Optional)-- Floor mat material nom 5/64 in. (2mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1 in. of

floor-topping mixture.

ECORE INTERNATIONAL INC -- Type QTscu 4002 HACKER INDUSTRIES INC -- Type Hacker Sound-Mat

Alternate Floor Mat Materials - (Optional) -- Floor mat material nom 1/4 in. (6mm) thick adhered to ubfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1-1/4 in. (32mm) of floor-topping mixture.

ECORE INTERNATIONAL INC -- Type OTrbm 3006-3 HACKER INDUSTRIES INC -- Type Hacker Sound-Mat II.

Firm-Fill 4010, Firm-Fill High Strength, Gyp-Span Radiant

plywood or strength axis of panel to be perpendicular to joists with joints staggered.

Vapor Barrier -- (Optional) - Nom 0.030 in. thick commercial asphalt saturated felt.

plywood or strength axis of panel to be perpendicular to joists with joints staggered.

Vapor Barrier -- (Optional) - Nom 0.030 in. thick commercial asphalt saturated felt.

plywood or strength axis of panel to be perpendicular to joists with joints staggered.

Vapor Barrier -- (Optional) - Nom 0.030 in. thick commercial asphalt saturated felt.

MAXXON CORP -- Type D-C, GC, GC2000, L-R, T-F, CT, SS

material. Floor topping thickness shall be min 1-1/2 in.

RAPID FLOOR SYSTEMS -- Types RF, RFP, RFU, RFR, Ortecrete

Floor Mat Materials\* -- (Optional) - Floor mat material loose laid over the subfloor.

ULTRA QUIET FLOORS -- Types UQF-A, UQF-Super Blend, UQF-Plus 2000.

to 1.9 cu ft of sand.

5-1/2 gal of water.

LITE-CRETE INC -- Type I.

mixture to 2.1 cu ft of sand.

or specific mix design.

Acousti-Mat SD.

Alternate Floor Mat Materials - (Optional) -- Floor mat material nom 1/8 in. (3mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 3/4 in. (19mm) HACKER INDUSTRIES INC -- FIRM-FILL SCM 125

Alternate Floor Mat Materials - (Optional) -- Floor mat material nom 1/4 in. (6mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1 in. (25mm)

HACKER INDUSTRIES INC -- Type FIRM-FILL SCM 250, Quiet Qurl 55/025 Alternate Floor Mat Materials - (Optional) -- Floor mat material nom 3/8 in. (10mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/4 in. (32mm)

HACKER INDUSTRIES INC -- FIRM-FILL SCM 400, Quiet Qurl 60/040 Alternate Floor Mat Materials - (Optional) -- Floor mat material nom 3/4 in. (19mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in. (38mm)

Metal Lath (Optional) -- For use with 3/8 in. (10 mm) floor mat materials, 3/8 in. expanded steel diamond

placement of the metal lath. When metal lath is used, floor topping thickness a nom 1-1/4 in. over the floor

Finish Flooring - Floor Topping Mixture\* -- Min 3/4 in. thickness of floor topping mixture having a min

HACKER INDUSTRIES INC -- Firm-Fill Gypsum Concrete, Firm-Fill 2010, Firm-Fill 3310,

System No. 6

Subflooring -- Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of

Finish Flooring - Floor Topping Mixture\* -- Min 1 in. thickness of floor topping mixture having a min

by volume with water and expanded at 100 psi through nozzle. Mixture shall consist of 1.4 cu feet of

System No. 7

Subflooring -- Min 19/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of

Finish Flooring - Floor Topping Mixture\* -- Min 3/4 in. thickness of floor topping mixture having a min

ompressive strength of 1000 psi. Mixture shall consist of 5 to 8 gal of water to 80 lbs of floor topping

System No. 8

Finish Flooring - Floor Topping Mixture\* -- Min 3/4 thickness of floor topping mixture having a

Subflooring -- Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of

minimum compressive strength of 1500 psi. Refer to manufacturer's instructions accompanying the material

MAXXON CORP -- Type Acousti-Mat I, Acousti-Mat II, Acousti-Mat II HP, Enkasonic 9110,

Enkasonic 9110 HP, Acousti-Mat 3, Acousti-Mat 3 HP, Acousti-Mat LP, Acousti-Mat LP-R,

of floor topping over each floor mat material, primers, and use of crack suppression reinforcement.

Metal Lath -- (For use with or as an alternate to Crack Suppression Mat (CSM) or Maxxon Reinforcen

(MR)) -- 3/8 in. expanded galvanized steel diamond mesh, 3.4 lbs/sq yd loose laid over the floor mat

System No. 9

in. OC.

MAXXON CORP -- Crack Suppression Mat (CSM) or Maxxon Reinforcement (MR)

Floor Mat Reinforcement -- (Optional) - Refer to manufacturer's instructions regarding minimum thickness

compressive strength of 1000 psi and a cast density of 100 plus or minus 5 pcf. Foam concentrate mixed 40:1

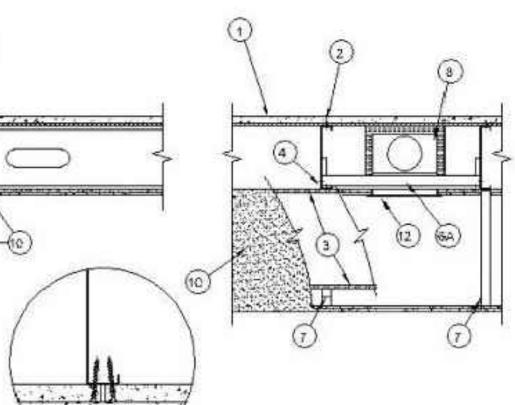
preformed foam concentrate to 94 lbs Type I Portland cement, 62.5 lbs of Pea Gravel, 312.5 lbs of sand with

compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture

mesh, 3.4 lbs/sq vd placed over the floor mat material. Hacker Floor Primer to be applied prior to the

HACKER INDUSTRIES INC -- Type FIRM-FILL SCM 750, Quiet Qurl 65/075

### U. L. Design No. L524 August 31, 2017 Unrestrained Assembly Rating -1 Hr.



First Layer End Joint Debi

# System No. 10 grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered. Finish Flooring - Mineral and Fiber Board\* -- Min 1/2 in. thick, supplied in sizes ranging from 3 ft by 4 ft 5. Joist Stiffeners -- (Not Shown) - Channel-shaped stiffeners, made from min No. 18 MSG galv steel. Stiffe

### to 8 ft by 12 ft. All joints to be staggered a min of 12 in. with adjacent sub-floor joints. HOMASOTE CO -- Type 440-32 Mineral and Fiber Board

System No. 11 plywood or strength axis of panel to be perpendicular to joists with joints staggered.

Vapor Barrier -- (Optional) - Nom 0.030 in. thick commercial asphalt saturated felt

by volume with water and expanded at 100 psi through nozzle. Mixture shall consist of 1.2 cu feet of reformed foam concentrate to 94 lbs Type I Portland cement, 300 lbs of sand with 5-1/2 gal of water. AERIX INDUSTRIES -- Floor Topping Mixture

System No. 12

Subflooring -- Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered. Vapor Barrier -- (Optional) - Nom 0.030 in. thick commercial asphalt saturated felt

Finish Flooring - Floor Topping Mixture\* -- Min 3/4 or 1 in. thickness of floor topping mixture for 19/32 or 15/32 in. thick wood structural panels respectively, having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design. ALLIED CUSTOM GYPSUM -- Accu-Crete, AccuRadiant, AccuLevel G40 and AccuLevel SD30.

15/32 in. thick wood structural panels respectively AccuQuiet D-18, Type AccuQuiet D25 and Type AccuQuiet DX38.

System No. 13 Subflooring -- 15/32 or 19/32 in. thick wood structural panels, min. grade "C-D" or "Sheathing". Face grain Joints are to be staggered between layers. of plywood or strength axis of panels to be perpendicular to joists with joints staggered

Vapor Barrier -- (Optional) -- Nom 0.030 in. thick commercial asphalt saturated felt. Finish Flooring -- Floor Topping Mixture\* -- Min 3/4 or 1 in. thickness of floor topping mixture for 19/32 or 15/32 in. thick wood structural panels respectively, having a min compressive strength of 2100 psi. Refer

to manufacturer's instructions accompanying the material for specific mix design.

Subflooring -- Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered. Vapor Barrier -- (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Vapor Barrier -- (Optional) - Nom 0.010 in. thick commercial rosin-sized building paper Finish Flooring\* -- Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance. See Floor- and Roof-Topping Mixtures (CCOX) category for names of

Classified Companies. Floor Mat Materials\* -- (Optional) - Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in. KEENE BUILDING PRODUCTS CO INC -- Type Quiet Qurl 55/025 and Quiet Qurl 55/025 N

Alternate Floor Mat Materials\* -- (Optional) - Floor mat material Nom. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in. **KEENE BUILDING PRODUCTS CO INC** -- Type Quiet Qurl 60/040 and Quiet Qurl 60/040 N

Alternate Floor Mat Materials\* -- (Optional) - Floor mat material Nom. 3/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1-1/2 in. KEENE BUILDING PRODUCTS CO INC -- Type Quiet Qurl 65/075, Quiet Qurl 65/075 N

Alternate Floor Mat Materials\* -- (Optional) - Floor mat material Nom. 1/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in. **KEENE BUILDING PRODUCTS CO INC** -- Type Quiet Qurl 52/013 and Quiet Qurl 52/013 N Alternate Floor Mat Materials\* -- (Optional) - Floor mat material Nom. 1/4 in. entangled net core with a

compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in. KEENE BUILDING PRODUCTS CO INC -- Quiet Qurl 55/025 MT and Quiet Qurl 55/025 N MT

System No. 15 Subflooring -- Min 23/32 in. thick T&G wood structural panels, min grade "Underlayment" or "Single-Floor". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with end joints staggered 4 ft. Panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength

nay be substituted for the 6d nails. pendicular to joists. Gypsum board secured with 1 in. long No. 6 Type W bugle head steel screws spaced 12 in. OC and located a min of 1-1/2 in. from side and end joints. The joints of the gypsum board are to be staggered a minimum of 12 inches from the joints of the subfloor.

GEORGIA-PACIFIC GYPSUM LLC -- Type DS Floor Mat Materials\* -- (As an alternate to the single layer gypsum board) - Floor mat material loose laid

over the subfloor. MAXXON CORP -- Type Acousti-Mat I, Acousti-Mat II, Acousti-Mat II HP, Acousti-Mat 3, Acousti-Mat 3 HP, Enkasonic 9110, Enkasonic 9110 HP, Acousti-Mat LP-R.

Gypsum Board\* -- (For use when floor mat is used) Two layers of nom 5/8 in. thick, 4 ft wide gypsum board, installed with long dimension perpendicular to joists on top of the floor mat material. Gypsum board scured to each other with 1 in. long No. 6 Type G bugle head steel screws spaced 12 in. OC and located a min of 1-1/2 in. from side and end joints. The joints of the gypsum board are to be staggered a minimum of 12 inches in between layers and from the joints of the subfloor.

GEORGIA-PACIFIC GYPSUM LLC -- Type DS System No. 16

Subflooring -- Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered Vapor Barrier -- (Optional) -- Nom 0.030 in. thick commercial asphalt saturated fel

Finish Flooring - Floor Topping Mixture\* -- Min 3/4 or 1 in. thickness of floor topping mixture for 19/32 © 2017 UL LLC or 15/32 in. thick wood structural panels respectively, having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

DEPENDABLE LLC -- GSL M3.4, GSL K2.6, GSL-CSD and GSL RH Floor Mat Materials\* -- (Optional) - Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC -- Type Quiet Qurl 55/025 and Quiet Qurl 55/025 N Alternate Floor Mat Materials\* -- (Optional) - Floor mat material Nom. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

**KEENE BUILDING PRODUCTS CO INC** -- Type Quiet Qurl 60/040 and Quiet Qurl 60/040 N Alternate Floor Mat Materials\* -- (Optional) - Floor mat material Nom. 3/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1-1/2 in.

KEENE BUILDING PRODUCTS CO INC -- Type Quiet Qurl 65/075, Quiet Qurl 65/075 N Alternate Floor Mat Materials\* -- (Optional) - Floor mat material Nom. 1/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

**KEENE BUILDING PRODUCTS CO INC** -- Type Quiet Qurl 52/013 and Quiet Qurl 52/013 N Alternate Floor Mat Materials\* -- (Optional) - Floor mat material Nom. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC -- Quiet Qurl 55/025 MT and Quiet Qurl 55/025 N MT 2. Flooring Fasteners -- (Not Shown) - The subflooring (first layer) of each floor system and finish flooring of System No. 1 are to be fastened to the steel joists with Type S12 by 1-15/16 in. long self-drilling, pilot point, steel screws. The screws are to be spaced 6 in, OC around the perimeter of the floor and at all end (butt) joints of the panels. Spacing in the field to be 10 in. OC. For flooring System No. 2, the finish flooring is to be fastened to the subflooring with Type S12 by 2 in. long steel screws spaced 6 in. OC around the perimeter of the floor and at all end (butt) joints of the finish flooring panels. Spacing in the field to be 10 in. OC with rows of screws spaced 16

3. Structural Steel Member -- Min W8 x 15 wide flange steel beam. 4. Steel Joists -- The joists are channel-shaped, min 7 in. deep with min 1-5/8 in. wide flanges and 1/2 in. long fening flanges. The joists are fabricated from min No. 18 MSG galv steel. Min yield strength of steel is ei Subflooring -- Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick plywood or 33,000 or 40,000 psi with corresponding max working stress of 20,000 and 24,000 psi. Joists spaced max 24 in min 7/16 in. thick oriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing". Face OC. At joist splices bearing on supports, joists are overlapped a min of 3 in. When ceiling damper (Item 8) is used, min joist depth is 14 in.

> are 6-13/16 in. long, 3-1/2 in. deep with 1-5/8 in. flanges and 1/2 in. stiffening flanges. The joist stiffeners are used at all bearing locations of the joists. 6. Joist Bridging -- (Not Shown) - Installed immediately after joists are erected and before construction loads

applied. The bridging consisting of joist section cut to length and placed between outer supports, adjacent to Subflooring -- Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of openings and at mid span with 8 ft OC max spacing. Bridging channels are screw-attached at each end to joist webs using angle clips. V-bracing of 1-1/2 in. by 20-gal galvanized steel is screw-attached to bottom joist fla between bridging channel

Finish Flooring - Floor Topping Mixture\* -- Min 1-1/2 in. thickness of floor topping mixture having a min 6A. Horizontal Joist Bridging -- Used in lieu of Item 6 in same joist bay as ceiling damper (Item 8), when conservations are a set of 1000 mixture with a set compressive strength of 1000 psi and a cast density of 100 plus or minus 5 pcf. Foam concentrate mixed 40:1 by volume with water and expanded at 100 psi through nozel. Mixture shall consist of 1 2 cu feet of 7. Beam Cage -- The cage used to support the gypsum board beam protection is fabricated from No. 24 MSG

electrogalvanized steel angle with 7/8 by 1-3/8 in. legs and No. 25 MSG, electrogalvanized steel channel stud 2-1/2 in. wide with 1 in. legs. Angles are fastened to the steel joists using 1/2 in. pan head steel sheet metal scree 8. Ceiling Damper\* -- (Optional) - Max nom area shall be 198 sq in. Max rectangular size shall be 12 in. wide b 16-1/2 in. long. Max height of damper shall be 8-3/4 in. Aggregate damper openings shall not exceed 99 sq in. pe 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provid with the damper. A steel grille (Item 13) shall be installed in accordance with installation instructions.

RUSKIN COMPANY -- Model CFD7 9. Ceiling Damper Support -- (Not Shown) - Provided with ceiling damper. Support secured to ceiling dampe and steel joists in accordance with installation instructions provided with ceiling damper. 10. Gypsum Board\* -- For Ceiling - Two layers of 1/2 in. thick gypsum board installed with long dimension perpendicular to joists. Base layer attached to steel joists using 1 in. long, Type S12 bugle head steel screws Alternate Floor Mat Material\* - (Optional) - Floor mat material nominal 2 - 9.5 mm thick loose laid over spaced 8 in. OC along butt joints and 12 in. OC in field along the joists. Butt joints to occur beneath joists with the subfloor. Floor topping shall be a min of 3/4 in. or 1 in. thickness of floor topping mixture for 19/32 or screws located 1/2 in. for the butt joints. Outer layer attached to assembly using 1-1/2 in. long, Type G bugle hea steel screws spaced 8 in, OC along butt joints and with 1-5/8 in, long, Type S12 bugle head steel screws space ALLIED CUSTOM GYPSUM -- Type AccuQuiet P80, Type AccuQuiet C40, AccuQuiet D13, Type in. OC in the field along the joists. Butt joints of outer layer to occur between joists with screws located 3/4 in from the butt joints. Edge joints to be staggered between layers. For Beam - Two layers of 1/2 in. thick gypsun board fastened to beam cage. Inner layer secured using 1 in. long, Type S12 bugle head steel screws spaced 1

OC and outer layer fastened to cage using 1-5/8 in. long, Type S12 bugle head steel screws spaced 12 in. OC. ACADIA DRYWALL SUPPLIES LTD -- Type C AMERICAN GYPSUM CO -- Type AG-C

CERTAINTEED GYPSUM INC -- Type FRPC, Type C CGC INC -- Type C, IP-X2 CONTINENTAL BUILDING PRODUCTS OPERATING CO, LLC -- Type LGFC-C/A GEORGIA-PACIFIC GYPSUM LLC -- Types 5, DAPC, TG-C NATIONAL GYPSUM CO -- Types eXP-C, FSK-C, FSW-C PABCO BUILDING PRODUCTS LLC, DBA PABCO GYPSUM -- Type PG-C PANEL REY S A -- Type PRC THAI GYPSUM PRODUCTS PCL -- Type C

UNITED STATES GYPSUM CO -- Type C, IP-X2 USG BORAL ZAWAWI DRYWALL LLC SFZ -- Type C USG MEXICO S A DE C V -- Type C, IP-X2

. Steel Framing Members\* -- As an alternate to the direct attachment of the Gypsum Board\* (Item 10), Stee ming Members\* and Gypsum Board\* (Item 12) may be installed beneath the bottom flange of the steel be

a. Main Runners -- Nom 12 ft long, with 15/16 in. or 1-1/2 in. wide face, spaced 4 ft OC, installed perpendicular to steel beam. Main runners hung a min of 2 in. below bottom chord of steel beam and se to steel joists with No. 12 SWG galv steel wire, spaced a max of 48 in, OC. b. Cross Tees or Channels -- Nom 4 ft long cross tees, with 15/16 in. or 1-1/2 in. wide face, or nom 4 ft cross channels, with 1-1/2 in. wide face, either spaced 16 in. OC, installed perpendicular to the main run Additional cross tees or channels used 8 in from each side of butted sypsum board end joints. The cross to or channels may be riveted or screw-attached to the wall angle or channel to facilitate the ceiling installa

c. Wall Angles or Channels -- Used to support steel framing member ends and for screw-attachment of the gypsum board. Painted or galvanized steel angles with 1 in. legs or channels with 1 in. legs and 1-9/16 in. deep, attached to walls at perimeter of ceiling with fasteners 16 in. OC. CGC INC -- Type DGL or RX

USG INTERIORS LLC -- Type DGL or RX.

2. Gypsum Board\* -- Two layers of nom 1/2 in. thick by 48 in. wide gypsum board for use with Steel Fra Members\*. Base layer installed with long dimension perpendicular to cross tees with side joints centered al main runners and end joints centered along cross tees. Base layer fastened to cross tees with 1-1/4 in. long Ty bugle-head steel screws spaced 8 in. OC along butted end joints and 12 in. OC in the field of the board. End jo of adjacent gypsum board sheets shall be staggered not less than 4 ft OC. Outer layer attached to the cross tee through inner layer using 1-7/8 in, long Type S bugle-head steel screws spaced 8 in, OC at butted end joints ar in. OC in the field. Butted end joints to be centered along cross tees and be offset a min of 32 in. from end joint

of inner layer. Rows of screws on both sides of butted end joints of each layer shall be located 3/8 to 1/2 in. fro Gypsum Board\* -- One layer of nom 5/8 in. thick, 4 ft wide gypsum board, installed with long dimension end joints. Butted side joints of outer layer to be offset a min of 18 in. from butted side joints of inner layer. CGC INC -- Type C, IP-X2. UNITED STATES GYPSUM CO -- Type C, IP-X2.

USG BORAL ZAWAWI DRYWALL LLC SFZ -- Type C

USG MEXICO S A DE C V -- Type C, IP-X2.

13. Grille -- Steel grille, installed in accordance with the installation instructions provided with the ceiling 14. Discrete Products Installed in Air-handling Spaces\* -- Automatic Balancing Valve/Damper -- (Not Sh

Optional) -- For use with item 8, Ruskin Company's Model CFD7 damper (CABS). Ceiling damper to be automatic balancing valve/damper manufacturer.

METAL INDUSTRIES INC -- Model ABV-4, ABV-5, ABV-6 \* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the U or cUL Certification (such as Canada), respectively.

Last Updated on 2017-

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HFR 22.911



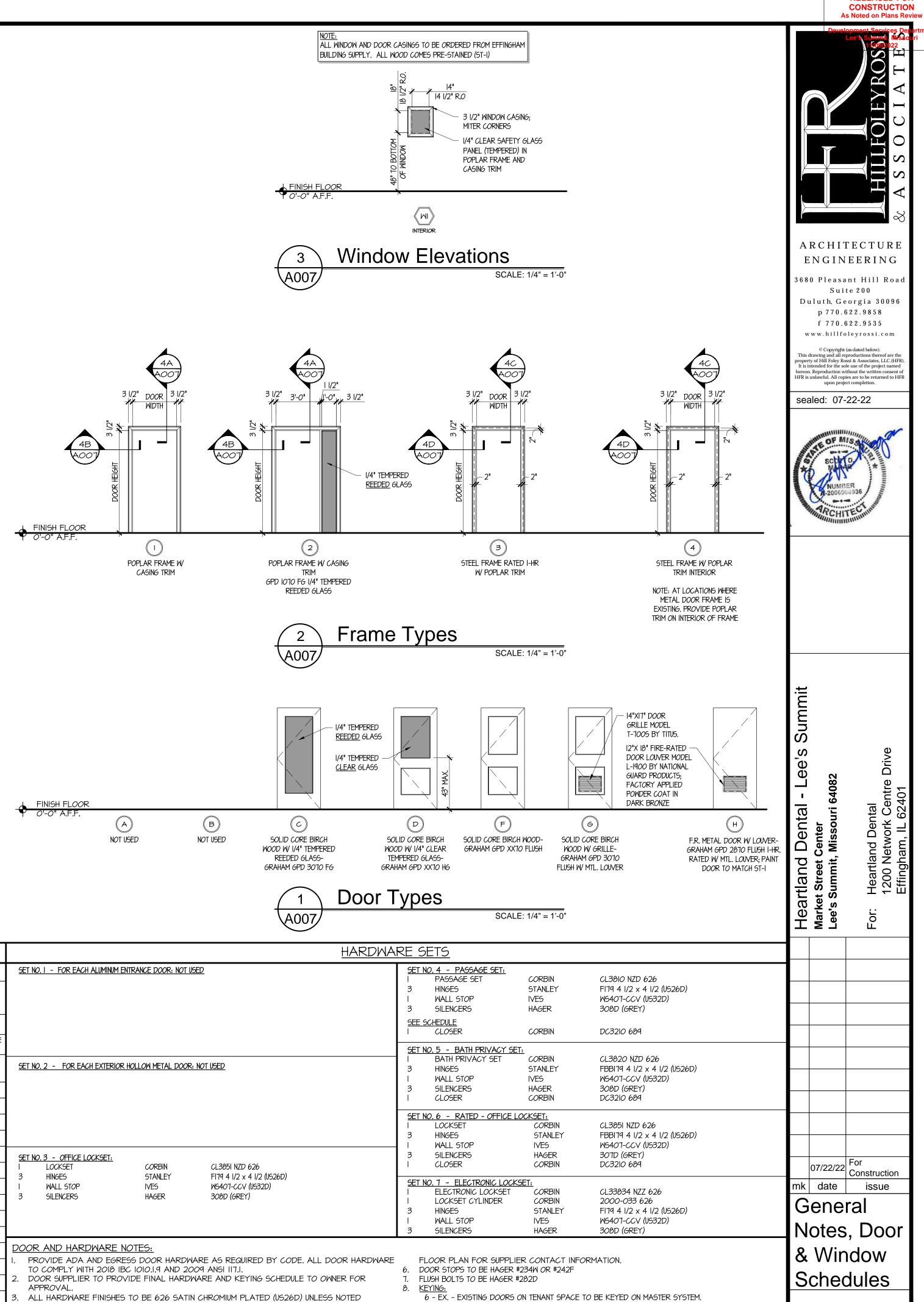


**RELEASED FOR** CONSTRUCTION As Noted on Plans Revie

ABBREVIA	ATIONS:						
A.F.F.	ABOVE FINISH		MFR.	MANUFACTURER			
A.P. A.C.P.	ACCESS PANE ACOUSTICAL C		MAS. M.O.	MASONRY MASONRY OPENING			
A.B. ARCH.	ANCHOR BOLT		MAX. M.E.P.	MAXIMUM MECH./ELEC./PLUMB.			
A.D.	AREA DRAIN		MECH. M.D.F.	MECHANICAL			
B.U. ROD BSMT.	BACK-UP ROD BASEMENT		MTL.	MEDIUM DENSITY FIBERBOARD METAL			
BM. B.M.	BEAM BENCH MARK		MIN. MISC.	MINIMUM MISCELLANEOUS			
BLKG. BD.	BLOCKING BOARD		MOD. MOD. BIT.	MODIFIED MODIFIED BITUMEN			
BOT.	BOTTOM		M.S.L. N.A.	MEAN SEA LEVEL NOT APPLICABLE			
BLDG. B.L.	BUILDING BUILDING LINE		N/A	NOT APPLICABLE			
B.U.R. B.G.	BUILT-UP ROOF BUMPER GUAR		N.I.C. N.T.S.	NOT IN CONTRACT NOT TO SCALE			
C.I.P. CLG.	CAST IN PLAC CEILING	E	O.C. OPNG.	ON CENTER OPENING			
CEM. CTR.	CEMENT CENTER		0PP. 0.H.	OPPOSITE OPPOSITE HAND			
C.L.	CENTER LINE		0.D.	OVER HEAD OUTSIDE DIAMETER			
CER. C.T.	CERAMIC CERAMIC TILE			OVERFLOW DRAIN			
COL. CONC.	COLUMN CONCRETE		O.A. PTD.	OVER ALL PAINTED			
C.M.U. CONST.	CONCRETE MA		P.LAM. PREFAB.	PLASTIC LAMINATE PREFABRICATED			
CONT. CONTR.	CONTINUOUS		P.T. P.L.	PRESSURE TREATED PROPERTY LINE			
C.J.	CONTROL JOIN	IT	PLUMB.	PLUMBING			
COORD. C.G.	COORDINATE CORNER GUAR	D	PLYWD. P.C.	PLYWOOD PRECAST CONCRETE			
DET. DIA.	DETAIL DIAMETER		RECP.	PORTLAND CEMENT RECEPTACLE			
DIM. D.S.	DIMENSION		R.C.P. REF.	REFLECTED CEILING PLAN REFER OR REFERENCE			
DWG.	DOWN SPOUT DRAWING		REINF.	REINFORCING			
DN. EA.	DOWN EACH		REQ'D. R.	REQUIRED RISER			
E.W. ELEC.	EACH WAY ELECTRIC		RAD. R.D.	RADIUS R <i>OO</i> F DRAIN			
E.W.C.	ELECTRIC WAT	ER COOLER	RM. R.O.	ROOM ROUGH OPENING			
EL. ELEV.	ELEVATION ELEVATION		RW.	RED WOOD			
EQ. EQMT.	EQUAL EQUIPMENT		S.A.B. SCHED.	SOUND ATTENUATION BLANKET SCHEDULE			
EX. EXIST.	EXISTING		SECT. SHT.	SECTION SHEET			
E.J. EXT.	EXPANSION JO EXTERIOR	INT	51M. 5.0.G.	SIMILAR SLAB <i>O</i> N <i>G</i> RADE			
FIN.	FINISH		SPEC.	SPECIFICATION			
F.F. FLASH.	FINISH FL <i>OO</i> R FLASHING		5Q. 5.5.	SQUARE STAINLESS STEEL			
FLR. F.D.	FLOOR FLOOR DRAIN		S.P. STD.	STAND PIPE STANDARD			
FT. F.R.P.	F <i>OO</i> T FIRE RESISTAN	IT PANELS	STL. STRVC.	STEEL STRUCTURAL			
F.V.	FIELD VERIFY		SYS.	SYSTEM			
GALV. G.L.	GALVANIZED GRID LINE		THK. T.₿ <i>G</i> .	THICK TONGUE & GROOVE			
ga. Gen.	GAUGE GENERAL		T.C. T. <i>O</i> .P.	TOP OF CURB TOP OF PARAPET			
GL. GYP. BD.	GLASS GYPSUM BOAR	D	T.O.S. T.O.STL.	TOP OF SLAB TOP OF STEEL			
HDBD. HDW.	HARDBOARD HARDWARE	-	Т.М.	TOP OF WALL			
HDWD.	HARDWOOD		T.S. T.	TRANSITION STRIP TREAD			
HT. H.P.	height High point		TYP. U.N. <i>O.</i>	TYPICAL UNLESS NOTED OTHERWISE			
H.M. HOR.	HOLLOW META HORIZONTAL	L	V.GR.	"V"-GROOVE			
H.B.	HOSE BIB		VERT. VEST.	VERTICAL VESTIBULE			
HR. I.D.	HOUR INSIDE DIAMET	ER	V.W.C. V.C.T.	VINYL WALL COVERING VINYL COMPOSITION TILE			
INSUL. INT.	INSULATION INTERIOR		W.P. WP.	WATERPROOF (ING) WORK POINT			
JT. LAV.	JOINT LAVATORY		W.W.M.	WELDED WIRE MESH			
LT.	LIGHT		W.F. W/	WIDE FLANGE WITH			
LG. LOC.	LONG LOCATION		W/O WD.	WITHOUT WOOD			
LLH. LLV.	LONG LEG HOF LONG LEG VEF		W.W.F.	WELDED WIRE FABRIC			
L.P.	LOW POINT						
<u>SYMBOL L</u>	<u>EGENU:</u>						
SHEET RE	EFERENCE		A0	00			
	NG TITLE	$\overline{\cdot}$					
		· ·		SCALE: 1/4" = 1'-0"			
				3			_
	PLAN DETAIL		(	AlOI	DOOR		
& DETAIL RI	LTEKENCE		ĺ	ل	NO.	ROOM NAME	
					01	EXISTING FRONT ENTRANCE	3'-0
GECTION		   F			02	EXISTING REAR EGRESS	3'-(
SECTION	REFERENCE	1		A301			
			لر		03	WAITING ROOM - RM. 101	3'-0
ELEVATIC	ON MARKER				04	WOMEN'S RESTROOM - RM. 105	3'-(
			(450	03	05	MEN'S RESTROOM - RM. 104	3'-0
					06	TREATMENT SUITE I - RM. III	2'-8
EQUIPMEN	T KEYNOTE		(A-		ГО	TREATMENT SUITE I - RM. III	3'-(
			E	-1	08	DOCTOR'S OFFICE - RM. 112	3'-0
LINIOH K	(EYNOTE				09	SUPPLIES CLOSET RM. 113	3'-0
PARTITIC	ON TYPE		P-2	 	IOA	EQUIPMENT- RM. 115A	3'-0
			L <sup>1 – 2</sup>	]	10B	LAZUNDRY- RM. 115B	3'-0
DOOR RE	FERENCE		02	)	П	BREAK ROOM - RM. 117	3'-0
					12	STAFF RESTROOM - RM. 116	3'-0
WINDOW R	REFERENCE		(M4)	/	13	TREATMENT SUITE 2 - RM. 118	2'-8
CEILING TY	PE & HEIGHT		A 0'	-0"	4	TREATMENT SUITE 2 - RM. 118	3'-0
					15	SUPPLIES CLOSET - RM. 120	3'-0
ELEVAT	ION LINE	-	BEARING HEI	GHT	16	I.T RM. 125	3'-0
					17	N2O - RM. 126	2'-8
				}	IB	BUSINESS - RM. 102	3'-0
REVISION	I NUMBER			}	19	OFFICE - RM. 128	3'-0
				un	1		

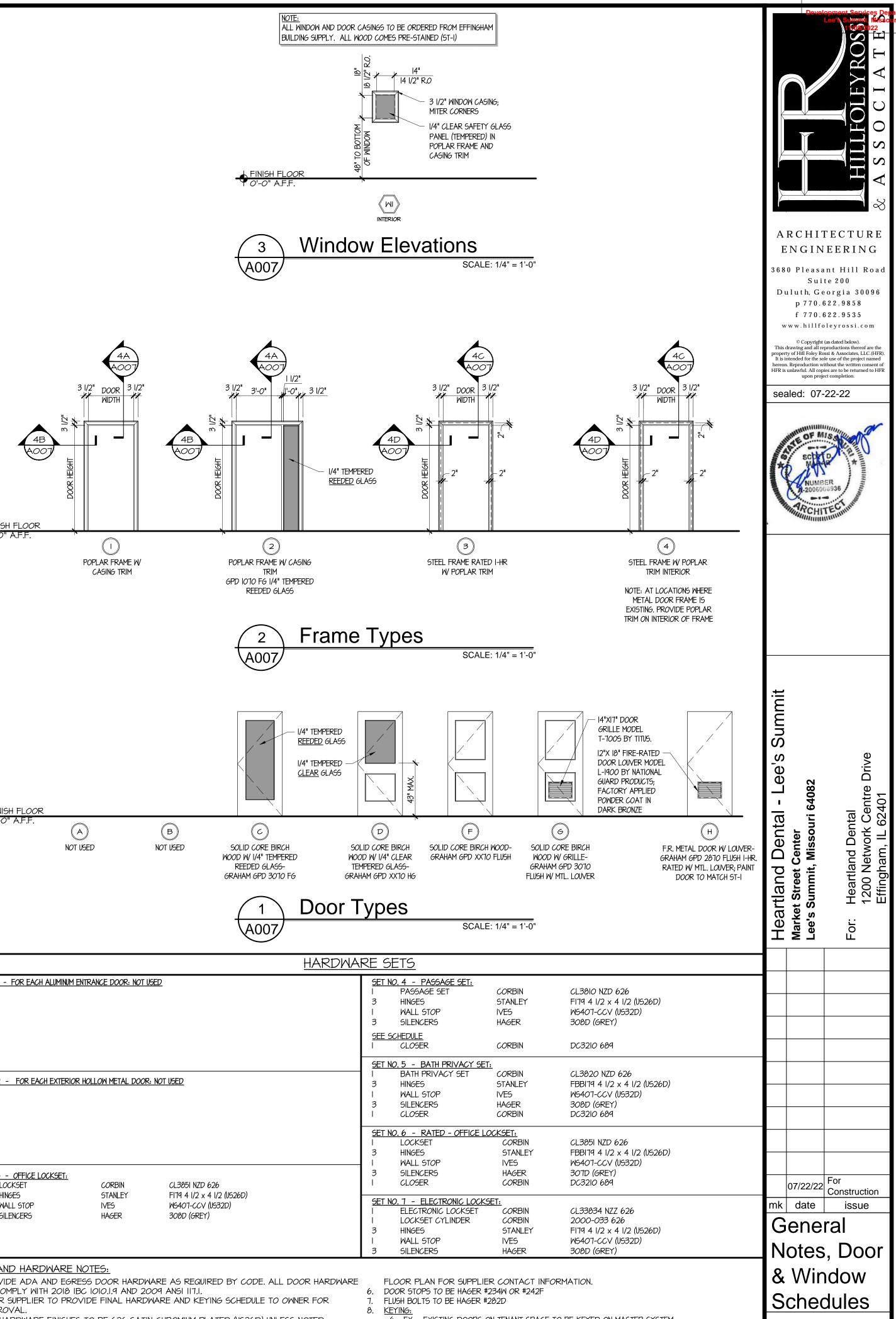
				<u>D00</u> R	SC	HEDULE	-				SET NO. 1 - FOR EACH ALUMINUM EN	ITRANCE DOOR: NOT U	<u>SED</u>
DOOR			Do	OOR		FRAM	Έ	HARDWARE					
NO.	ROOM NAME	SIZE	THICKNESS	MATERIAL	TYPE	MATERIAL	TYPE	SET	RATING	COMMENTS			
01	EXISTING FRONT ENTRANCE	3'-0" X 7'-0"	3/4"							EXISTING STOREFRONT DOOR & HARDWARE TO REMAIN; KEY TO MASTER			
02	EXISTING REAR EGRESS	3'-0" X 7'-0"	3/4"			STEEL	4			EXISTING HOLLOW METAL DOOR & HARDWARE TO REMAIN; KEY TO MASTER			
03	WAITING ROOM - RM. 101	3'-0" X 7'-0"	3/4"	S.C. WOOD/GLAZING	с	WOOD	2			REMOTE UNLOCKING; G.C. TO SELECT HARDWARE SET W ELECTRIC STRIKE AND HINGE.	SET NO. 2 - FOR EACH EXTERIOR	HOLLOW METAL DOOR	: NOT USED
04	WOMEN'S RESTROOM - RM. 105	3'-0" X 7'-0"	3/4"	S.C. WOOD	F	WOOD		5		CLOSER			
05	MEN'S RESTROOM - RM. 104	3'-0" X 7'-0"	3/4"	S.C. WOOD	F	WOOD		5		CLOSER			
06	TREATMENT SUITE I - RM. III	2'-8" X 7'-0"	3/4"	S.C. WOOD/GLAZING	D	WOOD	1	4					
70	TREATMENT SUITE I - RM. III	3'-0" X 7'-0"	3/4"	S.C. WOOD/GLAZING	D	WOOD	1	4					
08	DOCTOR'S OFFICE - RM. 112	3'-0" X 7'-0"	3/4"	S.C. WOOD/GLAZING	С	WOOD	1	3			<u>SET NO. 3 - OFFICE LOCKSET:</u>		
09	SUPPLIES CLOSET RM. 113	3'-0" X 7'-0"	3/4"	S.C. WOOD	F	WOOD		4			I LOCKSET 3 HINGES	CORBIN STANLEY	CL3851 NZD 626 F179 4 1/2 x 4 1/2 (US26D)
IOA	EQUIPMENT- RM. 115A	3'-0" X 7'-0"	3/4"	S.C. WOOD	F	WOOD		4		CLOSER	I WALL STOP	IVES	W5407-CCV (U532D)
I <i>O</i> B	LAZUNDRY- RM. 115B	3'-0" X 7'-0"	3/4"	S.C. WOOD	F	WOOD		4		CLOSER	3 SILENCERS	HAGER	308D (GREY)
П	BREAK ROOM - RM. 117	3'-0" X 7'-0"	3/4"	S.C. WOOD	F	WOOD		4					
12	STAFF RESTROOM - RM. 116	3'-0" X 7'-0"	3/4"	S.C. WOOD	F	WOOD	1	5		CLOSER			
13	TREATMENT SUITE 2 - RM. 118	2'-8" X 7'-0"	3/4"	S.C. WOOD/GLAZING	D	WOOD	1	4			DOOR AND HARDWARE N		
14	TREATMENT SUITE 2 - RM. 118	3'-0" X 7'-0"	3/4"	S.C. WOOD/GLAZING	D	WOOD	1	4			TO COMPLY WITH 2018 IB	C 1010.1.9 AND 20	
15	SUPPLIES CLOSET - RM. 120	3'-0" X 7'-0"	3/4"	S.C. WOOD	F	WOOD	1	4			2. DOOR SUPPLIER TO PROV APPROVAL.	'IDE FINAL HARDI	WARE AND KEYING SCHEDULE
16	I.T RM. 125	3'-0" X 7'-0"	3/4"	S.C. WOOD	G	WOOD	1	Т		WITH DOOR GRILLE	3. ALL HARDWARE FINISHES	TO BE 626 SATIN	N CHROMIUM PLATED (US26D)
17	N2O - RM. 126	2'-8" X 7'-0"	3/4"	STEEL	н	STEEL	З	6	I HR	I HR F.R. DOOR & FRAME; SMOKE SEAL; CLOSER	OTHERWISE 4. WHERE A FIRE-RATED WA TO THAT OF THE WALL. SE		
18	BUSINESS - RM. 102	3'-0" X 7'-0"	3/4"	S.C. WOOD/GLAZING	С	WOOD		4		CLOSER	5. INTERIOR WOOD TRIM, DO	ORS, AND HARDW	IARE TO BE PROVIDED BY OI
19	OFFICE - RM. 128	3'-0" X 7'-0"	3/4"	S.C. WOOD/GLAZING	С	WOOD	Ι	3				OF DELIVERT MI	ITH EFFINGHAM BUILDERS SUF











SAME KEY BOTH DOORS.

3 - MASTER KEYS - ALL DOORS

2 - INT. DOORS CAN BE SEPARATE KEYS

RELEASED FOR

A007

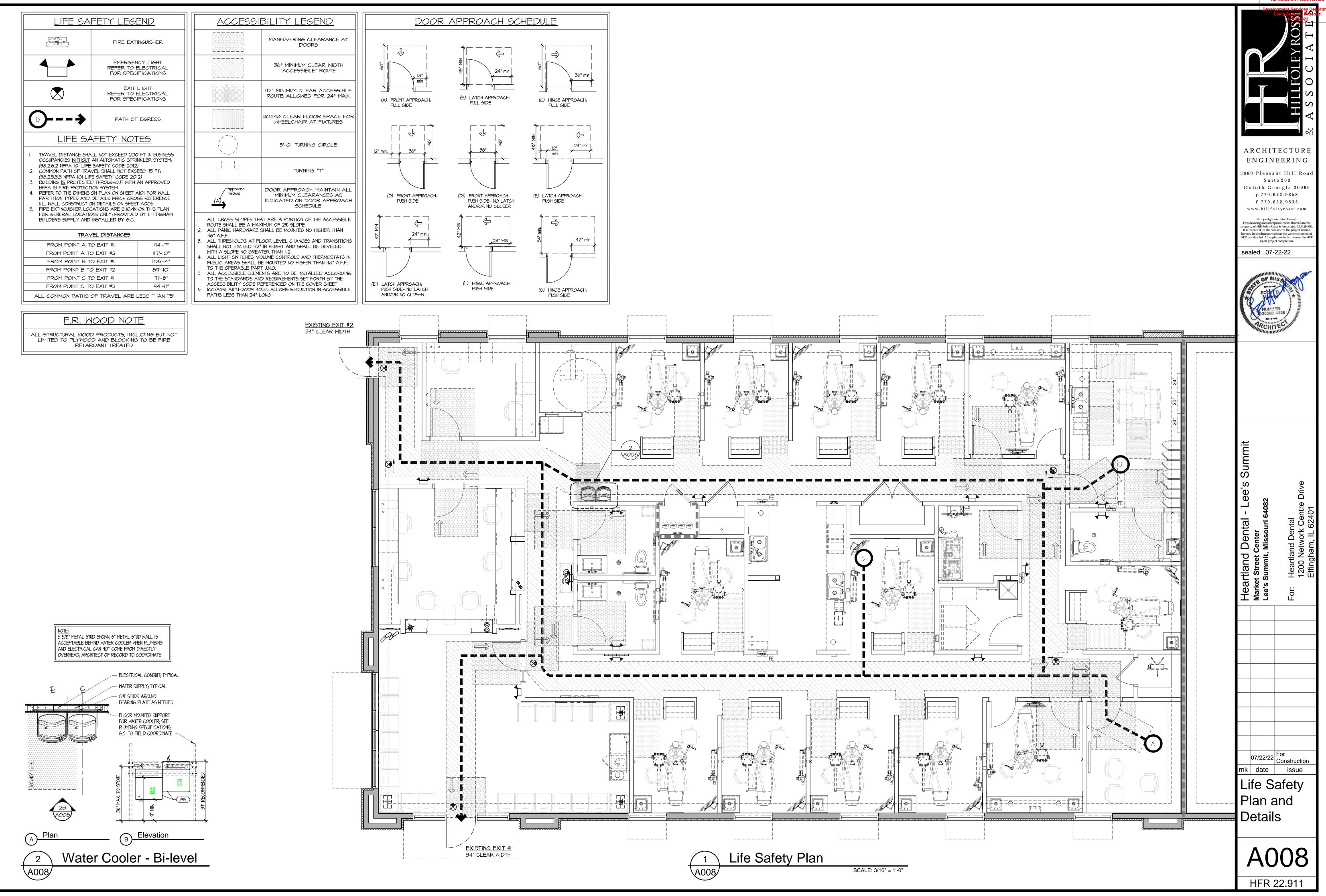
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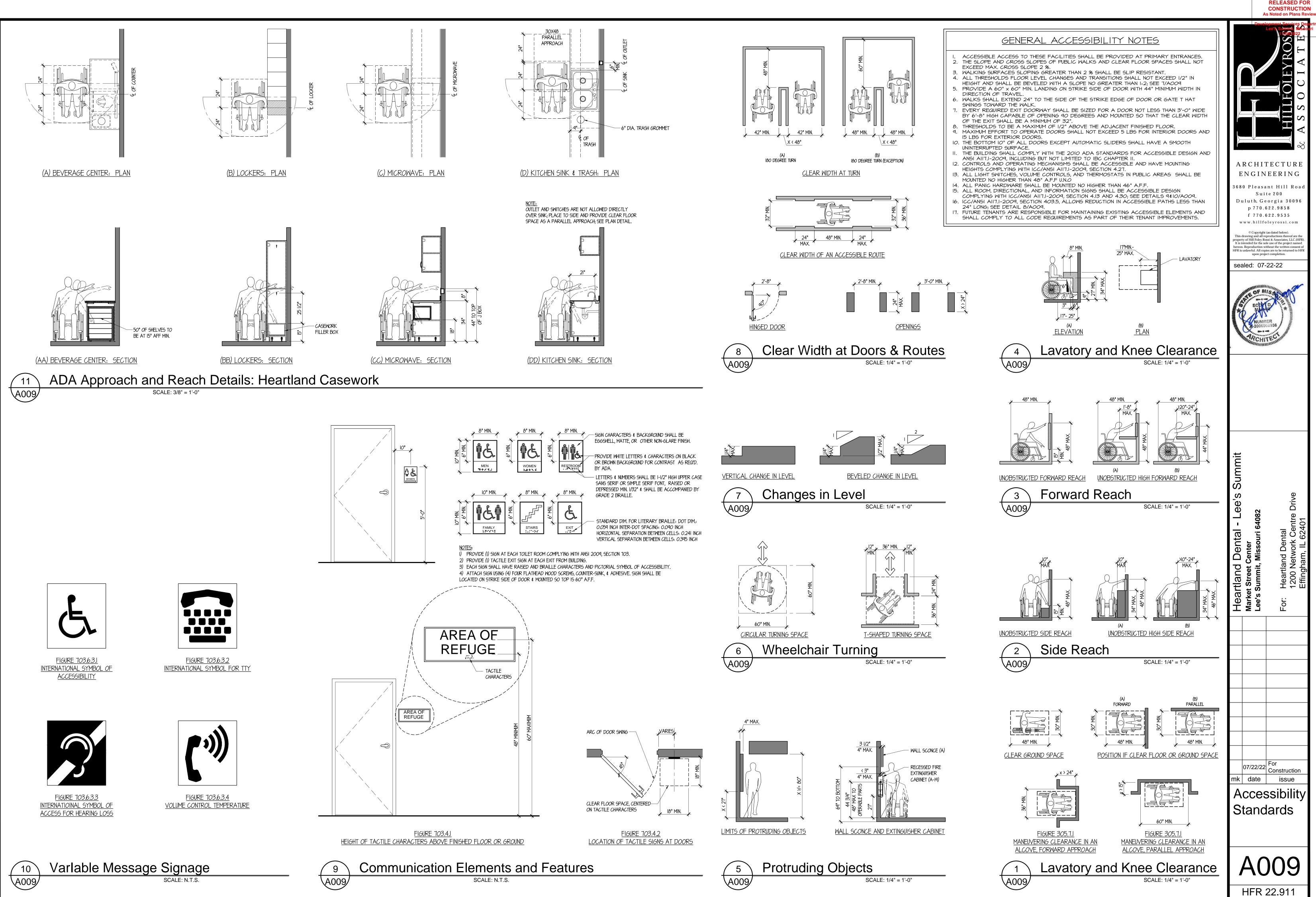
6D) UNLESS NOTED

