	CODE DATA SUMMARY	GENERAL NOTES
PROJECT DESCRIPTION	5,325 S.F. NEW VETERINARIAN CLINIC IN EXISTING 13,500 S.F. STRIP CENTER IN BALLWIN (UNINCORPORATED ST. LOUIS COUNTY), MISSOURI	BAALMAN ARCHITECTS IS ISSUING THIS SET OF CONSTRUCTION DOCUMENTS TO FACILITATE CONSTRUCTION BY EXPRESSING THE DESIGN CONCEPT OF THIS PROJECT. ADDITIONAL DETAILED SHOP DRAWINGS AND SUBMITTALS WILL BE
JURISDICTION	ST. LOUIS COUNTY FOR BUILDING PERMITS WEST COUNTY FIRE PROTECTION DISTRICT	REQUIRED FOR PROCURING, PLACING AND CONSTRUCTING THE FINISHED WORK. 2. BAALMAN ARCHITECTS ASSUMES THE GENERAL CONTRACTOR HAS INCLUDED
BUILDING CODES	CONSTRUCTION SHALL CONFORM TO THE FOLLOWING CODES AS ADOPTED BY ST. LOUIS COUNTY: 2015 INTERNATIONAL BUILDING CODE, I.B.C. 2014 NATIONAL ELECTRICAL CODE, N.E.C. 2015 INTERNATIONAL MECHANICAL CODE, I.M.C. 2015 INTERNATIONAL PLUMBING CODE, I.P.C. 2009 ICC/ANSI A117.1 — ACCESSIBILITY CODE, I.A.C. CONSTRUCTION SHALL CONFORM TO THE FOLLOWING CODES AS ADOPTED BY WEST COUNTY FIRE PROTECTION DISTRICT: 2018 INTERNATIONAL FIRE CODE, I.F.C.	IN HIS BID THE HIGHEST QUALITY AND GREATEST QUANTITY FOR THE PURPOSE OF RESOLVING ANY CONFLICTS IN THE CONSTRUCTION DOCUMENTS WHICH ARE IMPLIED OR UNDEFINED. 3. ALL WORK SHALL COMPLY WITH THE CURRENT FEDERAL, STATE AND AND ALL LOCAL CODES AND ORDINANCES. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS AND SHALL REPORT ANY INCONSISTENCIES TO THE ARCHITECT. 4. DRAWINGS ARE NOT TO BE SCALED. DIMENSIONAL DISCREPANCIES SHALL BE CLARIFIED WITH THE ARCHITECT. 5. ALL DIMENSIONS ARE TO FACE OF GYP. BOARD, CONCRETE, MASONRY OR
CHAPTER 3 USE GROUP	EXISTING USE GROUP: B-BUSINESS PROPOSED USE: ANIMAL CLINIC	BRICK UNLESS OTHERWISE NOTED. 6. THE ARCHITECT SHALL REVIEW FOR APPROVAL ALL COLOR SAMPLES. MANUFACTURERS SHALL VERIFY CONFORMANCE WITH THE DESIGN INTENT AND
CHAPTER 6 TYPE OF CONSTRUCTION	CONSTRUCTION TYPE IS 5B	SCOPE OF THE CONTRACT DOCUMENTS. 7. CONTRACTOR SHALL VERIFY LOCATION AND SHALL PROVIDE PROTECTION FOR UTILITIES WITHIN THE WORK AREA, WHETHER OR NOT INDICATED IN THE DRAWINGS.
CHAPTER 5 HEIGHT AND AREA	EXISTING HEIGHT: ONE—STORY — 13,500 S.F. HEIGHT: 40' STORIES: 1 AREA: BASE ALLOWABLE 9,000 S.F. OPEN AREA: 470'/560' = .8425 = .59 .59 x 9,000 S.F. = 5,310 S.F.	8. CONTRACTOR SHALL NOTIFY UTILITY COMPANY AND OWNER IMMEDIATELY SHOULD SERVICE BE INTERRUPTED. 9. CONTRACTOR SHALL TAKE STEPS NECESSARY TO PREVENT EROSION DAMAGE ON OR OFF THE SITE AND REPAIR ANY DAMAGE RESULTING FROM THIS WORK AT NO COST TO THE OWNER. 10. WHERE POSSIBLE THE CONTRACTOR SHALL AVOID DAMAGING EXISTING TREES AND LANDSCAPING. CONTRACTOR SHALL COORDINATE THE DESTRUCTION
CHAPTER 6 FIRE RESISTANCE RATING CHART	FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS: NONE	OF ANY LANDSCAPE WITH THE ARCHITECT. 11. CONTRACTOR SHALL REMOVE ALL SURPLUS MATERIALS, FALSE WORK, TEMPORARY STRUCTURES, INCLUDING: FOUNDATIONS AND DEBRIS OF ANY NATURE RESULTING FROM THEIR OPERATIONS, AND PUT THE SITE IN A NEAT AND
CHAPTER 7 FLAME SPREAD	PER SECTIONS 803 AND 805 - ALL ITEMS 25 OR LESS TESTED BY ASTM.E84	ORDERLY CONDITION.
CHAPTER 7 SMOKE DEVELOPED	PER SECTIONS 803 AND 805 - ALL ITEMS 450 OR LESS, TESTED BY ASTM.E84	12. CONTRACTORS SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT SITE PRIOR TO SUBMITTING PROPOSAL ON THE PROJECT AND NOTIFY THE ARCHITECT AS TO ANY DISCREPANCIES OR CHANGES DISCOVERED.
CHAPTER 8 INTERIOR FINISHES	SHALL COMPLY WITH THE 2015 IBC CHAPTER 8	13. SUBCONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH ALL PORTIONS OF THE DRAWINGS, SPECIFICATIONS, ADDENDUM AND CHANGE ORDERS THAT PERTAIN TO THEIR WORK. THEY SHALL BE HELD RESPONSIBLE FOR ADHERING TO THOSE REQUIREMENTS AND SHALL NOT PREPARE ANY BID.
CHAPTER 9 FIRE PROTECTION SYSTEMS	NO AUTOMATIC FIRE SPRINKLER SYSTEM	14. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE, LOCATE AND CONFIRM ALL FLOOR SINK, UNDERGROUND / OVERHEAD PLUMBING AND
CHAPTER 9 FIRE EXTINGUISHERS	PORTABLE FIRE EXTINGUISHERS SHALL BE PROVIDED IN ACCORDANCE WITH THE 2015 IBC, 2018 IFC AND PER DIRECTION OF THE FIRE MARSHAL.	ELECTRICAL STUB-UPS. 15. ALL INTERIOR PARTITION DIMENSIONS ARE TO FACE OF GYP. BD. WALL UNLESS NOTED OTHERWISE.
CHAPTER 10 OCCUPANCY	5,325 S.F. / 100 = 53 OCCUPANTS	16. ALL EXPOSED UNFINISHED METAL AND WOOD SHALL BE PAINTED AS PER SPECIFICATION, PAINT TO MATCH ADJACENT COLOR.
LOADS & MEANS OF EGRESS	EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.	17. ALL FINISHES AND FINISH MATERIALS, COLORS AND TEXTURES SHALL BE VERIFIED WITH ARCHITECT PRIOR TO INSTALLATION, FABRICATION OR ORDERING.
	TRAVEL DISTANCE IS LESS THAN 200 FT. THERE SHALL BE A FLOOR OR LANDING ON EACH SIDE OF A DOOR. SUCH FLOOR OR LANDING SHALL BE AT THE SAME ELEVATION ON EACH SIDE OF THE DOOR IN ACCORDANCE WITH THE 2015 IBC.	VERIFIED WITH ARCHITECT FRIOR TO INSTALLATION, FABRICATION OR ORDERING.
	UNOBSTRUCTED ACCESS SHALL BE PROVIDED TO REQUIRED EXITS IN ACCORDANCE WITH THE IBC.	
DOORS	ALL DOORS SHALL NOT REQUIRE MORE THAN 51bs OF FORCE TO OPEN	
SIGNS	ALL SIGNS TO COMPLY WITH THE SIGNAGE SECTION OF THE IBC	

CONTRACTOR'S NOTES

1. THE CONSTRUCTION DOCUMENTS HAVE BEEN CAREFULLY PREPARED BUT MAY NOT DEPICT EVERY CONDITION TO BE ENCOUNTERED. IT IS THEREFORE THE GENERAL CONTRACTORS & SUBCONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL CONDITIONS OF AFFECTED WORK PRIOR TO SUBMITTING A BID OR STARTING ANY WORK. IF CONDITIONS DIFFER, OR ADDITIONAL WORK IS REQUIRED BEYOND THAT STATED IN THE CONSTRUCTION DOCUMENTS IT IS THE CONTRACTORS RESPONSIBILITY TO BRING SUCH MATTERS TO THE ATTENTION OF THE ARCHITECT IN A REASONABLE TIME PERIOD.

PRIOR TO THE BID SUBMISSION, CONTRACTOR SHALL INCLUDE SUCH INSTANCES IN THEIR BID SUM OR QUALIFY IN THE BID SUBMITTAL.

2. ALL CONSTRUCTION DOCUMENTS REPRESENT A COMPREHENSIVE SCOPE OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REFERENCE ALL DRAWINGS, SPECIFICATIONS, ADDENDUM AND CHANGE ORDERS VERIFY THEIR RESPECTIVE SCOPE OF WORK.

3. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING MATERIAL, EQUIPMENT, MILLWORK, ETC.

ACCESSIBILITY

1. H.C. ACCESS TO THESE FACILITIES SHALL BE PROVIDED AT PRIMARY ENTRANCE 2. THE SLOPE OF WALKS SHALL NOT EXCEED MAX., CROSS SLOPE 2% WALKING SURFACE SLOPING GREATER THAN 2% SHALL BE SLIP RESISTANT. 3. EVERY REQUIRED EXIT DOORWAY SHALL BE SIZED FOR A DOOR NOT LESS THAN 3 FT. WIDE BY NOT LESS THAN 6'-8" HIGH CAPABLE OF OPENING 90 DEGREES

4. THRESHOLD TO BE A MAX. 1/4" ABOVE ADJACENT FINISH FLOOR.

5. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 LB..

AND MOUNTED SO THAT THE CLEAR WIDTH OF THE EXIT WAY IS 32" MIN.

6. THE BOTTOM 10" OF ALL DOORS EXCEPT AUTOMATIC AND SLIDING SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE.

. PROVIDE LEVER TYPE HARDWARE, PANIC BARS, PUSH — PULL ACTIVATING BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE. (30" TO 44" A.F.F.)

8. ALL DOORWAYS LEADING TO SANITARY FACILITIES SHALL HAVE 32" CLEAR UNOBSTRUCTED OPENINGS.

9. INSULATE HOT WATER AND DRAIN PIPES AT HAND SINKS.

10. FAUCET CONTROLS SHALL BE OPERABLE WITH ONE HAND AND NOT REQUIRE GRASPING, PINCHING, OR TWISTING. FAUCET TO HAVE MAX. 5 LB.. OPERATING

Architectural Drawings

Floor Plan, Partition Types and Notes

Reflected Ceiling Plan & Details

Interior Elevations, Sections & Details

Door & Room Schedules, Door & Window

Mechanical General Notes

Mechanical Plan

Electrical Notes, Legend & Specifications

Electrical Power Plans

Electrical Lighting Plan

Plumbing General Notes

Plumbing Piping Plan

Equipment Drawings

A0 Cover Sheet, Code Data Summary and Notes

Roof Plan & Notes

Exterior Elevations & Ramp Section

Wall Sections

Types and Details

Mechanical, Plumbing and Electrical Drawings

Mechanical Schedules and Details

Plumbing Sanitary Plan

Provided by Midmark under separate cover

LOCATION PLAN AO AO SCALE: N.T.S.

Design Team:

Architect

Baalman Architects LLC #2 Daniel Drive O'Fallon, Missouri 63366

Michael J. Baalman, Architect Ph: 636.294.9811 Mobile: 314.640.6212 mike@baalmanarchitects.com

Mechanical, Plumbing and Electrical Engineer

Design & Construction, Inc. 13610 Barrett Office Dr., Suite 200 St. Louis, Missouri 63021

David Pollmann P.E. C.B.O. Ph. 314.965.8032 designstl@outlook.com

PROJECT SITE-

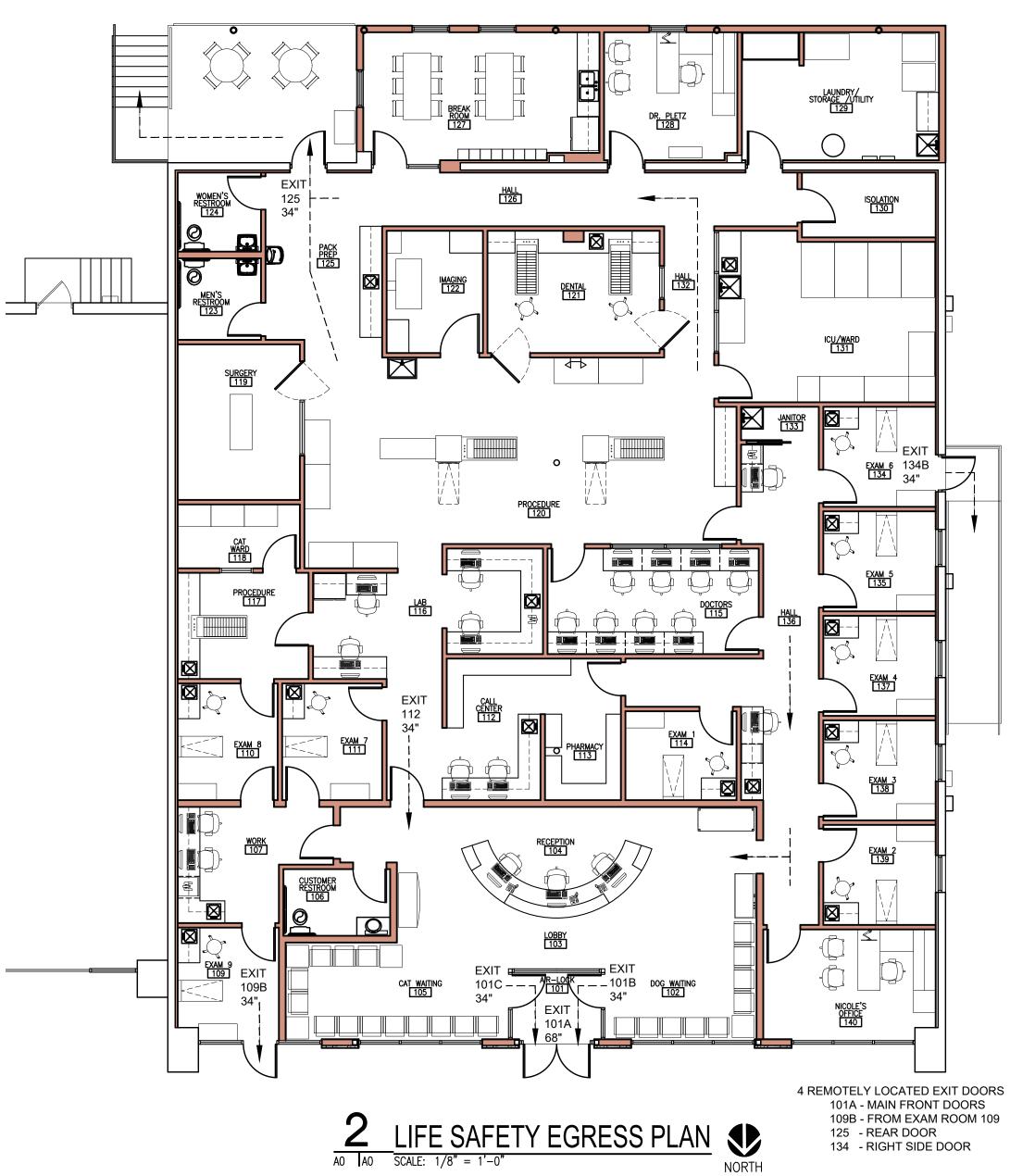
Barrett Station Veterinary Clinic Chester Plaza Retail Center 13840-13844 Manchester Road Ballwin, Missouri 63011

January 16, 2023

Building Tenant Renovation for:

Drawing Issue:

Bid & Permit Set



MICHAEL J. BAALMAN MATERIAL NUMBER A-2012004035

Michael J. Baalman ARCHITECT

PROJECT MANAGER: MJB DRAWN BY: MJB

PROJECT NUMBER 20-097 January 16, 2023

SHEET **A0 COVER SHEET** & CODE INFO.