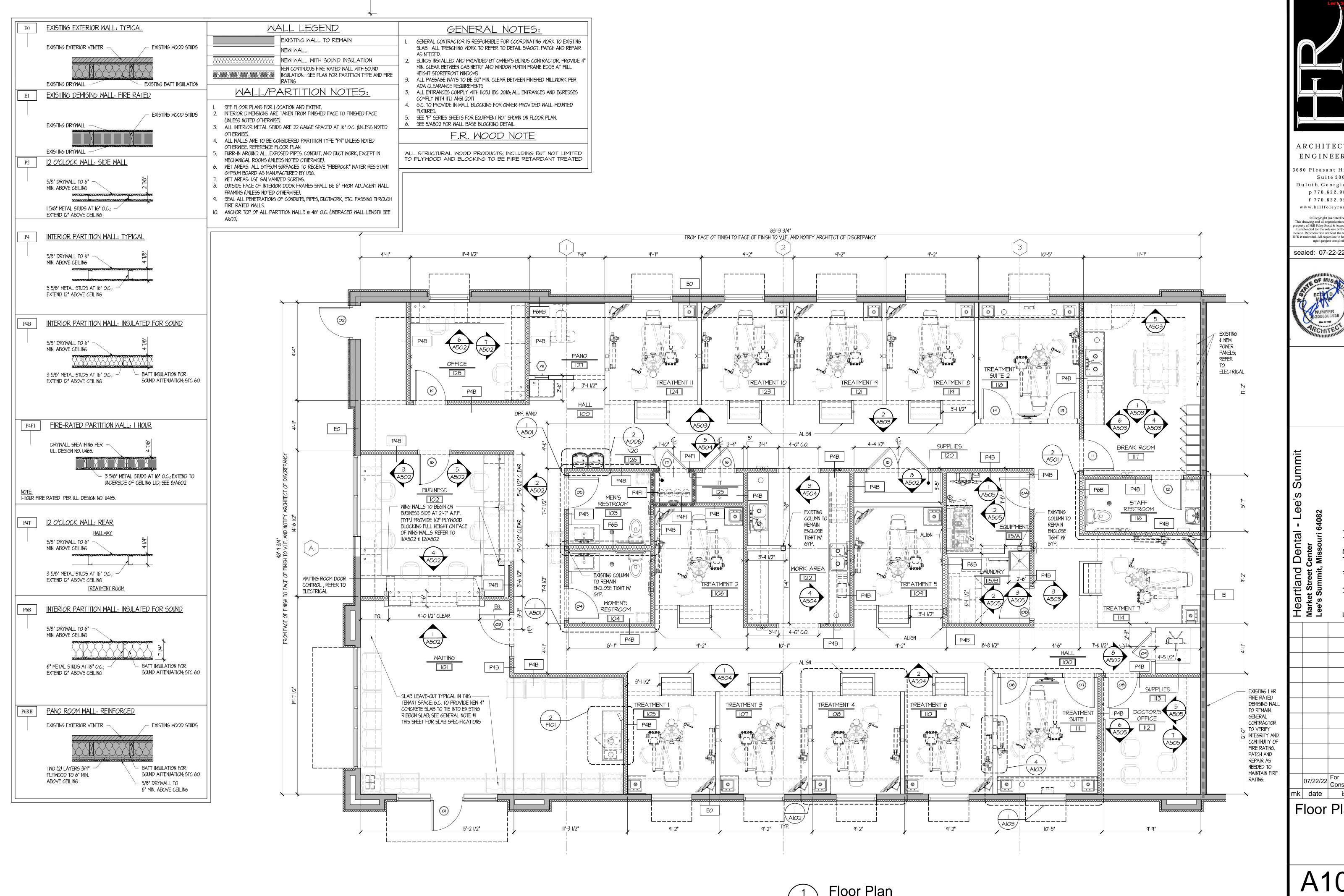
L BE FIRE-RATED EQUAL

Y OWNER. CONTRACTOR TO SUPPLY. SEE A801 FINISH



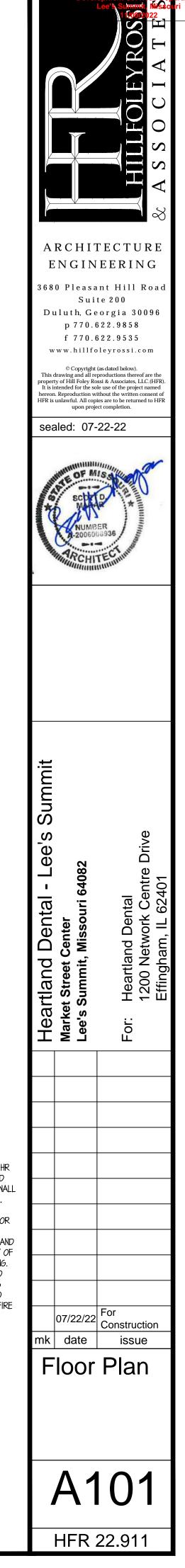


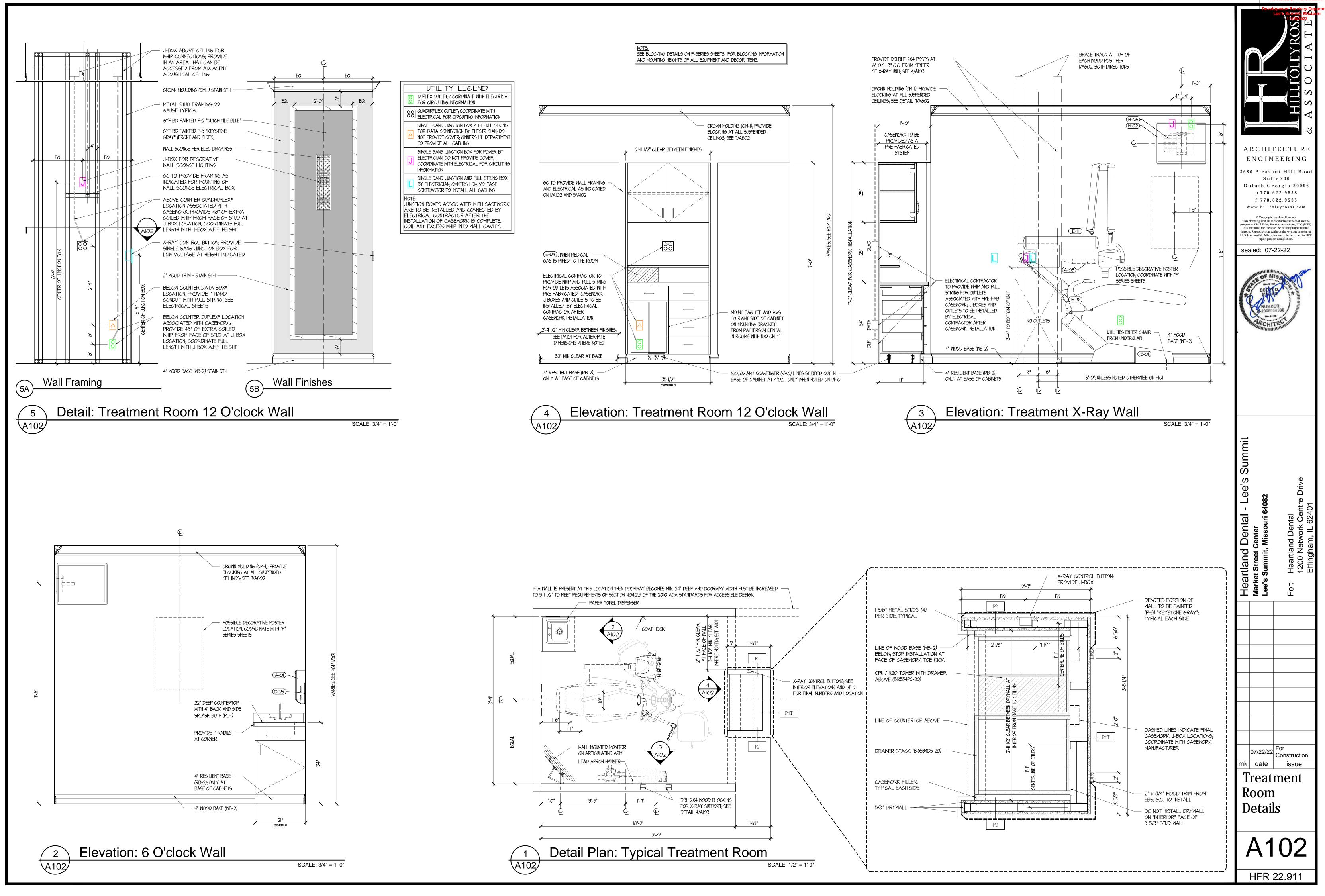




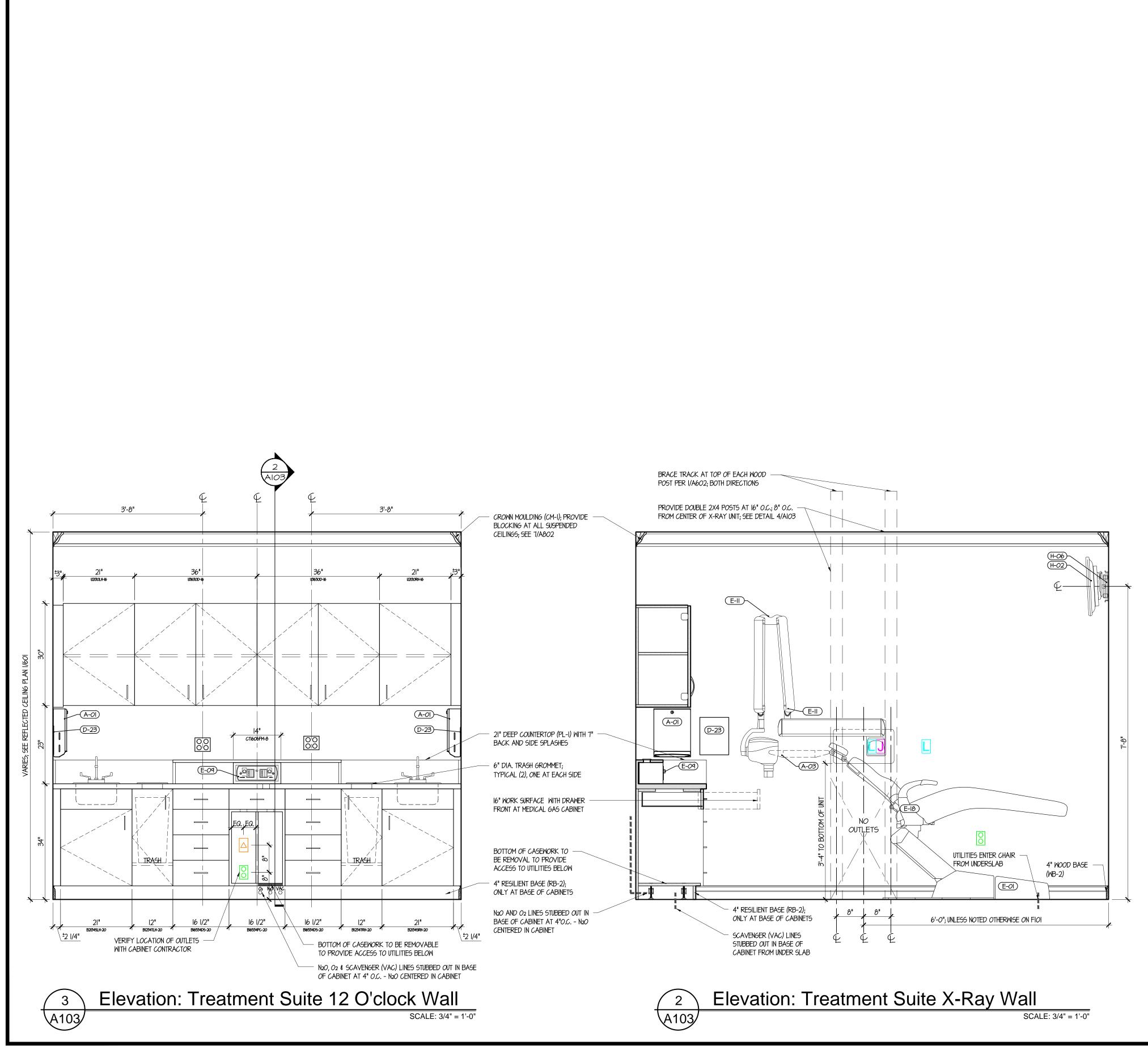
Floor Plan \A101

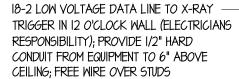












### (2) 2x4 WOOD POSTS AT 16" O.C; SEE PLAN --FOR LOCATION WITHIN THE WALL; DO NOT FASTEN DRYWALL TO POSTS PLACE METAL STUDS TIGHT TO WOODEN -----POSTS (DO NOT ATTACH TO POSTS); FASTEN

POSTS (DO NOT ATTACH TO POSTS); FASTEN DRYWALL COVER TO METAL STUDS ONLY AS INDICATED ON

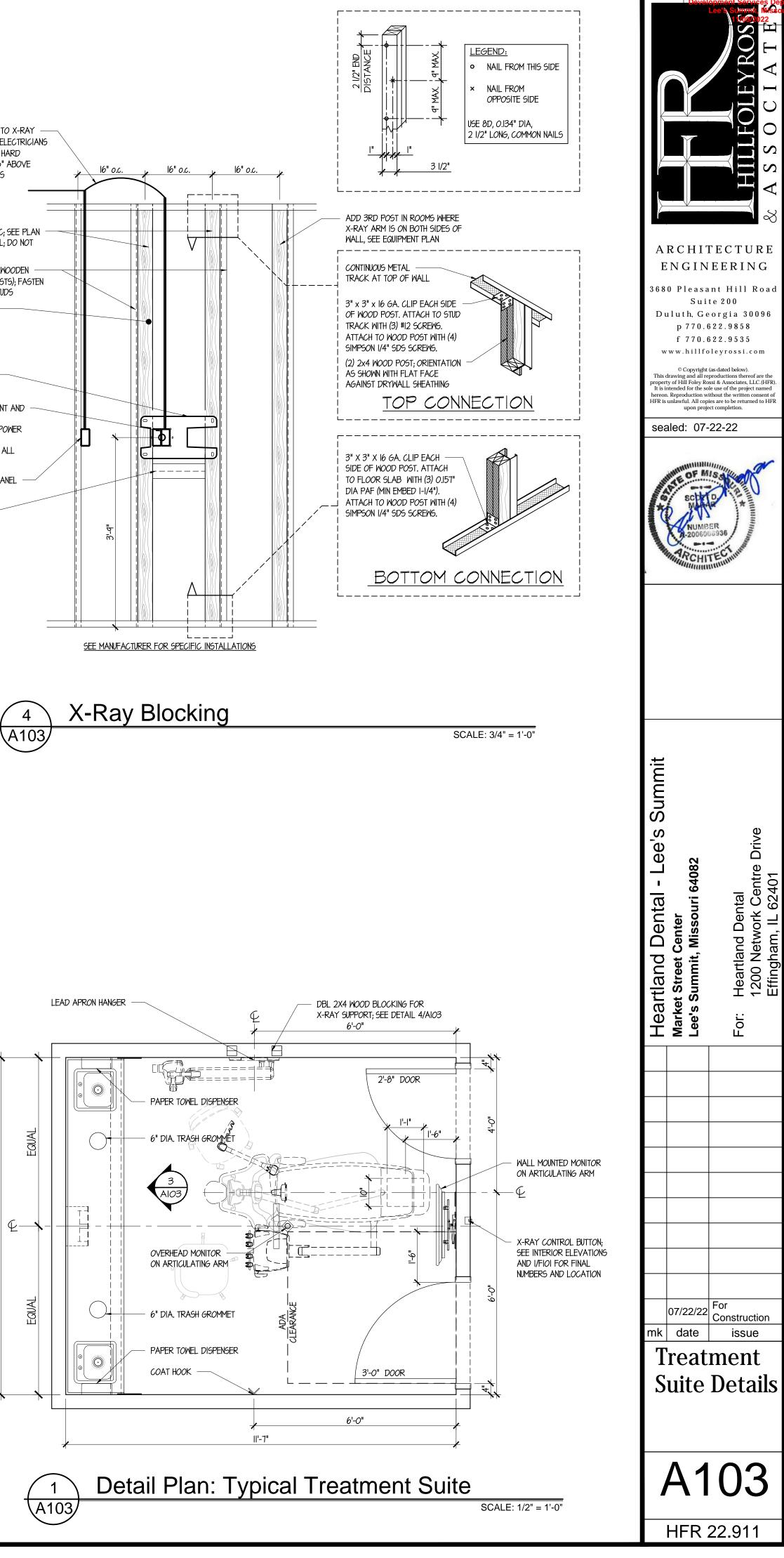
I/FIOI EQUIPMENT PLAN

WALL MOUNTING PLATE PROVIDED BY MANUFACTURER

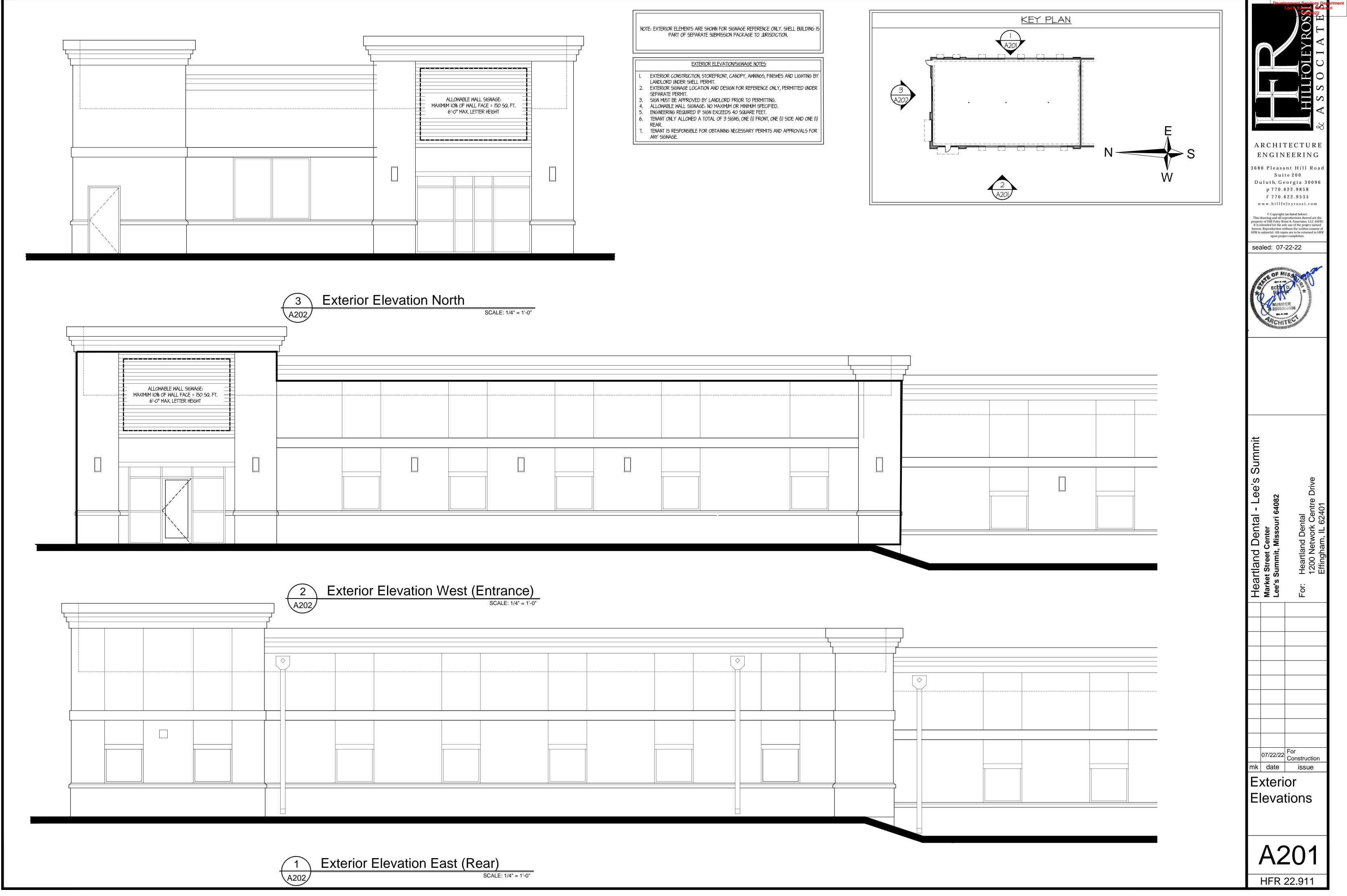
ELECTRICAL POWER ENTRY POINT AND -POWER TO X-RAY UNIT - X-RAY UNIT REQUIRES II5V POWER ON A DEDICATED CIRCUIT - PROVIDE I/2" CONDUIT FOR ALL WIRING

JUNCTION BOX FOR CONTROL PANEL 16" O.C. MAX. FROM X-RAY UNIT

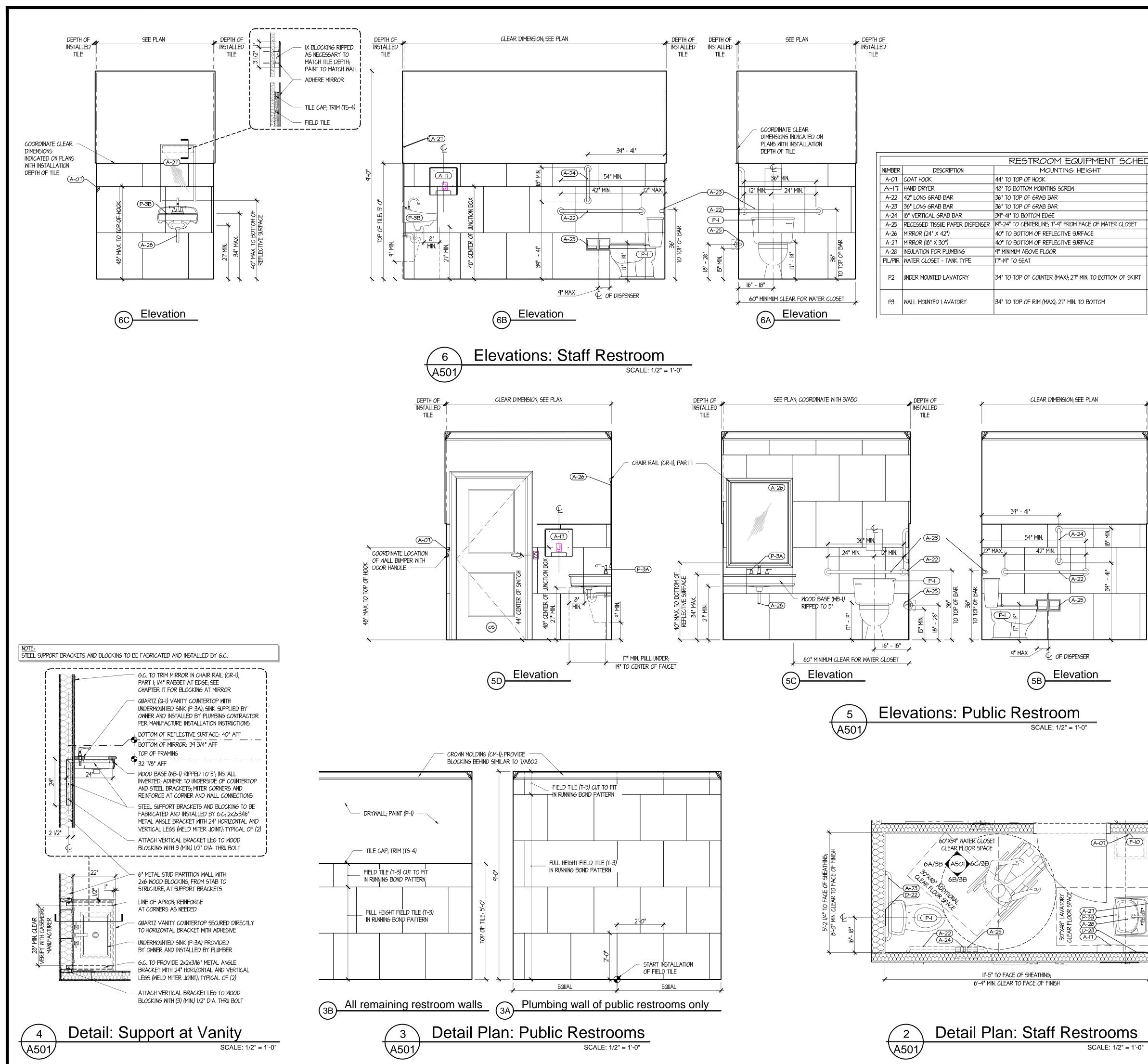
BLOCKING FOR LEAD \_\_\_\_\_ APRON HANGER; SEE FIO4



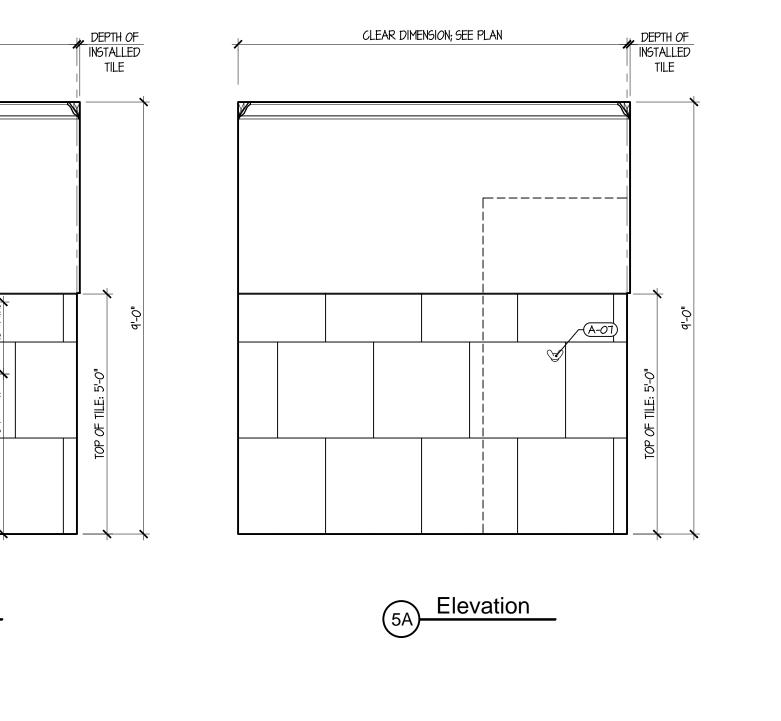


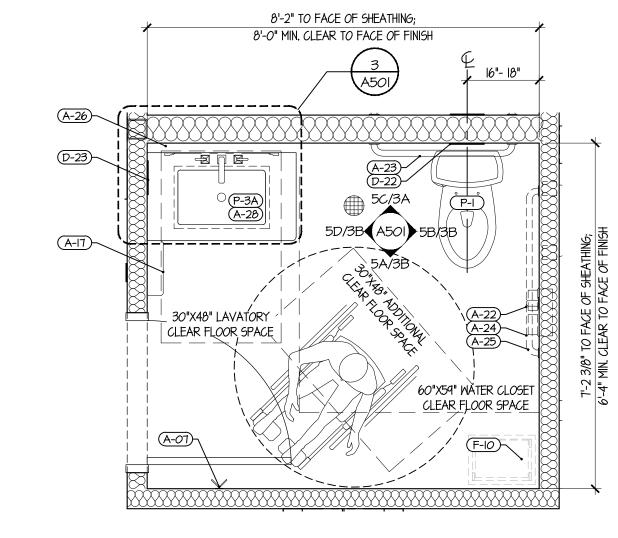






		UTILITY LEGEND
		SWITCH / SWITCHBANK; COORDINATE WITH ELECTRICAL FOR CIRCUITING INFORMATION AND NUMBER
		SINGLE GANG JUNCTION BOX FOR POWER BY ELECTRICIAN; DO NOT PROVIDE COVER; COORDINATE WITH ELECTRICAL FOR CIRCUITING INFORMATION
		RESTROOM FINISH NOTES
		I. ALL CLEAR DIMENSIONS SHOWN ARE FROM FINISHED FACE OF TILE TO FINISHED FACE OF TILE.
		2. WHEN DOOR SWINGS INTO TURNING CIRCLE, ADDITIONAL 30"X48" CLEAR FLOOR SPACE PROVIDED BEYOND ARC OF DOOR SWING PER 603.2.2 (EXCEPTION #2) AND 305.3 OF THE 2010 ADA STANDARDS
QUIPMENT SCHE		3. FIXTURES TO BE BOBRICK OR AMERICAN STANDARD.
HEIGHT	REMARKS	
		4. ALL INSTALLATIONS AND FIXTURES ARE TO BE IN COMPLIANCE WITH LOCAL, STATE AND FEDERAL ACCESSIBILITY REGULATIONS.
		5. PROVIDE BLOCKING IN WALLS AS REQUIRED TO ANCHOR FIXTURES; SEE FIO3 AND FIO4.
		6. INSULATE EXPOSED HOT WATER AND DRAIN PIPES.
M FACE OF WATER CLOSET		7. MAINTAIN INTEGRITY OF ALL FIRE RATED WALLS DENOTED ON
SURFACE	G.C. TO TRIM MIRROR IN CHAIR RAIL ((CR-I), PART I)	PLANS.
BURFACE		8. NOTED PLUMBING ACCESSORIES TO BE PROVIDED BY EFFINGHAM BUILDERS SUPPLY. CONTRACTOR TO PLACE ORDER AND DATE OF
	PROVIDED BY G.C.	DELIVERY WITH EFFINGHAM BUILDERS SUPPPLY. G.C. TO CONTACT
	PROVIDED BY FERGUSON	BILL METTE FOR QUANTITIES NEEDED; SEE CONTACT LIST ON FIO3.
7" MIN. TO BOTTOM OF SKIRT	VANITY PROVIDED BY CASEWORK MANUFACTURER; SINK PROVIDED BY FERGUSON; G.C. TO PROVIDE TRIM PER DETAILS; PLUMBING SUB-CONTRACTOR TO INSTALL AND CONNECT	NOTED PLUMBING ACCESSORIES TO BE PROVIDED BY FERGUSON. CONTRACTOR TO PLACE ORDER AT WWW.FERGUSONONLINE.COM.
	SINK PROVIDED BY FERGUSON; G.C. TO PROVIDE TRIM PER	LOGIN USING USERNAME: PLUMBING@HEARTLAND.COM &

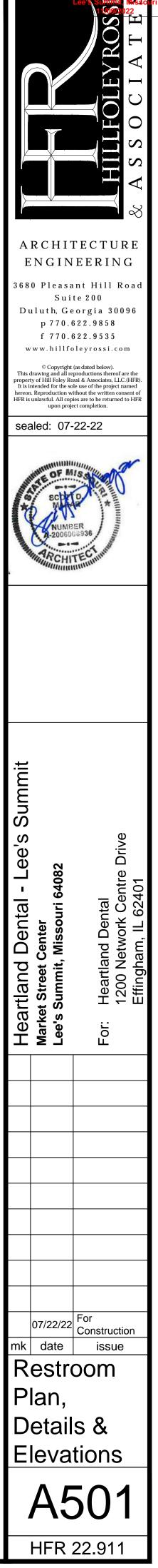




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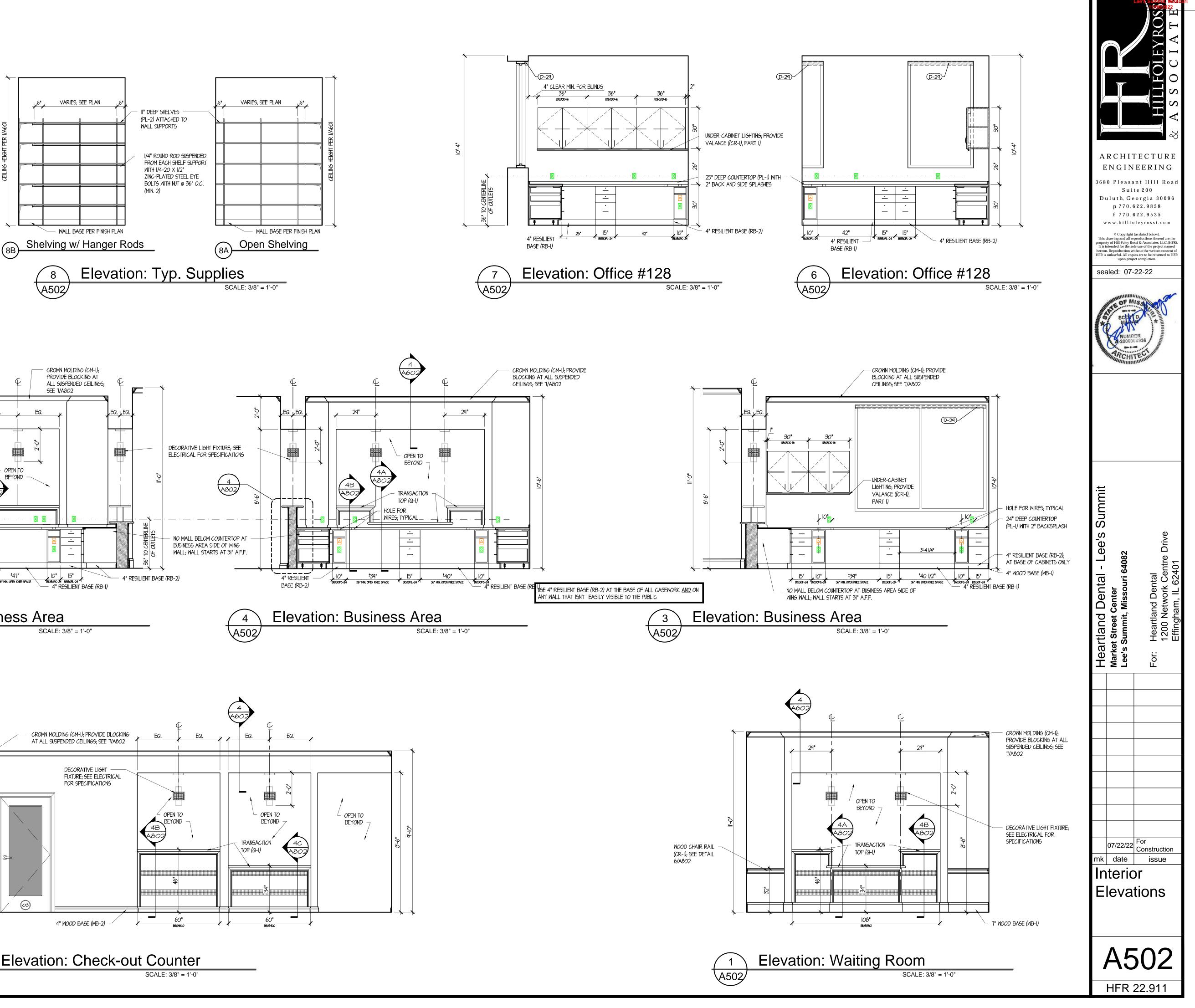
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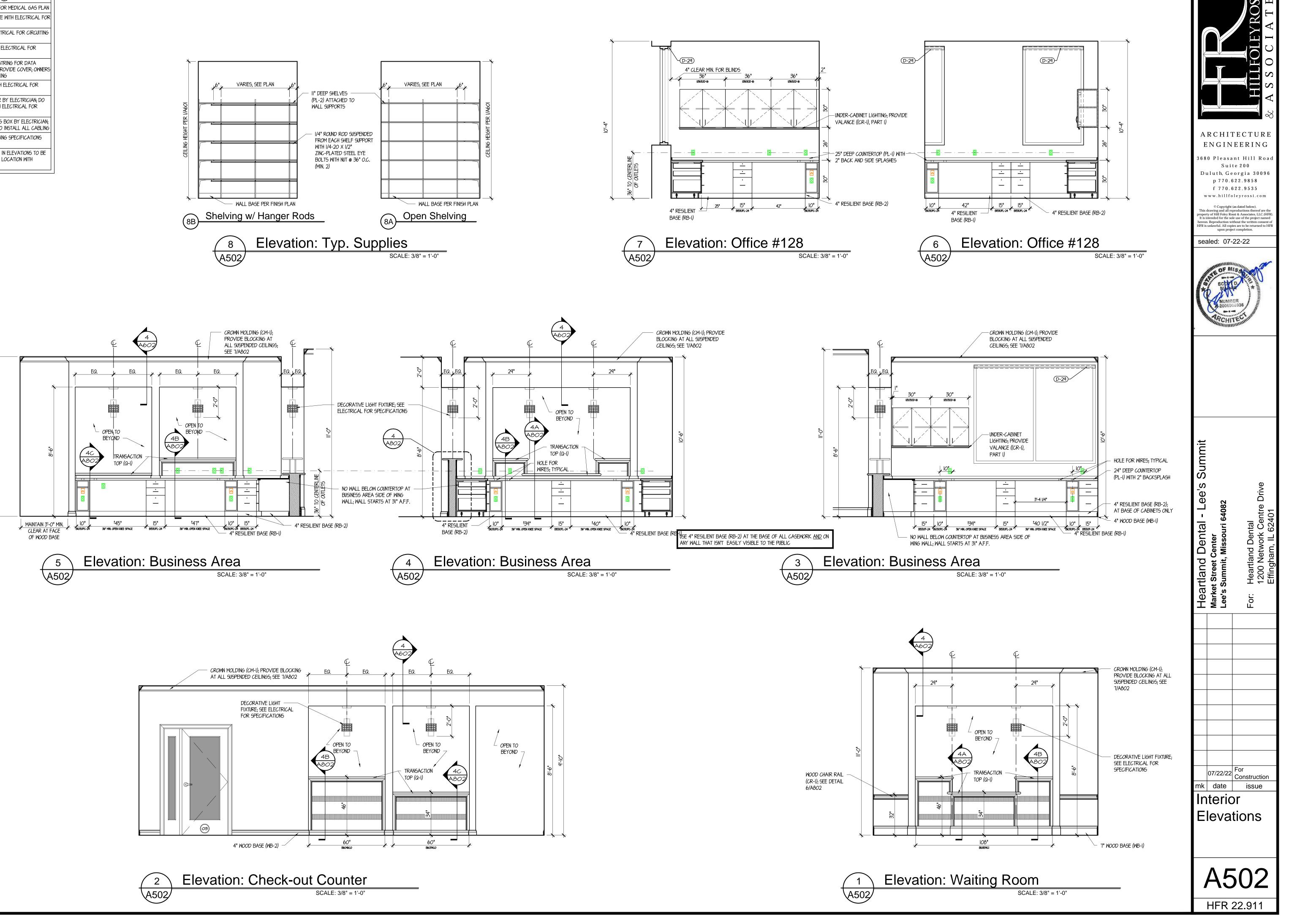


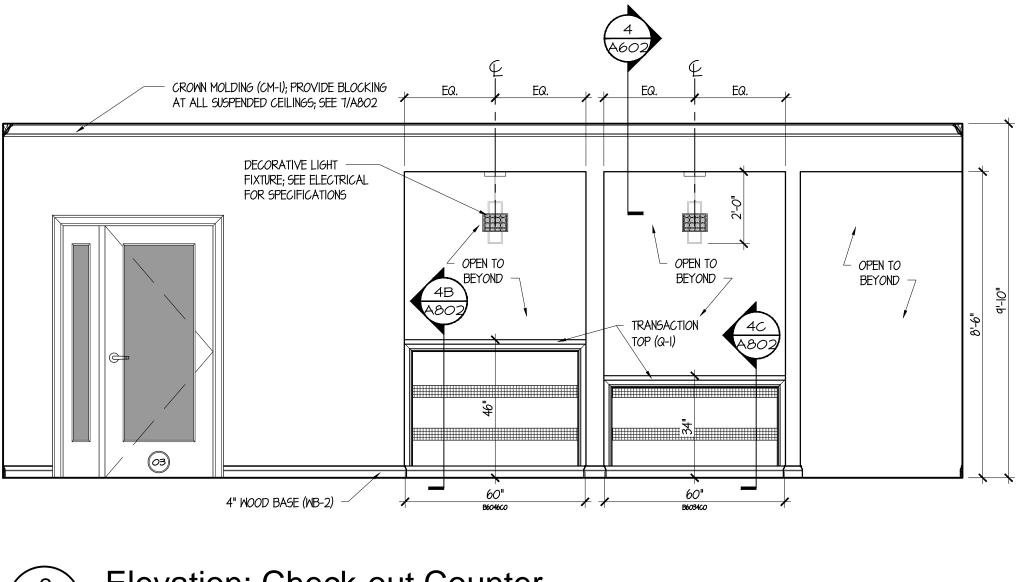


RELEASED FOR CONSTRUCTION As Noted on Plans Review

	UTILITY LEGEND
<del>\$</del>	AIR LINE (E-02); SEE PLUMBING SHEETS FOR MEDICAL GAS PLAN
	DEDICATED DUPLEX OUTLET; COORDINATE WITH ELECTRICAL FOR CIRCUITING INFORMATION
00	DUPLEX OUTLET; COORDINATE WITH ELECTRICAL FOR CIRCUITING INFORMATION
	QUADURPLEX OUTLET; COORDINATE WITH ELECTRICAL FOR CIRCUITING INFORMATION
	SINGLE GANG JUNCTION BOX WITH PULL STRING FOR DATA CONNECTION BY ELECTRICIAN; DO NOT PROVIDE COVER; OWNERS I.T. DEPARTMENT TO PROVIDE ALL CABLING
S	SWITCH / SWITCHBANK; COORDINATE WITH ELECTRICAL FOR CIRCUITING INFORMATION AND NUMBER
J	SINGLE GANG JUNCTION BOX FOR POWER BY ELECTRICIAN; DO NOT PROVIDE COVER; COORDINATE WITH ELECTRICAL FOR CIRCUITING INFORMATION
L	SINGLE GANG JUNCTION AND PULL STRING BOX BY ELECTRICIAN; OWNER'S LOW VOLTAGE CONTRACTOR TO INSTALL ALL CABLING
TT	WASHING MACHINE BOX (P-8); SEE PLUMBING SPECIFICATIONS
8	ADDITIONAL DUPLEX OUTLET NOT SHOWN IN ELEVATIONS TO BE REFRENCE IN EIO2 ; GC TO COORDINATE LOCATION WITH ELECTRICAL PLANS









	UTILITY LEGEND
<del>\$</del>	AIR LINE (E-02); SEE PLUMBING SHEETS FOR MEDICAL GAS PLAN
	DEDICATED DUPLEX OUTLET; COORDINATE WITH ELECTRICAL FOR CIRCUITING INFORMATION
00	DUPLEX OUTLET; COORDINATE WITH ELECTRICAL FOR CIRCUITING INFORMATION
	QUADURPLEX OUTLET; COORDINATE WITH ELECTRICAL FOR CIRCUITING INFORMATION
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S	SWITCH / SWITCHBANK; COORDINATE WITH ELECTRICAL FOR CIRCUITING INFORMATION AND NUMBER
J	SINGLE GANG JUNCTION BOX FOR POWER BY ELECTRICIAN; DO NOT PROVIDE COVER; COORDINATE WITH ELECTRICAL FOR CIRCUITING INFORMATION
L	SINGLE GANG JUNCTION AND PULL STRING BOX BY ELECTRICIAN; OWNER'S LOW VOLTAGE CONTRACTOR TO INSTALL ALL CABLING
TT	WASHING MACHINE BOX (P-8); SEE PLUMBING SPECIFICATIONS
0	ADDITIONAL DUPLEX OUTLET NOT SHOWN IN ELEVATIONS TO BE REFRENCE IN EIO2 ; GC TO COORDINATE LOCATION WITH ELECTRICAL PLANS

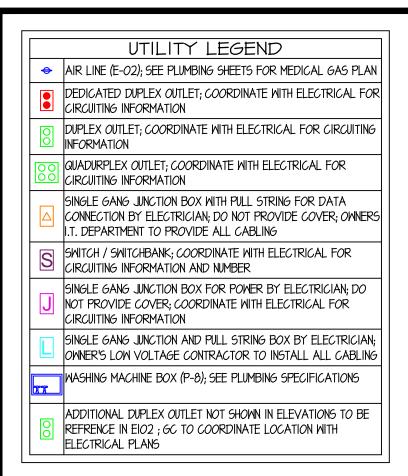


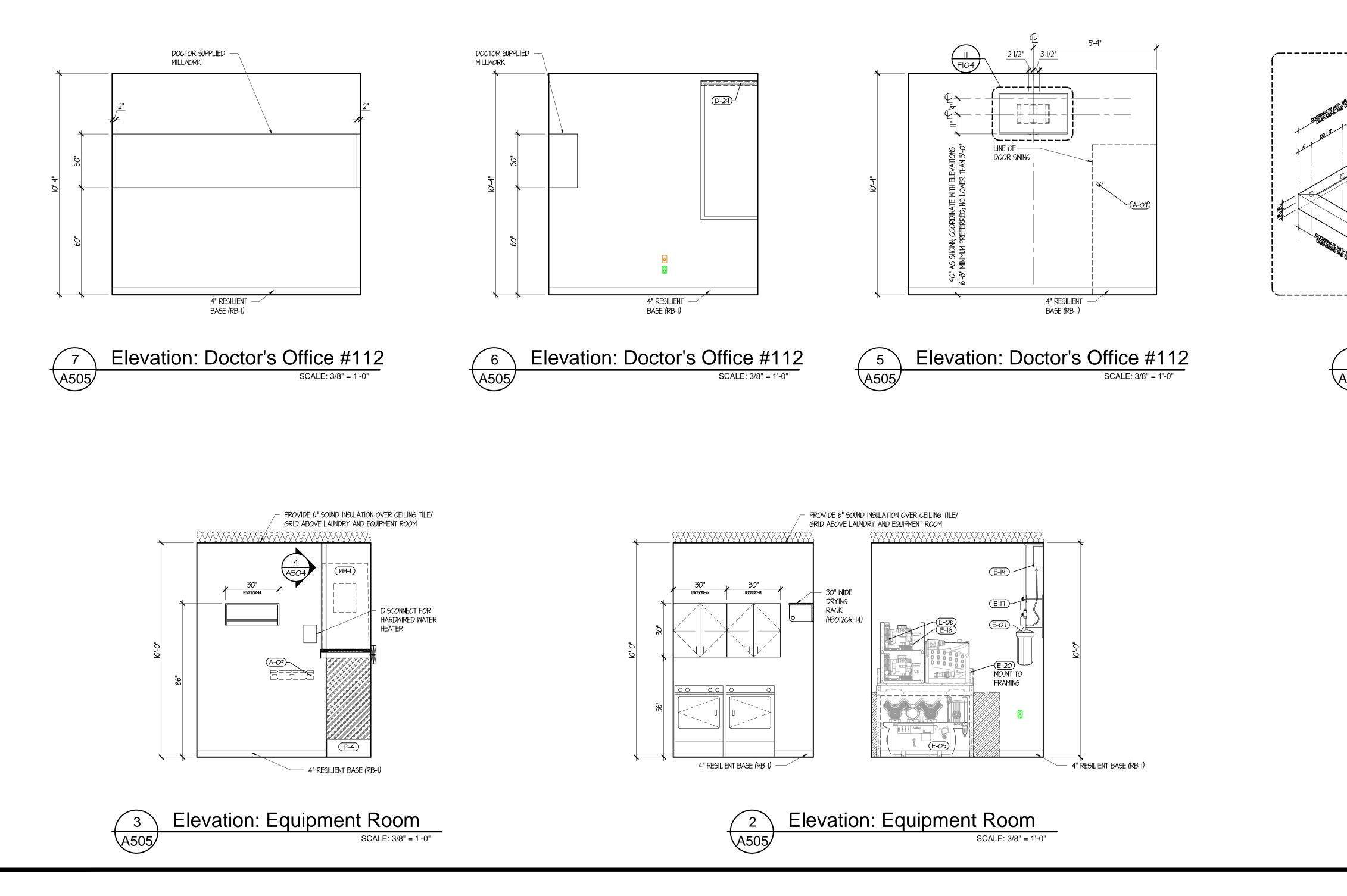




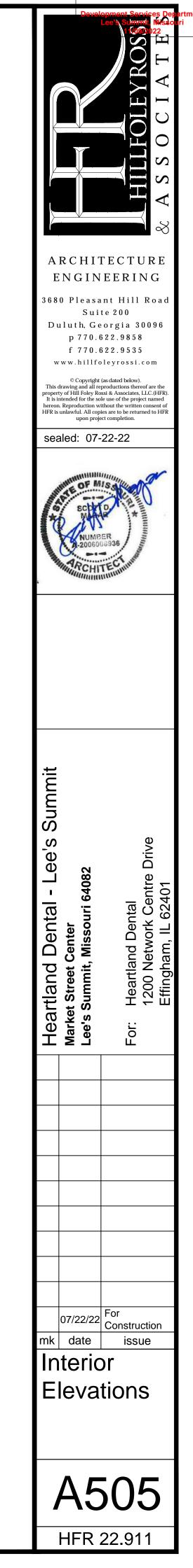


# RELEASED FOR CONSTRUCTION As Noted on Plans Review









UNISTRUT PIOOO CHANNELS OVER BOTTOM CHORD OF

I/2" DIA. ALL-THREAD ROD

BOTTOM CHORD OF TRUSSES

WATER HEATER (SEE PLUMBING)

MAINTAIN MANUFACTURER'S

CLEARANCE REQUIREMENTS

DRIP PAN; RUN CONDENSING

3/4" PLYWOOD ON 28 GA 9/16"

ANGLES WITH #12-24 X 2" TEKS FASTENERS AS NEEDED

WATER HEATER TO SIT IN

LINE TO MOP SINK BELOW

FORMED METAL DECKING; ATTACH DECKING TO STEEL

DOUBLE 2x12 CONTINUOUS

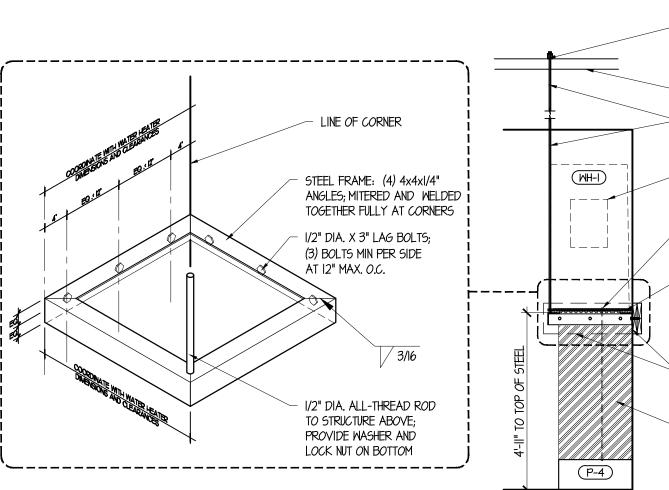
WOOD BLOCKING BETWEEN METAL STUDS

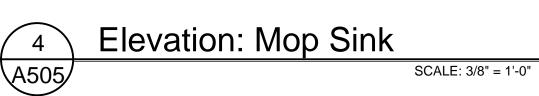
2' x 2' STAINLESS STEEL
 PANELS; MILDEW RESISTANT
 CAULK AT ALL EDGES

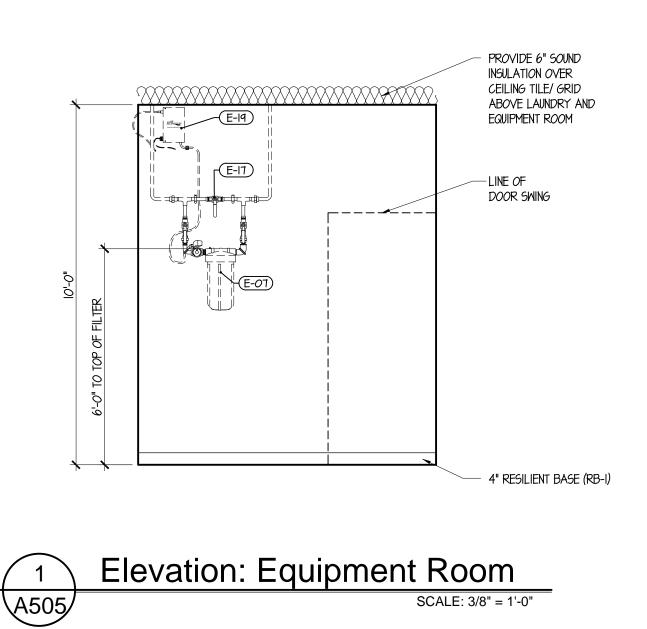
STRUCTURE

- STRUCTURE ABOVE

TO NEW UNISTRUT AT

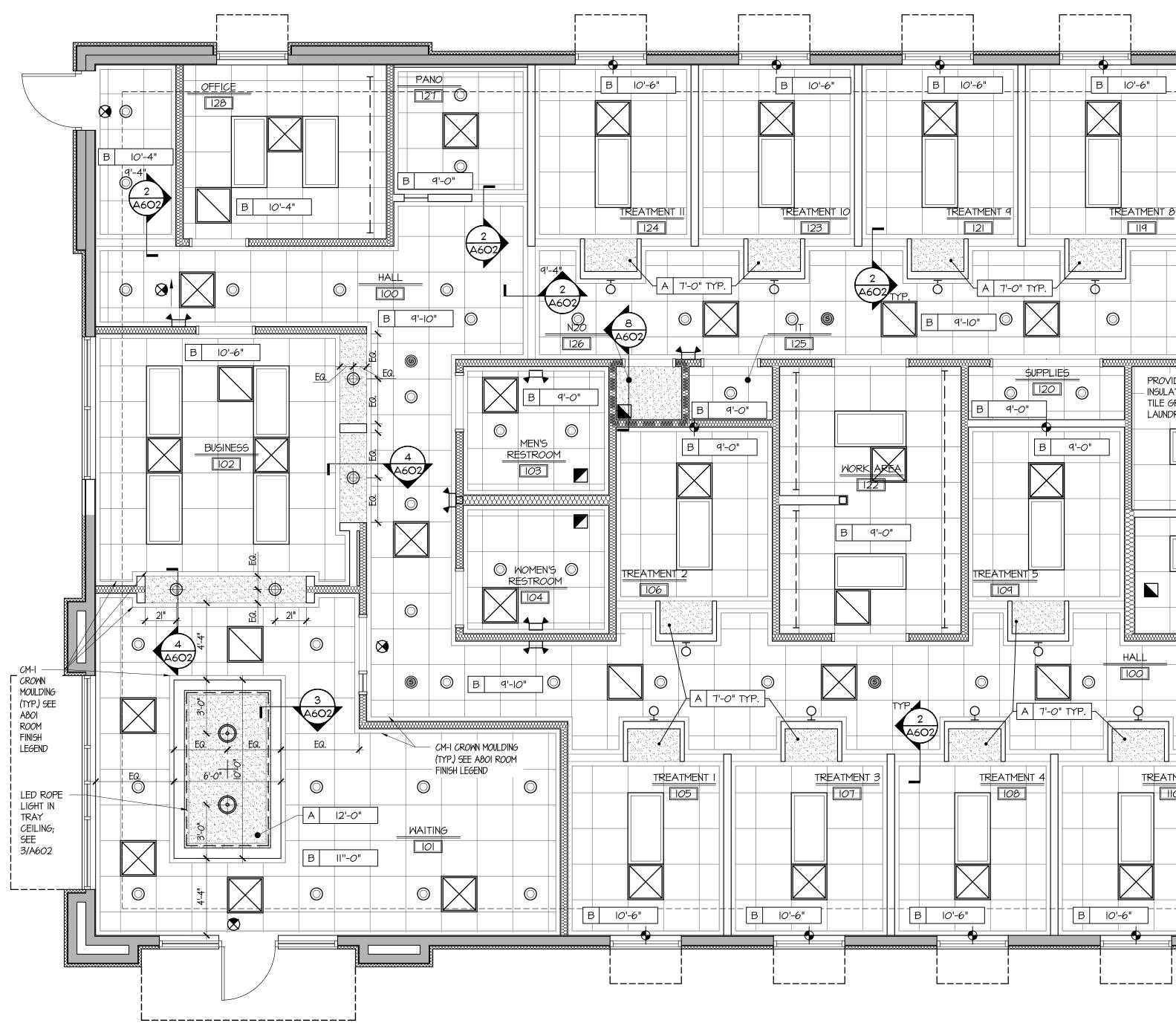






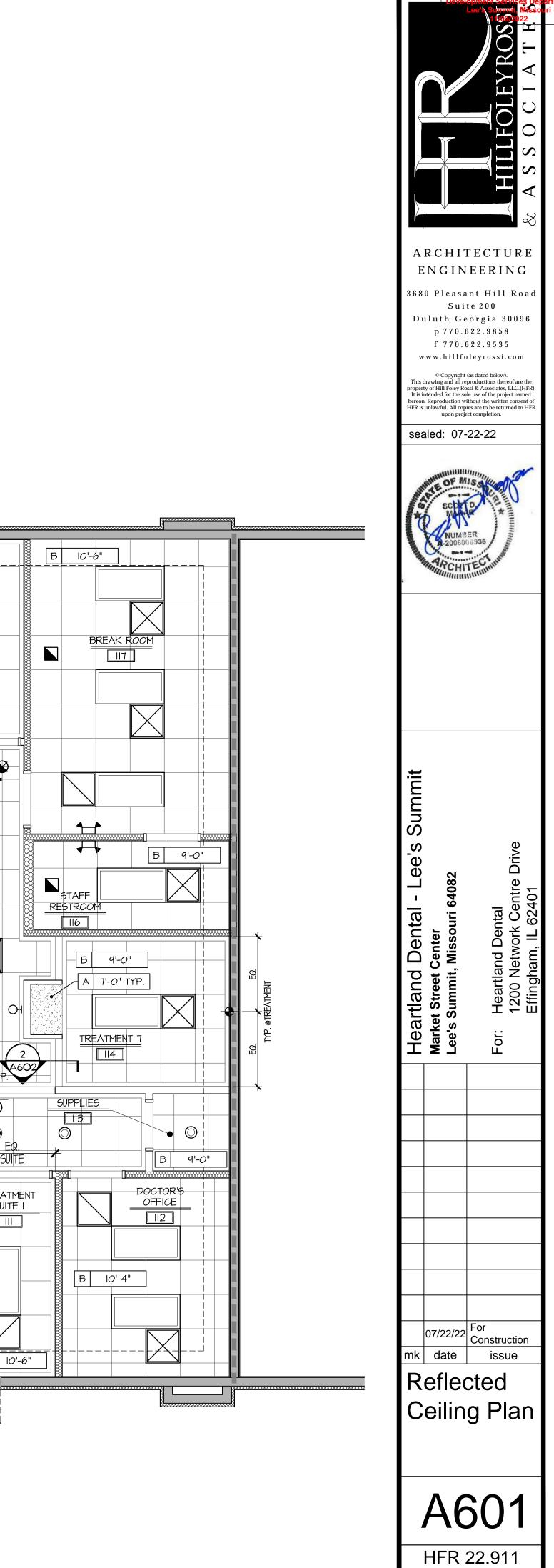
	Ю	WALL SCONCE					
	$\bigcirc$	6" DIA. RECESSED CAN LIGHT					
	$\oplus$	PENDANT LIGHT FIXTURE					
	$\bigcirc$	CHANDELIER					
		2'X4' LIGHT FIXTURE					
		HVAC SUPPLY DIFFUSER					
		HVAC RETURN GRILLE					
		EXHAUST FAN					
	$\vdash$ $\dashv$	UNDER CABINET LED LIGHT					
	$\bigotimes$	EMERGENCY EXIT SIGN					
		EMERGENCY LIGHT FIXTURE					
	S	CEILING SPEAKER					
	$\diamond$	MOUNTING LOCATION: CEILING MONITOR ARM; SEE 6/A602					
	*REFER TO ELECTRIC	CAL DRAWINGS FOR LIGHT FIXTURE SPECIFICATIONS					
	CE	ILING TYPE LEGEND					
		TYPE A: 5/8" Drywall Ceiling; to be painted; see finish Schedule and reflected Ceiling plan for finish					
		TYPE B:					
		2'X2' ACOUSTICAL CEILING TILE; ARMSTRONG CORTEGA #704 ANGLED TEGULAR - WHITE FRAMING (ACT-I)					
	COORDINATE W/ MECHAN	#704 ANGLED TEGULAR - WHITE FRAMING (ACT-I)					
I. 2.	· · · · · · · · · · · · · · · · · · ·	#704 ANGLED TEGULAR - WHITE FRAMING (ACT-I)					
	Ceiling Grids to be cl Locate all recessed	#704 ANGLED TEGULAR - WHITE FRAMING (ACT-I) <u>RCP NOTES</u> NICAL / ELECTRICAL DRAWINGS.					
2.	CEILING GRIDS TO BE CA LOCATE ALL RECESSED SMOKE DETECTORS AND SHOWN OTHERWISE.	#704 ANGLED TEGULAR - WHITE FRAMING (ACT-I) RCP NOTES NICAL / ELECTRICAL DRAWINGS. ENTERED IN ROOM UNLESS NOTED OTHERWISE. LIGHT FIXTURES, 12X12 DIFFUSERS AND GRILLES, SPEAKERS,					
2. 3.	Ceiling Grids to be ch Locate all recessed Smoke detectors and Shown otherwise. See Room Finish Sched Ceilings and Soffits See Room Finish Sched	#704 ANGLED TEGULAR - WHITE FRAMING (ACT-I) RCP NOTES NICAL / ELECTRICAL DRAWINGS. ENTERED IN ROOM UNLESS NOTED OTHERWISE. LIGHT FIXTURES, 12X12 DIFFUSERS AND GRILLES, SPEAKERS, 9 SPRINKLER HEADS IN CENTER OF CEILING TILE UNLESS					

REFLECTED CEILING PLAN LEGEND





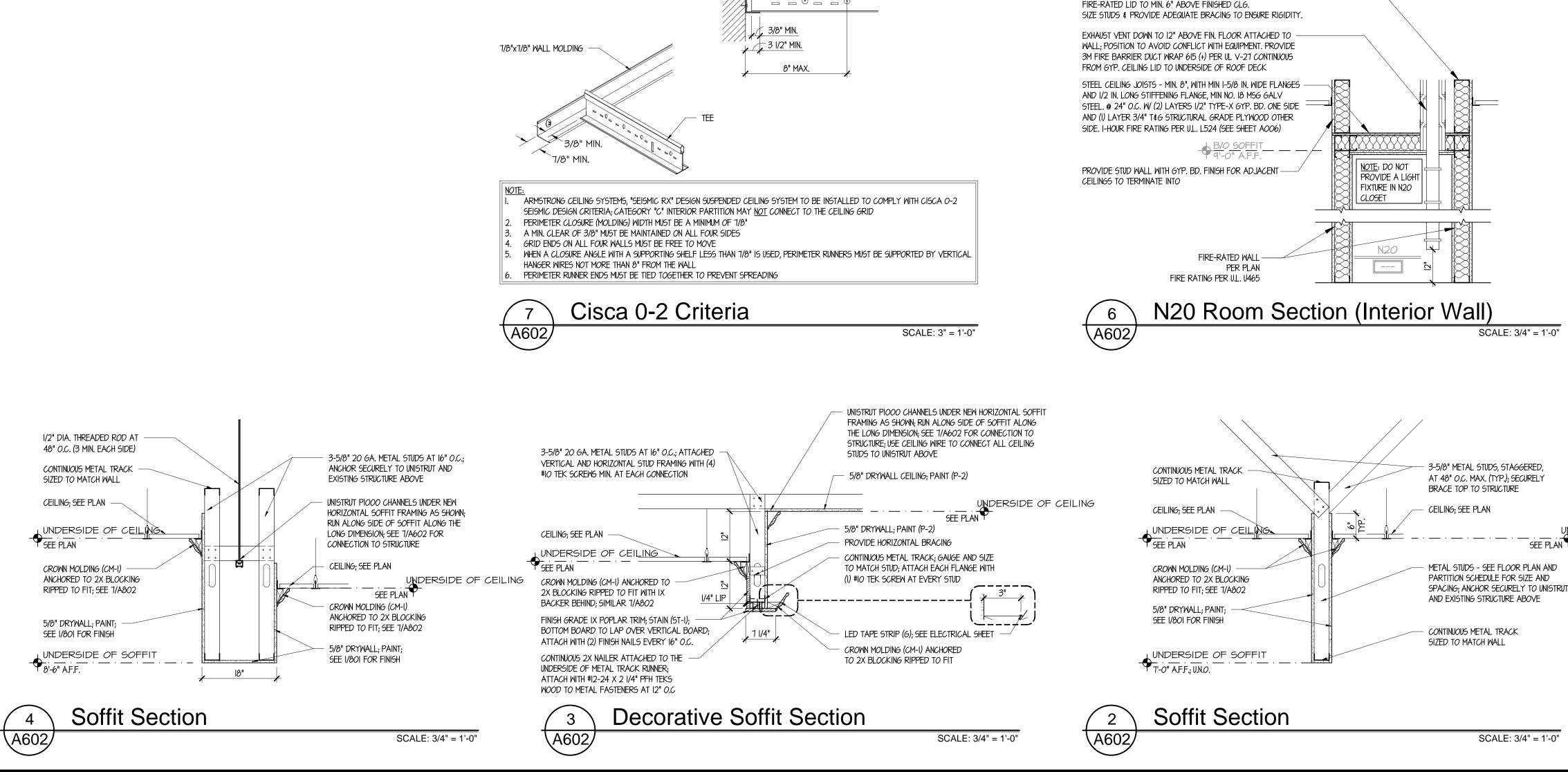


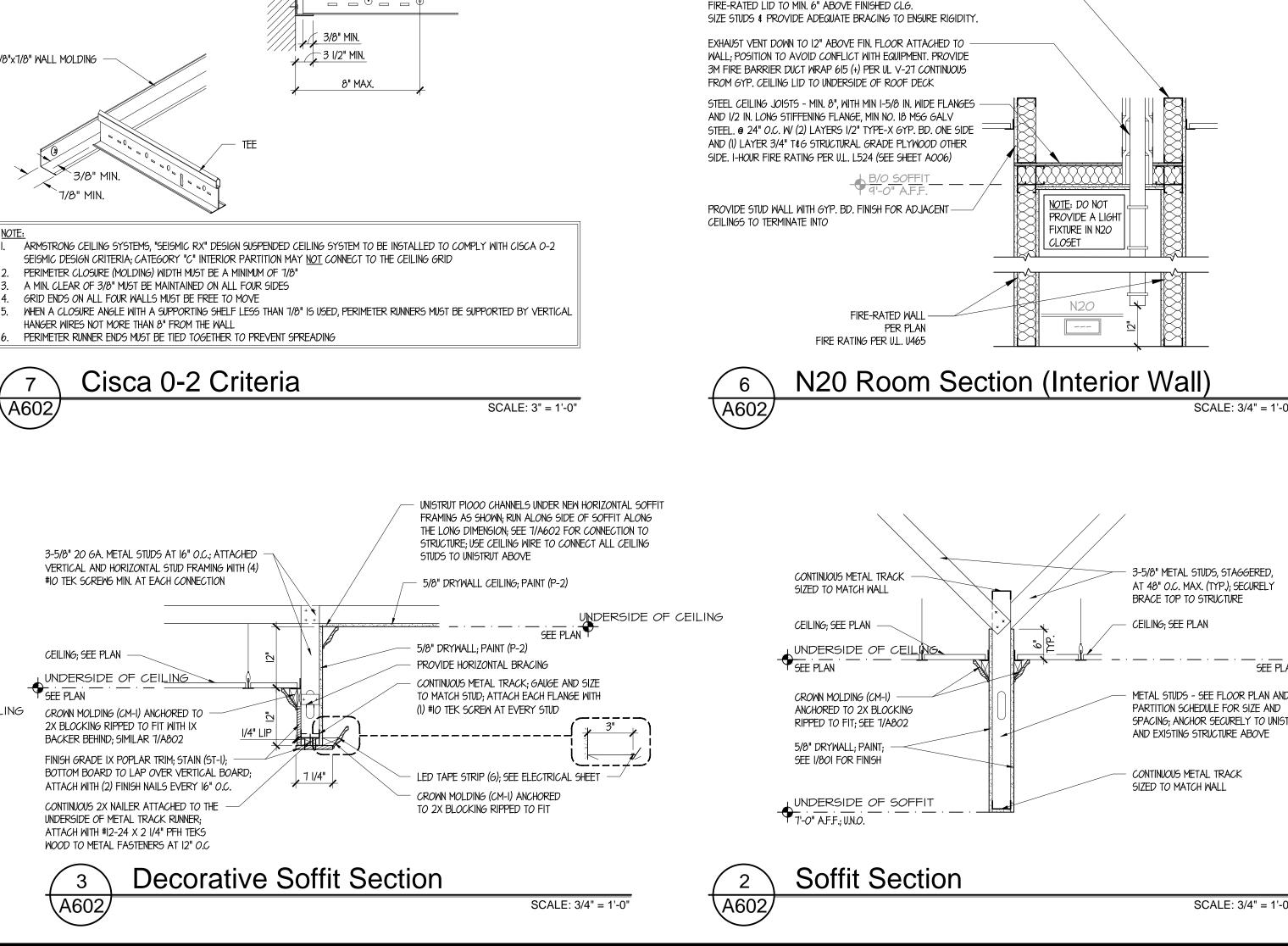


10'-6" \_\_\_\_  $\mathbf{X}$ TREATMENT SUITE 2  $\bigcirc$  $\bigcirc$ PROVIDE 6" SOUND — INSULATION OVER CEILING TILE GRID ABOVE LAUNDRY/EQUIPMENT ROOM  $\bigcirc$ S  $\bigcirc$ q'-4" 2 EQUIPMENT A602 Q602 В 9'-0" EQ. TYP. @TREATMENT SUITE  $\bigcirc$ TREATMENT SUITE I TREATMENT 6 B 10'-6" \_\_\_\_\_

\_\_\_\_\_

SCALE: 1/4" = 1'-0"

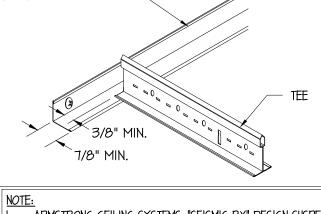




WHERE ADJACENT CEILING IS HIGHER THAN 9'-0", PROVIDE TRACK RUNNER & MTL, STUD W 5/8" GYP, BD, ABOVE

- 12 GA. MIN. HANGER WIRE;

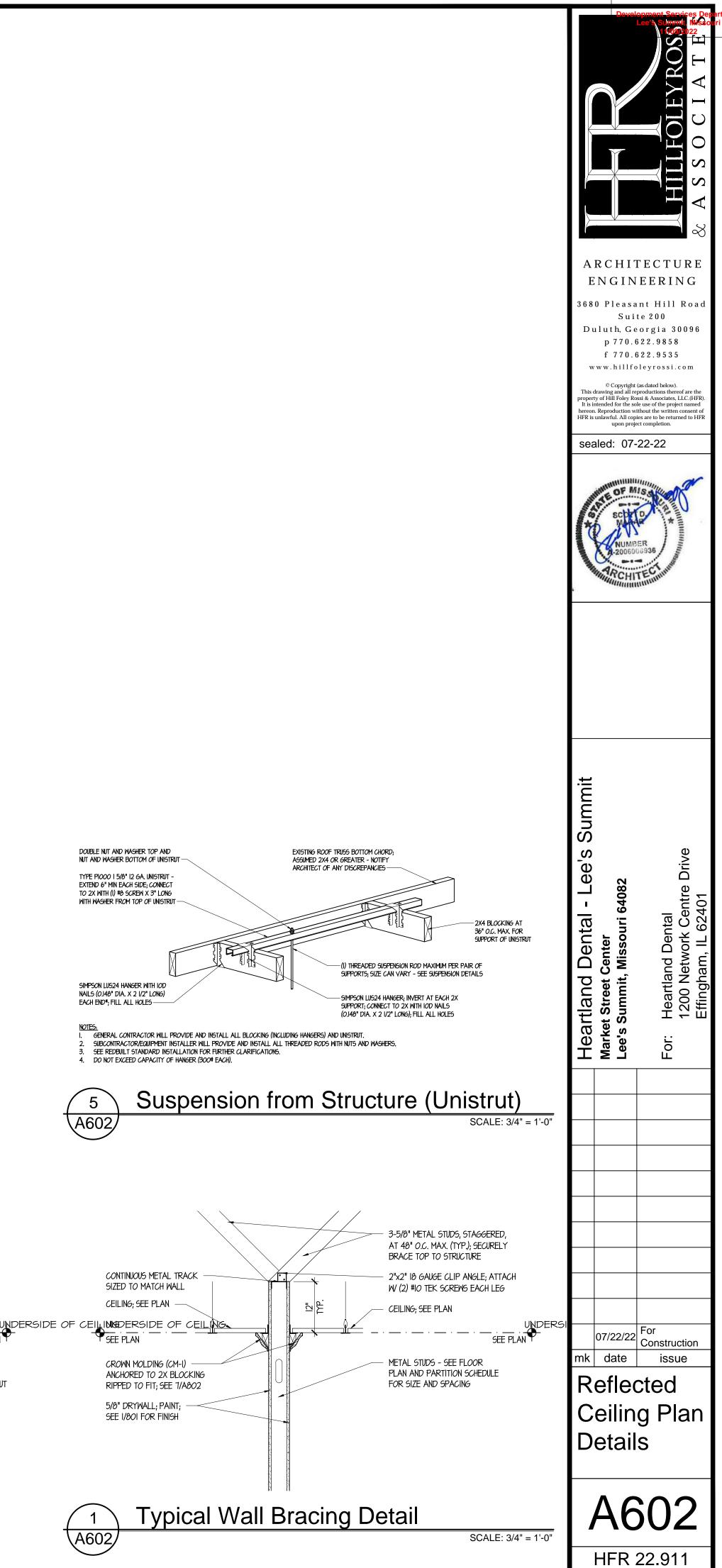
4' O.C. MAX. SPACING



SPACER BAR OR OTHER SUITABLE -SYSTEM TO KEEP PERIMETER COMPONENTS FROM SPREADING APART

| |/2'





			ROOM FINISH LEGEND
TYPE	MARK	MATERIAL	PRODUCT DESCRIPTION / SPECIFICATION
	CPT-I	CARPET TILE	PATCRAFT; 10349 FLUTTER MODULAR; COLOR: 00730 CHARCOAL GLIDER; 24"x24" LAID IN 1/4 TURN PATTERN; CARPET AND ADHESIVE SUPPLIED BY OWNER; G.C. TO INSTALL
FLOORIN	LVT-I	LUXURY VINYL TILE	PATCRAFT; STRATIFIED+ 1322V; COLOR: OOTTO DUSKY; 12"x24" LAID IN BRICK PATTERN; SUPPLIED BY OWNER; G.C. TO INSTALL
G	LVT-2	LUXURY VINYL TILE	PATCRAFT; LETTERPRESS 1311V; COLOR: 00500 SERIF; 24"x24" LAID IN MONOLITHIC PATTERN; SUPPLIED BY OWNER; G.C. TO INSTALL
	(T-I)	PORCELAIN TILE	ATLAS CONCORDE; MARVEL GEMS TERRAZZO CREAM; 12"x24" (UNPOLISHED) LAID IN BRICK PATTERN; GROUT: TEC IN-COLOR - PRALINE 928. SUPPLIED BY OWNER. G.C. TO INSTALL
TRANSITI	<u>(T5-I</u> )	TRANSITION STRIP	SCHLUTER VINPRO-S 1/8" (3MM) VPS 30 ATGB; BRUSHED NICKEL; FOR TRANSITION OF (CPT-1) TO (LVT-1). SUPPLIED BY OWNER. G.C. TO INSTALL; SEE DETAILS ON A802. TRANSITION STRIPS ARE (TS-1) UNLESS NOTED OTHERWISE.
ON STRIPS	<b>T5-2</b>	TRANSITION STRIP	SCHLIJTER DECO, E-STAINLESS STEEL TYPE 304; FOR TRANSITION OF (CPT-I) TO (T-I/T-2). SUPPLIED BY OWNER. G.C. TO INSTALL; SEE DETAILS ON A802
	(T5-3)	TRANSITION STRIP	REESE; S205A - FINISH: ALUMINUM MILL FINISH, FOR TRANSITION OF EXTERIOR TO INTERIOR.; SEE DETAILS ON A802
	(RB-I)	4" RESILIENT BASE	JOHNSONITE TRADITIONAL VINYL BASE; (40) BLACK; STANDARD; .080 GAUGE
WALL	(RB-2)	4" RESILIENT BASE	JOHNSONITE TRADITIONAL VINYL BASE; (40) BLACK; TOELESS; .080 GAUGE; USE AT CABINETRY TOE KICK
BASE	(MB-I)	7" WOOD BASE	PROFILE 22232-CB; IX POPLAR; STAINED (ST-I) MATTE FINISH
	(MB-2)	4" WOOD BASE	PROFILE 22136-CB; IX POPLAR; STAINED ST-I MATTE FINISH
	P-I	PAINT	SHERWIN WILLIAMS; (SW7104) "COTTON WHITE"; EGGSHELL LATEX
	(P-2)	PAINT	SHERWIN WILLIAMS; (SW7065) "ARGOS"; EGGSHELL LATEX
	(P-3)	PAINT	SHERWIN WILLIAMS; (SW7068) "GRIZZLE GRAY"; EGGSHELL LATEX
WALLS	(T-3)	PORCELAIN TILE	DAITILE RHETORIC ARISTOTLE WHITE ODYSSEY CERAMIC TILE; (MATTE). 8"x24". SUPPLIED BY OWNER. G.C. TO INSTALL.
	(TR-I)	CHAIR RAIL	PROFILE 2480-CRB AND 3248-ITC-BC; 3" WOOD CHAIR RAIL 32" A.F.F. ; POPLAR; STAINED (ST-I) MATTE FINISH
	(CR-I)	WOOD TRIM	KOETTER WOODWORKING - KW PART NUMBER 2480-CRB - 3/4" X 2-1/2" ; INSTALLED AT CHECK-IN AND CHECK-OUT COUNTERS AND PUBLIC RESTROOMS; SEE INTERIOR ELEVATIONS
	(ACT-I)	ACOUSTICAL TILE	ARMSTRONG; CORTEGA (704); ANGLED TEGULAR; 24x24x5/8"; WHITE W/ PRELUDE XL 15/16" EXPOSED TEE GRID
CEILING	CM-I	CROWN MOULDING	PROFILE 20168-B-CR; POPLAR; STAIN ST-I MATTE FINISH
	GYP. BD)	DRYWALL	TYPE X GYPSUM WALLBOARD FOR FIRE RATED CEILING LID; REFER TO 9/A602
STAIN	ST-I	STAIN	FACTORY-APPLIED. TO MATCH PL-2; MATTE FINISH
		CASEWORK	KOETTER; POPLAR; STAIN ST-I MATTE FINISH
	(PL-I)	PLASTIC LAMINATE	WILSONARTHD; SILVER TRAVERTINE; 1858K-55
CASEWO RK	(PL-2)	PLASTIC LAMINATE	STEVENS INDUSTRIES; LEGNO COLLECTION; WALNUT TIEPOLO; LI6 PARISIENNE
	Q-I	QUARTZ	LG HAUSYS VIATERA QUARTZ 30MM "ARIA"
	(SB-I)	SPEEDBRACE	"SPEEDBRACE" SUPPORTS; STANDARD BLACK FACTORY FINISH

# ROOM FINISH SCHEDULE

		FLC	DOR		CEILING		WALLS	MILLI	NORK	
R <i>OO</i> M #	R <i>oo</i> m Name	MATERIAL	WALL BASE	MATERIAL	FINISH	CROWN MOULD	FINISH	CABINET	TOP	COMMENTS
100	HALLWAY	CPT-I	WB-2	ACT-I		CM-I	P-I			REFER TO A503-A505; SEE "ALL 12 O'CLOCK WALLS"
101	WAITING	CPT-I, T-2	WB-2	ACT-I		CM-I	P-I, T-4	PL-2	Q-I	REFER TO AIO2 \$ A503-A505
102	BUSINESS	CPT-I	WB-2 / RB-2	ACT-I		CM-I	P-3	PL-2	PL-1, Q-1	REFER T/ A503-A505
103	MEN'S RESTROOM	T-I	T-3	ACT-I		CM-I	T-3, T-4, P-I	PL-2	Q-I	REFER TO ASOI
104	WOMEN'S RESTROOM	T-I	T-3	ACT-I		CM-I	T-3, T-4, P-I	PL-2	Q-I	REFER TO A501
2	DOCTOR'S OFFICE	CPT-I	RB-2	ACT-I			P-3	PL-2	PL-I	
113	SUPPLY CLOSET	CPT-I	RB-I	ACT-I			P-3	PL-2	PL-I, Q-I	REFER TO A503-A505
115	LAUNDRY & EQUIPMENT	LVT-2	RB-I	ACT-I			P-3			
6	STAFF RESTROOM	T-I	T-3	ACT-I			T-3, P-I			REFER TO ASOI
7	BREAK	LVT-I	RB-I	ACT-I			P-2	PL-2	PL-I	
120	SUPPLY CLOSET	CPT-I	RB-I	ACT-I			P-3	PL-2	PL-1, Q-1	REFER TO A503-A505
122	WORK AREA	LVT-I	RB-I	ACT-I			P-I	PL-2	PL-I	
125	I.T. CLOSET	CPT-I	RB-2	ACT-I			P-3	PL-2	PL-1, Q-1	REFER TO A503-A505
126	N20 CLOSET	LVT-I	RB-I	DRYWALL	P-3		P-3			
127	PANO	CPT-I	WB-2	ACT-I		CM-I	P-I			
128	OFFICE	CPT-I	RB-2	ACT-I			P-3	PL-2	PL-I	
							· · · ·			
	TREATMENT	LVT-I	WB-2	ACT-I		CM-I	P-2	PL-2	PL-I	RB-2 AT I2:00 STATION BASE CABINETS; SEE PLAN FOR ALTERNATE PAINT AT SELECT WALLS
	TREATMENT SUITE	LVT-I	WB-2	ACT-I		CM-I	P-2	PL-2	PL-I	RB-2 AT BASE CABINETS
	12 O'CLOCK WALLS		WB-2			CM-I	P-2, P-3, ST-I			HALLWAY SIDE ONLY; SEE 2/A504

<u>FL</u>	FLOOR FINISH PLAN LEGEND							
PATTERN	KEYNOTE	DESCRIPTION						
	CPT-I	CARPET TILE						
	LVT-I	Daltile, Langton LVF, Creekside Lt24/Lt34, 1.5 x 52						
	LVT-2	LUXURY VINYL TILE IN STACKED BOND PATTERN						
	(T-I)	Daltile, Unity, Avorio P400, Porcelain Tile, 12 x 24						
	Er 1927 1927 1927	INDICATES WALL FINISH; SEE FINISH TAG ON PLAN						
		INDICATES 12 O'CLOCK WALL FINISH; SEE FINISH TAG ON PLAN; SEE ELEVATIONS AND DETAIL 5B/AIO2						
		INDICATES FINISH FOR SOFFIT ABOVE AND WALL ALIGNED WITH SOFFIT						

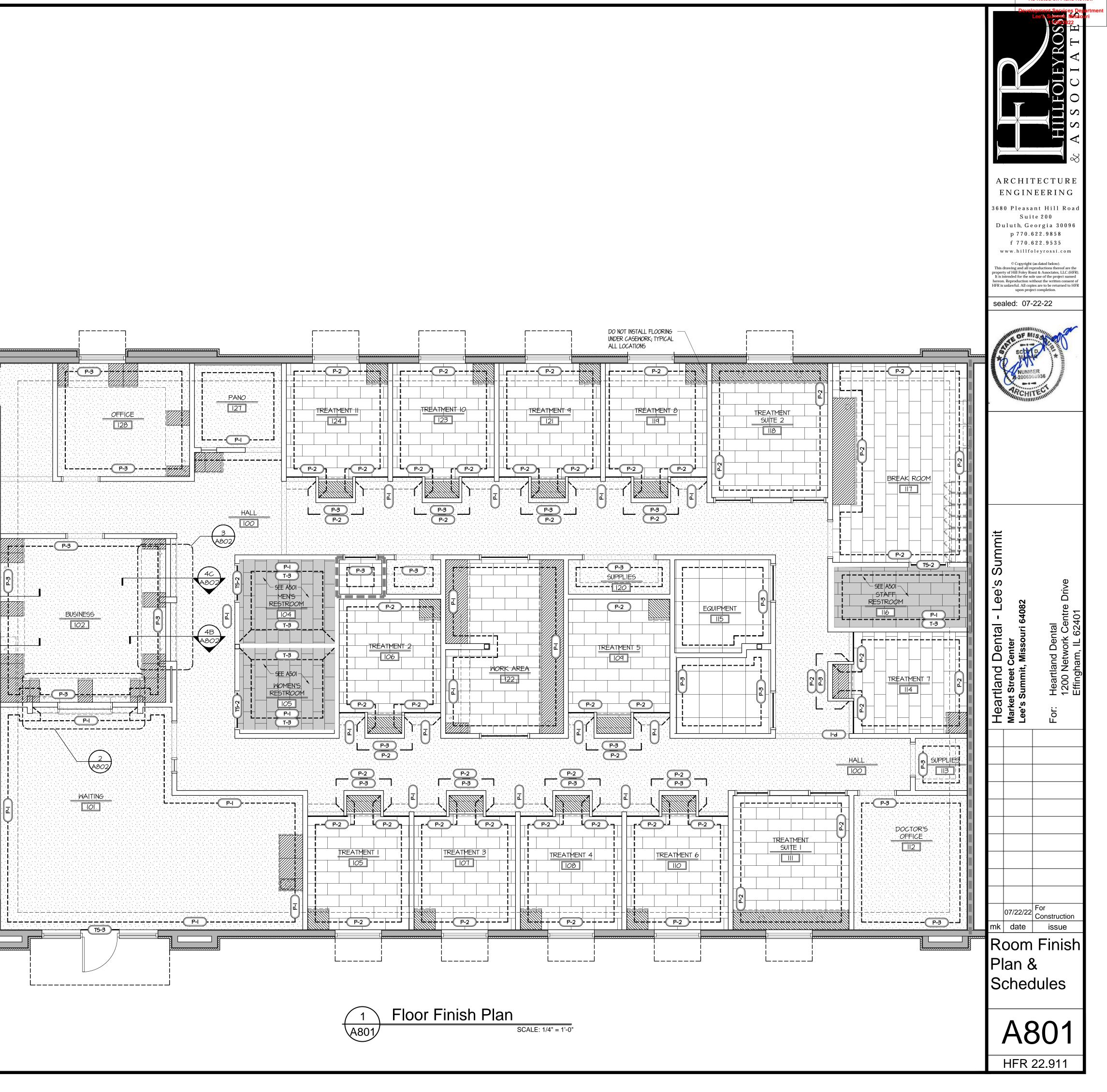
# ROOM FINISH NOTES

REFER TO INTERIOR ELEVATIONS FOR ADDITIONAL FINISH MATERIALS. <u>4802</u>

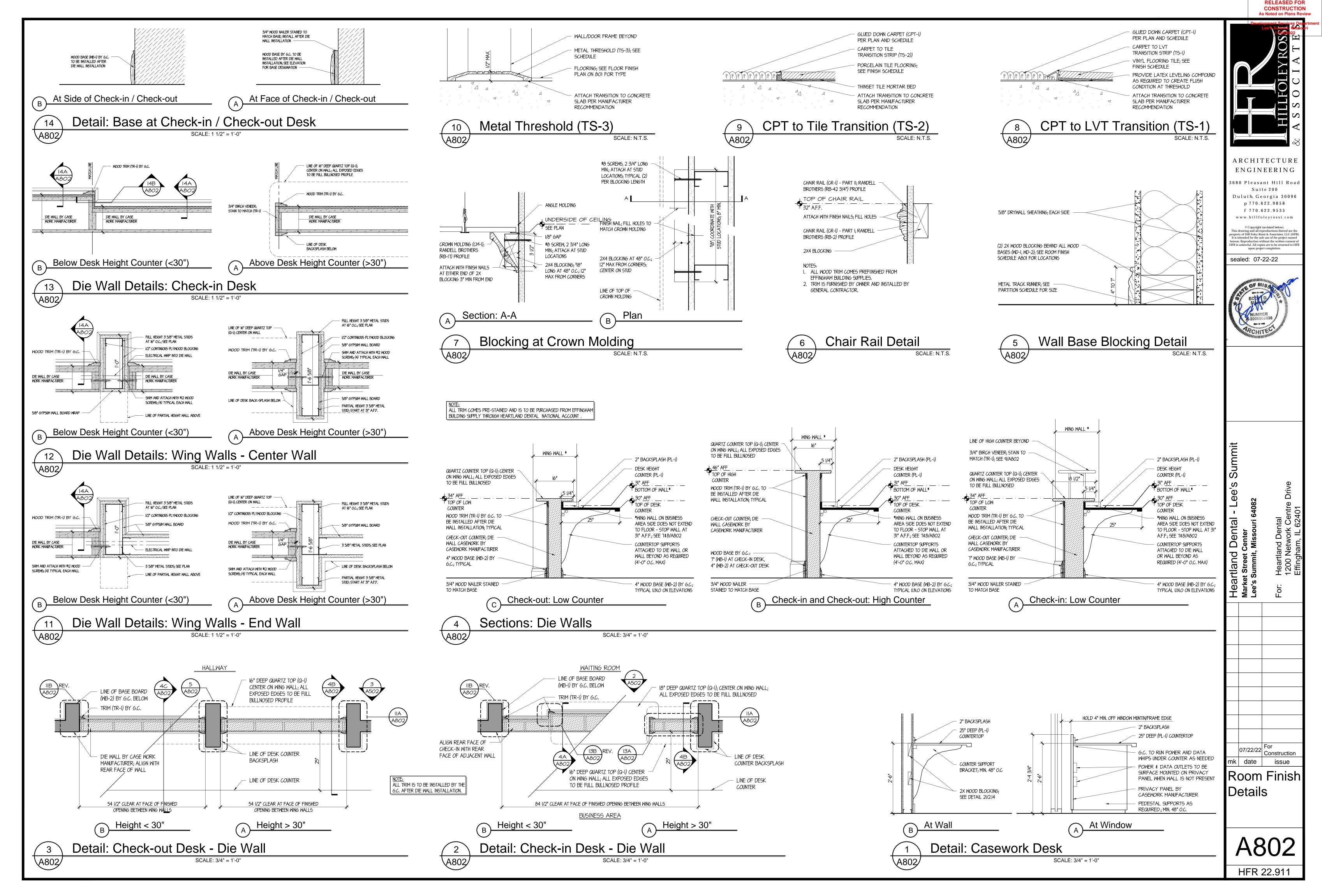
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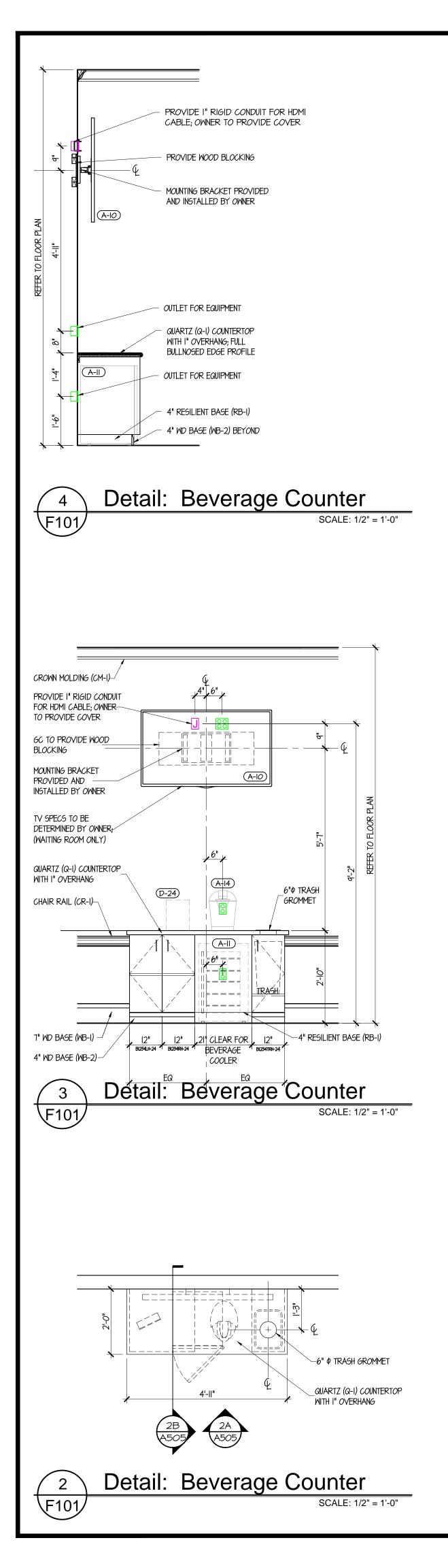
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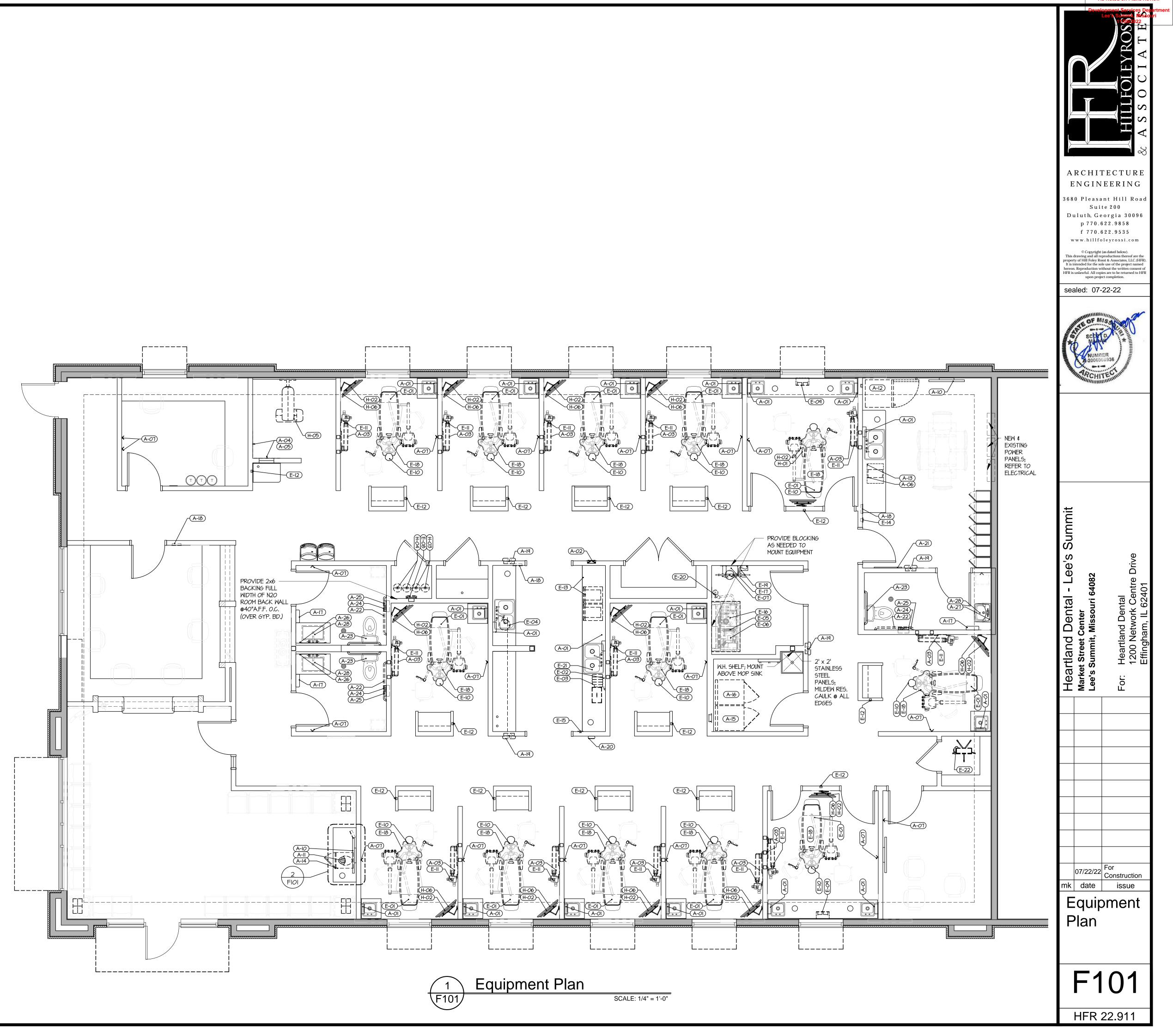
- . VERIFY COLORS, LOCATIONS AND MATERIALS W/ OWNER PRIOR TO ORDERING MATERIALS.
- ALL OUTLETS AND COVER PLATES TO BE COLOR: "WHITE" UNLESS LOCATED ON (PL-2 / ST-1) WHICH WILL BE COLOR: "DARK BROWN" OR "BRONZE" (OR AS DIRECTED BY OWNER).
- ALL CASEMORK IS TO BE PROVIDED BY THE MILLWORK MANUFACTURER SELECTED BY HEARTLAND DENTAL. G.C. TO COORD. W HEARTLAND CONSTRUCTION PROJECT MANAGER FOR COMPANY & CONTACT INFORMATION.
- ALL WOOD TRIM, DOORS, AND HARDWARE TO BE PROVIDED BY OWNER. CONTRACTOR TO PLACE ORDER AND DATE OF DEILVERY WITH EFFINGHAM BUILDERS SUPPPLY; G.C. TO CONTACT BILL METTE FOR QUANTITIES NEEDED; TELEPHONE: (217) 347-0567; (EMAIL) <u>BILL@GO2EBS.COM</u>
- CARPET TILE (CPT), LUXURY VINYL TILE (LVT) AND ADHESIVE PROVIDED OWNER, INSTALLED BY G.C.; CONTACT MELANIE JOHNSON AT <u>MELANIE.JOHNSON@SHAWINC.COM</u> AND COPY (EMAIL) <u>TODD.HEILMAN@PATCRAFT.COM</u> TO ORDER MATERIALS; TELEPHONE: (800) 241-4014
- CERAMIC AND DECORATIVE TILE PROVIDED BY OWNER, INSTALLED BY G.C.; CONTACT KEVIN PARDO AT (EMAIL) <u>KEVIN.PARDO@VIRGINIATILE.COM</u> TO ORDER TILE AND GROUT; TELEPHONE: (636) 734-5080
- G.C. TO PROVIDE THE OWNER WITH THREE (3) CARTONS OF CARPET TILES AND ONE (1) CARTON OF CEILING TILES AT END OF PROJECT.