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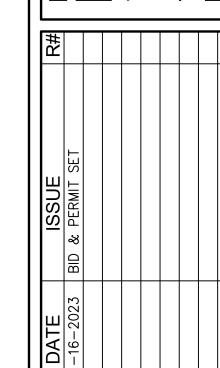
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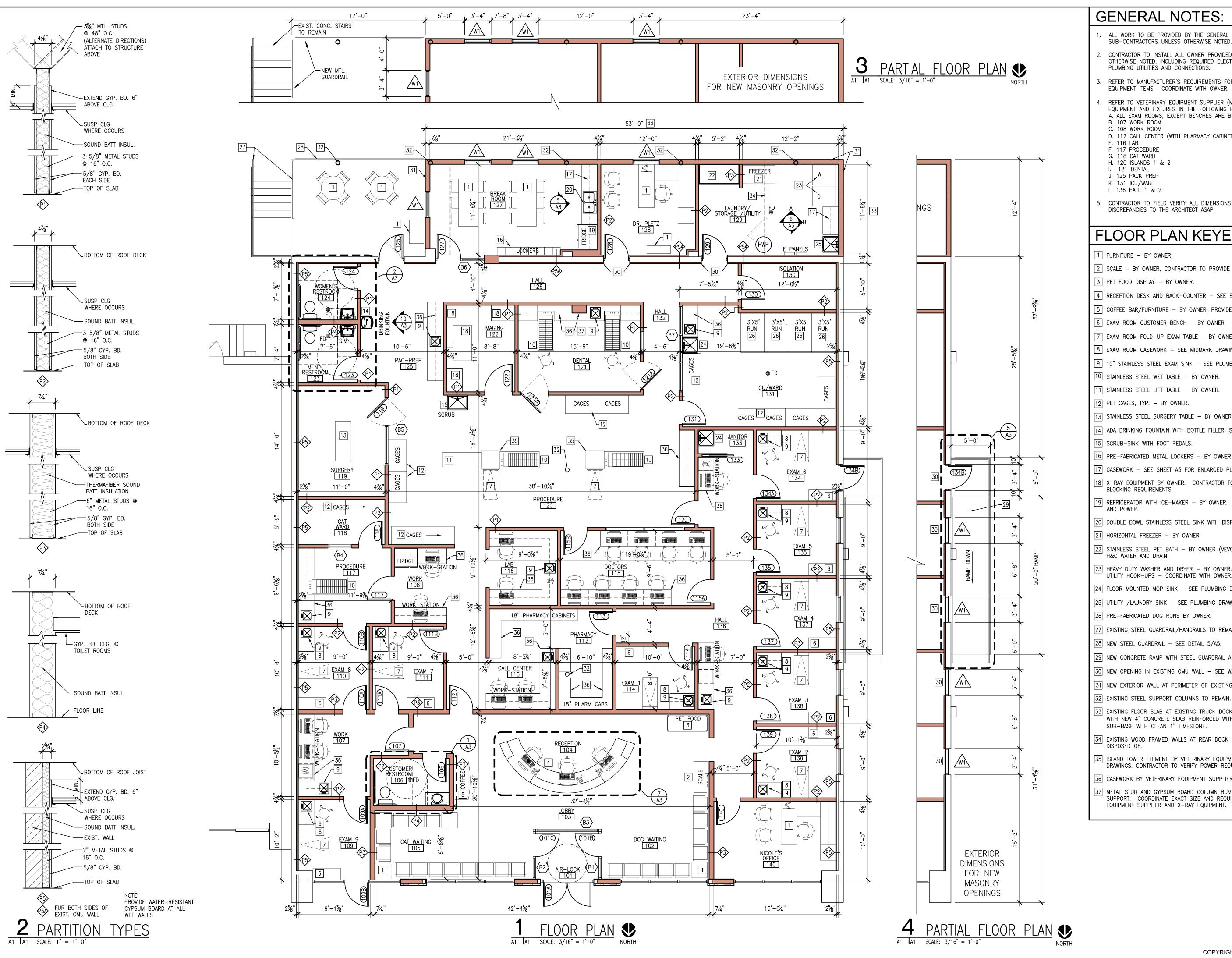
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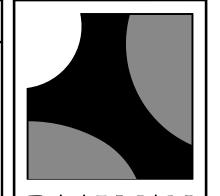
GENERAL NOTES:

- ALL WORK TO BE PROVIDED BY THE GENERAL CONTRACTOR AND THEIR SUB-CONTRACTORS UNLESS OTHERWISE NOTED.
- CONTRACTOR TO INSTALL ALL OWNER PROVIDED ITEMS UNLESS OTHERWISE NOTED, INCLUDING REQUIRED ELECTRICAL, MECHANICAL & PLUMBING UTILITIES AND CONNECTIONS.
- REFER TO MANUFACTURER'S REQUIREMENTS FOR ALL OWNER PROVIDED EQUIPMENT ITEMS. COORDINATE WITH OWNER.
- REFER TO VETERINARY EQUIPMENT SUPPLIER (MIDMARK) FOR EQUIPMENT AND FIXTURES IN THE FOLLOWING ROOMS: A. ALL EXAM ROOMS, EXCEPT BENCHES ARE BY OWNER
- B. 107 WORK ROOM C. 108 WORK ROOM
- D. 112 CALL CENTER (WITH PHARMACY CABINETS)
- E. 116 LAB F. 117 PROCEDURE
- G. 118 CAT WARD
- H. 120 ISLANDS 1 & 2
- I. 121 DENTAL J. 125 PACK PREP
- K. 131 ICU/WARD L. 136 HALL 1 & 2
- 5. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT ASAP.

FLOOR PLAN KEYED NOTES:

- 1 FURNITURE BY OWNER.
- 2 SCALE BY OWNER, CONTRACTOR TO PROVIDE POWER.
- 3 PET FOOD DISPLAY BY OWNER.
- 4 RECEPTION DESK AND BACK-COUNTER SEE ENLARGED PLAN 7/A3.
- 5 COFFEE BAR/FURNITURE BY OWNER, PROVIDE ELECTRIC.
- 6 EXAM ROOM CUSTOMER BENCH BY OWNER.
- 7 EXAM ROOM FOLD-UP EXAM TABLE BY OWNER (SHOR-LINE).
- 8 EXAM ROOM CASEWORK SEE MIDMARK DRAWINGS.
- 9 15" STAINLESS STEEL EXAM SINK SEE PLUMBING DRAWINGS.
- [10] STAINLESS STEEL WET TABLE BY OWNER.
- 11 STAINLESS STEEL LIFT TABLE BY OWNER.
- 12 PET CAGES, TYP. BY OWNER.
- 13 STAINLESS STEEL SURGERY TABLE BY OWNER.
- 14 ADA DRINKING FOUNTAIN WITH BOTTLE FILLER. SEE DETAIL 10/A3.
- 15 SCRUB-SINK WITH FOOT PEDALS.
- 16 PRE-FABRICATED METAL LOCKERS BY OWNER.
- 17 CASEWORK SEE SHEET A3 FOR ENLARGED PLANS AND DETAILS.
- [18] X-RAY EQUIPMENT BY OWNER. CONTRACTOR TO COORDINATE ELECTRICAL AND BLOCKING REQUIREMENTS.
- 19 REFRIGERATOR WITH ICE-MAKER BY OWNER. CONTRACTOR TO PROVIDE WATER AND POWER.
- 20 DOUBLE BOWL STAINLESS STEEL SINK WITH DISPOSAL SEE MEP DRAWINGS.
- 21 HORIZONTAL FREEZER BY OWNER.
- 22 STAINLESS STEEL PET BATH BY OWNER (VEVOR 62") CONTRACTOR TO PROVIDE H&C WATER AND DRAIN.
- 23 HEAVY DUTY WASHER AND DRYER BY OWNER. CONTRACTOR TO PROVIDE ALL UTILITY HOOK-UPS - COORDINATE WITH OWNER.
- 24 FLOOR MOUNTED MOP SINK SEE PLUMBING DRAWINGS.
- [25] UTILITY /LAUNDRY SINK SEE PLUMBING DRAWINGS.
- 26 PRE-FABRICATED DOG RUNS BY OWNER.
- [27] EXISTING STEEL GUARDRAIL/HANDRAILS TO REMAIN PAINT.
- 28 NEW STEEL GUARDRAIL SEE DETAIL 5/A5.
- 29 NEW CONCRETE RAMP WITH STEEL GUARDRAIL AND HANDRAIL SEE 5/A5.
- 30 NEW OPENING IN EXISTING CMU WALL SEE WALL DETAIL 4/A7.
- 31 NEW EXTERIOR WALL AT PERIMETER OF EXISTING DOCK AREA—SEE SECTION 1/A6.
- 33 EXISTING FLOOR SLAB AT EXISTING TRUCK DOCK TO BE REMOVED AND REPLACED WITH NEW 4" CONCRETE SLAB REINFORCED WITH 1.2X1.2 6X6 W.W.F. FILL SUB-BASE WITH CLEAN 1" LIMESTONE.
- 34 EXISTING WOOD FRAMED WALLS AT REAR DOCK DOCK AREA TO BE REMOVED AND DISPOSED OF.
- 35 ISLAND TOWER ELEMENT BY VETERINARY EQUIPMENT SUPPLIER. SEE MIDMARK DRAWINGS. CONTRACTOR TO VERIFY POWER REQUIREMENTS WITH OWNER.
- 36 CASEWORK BY VETERINARY EQUIPMENT SUPPLIER. SEE MIDMARK DRAWINGS.
- 7 METAL STUD AND GYPSUM BOARD COLUMN BUMPOUT FOR X-RAY MACHINE SUPPORT. COORDINATE EXACT SIZE AND REQUIRED BLOCKING WITH VETERINARY EQUIPMENT SUPPLIER AND X-RAY EQUIPMENT. SEE MIDMARK DRAWINGS.

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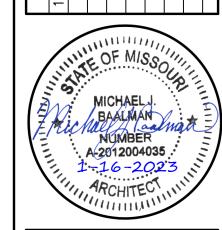
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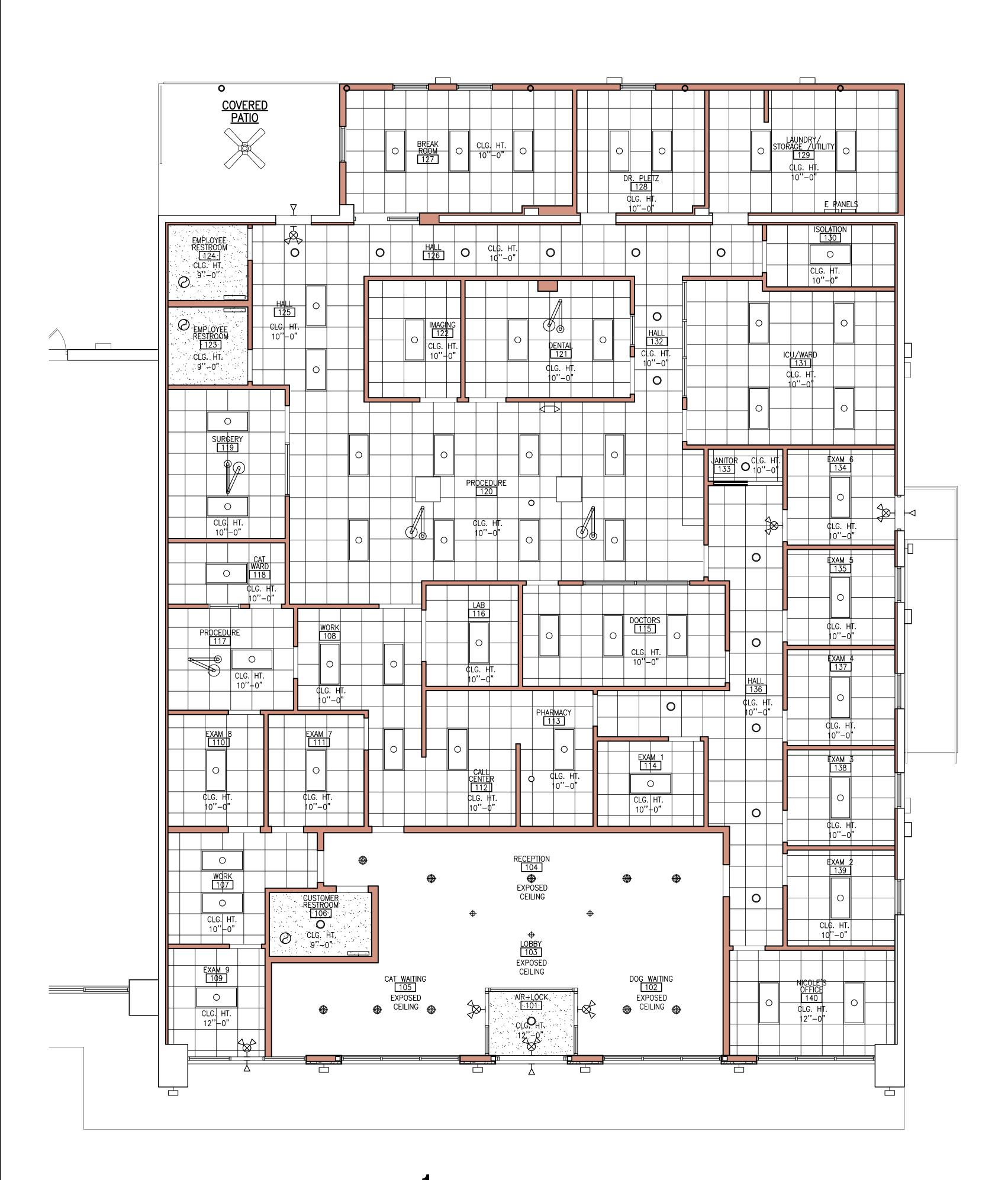


Michael J. Baalman ARCHITECT

PROJECT MANAGER: MJB DRAWN BY: MJB

PROJECT NUMBER 20-097 DATE January 16, 2023

SHEET **A**1 FLOOR PLAN NOTES & **DETAILS**



FIXTURE SYMBOLS LEGEND: GENERAL NOTES: ALL LIGHTING IS SHOWN FOR REFERENCE ONLY. REFER TO ELECTRICAL DRAWINGS FOR 2'X4' SUSPENDED ACOUSTICAL TILE (SECOND-LOOK) ACTUAL FIXTURE SPECIFICATIONS AND LOCATIONS. CEILING AND GRID (PROVIDE SURGICAL GRADE VINYL COATED GYP. BD. CEILING TILE AND GRID IN SURGERY ROOM) CONTRACTOR TO COORDINATE ALL FIXTURE LOCATIONS WITH ALL OTHER CEILING MOUNTED SEISMIC CATEGORY "D". PROVIDE EMERGENCY LIGHTING AS REQUIRED TO MEET ALL IBC, NEC AND LOCAL CODES. GYP. BOARD CEILING REFER TO ELECTRICAL DRAWINGS. REFER TO ROOM FINISH SCHEDULE FOR CEILING HEIGHTS. 2 x 4 LED LAY-IN LIGHT FIXTURE PAINT EXPOSED CEILING STRUCTURE IN ROOMS WITH AN EXPOSED CEILING. PAINT ALL EXPOSED CEILING COMPONENTS IN EXPOSED CEILING AREAS RECESSED LED CAN LIGHT FIXTURE (IE; ELECTRICAL CONDUITS, ETC.) PENDANT LIGHT FIXTURE. VERIFY HANGING METHOD AND LENGTH LARGE PENDANT LIGHT FIXTURE. VERIFY HANGING METHOD AND LENGTH. WALL MOUNTED LED LIGHT FIXTURE CEILING MOUNTED SURGERY LIGHT FIXTURE (1 REQ. — PROVIDED BY OWNER AND INSTALLED BY EC) EMERGENCY EXIT LIGHT & HEADS (90 MIN. BATTERY BACK-UP) EMERGENCY BATTERY BACKUP LIGHT (90 MIN) EMERGENCY EXIT SIGN (90 MIN. BATTERY BACK-UP) LED WALL-PAC WITH LIGHT-SHIELD RESTROOM EXHAUST FAN 1. PROVIDE EMERGENCY ILLUMINATION MIN. AVE 1 FOOT CANDLE AND MIN. FOOT CANDLE AT PATH OF EGRESS PER IBC CODE. 2. INSTALL SUSPENDED CEILING GRID SYSTEM PER MANUFACTURER RECOMMENDATIONS FOR THE SEISMIC CATEGORY SITE CLASS "D". - POP RIVET ON ADJACENT WALL CODES.