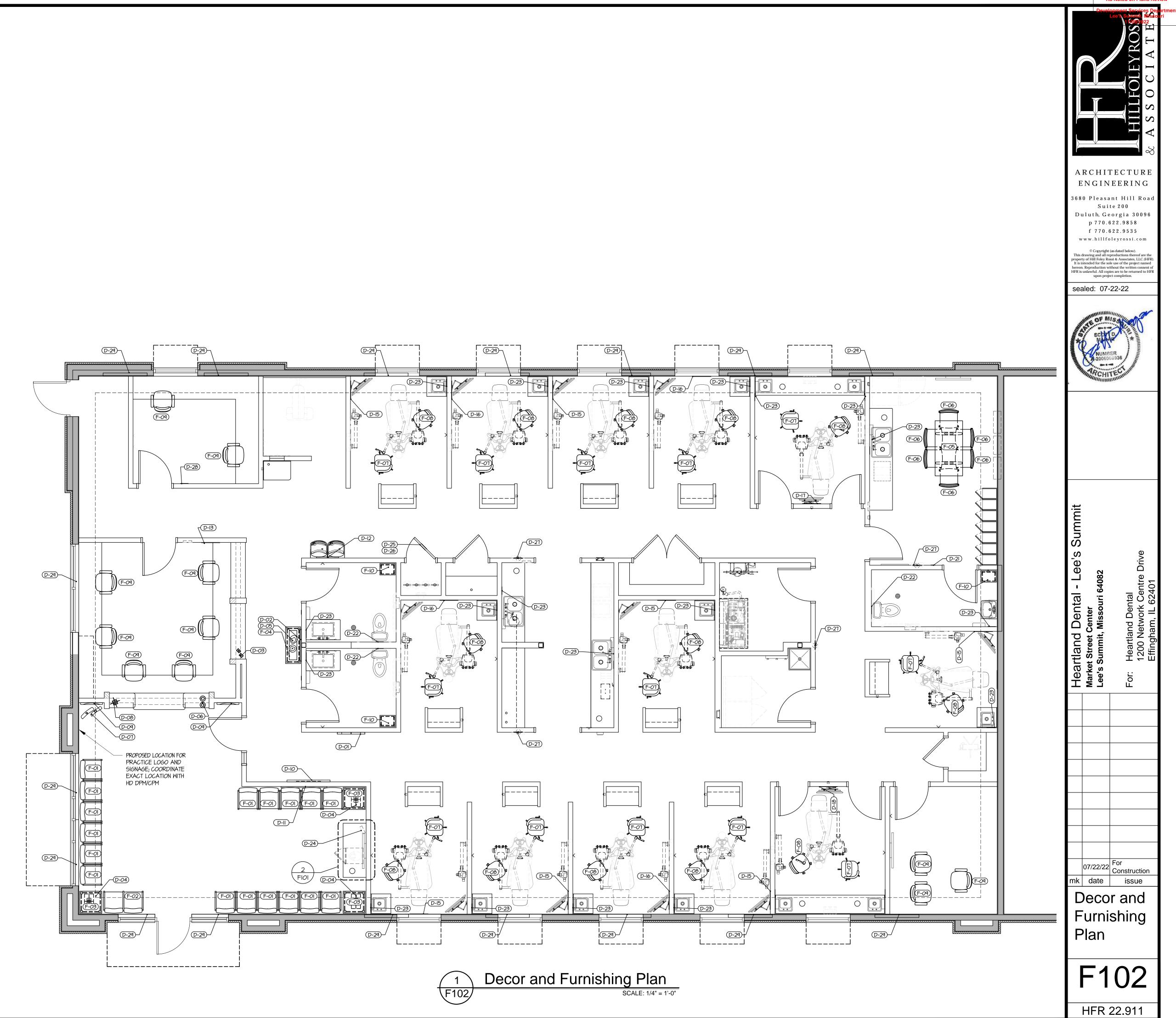














	EQUIPMENT SCHEDULE (PROVIDED BY G.C.)										
Item #	Count	Description	Manufacturer	Model #	Supplied By	Installed By	Connected By				
A-28	3	Insulation for Plumbing			G.C.	G.C.	G.C.				
D-19	1	Restroom Signage (Men)			G.C.	G.C.	N.A.				
D-20	1	Restroom Signage (Women)			G.C.	G.C.	N.A.				
D-21	1	Restroom Signage (Unisex)			G.C.	G.C.	N.A.				
D-23	21	Wash Your Hands (OSHA)	NONE	N.A.	G.C.	G.C.	N.A.				
D-24	1	Cover Your Cough (OSHA)	NONE	N.A.	G.C.	G.C.	N.A.				
D-25	1	Medical Gas (Caution)	NONE	N.A.	G.C.	G.C.	N.A.				
D-26	1	Medical Gas (Tank Room Instructions)	NONE	N.A.	G.C.	G.C.	N.A.				
D-27	4	Life Safety Plan (Framed)	NONE	N.A.	G.C.	G.C.	N.A.				
E-02	1	Air Line & Valve	N.A.	N.A.	G.C.	G.C.	G.C.				

			EQUIPMENT	SCHEDULE	(ORDER FROM S	BEARS THROUGH	HEARTLAND DENT.	AL NATIONAL
Item #	Count	Description	Manufacturer	Model #	Supplied By	Installed By	Connected By	
A-11	1	Beverage Cooler	Vinotemp	VT-28TEDS	Owner	G.C.	G.C.	
A-12	1	Refrigerator	Kenmore	70615	Owner	G.C.	G.C.	
A-13	1	Microwave Oven	Kenmore	75653	Owner	G.C.	G.C.	
A-15	1	Front Load Washer	Kenmore	41362	Owner	G.C.	G.C.	
A-16	1	Front Load Dryer	Kenmore	81362	Owner	G.C.	G.C.	

			EQUIPMENT	SCHEDULE (	ORDER FROM ST	TAPLES THROUGH	HEARTLAND DEN	TAL NATIONAL
Item #	Count	Description	Manufacturer	Model #	Supplied By	Installed By	Connected By	
A-06	1	Coffee Brewer (12 cup)	Mr. Coffee	VBX23-NP	Owner	G.C.	G.C.	
A-14	1	Coffee Brewer	Keurig	B140 Office Pro	Owner	G.C.	G.C.	
A-21	1	Dry Erase Board (30X18)			Owner	G.C.	NA	
F-01	17	Waiting Room Chair - Lenox	Lesro	LW1101G	Owner	G.C.	NA	With arm no arm
F-02	1	Waiting Room (2) Seat Sofa - Lenox	Lesro	LW2101G	Owner	G.C.	NA	With arm no ar
F-03	3	End / Corner Table - Lenox	Lesro	LW1372T5	Owner	G.C.	NA	
F-04	1	Hallway Table - Genoa	Winsome Trading	92450	Owner	G.C.	NA	
F-05	1	Dining Table (30 x 60)	Hon	HTLC3060	Owner	G.C.	NA	Rectangular, grad
F-06	6	Dining Chairs	Hon	H4073	Owner	G.C.	NA	
F-09	11	Office Chair - Corvair	Staples	23097	Owner	G.C.	NA	
F-10	3	Bathroom Storage - Omaha	Winsome Trading	(20418) 55508	Owner	G.C.	NA	
L								

	EQUIPMENT SCHEDULE (ORDER FROM EFFINGHAM BUILDERS SUPPLY THROUGH HEARTLAND DENTAL							
Item #	Count	Description	Manufacturer	Model #	Supplied By	Installed By	Connected By	
A-01	18	Paper Towel Holder	Bobrick	B-262	Owner	G.C.	G.C.	
A-05	2	FRP Wall Guard			Owner	G.C.	G.C.	
A-07	19	Coat Hook	National Hardware	V163	Owner	G.C.	G.C.	
A-09	1	Mop / Broom Holder	Bobrick	B-223x24	G.C.	G.C.	G.C.	
A-17	3	Hand Dryer	Bobrick	B-7128	Owner	G.C.	G.C.	
A-19	4	Recessed Fire Extinguisher Cabinet	Ambassador Steel	1017	Owner	G.C.	G.C.	
A-22	3	42" Horizontal Grab Bar	Bobrick	B-5806 x 42"	Owner	G.C.	G.C.	
A-23	3	36" Horizontal Grab Bar	Bobrick	B-5806 x 36"	Owner	G.C.	G.C.	
A-24	3	18" Vertical Grab Bar	Bobrick	B-5806 x 18"	Owner	G.C.	G.C.	
A-25	3	Recessed Toilet Paper Dispenser	Bobrick	B-699	Owner	G.C.	G.C.	
A-26	2	Mirror (24" x 42")			Owner	G.C.	G.C.	
A-27	1	Mirror (18" x 30")			Owner	G.C.	G.C.	
L								

						L (URDER FRUI	M HEARTLAND DENTA	L)
ltem #	Count	Description	Manufacturer	Model #	Supplied By	Installed By	Connected By	Comments
A-10	3	LED Television 42"			Owner	G.C.	G.C.	
A-18	3	Speaker Control Box			Owner	G.C.	G.C.	Low Voltage contractor to provide and install controls; to provide empty junction box
A-20	1	AED Defibrillator	HeartSine	350P	Owner	G.C.	G.C.	
D-01	1	Baiano	Uttermost	8089	Owner	G.C.	NA	
D-02	1	Seymour	Uttermost	14465	Owner	G.C.	NA	
D-03	1	Anabella Bottles (2 per set)	Uttermost	20076	Owner	G.C.	NA	
D-04	3	Caffaro Lamp	Uttermost	27143-1	Owner	G.C.	NA	
D-05	1	Carla Vases (2 per set)	Uttermost	20084	Owner	G.C.	NA	
D-06	1	Sara Vases (2 per set)	Uttermost	20156	Owner	G.C.	NA	
D-07	1	Cierra Vases (2 per set)	Uttermost	20187	Owner	G.C.	NA	
D-08	1	Tamra Light	Uttermost	18712	Owner	G.C.	NA	
D-09	1	Sybil Square (2 per set)	Uttermost	4106	Owner	G.C.	NA	
D-10	1	Windblown Oil Reproduction	Uttermost	41390	Owner	G.C.	NA	
D-11	1	Smile Photo (40"x50")		Custom	Owner	G.C.	N.A.	Final selection by Heartland Dental operations
D-12	1	Smile Photo (20"x24")		Custom	Owner	G.C.	N.A.	Final selection by Heartland Dental operations
D-13	1	Financing Poster (20" x30")		OC166_14_3	Owner	G.C.	N.A.	
D-14	1	Comfort Amenities Poster (20" x30")		OC166_15_3	Owner	G.C.	N.A.	
D-15	7	Crowns Poster (20" x30")		OC163_1_3	Owner	G.C.	N.A.	
D-16	4	Fluoride Poster (20" x30")		OC166_3_1	Owner	G.C.	N.A.	
D-17	1	Periodontal Disease Poster (20" x30")		OC162_4	Owner	G.C.	N.A.	
D-18	1	Oral Cancer Poster (20" x30")		OC157_2	Owner	G.C.	N.A.	
D-22	3	Restroom Signage (Girly)	NONE	N.A.	Owner	G.C.	N.A.	
H-02	13	32" LCD Monitor	Samsumg		Heartland	Heartland	G.C.	Mounted to wall mount

EQUIPMENT SCHEDULE (PATTERSON INSTALLER TO ORI							
ltem #	Count	Description	Manufacturer	Model #	Supplied By		
H-03	2	Nitrous Oxide Tank	Airgas		Patterson		
H-04	2	Oxygen Cylinder	Airgas		Patterson		

	EQUIPMENT SCHEDULE (ORDER FROM GINGER HU							
ltem #	Count	Description	Manufacturer	Model #	Supplied By			
D-29	16	Blinds	None	N.A.	Owner			

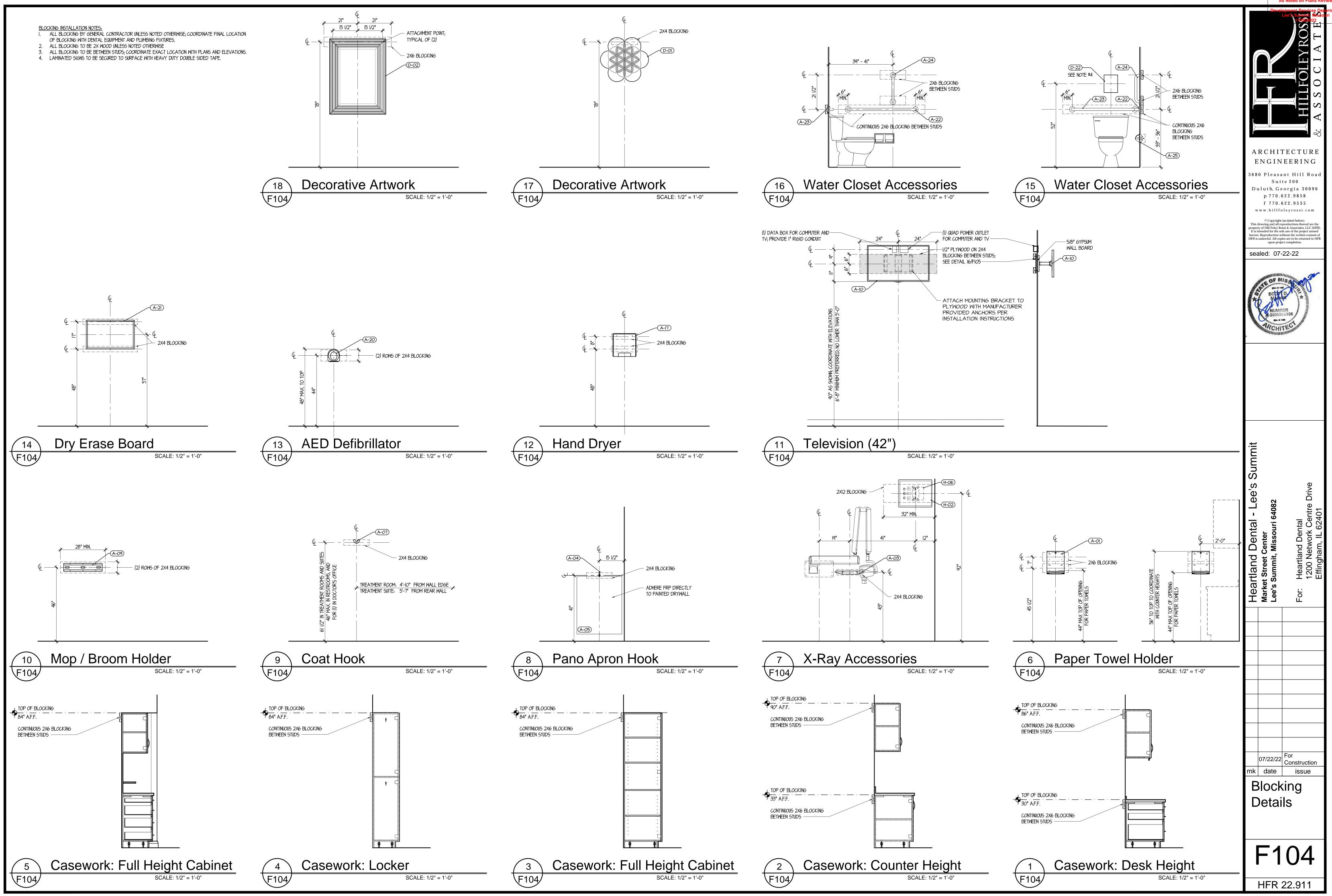
# EQUIPMENT SCHEDULE (ORDER FROM PATTER

ltem #	Count	Description	Manufacturer	Model #	Supplied By
A-02	1	Med Gas Alarm Panel	Porter Sentinel System Mainfold	Sentinel Zone Valve: 9000-1	Owner
A-03	13	Lead Apron Hanger			Owner
A-04	2	Pano Apron Hanger			Owner
E-01	13	Utility Center	DCI	Edge Series 5	Patterson
E-03	1	Ultrasonic Cleaner	Henry Schein	Maxissweep S3100	Patterson
E-04	1	Plaster Trap	NA	NA	Patterson
E-05	1	Air Compressor	Air Techniques	Airstar 70	Patterson
E-06	1	Vacuum Pump, Dry	Air Techniques	Mojave 2V5	Patterson
E-07	1	Water Solenoid			Patterson
E-08	1	Sentinel Manifold System	Parker Porter	3222 CX (Wall)	Patterson
E-09	2	Nitrous Oxide Flowmeter	Parker Porter	NA	Patterson
E-10	13	Dental Light	DCI	Edge Series 5 Light	Patterson
E-11	13	Intraoral X-Ray System	Instrumentarium	Focus	Patterson
E-12	14	X-Ray Remote Button			Patterson
E-13	2	Autoclave / Sterilizer	Midmark	M11 Ultraclave	Patterson
E-14	1	Control Panel (3 Switch)	Air Techniques	P/N 53133	Patterson
E-15	1	N2O-O2 System Alarm	Parker Porter	Sentinel	Patterson
E-16	1	Storage Tank	Air Techniques	MT10	Patterson
E-17	1	Master Controller	Air Techniques		Patterson
E-18	13	Patient Chair	DCI	Edge Series 5	Patterson
E-19	1	Remote Water Control Valve Transformer	Air Techniques	Custom	Patterson
E-20	1	Amalgam Separator	Soletex	HG5-001	Patterson
E-21	1	Quattrocare	KaVo		Patterson
E-22	1	Intraoral Scanner	Itero	Element	Patterson
E-23	1	Faucet Mounted Eyewash	Itero	G1100	Patterson
F-07	13	Assistant Stool	Brewer	3145L	Owner
F-08	13	Doctor's Chair	Brewer	3125B	Owner
H-05	1	Digital Panoramic System	Kavo	OP	Patterson
H-06	13	Wall Arm Mount	ICW	UL500-W3-A2-QG	Owner

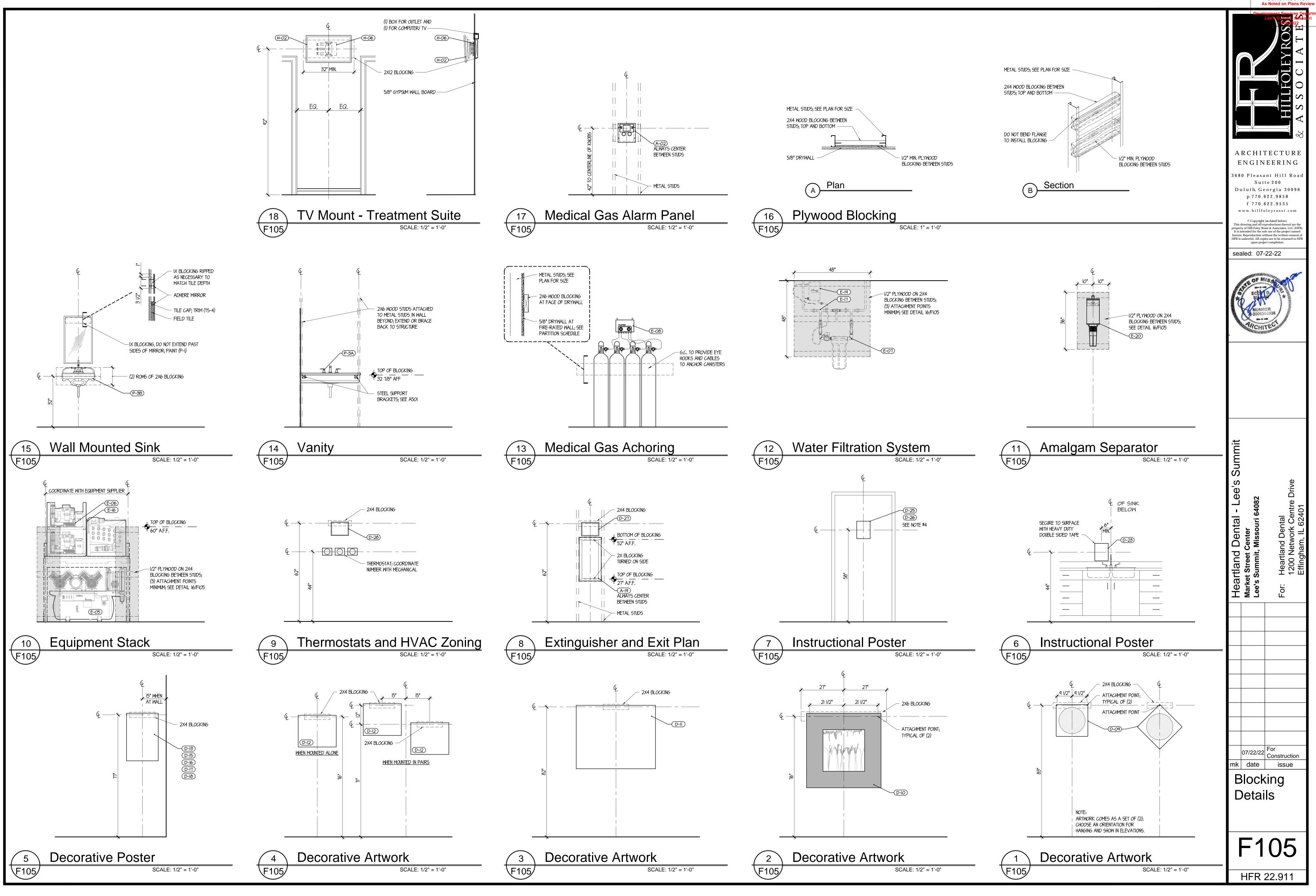
	<u>NATIONA</u>
SUPPLIER	CC
EFFINGHAM BUILDERS SUPPLY	BILL Billø
HEARTLAND DENTAL	TABITHA BA TBaileya
PATTERSON DENTAL	DAVID LUCKENBAUGH - OF David.Luckenbau

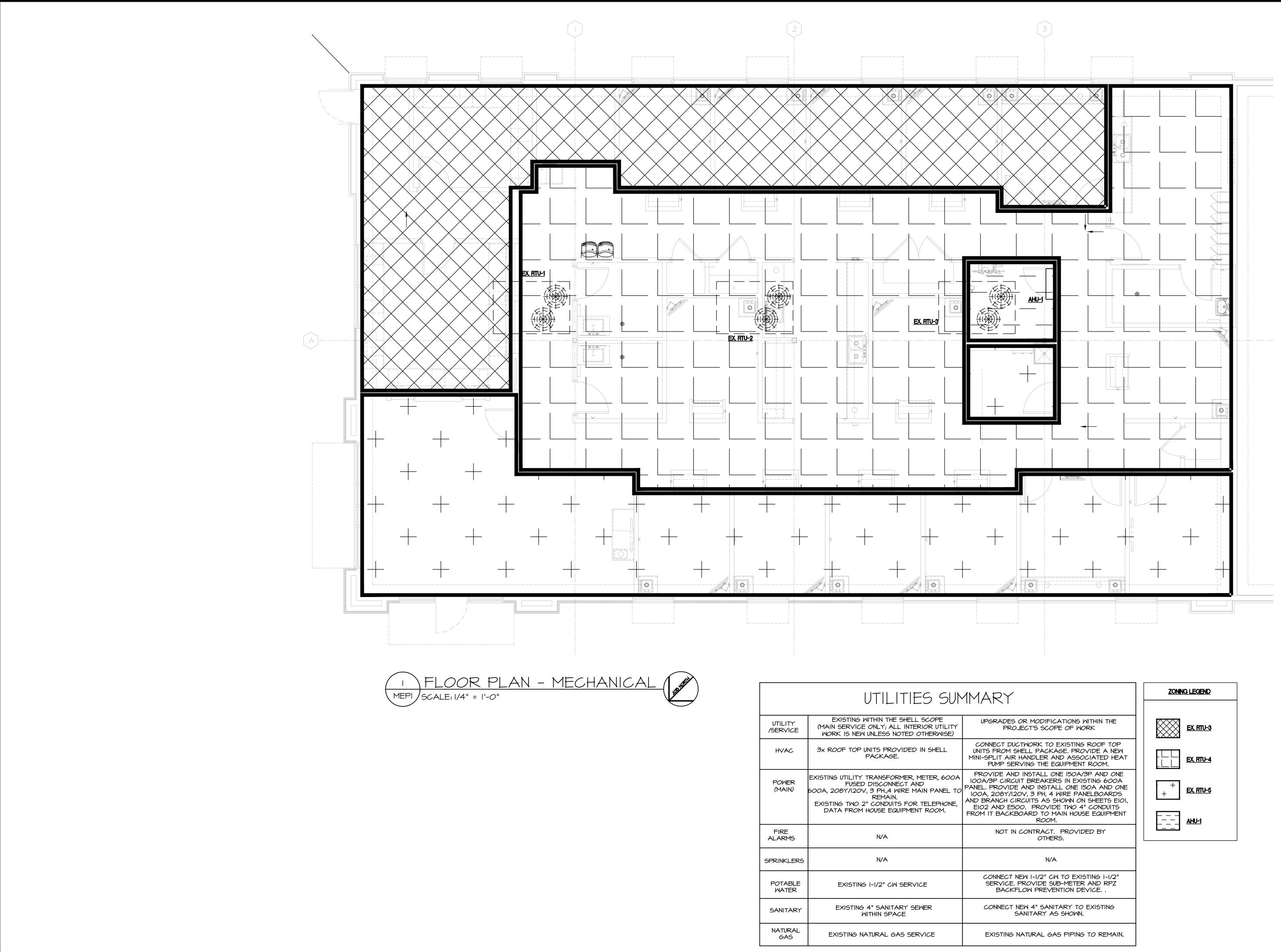
RELEASED FOR CONSTRUCTION As Noted on Plans Review

				Development Services Der
ER T <i>O O</i>	RDER FROM AIR	GAS THROUGH HEA	RTLAND DENTAL NATIONAL ACCOUNT)	Lee's Stramt, IWSsou 1 (00)2022
ied By	Installed By	Connected By	Comments	
terson	Patterson	G.C.	493 Cu. Ft. capacity	A
terson	Patterson	G.C.	251 Cu. Ft. capacity	
GINGER	HUFF INTERIORS	AT (618) 791-9113; <u>6</u>	HI@GINGERHUFFINTERIORS.COM)	
ied By	Installed By	Connected By	Comments	
wner	Vendor	N.A.	Vendor to confirm final locations with Owner and required length(s) of blinds with field conditions	
				X X X X X X X X
	RSON DENTAL TH	ROUGH HEARTLANI	DENTAL NATIONAL ACCOUNT)	
ied By	Installed By	Connected By	Comments	ARCHITECTURE
vner	G.C.	G.C.	Mounting height 42" to centerline of knobs	ENGINEERING
vner	G.C.	G.C.		3680 Pleasant Hill Road Suite 200
				Duluth, Georgia 30096
vner	G.C.	G.C.	Owner to verify mounting locations	p 770.622.9858 f 770.622.9535
erson	Patterson	G.C.		www.hillfoleyrossi.com
erson	G.C.	G.C. G.C.	Compressed air connection	© Copyright (as dated below). This drawing and all reproductions thereof are the property of Hill Foley Rossi & Associates, LLC.(HFR).
erson	Patterson	G.C.		It is intended for the sole use of the project named hereon. Reproduction without the written consent of HFR is unlawful. All copies are to be returned to HFR
erson	Patterson	G.C.		upon project completion.
erson	G.C.	G.C.	Attached to (E-19) remote water control valve transformer	sealed: 07-22-22
erson	Patterson Patterson	G.C. G.C.		
erson	Patterson	Patterson		STE OF MIS
erson	Patterson	G.C.	Requires (2) 2x4 wood posts; See 5/F101	schild *
erson	Patterson Patterson	G.C. G.C.	110V dedicated outlet	NUMBER
erson	G.C.	G.C.		
erson	Patterson	G.C.	110 Power Overhead	MARCHITEC Internation
erson	Patterson Patterson	G.C. G.C.	Connected to E07 & E19	
erson	Patterson	G.C.		
erson	Patterson	G.C.		
erson	Patterson Patterson	G.C. G.C.	See Plumbing 1/4" air line with 58 to 87 psi air pressure, 45 psi max.	
erson	Patterson Patterson	G.C.	28" min. clear floor space required	
erson	Plumber		Plumbing Contrator to install on Faucet (P9)	
vner	G.C. G.C.	NA NA		
vner	Patterson	G.C.	Coordinate final selection with HD DPM; If CEPH arm is installed, install at 7 degrees from wall;	
vner	Owner	G.C.	coordinate base plate location with manufacturer Provide blocking per details on F104 & F105	Summit
				Heartland Dental - Lee's       Market Street Center       Market Street Center       Lee's Summit, Missouri 64082       For:     Heartland Dental       1200 Network Centre Drive       Effingham, IL 62401
BILL BIII ABITHA BA TBaile BAUGH - C	y@heartland.com - ( DPERATIONS MANAG	MATION CIAL SALES 1) 347-0567 IENT COORDINATOR		07/22/22 For Construction mk date issue Equipment Schedules F103
				HFR 22.911



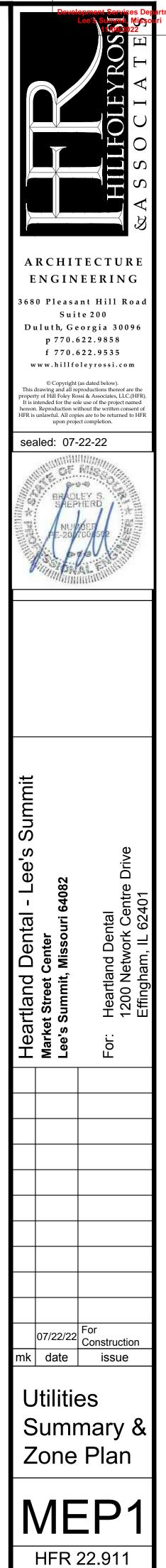
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	UTILITIES SUN	1MA
UTILITY /SERVICE	EXISTING WITHIN THE SHELL SCOPE (MAIN SERVICE ONLY; ALL INTERIOR UTILITY WORK IS NEW UNLESS NOTED OTHERWISE)	UPG
HVAC	3x ROOF TOP UNITS PROVIDED IN SHELL PACKAGE.	CONN UNITS MINI-SF P
POWER (MAIN)	EXISTING UTILITY TRANSFORMER, METER, 600A FUSED DISCONNECT AND 600A, 208Y/120V, 3 PH.,4 WIRE MAIN PANEL TO REMAIN. EXISTING TWO 2" CONDUITS FOR TELEPHONE, DATA FROM HOUSE EQUIPMENT ROOM.	PROV 100A/3 PANEL. F 100A, : AND BR/ E102 FROM IT
FIRE ALARMS	N/A	
SPRINKLERS	N/A	
POTABLE WATER	EXISTING I-1/2" CW SERVICE	CC SE
SANITARY	EXISTING 4" SANITARY SEWER WITHIN SPACE	CC
NATURAL GAS	EXISTING NATURAL GAS SERVICE	E>





	HVAC LEGEND		TEST &	BALANCE / SYSTEM C
	EQUIPMENT DESIGNATION	AFTER CON AND BALAN	<u>MMISSIONING:</u> STRUCTION, THE ENTIRE HVAC SYSTEM SHALL BE VER ICED BY AN INDEPENDENT NEBB OR AABC TEST AND IE AIR AND/OR WATER QUANTITIES SHOWN ON THE DR.	BALANCE AGENCY TO
TAG T S	THERMOSTAT REMOTE TEMPERATURE SENSOR	INCLUDE:	UNITS (RTU'S, FURNACES, AHU'S, ENERGY RECOVERY UN	NITS, ETC.):
E E	HUMIDISTAT WALL SWITCH		ALANCED AIR QUANTITIES TO WITHIN 10% +/- OF THE S ESIGN DOCUMENTS (DO NOT BALANCE RETURN AIR UNL I THE DOCUMENTS).	ESS SPECIFICALLY NOTED
$\boxtimes$	CEILING DIFFUSER	AT PR	20VIDE TRAVERSE READINGS FOR POSITIONING OF V RTU INTAKE HOOD AND/OR DUCTWORK FOR AHU'S, FI 20PORTIONAL ADJUSTMENT OF VENTILATION BASED C NUS RETURN AIR QUANTITY IS NOT ACCEPTABLE.	URNACES, ETC. A. N SUPPLY AIR QUANTITY
	RETURN GRILLE	C. DA	ATE OF BALANCING ITDOOR AMBIENT CONDITIONS INCLUDING; TEMPERATUR	
	EXHAUST GRILLE	E. RE	TURN AIR TEMPERATURE (WB&DB)	RE AND HUMIDITT LEVEL.
A 450 CFM	AIR DISTRIBUTION DESIGNATION	G. DI: H. DI:	XED AIR TEMPERATURE (WB&DB) SCHARGE AIR TEMPERATURE (WB&DB) AT THE COIL SCHARGE AIR TEMPERATURE (WB&DB) AT THE AIR DI ERIGERANT CHARGE (SPLIT SYSTEMS ONLY)	STRIBUTION TERMINAL 3. REI
	SIDEWALL REGISTER	J. MC	DTOR ROTATION IPERAGE READINGS FOR MOTORS AND COMPRESSOR	
	MOTOR OPERATED DAMPER			
	MANUAL OPERATED DAMPER		UTILITIES SUN	MARY
	TURNING VANES	UTILITY /SERVICE	EXISTING WITHIN THE SHELL SCOPE (MAIN SERVICE ONLY; ALL INTERIOR UTILITY WORK IS NEW UNLESS NOTED OTHERWISE)	UPGRADES OR MODIFICATIONS WITHIN THE PROJECT'S SCOPE OF WORK
\$	SMOKE DETECTOR	HVAC	3x ROOF TOP UNITS PROVIDED IN SHELL PACKAGE.	CONNECT DUCTWORK TO EXISTING ROOF TOP UNITS FROM SHELL PACKAGE. PROVIDE A NEW MINI-SPLIT AIR HANDLER AND ASSOCIATED HEAT PUMP SERVING THE EQUIPMENT ROOM.
SIZE	TRANSFER OPENING	POWER (MAIN)	EXISTING UTILITY TRANSFORMER, METER, 600A FUSED DISCONNECT AND 600A, 208Y/120V, 3 PH.,4 WIRE MAIN PANEL TO	PANEL. PROVIDE AND INSTALL ONE ISOA AND ONE
	NEW DUCTWORK		REMAIN. EXISTING TWO 2" CONDUITS FOR TELEPHONE, DATA FROM HOUSE EQUIPMENT ROOM.	AND BRANCH CIRCUITS AS SHOWN ON SHEETS EIOI, EIO2 AND E500. PROVIDE TWO 4" CONDUITS FROM IT BACKBOARD TO MAIN HOUSE EQUIPMENT
AFF DB CFM DDC	ABOVE FINISHED FLOOR DRY BULB CUBIC FEET PER MINUTE DIRECT DIGITAL CONTROL	FIRE ALARMS	N/A	ROOM. NOT IN CONTRACT. PROVIDED BY OTHERS.
EF EAT EWT	EXHAUST FAN ENTERING AIR TEMPERATURE ENTERING WATER TEMPERATURE	SPRINKLERS	N/A	N/A
ESP FCU IN. W.G. LAT	EXTERNAL STATIC PRESSURE FAN COIL UNIT INCHES WATER GAUGE LEAVING AIR TEMPERATURE	POTABLE WATER	EXISTING I-1/2" CW SERVICE	CONNECT NEW I-1/2" CW TO EXISTING I-1/2" SERVICE. PROVIDE SUB-METER AND RPZ BACKFLOW PREVENTION DEVICE
LMT OA RA ML	LEAVING WATER TEMPERATURE OUTSIDE AIR RETURN AIR WALL LOUVER	SANITARY	EXISTING 4" SANITARY SEWER WITHIN SPACE	CONNECT NEW 4" SANITARY TO EXISTING SANITARY AS SHOWN.
WB VAV VFD	WET BULB VARIABLE AIR VOLUME TERMINAL VARIABLE FREQUENCY DRIVE	NATURAL GAS	EXISTING NATURAL GAS SERVICE	EXISTING NATURAL GAS PIPING TO REMAIN.

BALANCE /	SYSTEM	COMMISSIONING:

ERIFIED, TESTED, ADJUSTED, D BALANCE AGENCY TO	L. VERIFY PROGRAMMING OF THERMOSTATS/EMS L.I. UNITS ARE TO BE SET TO THE FOLLOWING: L.I.I. MINIMUM 7 DAY PROGRAMMING CYCLE	I. ALL MECHANIC CODES WITH A ORDINANCES.
RAWINGS. THE REPORT IS TO	L.I.2. UNITS EVAPORATOR FAN TO OPERATE CONTINUOUSLY DURING OCCUPIED MODE AS DETERMINED BY OWNER'S PERSONNEL. THERMOSTATS INSTALLED SHOULD HAVE THE ABILITY TO SEPARATELY SCHEDULE EVAPORATOR FAN RUN TIME, IF NOT REPORT THIS TO GENERAL CONTRACTOR FOR IMMEDIATE	2. ALL MECHANIC EACH PIECE C CONTRACTOR
SUPPLY INDICATED ON THE NLESS SPECIFICALLY NOTED	CORRECTION. L.I.3. UNIT EVAPORATOR FANS ARE TO CYCLE DURING UNOCCUPIED/SETBACK MODES. . EXHAUST SYSTEMS:	3. THE SMOKE DE SMOKE, AND S SYSTEM, THE D
VENTILATION (OUTSIDE AIR) FURNACES, ETC. ON SUPPLY AIR QUANTITY	A. BALANCED AIR QUANTITIES TO WITHIN 10% +/- OF THE SUPPLY INDICATED ON THE DESIGN DOCUMENTS	4. SUPPLY, RETUR RECOMMENDED
URE AND HUMIDITY LEVEL.	<ul> <li>B. MOTOR ROTATION</li> <li>C. VERIFY PROGRAMMING OF TIME CLOCKS/EMS</li> <li>C.I. UNITS ARE TO BE SET TO THE FOLLOWING:</li> <li>C.I.I. MINIMUM 7 DAY PROGRAMMING CYCLE</li> </ul>	TO WITHSTAND DUCTWORK SH PER SMACNA DUCTWORK SH
	C.I.2. FANS ARE TO BE SET ON THE EXACT SAME OPERATING SCHEDULE AS THE HVAC UNITS EXCEPT AS NOTED ON THE "EXHAUST FAN SCHEDULE" ON THE DESIGN DRAWINGS.	5. FLEXIBLE DUC LONG. FLEXIE SUPPORTED W
DISTRIBUTION TERMINAL 3.	C.I.3. VERIFY AND REPORT CONTROL DEVICE FOR ALL FANS (SWITCH, TIME CLOCK, EMS, MARK-TIMER, ETC. . REPORT SHALL INCLUDE DRAWING OR SCHEMATIC INDICATING THE LOCATION OF EACH OUTLET WITH REFERENCE TO MEASURED AIR FLOW QUANTITY.	6. CONDENSATE CONDENSATE REQUIREMENTS
ORS 4.	. PROVIDE FOUR (4) COPIES OF REPORT TO ARCHITECT.	ONE INCH NOM ASJ/SSLII OR

# MECHANICAL SPECIFICATIONS AND NOTES

HANICAL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE 2018 INTERNATIONAL MECHANICAL NITH ALL STATE AND LOCAL AMENDMENTS, THE STATE ENERGY CODE, NEPA 90A, NEPA 101 AND ANY LOCAL

HANICAL EQUIPMENT REQUIRING ELECTRICAL POWER SHALL BE INSTALLED WITH DISCONNECT SWITCHES AT ECE OF EQUIPMENT. COORDINATE SWITCH REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR. IT IS THE CTOR'S RESPONSIBILITY TO COORDINATE ALL ELECTRICAL REQUIREMENTS.

KE DETECTOR INDICATED ON THE DRAWINGS SHALL BE WIRED TO STOP THE FAN UPON DETECTION OF AND SIGNAL THE BUILDING FIRE ALARM SYSTEM (IF APPLICABLE). IF THE BUILDING HAS NO FIRE ALARM THE DETECTOR SHALL CAUSE AN AUDIBLE AND VISUAL ALARM IN A NORMALLY OCCUPIED AREA.

RETURN, AND EXHAUST DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL AS ENDED IN SMACNA DUCT CONSTRUCTION STANDARDS, LATEST EDITION. DUCTWORK SHALL BE CONSTRUCTED TAND THE PRESSURES INDICATED ON THE DRAWINGS. ALL JOINTS AND SEAMS IN ALL SHEET METAL RK SHALL BE SEALED WITH DUCT SEALER. DUCT SUPPORTS AND ATTACHMENT TO STRUCTURE SHALL BE AS CNA STANDARDS. NEW DUCTWORK SHALL BE INSTALLED AS HIGH AS POSSIBLE. EXPOSED ROUND RK SHALL BE SPIRAL LOCKSEAM TYPE.

DUCTWORK SHALL BE FLEXMASTER TYPE 3 OR EQUAL, SAME SIZE AS DIFFUSER NECKS, MAXIMUM 6'-O" LEXIBLE DUCTWORK SHALL BE INSTALLED AS STRAIGHT AS POSSIBLE, AND SHALL BE ROUTED AND FED WITHOUT FORMING CRIMPS OR OTHER AIR FLOW RESTRICTIONS.

SATE FROM ALL AIR CONDITIONING EQUIPMENT SHALL BE TRAPPED AND ROUTED TO THE NEAREST DRAIN. SATE PIPING SHALL BE SCHEDULE 40 PVC. PROVIDE CONDENSATE PUMP IF REQUIRED COORDINATE POWER MENTS. PUMPS SHALL BE MOUNTED WITHIN OVERFLOW PANS. CONDENSATE PIPING SHALL BE INSULATED WITH NOMINAL THICKNESS FIBERGLASS PIPE INSULATION WITH VAPOR BARRIER JACKET, OWENS CORNING OR APPROVED EQUAL.

7. AFTER CONSTRUCTION, THE ENTIRE HVAC SYSTEM SHALL BE TESTED, ADJUSTED, AND BALANCED BY AN INDEPENDENT NEBB OR AABC TEST AND BALANCE AGENCY TO DELIVER THE AIR AND WATER QUANTITIES SHOWN ON THE DRAWINGS. PROVIDE FOUR (4) COPIES OF REPORT TO ARCHITECT.

8. MOUNT THERMOSTATS AND WALL SENSORS 48" AFF UNLESS NOTED OTHERWISE.

REPAIRED.

SPECIFIED.

OFFICIALS.

9. SHOP DRAWINGS SHALL BE SUBMITTED TO AND APPROVED BY THE ARCHITECT PRIOR TO ORDERING ANY EQUIPMENT OR INSTALLING ANY DUCTWORK OR PIPING.

IO. ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

II. ALL MECHANICAL EQUIPMENT AND SYSTEMS SHALL BE GUARANTEED FOR A PERIOD OF FIVE YEARS AFTER ACCEPTANCE BY OWNER. NO INTERNAL LINER TO BE USED.

12. SHEET METAL SUPPLY, RETURN, & OUTSIDE AIR DUCTWORK SHALL BE INSULATED WITH 2" THICK EXTERIOR FIBERGLASS DUCT INSULATION WITH FOIL VAPOR BARRIER, U.L. LISTED, MINIMUM R-6.

13. DUCTWORK DIMENSIONS SHOWN ON THE DRAWINGS ARE INSIDE CLEAR. 14. PRIOR TO PURCHASING ANY MATERIALS OR STARTING ANY WORK, CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, DUCTWORK AND PIPING SIZES AND LOCATIONS, EQUIPMENT, ETC. SHOWN ON THE DRAWINGS OR

AFFECTING THE WORK AND SHALL REPORT ANY DEVIATIONS TO THE ARCHITECT.

15. ANY EXISTING WALL, FLOOR, OR CEILING SURFACE THAT IS DISTURBED DURING THE COURSE OF THE WORK SHALL BE

16. LOCATIONS OF DUCTWORK, GRILLES, REGISTERS, AND DIFFUSERS SHOWN ON THE DRAWINGS ARE APPROXIMATE. COORDINATE EXACT LOCATIONS WITH ARCHITECT AND OWNER.

17. AS-BUILT DRAWINGS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION INDICATING ALL FIELD CHANGES AND REVISIONS TO EQUIPMENT, DUCTWORK, PIPING AND CONTROLS. THESE DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT UPON COMPLETION OF THE PROJECT.

18. THE CONTRACTOR SHALL PREPARE TWO COPIES OF OPERATION AND MAINTENANCE MANUALS FOR THE PROJECT FOR THE OWNER'S USE. THE CONTRACTOR SHALL ALSO INSTRUCT THE OWNER'S REPRESENTATIVE IN THE OPERATION OF ALL SYSTEMS AND THE MAINTENANCE REQUIRED.

19. ALL REQUIRED CONTROL WIRING NOT SHOWN ON THE ELECTRICAL DRAWINGS SHALL BE INCLUDED AS PART OF THE MECHANICAL WORK. WIRING IN HVAC PLENUM SPACES SHALL BE INSTALLED ACCORDING TO CODE REQUIREMENTS. EQUIPMENT SHALL BE CONTROLLED AS INDICATED ON THE DRAWINGS.

20. EQUIPMENT SHALL BE CONTROLLED BY RESPECTIVE INDIVIDUAL PROGRAMMABLE THERMOSTATS, OR AS OTHERWISE

21. ROOFTOP HVAC UNITS SHALL BE INSTALLED SUCH THAT ROOF DECK IS COMPLETE AND CONTINUOUS UNDER BOTTOMS OF HVAC UNITS, AND SHALL BE CUT ONLY FOR UNIT SUPPLY AND RETURN OPENINGS. THESE OPENINGS SHALL BE SEALED AIRTIGHT. SPACE BETWEEN ROOF DECK AND BOTTOM OF ROOFTOP HVAC UNITS (INSIDE OF ROOF CURBS) SHALL BE FILLED WITH HIGH DENSITY ACOUSTICAL INSULATION AS DETAILED.

22. ALL ROOFTOP MOUNTED EQUIPMENT SHALL BE INSTALLED LEVEL AND ANCHORED TO MINIMUM 12" HIGH INSULATED ROOF CURBS. CONTRACTOR SHALL COORDINATE ROOF SLOPE AND ACTUAL CURB HEIGHTS WITH ARCHITECTURAL DRAWINGS. ALL REFERENCES TO ROOF HEIGHTS REFER TO HEIGHTS ABOVE FINISHED ROOF SURFACE.

23. ALL PIPE PENETRATIONS OF FIRE AND/OR SMOKE-RATED ASSEMBLIES SHALL BE FIRE-STOPPED AS REQUIRED TO RESTORE ASSEMBLY TO ORIGINAL INTEGRITY. FIRE BARRIER PRODUCTS SHALL BE AS MANUFACTURED BY 3M CO., CP25 CAULK, CSI95 COMPOSITE PANEL, FSI95 WRAP/STRIP, OR PSS 1900 SERIES SYSTEMS AS RECOMMENDED BY MANUFACTURER FOR PARTICULAR APPLICATION, OR EQUIVALENT SYSTEM AS APPROVED BY LOCAL CODE

24. ALL PIPING SHALL BE SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT REST ON CEILING TILES OR CEILING STRUCTURE. PIPING HUNG FROM JOISTS SHALL BE HUNG FROM THE TOP CHORDS OF THE JOISTS.

25. REFRIGERANT PIPING SHALL BE TYPE L COPPER TUBING WITH BRAZED JOINTS. SUCTION PIPING SHALL BE INSULATED WITH 3/4" CLOSED CELL INSULATION. ALL JOINTS AND SEAMS SHALL BE SEALED WITH ADHESIVE. REFRIGERANT PIPING PASSING THROUGH FLOORS SHALL BE ENCLOSED IN A CONTINUOUS FIRE RESISTIVE PIPE SHAFT HAVING NO OPENINGS INTO FLOORS NOT SERVED BY THE REFRIGERATING SYSTEM, AS REQUIRED BY LOCAL CODE AUTHORITIES. THE PIPE SHAFT SHALL BE VENTED TO THE OUTDOORS.

26. DRYER VENTS SHALL BE STUBBED OUT 2" FROM WALL AND 30" ABOVE LAUNDRY ROOM FLOOR. DRYER VENT DUCTWORK SHALL BE 4" ROUND 24 GAUGE GALVANIZED STEEL, ROUTED TO EXTERIOR ROOF CAP AS DIRECT AS POSSIBLE (FLEXIBLE DUCTWORK WILL NOT BE ACCEPTABLE). WALL CAP SHALL BE FURNISHED WITH BUILT-IN BACK-DRAFT DAMPER. DO NOT SECURE DUCTWORK WITH SHEET METAL SCREWS.

ARCHIT ENGINI 3680 Pleasar Suite Duluth, Geo p 770.62 f 770.62 f 770.62 suite Neww.hillfol www.hillfol	EERING at Hill Road e 200 orgia 30096 22.9858 22.9535 eyrossi.com s dated below). oductions thereof are the is & Associates, LLC.(HFR). use of the project named tout the written consent of sare to be returned to HFR
Heartland Dental - Lee's Summit Market Street Center Lee's Summit, Missouri 64082	For: Heartland Dental 1200 Network Centre Drive Effingham, IL 62401
07/22/22 to the second	For Construction issue S & nd - anical

HFR 22.911

RELEASED FOR CONSTRUCTION

		AIR CALCU	LATION	I (INT'L M	ECH. C	0DE - TABLE 403.3)				ROOF TO	OP UNI	I SCHEDUL	_E		
	OCCUPANCY	O.A. CFM/PERSON REQ'D.	# OCCUPANTS	O.A. CFM/S.F. REQ'D.	ACTUAL S.F.	O.A. CFM REQ'D	NEW		E.	.P. MIN. O.A. HP TOTA CFM (MBH,	GROSS COOLIN	G CAPACITY GA	AS HEATING UNIT WT	- HEATING	
	WAITING	5	19	0.06	410	119.6	MARK OR EXIST.	MANUFACTURER	MODEL CFM E.	I.G. CFM HP TOTA	SENS E.A.T.	O.A.T. EER/SEER MBH	GAS MBH GAS (LBS)	HEATING SOURCE	REMA
.	TREATMENT I	15	2	-	-	30.0								$\bigcirc$	
'  [	TREATMENT 3	15	2	-	-	30.0	EX. EXIST.	EXISTING TO	REMAIN 2400 ·		EXISTIN	G TO REMAIN		NATURAL U GAS	
	TREATMENT 4	15	2	-	-	30.0									
	TREATMENT 6	15	2	-	-	30.0	EX. EXIST.	EXISTING TO	REMAIN 1800 -		EXISTIN	G TO REMAIN		NATURAL () GAS	
	TREATMENT SUITE I	15	3	-	-	45.0									
	OFFICE	5	2	0.06	115	16.9	EX. EXIST.	EXISTING TO	REMAIN 2400 -		EXISTIN	G TO REMAIN		NATURAL ()	
	*RE-BALANCE EXISTING UNIT	OUTSIDE AIR FLOW TO VALUE SHO	MN.			TOTAL CFM REQ'D. 301/5	RTU-3 EXIST.							GAS	
						TOTAL O.A. CFM FURNISHED 305*		BLE ELECTRONIC 1	HERMOSTAT WITH REN	IOTE TEMPERATURE SE	NSORS. SEE I/MI	OI FOR			
Π	OCCUPANCY	O.A. CFM/PERSON REQ'D.	# OCCUPANTS	O.A. CFM/S.F. REQ'D.	ACTUAL S.F.	O.A. CFM REQ'D	MOUNTING LO	CATIONS OF THERI	10STATS, REMOTE SEI	SORS, AND HUMIDISTA	TS.				
li	HALL	-	-	0.06	830	49,8									
	TREATMENT 2	15	2	-	-	30.0								<b>—</b>	
-2	TREATMENT 5	15	2	-	-	30.0			SPLI	I SYSTEM	1 COO!	_ING UNIT S	SCHEDUL		
	TREATMENT 7	15	2	-	-	30.0						-			
	BREAK	5	6	0.06	200	42.0	MARK MANUFACTUR	ER MODEL	GROSS	COOLING CAPACITY	VOLTAGE		REMARKS		
	WORK AREA	5	2	0.06	130	19.0			(MBH) (MBH	5 E.A.T. O.A.T. ) DB/WB DB(°F) SEE	R				
		OUTSIDE AIR FLOW TO VALUE SHO	MN			TOTAL CFM REQ'D. 200.8		38MPAQ24/							
	NE-DALANCE LAISTING UNIT		7									1 (1)(2)(2)(3)(5)			
			/ w			TOTAL O.A. CFM FURNISHED 205*	AHU-I CARRIER	38MPAQ24/ 40MPHAQ24	600 24.0 18.0	80/67 95 17.0	DWGS.	12345			
		O.A. CFM/PERSON REQ'D.	# OCCUPANTS	0.A. CFM/S.F. REQ'D.	ACTUAL S.F.						DWGS.				
				0.A. CFM/S.F. REQ'D. 0.06	ACTUAL S.F.	TOTAL O.A. CFM FURNISHED 205* O.A. CFM REQ'D 6.9		40MPHAQ24		AMBIENT CONTROLS.	DWGS.	PROGRAMMABLE THERM	10STAT		
	OCCUPANCY	O.A. CFM/PERSON REQ'D.				O.A. CFM REQ'D		IICROPROCESSOR	CONTROL. (3) LON		DWGS.		10STAT		
	OCCUPANCY HALL	O.A. CFM/PERSON REQ'D.		0.06	115	0.A. CFM REQ'D 6.9	AHU-I CARRIER	IICROPROCESSOR	CONTROL. (3) LON	AMBIENT CONTROLS.	DWGS.		10STAT		
	OCCUPANCY HALL BUSINESS	O.A. CFM/PERSON REQ'D.		0.06	115	0.A. CFM REQ'D 6.9 41.4	AHU-I CARRIER	IICROPROCESSOR	CONTROL. (3) LON	AMBIENT CONTROLS.	DWGS.		10STAT		
	OCCUPANCY HALL BUSINESS TREATMENT SUITE 2	0.A. CFM/PERSON REQ'D. - 5 15		0.06 0.06 -	5  90 -	0.A. CFM REQ'D 6.9 41.4 45.0	AHU-I CARRIER	IICROPROCESSOR	CONTROL. (3) LON	AMBIENT CONTROLS.	DWGS.		10STAT		
	OCCUPANCY HALL BUSINESS TREATMENT SUITE 2 TREATMENT &	0.A. CFM/PERSON REQ'D. - 5 15		0.06 0.06 - -	5  40 - -	0.A. CFM REQ'D 6.9 41.4 45.0 30.0	AHU-I CARRIER	IICROPROCESSOR	CONTROL. (3) LON	AMBIENT CONTROLS.	DWG5. (5	PROGRAMMABLE THERM			
	OCCUPANCY HALL BUSINESS TREATMENT SUITE 2 TREATMENT 8 TREATMENT 9	O.A. CFM/PERSON REQ'D. - 5 15 15 15 15		0.06 0.06 - - -	5  90 - - -	0.A. CFM REQ'D 6.9 41.4 45.0 30.0 30.0	AHU-I CARRIER	IICROPROCESSOR	CONTROL. (3) LON	AMBIENT CONTROLS.	DWG5. (5				
	OCCUPANCY HALL BUSINESS TREATMENT SUITE 2 TREATMENT 8 TREATMENT 9 TREATMENT 10	O.A. CFM/PERSON REQ'D. - 5 15 15 15 15		0.06 0.06 - - -	5  90 - - - - -	0.A. CFM REQ'D 6.9 41.4 45.0 30.0 30.0 30.0 30.0	AHU-I CARRIER	IICROPROCESSOR	CONTROL. (3) LON	AMBIENT CONTROLS.	DWG5. (5	PROGRAMMABLE THERM	 儿E		
	OCCUPANCY HALL BUSINESS TREATMENT SUITE 2 TREATMENT Ø TREATMENT I TREATMENT IO TREATMENT II	O.A. CFM/PERSON REQ'D. - 5 15 15 15 15		0.06 0.06 - - - - - - - -	5  90 - - - - - - - -	0.A. CFM REQ'D 6.9 41.4 45.0 30.0 30.0 30.0 30.0 30.0 30.0	AHU-I CARRIER	IICROPROCESSOR	CONTROL. (3) LON	AMBIENT CONTROLS.	5T FAN	PROGRAMMABLE THERM	 儿E	HT VOLTAGE CONTROLLED	2 RE
-3	OCCUPANCY HALL BUSINESS TREATMENT SUITE 2 TREATMENT Ø TREATMENT Ø TREATMENT IO TREATMENT II PANO OFFICE	O.A. CFM/PERSON REQ'D. - 5 15 15 15 15	# OCCUPANTS - 6 3 2 2 2 2 2 2 2 2 2 2 2 2 2	0.06 0.06 - - - - - - - - - - - 0.06	II5         I40         -         -         -         -         -         -         -         -         55	0.A. CFM REQ'D 6.9 41.4 45.0 30.0 30.0 30.0 30.0 30.0 30.0 30.0 3		DRAIN PUMP.	CONTROL. (3) LON (4) SIN	EXHAU	5T FAN	PROGRAMMABLE THERM	 儿E	HT VOLTAGE CONTROLLED BY	) RE

# AIR DISTRIBUTION DEVICES

MARK	MANUFACTURER	MODEL	TYPE	DUTY	COLOR	MATERIAL	VOLUME DAMPER	REMARKS
A	TITUS	TMS-IB	LOUVER FACE	SA	WHITE	STEEL	NO	24x24 PANEL SIZE W/ INSULATION BLANKET
в	TITUS	50F	ALUMINUM EGGCRATE	EXH	WHITE	ALUMINUM	YES	SIZE AS INDICATED
С	TITUS	50F	ALUMINUM EGGCRATE	RA	WHITE	ALUMINUM	NO	24x24 PANEL SIZE; 22x22 EGGCRATE FACE W/TRANSITION TO NECK/RUNOUT LISTED.

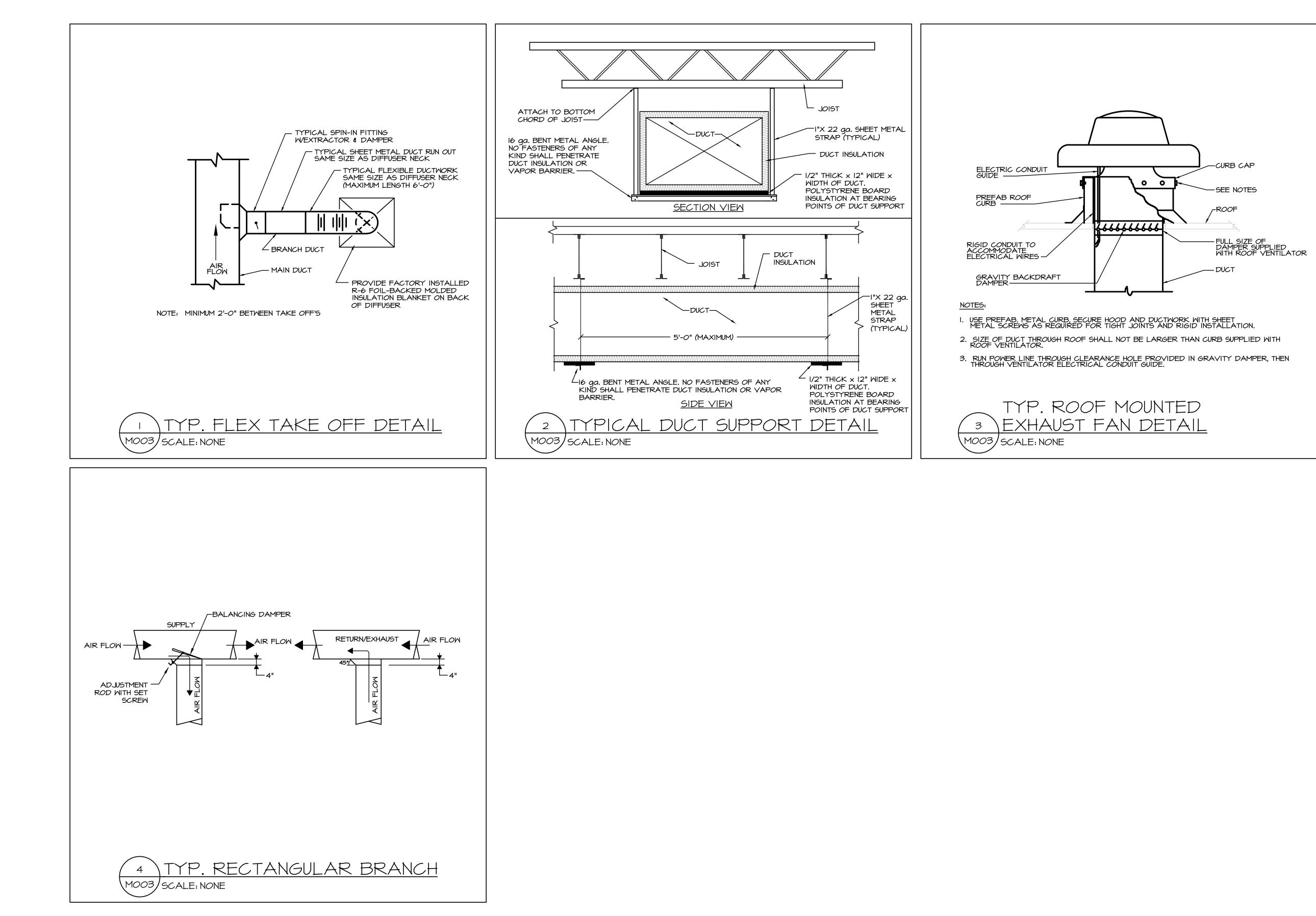
			EXHAUS	ST FA	ANS	SCHE	EDUL	E					
MARK	TYPE	MANUFACTURER	MODEL	CFM	E.S.P.	MAX. MOTOR HP OR WATTS	MAX SONES	DRIVE	WEIGHT	VOLTAGE	CONTROLLED BY	REMARKS	
EF-I	CEILING	GREENHECK	SP-BI50	110	0.250	125 M	3.0	DIRECT	-	C <i>OO</i> RD. W/ELEC.	5	134681	
EF-2, EF-6, EF-7	CEILING	GREENHECK	SP-BIIO	85	0.250	80 W	2.0	DIRECT	-	C <i>OO</i> RD. W/ELEC.	ß	134681	
EF-3	CEILING	GREENHECK	SP-BI50	110	0.250	20 W	1.5	DIRECT	_	C <i>OO</i> RD. W/ELEC.	0	134601	
EF-4	CENTRIFUGAL	GREENHECK	6-060	50	0.250	I/IO HP	3.7	DIRECT	15 LBS	C <i>OO</i> RD. W/ELEC.	2	136711	
EF-5	CEILING	GREENHECK	SP-B90	50	0.250	20 W	1.5	DIRECT	_	C <i>OO</i> RD. W/ELEC.	(2)	134601	
DISCONNEC	(I) DISCONNECT SWITCH. (5) WALL				ෂ	) R <i>OO</i> F CA	P OR WALL	CAP AS II	NDICATED.				
2 RUNS CONTI	NUOUSLY.	6 BACKD	RAFT DAMPER.		(q	) CEILING R	RADIATION	DAMPER.		GREENHECK, PENNBARRY, AND TWIN CITY, COOK.			
(3) SPEED CON					6	) SEVEN-DA	AY PROGRA	AMMER PRO	DVIDED				

(4) CEILING GRILLE.

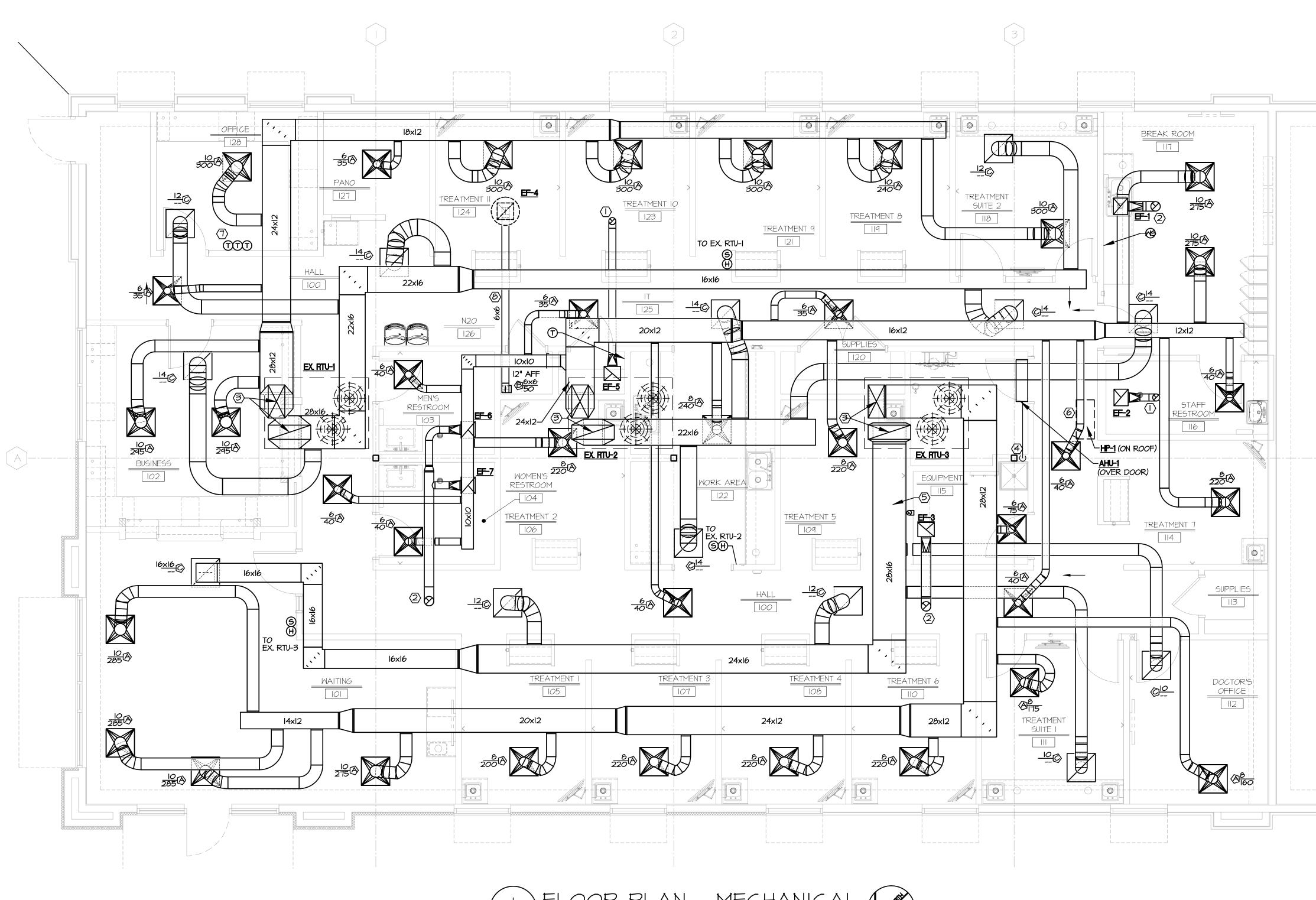
BY ELECTRICAL CONTRACTOR.

(B) SWITCHED WITH LIGHTS.

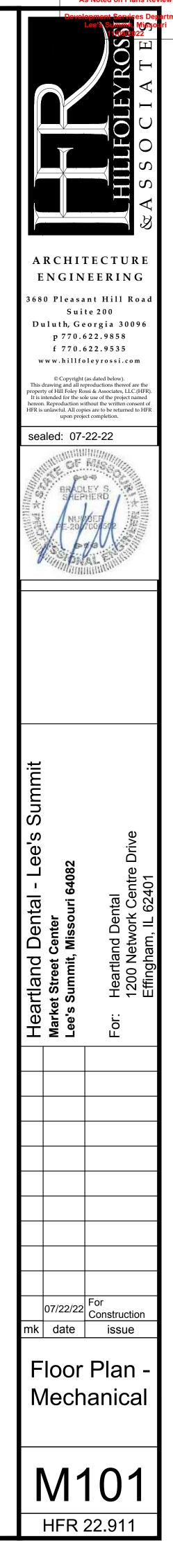
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	<sup>date</sup> che lech	07/22/22	Market Street Center Lee's Summit, Missouri 64082	<b>uluth, G</b> <b>p 770.</b> <b>f 770.</b> <b>ww.hillf</b> © Copyrigh drawing and all r ty of Hill Foley R ntended for the s <b>.</b> Reproduction <b>v</b> unlawful. All cop upon pro	
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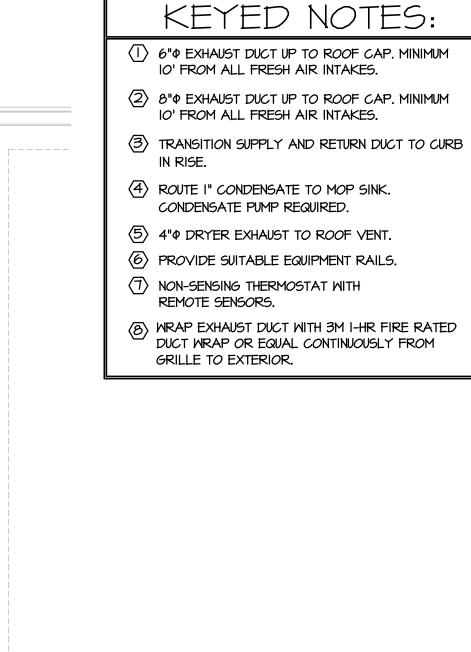


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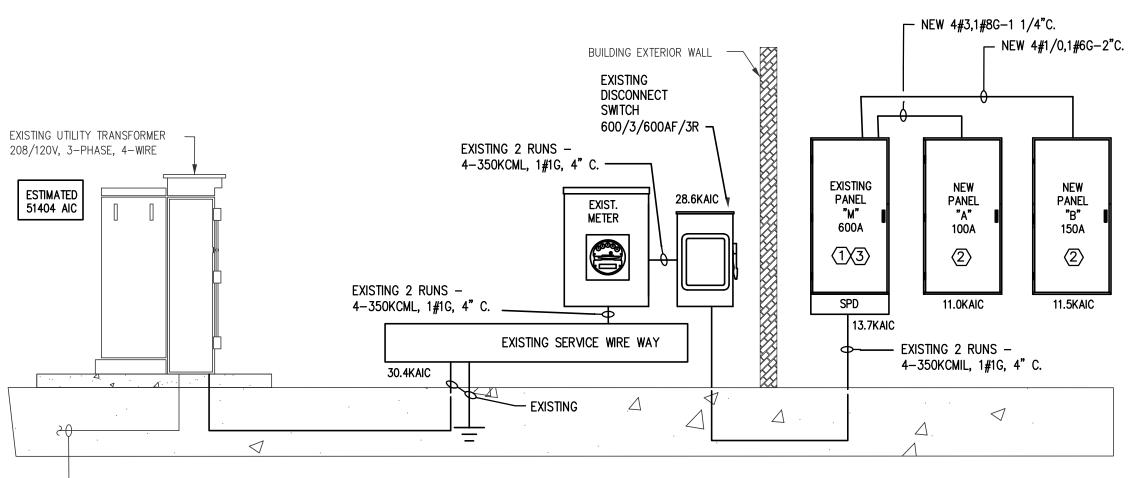




# ELECTRICAL SPECIFICATIONS

- 1. MATERIALS FURNISHED SHALL BE NEW. MATERIALS SHALL BE A MANUFACTURER'S STANDARD AND ESTABLISHED PRODUCT LINE, AND SHALL BE LISTED AND LABELED FOR THE APPLICATION BY UNDERWRITER'S LABORATORIES (U.L.), OR SHALL BE CERTIFIED BY OTHER APPROVED LABORATORY OR BY THE BUILDING OFFICIAL HAVING JURISDICTION. IN CONJUNCTION WITH ARCHITECTURAL REQUIREMENTS, PROVIDE SUBMITTALS FOR THE FOLLOWING ELECTRICAL EQUIPMENT: ELECTRICAL PANELS, DISCONNECTS, WRING, RECEPTACLES, CONDUIT, LIGHTS, SWITCHES, MOTION SENSORS, TIMECLOCK, BOXES AND ANY OTHER 32. RACEWAYS AND CABLE SHALL BE RUN CONCEALED, EXCEPT THAT R SPECIALTY DEVICES AND EQUIPMENT AS SHOWN.
- 2. THE PLANS ACCOMPANYING THESE SPECIFICATIONS ARE GENERALLY DIAGRAMMATIC AND DO NOT SHOW ALL DETAILS REQUIRED FOR THE COMPLETE WORK. ESTABLISH DETAILS OF THE WORK AS NECESSARY TO PROVIDE FOR THE COMPLETE INSTALLATION OF SYSTEMS AND MATERIALS. ARRANGE THE WORK SO AS TO AVOID INTERFERENCE WITH OTHER BUILDING COMPONENTS OR SYSTEMS AS ACTUALLY INSTALLED.
- 3. COMPLY WITH APPLICABLE OR NECESSARY JOB SAFETY PROVISIONS.
- 4. PROVIDE FOR SYSTEM RACEWAYS, OUTLET BOXES, PULL "WIRES" OR "CORDS", OUTLET BOX OPENINGS, BOX EXTENSIONS, DEDICATED RECEPTACLES, BACKBOARDS, ETC. AS SPECIFIED AND INDICATED. TELEPHONE CABLE SHALL BE FURNISHED AND INSTALLED BY OTHERS.
- 5. ELECTRICAL SYSTEMS, EQUIPMENT, AND SUPPORTING STRUCTURES SHALL BE COMPLETELY AND EFFECTIVELY GROUNDED. BONDING JUMPERS SHALL BE PROVIDED WHERE NECESSARY. METAL ELECTRICAL RACEWAYS AND FITTINGS, JOINTS AND CONNECTIONS AT EQUIPMENT SHALL BE MECHANICALLY AND ELECTRICALLY SECURED TO PROVIDE AN APPROVED EQUIPMENT OR ENCLOSURE GROUNDING MEANS, EVEN WHEN NO OTHER SEPARATE GROUNDING MEANS ARE ALSO PROVIDED EITHER INHERENTLY OR BY BONDING.
- WHERE GREEN GROUNDING CONDUCTORS ARE NOT INDICATED SPECIFICALLY FOR EACH BRANCH CIRCUIT BY THE DRAWINGS, PROVIDE FOR EACH RACEWAY A GREEN #12 GROUNDING CONDUCTOR IN ADDITION TO BRANCH CIRCUIT CONDUCTORS INDICATED.
- 7. UNLESS OTHERWISE INDICATED OR DIRECTED BY THE ARCHITECT FOR SPECIAL APPLICATIONS, WIRING DEVICES SHALL BE INSTALLED WITH CENTER-OF-BOX MOUNTING HEIGHTS ABOVE FINISHED FLOORS BETWEEN 18-INCHES AND 44-INCHES. AS REQUIRED BY HANDICAPPED CODES. MOUNTING HEIGHTS FOR SPECIFIC DEVICES SHALL BE AS SCHEDULED BY THE PLANS.
- 8. ELECTRICAL CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS: EQUIPMENT GROUND: GREEN. PHASE CONDUCTORS: RED, BLUE, BLACK; NEUTRAL: WHITE;
- 9. NOTIFY THE OWNER'S REPRESENTATIVE OF ANY NONFUNCTIONING MATERIAL OR POTENTIALLY UNSAFE CONDITION WITHIN THE PROJECT SYSTEMS THAT IS OBSERVED DURING THE CONDUCT OF THE WORK.
- 10. WORK SHALL BE FURNISHED AND INSTALLED AS A MINIMUM IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS AND RECOMMENDATIONS OF THE LATEST LOCALLY ADOPTED EDITION OF CODES AND STANDARDS OF THE FOLLOWING:
- 1. NATIONAL ELECTRICAL CODE (NEC) NFPA 70.
- 2. ENERGY CODE ASHRAE/IESNA 90.1.
- 3. LIFE SAFETY CODE NFPA 101. 4. OTHER NFPA STANDARDS: 90A AND 99
- 5. U.L. STANDARDS AND LISTING REQUIREMENTS AND NEMA STANDARDS.
- 6. FEDERAL, STATE, AND LOCAL LAWS, ORDINANCES, CODES, AND RULINGS OF BUILDING OFFICIALS HAVING JURISDICTION.
- 11. THE WORK COVERED BY THIS SPECIFICATION SHALL INCLUDE PROVIDING SUPERVISION, LABOR, SUPPLIES, MATERIALS (TO INCLUDE EQUIPMENT), TOOLS, SERVICES, DOCUMENTATION, TESTS & DEMONSTRATIONS, CERTIFICATES, AND DOLLAR COSTS REQUIRED TO CONSTRUCT THE COMPLETE SYSTEMS AS SPECIFIED HEREIN AND AS SHOWN BY THE PLANS AND OTHER RELEVANT DOCUMENTS.
- 12. UNLESS OTHERWISE SPECIFICALLY SHOWN OR NOTED BY ELECTRICAL PLANS, PILOT DUTY CONTROL SYSTEMS AND RELATED WIRING FOR MECHANICAL EQUIPMENT SHALL BE PROVIDED UNDER THE MECHANICAL SECTION OF THE SPECIFICATIONS.
- 13. SERVICE EQUIPMENT SHALL BE PROVIDED RATED FOR BUILDING LOADS, INCLUDING INTERRUPTING RATINGS. SERVICE EQUIPMENT SHALL BE SERVED USING THE TYPE SERVICE ENTRANCE EQUIPMENT AS INDICATED BY THE PLANS.
- 14. ALL RECEPTACLES SHALL BE 20A. 125V. SPECIFICATION GRADE, MOUNTED 18" AFF. U.N.O.
- 15. SWITCHES SHALL AS A MINIMUM BE 'HEAVY-DUTY' RATED, QUICK MAKE AND BREAK, SPECIFICATION GRADE, SINGLE THROW DEVICES.
- 16. DISTRIBUTION EQUIPMENT USING CIRCUIT BREAKER TYPE PROTECTIVE DEVICES SHALL USE BOLTED-ON OR 'SQUARE D' I-LINE DEVICES.
- 17. DISTRIBUTION EQUIPMENT SHALL BE AS INDICATED AND AS MANUFACTURED BY GENERAL ELECTRIC, EATON/CUTLER/HAMMER, SCHNEIDER/SQUARE-D OR SIEMENS.
- 18. PANELBOARD MAINS SHALL BE COPPER OR ALUMINUM WITH BRANCH DEVICE CONNECTIONS ARRANGED IN 45. THERE SHALL BE AN ISOLATION PAD/BARRIER BETWEEN DISSIMILAR TYPES OF METAL. A VERTICALLY DISTRIBUTED CONSECUTIVE PHASE SEQUENCE SUCH THAT ONE OR MULTIPLE POLE BREAKERS CAN BE MOUNTED IN ANY POSITION. A SOLID NEUTRAL BUS SHALL BE PROVIDED WITH A FEEDER LUG AND WITH A SEPARATE SET-SCREW TERMINAL FOR EACH BRANCH CIRCUIT POLE.
- 19. STARTERS AND DISCONNECT SWITCHES SHALL HAVE QUICK-MAKE AND QUICK-BREAK MECHANISMS, AND BE FULLY ENCLOSED.
- 20. FIXTURE SUPPORTS AND HARDWARE SHALL BE SUITABLE METAL UNLESS OTHERWISE INDICATED. SUPPORT STUDS USED FOR INDOOR FIXTURE OR COMPONENT SUPPORT SHALL BE GALVANIZED STEEL OR MALLEABLE IRON; DIECAST STUDS SHALL NOT BE USED. PROVIDE SEISMIC RESTRAINTS ON ALL FIXTURES PER LOCAL REQUIREMENTS.
- 21. CONDUCTORS SHALL BE OF SOFT DRAWN, ANNEALED COPPER HAVING A CONDUCTIVITY OF NOT LESS THAN 98 PERCENT BY 'ASTM' STANDARDS.
- 22. UNLESS OTHERWISE REQUIRED BY CODE OR INDICATED:
- A. CONDUCTORS NO. 12 AWG AND NO. 10 AWG SIZE SHALL BE SOLID. B. CONDUCTORS NO. 8 AWG SIZE AND LARGER SHALL BE STRANDED.
- 23. RIGID STEEL AND IMC STEEL CONDUIT, WHEN USED, SHALL BE HOT DIP GALVANIZED. STEEL EMT, WHEN USED, SHALL BE HOT DIP GALVANIZED OUTSIDE, AND ENAMEL OR GALVANIZED FINISHED INSIDE.
- 24. EMT COUPLINGS AND CONNECTORS SHALL BE METAL AND SET-SCREW TYPE.
- 25. UNLESS OTHERWISE INDICATED, WIRING DEVICES SHALL BE:
- A. SWITCHES: HUBBELL 1221 OR EQUAL. B. RECEPTACLES: HUBBELL, PASS SEYMOUR OR LEVITON.
- C. COLOR AS SELECTED BY OWNER.
- 26. THE TELEPHONE AND SOUND SYSTEM SHALL INCLUDE PAINTED BACKBOARDS, RACEWAYS, OUTLET BOXES, PULL STRINGS IN EMPTY RACEWAYS, COVER PLATES, AND MISCELLANEOUS MATERIALS OR DEVICES FOR TELEPHONE OUTLETS, ETC. AS REQUIRED. PROVIDE CABLE WHERE INDICATED ON THE FLOOR PLANS.
- 27. FIXTURE SHALL BE INSTALLED IN ACCORDANCE WITH UL LISTING RESTRICTIONS AND LOCAL CODES AND ORDINANCES.
- 28. FIXTURE SHALL BE LOCATED IN A MANNER COORDINATED WITH ANY SUSPENDED ACOUSTIC CEILING PATTERN, AND IN ACCORDANCE WITH PATTERNS AS SHOWN ON THE ARCHITECTURAL DRAWINGS.
- 29. UNLESS OTHERWISE REQUIRED BY CODE OR FUNCTION OR INDICATED BY THE PLANS, CONDUCTORS FOR POWER AND LIGHTING BRANCH CIRCUITS SHALL BE #12 AWG MINIMUM.

- 30. CONDUCTORS SHALL BE CONNECTED BY U.L. APPROVED CONNECTORS SHALL BE CONNECTED BY CONNECTORS WITH LIVE SPRING TENSION.
- 31. WIRING SHALL BE INSTALLED IN METALLIC RACEWAYS AS ALLOWED
- SURFACE MOUNTING AND RACEWAYS AND CABLE IN EQUIPMENT ROOM OTHERWISE INDICATED. CONCEALED CONDUIT RUN ABOVE THE CEILING INDEPENDENTLY OF CEILING CONSTRUCTION. WHERE CEILINGS OF THE CONDUITS MUST BE INSTALLED HIGH ENOUGH TO PERMIT REMOVAL O
- 33. RACEWAY OR CABLE, ETC. THAT PENETRATES A FIRE BARRIER, SUCI WALL, CEILING, OR OTHER ELEMENT, SHALL BE INSTALLED WITH MATE THE APPLICATION BY LOCAL BUILDING OFFICIALS. THE CONTRACTOR IDENTIFYING EACH FIRE BARRIER FROM THE ARCHITECTURAL PLANS, MATERIALS AND METHODS TO BE USED FOR EACH TYPE PENETRATIO
- 34. UNLESS OTHERWISE INDICATED, RACEWAYS SHALL BE AS FOLLOWS: A. CONCEALED INSIDE WHERE NOT IN WET OR DAMP LOCATIONS AND INJURY, AND USED FOR 120V/20A BRANCH CIRCUITS: ELECTRICA THAT IS LISTED IN NEC 250.118 AS AN ACCEPTABLE GROUNDING B. THROUGH TWO-HOUR RATED FIRE BARRIERS OR BUILDING EXTERIO
- CONDUIT MADE UP WATER TIGHT. C. FINAL CONNECTION RACEWAYS IN DRY LOCATIONS SERVING LIGHTIN EQUIPMENT LIKELY TO REQUIRE MOVEMENT FOR ADJUSTMENT OR L VIBRATION INTO THE RACEWAY SYSTEM. BUT NOT REQUIRING FLEX APPROVED FOR THE APPLICATION SHALL BE FLEXIBLE METALLIC THE APPLICATION.
- 35. BOXES SHALL NOT BE INSTALLED BACK-TO-BACK AND THRU-WALL DUE TO TRANSMISSION OF SOUND OR HEAT AND SMOKE. OFFSET TO REQUIREMENTS.
- 36. SUSPENDED CEILING CONSTRUCTION SHALL NOT BE USED TO SUPPOR ITEMS, EXCEPT AS ALLOWED BY CODE, ACCEPTED BY THE ENGINEER, WRITING FOR THE SPECIFIC ITEM(S) TO BE SUPPORTED.
- 37. COVER PLATES FOR FLUSH, DRY, ORDINARY LOCATIONS SHALL BE S STANDARD SIZE PLATES WITH MATCHING SCREWS, AND HAVING MATER SELECTED BY ARCHITECT.
- 38. CONDUIT SYSTEM, IF USED, SHALL BE INSTALLED CONCEALED ABOVE STRUCTURAL STEEL SYSTEM LOWER CHORD FOR HORIZONTAL RUNS. PERPENDICULAR TO STRUCTURAL MEMBERS.
- 39. CONFIRM THE FOLLOWING WITH THE OWNER PRIOR TO ROUGH-IN: EX VOICE/DATA/TV OUTLETS; EXACT CONNECTION REQUIREMENTS OF OW
- 40. CONFIRM THE EXACT LOCATIONS OF RECEPTACLES, SWITCHES, VOICE/DATA/TV OUTLETS WITH MILLWORK/CASEWORK DETAILS AND ARCHITECTURAL ELEVATIONS.
- 41. PER NEC 410.130(G), FLUORESCENT LUMINARIES THAT CONTAIN DOUBLE-ENDED LAMPS AND BALLASTS THAT CAN BE SERVICED IN PLACE REQUIRE A MEANS TO DISCONNECT SIMULTANEOUSLY ALL CONDUCTORS OF THE BALLAST, INCLUDING THE GROUNDED CONDUCTOR. CONFIRM THIS REQUIREMENT IS MET PRIOR TO ORDERING FIXTURES.
- 42. ANY CONDUIT EXITING FROM THE INTERIOR TO THE EXTERIOR OF THE BUILDING SHALL BE FILLED WITH AN APPROVED MATERIAL TO PREVENT THE CIRCULATION OF WARM AIR TO A COLDER SECTION OF THE RACEWAY PER NEC 300.7A. SEAL ALL CONDUITS ENTERING BUILDING TO PREVENT WATER EGRESS.
- 43. WIRING IN PATIENT CARE AREAS SHALL COMPLY WITH NEC ARTICLE 517.13. PATIENT CARE AREAS ARE TREATMENT FLOOR, PATIENT PREP, PRIVATE TREATMENT, PD-HHD AND EXAMS ROOMS. ALL BRANCH CIRCUITS SHALL BE PROVIDED WITH AN EFFECTIVE GROUND-FAULT CURRENT PATH BY INSTALLATION IN A METAL RACEWAY SYSTEM OR CABLE HAVING A METALLIC ARMOR ASSEMBLY. THE ASSEMBLY OR RACEWAY SHALL ITSELF QUALIFY AS AN EQUIPMENT GROUNDING CONDUCTOR IN ACCORDANCE WITH NEC 250.118. PROVIDE INSULATED COPPER EQUIPMENT GROUNDING CONDUCTOR WITHIN OR PART OF THE ASSEMBLY OR RACEWAY AND BOND RECEPTACLES AND ALL NON-CCURRENT CARRYING CONDUCTIVE SURFACES OR FIXED ELECTRICAL EQUIPMENT. SIZE GROUNDING CONDUCTOR IN ACCORDANCE WITH TABLE 250.122. WIRING IN PATIENT CARE AREAS INCLUDING LIGHTS SHALL CONSIST OF A WIRING METHOD THAT COMPLIES WITH THE REQUIREMENTS LISTED ABOVE INCLUDING THE FIXTURE WHIP. ACCEPTABLE WIRING TYPES ARE AC, MC WITH GREEN STRIPE AND LISTED AS HOSPITAL GRADE OR WIRE-IN-CONDUIT. SUBMIT ALL PATIENT CARE WIRING FOR APPROVAL FROM THE ENGINEER PRIOR TO ROUGH-IN.
- 44. ALL PANELS SHALL HAVE A TYPED PANEL SCHEDULE. ALL PANELS AND EQUIPMENT SHALL BE CLEAN AND DUST FREE. ALL PANELS AND DISCONNECTS SHALL BE LABELED WITH NAME AND VOLTAGE. PROVIDE LABELING AT PANEL LOCATION INDICATING NO STORAGE ALLOWED AT PANEL LOCATION.



EXISTING TO REMAIN



		ELECTRICAL	SYMBOL	S
ORS. BRANCH CIRCUIT WIRING TO SIZE #8	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
n.		HOMERUN TO PANEL, ARROWHEADS INDICATE QUANTITY OF CIRCUITS,		OUTLET MOUNTING
) AND SIZED PER NEC.		20A/1P UNLESS OTHERWISE NOTED	0	MISCELLANEOUS OUTLET - FLOOR MOUNTED
		HASH MARKS INDICATE QUANTITY OF #12 WIRES IN 1/2" CONDUIT,	-0	MISCELLANEOUS OUTLET - WALL MOUNTED
RACEWAYS DESIGNED ONLY FOR		SHORT = HOT OR SW., LONG = NEUTRAL, LONG W/BEND = GROUND,		MISCELLANEOUS OUTLET - CEILING BOX MOUNTED
OOMS SHALL BE RUN EXPOSED, UNLESS	1-2111-	NO MARKS INDICATES 2#12, 1#12G - 1/2"		
ING LINE SHALL BE SUPPORTED		CONDUIT CONCEALED IN CEILING OR WALL		SIMPLEX RECEPTACLE, 20A (+18" AFF UNO)
HE LAY-IN TYPE MAY BE USED,		CONDUIT EXPOSED	€	DUPLEX RECEPTACLE (+18" AFF UNO)
OF CEILING PANELS OR EQUIPMENT.		CONDUIT IN FLOOR OR BELOW SLAB		DUPLEX RECEPTACLE (+48" AFF OR 6" ABOVE COUNTER UNO)
		FLEXIBLE CONDUIT		QUADRUPLEX RECEPTACLE B(+18" AFF UNO)
UCH AS FIRE OR SMOKE RATED SLAB,	0	CONDUIT TURNED UP		SPECIAL POWER RECEPTACLE, TYPE AS NOTED
ATERIALS AND METHODS APPROVED FOR	e	CONDUIT TURNED DOWN		· · · · · · · · · · · · · · · · · · ·
R SHALL BE RESPONSIBLE FOR		MULTIPLE OUTLET ASSEMBLY	► <b>►</b>	TELEPHONE OUTLET (+18" AFF UNO)
S, AND FOR SECURING APPROVAL OF		CONDUIT SEAL FITTING		DATA OUTLET (+18" AFF UNO)
TION.		DISCONNECT SWITCH, VOLTAGE AS REQUIRED,		COMBINATION TELEPHONE/DATA OUTLET (+18" AFF UNO)
		NUMERALS INDICATE: AMPS/POLES/FUSES/WEATHERPROOF		"A" INDICATES ANALOG TYPE DEVICE
S:		CIRCUIT BREAKER, VOLTAGE AS REQUIRED,		
ND NOT EXPOSED TO MECHANICAL		NUMERALS INDICATE: AMPS/POLES/WEATHERPROOF		POWER
ICAL METALLIC TUBING (EMT) OR CABLE	<u> </u>	MAGNETIC MOTOR STARTER, VOLTAGE AS REQUIRED,		JUNCTION BOX
NG RETURN PATH, SUCH AS TYPE AC/MC.		NUMERALS INDICATE: TYPE/SIZE		TRANSFORMER
RIORS: GALVANIZED RIGID STEEL (GRS)		COMBINATION FUSED SWITCH / MAGNETIC MOTOR STARTER,		
	<u> </u>	NUMERALS INDICATE: AMPS/POLES/FUSES & TYPE/SIZE		AUDIO / VISUAL
HTING FIXTURES, OR OTHER NON-MOTOR		PANELBOARD, FLUSH OR SURFACE MTD. RESPECTIVELY		INTERCOM STATION
R LIKELY TO TRANSMIT SHOCK OR		PLYWOOD BACKBOARD, 3/4" THICK, 8' HIGH, WIDTH AS INDICATED	Y	JUNCTION BOX
LEXIBILITY FOR OPERATION, AND WHERE		WREWAY, SIZE AS REQUIRED		TELEVISION JACK
C TUBING (FLEX) WHERE APPROVED FOR		PULLBOX/JUNCTION BOX, SIZE AS REQUIRED		
	×3 /2/	MOTOR, NUMERAL INDICATES HORSEPOWER, "F" = 1/8 HP OR LESS		
		HEATER, KW AS INDICATED		
ALL TYPE BOXES SHALL NOT BE USED		TRANSFORMER		
TO MAINTAIN FIRE RATING PER UL	38			
PORT RACEWAYS, BOXES OR OTHER		SUBSCRIPTS APPLIED TO OUTLETS		
ER, AND ACCEPTED BY THE ARCHITECT IN	D	"DEDICATED", PROVIDE ENGRAVED COVER PLATE		CWITCHES
		EXPLOSION PROOF, CLASS AND DIVISION AS NOTED		SWITCHES
	GFI	GROUND FAULT INTERRUPTER, FEED THRU TYPE		SINGLE POLE SWITCH
STANDARD CONFIGURATION, ONE PIECE,	H	HOSPITAL GRADE		THREE WAY SWITCH
ATERIALS, STILES, AND FINISHES AS	IG	ISOLATED GROUND		SWITCH W/INDICATOR LIGHT
		SAFETY TYPE, CHILDPROOF		MANUAL MOTOR SWITCH
OVE CEILING, ABOVE LOWEST POINT OF	SP			VACANCY DIMMER SWITCH (WATT STOPPER CD-250-W)
S. INSTALL PARALLEL OR	U	"UPS", PROVIDE ENGRAVED COVER PLATE		VACANCY DIMMER SWITCH (WATT STOPPER CD-250-W)
	WP	WEATHERPROOF		CEILING MOUNTED DAYLIGHT SENSOR (WATT STOPPER OR EQUAL)
	WR ,	WEATHER-RESISTANT		MOTION SENSOR SWITCH (WATT STOPPER DW-100-* OR EQUAL)
EXACT LOCATIONS OF RECEPTACLES AND	+xx"	MOUNTING HT ABOVE FINISHED FLOOR TO CENTERLINE OF DEVICE		CEILING MOUNTED MOTION SENSOR (WATT STOPPER DUAL TECHNOLOGY
OWNER-FURNISHED EQUIPMENT.				DT SERIES OR EQUAL)
				OCCUPANCY SENSOR POWER PACK
ICE/DATA/TV OUTLETS WITH				

SHORT-CIRCUIT CALCULATION

DISTANCES ARE FOR CALCULATION PURPOSES ONLY AND SHLL NOT BE USED FOR CONTRACTOR TAKEOFFS 

NOR BIDI	DING																
	The fo	ollowing calculation	sare based	d on the "F	oint-by Poin	t" m	ethod where:										
	SC(1) x M(1) Short circuit current	at fault point 1			Feeder(3PH):		<u>f(3PH)=1.732 x</u> C X I				XFMR:	<u>IP(sca )x Vp x 1</u> 100	<u>1.732 x%Z</u> 0,000 x KVA			IS(sca)	<u>Vp x M x IP(sca)</u> Vs
• •	Short circuit current				Feeder(1PH):		f(1PH)=2 x L x I				XFMR:	IP(sca) x Vp x%	,				
							CX	E				100	0,000 x KVA				
		L= Length of circuit		E= Line to	line voltage			IS= Seconda	ary short c	ircuit curi	rent						
		C = 1/impedance per	r linear foot					VS = Secon	idary voltag	je							
																3phase	
FAULT POINT	PANEL OR TRANSFORMER	PHASE	SOURCE (FAULT POINT)	SOURCE ISC (AMPS)	FEEDER CONDUIT TYPE	#	WIRE/BUS SIZE	FEEDER MATERIAL CU OR AL	C VALUE	L-L VOLTS E	CIRCUIT LENGTH L	LOAD POWER FACTOR (pf)	CIRCUIT LOAD A	f	M	FAULT CURR. ISC	FAULT POINT
0	TRANSFORMER	3		51,404												51404	0
3	SERVICE GUTTER	3	0	51,404	RGS	4	350KCMIL	AL	15484	208	100	1	1000	0.6910959	0.5913325	30396.9	1
2	MAIN DISC. SWITCH	- 3	1	30,397	RGS	2	350KCMIL	CU	19704	208	10	1	480	0.0642287	0.9396477	28562.3	2
3	PANEL M	3	2	28,562	RGS	2	350KCMIL	CU	19704	208	180	1	480	1.0863416	0.4793079	13690.2	3
0	PANEL A	3	3	13,690	RGS	1	#3	CU	4774	208	10	1	80	0.2387869	0.8072414	11051.3	4
•				40.000		4	114.10		0005	000	45		400	0 4045044	0.0000400	44400	

NOR BIDI	JING																
	The fol	lowing calculation	s are based	d on the "F	Point-by Point	t" m	ethod where:										
ISC(1) = 5	SC(1) x M(1) Short circuit current a Short circuit current a	=			Feeder(3PH): Feeder(1PH):		<u>f(3PH)=1.732 x</u> C X E <u>f(1PH)=2 x L x Is</u> C X E	E sc				<u>IP(sca) x Vp x%</u>	0,000 x KVA			IS(sca)	<u>Vp x M x IP(sca)</u> Vs
		L= Length of circuit C = 1/impedance pe	r linear foot	E= Line to	o line voltage			- IS= Seconda VS = Secon	-		rent	100					
FAULT POINT	PANEL OR TRANSFORMER	PHASE	SOURCE (FAULT POINT)	SOURCE ISC (AMPS)	FEEDER CONDUIT TYPE	#	WIRE/BUS SIZE	FEEDER MATERIAL CU OR AL	C VALUE	L-L VOLTS E	CIRCUIT LENGTH L	LOAD POWER FACTOR (pf)	CIRCUIT LOAD A	f	м	3phase FAULT CURR. ISC	FAULT POINT
0	TRANSFORMER	3		51,404												51404	0
3	SERVICE GUTTER	3	0	51,404	RGS	4	350KCMIL	AL	15484	208	100	1	1000	0.6910959	0.5913325	30396.9	1
2	MAIN DISC. SWITCH	3	1	30,397	RGS	2	350KCMIL	CU	19704	208	10	1	480	0.0642287	0.9396477	28562.3	2
3	PANEL M	3	2	28,562	RGS	2	350KCMIL	CU	19704	208	180	1	480	1.0863416	0.4793079	13690.2	3
0	PANEL A	3	3	13,690	RGS	1	#3	CU	4774	208	10	1	80		0.8072414	11051.3	4
•	PANEL B	3	3	13,690	RGS	1	#1/0	CU	8925	208	15	1	120	0.1915914	0.8392139	11489	5

UTILITY /SERVICE
HVAC
POWER (MAIN)
FIRE ALARMS
SPRINKLERS
POTABLE WATER
SANITARY
NATURAL

GAS

# 

**RELEASED FOR** CONSTRUCTION As Noted on Plans Review

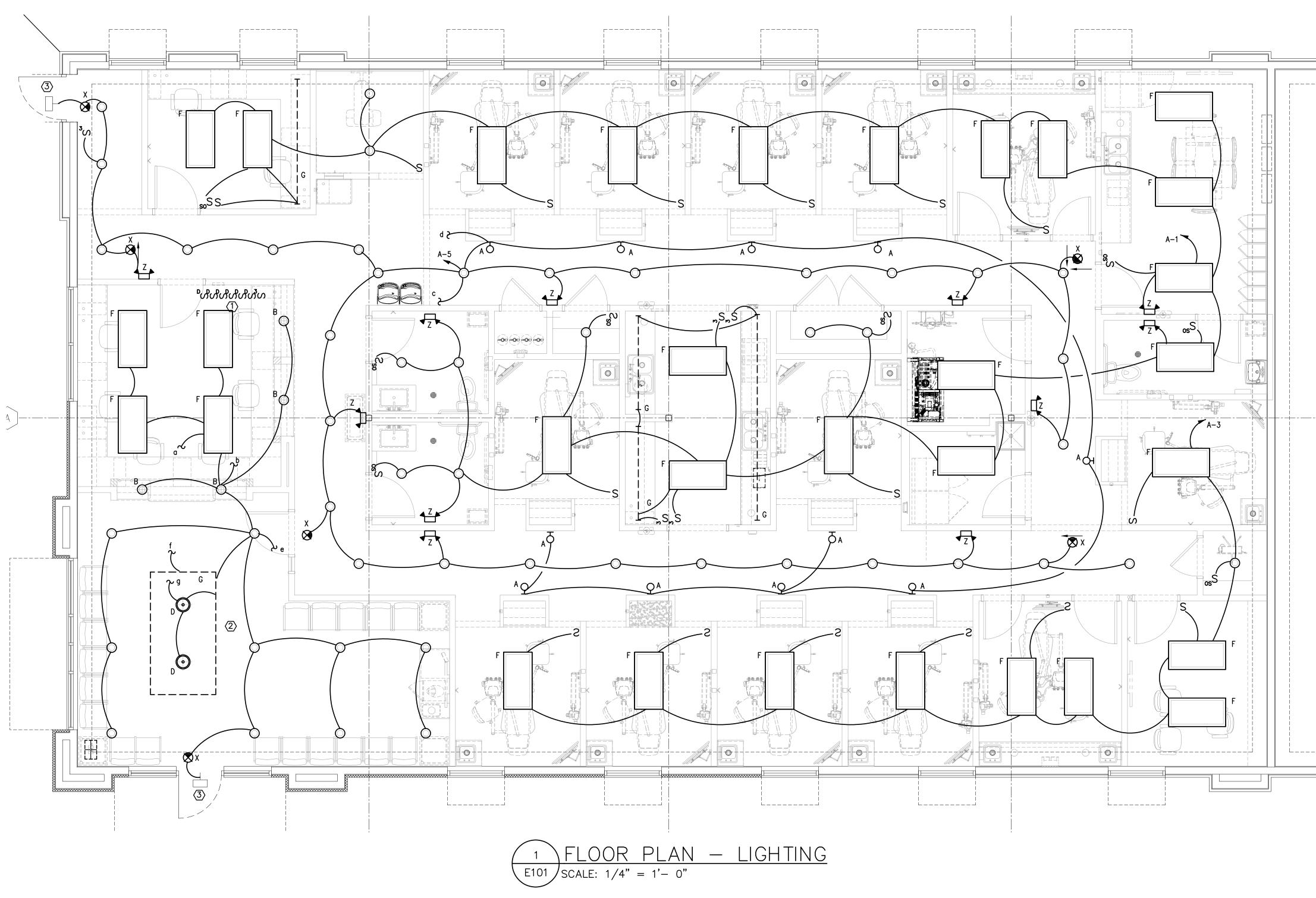
2.	CONTRACTOR SHALL COORDINATE AND VERIFY EXACT FAULT-CURRENT RATING WITH LOCAL POWER UITLITY PRIOR TO ORDERING POWER DISTRIBUTION EQUIPMENT.
3.	PROVIDE PERMANENT LABEL WITH AVAILABLE FAULT-CURRENT AND DATE ON EACH NEW PANEL, METER EQUIPMENT AND DISCONNECT SWITCHES PER NEC 110.16.
4.	PROVIDE CONDUIT TYPES IN ACCORDANCE WITH NEC 300, PVC SCHEDULE 40 FOR UNDERSLAB, GRS OR PVC SCHEDULE 80 FOR EXPOSED CONDUITS TO DAMAGE OR SERVICE LATERAL CONDUCTORS EXIT TO GROUND, EMT OR MC/AC FOR CONCEALED CONDUITS.
5.	ALL FEEDER WIRING SHALL BE 90-DEG C, COPPER WITHIN RACEWAYS. INTERIOR WIRING SHALL BE TYPE THHN. EXTERIOR WIRING SHALL BE TYPE THWN, 90-DEG C. WIRING FOR MOTOR CONNECTIONS SHALL BE TYPE LFMC.
Ľ	KEYED NOTES:
	angle provide properly sized surge protection device (SPD) for panel m.
2	ightarrow provide grounding and bonding per NEC 250.94. See grounding detail in sheet e511.
3	EXISTING PANELS TO BE RELOCATED AND RENAMED AS REQUIRED. PROVIDE NEW AND ADDITIONAL CIRCUI BREAKERS PER PANEL SCHEDULES.