POP RIVET ON ADJACENT WALL

**12 HANGER WIRE ANCHORED TO STRUCTURE ABOVE OR TO THE WALL ARMSTRONG OR EQUIVALENT.

**12 HANGER WIRE ANCHORED TO STRUCTURE ABOVE OR TO THE WALL ARMSTRONG FROM SPREADING APART

UNATTACHED

ARMSTRONG

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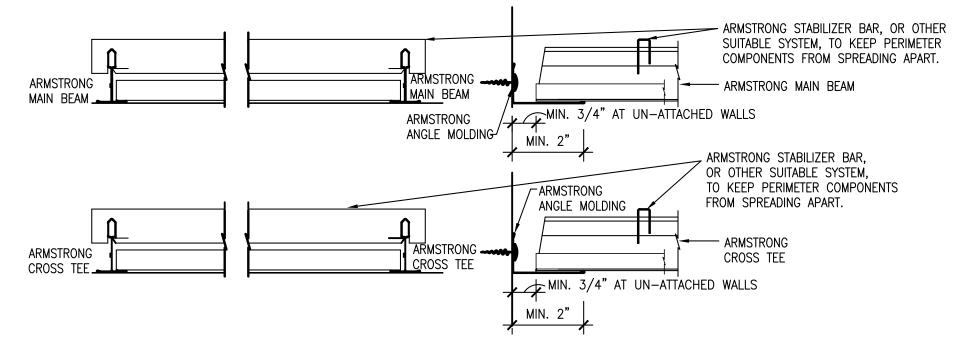
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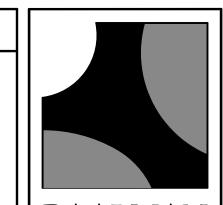
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2 TYP. SUSP. CLG. INSTALLATION DETAIL CATEGORY D



3 TYP. SUSP. CLG. INSTALLATION DETAIL CATEGORY D



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Alissouri 63011

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Ballwin, M

MICHAEL J.

BAALMAN

F. MICHAEL J.

BAALMAN

NUMBER

A 2012004035

1-16-2023

ARCHITEC

Michael J. Baalman ARCHITECT

PROJECT MANAGER: MJB DRAWN BY: MJB

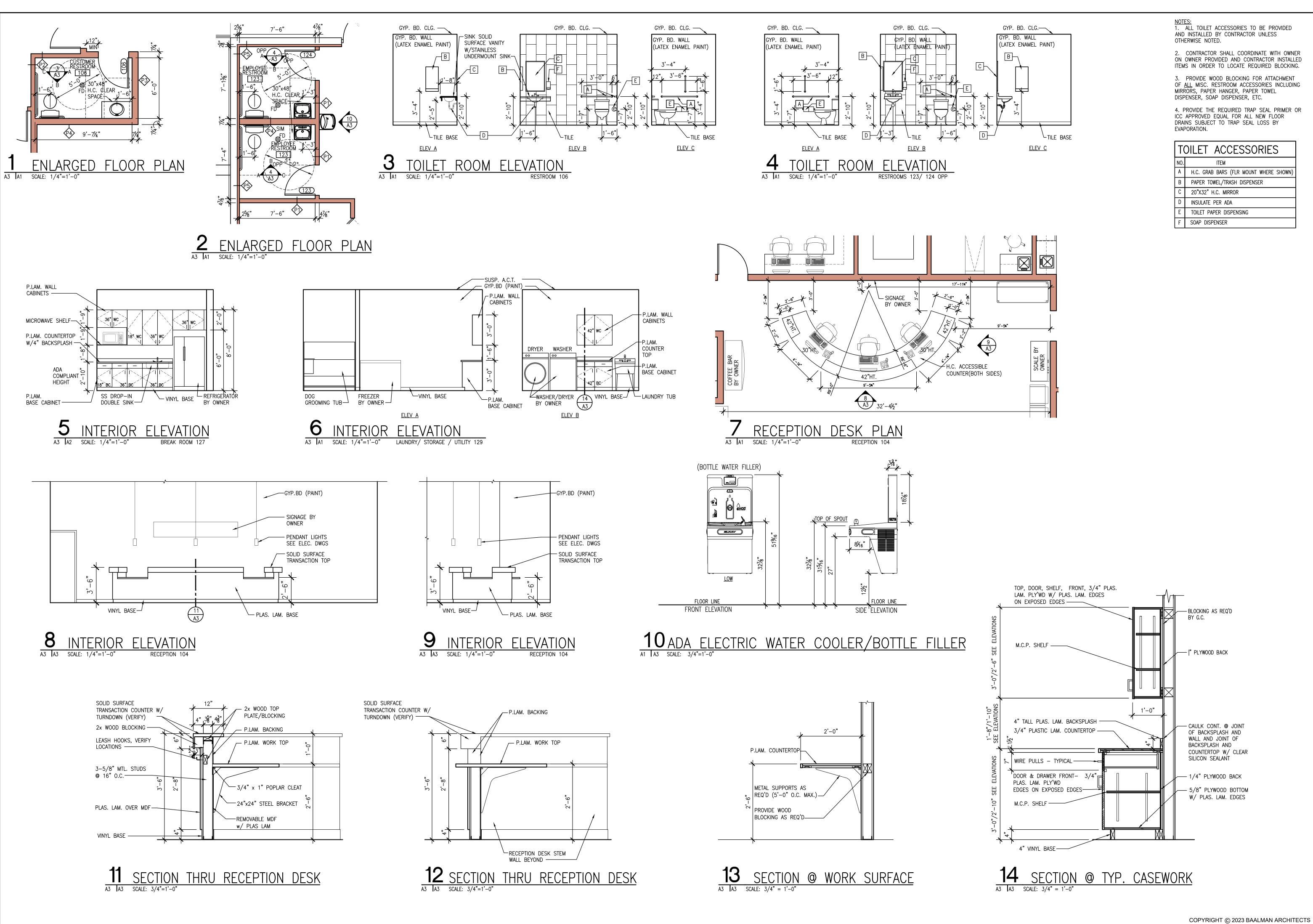
> PROJECT NUMBER 20-097 DATE January 16, 2023

A2
REFLECTED
CEILING PLAN

& DETAILS

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REFLECTED CEILING PLAN
A1 A1 SCALE: 3/16" = 1'-0"
NORTH



BAALMAN

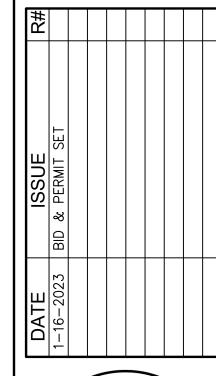
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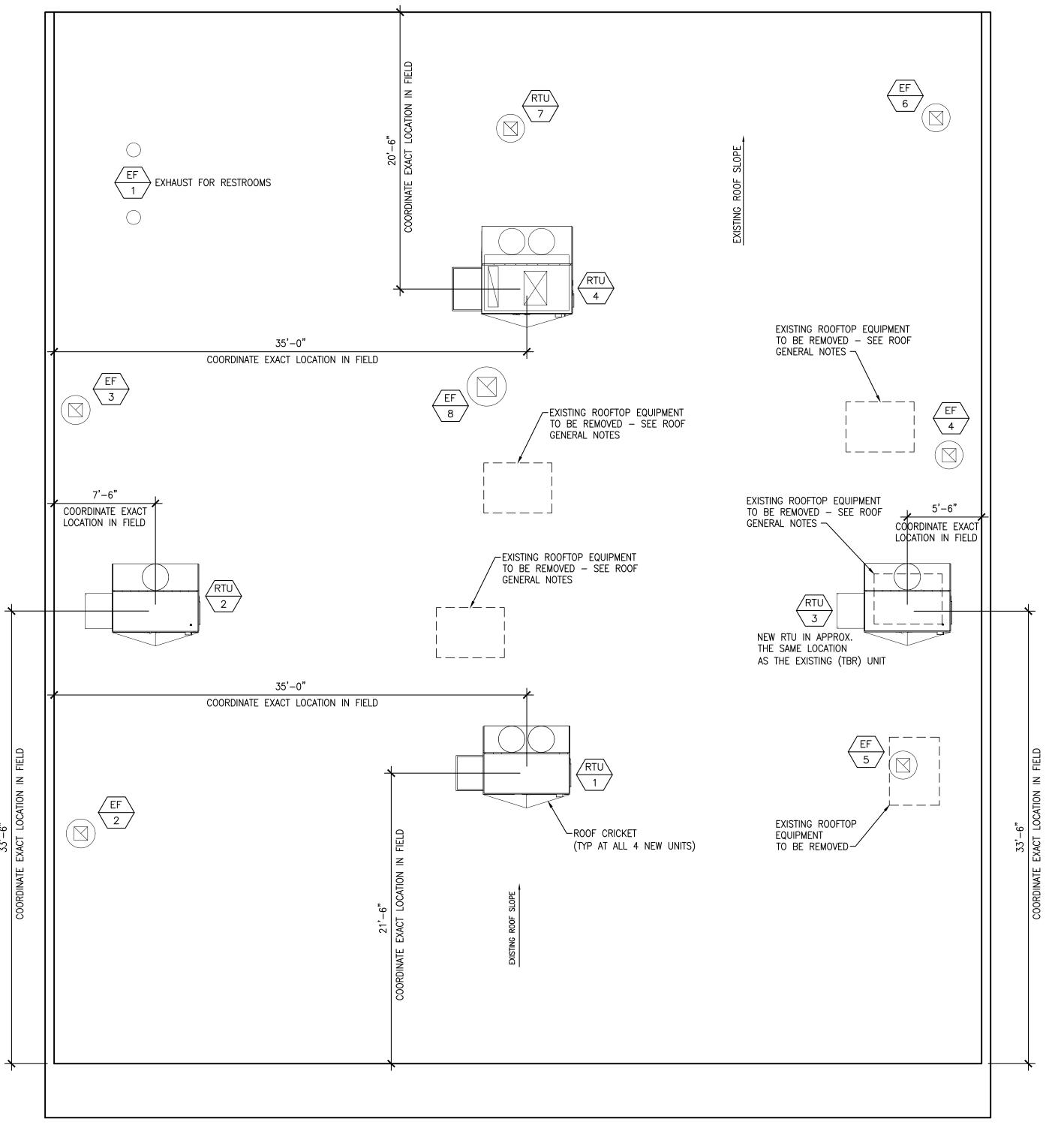


Michael J. Baalman ARCHITECT

PROJECT MANAGER: MJB DRAWN BY: MJB

PROJECT NUMBER 20-097 DATE January 16, 2023

SHEET **A3** ENLARGED FLOOR PLANS AND INTERIOR **ELEVATIONS**



ROOF PLAN

A4 IA4 SCALE: 3/16" = 1'-0"

NORTH

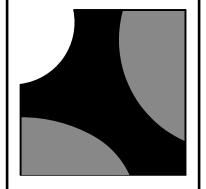
CONTRACTOR NOTE:
REMOVE ALL ABANDONED AND/OR OBSOLETE MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT AND/OR SYSTEMS MOUNTED ON THE ROOF IN THEIR ENTIRETY INCLUDING BUT NOT LIMITED TO ROOFTOP MECHANICAL UNITS, MAKEUP AIR UNITS, REMOTE CONDENSERS, EXHAUST FANS, VENTS, ETC...

ROOFING GENERAL NOTES

- 1. ALL WORK TO BE PROVIDED BY THE GENERAL CONTRACTOR AND THEIR SUB-CONTRACTORS UNLESS OTHERWISE NOTED.
- 2. ALL ROOF PENETRATIONS SHALL BE FLASHED AS REQUIRED BY ROOFING MANUFACTURER'S SPECIFICATIONS.
- 3. CONTRACTOR TO COORDINATE LOCATION AND CONFIGURATION OF ALL ROOF PENETRATIONS WITH MECHANICAL, ELECTRICAL AND PLUMBING CONTRACTORS.
- 4. SEE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL NOTES AND
- 5. REMOVE ALL ABANDONED AND/OR OBSOLETE MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT AND/OR SYSTEMS IN THEIR ENTIRETY INCLUDING BUT NOT LIMITED TO REMOTE CONDENSERS, EXHAUST FANS, VENTS, ETC... PROVIDE CURB CAPS WHERE ROOFTOP UNITS ARE REMOVED, CAP EXISTING GAS PIPING AND TERMINATE EXISTING ELECTRICAL AND
- 6. PAINT ALL GAS PIPING WITH DTM ACRYLIC SAFETY YELLOW PAINT.
- 7. VERIFY LOCATIONS OF ALL ROOF PENETRATIONS WITH MECHANICAL AND PLUMBING DRAWINGS.
- 8. ALL EQUIPMENT ON ROOF TO BE MOUNTED ON CURBS.
- 9. ALL VENT LOCATIONS SHOULD BE VERIFIED WITH MECHANICAL AND PLUMBING DRAWINGS.
- 10. INSTALLATION OF ALL ROOFING COMPONENTS, ACCESSORIES, ETC... SHALL BE INSTALLED IN A MANNER WHICH PROVIDES POSITIVE DRAINAGE TO THE EXISTING GUTTER AND DOWNSPOUTS NO WATER PONDING ALLOWED.
- 11. SHEET METAL CONTRACTOR SHALL PROVIDE DETAILED SHOP DRAWING OF PREFINISHED METAL COPING AND FLASHINGS FOR REVIEW BY THE ARCHITECT PRIOR TO FABRICATION AND
- 12. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS, CALCULATE ALL QUANTITIES AND SUITABILITY.
- 13. ELECTRICAL/HVAC DISCONNECTIONS & RECONNECTIONS SHALL BE PERFORMED BY LICENSED ELECTRICAL/HVAC CONTRACTORS.
- 14. CONTRACTOR SHALL CONFIRM ALL GIVEN INFORMATION AND ADVISE THE OWNER, PRIOR TO BID, OF ANY CONFLICTS THAT WILL AFFECT THEIR PROPOSAL.

BIDDING NOTES

- 1. EXISTING ROOF TO REMAIN IN PLACE. INSPECT THE ENTIRE ROOFING SYSTEM FOR ANY DEFECTS, WORN OR TORN AREAS, IMPERFECTIONS, ETC. REPORT EXISTING CONDITIONS TO OWNER AND ARCHITECT. PROVIDE A SEPARATE PRICE TO MAKE ANY AND ALL REPAIRS NECESSARY TO PROVIDE A COMPLETE WATERTIGHT WARRANTED ROOF.
- PROVIDE A \$2,500 ALLOWANCE PER EACH NEW ROOFTOP HVAC UNIT FOR THE NEW ROOF OPENINGS AND STRUCTURAL MODIFICATIONS TO ROOF JOISTS REQUIRED. THE ALLOWANCE IS TO INCLUDE ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND SUPERVISION NECESSARY TO PREPARE THE NEW ROOF OPENING NECESSARY FOR INSTALLING THE NEW ROOFTOP HVAC UNITS. THE INSTALLATION OF THE NEW ROOFTOP HVAC UNITS INCLUDING CURBS IS TO BE PROVIDED IN THE BASE BID PROJECT SCOPE.



BAALMAN ARCHITECTS

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Michael J. Baalman ARCHITECT License#: A-2012004035 Certificate of Authority:

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MECHANICAL, PLUMBING &
ELECTRICAL SYSTEMS

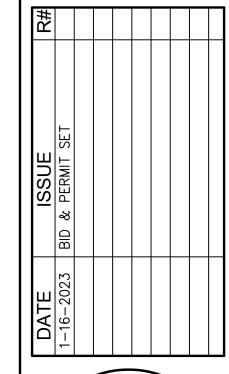
MECHANICAL, PLUMBING &
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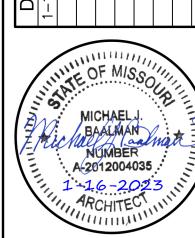
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Suite 200
St. Louis, Missouri 63021
Contact: David Pollmann, P.E., C.B.O.
Direct: 314-965-8032
Email: designstl@outlook.com

g Tenant Renovation for:

Treft Station

Terinary Clinic
13844 Manchester Road
Missouri 63011



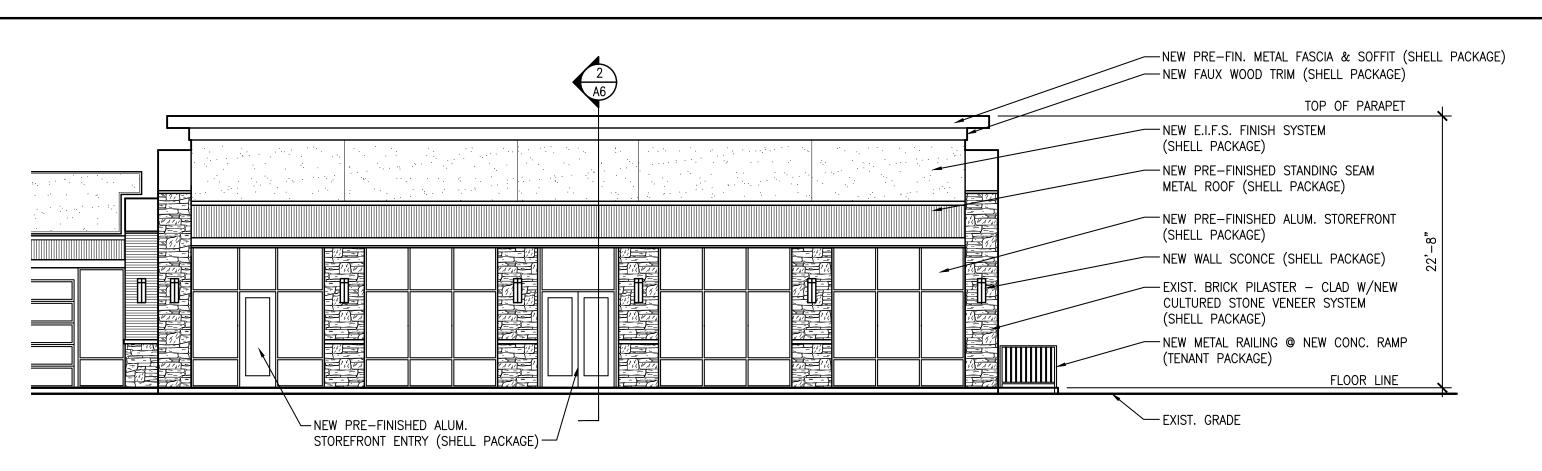


Michael J. Baalman ARCHITECT

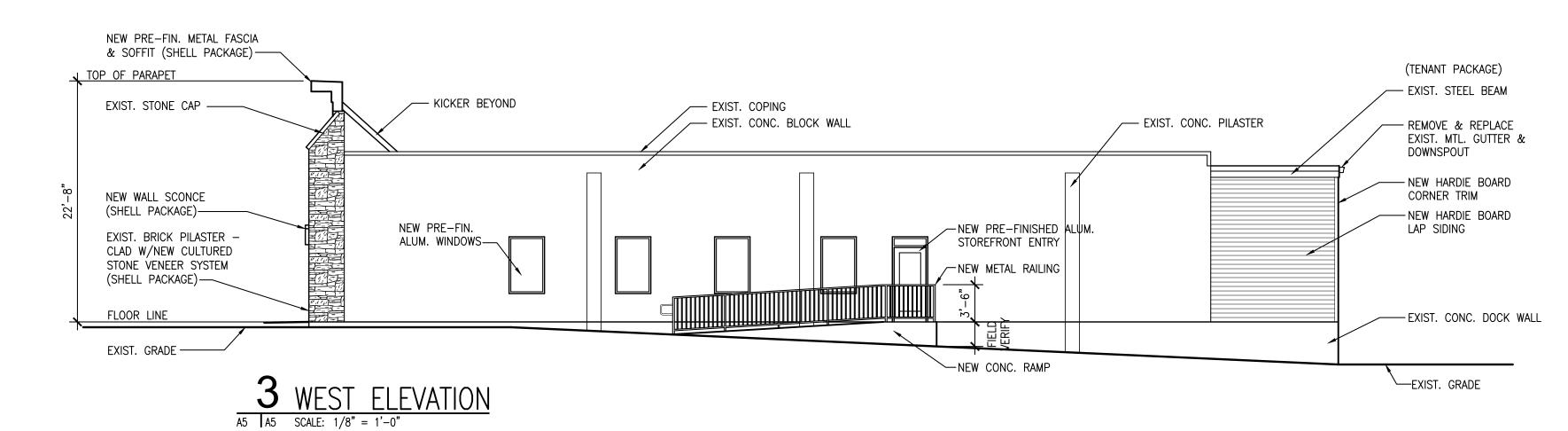
PROJECT MANAGER: MJB DRAWN BY: MJB

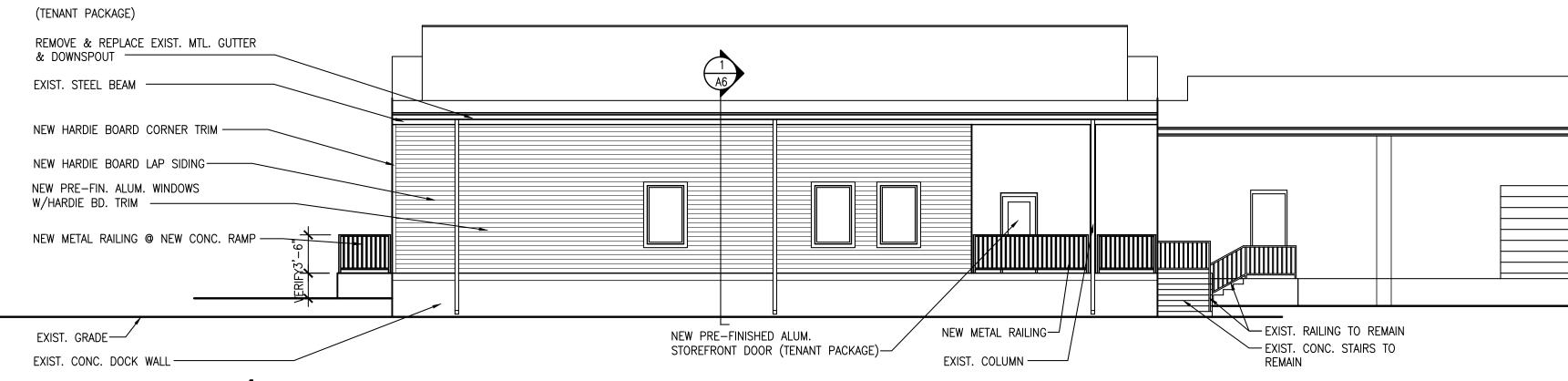
> PROJECT NUMBER 20-097 DATE January 16, 2023

> > A4
> > ROOF PLAN
> > AND NOTES

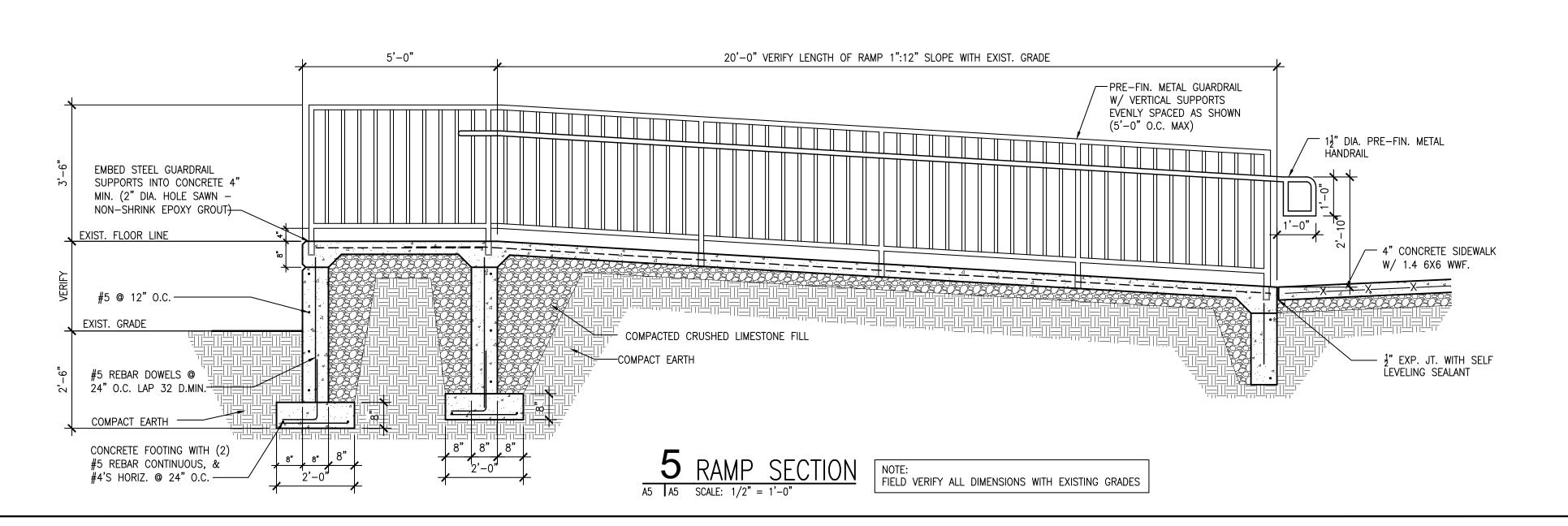


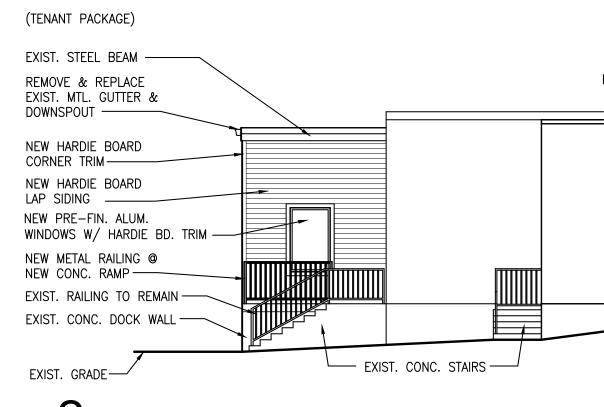
PARTIAL NORTH ELEVATION A5 A5 SCALE: 1/8" = 1'-0"





4 PARTIAL SOUTH ELEVATION A5 TA5 SCALE: 1/8" = 1'-0"





2 PARTIAL EAST ELEVATION A5 A5 SCALE: 1/8" = 1'-0"

BAALMAN

ARCHITECTS

#2 Daniel Drive

O'Fallon, MO 63366

ph: 636.294.9811 Michael J. Baalman ARCHITECT License#: A-2012004035 Certificate of Authority:

2014003655 MECHANICAL, PLUMBING & ELECTRICAL SYSTEMS DESIGN & CONSTRUCTION 13610 Barrett Office Drive Suite 200 St. Louis, Missouri 63021

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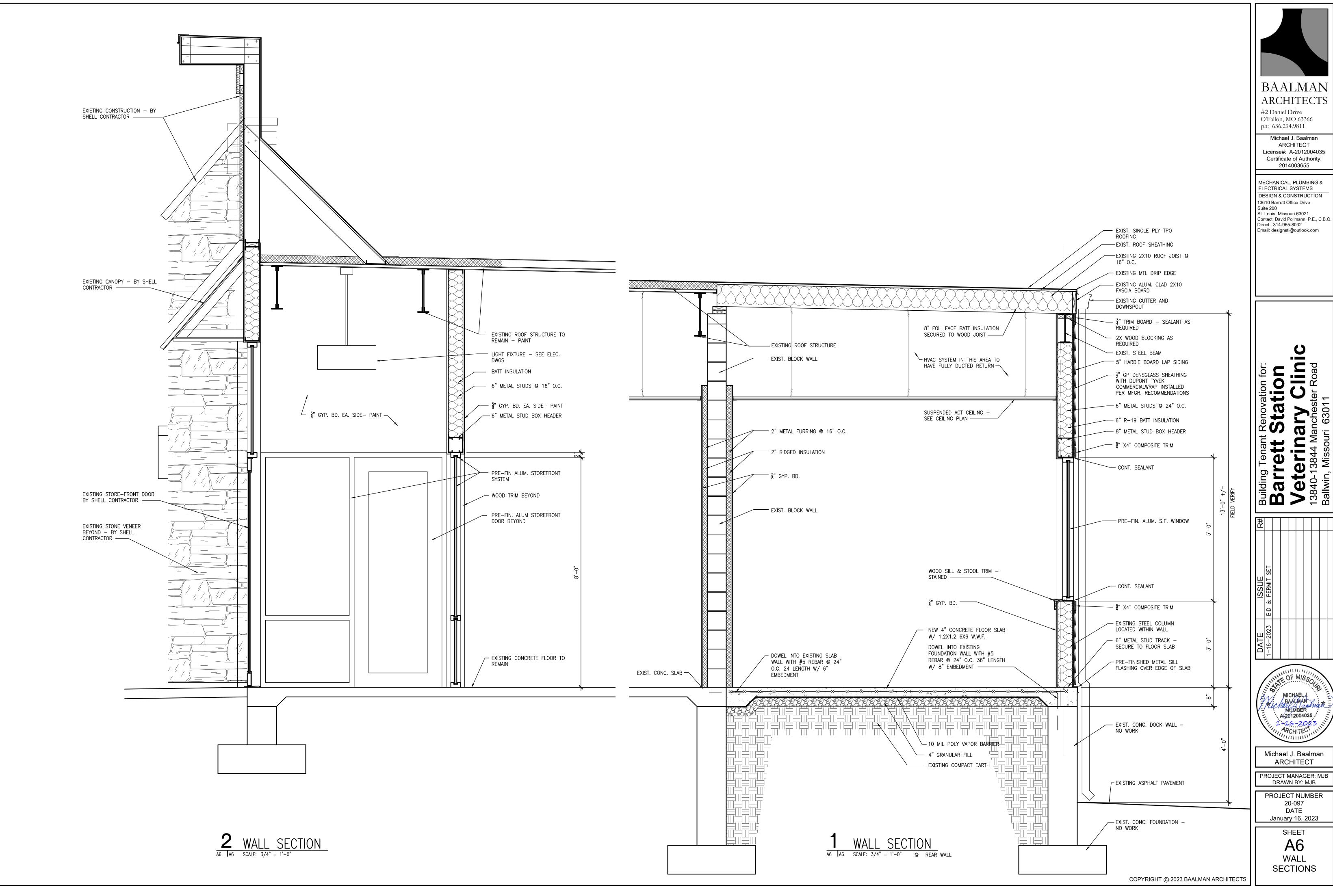


Michael J. Baalman ARCHITECT

PROJECT MANAGER: MJB DRAWN BY: MJB

PROJECT NUMBER 20-097 DATE January 16, 2023

SHEET **EXTERIOR ELEVATIONS** AND NEW RAMP





BAALMAN ARCHITECTS

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Foad Road 4



Michael J. Baalman ARCHITECT

PROJECT MANAGER: MJB DRAWN BY: MJB

PROJECT NUMBER 20-097 DATE January 16, 2023

SHEET A6 WALL SECTIONS

ООМ					W	ALLS		C	EILING	DECO	RATING	
	OOM NAME	FLOOR	BASE	NORTH	EAST	SOUTH	WEST	MAT'L	HEIGHT	WALLS	CLG	NOTES:
101 AIR	R-LOCK	LVP		GLAZING	GLAZING	GLAZING	GLAZING	GB	9'-0"	Р	Р	
102 DO	G WAITING	LVP	VINYL	GLAZING	GB	GB	GB	EXPOSED	VARIES	Р	Р	
103 LOI	BBY	LVP	VINYL		GB	GB	GB	EXPOSED	VARIES	Р	Р	
104 RE	CEPTION	LVP	VINYL	GLAZING	GB	GB	GB	EXPOSED	VARIES	Р	Р	
05 CA	T WAITING	LVP	VINYL	GLAZING	GB	GB	GLAZING	EXPOSED	VARIES	Р	Р	
06 CU	STOMER RESTROOM	PT	PT	GB	GB	GB	GB	GB	9'-0"	Р	Р	
07 WO)RK	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	Р		
08 WO)RK	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	Р		
09 EX	AM ROOM #9	LVP	VINYL	GLAZING	GB	GB	GB	ACT	12'-0"	Р		
10 EX/	AM ROOM #8	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	Р		
11 EX/	AM ROOM #7	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	Р		
12 CAI	LL CENTER	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	Р		
13 PH	IARMACY	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	Р		
	AM ROOM #1	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	Р		
	CTORS	LVP	VINYL	GB		GLAZING/GE		ACT	10'-0"	Р		
16 LAE		LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
	OCEDURE	EP	INTEGRAL	GB	GB	GB	GB	ACT	10'-0"	Р		
	T WARD	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	Р		
	RGERY	EP	INTEGRAL	GB	GB		GLAZING/GB		10'-0"	Р		
	OCEDURE	EP	INTEGRAL	GB	GB	GB	GB	ACT	10'-0"	P		
	NTAL	LVP		GLAZING/GB		GB	GB	ACT	10'-0"	P		
	AGING	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
	IPLOYEE RESTROOM	PT	PT	GB	GB	GB	GB	GB	9'-0"	P	P	
	IPLOYEE RESTROOM	PT	PT	GB	GB	GB	GB	GB	9'-0"	P	P	
	C-PREP	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P	'	
126 HAI		LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	P		
	EAK ROOM	LVP		GLAZING/GB		GB	GB	ACT	10'-0"	P		
	. PLETZ	LVP	VINYL	GB GB	GB	GB	GB	ACT	10'-0"	P		
	UNDRY/STORAGE/UTILITY	LVP	VINTL	GB	GB	GB	GB	ACT	10'-0"	P		
	DLATION	EP	INTEGRAL	GB	GB	GB	GB	ACT	10'-0"	P		
	J / WARD	LVP	VINYL		GLAZING/GB		GB	ACT	10'-0"	P		
	AGING	LVP	VINTL	GB	GB	GB	GB	ACT	10'-0"	P		
	NITOR			GB	GB	GB	GB		10'-0"	P		
	AM ROOM #6	LVP	VINYL	GB				ACT	10'-0"	P		
	AM ROOM #5	LVP	VINYL		GB	GB	GB	ACT				
		LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	Р		
36 HAI		LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	Р		
	AM ROOM #4	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	Р		
	AM ROOM #3	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	Р		
	AM ROOM #2	LVP	VINYL	GB	GB	GB	GB	ACT	10'-0"	Р		
40 NIC	COLE'S OFFICE	LVP	VINYL	GB	GB	GB	GB	ACT	12'-0"	Р		

FINISH SCHEDULE

LVP – LUXURY VINYL PLANK \$6.00 PER SQ. FT. MATERIAL ONLY

PT 1 - PORCELAIN TILE \$8.00 PER SQ. FT. MATERIAL ONLY

VB - VINYL BASE JOHNSONITE/TARKETT 4" VINYL BASE COLOR: TBD

SS - SOLID SURFACE PRODUCT/MANUFACTURER: BASIS OF DESIGN: CORIAN EQUAL SUBSTITUTIONS ARE ALLOWED. COLOR/PATTERN: TO BE SELECTED

PL - PLASTIC LAMINATES CONTRACTOR SHALL INCLUDE FOR TWO PLASTIC LAMINATE COLORS FOR ALL CASEWORK.