[	BRANCH CI	RCUIT VOLT	AGE DROP	SCHEDUL	E
CIRCUIT VOLTAGE	CIRCUIT BREAKER AMPERAGE	BRANCH CIRCUIT LENGTH	REQUIRED CONDUCTOR SIZE	REQUIRED GROUND SIZE	REQUIRED CONDUIT SIZE
120V	20 AMP	LESS THAN 60'	<b>#</b> 12	<i>#</i> 12	1/2" PER CKT
	20 AMP	60'TO 95'	<b>#</b> 10	<i>#</i> 10	1/2" PER CKT
120V	20 AMP	GREATER THAN 95'	<b>#</b> 8	<b>#</b> 8	3/4" PER CKT

BASED ON MAXIMUM VOLTAGE DROP OF 3% AT DESIGN LOAD PER NEC 210.19(A) FPN #4. ALL VALUES SHOWN REFLECT DISTANCES THAT ARE WITHIN RANGE OF SCOPE OF WORK.

	EXISTING WITHIN THE SHELL SCOPE (MAIN SERVICE ONLY; ALL INTERIOR UTILITY WORI IS NEW UNLESS NOTED OTHERWISE)	UPGRADES OR MODIFICATIONS WITHIN THE PROJECT'S SCOPE OF WORK						
	3x ROOF TOP UNITS PROVIDED IN SHELL PACKAGE.	CONNECT DUCTWORK TO EXISTING ROOF TOP UNITS FROM SHELL PACKAGE. PROVIDE A NEW MINI-SPLIT AIR HANDLER AND ASSOCIATED HEAT PUMP SERVING THE EQUIPMENT ROOM.						
	EXISTING UTILITY TRANSFORMER, METER, 600A FUSED DISCONNECT AND 600A, 208Y/120V, 3 PH.,4 WIRE MAIN PANEL TO REMAIN. EXISTING TWO 2" CONDUITS FOR TELEPHONE, DATA FROM HOUSE EQUIPMENT ROOM.	PROVIDE AND INSTALL ONE 150A/3P AND ONE 100A/3P CIRCUIT BREAKERS IN EXISTING 600A PANEL. PROVIDE AND INSTALL ONE 150A AND ONE 100A, 208Y/120V, 3 PH, 4 WIRE PANELBOARDS AND BRANCH CIRCUITS AS SHOWN ON SHEETS E101, E102 AND E500. PROVIDE TWO 4" CONDUITS FROM IT BACKBOARD TO MAIN HOUSE EQUIPMENT ROOM.						
	N/A	NOT IN CONTRACT. PROVIDED BY OTHERS.						
5	N/A	N/A						
	EXISTING 1-1/2" CW SERVICE	CONNECT NEW 1-1/2" CW TO EXISTING 1-1/2" SERVICE. PROVIDE SUB-METER AND RPZ BACKFLOW PREVENTION DEVICE						
	EXISTING 4" SANITARY SEWER WITHIN SPACE	CONNECT NEW 4" SANITARY TO EXISTING SANITARY AS SHOWN.						
	EXISTING NATURAL GAS SERVICE	EXISTING NATURAL GAS PIPING TO REMAIN.						

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Heartland Dental - Lee's Summit Market Street Center Lee's Summit, Missouri 64082	For: Heartland Dental 1200 Network Centre Drive Effingham, IL 62401
A 100/00     A  A     A	LS 01



RELEASED FOR CONSTRUCTION

- 1. ALL ELECTRICAL WORKS SHALL BE COMPLY TO NEC 517 (HEALTH CARE FACILITIES).
- 2. CONNECT BATTERY IN EMERGENCY LIGHTING FIXTURE OR EXIT SIGN TO UNSWITCHED BRANCH CIRCUIT.
- 3. ALL WIRING SHALL BE #12 AWG, COPPER, U.O.N.
- WRING IN PATIENT CARE AREAS (TREATMENT AND HYGIENE ROOMS) SHALL COMPLY WITH NEC 517.13A & B. SEE ELECTRICAL SPECIFICATONS FOR WIRING TYPE. PROVIDE CIRCUIT LABELS AT RECEPTACLES AS REQUIRED. NO SHARED NEUTRALS, U.O.N.
- 5. ALL WIRING DEVICES AND COVERPLATES SHALL BE WHITE IN COLOR, EXCEPT FOR QUADRUPLEX RECEPTACLES AT OPERATION. PROVIDE BROWN DEVICES AND COVERPLATES WHERE REQUIRED.
- 6. ALL LIGHTING FIXTURE IN WORKING AREA SHALL BE TYPE 'C', U.O.N.

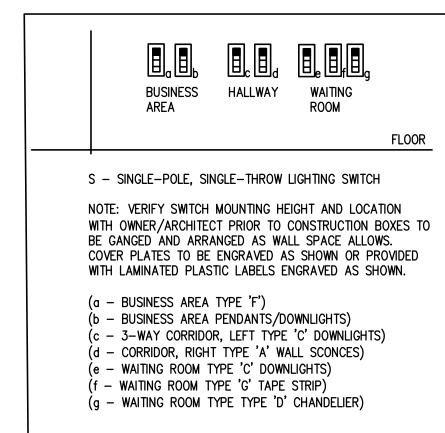
# KEYED NOTES:

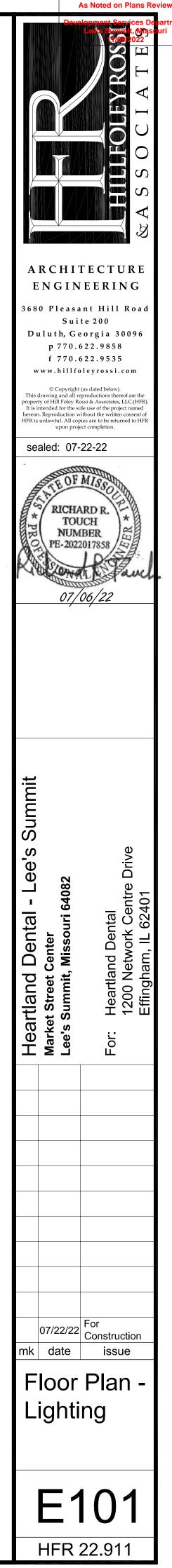
(1) PROVIDE SWITCH BANK. LOWERCASE LETTERS INDICATE SWITCHED FIXTURES. SEE DETAIL IN THIS SHEET FOR SWITCH BANK LAYOUT. INSTALL SWITCH BANK BOXES AT 48"AFF. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR EXACT LOCATION, PRIOR TO ROUGH-IN.

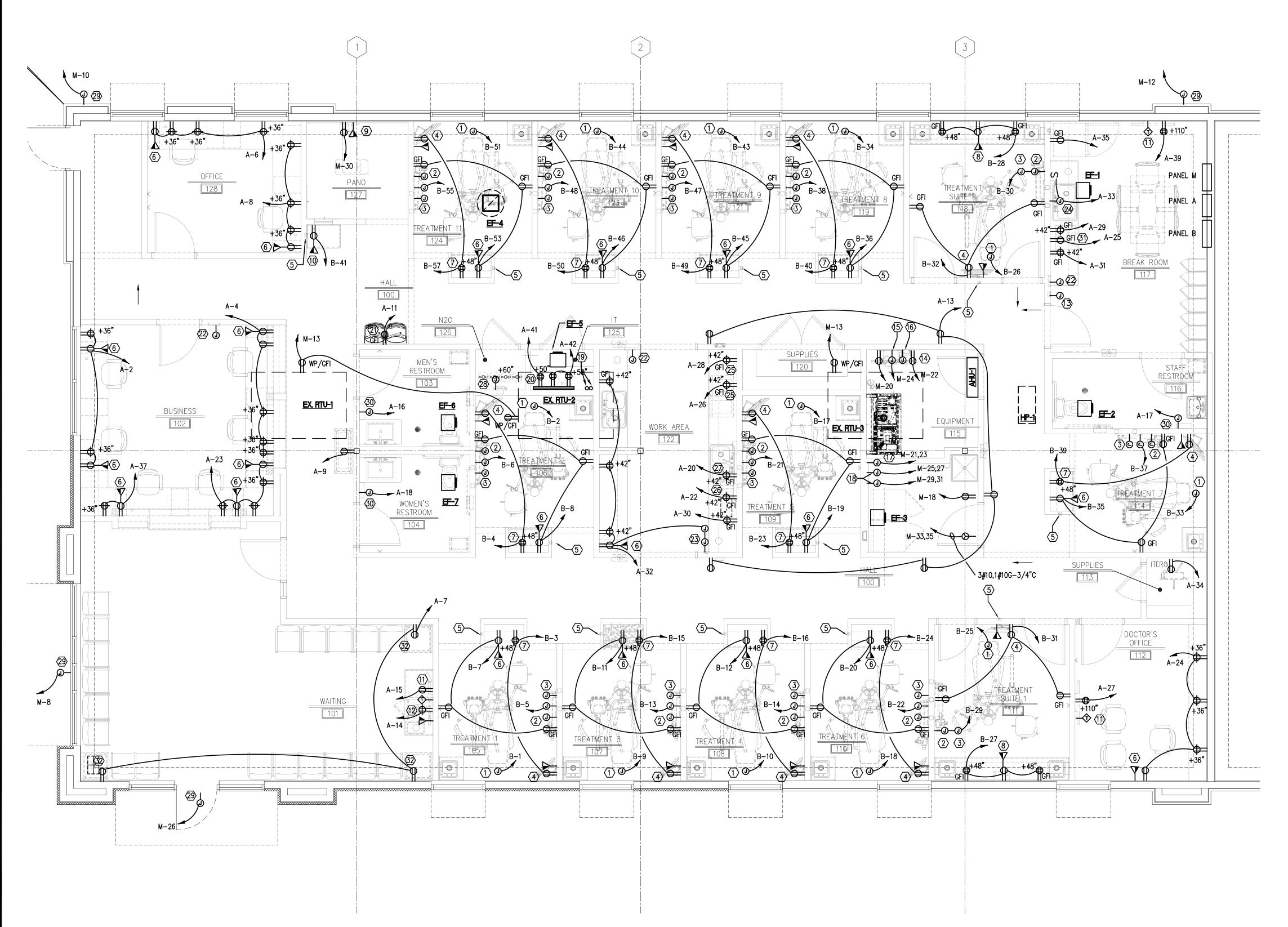
(2) LIGHTING IN THIS AREA TO BE CONTROLLED BY SWITCH BANK AS INDICATED. LOWERCASE LETTERS INDICATED SWITCH GROUPINGS.

 $\langle \overline{3} \rangle$  EXISTING EXTERIOR EGRESS FIXTURES TO REMAIN.

r							
REFLEC	TED CEILING PLAN LEGEND						
О	WALL SCONCE						
0	6" DIA. RECESSED CAN LIGHT						
•	PENDANT LIGHT FIXTURE						
$\odot$	CHANDELIER						
	2' X 4' LIGHT FIXTURE						
	LED TAPE STRIP						
8	EMERGENCY EXIT SIGN						
	EMERGENCY LIGHT FIXTURE						









# $\underbrace{\begin{array}{c} 1 \\ \text{E102} \end{array}}_{\text{SCALE: } 1/4" = 1'-0"} FLOOR PLAN - POWER$

		4	As Noted on Plans R
		Deve	Looment Services D Les Support, Miss (10) 2022
GENERAL NOTES: (APPLY TO SHEET E	E-102 ONLY)		L E
<ol> <li>ALL ELECTRICAL WORKS SHALL BE COMPLY TO NEC 517 (HEALTH CARE F.</li> <li>ALL WIRING SHALL BE #12 AWG, COPPER, U.O.N.</li> </ol>	ACILITIES).		
<ol> <li>WIRING IN PATIENT CARE AREAS (TREATMENT AND HYGIENE ROOMS) SHALL ELECTRICAL SPECIFICATONS FOR WIRING TYPE. PROVIDE CIRCUIT LABELS NEUTRALS, U.O.N.</li> </ol>			
4. ALL RECEPTACLES IN TREATMENT AND HYGIENE AREAS SHALL BE HOSPITA TYPED LABEL. COORDINATE RECEPTACLE EXACT LOCATIONS AND CONNEC OWNER AND VENDORS PRIOR TO INSTALL. REFER TO ARCHITECTURAL ELE RECEPTACLES, OUTLETS AND SWITCHES IN TREATMENT, HYGIENE, OFFICES THERE ARE CONFLICTS BETWEEN ELECTRICAL DRAWINGS AND ARCHITECTUR CONTRACTOR MUST NOTIFY ARCHITECT FOR RESOLUTION.	CTION REQUIREMENT OF ÁLL EQUIPMENT WITH THE EVATIONS FOR EXACT MOUNTING HEIGHT OF AND BREAKROOM AREAS FOR ROUGH-INS. IF		A S S (
5. ALL RECEPTACLES LOCATED ON FIRE-RATED WALL SHALL HAVE FIRE-RAT	TED PUTTY PADS.		B B B B B B B B B B B B B B B B B B B
<ol> <li>ALL RECEPTACLES SHALL BE GROUNDED AS REQUIRED BY NEC 250-146.</li> <li>WHERE DEVICES, INCLUDING ALL PATIENT CARE AREA RECEPTACLES OF 15 DEVICES SHALL BE PROVIDED WITH HOSPITAL GRADE MC CABLE WITH SECO DEVICES WITH INSULATED GROUND CONNECTIONS.</li> </ol>	OND GROUNDING PATH AND HOSPITAL GRADE	ENGIN	FECTURE EERING nt Hill Road
8. NO 15A, 120V RECEPTACLES ARE ACCEPTABLE.		Duluth, Ge	te 200 orgia 30096 522.9858
9. FOR ALL LOW-VOLTAGE OUTLETS, PROVIDE SINGLE-GAND DEVICE RING, OU UP ABOVE CEILING SPACE WITH PULL-STRING AND INSULATING BUSHING, U	Ú.O.N.	f 770.6	22.9535 leyrossi.com
10. ALL WIRING DEVICES AND COVERPLATES SHALL BE WHITE IN COLOR, EXCER "12OCLOK". PROVIDE BROWN DEVICES AND COVERPLATES WHERE REQUIRE	ED.	This drawing and all re property of Hill Foley Ro	(as dated below). productions thereof are the ssi & Associates, LLC.(HFR). le use of the project named
11. PROVIDE POWER CONNECTION FOR MECHANICAL EQUIPMENT PER MECHANIC REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS. PROVIDE DISCO CODE REQUIREMENT	CAL EQUIPMENT SCHEDULE ON SHEET E-500.	nereon. Reproduction wi IFR is unlawful. All cop	ithout the written consent of ies are to be returned to HFR ct completion.
12. PROVIDE WP/WR/GFI RECEPTACLE(S) AS CODE REQUIRED ON ROOF FOR R MECHANICAL EQUIPMENT.	COOF MOUNTED EQUIPMENT WITHIN 25-FT FROM	sealed: 07-	22-22
KEYED NOTES:		RICHA	RD R.
DENTAL CHAIR BASEPLATE. PROVIDE HOSPITAL GRADE QUAD RECEPTACLE. COORDINATE EX.	ACT LOCATION AND CONNECTION REQUIREMENTS WITH VENDOR	TOU NUM	BER
$\sim$ price to rough-in. (2) Receptacle for microwave oven mounted below counter. Coordinate exact locat	TION WITH MILLWORK.	PE-2022	1 PS 1
<ul> <li>PROVIDE TAMPER-PROOF RECEPTACLE WHERE INDICATED.</li> <li>MONITOR. PROVIDE WALL MOUNTED DUPLEX RECEPTACLE AND AV/DATA BOX RECESSED AT</li> </ul>	18" BELOW CEILING WITH 1"C TO ABOVE CEILING.	07/	06/22
COORDINATE EXACT LOCATION, HEIGHT AND CONNECTION REQUIREMENTS WITH OWNER PRIOR $\overline{5}$ X-ray remote control unit. Provide and terminate 1"C at 45" aff with required	R TO ROUGH-IN.		
<ul> <li>BENDS ABOVE CEILING, VERIFY THE BEND IS TOWARDS THE XRAY.</li> <li>COMPUTER CPU. PROVIDE ONE (1) DATA AT 18" AFF TO TOP OF DEVICE AND ONE (1) REC COORDINATE EXACT LOCATION AND CONNECTION REQUIREMENTS WITH ARCHITECT PRIOR TO SHALL HAVE A 1" CONDUIT STUBBED UP ABOVE CEILING AND TERMINATED WITH AN IN PULL STRING. RECEPTACLE TO BE FED THROUGH WHIP THAT TERMINATED IN A J-BOX</li> </ul>	CEPTACLE AT 10" AFF TO TOP OF DEVICE IN BASE CABINET. ROUGH-IN. SEE APPLICABLE DETAIL ON E511. DATA WHIP ISULATING BUSHING UNLESS NOTED OTHERWISE. INSTALL		
EXCESS LENGTH FROM FACE OF STUD ADJACENT TO ASSOCIATED PREFABRICATED CAS ELECTRICAL SUBCONTRACTOR AFTER THE INSTALLATION OF PREFABRICATED CASEWORK PROVIDE QUADRUPLEX RECEPTACLE 48" AFF AT CENTER OF PREFABRICATED CASEWORK ANI TERMINATED IN A J-BOX ABOVE ACCESSIBLE CEILING AND INCLUDES 48" OF EXCESS LENGT PREFABRICATED CASEWORK. RECEPTACLE AND DATA TO BE INSTALLED BY ELECTRICAL CON	SEWORK. RECEPTACLE AND DATA TO BE INSTALLED BY K. ID WALL. RECEPTACLE TO BE FED THROUGH WHIP THAT TH FROM FACE OF STUD ADJACENT TO ASSOCIATED		
CASEWORK. COVER-PLATE COLOR BROWN. 8 VERIFY LOCATION OF STACKED POWER AND DATA RECEPTACLES WITH ELEVATION DETAILS OF	ON E511 PRIOR TO ROUGH-IN.	t	
<ul> <li>9 PANOREX SYSTEM. ELECTRICAL CONTRACTOR TO COORDINATE VOLTAGE AND PLUG REQURED</li> <li>0 X-RAY UNIT AND CPU. PROVIDE ONE (1) DUPLEX RECEPTACLE &amp; ONE (1) DATA OUTLET IN ABOVE COUNTER AT 45" AFF, AND (1) 1" EMPTY CONDUIT WITH PULL-STRINGS STUBBED 6"</li> </ul>	MENTS FOR PANOREX STSTEM WITH PATTERSON DENTAL. N BASE CABINET, ONE (1) JUNCTION BOX ON SIDE WALL " ABOVE CEILING	mmit	
TV/MONITOR. PROVIDE DUPLEX RECEPTACLE AND TV OUTLET MOUNTED AT 110" AFF WHERE EXACT LOCATION PRIOR TO ROUGH-IN.		Sul	
BEVERAGE COOLER AND COFFEE BREWER. PROVIDE ONE (I) RECEPTACLE MOUNTED AT 18" COUNTER. COORDINATE EXACT LOCATION AND CONNECTION REQUIREMENTS WITH OWNER PR	AFF AND ONE (1) RECEPTACLE MOUNTED ABOVE THE	S S	Drive
AIR/WATER/VACUUM 3-SWITCH REMOTE CONTROL UNIT. PROVIDE 2-GANG JUNCTION BOX / EQUIPMENT ROOM FOR CONNECTION TO MASTER VACUUM SYSTEM CONTROLLER. CONTRACTO STRING COILED AT EACH END FOR FINAL CONNECTION TO BE MADE BY OTHERS. COORDINA PROVIDER. MOUNT AT 48"AFF.	AND 1"C WITH REQUIRED LOW VOLTAGE CABLE BACK TO OR SHALL PROVIDE #18/4 24V CABLE WITH 5' WHIP AND PULL	tal - Le uri 64082	ntre 101
4 WATER SOLENOID. PROVIDE DEDICATED 120V RECEPTACLE. COORDINATE EXACT CONNECTION WITH CONTROL SWITCH, SEE KEYNOTE 13.	REQUIREMENTS PRIOR TO ROUGH-IN. PROVIDE CONNECTION	Dental <sup>Center</sup> Missouri (	ork ÎL
$\overline{5}$ master vacuum equipment controller. Provide connection with remote control s 1" c with 24" whip and pull string at each end.	Switch, Remote to: State Strike be $\frac{1}{2}$ to the first state of th	Ŭ,	<u>a</u> Z <u>c</u>
MASTER CONTROLLER. PROVIDE 120V DUPLEX RECEPTACLE. COORDINATE EXACT LOCATION ROUGH-IN.	AND CONNECTION REQUIREMENTS WITH OWNER PRIOR TO	eartland   arket Street C e's Summit, I	Heart 1200 Effing
AIR COMPRESSOR. PROVIDE 208V, 1PH 60A-2P DISCONNECT, 2#B AWG CU + #10G. IN 3, REQUIREMENTS WITH THE MANUFACTURER AND WITH OTHER EQUIPMENT IN THE ROOM PRIOR	/4"C. COORDINATE EXACT LOCATION AND CONNECTION ≥ TO ROUGH-IN.		For:
VACUUM AIR PUMP. PROVIDE TWO (2) 240V, 1PH 30A-2P DISCONNECT, 2#10 AWG CU + PROVIDED BY PATTERSON. VERIFY SUPPLY VOLTAGE RANGE IS WITHIN 205-240V. COORDII MANUFACTURER AND OTHER EQUIPMENT IN THE ROOM PRIOR TO ROUGH-IN.	#10G. IN 3/4"C . INSTALL BUCK/BOOST TRANSFORMERS	ĽĔゴ	Ц.
TELEPHONE SERVICE. PROVIDE TWO (2) 4" PVC TO BUILDING DEMARC. COORDINATE DEMAN SLAB AT START OF CONSTRUCTION, CONDUITS SHOULD BE RUN UNDER SLAB FROM POINT OF FEASIBLE DUE TO SITE CONDITIONS, RUNNING CONDUIT ABOVE CEILING IS ACCEPTABLE.	RC WITH SHELL BUILDING CONTRACTOR. WHERE THERE IS NO DF ENTRY; WHEN PROVIDING UNDER SLAB CONDUITS IS NOT		
TELEPHONE BACKBOARD. PROVIDE 4' X 8' X 1/2" FIRE-RATED PLYWOOD TELEPHONE BACKBOARD. PROVIDE 4' X 8' X 1/2" FIRE-RATED PLYWOOD TELEPHONE BACKBOARD. EXTEND #6 GROUND TO MAIN SERVICE GROUND. CO WITH OWNER/IT PRIOR TO ROUGH-IN.	ACKBOARD AROUND PERIMETER OF ROOM, PAINT DORDINATE EXACT LOCATION AND CONNECTION REQUIREMENTS		
water cooler. Provide dedicated, accessible GFCI duplex receptacle. $2$ speaker control. Provide junction box at 48" aff, 1"c with pullstring stubbed 6'	" ABOVE ACCESSIBLE CEILING. COORDINATE EXACT LOCATION		
AND CONNECTION REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN. N20-02 ALARM. PROVIDE 3/4"C WITH #18/4 24V CABLE IN WALL TO JUNCTION BOX AT 4 OTHERS. LEAVE 24" WHIP AND PULL STRING AT EACH END. SEE KEYNOTE 28. PROVIDE CEILING MOUNTED JUNCTION BOX FOR POWER. COORDINATE EXACT LOCATION AND	48" AFF. ALARM MOUNTING AND FINAL CONNECTION MADE BY		
ROUGH-IN.	Facturer prior to rough-in.		
AUTOCLAVE/STEAM STERILIZER. PROVIDE ABOVE COUNTER GFCI DUPLEX RECEPTACLE. COOF WITH OWNER PRIOR TO ROUGH-IN.	RDINATE EXACT LOCATION AND CONNECTION REQUIREMENTS		
ULTRASONIC CLEANER. PROVIDE ABOVE COUNTER GFCI DUPLEX RECEPTACLE. COORDINATE I OWNER PRIOR TO ROUGH-IN.	EXACT LOCATION AND CONNECTION REQUIREMENTS WITH		For
KAVO QUATTROCARE UNIT. PROVIDE SINGLE GANG JUNCTION BOX WITH DEDICATED CIRCUIT. REQUIREMENTS WITH ARCHITECT PRIOR TO ROUGH-IN.	l ∎m	07/22/22 nk date	Construction issue
SENTINEL ALARM SYSTEM AT ROOM N20. PROVIDE CEILING MOUNTED JUNCTION BOX FOR ACCESSIBLE CEILING COORDINATE EXACT LOCATION AND CONNECTION REQUIREMENTS WITH O ITEM 23, LEAVE 24" OF WHIP AND PULL STRING AT EACH END. JACKS TO BE PROVIDED BY	LOW VOLTAGE CONNECTION. TERMINATE 1"C ABOVE		Plan -
$\overline{29}$ junction box for tenant signage coordinate exact location with owner. Interlow		Powe	

HFR 22.911	

BUS AMP	E: 208 / 120 2S: 600 A TNG: 22,000 A				PHASE	: 3 AMPS:	600 A URFACE	MLO						WIRE: 4 NEMA:	
L	OCATION DESCRIPTION	LOAD (KVA)	LOAD TYPE	TRIP POLE	#	PH	#	TRIP POLE	LOAD TYPE	LOAD (KVA)		LOCATIO	ON DESC	RIPTION	
		3.8	D	D		A	2		D	3.8					
EXIST. RT	. RTU-1 3		D 45/3		3	в	4	45/3	D	3.8	RTU-3				
		3.8	D		5	с	6	1	D	3.8	1				
		3.8	D	-	7	Α	8	20/1	н	0.5	TIMECL	OCK/SIGN	١		
EXIST. RT	U-2	3.8	D 45/3		9	В	10	20/1	н	0.5	TIMECL	OCK/SIGN	١		
		3.8			11	c	12				TIMECL	OCK/SIGN	١		
RTU RECI	EPTACLES	0.5	В	20/1	13	A	14		D	1.7					
		11.7	н		15	В	16	30/2	D	1.7	AHU-1 8	k HP-1 (19	0.0 + 1.0	MCA)	
PANEL 'A	1			H 100/3		c	18	20/1	н		WASHER				
		10.1	н		17 19	A	20	20/1	н		CONTRO	OLLER			
AIR COMPRESSOR		2.8	G		21	В	22	20/1	н	ACTION OF	WATER	SOLENO	ID		
		2.8	G	30/2	23	c	24	20/1	н		MASTER	RCONTR	OLLER		
		1.6	G		25	A	26	20/1	н	0.5	TIMECL	OCK/SIGN	١		
VACUUM	PUMP	1.6	G	20/2	27	B	28	20/1	н		EF-1 THRU EF-6 & CP-1				
		1.6	G	12	29	c	30	20/1	н		PANO				
VACUUM	PUMP	1.6	G	20/2	31	A	32		Н	2.0					
		1.6	н		33	B	34			10000.00.00	WH-1 (6KW)				
DRYER		1.6	H	30/2	35	c	36		Н	2.0	1	,			
					37	A	38		н	16.8					
SPD				30/3**	39	В	40	150/3	н		PANEL	'B'			
					41	c	42		Н	14.5	1				
		I			PANEL I		NALYSIS	5							
Load Type	DESCRIPTION	Conn. KVA	Demand KVA		2020 NEC		Load Type	DE	SCRIPTI	ON	Conn. KVA	Demand KVA		2020 NEO Reference	
A	Lighting	0.0	0.0		Table 22		E		Heating		0.0	0.0		Article 2	
В	Receptacles	0.5	0.5		Table 22		F	La	rgest Mo	tor	0.0	0.0		Article 220	
С	Kitchen Equipment	0.0	0.0		Table 22		G		ther Moto	NO.567.	12.0	12.0	NEC	Article 220	0.18(A)
D	Air-Conditioning	38.0	38.0	NEC	Article 2	20.60	Н		ther Load		93.6	93.6			
	e A Connected Load	47.0 KVA	Notes:				DDEAK				ED LOAD				AMP
	e B Connected Load	49.3 KVA 47.9 KVA	1.201000.0000	CONFIRM					IOTAI	DEMAN	ND LOAD	144.1	KVA	400.1	AMP

				PA	NEL	- 'A'	(NE	W)							
	GE: 208 / 120				PHASE	: 3								WIRE: 4	
	PS: 100 A						100 A							NEMA: 1	
A.I.C RA	TING: 22,000 A			TDID	MOUN	ING: R	ECESSE	_							
4 1 1	LOCATION DESCRIPTION	LOAD (KVA)	LOAD TYPE	TRIP POLE	#	PH	#	TRIP POLE	LOAD TYPE	LOAD (KVA)		LOCATIO	ON DESC	RIPTION	
LIGHTS -	TREAT., BREAK, REST. PANO	1.1	A	20/1	1	A	2	20/1	В	1.0	REC - B	USINESS	AREA		
LIGHTS -	- TREAT., BUS., REST., STO., WAIT.	0.9	A	20/1	3	в	4	20/1	В	1.0	REC - B	REC - BUSINESS AREA			
LIGHTS -	- HALL, SCONCES	0.6	A	20/1	5	С	6	20/1	В	1.0	REC - O	FFICE			
REC - W	AITING AREA	0.4	В	20/1	7	A	8	20/1	В	1.0	REC - C	FFICE			
REC - H	ALL	0.7	В	20/1	9	в	10	20/1			SPARE				
REC - DI	RINKING FOUNTAIN	1.0	н	20/1	11	С	12	20/1			SPARE				
REC - HA	ALLWAY	0.4	В	20/1	13	A	14	20/1	Н	0.8	REC - C	OOLER			
REC - W	AITING AREA	0.7	В	20/1	15	в	16	20/1	В	0.5	HAND D	RYER			
HAND D	RYER	0.6	В	20/1	17	с	18	20/1	В	0.6	HAND D	RYER			
SPARE	Sector (1990)	0.0	Н	20/1	19	A	20	*20/1	В	1.5	GFI - QUATROCARE				
SPARE		0.0	н	20/1	21	в	22	20/1	В	1.5	GFI REC- ULTRASONIC CLEANER				
REC - BI	USINESS AREA	1.3	В	20/1	23	с	24	20/1	В	0.5	GFI REC	C - SCAN	IER		
REC - CO	OFFEE	1.5	В	20/1	25	Α	26	20/1	В	1.4	GFI REC - AUTOCLAVE/STERILI			TERILIZER	
REC - DO	OCTOR'S TV	0.4	В	20/1	27	в	28	20/1	В	1.4	GFI REC - AUTOCLAVE/STERILIZER			TERILIZER	
REC - M	ICROWAVE	1.5	В	20/1	29	с	30	20/1	В	0.5	GFI REC	- WOR	AREA		
REC - BI	REAKROOM	1.0	В	20/1	31	A	32	20/1	В	0.8	REC - W	VORK AR	EA		
REC - DI	SPOSAL	1.5	H	20/1	33	в	34	20/1	В	0.4	REC -ITE	ERO			
REC - RE	EFRIGERATOR	1.5	H	20/1	35	c	36	20/1	Н	0.0	SPARE				
REC - BI	USINESS AREA	1.0	B	20/1	37	A	38	20/1	Н	-	SPARE				
a service and the service	/ & PC - BREAKROOM	0.9	B	20/1	39	B	40	20/1	H	0.0	SPARE				
REC - IT	ROOM	0.4	В	20/1	41	С	42	20/1	В	0.4		RM - TEI	_		
							NALYSIS	3							
Load	DESCRIPTION	Conn.	Demand		020 NE		Load		SCRIPTI		Conn.	Demand		2020 NEC	
Туре		KVA	KVA		Reference		Туре				KVA	KVA		Reference	
A	Lighting	2.7	3.4		Table 22		E		Heating		0.0	0.0		Article 220.60	
В	Receptacles	24.1	17.1		Table 22		F		rgest Mo		0.0	0.0		Article 220.18(A)	
С	Kitchen Equipment	0.0	0.0		Table 22		G	1.201	ther Moto	10.120	0.0	0.0	NEC	Article 220.18(A)	
D	Air-Conditioning	0.0	0.0	NEC	Article 2	20.60	H		ther Load		4.8	4.8			
Pha	ase A Connected Load 11.9	KVA	Notes:					T	OTAL CC	NNECTE	ED LOAD	31.6	KVA	87.7 AMPS	
Pha	ase B Connected Load 9.9	KVA	(*) PRO\	IDE GFO	CI CIRCL	JIT BREA	AKER		TOTAL	DEMAN	ND LOAD	25.2	KVA	70.0 AMPS	
Pha	ase C Connected Load 9.9	KVA													

TAG	MANUFACTURER	CATALOG NUMBER	DESCRIPTON	LAMP QUANTITY	LAMP WATTAGE	LAMP DESCRIPTION	NOTES
Α	FEISS LIGHTING	WB1821SRS-LED	INTERIOR WALL SCONCE. PROVIDE LED BULB	1	10	LED	NOTE 1
В	FEISS LIGHTING	P1421SRS-LED	DECORATIVE MINI-PENDANT FIXTURE. PROVIDE LED BULB	1	10	LED	NOTE 1
С	LITON	LRELD602-W/S-GU24-MED	6" LED DOWNLIGHT	1	12	LED	
D	FEISS LIGHTING	F3103/3SRS-LED	LARGE CHANDELIER. PROVIDE LED BULB	3	10	LED	
F	JUNO/INDY	S2X4BL-464OU-WH3-90	2'X4' LINEAR RECEDDED LED FIXTURE WITH BASKET DIFFUSER 4600 LUMENS	1	53	LED	
G	GM LIGHTING	LTR300-SO-WW	LED TAPE STRIP WITH POWER SUPPLY	1	1.52W/FT	LED	NOTE 1
x	EXTRONIX	VEX-U-BP-WB-WH-R11-G2 OR MATCH WITH EXISTING BUILDING FIXTURE	COMPACT, LOW-PROFILE EXIT SIGN, FURNISH WITH EMERGECNY OPTION FOR MAINTENANCE-FREE NICKEL-CADMIUM BATTERY FOR 2-HOUR OPERATION WITH INTEGRAL TEST SWITCH, AC-ON INDICATOR AND REMOTE EGRESS HEAD	1	4	LED	
z	EXITRONIX	LED-60 SERIES OR MATCH WITH EXISTING BUILDING FIXTURE	LOW-PROFILE EMERGENCY LIGHTING UNIT, TWO SEMI-RECESSED, ADJUSTABLE "EYEBALL" HEADS WITH GLASS LENS, MAINTENACE-FREE BATTERY FOR 90 MINUTE OPERATION, INTEGRAL TEST SWITCH AND AC-ON INDICATOR	2	10	LED	

# GENERAL NOTES:

1 CONTRACTOR IS RESPONSIBLE FOR VERIFYING CEILING MATERIALS AND THICKNESS PRIOR TO ORDERING LUMINAIRE AND ORDERING APPROPRIATE TRIM AS NEEDED TO ACCOMMODATE VARYING CEILING CONDITIONS SUCH AS ACOUSTICAL CEILING GRID, 9/16" OR 5/16" GRID WIDTHS, GYPSUM BOARD.

2 CONTRACTOR IS RESPONSIBLE FOR STORING FIXTURES AND PROVIDING ANY ADDITIONAL ACCESSORIES INCLUDING LAMPS AS NEEDED.

3 ALL FIXTURES TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR. CONTACT SPECIALTY LIGHTING GROUP. CONTACT MEGHAN DONOGHUE (PHONE: 860-767-0110 OR EMAIL: MKD@SSLIGHTING.COM).

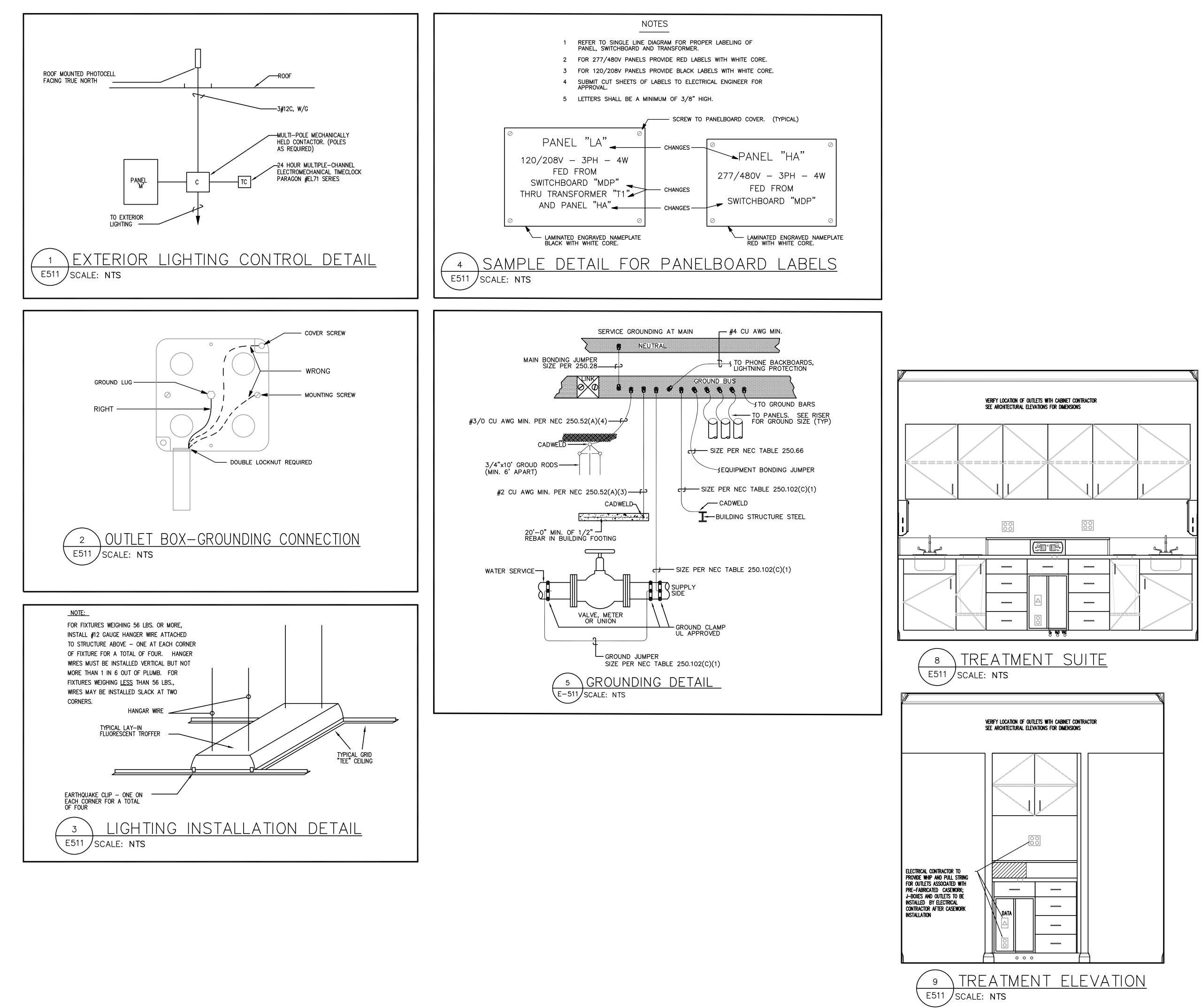
				-										
							(NE	:W)						
VOLTAGE: 208 / 120 BUS AMPS: 150 A A.I.C RATING: 22,000 A						AMPS	150 A							WIRE: 4 NEMA: 1
LOCATION DESCRIP	TION	LOAD (KVA)	LOAD TYPE	TRIP POLE	#	PH	#	TRIP	LOAD TYPE	LOAD (KVA)			ON DESC	RIPTION
CHAIR POWER - TREATMEN	T 1	1.0	н	20/1	1	A	2	20/1	н	1.0	CHAIR F	OWER -	TREATM	IENT 2
MONITOR	0.7	В	20/1	3	В	4	20/1	В	0.7	MONITO	R			
XRAY		1.0	В	15/1	5	С	6	15/1	В	1.0	XRAY			
RECEPTACLES		0.7	В	20/1	7	A	8	20/1	В	0.7	RECEPT	ACLES		
CHAIR POWER - TREATMEN	Т 3	1.0	н	20/1	9	В	10	20/1	н	1.0	CHAIR POWER - TREATMENT 4			IENT 4
MONITOR		0.7	В	20/1	11	С	12	20/1	В	0.7	MONITO	R		
XRAY		1.0	В	15/1	13	A	14	15/1	В	1.0	XRAY			
RECEPTACLES		0.7	В	20/1	15	В	16	20/1	В	0.7	RECEPT	ACLES		
CHAIR POWER - TREATMEN	Т 5	1.0	н	20/1	17	c	18	20/1	Н	1.0	CHAIR F	OWER -	TREATM	IENT 6
MONITOR		0.7	в	20/1	19	A	20	20/1	в	0.7	MONITO			
XRAY		1.0	В	15/1	21	B	22	15/1	В	1.0	XRAY			
RECEPTACLES			В	20/1	23	C	24	20/1	B		RECEPTACLES			
CHAIR POWER - TREATMEN		0.7	н	20/1	25		24	20/1	B	0.7	CHAIR POWER - TREATMENT SUITE 2			
MONITOR	1 SUILE 1	1.0	1000			A				1.0	MONITOR			IEINT SUITE 2
		0.7	B	20/1	27	B	28	20/1	B	0.7				
XRAY		1.0	В	15/1	29	C	30	15/1	B	1.0	XRAY			
RECEPTACLES		0.7	В	20/1	31	A	32	20/1	Н	0.7	RECEPTACLES			
CHAIR POWER - TREATMEN	Τ7	1.0	н	20/1	33	В	34	20/1	н	1.0	CHAIR POWER - TREATMENT 8			IENT 8
MONITOR		0.7	В	20/1	35	С	36	20/1	В	0.7	MONITOR			
XRAY		1.0	В	15/1	37	A	38	15/1	В	1.0	XRAY			
RECEPTACLES		0.7	В	20/1	39	В	40	20/1	В	0.7	RECEPT	ACLES		
XRAY & COMPUTER - HALLV	VAY	1.5	В	20/1	41	С	42	20/1			SPARE			
CHAIR POWER - TREATMEN	т۹	1.0	н	20/1	43	A	44	20/1	Н	1.0		OWER -	TREATM	IENT 10
MONITOR	10	0.7	В	20/1	45	B	46	20/1	В	0.7	MONITO		INCEATIN	
XRAY		1.0	B	15/1	47	C	48	15/1	B	1.0	XRAY			
RECEPTACLES		0.7	В	20/1	49	Α	50	20/1	В	0.7	RECEPT	ACLES		
CHAIR POWER - TREATMEN	T 11	1.0	н	20/1	51	В	52				SPACE			
MONITOR		0.7	В	20/1	53	c	54				SPACE			
XRAY RECEPTACLES		1.0	B	15/1 20/1	55 57	A B	56 58				SPACE SPACE			
SPACE		0.7		20/1	59	C	60				SPACE			
							NALYSIS	5			017102			
Load		Conn.	Demand		020 NE	Physics of the rest process	Load	1			Conn.	Demand		2020 NEC
Type DESCRIP	ΠΟΝ	KVA	KVA		Reference		Туре	DE	SCRIPT	ION	KVA	KVA		Reference
A Lighting	9	0.0	0.0			0.0	0.0	NEC	Article 220.60					
B Receptad		33.5	21.8	-	Table 22	and the second	F		argest Mo		0.0	0.0		Article 220.18(A)
C Kitchen Equ		0.0	0.0		Table 22		G		ther Moto		0.0	0.0	NECA	Article 220.18(A)
D Air-Condition		0.0	0.0	NEC	Article 2	20.60	H		ther Loa		12.7 D LOAD	12.7	KVA	129.2 4400
Phase A Connected Load Phase B Connected Load		3 KVA 9 KVA	Notes:	/IDE GFC			AKER	<u> </u>					KVA	128.3 AMPS 95.7 AMPS
Phase C Connected Load		5 KVA									D LOAD	04.0	NVA	

# MECHANICAL EOUIPMENT SCHEDULE

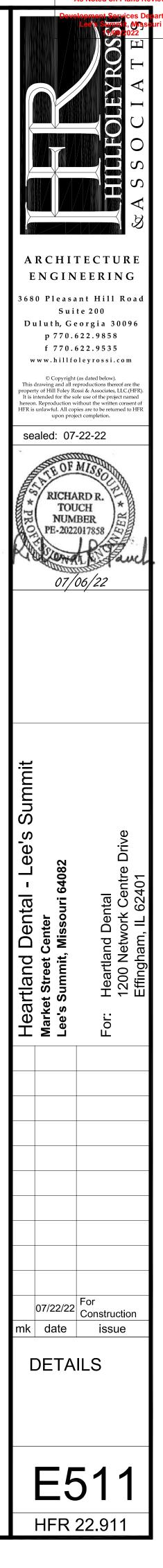
			ME	CH/		.CA	L EQUIPM	ENT SCHEL	JULE	
UNIT			EC. CH		RISTIC		PANEL/CIRCUIT	CIRCUIT	DISCONNECT	NOTES
NUMBER	DESCRIPTION	KW	HP	FLA	V	PH	DESIGNATION	DESCRIPTION	SWITCH	
WH-1	ELECTRIC WATER HEATER	6.0		16.6	208	3	PANEL M	3#10+1#10G, 3/4"C DIRECT		LOCKABLE BREAKER
CP-1	CIRCULATING PUMP		1/40		120	1	PANEL M	2#12+1#12G, 3/4"C	1-POLE SW	
HP-1	HEAT PUMP (OUTDOOR)			12.2	208	1	PANEL M	3#10+1#10G,3/4"C	30/3/20AF/3R	
AHU-1	AIR HANDLING UNIT			-	1	8	FROM HP-1	MANUF. CABLE	-	
EX. RTU-1	EXIST. ROOF TOP UNIT			32.0	208	3	PANEL M	3#8+1#10G, 3/4"C	60/3/45AF/3R	THERMOSTAT
EX. RTU-2	EXIST. ROOF TOP UNIT			32.0	208	3	PANEL M	3#8+1#10G, 3/4"C	60/3/45AF/3R	THERMOSTAT
EX. RTU-3	EXIST. ROOF TOP UNIT			32.0	208	3	PANEL M	3#8+1#10G, 3/4"C	60/3/45AF/3R	THERMOSTAT
EF-1	EXHAUST FAN	0.125			120	1	PANEL M	2#12+1#12G, 3/4"C	1-POLE SW	WALL-SWITCH
EF-2	EXHAUST FAN	0.020			120	1	PANEL M	2#12+1#12G, 3/4"C	1-POLE SW	SWITCH WITH LIGHT
EF-3	EXHAUST FAN	0.125			120	1	PANEL M	2#12+1#12G, 3/4"C	1-POLE SW	7-DAY PROGRAMMER PROVIDED BY E.C.
EF-4	EXHAUST FAN		1/10		120	1	PANEL M	2#12+1#12G, 3/4"C	1-POLE SW	RUNS CONTINOUSLY
EF-5	EXHAUST FAN	0.020			<mark>120</mark>	1	PANEL M	2#12+1#12G, 3/4"C	1-POLE SW	THERMOSTAT
EF-6	EXHAUST FAN	0.020			120	1	PANEL M	2#12+1#12G, 3/4"C	1-POLE SW	SWITCH WITH LIGHT
EF-7	EXHAUST FAN	0.020			120	1	PANEL M	2#12+1#12G, 3/4"C	1-POLE SW	SWITCH WITH LIGHT

# RELEASED FOR CONSTRUCTION As Noted on Plans Review

w w w . h illfol © Copyright (as This drawing and all repr property of Hill Foley Ross) It is intended for the sole hereon. Reproduction with HFR is unlawful. All copies upon project Sealed: 07-2 Richta PE-20220 NUME PE-20220	E E R I N G at Hill Road 200 rgia 30096 2.9858 2.9535 eyrossi.com a dated below). oductions thereof are the a Associates, LLC.(HFR). use of the project named out the written consent of are to be returned to HFR completion.
Heartland Dental - Lee's Summit         Market Street Center         Lee's Summit, Missouri 64082	For: Heartland Dental 1200 Network Centre Drive Effingham, IL 62401
mk date	For Construction issue DULES







# SPECIFICATIONS

### <u>GENERAL</u>

ALL WORK SHALL COMPLY WITH ALL STATE, CITY AND LOCAL CODES, RULES AND REGULATIONS. CONTRACTOR SHALL SECURE ALL REQUIRED PERMITS AND INSPECTIONS ASSOCIATED WITH THIS WORK, AND SHALL PAY ALL COSTS AND FEES INVOLVED.

CONTRACTOR SHALL REVIEW ALL CONTRACT DOCUMENTS AND SHALL BE FAMILIAR WITH THE SCOPE AND REQUIREMENTS OF THIS PROJECT. ANY DISCREPANCIES OR LACK OF CLARITY IN THE DOCUMENTS SHALL BE IDENTIFIED TO THE ARCHITECT OR ENGINEER PRIOR TO THE SUBMISSION OF PRICING BIDS. WITH A SUBMITTED BID. CONTRACTOR IS ACCEPTING THESE DOCUMENTS AS SUFFICIENT DEFINITION OF THE SCOPE OF WORK, AND ANY ADDITIONAL COSTS BASED ON OBSCURITY OF CONTRACT DOCUMENTS WILL NOT BE CONSIDERED.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS FOR EQUIPMENT INSTALLATION PRIOR TO THE SUBMITTAL OF SHOP DRAWINGS. ALL EQUIPMENT AND DEVICES SHALL BE INSTALLED SUCH THAT THEY ARE EASILY ACCESSIBLE AND SERVICEABLE. THIS EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO PLUMBING FIXTURES, WATER HEATERS, EXPANSION TANKS, PUMPS, BACKFLOW PREVENTERS, VALVES, MIXING VALVES, THERMOMETERS, GAUGES, TRAP PRIMERS AND CLEANOUTS.

THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL & ELECTRICAL DRAWINGS (AS APPLICABLE) TO ENSURE ALL PLUMBING WORK IS COORDINATED WITH PHYSICAL CONDITIONS AND OTHER TRADES. PROVIDE NECESSARY PIPING OFFSETS TO COORDINATE WITH THE BUILDING STRUCTURE, WORK OF OTHER TRADES, AND CONNECTION TO SITE UTILITIES (AS APPLICABLE).

THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE ARCHITECTURAL DRAWINGS TO ENSURE THERE IS ADEQUATE WALL THICKNESS SUCH THAT ALL PIPING, WALL CLEANOUTS, WALL BOXES, WALL HYDRANTS AND ACCESS PANELS WILL FIT IN WALL SPACE. CONTRACTOR SHALL NOTIFY THE ARCHITECT IF WALL SPACE IS INADEQUATE PRIOR TO COMMENCING WORK.

THE CONTRACTOR SHALL OBTAIN EXACT WALL, FIXTURE, AND LAYOUT DIMENSIONS FROM THE ARCHITECTURAL DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ROUGH-IN AND INSTALLATION DRAWINGS FOR ALL PLUMBING FIXTURES, KITCHEN EQUIPMENT AND OWNER FURNISHED EQUIPMENT (AS APPLICABLE), AND SHALL COORDINATE THE PLUMBING INSTALLATION PRIOR TO COMMENCING THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND AND INSTALLING ALL NECESSARY VALVES, CONNECTIONS, TRAPS, ACCESS PANELS, UNIONS, ESCUTCHEONS, WATER HAMMER ARRESTORS, VACUUM BREAKERS, RELIEF VALVES, PIPE INSULATION, AND EQUIPMENT SPECIALTY DEVICES AS REQUIRED TO FACILITATE COMPLETE AND OPERATIONAL CONDITIONS WHICH ARE IN STRICT COMPLIANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS.

THESE DRAWINGS ARE DIAGRAMMATIC AND DO NOT REFLECT ALL POSSIBLE PHYSICAL CONDITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS AND EXACT LOCATIONS OF EQUIPMENT AND FIXTURES.

ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE BEST RECOGNIZED PRACTICE IN THE FIELD CONCERNED, MANUFACTURED ITEMS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS PRINTED DIRECTIONS, SPECIFICATIONS AND RECOMMENDATIONS.

COORDINATE THE ELECTRICAL REQUIREMENTS AND CHARACTERISTICS OF ALL PLUMBING EQUIPMENT WITH THE ELECTRICAL CONTRACTOR PRIOR TO ISSUING SUBMITTALS OR PURCHASING EQUIPMENT.

UNLESS NOTED OTHERWISE, ALL DRAINAGE PIPING 3"AND LARGER SHALL BE SLOPED AT MINIMUM OF 16" PER FOOT. 2" SANITARY PIPING SHALL BE SLOPED AT 1/4" PER FOOT.

DOMESTIC WATER PIPING SHALL BE PURGED OF DELETERIOUS MATTER AND DISINFECTED PRIOR TO UTILIZATION. PIPING TO BE FLUSHED AND STERILIZED IN ACCORDANCE WITH IPC 610.1 AND ALL APPLICABLE LOCAL AND STATE HEALTH DEPARTMENT STANDARDS.

PIPE PENETRATIONS THROUGH FIRE RATED WALLS OR FLOORS SHALL HAVE EQUIVALENTLY RATED SLEEVES AND SHALL BE SEALED AND FIRE CAULKED WITH A U.L. LISTED FIRE STOPPING SYSTEM INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S LISTED DETAILS AND SPECIFICATIONS.

THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE REQUIREMENTS OF THE COUNTY HEALTH DEPARTMENT AND OTHER LOCAL AUTHORITIES HAVING JURISDICTION REGARDING CROSS CONNECTION CONTROL. REPORT ANY OBSERVED DISCREPANCIES TO THE ARCHITECT OR ENGINEER PRIOR TO COMMENCING WITH THE WORK

# <u>SUBMITTALS</u>

FURNISH SHOP DRAWINGS FOR MANUFACTURED PRODUCTS. ALL ITEMS SHALL BE CLEARLY MARKED TO MATCH EQUIPMENT MARKS ON THE PLUMBING DRAWINGS. ALL OPTIONS MUST BE CLEARLY MARKED ON THE SUBMITTAL SHEET. A MODEL NUMBER LISTING ON A COVER SHEET IS NOT AN ACCEPTABLE SUBSTITUTE FOR MARKING THE ACTUAL SUBMITTAL SHEET. ELECTRICAL DATA FOR POWERED EQUIPMENT MUST BE INDICATED ON THE SUBMITTAL SHEET FOR THAT ITEM.

ALL ITEMS MUST BE SUBMITTED IN ONE PACKAGE AT THE SAME TIME, IN ELECTRONIC PDF FORMAT. SEPARATE SUBMITTALS FOR FIXTURES AND EQUIPMENT ARE NOT ACCEPTABLE.

SUBMITTAL REVIEW IS CONSIDERED AS GENERAL ACCEPTANCE OF THE BASIC APPLICABILITY OF THE EQUIPMENT. CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND/OR ALTERNATE ARRANGEMENT OF THE EQUIPMENT WITHIN A GIVEN SPACE. WHEN SUBSTITUTED EQUIPMENT IS INSTALLED, CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION OR ADDITIONAL COST BROUGHT ON BY THE USE OF THIS EQUIPMENT.

### HANGERS AND SUPPORTS

HANGERS SHALL BE COMPLETE WITH RODS AND SUPPORTS PROPORTIONED TO THE SIZE OF PIPE TO BE SUPPORTED, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

SIZE HANGERS FOR INSULATED PIPING TO BEAR ON OUTSIDE OF INSULATION. PROVIDE INSULATION PROTECTORS AT HANGERS BEARING ON THE OUTSIDE OF INSULATION. PROVIDE A RIGID INSERT OR RIGID INSULATION AT EACH INSULATION PROTECTOR.

WHERE SEVERAL PIPES 2-1/2" AND SMALLER RUN PARALLEL AND IN THE SAME PLANE, THEY MAY BE SUPPORTED ON GANG OR MULTIPLE HANGERS. LARGER PIPING SHALL BE INDEPENDENTLY HUNG, RUN PARALLEL AND BE EQUALLY SPACED.

THE SPACING OF SUPPORTS SHALL BE AS FOLLOWS: METAL (STEEL AND COPPER PIPES): I" AND SMALLER, SUPPORT SPACING SHALL NOT EXCEED 8' APART. 1-4" AND LARGER, SUPPORT SPACING SHALL NOT EXCEED 8' APART. PLASTIC PIPES: I" AND SMALLER, SUPPORT SPACING SHALL NOT EXCEED 3' APART. I- 4" TO 2", SUPPORT SPACING SHALL NOT EXCEED 4' APART. 2" AND LARGER, SPACING SHALL NOT EXCEED 6' APART. IN ALL CASES, PIPES SHALL BE SUPPORTED WITHIN I' OF EACH ELBOW.

VERTICAL PIPE SUBJECT TO MOVEMENT SHALL BE SUPPORTED FROM THE WALL BY MEANS OF A PIPE CLAMP.

SUPPORT DOMESTIC WATER PIPING IN SPACES BEHIND PLUMBING FIXTURES BY BRACKETS AND U-BOLTS SECURED TO WASTE AND VENT STACKS. SIZE U-BOLTS TO BEAR ON THE PIPING.

AFTER HANGER RODS ARE INSTALLED IN FINISHED CONCRETE CEILING, FILL THE REMAINING OPENING WITH CEMENT SO THAT NO HOLE SHOWS AT CEILING.

WHERE COPPER PIPING IS USED, NONFERROUS METAL SUPPORT(S) OR PROPER ISOLATION BETWEEN DISSIMILAR MATERIALS SHALL BE PROVIDED.

PIPE HANGERS AND SUPPORTS SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH RECOMMENDATIONS SET FORTH IN MANUFACTURER'S STANDARDIZATION SOCIETY STANDARD PRACTICES NO. SP-69 AND SP-58.

SLEEVES SHALL BE PROVIDED WHERE PIPES PASS THROUGH WALLS, FLOORS AND ROOFS. PROVIDE STANDARD WEIGHT STEEL SLEEVES IN CONCRETE AND MASONRY CONSTRUCTION, PROVIDE 26GA GALVANIZED SHEET METAL SLEEVES IN INTERIOR DRYWALL CONSTRUCTION, SLEEVES SHALL BE THE FULL THICKNESS OF WALLS AND SHALL ALLOW FOR THE FULL THICKNESS OF PIPE INSULATION, WHERE APPLICABLE.

SLEEVES MAY BE OMITTED WHEN OPENINGS ARE CORE DRILLED FOR CONCEALED VERTICAL AND HORIZONTAL PIPING. SLEEVES ARE NOT REQUIRED AT INDIVIDUAL PLUMBING FIXTURES OR IN CONCRETE FLOOR SLABS ON GRADE, UNLESS OTHERWISE NOTED.

SLEEVES FOR ALL PIPING PENETRATING FIRE RATED WALLS AND FLOORS SHALL BE PROVIDED WITH 3M PIPE BARRIER NO. CP-25 FIRE PROOFING CAULKING, OR EQUAL, IN ANNULAR SPACE BETWEEN SLEEVE AND PIPING.

THROUGH OUTSIDE WALLS SHALL BE WATERTIGHT. CAULK BETWEEN PLUMBING PIPE AND SLEEVE. PACK WITH FIBERGLASS AND CAULK, I" DEEP AT EACH FACE WITH NON-HARDENING SEALANT BETWEEN PIPE AND SLEEVE.

WASTE AND VENT PIPING SYSTEMS AND ACCESSORIES SANITARY PIPING BELOW GROUND SHALL BE PVC SCHEDULE 40 TYPE DWV WITH SOLVENT WELD JOINTS. CONTRACTOR SHALL USE STREET FITTINGS INTO A BELL WITHIN THE DIRECTION OF FLOW FOR ALL UNDERGROUND PIPING, SOLVENT WELD JOINTS SHALL MEET ASTM T-702,3 AND ASTM D-2665. "FOAM" OR "CELL" CORE PVC WILL NOT BE ACCEPTED.

# SPECIFICATIONS (CONT.)

WASTE AND VENT PIPING SHALL BE TESTED IN ACCORDANCE WITH THE GOVERNING CODES. AT A MINIMUM, WASTE PIPING SHALL BE TESTED WITH AT LEAST 10 FOOT OF WATER HEAD PRESSURE APPLIED. TESTING WITH AIR IS NOT ALLOWED.

ALL VENTS THROUGH ROOF SHALL BE LOCATED AT LEAST 10'-0" AWAY FROM ANY AIR INTAKE, EVAPORATIVE COOLER, OR ANY OTHER DEVICE THAT WOULD DRAW AIR FROM THE VENT. FLASH AROUND ALL PIPES PENETRATING THROUGH ROOF WITH STANDARD MANUFACTURED FLASHING. FLASHING SHALL BE SHEET METAL WITH RUBBER GASKETS AND SHALL EXTEND INTO ROOFING AND UP PIPE DISTANCES IN ACCORDANCE WITH LOCAL CODE.

DOMESTIC WATER SYSTEMS AND ACCESSORIES WATER PIPING ABOVE FLOOR: HOT AND COLD WATER PIPING ABOVE GROUND SHALL BE CPVC (CHLORINATED POLYVINYL CHLORIDE) SCHEDULE 40 WITH SOLVENT WELD JOINTS WHEN APPROVED BY THE AUTHORITY HAVING JURISDICTION, PIPING SHALL MEET ASTM D 2848 AND SHALL BE CERTIFIED BY THE NSF INTERNATIONAL FOR USE WITH POTABLE WATER SYSTEMS. SOLVENT CEMENTS FOR CPVC PLASTIC PIPING SHALL MEET ASTM F437, ASTM F438 AND ASTM F439. WATER PIPING BELOW FLOOR, WITH THE EXCEPTION OF THE INCOMING DOMESTIC WATER SERVICE, SHALL BE TYPE "K" SOFT COPPER WITH NO JOINTS.

"PEX" PIPING WILL NOT BE ACCEPTED.

FAHRENHEIT.

DOMESTIC WATER PIPING SHALL BE TESTED IN ACCORDANCE WITH ALL GOVERNING CODES. PIPING SHALL BE PURGED OF DELETERIOUS MATTER AND DISINFECTED PRIOR TO UTILIZATION. PIPING TO BE FLUSHED AND STERILIZED IN ACCORDANCE WITH IPC 610.1 AND ALL APPLICABLE LOCAL AND STATE HEALTH DEPARTMENT STANDARDS

BALL VALVES SHALL BE TWO-PIECE BRONZE BODY, LARGE PORT WITH SOLID, SMOOTH BORE CHROME PLATED BRASS BALL. SEATS SHALL BE REINFORCED TFE WITH TEFLON PACKING RING AND THREADED ADJUSTABLE PACKING NUT. PROVIDE STEM EXTENSIONS AS NEEDED TO PROVIDE HANDLE ON OUTSIDE OF PIPE INSULATION. VALVES SHALL BE APOLLO TO OR EQUAL.

BACKFLOW PREVENTERS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS FOR EASE OF TESTING AND SERVICING. FOR BACKFLOW PREVENTERS WITH VENT CONNECTIONS, ROUTE VENT LINE TO NEAREST DRAIN AND DISCHARGE WITH AIR GAP. BACKFLOW PREVENTERS SHALL BE TESTED IN ACCORDANCE WITH IPC 312.10.2. CONTRACTOR SHALL PROVIDE CERTIFICATIONS THAT STATE DEVICES HAVE BEEN TESTED AND APPROVED.

SERVICE PIPING BELOW GRADE (UP TO 3" IN SIZE): TYPE 'K' COPPER TUBING, ASTM B88-1999A WITH 95-5 SOLDERED JOINT AND WROUGHT COPPER, ANSI BI6.22-1988A, OR CAST BRONZE, ANSI 95-5 BI6-1988A, SOCKET FITTINGS. EXTEND TO A POINT I'-O" ABOVE FINISHED FLOOR. BURIED DOMESTIC WATER PIPING SHALL BE WRAPPED WITH "TAPE COAT 20," "REPUBLIC X-TRU-COAT" OR APPROVED PCV JACKETING. WHERE APPROVED BY THE AUTHORITY HAVING JURISDICTION, PIPING MAY BE CPVC SCHEDULE 40. SHALL MEET ASTM D2846 AND ASTM F441.

INSULATION INSULATE ALL DOMESTIC HOT WATER PIPING REGARDLESS OF MATERIAL. WHERE CIRCULATED HOT WATER IS SHOWN, INSULATE ALL HOT WATER AND CIRCULATION PIPING WITH I" THICK INSULATION PER CHAPTER 5 OF IECC. FOR NON-CIRCULATED HOT WATER SYSTEMS, INSULATION THICKNESS SHALL BE AS FOLLOWS: PIPE UP TO 1": ½" THICK INSULATION. PIPE I-  $\frac{1}{4}$ " TO 2": I" THICK INSULATION.

FOR COLD WATER PIPING, INSULATE ALL HORIZONTAL PIPING LOCATED ABOVE CEILING AND ALL VERTICAL PIPING LOCATED IN AN EXTERIOR WALL INSULATION SHALL BE I" THICK.

INSULATION SHALL HAVE A K-FACTOR (AVERAGE THERMAL CONDUCTIVITY) NOT TO EXCEED 0.27 BTU-IN/(HxSQFTxDEGREE FAHRENHEIT).

INSTALL ALL WATER PIPING BENEATH ALL CEILING SPACE INSULATION.

CONTRACTOR SHALL INCLUDE A LINE ITEM COST TO INCLUDE HEAT TAPE (RACHEM 2XL PER FOOT) ON ALL WATER PIPING ABOVE CEILING IN AREAS SUBJECT TO FREEZING.

TANK TYPE WATER HEATERS

WATER HEATERS SHALL BE U.L. LISTED AND SHALL MEET OR EXCEED THE STANDBY LOSS REQUIREMENTS OF U.S. DEPT. OF ENERGY AND CURRENT EDITION OF ASHRAE/IESNA 90.1 AND HAVE A MINIMUM 3 YEAR WARRANTY. HEATER AND ALL COMPONENTS AND ACCESSORIES SHALL BE INSTALLED IN ACCORDANCE WITH 2018 IECC C404.

WATER HEATERS SHALL HAVE 150 PSI WORKING PRESSURE AND BE EQUIPPED WITH EXTRUDED HIGH DENSITY ANODE ROD AND HIGH TEMPERATURE CUTOFF SWITCH. WATER HEATERS SHALL BE THERMOSTATICALLY CONTROLLED AND SET TO 120 DEG. F. UNLESS OTHERWISE NOTED. WATER HEATERS SHALL BE INSTALLED ON SUSPENDED PLATFORM, STEEL STAND OR CONCRETE PAD. AS INDICATED ON DRAWINGS.

WATER HEATERS SHALL BE INSTALLED LEVEL AND PLUMB. FIELD COORDINATE EXACT WATER HEATER LOCATION. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES, AND INSTALL SUCH THAT CONTROLS AND DEVICES ARE ACCESSIBLE FOR SERVICING.

INSTALL SHUTOFF VALVES IN COLD WATER INLET AND HOT WATER OUTLET. INSTALL THERMOMETER ON HOT WATER OUTLET. WATER HEATER SHALL HAVE ASME RATED COMBINATION TEMPERATURE AND PRESSURE RELIEF VALVE IN TOP PORTION OF TANK (FACTORY OR FIELD INSTALLED). PIPE RELIEF VALVE OUTLET TO MOP SINK. MAINTAIN CONTINUOUS DOWNWARD PITCH TOWARD DISCHARGE LOCATION, AND PROVIDE AIR GAP AT DISCHARGE LOCATION. WHERE WATER HEATER DRAIN PAN IS INDICATED ON PLANS, ROUTE DRAIN TO SAME LOCATION AS RELIEF VALVE AND DISCHARGE WITH AIR GAP.

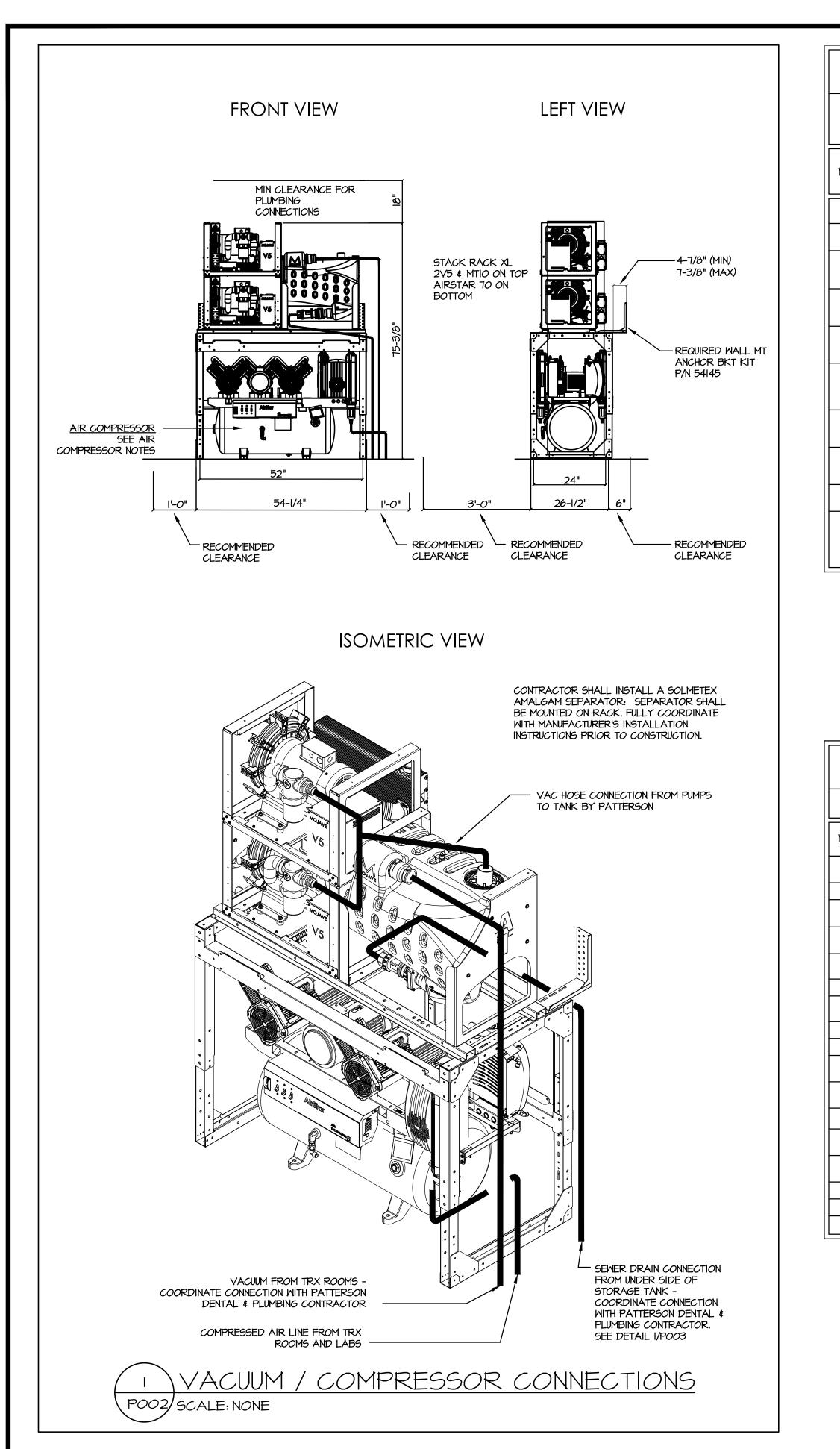
SANITARY PIPING AND VENT PIPING ABOVE GROUND SHALL BE PVC SCHEDULE 40 TYPE DWV WITH SOLVENT WELD JOINTS. SOLVENT WELD JOINTS SHALL MEET ASTM D-2665. "FOAM" OR "CELL" CORE PVC WILL NOT BE ACCEPTED.

ALL DOMESTIC HOT WATER PIPING SHALL HAVE A MINIMUM PRESSURE RATING OF 100 PSI AT 180 DEGREE

									As Noted on Plans
	SPECIFICATIONS	(CONT.)		:	PLUMBIN	GL	EGEND		Development Services Less Summit, Mi 11/09/2022
EDITION OF NE GENERAL CON THE MEDICAL OXYGEN, NITRO THE COMPLETE TESTING AND O PIPING SHALL CLEANED, PUR GENERAL REQ SERVICE. WROUGHT-COP BRAZED JOINT COPPER UNION LABEL OXYGE INSTALLERS O "PROFESSIONA VACUM PIPINO THE COMPLETE TESTING AND O VACUM PIPINO AO AND COME 2612. SLOPE ALL VA	S OF THE MEDICAL GAS DELIVERY SYSTEMS SHALL COMI FPA 55 AND NFPA 99. NTRACTOR TO FACILITATE THE SELECTION AND IMPLEMEN GAS SYSTEM. OUS OXIDE AND NON-MEDICAL COMPRESSED AIR PIPING E OXYGEN PIPING SYSTEM INSTALLATION SHALL COMPLY CERTIFICATION IN COMPLIANCE WITH NFPA 99, INCLUDING BE ASTM BØI9, TYPE L, SEAMLESS, DRAWN TEMPER COPP 2007 CERTIFICATION IN COMPLIANCE WITH NFPA 99, INCLUDING BE ASTM BØI9, TYPE L, SEAMLESS, DRAWN TEMPER COPP 2007 CERTIFICATION IN COMPLEXICAL GAS SERVICE. 2017 REMENTS FOR COPPER FITTINGS: MANUFACTURER CLEA 2018 PERFITTINGS: ASME BI6.22, SOLDER-JOIST PRESSURE T 25. 25. ASME BI6.22 OR MSS SP-123, WROUGHT COPPER OR C 26. PIPING IN ACCORDANCE WITH NFPA 99. 26. OXYGEN SYSTEM SHALL MEET THE REQUIREMENTS OF A 26. ACUUM PIPING SYSTEM INSTALLATION SHALL COMPLY CERTIFICATIONS STANDARD FOR MEDICAL GAS AND N 26. 27. VACUUM PIPING SYSTEM INSTALLATION SHALL COMPLY CERTIFICATION IN COMPLIANCE WITH NFPA 99, INCLUDING 26. G SHALL BE SCHEDULE 40 PVC COMPLYING WITH ASTM D 27. WITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 26. 27. WITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. WITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. WITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 26. 27. MITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. WITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. WITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. MITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. MITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. MITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. MITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. MITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. MITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. MITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. MITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. MITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. MITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. MITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. MITH ASTM D 2466. JOINTS SHALL BE SOLVENT WELD 27. MITH ASTM D 2466. JOINTS SHAL	PLY WITH MOST CURRENTLY ENFORCED TATION OF THE SPECIAL INSPECTION FOR WITH NFPA 99 (CATEGORY 2). PROVIDE CHAPTERS 5 & II. PER THAT HAS BEEN MANUFACTURER NED, PURGED, AND BAGGED FOR OXYGEN TPE OR MSS SP-73, WITH DIMENSIONS FOR CAST-COPPER ALLOY. ANSI/ASSE STANDARD 6010 - /ACUM SYSTEM INSTALLERS." WITH NFPA 99 (CATEGORY 2). PROVIDE CHAPTERS 5 & II. P 1785 AND FITTINGS SHALL BE SCHEDULE D JOINTS IN ACCORDANCE WITH ASTM D UM PUMP.			<ul> <li>SANITARY, WASTE</li> <li>SANITARY, WASTE</li> <li>SANITARY, WASTE</li> <li>STORM BELOW FL</li> <li>STORM ABOVE FL</li> <li>VENT PIPING - V</li> <li>COLD WATER PIPING</li> <li>HOT WATER RETUR</li> <li>PIPING BELOW FLC</li> <li>EXISTING CW</li> <li>EXISTING HWR</li> <li>EXISTING HWR</li> <li>EXISTING PIPING</li> <li>COMPRESSED AIR</li> <li>MEDICAL OXYGEN</li> <li>MEDICAL VACUUM</li> <li>N20 SCAVENGING</li> </ul>	BELOW FI ABOVE F OOR - ST OOR - ST NG - CW - HW N PIPING OOR - B/F OOR - B/F OOR - B/F VACUUM IOVED OR WCO, FCC	LOOR - S, W, SAN, SS LOOR - S, W, SAN, SS - HWR PING ABANDONED 5, GCO	ENGIN 3680 Pleas Sui Duluth, G p 770. f 770. www.hillf <sup>©</sup> Copyrigh This drawing and all property of Hill Foley F It is intended for the s bereon. Reproduction y	TECTURE SEERING ant Hill Road ite 200 eorgia 30096 622.9858 622.9535 oleyrossi.com t (as dated below). reproductions thereof are the cossi & Associates, LLC.(HFR). ole use of the project named without the written consent of pies are to be returned to HFR jet completion.
	MEDICAL COORDINATE WITH ALL MEDICAL GAS FOR	PACUUM SYSTEM INSTALLERS."	•	 ┣ ┣ © ИНА. ¶	CIRCUIT SETTER CIRCUIT SETTER A FLOOR DRAIN - FI AREA DRAIN - AD ROOF DRAIN - RD WATER HAMMER A	D, FD-* ), AD-* ), RD-*			ALEY S PHERD TO 1001572
TO MEDICAL AND/OR INST/ CONTRACTOR REFER TO ME	R SHALL FULLY COORDINATE WITH ALL MEDICAL GAS EQU EQUIPMENT PLAN SHEET AND EQUIPMENT SCHEDULE TO DA ALLED BY OWNER AND WHAT DEVICES SHALL BE PROVID R. COORDINATE WITH OWNER. EDICAL EQUIPMENT BOOK AND ACTUAL MEDICAL EQUIPME ONNECTIONS AND INTERCONNECTIONS BETWEEN DEVICES A	ETERMINE WHAT DEVICES ARE PROVIDED DED AND/OR INSTALLED BY PLUMBING INT PROVIDED ON PROJECT TO ENSURE THAT		₩ <del>1•</del> <u></u> -  S	WATER HEATER PLUMBING FIXTURE IN-LINE BACKFLOW TRAP PRIMER - TF AIR ADMITTANCE	: N PREVENT	ĒR		
	GENERAL NC	TES			GAS METER				
VERIFIED A CONTRACTO ANTICIPATE CONTRACTO CONTRACTO	S, DRAIN LINES, INCLUDING BUT NOT LIMITED TO ROOF, ST AS FULLY FUNCTIONAL PRIOR TO INSTALLATION AND UPON OR SHALL VIDEO TAPE ALL EXISTING, IF APPLICABLE, B ED TO BE REUSED AND PROVIDE TO DESIGN TEAM FOR R OR SHALL VERIFY THE ALL EXISTING, IF APPLICABLE, PO PRIOR TO CONSTRUCTION. OR SHALL NOTIFY THE ARCHITECT IMMEDIATELY IF EXIST AS SHOWN ON CONTRACT DOCUMENTS OR A DIFFERENT S 5.	I DELIVERY OF SPACE. ELOW GROUND WASTE & SANITARY PIPING EVIEW. RTIONS OF PIPING ARE IN GOOD AND VIABLE ING PIPING IS NOT IN USABLE CONDITION, NOT		~ ∥    	UNION GAS SHUT OFF VA GAS PIPING ON RC GAS PIPING CONNECT TO EXIST	DOF TING	REVIATION	ee's Summit	Iive
ALTER THE ALL DENTA OTHERWISE. THE CONTRA CONDITIONS	OR SHALL ALSO FIELD VERIFY THAT THE INVERT OF EXIS DESIGN INTENT AND NOTIFY THE ARCHITECT IF FOUND OT L CHAIRS SHALL BE PIPED WITH VACUUM AND NON-MEDIC ACTOR IS RESPONSIBLE FOR COORDINATING THE SEISMIC S. CONTRACTOR SHALL SHALL PROVIDE ALL APPURTENA	CREQUIREMENTS WITH ALL THE SITE SPECIFIC	A A/C A/F AFF	AIR ABO ABO	VE CEILING VE FLOOR VE FINISHED FLOOR	HWR IMB IE IW	HOT WATER RETURN ICE MACHINE BOX INVERT ELEVATION INDIRECT WASTE	Dental - Le <sup>Center</sup> Missouri 64082	nd Dental etwork Centre D am, IL 62401
			AFG AP BCO	ACC BASI	VE FINISHED GRADE ESS PANEL E CLEANOUT	L / LAV MBH MS	LAVATORY 1000 BTU/HR MOP SINK	eartland arket Street e's Summit,	For: Heartlai 1200 Ne Effingha
	UTILITIES SUN	1MARY	B/F B/G		OW FLOOR OW GRADE	MV N20	MIXING VALVE NITROUS OXIDE	L Ž J	й I
UTILITY /SERVICE HVAC	EXISTING WITHIN THE SHELL SCOPE (MAIN SERVICE ONLY; ALL INTERIOR UTILITY WORK IS NEW UNLESS NOTED OTHERWISE) 3x ROOF TOP UNITS PROVIDED IN SHELL PACKAGE,	UPGRADES OR MODIFICATIONS WITHIN THE PROJECT'S SCOPE OF WORK CONNECT DUCTWORK TO EXISTING ROOF TO UNITS FROM SHELL PACKAGE. PROVIDE A NE	W    CO	CON	ANCING VALVE DENSATE DRAIN ANOUT	N5V 0/H 02	N2O SCAVENGING VACUUM OVERHEAD OXYGEN		
	EXISTING UTILITY TRANSFORMER, METER, 600A FUSED DISCONNECT AND 600A, 208Y/120V, 3 PH.,4 WIRE MAIN PANEL TO	MINI-SPLIT AIR HANDLER AND ASSOCIATED HE PUMP SERVING THE EQUIPMENT ROOM. PROVIDE AND INSTALL ONE ISOA/3P AND ON IOOA/3P CIRCUIT BREAKERS IN EXISTING 600 PANEL. PROVIDE AND INSTALL ONE ISOA AND C IOOA, 208Y/I2OV, 3 PH, 4 WIRE PANELBOARD AND BRANCH CIRCUITS AS SHOWN ON SHEETS E EIO2 AND ESOO. PROVIDE TWO 4" CONDUITS FROM IT BACKBOARD TO MAIN HOUSE EQUIPME ROOM.	IE CONT A CONT S CFH S IOI, CW	CON CUBI	INECTIONPRVPRESSURE REDUCING VALVEITINUATIONS / SANSANITARYIC FEET PER HOURSKSINKD WATERSPSPRINKLER / SUMP PUMPINTMVTHERMOSTATIC MIXING VALVE				
FIRE ALARMS	N/A	ROOM. NOT IN CONTRACT. PROVIDED BY OTHERS.	EL EWC		/ATION CTRIC WATER COOLER	TP T&P	TRAP PRIMER TEMPERATURE & PRESSURE		
SPRINKLERS	N/A	N/A	FCO FD		OR CLEANOUT OR DRAIN				For
POTABLE WATER	EXISTING I-1/2" CW SERVICE	CONNECT NEW I-1/2" CW TO EXISTING I-1/2" SERVICE. PROVIDE SUB-METER AND RPZ BACKFLOW PREVENTION DEVICE		FINIS	HED FLOOR HED FLOOR ELEVATION	VAC VTR	VENT VACUUM VENT THRU ROOF	mk date	Construction issue
SANITARY	EXISTING 4" SANITARY SEWER WITHIN SPACE	CONNECT NEW 4" SANITARY TO EXISTING SANITARY AS SHOWN.	FWH GCO		EZEPROOF WALL HYDRANT DE CLEANOUT	ИС И.С.	WATER CLOSET WATER COLUMN	Plumbi & Spec	ng Notes s
NATURAL GAS	EXISTING NATURAL GAS SERVICE	EXISTING NATURAL GAS PIPING TO REMA	N. HD			ИС <i>О</i> ИНА ИМВ	WALL CLEANOUT WATER HAMMER ARRESTER WASHING MACHINE BOX		
			HM	НОТ	WATER	MMB	WASHING MACHINE BOX	P	101

RELEASED FOR CONSTRUCTION As Noted on Plans Review

PUU



		P	LUMBING FIXTURE SCHEDULE (order from ferguson through heartland dental national account)				
			DERED THROUGH HEARTLAND DENTAL NATIONAL ACCOUNT WITH FERGUSON AND INSTALLED BY THE PLUMBING CONTRACTOR; ORDERS SHOULD BE PLACED ON LINE THOUGH HTTPS://WWW.FERGUSONONLI ND.COM WITH THE PASSWORD HEARTLANDOO7; UNDER "ACCOUNT" AT THE TOP OF THE PAGE, ACCESS "MY LISTS", AND CHOOSE THE <b>"NEW CONSTRUCTION STANDARD"</b> LIST TO START ORDER FROM; IF " CONTACT HD ACCOUNT MANAGER AT EP.COMMERCIAL@FERGUSON.COM OR (636)300-5300			•	
				FIXTURE CONNECTIONS			
MARK	QTY.	DESCRIPTION		CM	НМ	VENT	WASTE
PIL	Ι	WATER CLOSET - TANK TYPE (ADA, LEFT HAND LEVER)	AMERICAN STANDARD, CHAMPION PRO, TWO PIECE FLOOR MOUNTED WATER CLOSET (1.28 GPF) TANK #A4225A104020 WITH BOWL #A3195A101020, ADA HEIGHT. COLOR: WHITE. PROFLOW ELONGATED BOWL COMMERCIAL TOILET SEAT #PFTSCOF2000WH, COLOR: WHITE.	I/2"		2"	4"
PIR	2	WATER CLOSET - TANK TYPE (ADA, RIGHT HAND LEVER)	AMERICAN STANDARD, CHAMPION PRO, TWO PIECE FLOOR MOUNTED WATER CLOSET (1.28 GPF) TANK #A4225A104020 WITH BOWL #A3195A101020, ADA HEIGHT. COLOR: WHITE. PROFLOW ELONGATED BOWL COMMERCIAL TOILET SEAT #PFTSCOF2000WH, COLOR: WHITE.	1/2"		2"	4"
P2	2	UNDERMOUNT LAVATORY (ADA, PUBLIC RESTROOM)					
P3	I	WALL HUNG LAVATORY (ADA, STAFF RESTROOM)	AMERICAN STANDARD, LUCERNE, WALL HUNG LAVATORY WITH CONCEALED ARM CARRIER MOUNTING #0355012020 . PROFLO, WILLETT, FAUCET WITH LEVER HANDLES #PFWSC2840CP, COLOR: CHROME. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ACCESSORY PACKAGE (P3A) AND AN ASSE 1070 COMPLIANT THERMOSTATIC MIXING VALVE (TMV) SET AT 105 DEGREES. INSTALL PIPE INSULATION (A-28) AS PROVIDED BY GENERAL CONTRACTOR.	I/2"		2"	/4"
P4	15	TREATMENT ROOM SINK	PROFLO, BEALETON, 23 GAUGE STAINLESS STEEL, 2 HOLE DROP-IN SINK #PFSRI51562, SIZE: 15"X15". PROFLO, COUNTRY KITCHEN, FAUCET WITH LEVER HANDLES #PFWSI39OCP, COLOR: CHROME, SIZE: 4" CENTERSET, 5"X 18". PROFLO, STAINLESS STEEL BASKET STRAINER #PF143155. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL AN ASSE 1070 COMPLIANT THERMOSTATIC MIXING VALVE (TMV) SET AT 105 DEGREES.	I/2"	I/2"	2"	I-I/2"
P5	I	BREAK ROOM SINK (DOUBLE BOWL)	PROFLO, BEALETON, 20 GAUGE STAINLESS STEEL, 4 HOLE DOUBLE COMPARTMENT DROP-IN SINK #PFSR332284A, SIZE: 33"X22"X8 I/8", SELF RIMMING WITH I 3/4" CORNERS AND FULLY COATED UNDERSIDE. ELKAY, 8" GOOSE NECK, DECK MOUNTED FAUCET WITH LEVER HANDLES AND SPRAYER #ELK801GN08L2, COLOR: POLISHED CHROME, SIZE: 8" CENTER, AERATOR, AND QUARTER OPERATING CARTRIDGE. PROFLO, STAINLESS STEEL BASKET STRAINER #PF1431SS. INSINKERATOR, GALVANIZED STEEL GARBAGE DISPOSAL WITH 360 DEGREE SWIVEL LUGS AND QUICK LOCK INSTALLATION, I/3 HP. IBADGERI.	I/2"	I/2"	2"	- /2"
P6	Ι	WORK AREA SINK (DOUBLE BOWL)	PROFLO, BEALETON, 20 GAUGE STAINLESS STEEL, 4 HOLE DOUBLE COMPARTMENT DROP-IN SINK #PFSR332284A, SIZE: 33"X22"X8 1/8", SELF RIMMING WITH I 3/4" CORNERS AND FULLY COATED UNDERSIDE. ELKAY, 8" GOOSE NECK, DECK MOUNTED FAUCET WITH LEVER HANDLES AND SPRAYER #ELK80IGN08L2, COLOR: POLISHED CHROME, SIZE: 8" CENTER, AERATOR, AND QUARTER OPERATING CARTRIDGE. PROFLO, STAINLESS STEEL BASKET STRAINER #PF143ISS.	I/2"	I/2"	2"	I-I/2"
P7	Ι	MOP SINK	PROFLO, PFMB SERIES , COMPOSITE MOP SINK #PFMB2424, SIZE: 24"X24". DELTA, WALL MOUNTED, RIGID FAUCET #D28T9AC, COLOR: CHROME, SIZE: 10" REACH. ACCESSORIES PROVIDE THROUGH NATIONAL ACCOUNT: STAINLESS STEEL WALL PANELS #PFWG24S AND MOP / BROOM HOLDER (A-O9).	I/2"	I/2"	2"	3"
P8	Ι	BI-LEVEL WATER COOLER (ADA)	ELKAY, FLEXIU-GUARD, 8.8 GPH BI-LEVEL WATER COOLER #EEZSTL8LC WITH ACCESSORY APRON #LKAPREZL. 50 DEGREE WATER AT 80 DEGREE ROOM TEMPERATURE. INSTALL ON WALL CARRIER (P8-Z) AT HEIGHTS INDICATED ON A008.	I/2"		2"	I-I/4"
Pq	Ι	WORK AREA SINK WITH FAUCET MOUNTED EYEWASH (DOUBLE BOWL)	PROFLO, BEALETON, 20 GAUGE STAINLESS STEEL, 4 HOLE DOUBLE COMPARTMENT DROP-IN SINK #PFSR332284A, SIZE: 33"X22"X8 I/8", SELF RIMMING WITH I 3/4" CORNERS AND FULLY COATED UNDERSIDE. ELKAY, 8" GOOSE NECK, DECK MOUNTED FAUCET WITH LEVER HANDLES AND SPRAYER #ELK80IGN08L2, COLOR: POLISHED CHROME, SIZE: 8" CENTER, AERATOR, AND QUARTER OPERATING CARTRIDGE. PROFLO, STAINLESS STEEL BASKET STRAINER #PF143ISS. PLUMBING CONTRACTOR TO INSTALL PLASTER TRAP (E-04) AND CONNECT TO SINK DRAIN. PLUMBING CONTRACTOR TO INSTALL FAUCET MOUNTED EYEWASH (E-23) AS PROVIDED BY PATTERSON. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL AN ASSE 1071 COMPLIANT THERMOSTATIC MIXING VALVE (TMV-E) SET AT 75 DEGREES.	I/2"	I/2"	2"	I-I/2"