COLOR No.1 FOR ALL COUNTER TOPS AND WORK SURFACES

COLOR No.2 FOR ALL CABINET FRONTS, DOORS, DRAWERS ETC. U.O.N.

GYP. BD.: 1 COAT SHERWIN WILLIAMS PROMAR 200 WATER BASED PRIMER.

2 COATS SHERWIN WILLIAMS PROMAR 200 INTERIOR LATEX EG-SHELL. FINAL COAT TO BE SPRAYED AND BACKROLLED.

PROJECT TO CONSIST OF 3 COLORS TO BE SELECTED BY THE OWNER. (1 BASE (FIELD) COLOR AND 2 ACCENT COLORS)

HM DOOR FRAMES: TWO COATS SHERWIN WILLIAMS PRO CLASSIC INTERIOR WATER BASED ACRYLIC-ALKYD ENAMEL IN SEMI-GLOSS - PRIME AS REQUIRED

SOLID CORE WOOD DOORS: PRE-FINISHED PLAIN SELECT WHITE BIRCH STAIN COLOR TO BE SELECTED.

EQUAL SUBSTITUTIONS ARE ALLOWED.

8'-0"

PRE-FINISHED ALUMINUM STOREFRONT ENTRY

DARK BRONZE FRAMES

CLEAR INSULATED GLAZING

DOOR SCHEDULE DOOR FRAME FRAME HARDWARE REMARKS TYPE MAT. EXIST ALUM SF ALUM SF EXIST 101A EXISTING ALUMINUM STOREFRONT DOOR 3'-0" x 8'-0' x 1 3/4" D1 ALUM SF ALUM SF ALUMINUM STOREFRONT DOOR D1 ALUM SF ALUM SF ALUMINUM STOREFRONT DOOR 3'-0" x 8'-0' x 1 3/4" 3'-0" x 7'-0' x 1 3/4" WOOD H.M. 3'-0" x 7'-0' x 1 3/4" WOOD H.M. F1 109A 3'-0" x 7'-0' x 1 3/4" WOOD EXIST ALUM SF ALUM SF EXIST 109B ALUMINUM STOREFRONT DOOR EXISTING 3'-0" x 7'-0' x 1 3/4" WOOD 3'-0" x 7'-0' x 1 3/4" WOOD F1 3'-0" x 7'-0' x 1 3/4" WOOD F1 3'-0" x 7'-0' x 1 3/4" WOOD F1 WOOD 3'-0" x 7'-0' x 1 3/4" F1 WOOD H.M. 3'-0" x 7'-0' x 1 3/4" F1 3'-0" x 7'-0' x 1 3/4" WOOD F1 3'-0" x 7'-0' x 1 3/4" WOOD F1 WOOD 3'-0" x 7'-0' x 1 3/4" 3-0" x 7'-0' x 1 3/4" WOOD H.M. WOOD H.M. 3'-0" x 7'-0' x 1 3/4" F1 F.G. | SEE MFR $3'-6" \times 7'-0' \times 1 3/4"$ DUAL ACTION DOOR 3'-0" x 7'-0' x 1 3/4" WOOD H.M. F.G. | SEE MFR 3'-6" x 7'-0' x 1 3/4" DUAL ACTION DOOR F.G. | SEE MFR 3'-6" x 7'-0' x 1 3/4" DUAL ACTION DOOR WOOD H.M. 3'-0" x 7'-0' x 1 3/4" 3'-0" x 7'-0' x 1 3/4" WOOD WOOD H.M. 3'-0" x 7'-0' x 1 3/4" D1 ALUM SF ALUM SF 3'-0" x 7'-0' x 1 3/4" ALUMINUM STOREFRONT DOOR WOOD H.M. 3'-0" x 7'-0' x 1 3/4" WOOD 3'-0" x 7'-0' x 1 3/4" F1 3'-0" x 7'-0' x 1 3/4" WOOD WOOD 3'-0" x 7'-0' x 1 3/4" F1 D2 WOOD 3'-0" x 7'-0' x 1 3/4" F1 WOOD 3'-0" x 7'-0' x 1 3/4" POCKET DOOR D2 WOOD 3'-0" x 7'-0' x 1 3/4" H.M. D5 ALUM SF ALUM SF 134B 3'-0" x 7'-0' x 1 3/4" ALUMINUM STOREFRONT DOOR & TRANSOM WOOD 3'-0" x 7'-0' x 1 3/4" WOOD 3'-0" x 7'-0' x 1 3/4" F1 H.M. D2 WOOD 3'-0" x 7'-0' x 1 3/4" F1 3'-0" x 7'-0' x 1 3/4" WOOD F1 H.M. D2 WOOD H.M. 3'-0" x 7'-0' x 1 3/4" F1

HARDWARE SCHEDULE

- EXTERIOR HARDWARE: ALL HARDWARE BY STOREFRONT MANUFACTURER
- 2 INTERIOR PASSAGE SET: 1 1/2 PR. H.D. HINGES, PASSAGE SET LATCHING, DOOR CLOSER INTERIOR STOREROOM SET: 1 1/2 PR. H.D. HINGES, LOCK SET
- 4 INTERIOR OFFICE SET: 1 1/2 PR. H.D. HINGES, LOCK SET

FINISHED FLOOR

HOLLOW METAL FRAME

(B4)

RESTROOM SET: 1 1/2 PR. H.D. HINGES, LOCKSET, KICKPLATE

3'-0"

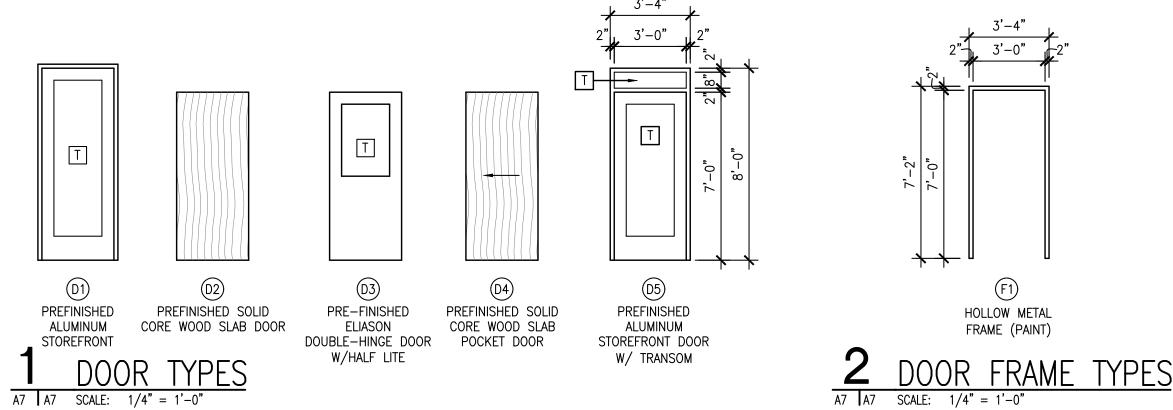
PRE-FINISHED ALUMINUM STOREFRONT ENTRY

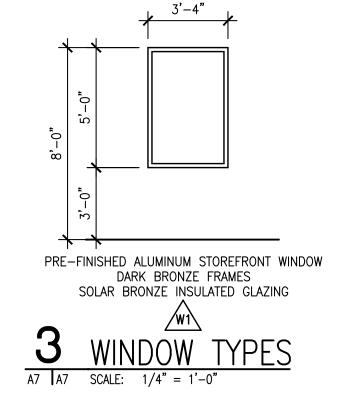
DARK BRONZE FRAMES

CLEAR INSULATED GLAZING

(B3)

- 1. ALL LATCHING INTERIOR DOORS TO HAVE LEVER TYPE ADA APPROVED ACCEPTABLE HARDWARE UNLESS OTHERWISE NOTED
- 2. ALL HANDICAPPED ACCESSIBLE ROOM DOORS ARE REQUIRED TO HAVE A MINIMUM OF 12" CLEARANCE ON PUSH SIDE AND 18" CLEARANCE ON PULL SIDE.
- 3. VERIFY ALL HARDWARE WITH OWNER AND HARDWARE SUPPLIER PRIOR TO INSTALLATION. ALL HARDWARE IS TO BE IN CONFORMANCE WITH IBC AND LOCAL FIRE DEPARTMENT
- 4. ALL EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT PER THE IBC.
- 5. CONTRACTOR TO INSPECT EXISTING DOORS THAT ARE TO REMAIN TO ASSURE THEY ARE IN GOOD CONDITION AND PROPER WORKING ORDER. EXISTING DOORS ARE TO BE REPAIRED OR RESTORED TO LIKE NEW CONDITION OR REPLACED AS NECESSARY.





STOREFRONT

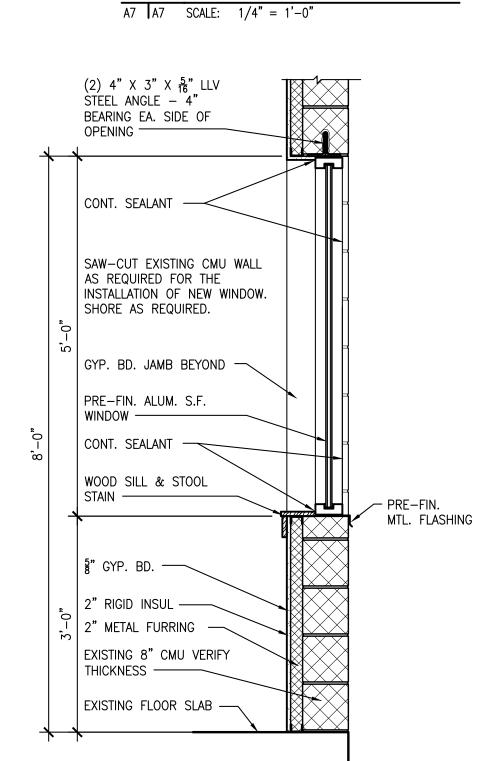
1. ALL ALUMINUM STOREFRONT FRAMES & DOORS TO BE DARK BRONZE ANODIZED FINISH.

2. VERIFY ALL OPENING WIDTHS & HEIGHTS FOR STOREFRONT UNITS PRIOR TO FABRICATION.

GLASS TYPES

PROVIDE TEMPERED SAFETY GLAZING AS REQUIRED TO MEET IBC.

T TEMPERED GLASS





ph: 636.294.9811 Michael J. Baalman ARCHITECT License#: A-2012004035 Certificate of Authority:

2014003655

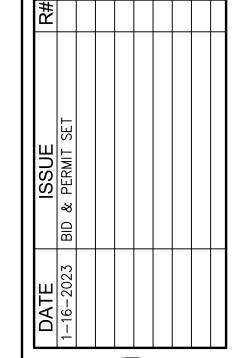
#2 Daniel Drive O'Fallon, MO 63366

MECHANICAL, PLUMBING & ELECTRICAL SYSTEMS **DESIGN & CONSTRUCTION** 13610 Barrett Office Drive Suite 200 St. Louis, Missouri 63021 Contact: David Pollmann, P.E., C.B.O Direct: 314-965-8032

Email: designstl@outlook.com

Road

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Bal
Ve1
13840
Ballwii



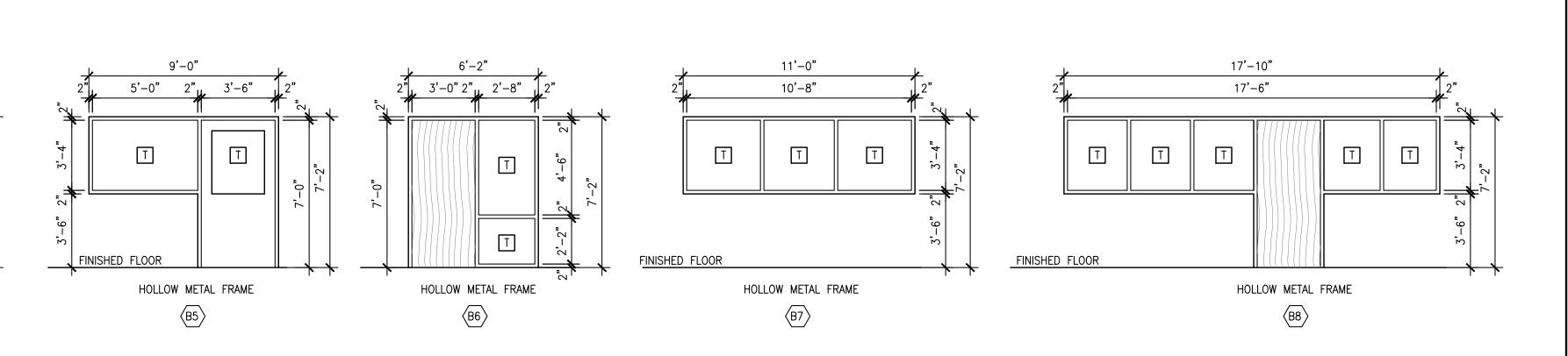


Michael J. Baalman ARCHITECT

PROJECT MANAGER: MJB DRAWN BY: MJB

PROJECT NUMBER 20-097 DATE January 16, 2023

SHEET **A7** DOORS, **BORROWLITE TYPES** & SCHEDULES



A7 A7 SCALE: 1/4" = 1'-0"

PRE-FINISHED ALUMINUM STOREFRONT ENTRY

DARK BRONZE FRAMES

CLEAR INSULATED GLAZING

6'-6"

3**'**-0"

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GENERAL NOTES:

- A. MATERIALS, EQUIPMENT, AND SYSTEMS SHALL MEET ALL PERTINENT REQUIREMENTS OF THE UNDERWRITERS LABORATORY (UL), THE LOCAL MECHANICAL CODE, AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR-CONDITIONING ENGINEERS (ASHRAE), SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA), AMERICAN GAS ASSOCIATION (AGA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), AND OTHER NATIONALLY RECOGNIZED AGENCIES AS WELL AS THE 2018 IMC OR LATEST ADOPTED CODE
- B. BIDDERS SHALL BE LICENSED CONTRACTORS IN ACCORDANCE WITH LOCAL AND STATE LAWS.
- C. BIDDERS SHALL THOROUGHLY ACQUAINT THEMSELVES WITH THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THEY SHALL EXAMINE ALL SERVICES. EQUIPMENT, SURFACES, ETC., WHICH THIS WORK IS IN ANY WAY DEPENDENT UPON, AND BRING ANY DISCREPANCIES DETERMINED OR OMISSIONS FOUND IN THE DRAWINGS TO THE OWNER'S ATTENTION BEFORE SUBMITTING BID. VERIFY ALL DIMENSIONS BY FIELD MEASUREMENTS.
- D. THE SYSTEMS SHOWN ON THE DRAWINGS SHALL BE PROVIDED TO SERVE ALL FIXTURES, EQUIPMENT, AND AREAS WITHIN THE CONTRACT LIMIT LINES AS SET FORTH BY THE ARCHITECTURAL SOLUTION FOR THE PROJECT. THE BIDDING AND CONTRACT REQUIREMENTS, ALL REQUIREMENTS, AND GENERAL PROVISIONS SHALL APPLY TO THIS SECTION. SYSTEMS SHALL INCLUDE ALL EQUIPMENT. APPURTENANCES, SAFETY DEVICES, AND CONTROLS NECESSARY FOR THE INTENDED SERVICE.
- E. ALL PERMITS AND FEES REQUIRED FOR THIS WORK SHALL BE SECURED AND PAID FOR BY THE MECHANICAL CONTRACTOR AND INCLUDED IN BID PRICE.
- F. ANYTHING DRAWN OR SPECIFIED ON THESE PLANS SHALL NOT BE CONSTRUED TO CONFLICT WITH ANY LOCAL, MUNICIPAL OR STATE LAW, REGULATION OR ORDINANCE WHICH GOVERNS THE INSTALLATION OF ANY MECHANICAL OR RELATED WORK. WHERE ANY PORTION OF THE SYSTEMS IS NOT INSTALLED AS IN ACCORDANCE WITH APPLICABLE LAWS, ORDINANCES, REGULATIONS AND CODES, THIS CONTRACTOR SHALL MAKE ALL CHANGES REQUIRED BY THE ENFORCING AUTHORITIES IN A MANNER APPROVED BY THE OWNER AND WITHOUT ADDITIONAL COST TO THE OWNER.
- G. WHERE JOB CONDITIONS REQUIRE CHANGES FROM THE CONTRACT DOCUMENTS THAT DO NOT CHANGE THE SCOPE OF INSTALLATION OR NATURE OF WORK REQUIRED, THE CONTRACTOR SHALL MAKE SUCH CHANGES WITHOUT ADDITIONAL COST TO THE OWNER. NO OTHER CHANGES MAY BE MADE WITHOUT WRITTEN PERMISSION OF THE
- H. ALL EQUIPMENT SHALL BE NEW AND UNUSED, UNLESS NOTED OTHERWISE, ON. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT CONFORMANCE TO MANUFACTURER'S RECOMMENDATIONS, EXCEPT WHERE THESE SPECIFICATIONS REQUIRE A HIGHER QUALITY INSTALLATION THAN RECOMMENDED BY MANUFACTURER.
- ALL INSTALLED SYSTEMS, DEVICES AND RELATED ITEMS SHALL BE TESTED IN PLACE ON SITE. REPLACE ANY AND ALL DEFECTIVE DEVICES, ITEMS OR SYSTEMS AT CONTRACTOR'S OWN EXPENSE BEFORE COMPLETION OF THE PROJECT.
- J. CONTRACTOR SHALL GUARANTEE ALL WORK FOR WHICH MATERIALS ARE FURNISHED, FABRICATED OR FIELD ERECTED, ALL FACTORY ASSEMBLED EQUIPMENT FOR WHICH NO SPECIFIC MANUFACTURER'S GUARANTEE IS FURNISHED, AND ALL WORK IN CONNECTION WITH INSTALLING MANUFACTURER'S GUARANTEED EQUIPMENT. THIS CONTRACTOR'S GUARANTEE SHALL EXIST FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL OWNER ACCEPTANCE OF THE WORK AND SHALL APPLY TO DEFECTS IN MATERIAL AND TO DEFECTIVE WORKMANSHIP OF ANY KIND. THIS INCLUDES ALL OWNER FURNISHED EQUIPMENT.
- K. CONTRACTOR SHALL REPLACE AT CONTRACTOR'S OWN EXPENSE ANY CONTRACTOR SUPPLIED MATERIALS, EQUIPMENT, AND RELATED ITEMS THAT FAIL OR ARE FOUND TO BE DEFECTIVE WITHIN THE GUARANTEE PERIOD.
- ARRANGE FOR CHASES, SLOTS, AND OPENINGS IN OTHER BUILDING COMPONENTS TO ALLOW FOR MECHANICAL INSTALLATIONS. COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SLEEVES TO BE SET IN POURED IN PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS, AS THEY ARE CONSTRUCTED. COORDINATE THE CUTTING AND PATCHING OF BUILDING COMPONENTS TO ACCOMMODATE INSTALLATION OF MECHANICAL EQUIPMENT AND MATERIALS.
- M. SEQUENCE, COORDINATE, AND INTEGRATE INSTALLATIONS OF MECHANICAL MATERIALS AND EQUIPMENT FOR EFFICIENT FLOW OF THE WORK. GIVE PARTICULAR ATTENTION TO LARGE EQUIPMENT REQUIRING POSITIONING PRIOR TO CLOSING-IN THE BUILDING.
- N. COORDINATE MECHANICAL EQUIPMENT AND MATERIALS INSTALLATION WITH OTHER BUILDING COMPONENTS. COORDINATE THE INSTALLATION OF MECHANICAL MATERIALS AND EQUIPMENT ABOVE CEILINGS WITH SUSPENSION SYSTEM, LIGHT FIXTURES, AND OTHER INSTALLATIONS.
- O. EQUIPMENT LOCATIONS, ROOF AND WALL OPENINGS ARE APPROXIMATE VERIFY SIZE AND COORDINATE WITH G.C., EQUIPMENT SUPPLIER, AND OWNER. PROVIDE STEEL FRAMING AROUND ROOF OPENING(S) WHERE REQUIRED AND AROUND WALL OPENING(S) WHERE REQUIRED.
- P. DO NOT ENDANGER OR DAMAGE INSTALLED WORK THROUGH THE PROCESSES OF CUTTING AND PATCHING. ARRANGE FOR REPAIRS REQUIRED TO RESTORE OTHER WORK, BECAUSE OF DAMAGE CAUSED AS A RESULT OF MECHANICAL INSTALLATIONS.
- Q. WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, INSTALL MECHANICAL SERVICES AND OVERHEAD EQUIPMENT TO PROVIDE THE MAXIMUM HEADROOM POSSIBLE.
- R. INSTALL MECHANICAL EQUIPMENT TO FACILITATE MAINTENANCE AND REPAIR OR REPLACEMENT OF EQUIPMENT COMPONENTS. AS MUCH AS PRACTICAL, CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM OF INTERFERENCE WITH OTHER INSTALLATIONS.
- S. FOR ALL AIR SYSTEMS ADJUST FANS, SUPPLY REGISTER DAMPERS, AND DUCT
- VOLUME DAMPERS AS NEEDED TO BALANCE ALL DUCTWORK TO MATCH CFM LISTED. T. THE ENTIRE INSTALLATION, INCLUDING THE GAUGES OF DUCTWORK, SHALL BE IN STRICT COMPLIANCE WITH SMACNA STANDARDS, EXCEPT WHERE THESE SPECIFICATIONS REQUIRE A STRICTER INSTALLATION STANDARD. SYSTEM IS 1" PRESSURE CLASS. ALL DUCTS SHALL BE SEALED TO MEET SMACNA CLASS C REQUIREMENTS MINIMUM. SEALANT SHALL COMPLY WITH U.L. STANDARD 181.
- U. ALL SQUARE THROAT, 90 DEGREE MITERED DUCT ELBOWS SHALL HAVE DOUBLE WALLED TURNING VANES AT 2" SPACING THAT ARE EXTENDED IN THE DIRECTION OF AIRFLOW PER SMACNA. ALL DUCT TRANSITIONS SHALL BE SMOOTH (30 DEGREE TAPER MAXIMUM), NOT ABRUPT.
- V. ALL INTERIOR SUPPLY AND RETURN DUCTS SHALL BE INSULATED WITH AT LEAST 1" FIBERGLASS DUCT INSULATION R-6 MIN (EXCEPT WHERE LOCATED IN CONDITIONED SPACE). ALL DUCT COVERINGS, LININGS, TAPE, MASTICS AND VIBRATION ISOLATION CONNECTORS SHALL HAVE FIRE / SMOKE RATINGS
- LESS THAN 25/50. ALL SHALL CONFORM TO IMC, EXCEPT WHERE IN CONDITIONED SPACE W. ALL DIFFUSERS AND GRILLES SHALL BE FACTORY FINISHED WHITE, ALL DIFFUSERS TO BE FIELD INSULATED.
- X. ALL MECHANICAL EQUIPMENT SHALL HAVE VIBRATION ISOLATORS, AS WELL AS FLEXIBLE DUCT CONNECTORS.
- Y. ALL DUCT DIMENSIONS LISTED ON PLANS ARE INSIDE CLEAR DIMENSIONS.
- Z. FLEXIBLE DUCTS SHALL NOT EXCEED 14' IN LENGTH, NOR SHALL THEY BE INSTALLED WHERE THEY MUST BE FLATTENED. FLEXIBLE DUCTS MUST BE FASTENED PER SMACNA STANDARDS. IF JOB CONDITIONS DO NOT PERMIT PROPER INSTALLATION OF FLEXIBLE DUCT, ROUND GALVANIZED STEEL DUCT WITH EQUAL FREE AREA SHALL BE USED INSTEAD. WRAP WITH 1" FIBERGLASS INSULATION R-6 MIN. FLEXIBLE DUCTS AND CONNECTORS SHALL BE TESTED IN ACCORDANCE WITH UL 181.
- AA. PROVIDE VOLUME DAMPERS AT EACH BRANCH OFF FROM A TRUNK DUCT TO A SUPPLY DIFFUSER.
- BB. ALL AIR HANDLERS, CONDENSERS, CONTROL DEVICES AND OTHER MECHANICAL APPARATUS SHALL BE CLEARLY MARKED FOR EASY IDENTIFICATION AND SAFETY. USE BLACK PLASTIC KELITE NAME PLATE ENGRAVED WITH WHITE LETTERS 1/4" HIGH. PUNCHED TAPE IS MARKED IN RED INK.
- CC. MECHANICAL CONTRACTOR SHALL FURNISH RECORD SET OF DRAWINGS WITH ANY DEVIATIONS TO ARCHITECT.
- DD. CONTRACTOR TO MAINTAIN SERVICE CLEARANCE AROUND ALL HVAC EQUIPMENT PER MANUFACTURERS INSTALLATION GUIDELINES.
- EE. MECHANICAL CONTRACTOR TO SEAL ALL MECHANICALS PENETRATING THRU DRAFT STOPPING ABOVE CEILING, WHERE APPLICABLE.
- FF SELF CONTAINED, FACTOR BUILT REFRIGERATION EQUIPMENT AND APPLIANCES SHALL BE LISTED AND LABELED, IN ACCORDANCE WITH UL 207,412,471 OR 1995, AND INSTALLED IN ACCORDANCE WITH THEIR LISTING AND THE MANUF. INSTRUCTIONS

MECHANICAL AND PIPING SYMBOLS LEGEND

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED.

STANDARD MOUNTING HEIGHTS	HVAC DUCTWORK AND ACCESSORIES	PIPING SYMBOLS	PIPING LINETYPES
THERMOSTATS (USER ADJUSTABLE) (TOP OF DEVICE) 48" CONTROLS (TOP OF DEVICE) 48"	DUCTWORK/EQUIPMENT TO BE REMOVED OR RELOCATED	DIRECTION OF FLOW	EXISTING PIPING TO BE REMOVED OR RELOCATED
INSTALL DEVICES AT THE MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE	T EXISTING DUCTWORK/EQUIPMENT TO REMAIN	CONTROL VALVE	EXISTING PIPING TO REMAIN
CONSTRUCTION DOCUMENTS. MOUNTING HEIGHTS LISTED ABOVE OR ELSEWHERE IN THE CONSTRUCTION DOCUMENTS ARE AFF OR AFG TO BOTTOM OF DEVICE	, , , , , , , , , , , , , , , , , , ,	THREE-WAY CONTROL VALVE	—— CDH —— CONDENSATE DRAIN — HIGH EFFICIENCY RTU (CDH)
UNO. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.	LINEAR SLOT DIFFUSER	SHUTOFF VALVE CHECK VALVE	CD CONDENSATE DRAIN (CD) —— ACD —— ALIVILIARY CONDENSATE DRAIN (ACD)
ANNOTATION	INSULATED FLEXIBLE DUCT (MAX. 5'-0" LONG)	BALANCING VALVE WITH PRESSURE PORTS	ACD —— AUXILIARY CONDENSATE DRAIN (ACD) —— NPW —— NON POTABLE WATER (NPW)
MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR PROVIDED UNO)	BRANCH DUCT WITH 45° RECTANGLE-ROUND BRANCH FITTING	TRIPLE DUTY VALVE WITH PRESSURE PORTS	NON TOTABLE WATER (NI W) NATURAL GAS (G)
CONNECTION POINT OF NEW WORK TO EXISTING	AND MANUAL VOLUME DAMPER		
	ELBOW WITH TURNING VANES	STRAINER WITH BLOWOFF	MEDIUM PRESSURE NATURAL GAS (MPG)
DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER	BRANCH DUCT WITH BELL-MOUTH FITTING & MANUAL VOLUME	RELIEF/SAFETY VALVE	— — MPG — — MEDIUM PRESSURE NATURAL GAS ON ROOF (MPG)
SECTION CUT DESIGNATION	CONTROL DAMPER	SOLENOID VALVE PRESSURE REDUCING VALVE	FUEL OIL SUPPLY (FOS)
M1/	EXHAUST, GREASE EXHAUST, OR SPECIAL EXHAUST AIR DUCT	GAS PRESSURE REGULATOR	FUEL OIL RETURN (FOR)
ABBREVIATIONS	EXHAUST, GREASE EXHAUST, OR SPECIAL EXHAUST AIR DUCT	THERMOSTATIC MIXING VALVE	FUEL OIL VENT (FOV)
A/C AIR CONDITIONING HOA HAND-OFF-AUTOMATIC ACC AIR COOLED CHILLER HP HORSEPOWER	DOWN RETURN AIR DUCT UP	PIPE ANCHOR	BFW — LIQUIFIED PETROLEUM GAS (LPG)
ACCU AIR COOLED CONDENSING UNIT HTG HEATING AFC ABOVE FINISHED CEILING HWP HEATING HOT WATER PUMP	RETURN AIR DUCT UP	EXPANSION JOINT	
AFF ABOVE FINISHED FLOOR HWS/R HEATING HOT WATER SUPPLY/ AFG ABOVE FINISHED GRADE RETURN AHJ AUTHORITY HAVING JURISDICTION IN WC INCHES OF WATER COLUMN	RETURN AIR DUCT DOWN	————— PIPE GUIDE	HIGH PRESSURE STEAM SUPPLY (HPS) HIGH PRESSURE STEAM CONDENSATE (HPC)
AHU AIR HANDLING UNIT L LOUVER AI ANALOG INPUT LAT LEAVING AIR TEMPERATURE	SUPPLY AIR OR OUTSIDE AIR DUCT UP	PIPING SUPPORT F & T TRAP	LOW DESCRIPE STEAM SUPPLY (LDS)
AO ANALOG OUTPUT LDB LEAVING DRY BULB AP ACCESS PANEL LP LOW PRESSURE APD AIR PRESSURE DROP LWB LEAVING WET BULB	SUPPLY AIR OR OUTSIDE AIR DUCT DOWN	——————————————————————————————————————	LPC LOW PRESSURE STEAM SUPPLY (LPS) LOW PRESSURE STEAM CONDENSATE (LPC)
APD AIR PRESSURE DROP LWB LEAVING WET BULB AWG AMERICAN WIRE GAUGE LWT LEAVING WATER TEMPERATURE B BOILER MAU MAKE—UP AIR UNIT	SOFTER AIR OR GOTSIDE AIR BOOT BOWN	THERMOSTATIC TRAP	——————————————————————————————————————
BAS BUILDING AUTOMATION SYSTEM MAX MAXIMUM BB BACKBONE MBH 1000 BTU PER HOUR	EQUIPMENT WITH FLEXIBLE DUCT CONNECTION	BACKFLOW PREVENTER	
BD BACKDRAFT DAMPER MD MOTORIZED DAMPER BD BLOWDOWN MFR MANUFACTURER BFC BELOW FINISHED CEILING MIN MINIMUM	10" C	PRESSURE GAUGE	
BFC BELOW FINISHED CEILING MIN MINIMUM BFF BELOW FINISHED FLOOR N/A NOT APPLICABLE BFG BELOW FINISHED GRADE N/C NORMALLY CLOSED	300/	THERMOMETER	
BFP BOILER FEED PUMP N/O NORMALLY OPEN NOM NOMINAL	RG 650	PRESSURE AND TEMPERATURE TEST PLUG UNION	
BI BINARY INPUT BO BINARY OUTPUT BOD BOTTOM OF DUCT NO NOISE CRITERIA NF NON-FUSED NIC NOT IN CONTRACT	MANUAL VOLUME DAMPER	——————————————————————————————————————	
BOH BACK OF HOUSE OA OUTSIDE AIR BOS BOTTOM OF STRUCTURE PICY PRESSURE INDEPENDENT	SQUARE TO ROUND TRANSITION	——————————————————————————————————————	GW SANITARY GREASE WASTE (GW)
CONTROL VALVE CFM CUBIC FEET PER MINUTE PROVIDE FURNISH AND INSTALL	SQUARE TO ROUND TRANSITION	CAP	SANITARY VENT DIDING
CH CHILLER QTY QUANTITY CHWS/R CHILLED WATER RA RETURN AIR SUPPLY/RETURN RC ROOM CRITERIA	DUCT MOUNTED SMOKE DETECTOR (SD=SUPPLY/RD=RETURN)	——————————————————————————————————————	SHEET DRAWING INDEX
SUPPLY/RETURN RC ROOM CRITERIA CLG COOLING RD RETURN DUCT CP CONDENSATE PUMP REA RELIEF AIR	RISER DESIGNATION VOLUME DAMPER	——→O——— TEE UP	NUMBER M-1 GENERAL NOTES, MECHANCIAL SYMBOLS AND SEISMIC CODE BLOCK
CPT CONTROL POWER RF RETURN FAN TRANSFORMER RFR REFRIGERANT	FD FIRE DAMPER MD MOTORIZED DAMPER	TEE DOWN	M-2 MECHANICAL & GAS PIPING PLAN
CRAC COMPUTER ROOM AIR CONDITIONING UNIT CRU COMPUTER ROOM UNIT RH RELATIVE HUMIDITY RH ROOF HOOD RPM REVOLUTIONS PER MINUTE	FSD FIRE SMOKE DAMPER BD BACKDRAFT DAMPER	——————————————————————————————————————	M-3 MECHANICAL SCHEDULES AND DETAILS
CT COOLING TOWER RTU ROOFTOP UNIT CV CONTROL VALVE SA SUPPLY AIR	SD SMOKE DAMPER BYPASS DAMPER	─────────────────────────────────────	
CWP CONDENSER WATER PUMP CWS/R CONDENSER WATER SUPPLY/ SD SMOKE DUCT DETECTOR		TEE UP WITH SHUT-OFF VALVE (SOV)	
RETURN SD SUPPLY DUCT CU CONDENSING UNIT SF SUPPLY FAN CHWP CHILLED WATER PUMP SH SENSIBLE HEAT CAPACITY		TEE DOWN WITH SHUT-OFF VALVE (SOV)	
DB DECIBELS SOW SCOPE OF WORK DBA A-WEIGHTED SP STATIC PRESSURE	ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE DIMENSIONS. REFER TO	────────────────── REDUCER ────────────────────────────────────	
DECIBELS ST STEAM TRAP DDC DIRECT DIGITAL CONTROL STM STEAM DI DIGITAL INPUT TBD TO BE DETERMINED	DUCTWORK SPECIFICATIONS FOR DUCTWORK INSULATION AND LINER INFORMATION. HVAC CONTROL DEVICES	GAS COCK	
DISC DISCONNECT TC/C TEMPERATURE CONTROLS DN DOWN CONTRACTOR	TIVAC CONTROL DEVICES	ANCHORAGE & SV	WAY BRACING FOR
DS DUCT SILENCER TCP TEMPERATURE CONTROL PANEL DX DIRECT EXPANSION TF TRANSFER FAN		MECHANICAL SYS	STEM COMPONENTS
(E) EXISTING TFA TO FLOOR ABOVE EA EXHAUST AIR TFB TO FLOOR BELOW EAT ENTERING AIR TEMPERATURE TH TOTAL HEAT CAPACITY	T THERMOSTAT CO CARBON MONOXIDE SENSOR	ANCHORAGE—SWAY BRAC	INDUSTRY, ST. LOUIS COUNTY SEISMIC RULES AND REGULATIONS CING MEP SYSTEM COMPONENTS
ED EXHAUST DUCT TSP TOTAL STATIC PRESSURE EDB ENTERING DRY BULB TT TEMPERATURE TRANSMITTER	CO2 CARBON DIOXIDE SENSOR	SEISMIC USE GROUP (II)	SEISMIC DESIGN CATEGORY (D)
EF EXHAUST FAN TYP TYPICAL EFF EFFICIENCY U/F UNDERFLOOR EMS ENERGY MANAGEMENT SYSTEM U/G UNDERGROUND	DP DIFFERENTIAL PRESSURE	SYSTEM COMPONENTS TO FLOORS, ROOF BRACING PREF	N OF PROFESSIONALLY PARED ANCHORAGE (N/A) — NOT APPLICABLE Y BRACING DETAILS (E) — EXISTING NOT APPLICABLE
EMS ENERGY MANAGEMENT SYSTEM U/G UNDERGROUND ESP EXTERNAL STATIC PRESSURE U/S UNDERSLAB ETR EXISTING TO REMAIN UH UNIT HEATER	FS FLOW SWITCH	ON CONSTRUC	SUBSEQUENT (USC) — UNDER SEPERATE CONTRACT
EWB ENTERING WET BULB UNO UNLESS NOTED OTHERWISE EWT ENTERING WATER TEMPERATURE VAV VARIABLE AIR VOLUME	HS HUMIDITY SENSOR	NOT DOCUMEN	ITS
FCU FAN COIL UNIT FFA FROM FLOOR ABOVE FFB FROM FLOOR BELOW VEL VELOCITY VFD VARIABLE FREQUENCY DRIVE VARIABLE FREQUENCY DRIVE	PS PULL STATION SP STATIC PRESSURE	PROVIDED PROVIDED NOT PROVIDED PROVIDED DETAIL NO. NUMBER	SPEC. SHOP DRAWINGS DRAWINGS SEPERATE PERMIT & DRAWINGS
FF FINISHED FLOOR W/ WITH FOH FRONT OF HOUSE W/O WITHOUT	TS TEMPERATURE SENSOR	ROOFTOP UNITS X X 3/M-3	
FPI FINS PER INCH WB WET BULB FPM FEET PER MINUTE WG WATER COLUMN	LINETYPE LEGEND	DUCT X X DIFFUSERS X X 4/M-3	NO DUCT >6 SQ FT IN CROSS—SECTIONAL AREA NOTE 10
GC GENERAL CONTRACTOR GEA GREASE EXHAUST AIR GPM GALLONS PER MINUTE WC WATER COLUMN WPD WATER PRESSURE DROP XP EXPLOSION—PROOF	EXISTING — NEW — —	GAS PIPING X X ROOF MTD EXH FANS X X 3/M-3	PROVIDE SIESMIC GAS VALVE AT METER
	DEMOLISH FUTURE	CLG MOUNTED EXHAUST FANS X X 6/M-3	NOTE 2
ENGINEERING NOTES:		CLG MOUNTED HEPA FILTERS X X 8/M-3	
1. UPON COMPLETION OF THE VENTILATION SYSTEM, CONDUCT A TEST UNDER THE PRESENCE AND DIRECTION OF A LICENSED PROFESSIONAL	6.MECHANICAL VENTILATION SYSTEMS SHALL BE PROVIDED WITH MANUAL OR AUTOMATIC CONTROLS AS PER 2015 INTERNATIONAL MECHANICAL	NOTES	
ENGINEER OR REGISTERED ARCHITECT QUALIFIED TO OBSERVE SUCH A TEST. THE TEST SHALL SHOW COMPLIANCE WITH CODE REQUIREMENTS	CODE CHAPTER 4 SECTION 405.	TABLE 4.4 ITEM 1a EXCEPTION FOR 3FT MIN OF FLEXIBLE CONNECTION BETWEEN COMPONENT	S, MOUNTED 4FT OR LESS ABOVE THE FLOOR LEVEL AND WEIGHS 400LB OR LESS
FOR VENTILATION AND PROPER FUNCTION OF ALL OPERATING DEVICES BEFORE THE SYSTEM IS APPROVE, AT A COST ESTABLISHED BY THE ENGINEE AND ONLY WHEN REQUIRED BY THE ENGINEER OF RECORD	7.THE DESIGN, CONSTRUCTION, AND INSTALLATION OF MECHANICAL EXHAUST SYSTEMS, INCLUDING DUST, STOCK, AND REFUSE CONVEYOR SYSTEMS, EXHAUST SYSTEMS SERVING COMMERCIAL COOKING	2 TABLE 4.4 ITEM 1b EXCEPTION FOR 3FT MINIMUM OF FLEXIBLE CONNECTION BETWEEN COMPONENT	