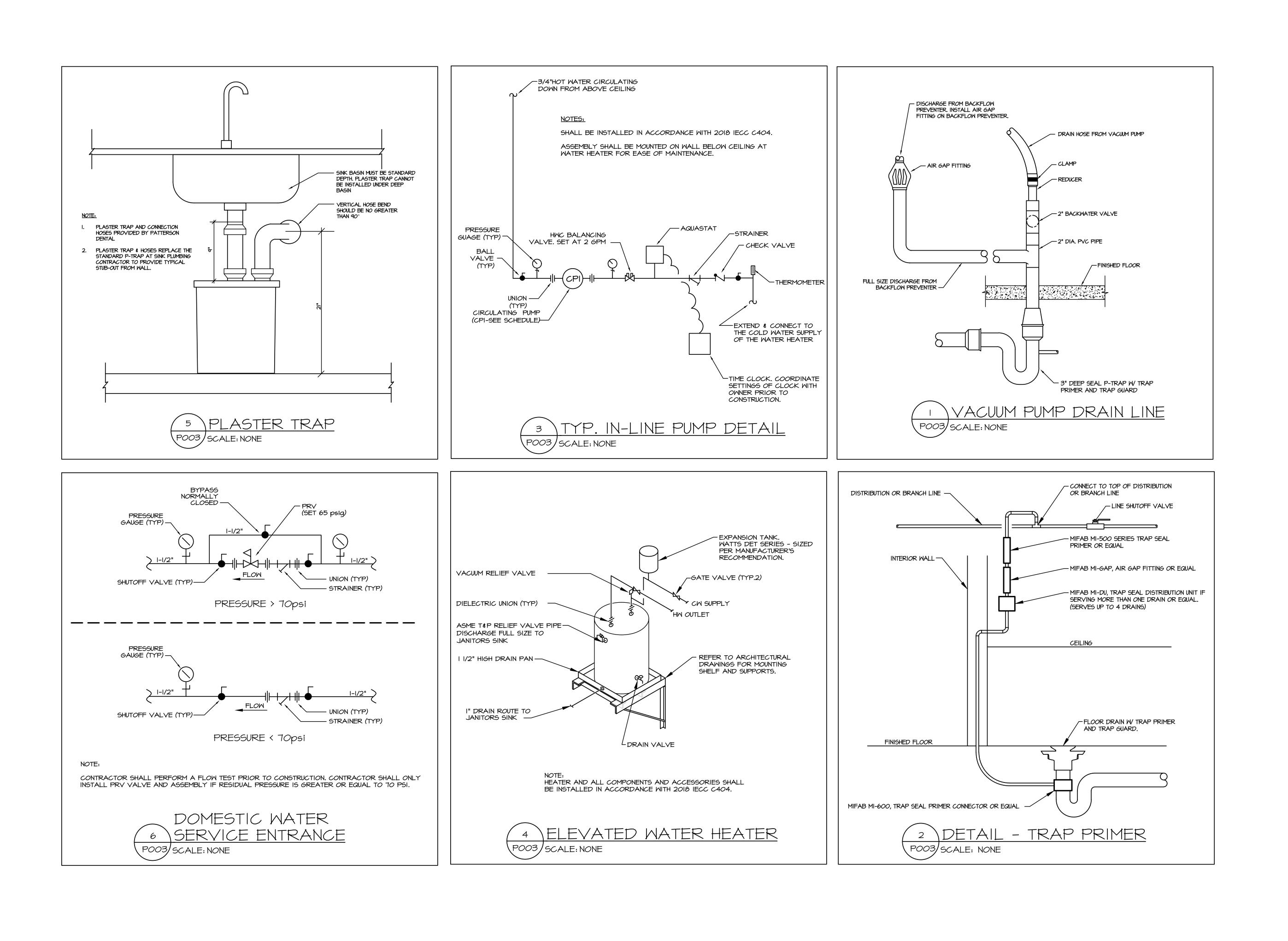
# PLUMBING FIXTURE SCHEDULE

ALL HXTURES ON THIS SCIEDULE AVE TO BE CADDREDE ADD INSTALLED BY THE FULMENING CONTRACTORS FUNCIOUS CONTRACTORS FUNCIONES FUNCIOUS CONTRACTORS FUNCIONES F		PLUMBING FIXTURE SCHEDULE (PLUMBING CONTRACTOR TO SUPPLY AND INSTALL)							
MARKDESCRIPTIONCHMHMAREP3-AAccessed with FOR WALL HUNGSub-inductor Down orbits with GDD DAWI #35/46-PC WAD JUNI, P-TRAP # 35/10-PC, CU.D.G. GROVE BIATED, MARKE STREE SUPPLIES WITH IDLADIONSIntel MARKE STREEIntel MARKE STREE SUPPLIES WITH IDLADIONSIntel MARKE STREE SUPELIES WITH IDLADIONSIntel									
Image: bit image	MARK DESCRIPTION FIXTURE O								
LAVATORY (P3)         326 FLEX SUPPLIES 1465. S.C. OR LUMBONS CONTRACTOR TO PROVIDE INSLATION FOR PTRAP AND SUPPLY LINES (A-22).         CPL         CPL <th< td=""><td></td><td></td><td colspan="2"></td><td>HM</td><td>WASTE</td><td>VENT</td></th<>					HM	WASTE	VENT		
BFPIDescription preventer (REDUCED PRESSURE Zoke)MATTS, LEAD FREE REDUCED PRESSURE ZOKE BACK ON PROVIDE ( $31$ LTNN THO INCERDIDATION CHECK MODULES, INTERMEDIATE RELIEF VALVE, AND TEST COCKS % FLOOD-4.0T, ASSEMBLY SHALL	P3-A								
PRESCARE ZONEINCLUDE TWO BOLATION VALVES AND STRAINESS. ASSEMBLY 9HALL CONFORM TO ASSE STANDARD (08).The Contract Contrac	P8-Z	WALL CARRIER FOR WATER COOLER	ZURN #1225-BL. INSTALL PER DETAILS ON A008.						
Image: Contract in the Next String in Series 7: Asset (22). $V_{2}^{2}$	BFPI		WATTS, LEAD FREE, REDUCED PRESSURE ZONE BACKFLOW PREVENTER WITH TWO INDEPENDENT CHECK MODULES , INTERMEDIATE RELIEF VALVE, AND TEST COCKS #LFOO9-QT. ASSEMBLY SHALL INCLUDE TWO ISOLATION VALVES AND STRAINERS. ASSEMBLY SHALL CONFORM TO ASSE STANDARD 1013.						
Interceptor. $1/2$ <	IMB			I/2"					
TP-ATRAPPRECISION PLUMBING PRODUCTS, AUTOMATICTRAP PRIMER #P2-500, FOR TWO LINES PROVIDE INTE #DU-4/DU1, FOR THREE OR FOR LINES PROVIDE MODEL #P1-500 AND UNITE #DU-4/DU1, $1/2"$ PTPLASTER TRAPPLUMBING CONTRACTOR TO INSTALL PLASTER TRAP (E-04) AS PROVIDED BY EQUIPMENT SUPPLIER	WMB	WASHING MACHINE BOX		I/2"	l/2"	3"	2"		
Image: Assembly SHALL CONFORM TO Asset STANDARD (0)8. $1/2^{\circ}$ $1/2^$	TP-L	TRAP PRIMER - LAVATORY TYPE	J.R. SMITH, LAVATORY TRAP PRIMER SYSTEM WITH P-TRAP AND 1/2" PRIME TUBE #PRIME-EZE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.						
ET-1       POTABLE WATER EXPANSION TANK       WATTS, LEAD FREE, 45 GALLON PORTABLE WATER EXPANSION TANK #PLT-12. 18 GALLONS MAXIMUM ACCEPTANCE VOLUME.       3/4"             2"       2"         FD       FLOOR DRAIN - GENERAL PURPOSE       ZURN, GENERAL PURPOSE FLOOR DRAIN WITH ADJUSTABLE COLLAR AND LIGHT DUTY NICKEL BRONZE STAINER #ZN-415B. WHERE SHOWN ON PLAN, PROVIDE TRAP PRIMER AND TRAP GUARD AT         2"       2"         FCO       CLEANOUT - FLOOR       ZURN, GENERAL PURPOSE FLOOR CLEANOUT WITH MICKEL BRONZE TOP #ZN-1400, SIZE: MATCH LINE SIZE. PROVIDE ANY NECESSARY MODIFICATIONS OR ACCESSORIES SIGH AS CARPET        4"        4"        4"        4"        4"        5"       <	TP-A	TRAP PRIMER - AUTOMATIC		1/2"					
FD       FLOOR DRAIN - GENERAL PURPOSE       ZURN, GENERAL PURPOSE	PT	PLASTER TRAP	PLUMBING CONTRACTOR TO INSTALL PLASTER TRAP (E-04) AS PROVIDED BY EQUIPMENT SUPPLIER.						
Image: ConstraintFLOOR DRAIN.FLOOR DRA	ET-I	POTABLE WATER EXPANSION TANK	WATTS, LEAD FREE, 4.5 GALLON PORTABLE WATER EXPANSION TANK #PLT-12. 1.8 GALLONS MAXIMUM ACCEPTANCE VOLUME.	3/4"					
Image: ConstructionMarker, Tille or square top as required to be Flush with, and march, adjacent Floor Finish.The or square top as required to be flush with, and march, adjacent Floor Finish.The or square top as required to be flush with, and march, adjacent Floor Finish.The or square top as required to be flush with, and march, adjacent Floor Finish.The or square top as required to be flush with, and march, adjacent Floor Finish.The or square top as required to be flush with, and march, adjacent Floor Finish.The or square top as required to be flush with, and march, adjacent Floor Finish.The or square top as required to be flush with, and march, adjacent Floor Finish.The or square top as required to be flush with, and march, adjacent Floor Finish.The or square top as required to be flush with adjacent Floor Finish.The or square top as required to be flush with adjacent Floor Finish.The or square top as required to be flush with adjacent Floor Finish.The or square top as required to be flush with adjacent Floor Finish.The or square top as required to be flush with adjacent Floor Finish.The or square top as required to be flush with adjacent Floor Finish.The or square top as required to be flush with adjacent Floor Finish.The or square top as required to be flush with adjacent Finish.The or square top as required to be flush with adjacent Finish.The or square top as required top as requir	FD		ZURN, GENERAL PURPOSE FLOOR DRAIN WITH ADJUSTABLE COLLAR AND LIGHT DUTY NICKEL BRONZE STAINER #ZN-415B. WHERE SHOWN ON PLAN, PROVIDE TRAP PRIMER AND TRAP GUARD AT FLOOR DRAIN.			2"	2"		
Index	FCO	CLEANOUT - FLOOR	ZURN, LEVEL-TROL, ADJUSTABLE FLOOR CLEANOUT WITH NICKEL BRONZE TOP #ZN-1400, SIZE: MATCH LINE SIZE. PROVIDE ANY NECESSARY MODIFICATIONS OR ACCESSORIES SUCH AS CARPET MARKER, TILE OR SQUARE TOP AS REQUIRED TO BE FLUSH WITH, AND MATCH, ADJACENT FLOOR FINISH.			4"			
NON-EMERGENCY FIXTURES)3/8"3/8"3/8"TMV-ETHERMOSTATIC MIXING VALVE (EMERGENCY FIXTURES)LAWLER, LEAD FREE, UNDER THE COUNTER THERMOSTATIC MIXING VALVE ASSE IOTI COMPLIANT. LOCATE AS HIGH AS POSSIBLE UNDER FIXTURE INDICATED.3/8"3/8"PRVPRESSURE REDUCING VALVE (IF REQD)WATTS # LF25AUB-Z3. INSTALL WITH ALL PIPING CONFIGURATIONS AND APPURTENANCES AS SHOWN ON DESIGN DOCUMENTSCPIHOT WATER CIRCULATION PUMPGRUNDFOS "UP" SERIES, 3 GPM, 9 FT/HD WITH THREADED CONNECTIONS. PROVIDE AQUASTAT AND TIME CLOCKINILIWATER HEATERA.O. GMITU DEL 40. 40 GALL ON STORAGE 6 OKM (COORDINATE VOLTAGE M/ ELECTRICAL DESIGN DOCUMENTS).DESIGNER ELECTRICAL DESIGN DESIGNER ELECTRICAL DESIGN DESIGN DESIGNER ELECTRICAL DESIGN DESIGN DESIGN DESIGNER ELECTRICAL DESIGN DESI	WCO	CLEANOUT - WALL	ZURN ZI441, ABS TAPERED THREAD PLUG, AND ROUND, SMOOTH STAINLESS STEEL ACCESS COVER W SECURING SCREW. COORDINATE MOUNTING HEIGHT W/ ARCHITECT PRIOR TO CONSTRUCTION.	I/2"		2" & 3" SEE PLAN			
(EMERGENCY FIXTURES)       3/8"       3/8"           PRV       PRESSURE REDUCING VALVE (IF REQD.)       WATTS # LF25AUB-Z3. INSTALL WITH ALL PIPING CONFIGURATIONS AND APPURTENANCES AS SHOWN ON DESIGN DOCUMENTS.	TMV		LAWLER, LEAD FREE, UNDER THE COUNTER THERMOSTATIC MIXING VALVE ASSE 1070 COMPLIANT. LOCATE AS HIGH AS POSSIBLE UNDER FIXTURE INDICATED.	3/8"	3/8"				
CPI       HOT WATER CIRCULATION PUMP       GRUNDFOS "UP" SERIES, 3 GPM, 9 FT/HD WITH THREADED CONNECTIONS. PROVIDE AQUASTAT AND TIME CLOCK         IMUL       WATER HEATER       A.O. EMITY DEL 40. 40. CALL ON GTORRAGE & OKIN (COORDINATE VOLTAGE W/ ELECTRICAL DEGION DOCUMENTE) OUTLET TEMP - 120 DECREESE E	TMV-E		LAWLER, LEAD FREE, UNDER THE COUNTER THERMOSTATIC MIXING VALVE ASSE 1071 COMPLIANT. LOCATE AS HIGH AS POSSIBLE UNDER FIXTURE INDICATED.	3/8"	3/8"				
	PRV	PRESSURE REDUCING VALVE (IF REQD.)	WATTS # LF25AUB-Z3. INSTALL WITH ALL PIPING CONFIGURATIONS AND APPURTENANCES AS SHOWN ON DESIGN DOCUMENTS.						
WHI       WATER HEATER       A.O. SMITH DEL-40, 40 GALLON STORAGE, 6.0KW (COORDINATE VOLTAGE W/ ELECTRICAL DESIGN DOCUMENTS) OUTLET TEMP = 120 DEGREES F.  <	CPI	HOT WATER CIRCULATION PUMP	GRUNDFOS "UP" SERIES, 3 GPM, 9 FT/HD WITH THREADED CONNECTIONS. PROVIDE AQUASTAT AND TIME CLOCK						
	MHI	WATER HEATER	A.O. SMITH DEL-40, 40 GALLON STORAGE, 6.0KW (COORDINATE VOLTAGE W/ ELECTRICAL DESIGN DOCUMENTS) OUTLET TEMP = 120 DEGREES F.						

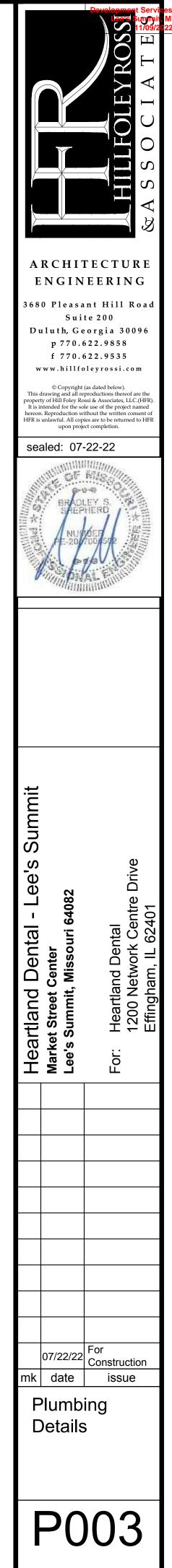
I       I/4"         I-I/2"         I-I/2"         3"         I-I/4"         I-I/2"	ENGIN 3680 Pleasa Sui Duluth, Ge p 770.4 f 770.4 www.hillfe © Copyright This drawing and all re property of Hill Foley Re It is intended for the se hereon. Reproduction w HFR is unlawful. All cop	<b>TECTURE</b> <b>EERING</b> ant Hill Road te 200 eorgia 30096 622.9858 622.9535 oleyrossi.com (as dated below). eproductions there are the sis & Associates, LLC.(HFR). be use of the project named ithout the written consent of fies are to be returned to HFR et completion.
NS VENT  2"  2"  2"  2"  2"  2"  2"  2"	Heartland Dental - Lee's Summit Market Street Center Lee's Summit, Missouri 64082	For: Heartland Dental 1200 Network Centre Drive Effingham, IL 62401
	07/22/22 mk date Plumk Sched	issue

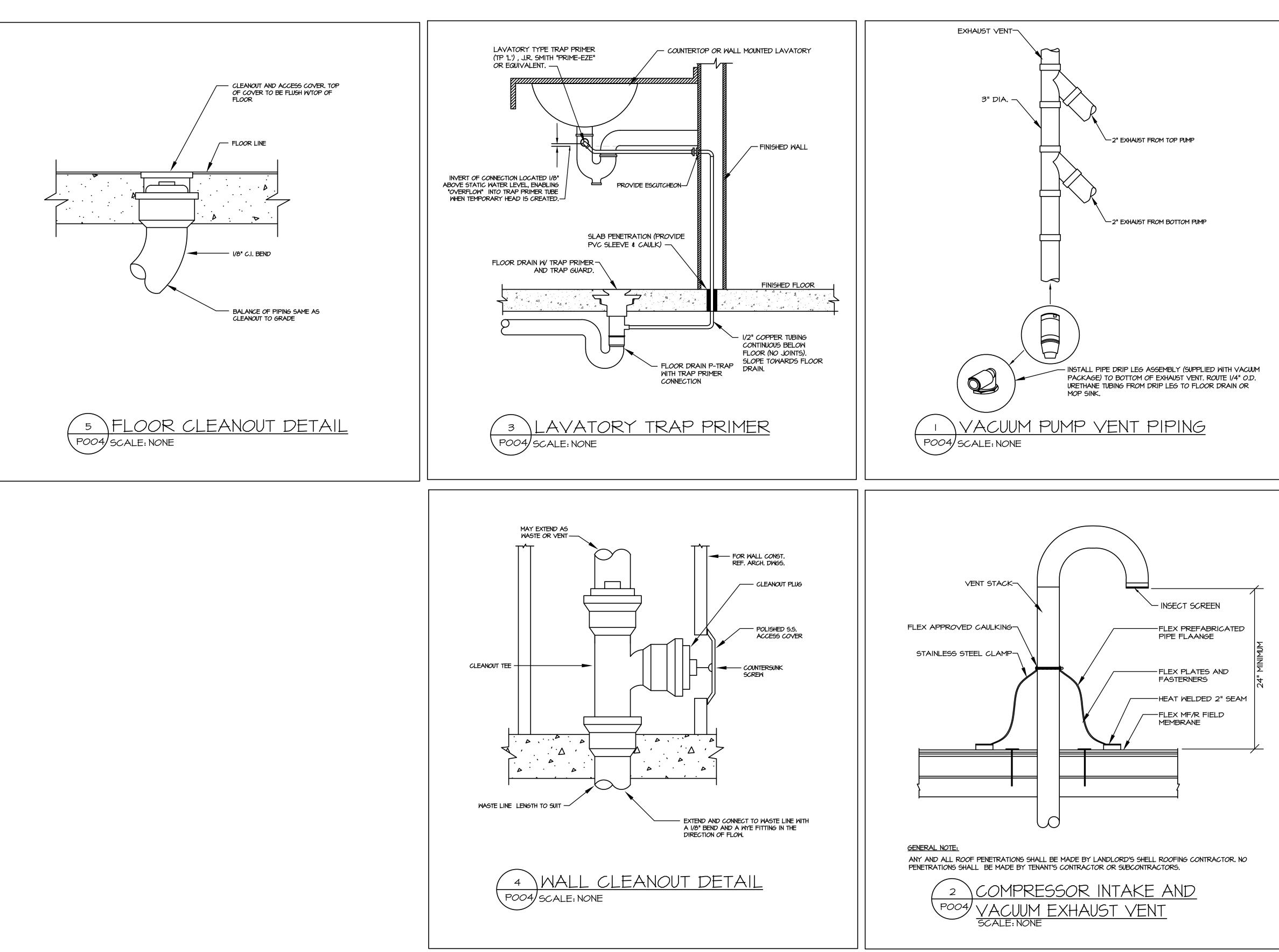
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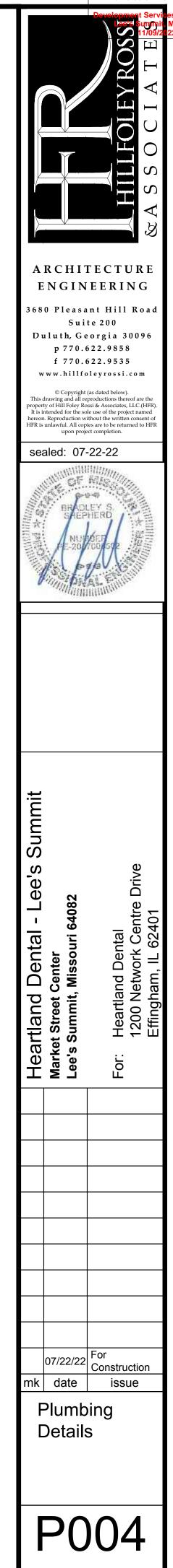


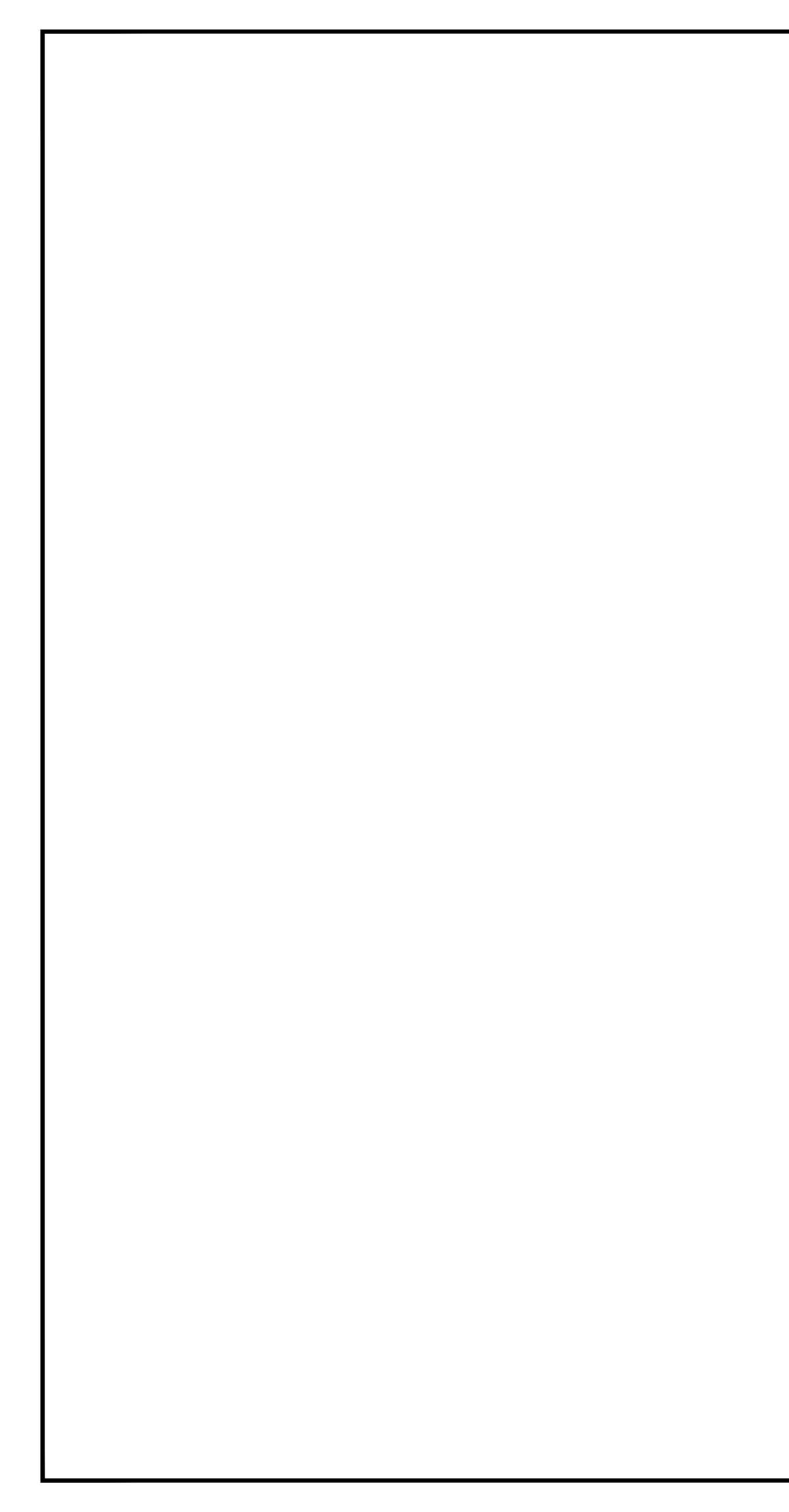


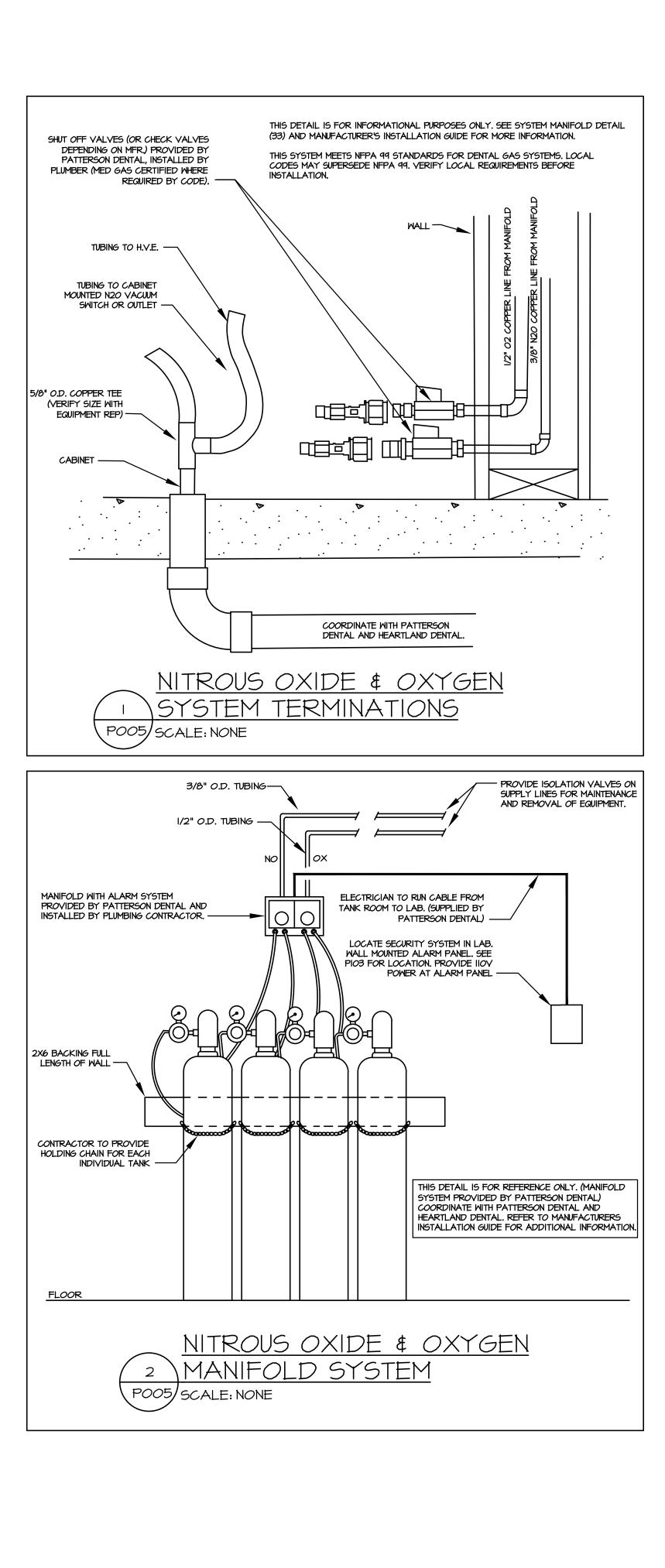




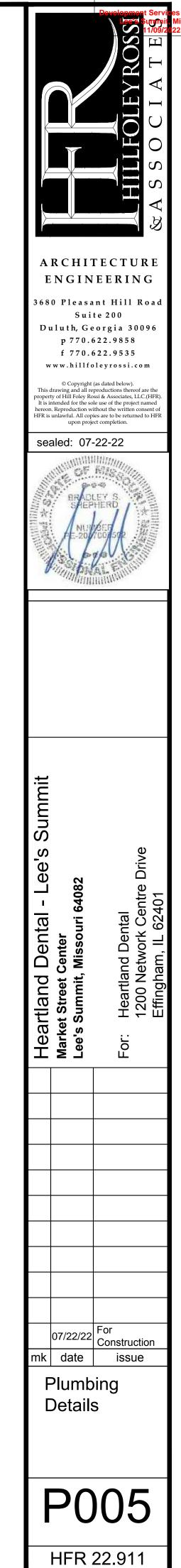


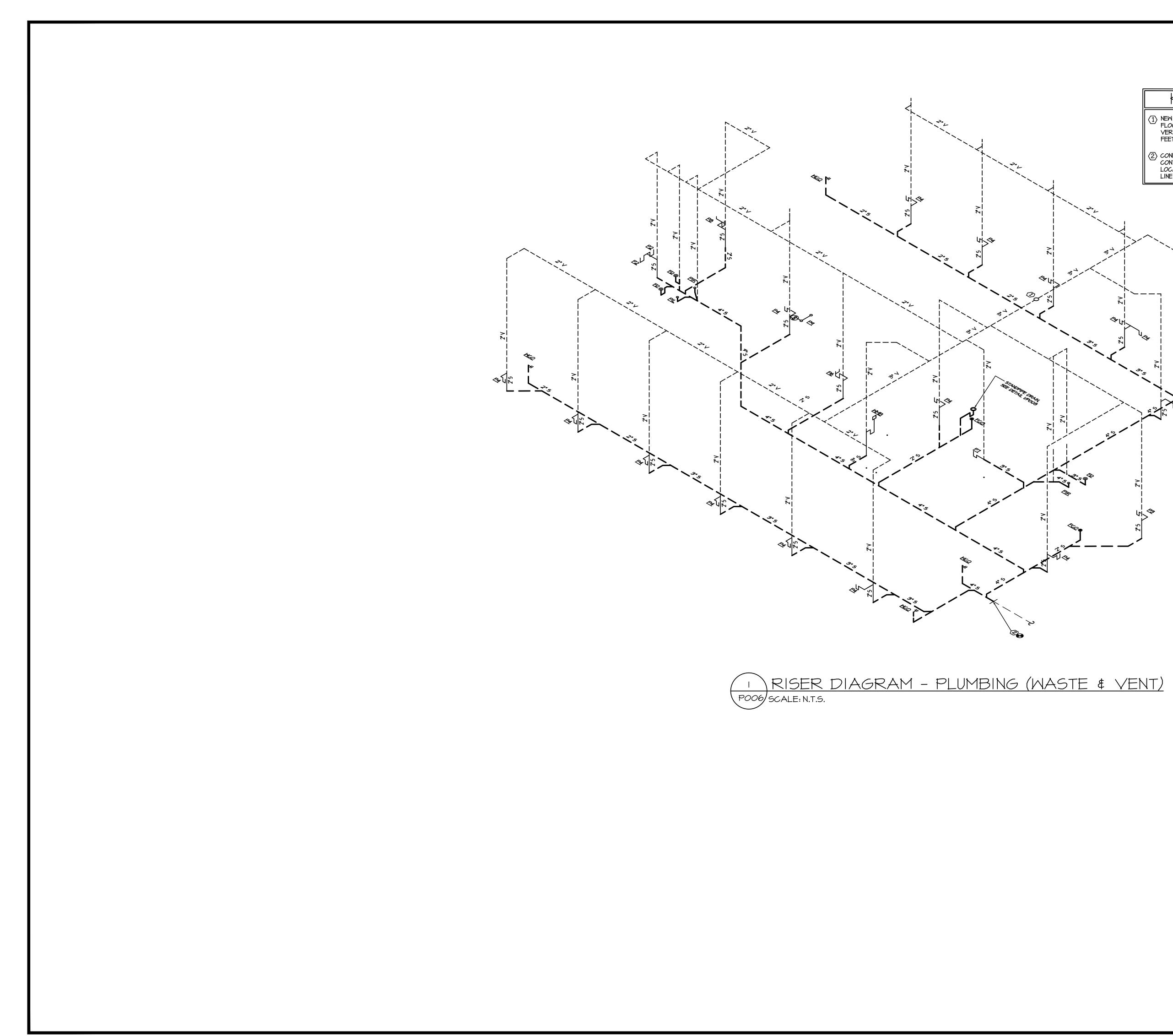




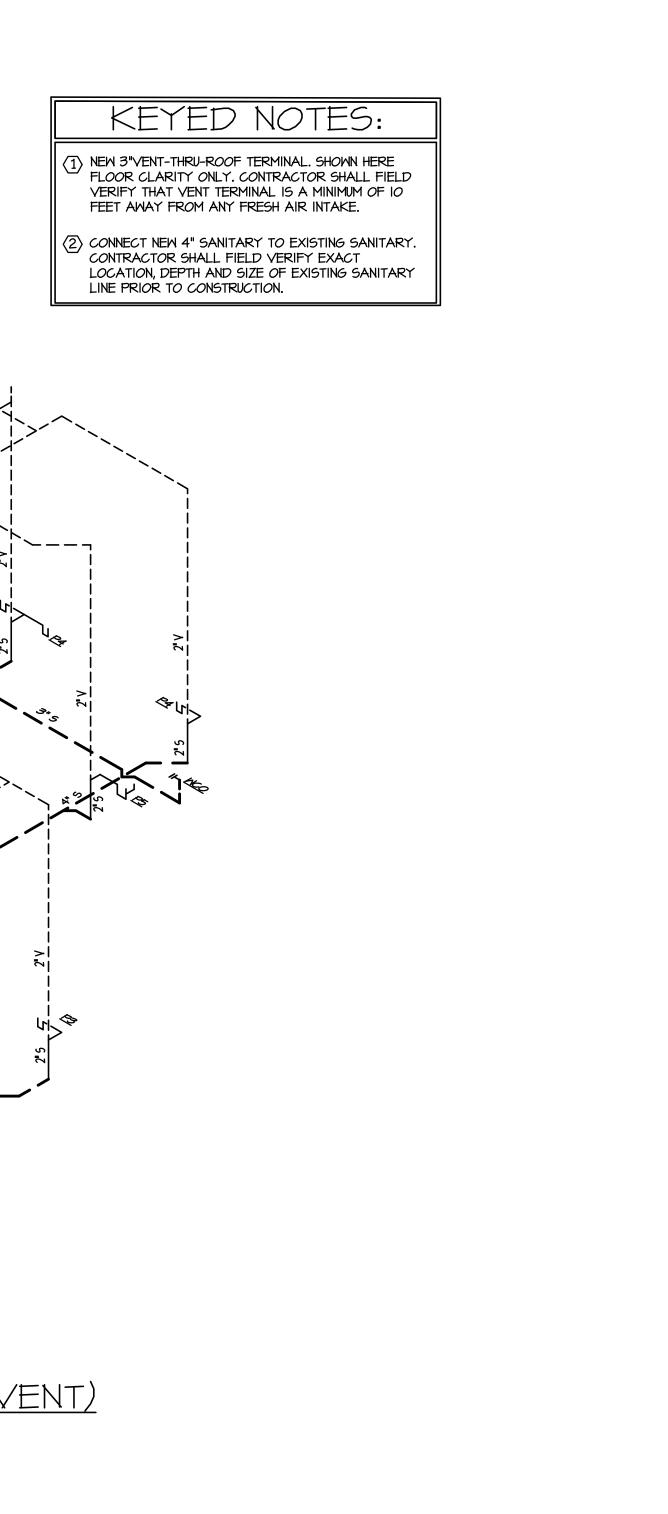


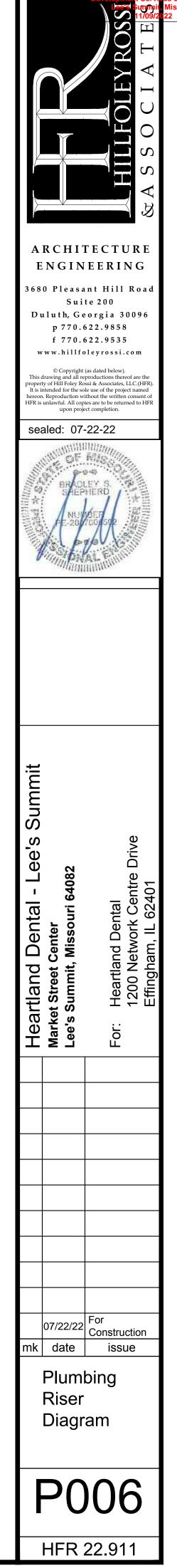


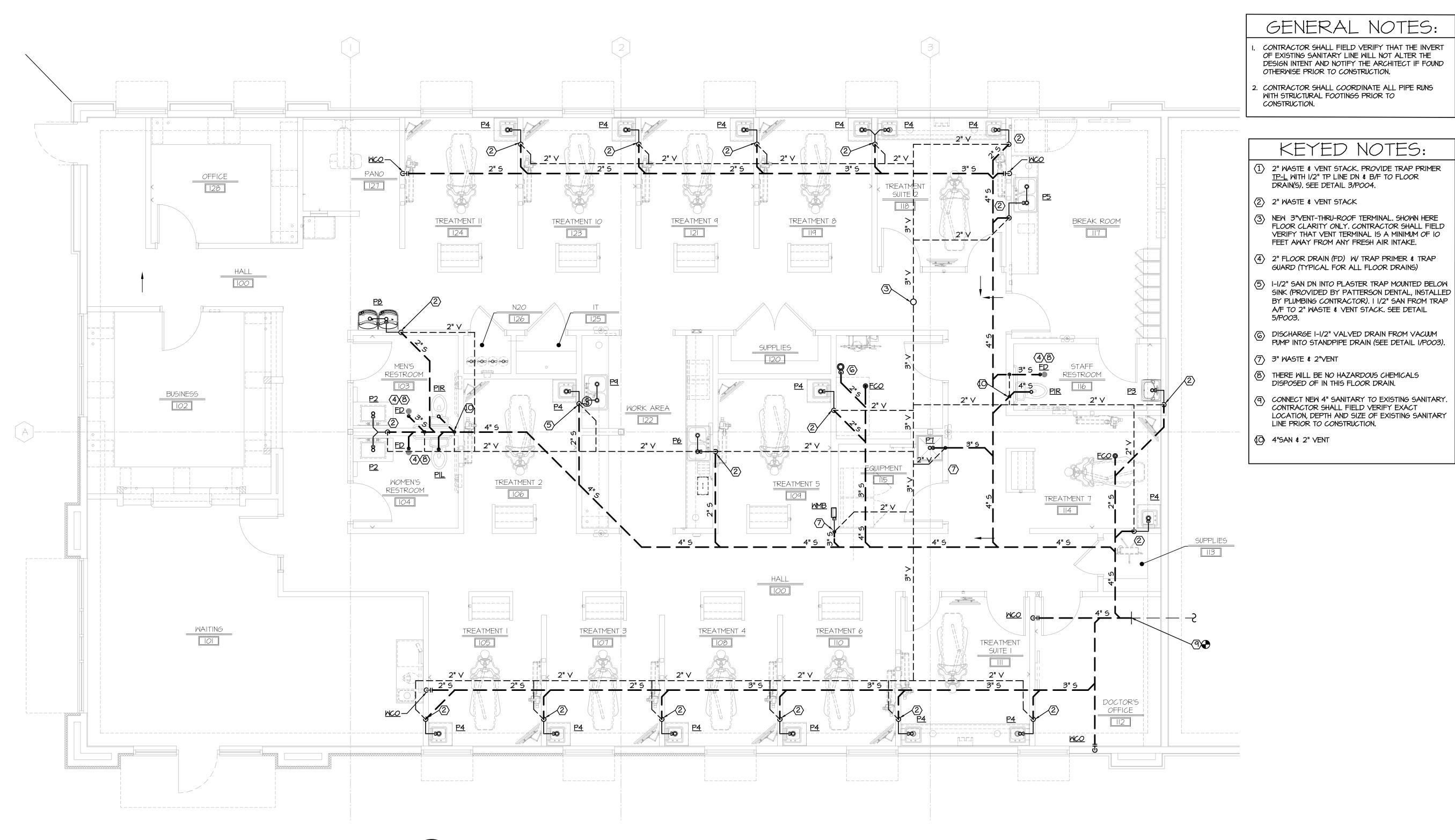






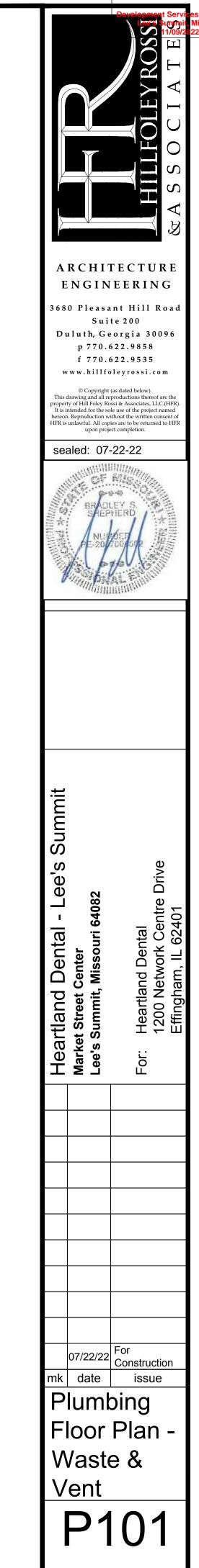


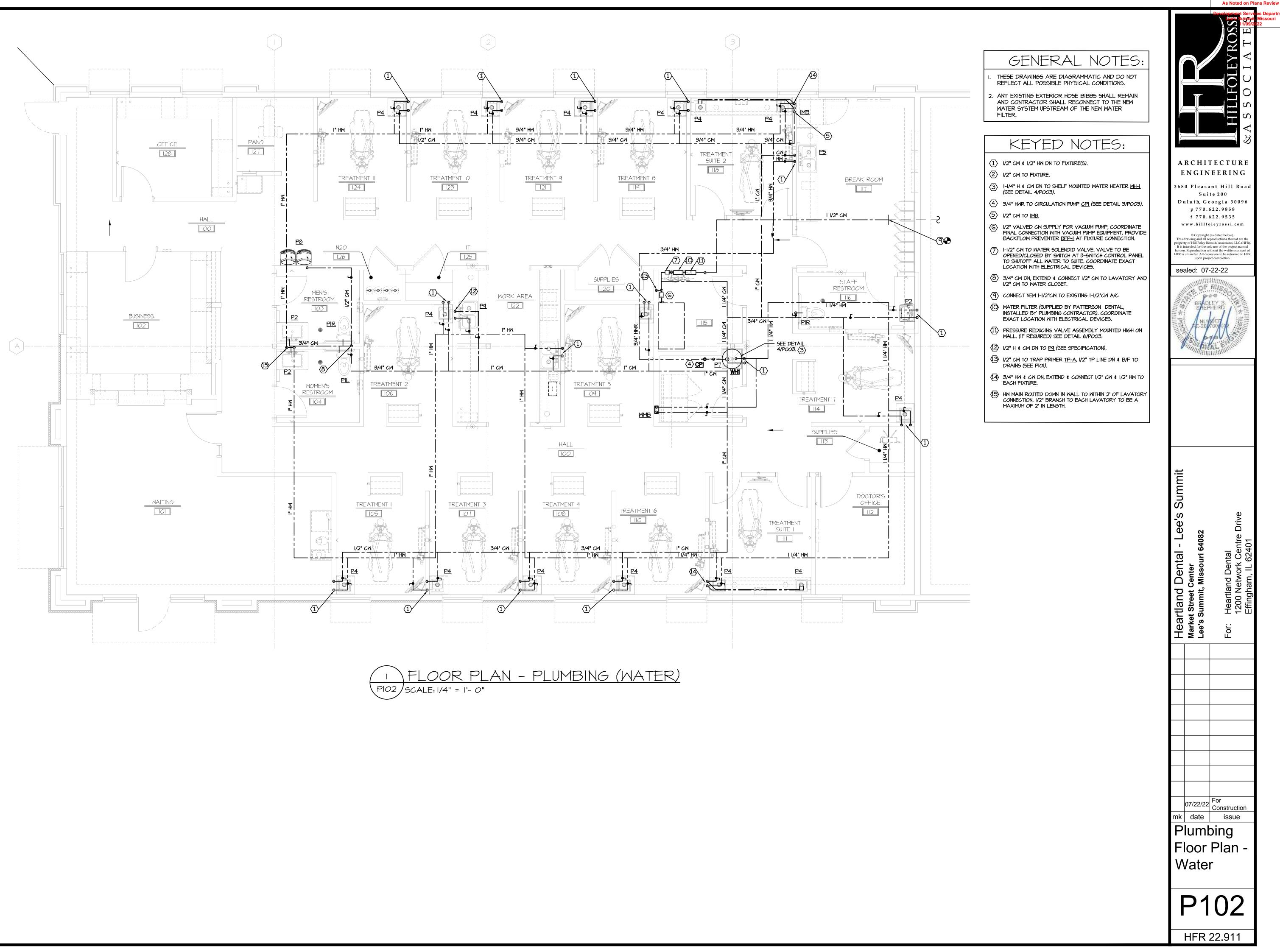




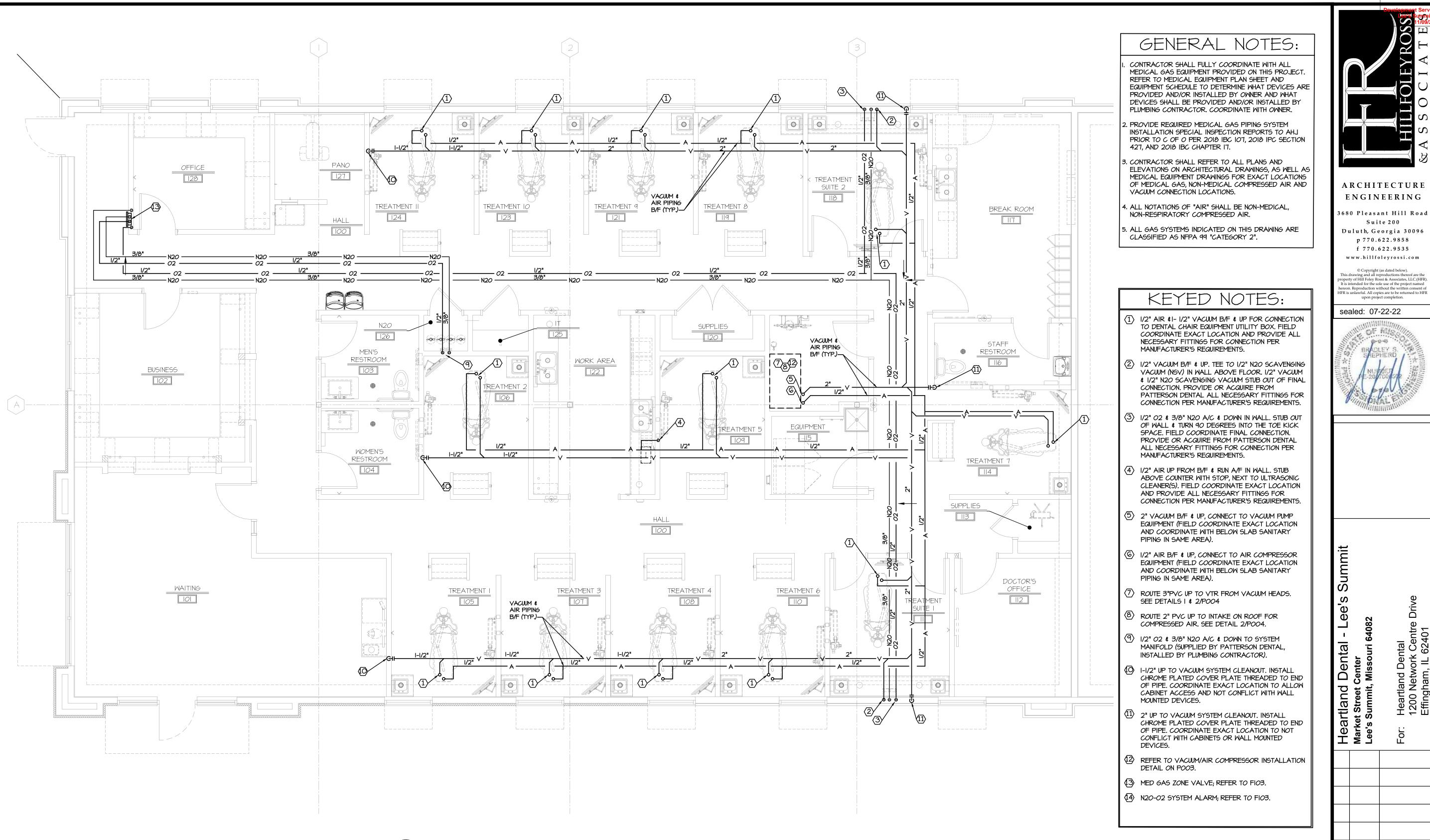
FLOOR PLAN - PLUMBING (WASTE & VENT) PIOI / SCALE: 3/16" = 1'- 0"







RELEASED FOR CONSTRUCTION



FLOOR PLAN - PLUMBING (MEDICAL GAS) PIO3 SCALE: 1/4" = 1'- 0"



SSO

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Suite 200

p 770.622.9858 f 770.622.9535

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Heartland Dental 1200 Network Cer Effingham. IL 624

07/22/22 For Construction

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Floor Plan -

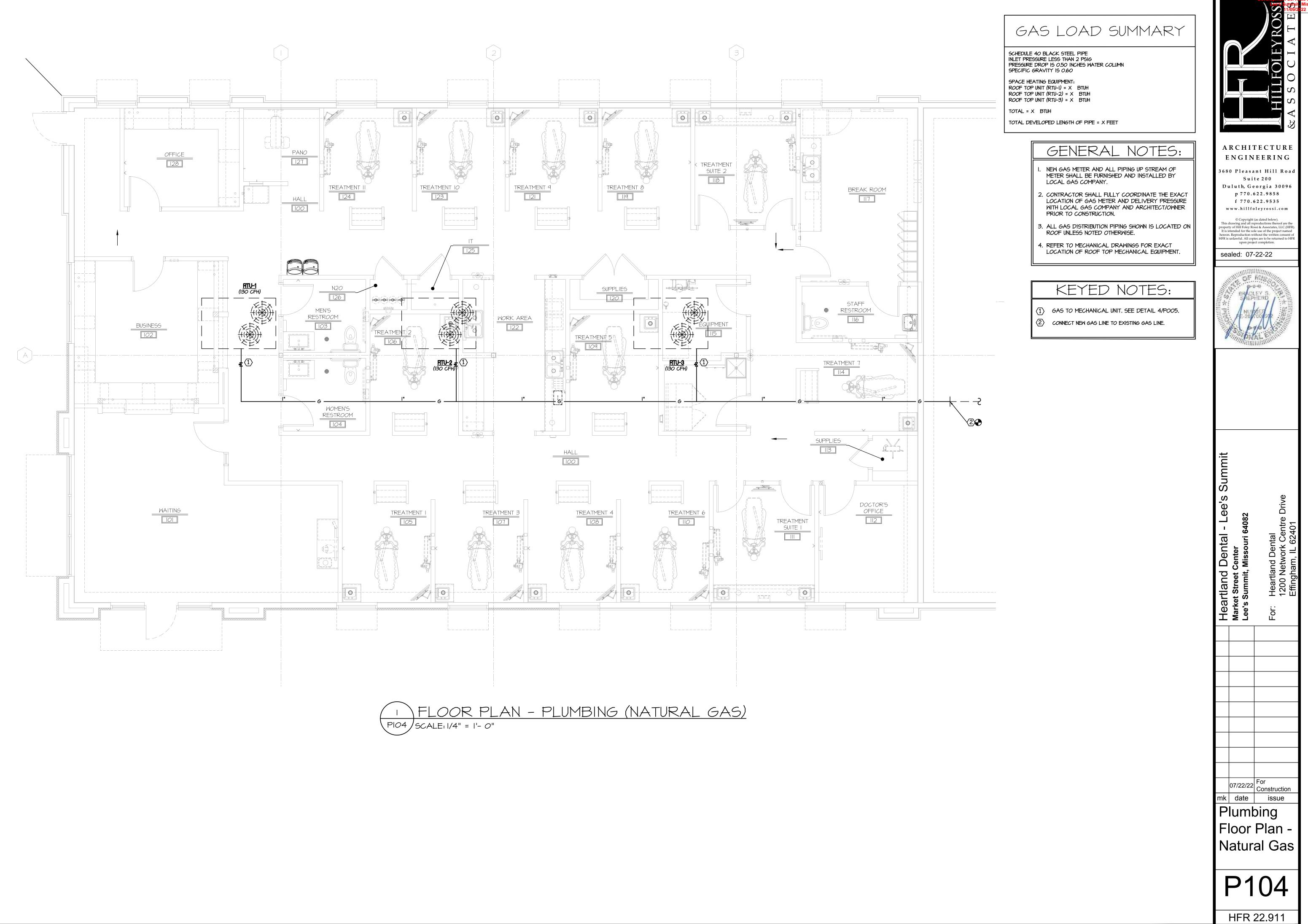
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Plumbing

Medical

Gas



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