- AND UNLY WHEN REQUIRED BY THE ENGINEER OF RECORL
- 2. THE LICENSED PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT WHO OBSERVES THE TESTS SHALL FILE THE CERTIFICATE TO DEMONSTRATE THAT THE SYSTEM COMPLIES WITH APPLICABLE LAWS. THE TEST AND REPORT SHALL BE MADE IN A MANNER SATISFACTORY TO THE ENGINEER OF RECORD WHEN REQUIRED AS NOTED ABOVE
- 3. A STATEMENT SHALL BE FILED BY THE OWNER THAT THE SYSTEM OF VENTILATION WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE NORMAL OCCUPANCY OF THIS BUILDING AS ORDERED IN THE APPLICABLE SECTION OF THE CODE, WHEN REQUIRED BY THE ENGINEER. 4.2015 INTERNATIONAL MECHANICAL CODE CHAPTER 4 SECTION 401 SHALL GOVERN THE VENTILATION OF SPACES WITHIN A BUILDING INTENDED TO BE
- 5.MECHANICAL VENTILATION BY A METHOD OF SUPPLY AIR AND RETURN OR EXHAUST AIR SHALL BE PROVIDED AS PER 2015 INTERNATIONAL MECHANICAL CODE CHAPTER 4, SECTION 403. THE AMOUNT OF SUPPLY AIR SHALL BE APPROXIMATELY EQUAL TO THE AMOUNT OF RETURN AND EXHAUST AIR. THE SYSTEM SHALL NOT BE PROHIBITED FROM PRODUCING NEGATIVE OR POSITIVE PRESSURE. THE SYSTEM TO CONVEY VENTILATION AIR SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH 2015 INTERNATIONAL MECHANICAL CODE CHAPTER 6.
- APPLIANCES, AND ENERGY RECOVERY VENTILATION SYSTEMS, SHALL BE AS PER 2015 INTERNATIONAL MECHANICAL CODE CHAPTER 5 SECTION 501.
- 8.MECHANICAL AND PASSIVE SMOKE CONTROL SYSTEMS THAT ARE REQUIRED BY THE 2015 INTERNATIONAL MECHANICAL CODE SHALL BE INSTALLED IN ACCORDANCE WITH 2015 INTERNATIONAL MECHANICAL CODE SECTION 513.2. SPECIAL INSPECTION AND TEST REQUIREMENTS SHALL BE IN ACCORDANCE WITH 2015 INTERNATIONAL MECHANICAL CODE SECTION
- 9.DUCT SYSTEMS USED FOR THE MOVEMENT OF AIR IN AIR-CONDITIONING. HEATING, VENTILATING AND EXHAUST SYSTEMS SHALL CONFORM TO THE PROVISIONS OF 2015 INTERNATIONAL MECHANICAL CODE CHAPTER 6, SECTION 601.

12.COMPLY WITH THE VENTILATION RULES OF THE DEPARTMENT OF

PUBLIC WORKS AS ADOPTED

- 10DUCT AND AIR TRANSFER OPENINGS THAT PENETRATE FIRE RATED PARTITIONS SHALL COMPLY WITH ALL REQUIREMENTS LISTED UNDER THE 2015 INT BUILDING CODE SECTION IBC 716 AS APPLICABLE TO SYSTEM DESIGN. 11ALL FIRE DAMPERS ARE TO BE OF TYPE APPROVED BY THE AHJ UL LISTINGS. WHERE ENTERING OR LEAVING SHAFTS, FIRE DAMPERS SHALL BE EQUIVALENT TO 1-1/2 FIRE WALL RATING.
- EXCEPTION FOR LESS THAN 5LB/FT/(COPPER PIPING 2-1/2" OR LESS, SCHEDULE 40 AND SCHEDULE 80 CPVC 3" OR LESS)
- 3FT FLEXIBLE CONNECTIONS FOR SUSPENDED EQUIPMENT.
- EXCEPTION FOR DUCTWORK A OR B. REFER TO DETAIL # ON DRAWING 5 TABLE 4.4, ITEM 4
- EXCEPTION FOR PIPING SUSPENDED FROM 12"HANGERS OR LESS, REFER TO INSTALLATION DETAIL ON DRAWINGS 6 TABLE 4.4, ITEM 4
- EXCEPTION FOR DUCTILE PIPING 1" OR LESS (SEISMIC DESIGN CATEGORY D)
- 7 DUCTILE PIPING: STEEL, COPPER PIPING AND TUBING JOINED BY WELDING BRAZING, SOLDERING OR FLANGES ALL PIPING 1" AND GREATER SHALL HAVE WELDED JOINTS. ALL CONNECTIONS TO EQUIPMENT SHALL HAVE MINIMUM 3FT FLEXIBLE CONNECTOR SEE DETAIL
- 8 TABLE 4.4 ITEM 4
- EXCEPTION FOR DUCTILE PIPING 3 INCHES OR LESS(SEISMIC DESIGN CATEFORY D)
- 9 TABLE 4.4 ITEM 5 EXCEPTION FOR EXTERIOR GAS PIPING ON ROOF, 2PSI OR LESS: SEISMIC SHUTOFF VALVE OF FLEX CONNECTORS WITHIN 5FT OF THE BEGINNEING OF THE RUN, AT CONNECTIONS TO EQUIPMENT AND AT 42FT INTERVALS OR LESS
- 10 DIFFUSER SHALL BE POSITIVELY ATTACHED WITH MECHANICAL FASTENERS OR CLIPS
- 11 SEISMIC CALCULATIONS ARE ATTACHED TO DRAWINGS
- 12 THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND SEALED DETAILS TO THE ENGINEER OF RECORD PRIOR TO SUBMITTAL FOR PLAN REVIEW
- 13 TYPICAL SEISMIC ANCHORAGE (OR SWAY BRACING) IS PROVIDED ON THE DRAWINGS FOR REFERENCE ONLY. SHOP DRAWINGS ARE REQUIRED. 14 REFER TO INSTALLATION DETAILS ON THE DRAWINGS, AS NOTED.

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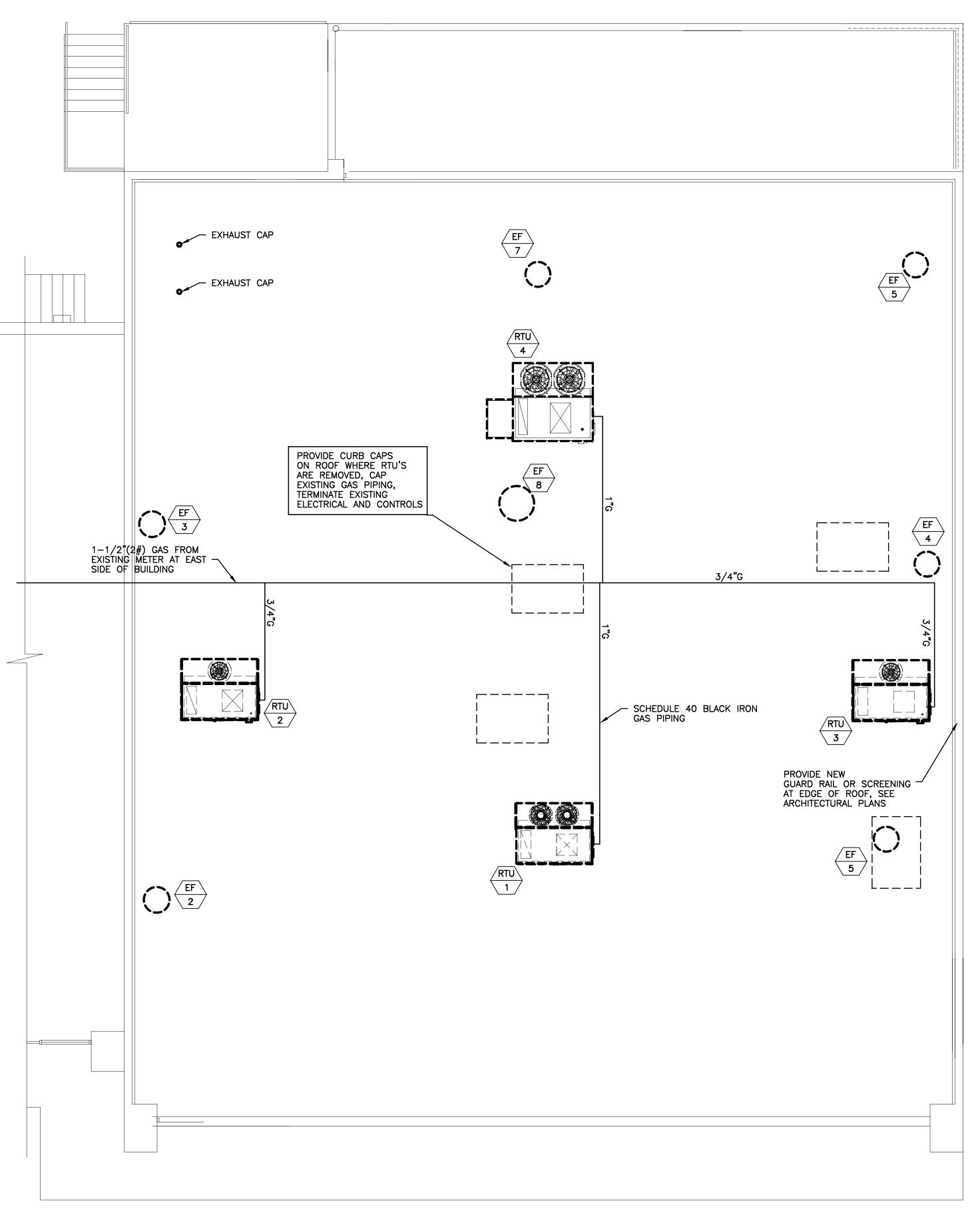
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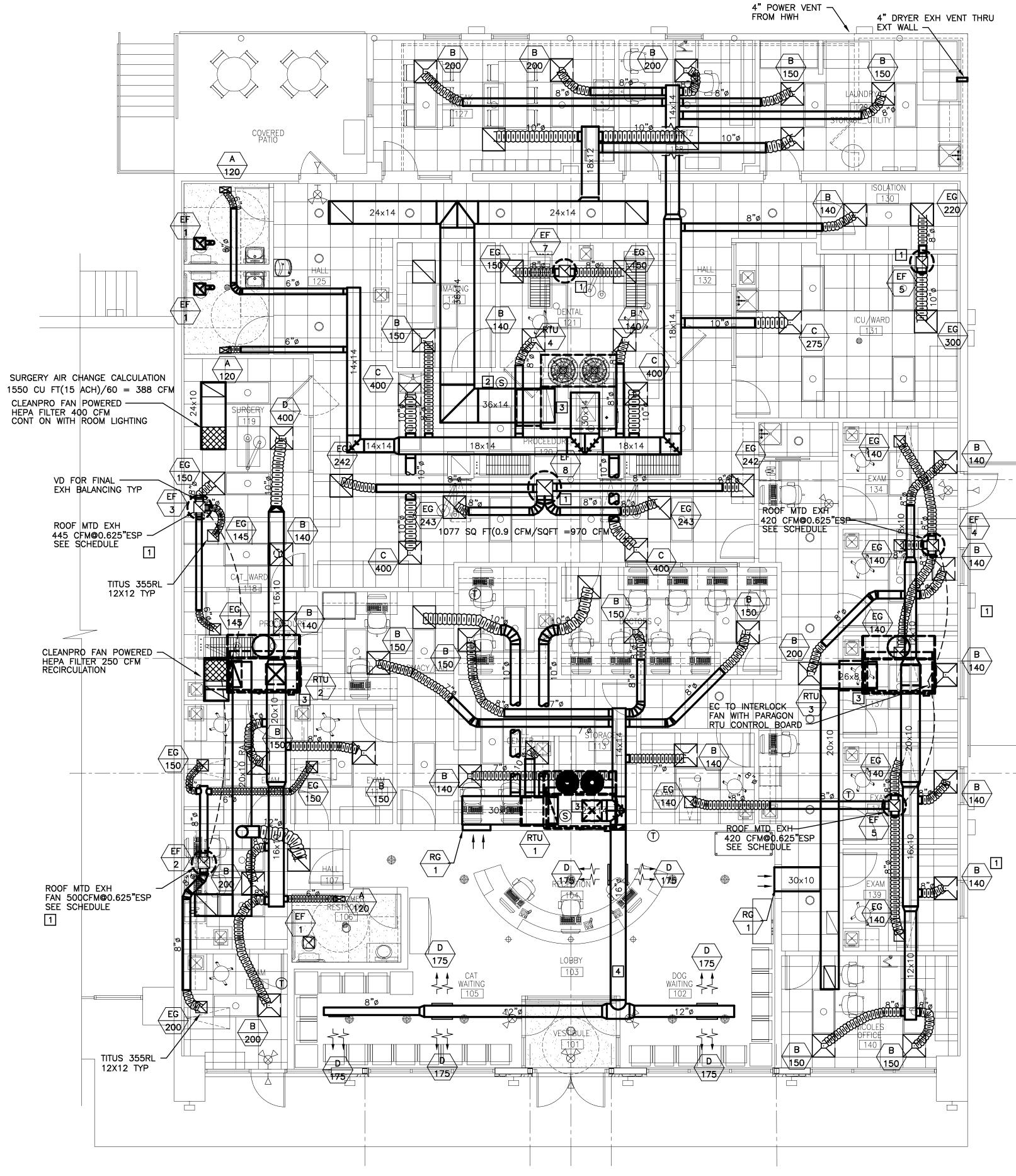
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KEYED NOTES:

- EXAM ROOM EXHAUST FAN, SPEED CONTROLLED, SEE EXHAUST FAN SCHEDULE SHEET M-3 FOR MINIMUM BALANCE POINT
- 2 MC TO PROVIDE DUCT DETECTOR, EC TO PROVIDE FINAL INTERLOCK WIRING
- 3 SEE CAPTIVE-AIRE SHEET 7&8, FOR WIRING SCHEMATICS FOR DOAS UNITS
- 4 LINE SPIRAL DUCT WITH JOHNS MANVILLE SPIRACOUSTIC PLUS DUCT LINER, DUCT SIZE IS CLEAR INSIDE DIMENSION. INCREASE FOR LINER.

MECHANICAL PLA

VENTILATION CALCULATIONS:

OFFICE AREA/LOBBY: 1225 SQ FT (0.06 CFM/SQ FT) + 15(5) = 148.5 CFM

PET AREAS

3322 SQ FT (0.18 CFM/SQ FT) + 25(7.5) = 785 CFM

2322 SQ FT (0.9 CFM/SQ FT) FXHAUST PER 403.3.1.1 = 2090

PET AREAS 3322 SQ FT (0.18 CFM/SQ FT) + 25(7.5) = 785 CFM 2322 SQ FT (0.9 CFM/SQ FT) EXHAUST PER 403.3.1.1 = 2090.7 OFFICE AREA/BREAK 389 SQ FT (0.06 CFM/SQ FT) + 8(5) = 64 CFM



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M-2

 Project No.
 11764

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 D POLLMANN

RTU SCHEDULE ELECTRICAL INFORMATION COOLING INFORMATION GAS HEAT INFORMATION FAN INFORMATION REHEAT INFORMATION MAX OUTSIDE MOISTURE OUTSIDE AIR | MIXED AIR LEAVING AIR CAPACITY DISCHARGE CAPACITY TOTAL CFM WEIGHT | INPUT |OUTPUT | TEMP NOTES RETURN UNIT TAG DOAS/RTU MODEL # MANUFACTURER | BLOWER ESP VOLT MCA MOCP REMOVAL (LBS) BTUs BTUs RISE AIR CFM DB WB DP TOTAL SENS. DB | WB | DESIRED | DB WB DB WB MAX AIR CFM NO RATE 2100 79.2°F | 78.2°F | 67.7°F | 54.3°F | 54.3°F | 54.4°F | 84.0 MBH | 53.0 MBH | 19.5 | 9.2 | 70.0°F | 60.4°F | 36.3 MBH | 56 MBH | 29.0 LBS/HR | NATURAL | 179759 | 145605 | 64°F | 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16 ZONE CASRTU1-I.200-15-6T CAPTIVEAIRE 15P-1 1491 609 1404 0.625 | 2.00 | 208 35A 40A 86.2°F 555 1271 35.5A 40A 86.2°F 79.2°F 79.1°F 69.2°F 55.1°F 54.9°F 54.8°F 66.0 MBH 38.0 MBH 17.9 6.1 70.0°F 60.5°F 24.6 MBH 53 MBH 25.5 LBS/HR NATURAL 129681 105042 64°F 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16 CAPTIVEAIRE 13P-1 945 1500 0.500 | 1.50 | 208 2 | ZONE 2 CASRTU1-I.150-13-5T 33.9A 35A 86.2°F 79.2°F 80.2°F 70.7°F 53.1°F 52.9°F 52.8°F 66.0 MBH 34.2 MBH 17.9 6.1 70.0°F 60.5°F 22.4 MBH 53 MBH 28.9 LBS/HR NATURAL 103744 84033 64°F 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16 CAPTIVEAIRE 555 1200 1260 0.500 |1.00 208 3 ZONE 3 CASRTU1-I.150-13-5T 13P-1 645 952 3400 2127 | 0.750 |5.00| 3 | 208 76.4A 90A 86.2°F 79.2°F 78.1°F 67.5°F 54.2°F 54.2°F 54.3°F 135.5 MBH 85.8 MBH 18.6 4.3 70.0°F 60.4°F 59.1 MBH 96 MBH 45.8 LBS/HR NATURAL 292854 237212 64°F 1,2,3,4,5,6,7,8,9,10,11,12,13,14,16,17 4 | ZONE 4 CASRTU2-I.300-18-10T CAPTIVEAIRE 18P-2 2448

1. INVERTER SCROLL COMPRESSOR WITH INTEGRATED OIL SENSOR. DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL

2. DIRECT DRIVE PLENUM BLOWER. BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE 3. INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER

4. REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE

5. EC MOTOR CONDENSING FANS

6. ELECTRONIC EXPANSION VALVE. TXV NOT ACCEPTABLE

7. SUCTION LINE ACCUMULATOR 8. FACTORY COMMISSIONING WITH 5 YEAR PARTS WARRANTY, 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER

9. AVERAGING INTAKE, EVAP AND DISCHARGE TEMPERATURE SENSORS (DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT)

10. 81% EFFICIENT FURNACE, WITH MODULATING INDUCER TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE. 6:1 TURNDOWN WITH NG AND 5:1 TURNDOWN WITH LP 11. SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE

12. FULLY MODULATING HOT GAS REHEAT

13. 15 DEGREE LOW AMBIENT OPERATION

14. HAIL GUARD FOR CONDENSING COIL 15. 1" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-4.3 INSULATION MINIMUM 24GA EXTERIOR W/ 18GA BASE

16. DOWN DISCHARGE/DOWN RETURN

17. 2" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-13 INSULATION-MINIMUM 20GA EXTERIOR W/ 14GA BASE

	AIR DEVICE SCHEDULE											
PLAN MARK	NECK	CFM	MODULE	CONSTRUCTION	FINISH	FRAME	NOTES:	MANUF/ MODEL	THROW			
А	8"	100	24X24	STEEL	#26 WHITE	ACT	1,2	TITUS OMNI	4 WAY.			
В	8"	200-250	24X24	STEEL			1,2	TITUS OMNI	4 WAY			
С	10"	300-350	24X24	STEEL			1,2	TITUS OMNI	4 WAY			
D	12"	400	24X24	STEEL	•		1,2	TITUS OMNI	4 WAY			

NOTES: 1. PROVIDE ADJUSTIBLE LOCKING VOLUME DAMPER AT DUCT TAKEOFF

2. SUPPORT ALL GRILLES, SEE DETAILS ON ARCHITECTURAL AND MECHANICAL PLANS

SHEETMETAL NOTES AND REQUIREMENTS:

THE FOLLOWING PRESSURE

ALL SHEETMETAL, DUCTWORK, AND ASSOCIATED LINER AND INSULATION SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE LATEST ADOPTED

DUCT STATIC PRESSURE CLASSIFICATIONS SHALL BE PER SMACNA STANDARDS, AND UNLESS OTHERWISE INDICATED THE DUCT SHALL BE CONSTRUCTED TO MAINTAIN

TARLE 1 - DUCT STATIC PRESSURE CLASS

AND REFERENCED EDITIONS OF IMC, ASHRAE, AND SMACNA

TABLE 1 - DUCT STATIC PRESSURE CLASS										
SYSTEM TYPE	SA DUCT DOWNSTREAM OF UNIT	SA DUCT DOWNSTREAM EQUIPMENT	RA DUCT	EA DUCT						
ROOFTOP UNITS	2"WC	1 " WC	2"WC							
KITCHEN EXH DUCTS				2"WC						
RESTROOM EXHAUST				1 "WC						
MAKEUP AIR UNITS	2"WC									

DUCT GUAGE AND	ENFORCING	FOR 1"WG (+/-) TDF			
		GAUGE OF	METAL			
NOMINAL DUCT DIMENSION	60" JOINT (GAUGE)	48" JOINT (GAUGE)	30" JOINT (GAUGE)	24" JOINT (GAUGE)	JOINT CONSTRUCTION	REINFORCING
0"-12"	26	26	26	26	HEMMED "S" & DRIVE	NONE
13"-30"	26	26	26	26	TDF	NONE
31"-48"	24	24	24	26	TDF	NONE
49"-60"	22	22	24	24	TDF	NONE
61"-72"	22	22	22	22	TDF CNT-JNT	NONE
73"-96"	22	22	22	22	TDF CNT-JNT	NONE

. TDC DUCT CONSTRUCTION PER SMACNA STANDARDS — LATEST ADOPTED EDITION

2. DUCT FABRICATION USING PITTSBURG SEAMS 3. ALL DUCT STIFFENED BY MACHINE FORMED BEADS SPACED AT 12"OC MIN.

4. DUCTWORK TO BE SEALED PER SMACNA HVAC TABLE 1-2

5. TDC CNT-JNT CONDU-LOC@TDC CONNECTOR CENTER OF DUCT AND AT TDC CONNECTOR 6. HEAVY GAUGE METAL DUCT GAUGE IS HEAVIER AND SHALL BE ADJUSTED PER SMACNA STANDARDS

TABLE 3 – SMACNA METAL STANDARDS

DUCT GUAGE AND	ENFORCING	FOR 2"WG (+/-) TDF			
NOMINAL DUCT DIMENSION	60" JOINT (GAUGE)	48" JOINT (GAUGE)	30" JOINT (GAUGE)	24" JOINT (GAUGE)	JOINT CONSTRUCTION	REINFORCING
0"-12"	26	26	26	26	HEMMED "S" & DRIVE	NONE
13"-24"	26	26	26	26	TDF	NONE
25"-30"	24	24	26	26	TDF	NONE
31"-36"	22	24	24	24	TDF	NONE
37"-42"	20	24	24	24	TDF	NONE
43"-48"	20	22	22	22	TDF	NONE

. TDC DUCT CONSTRUCTION PER SMACNA STANDARDS — LATEST ADOPTED EDITION

2. DUCT FABRICATION USING PITTSBURG SEAMS

3. ALL DUCT STIFFENED BY MACHINE FORMED BEADS SPACED AT 12"OC MIN. 4. DUCTWORK TO BE SEALED PER SMACNA HVAC TABLE 1-2

5. TDC CNT-JNT CONDU-LOC@TDC CONNECTOR CENTER OF DUCT AND AT TDC CONNECTOR 6. HEAVY GAUGE METAL DUCT GAUGE IS HEAVIER AND SHALL BE ADJUSTED PER SMACNA STANDARDS

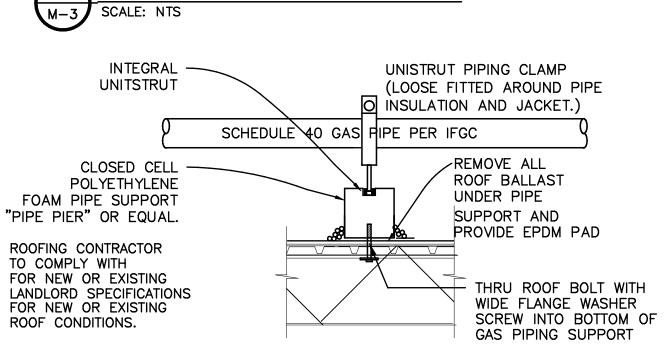


NOTES: 1. PROVIDE BACKDRAFT DAMPER

2. SUPPORT ALL GRILLES , SEE DETAILS ON ARCHITECTURAL AND MECHANICAL PLANS

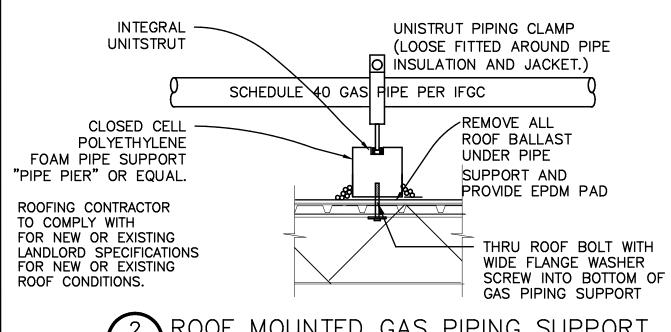
3. PROVIDE COOK RCG FAN CURB, FSC FAN SPEED CONTROLLER FOR EF-2 THRU EF-8 THE MC SHALL BALANCE EXH FANS ON SITE, AND ENSURE THE ROOM IS AT A NEUTRAL OR NEGATIVE PRESSURE AS NOTED, SET AND MARK ALL FAN

CONTROLLERS AT BALANCE POINT.



GAS PIPE





— WALL STUD

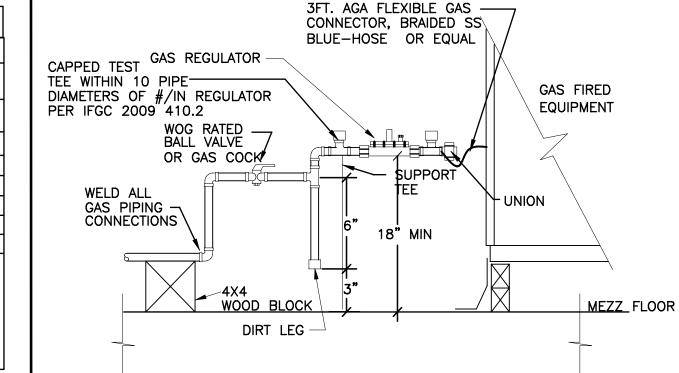
GROOVED UNISTRUT

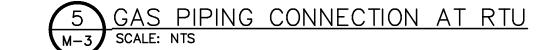
WALL PIPE ANCHOR

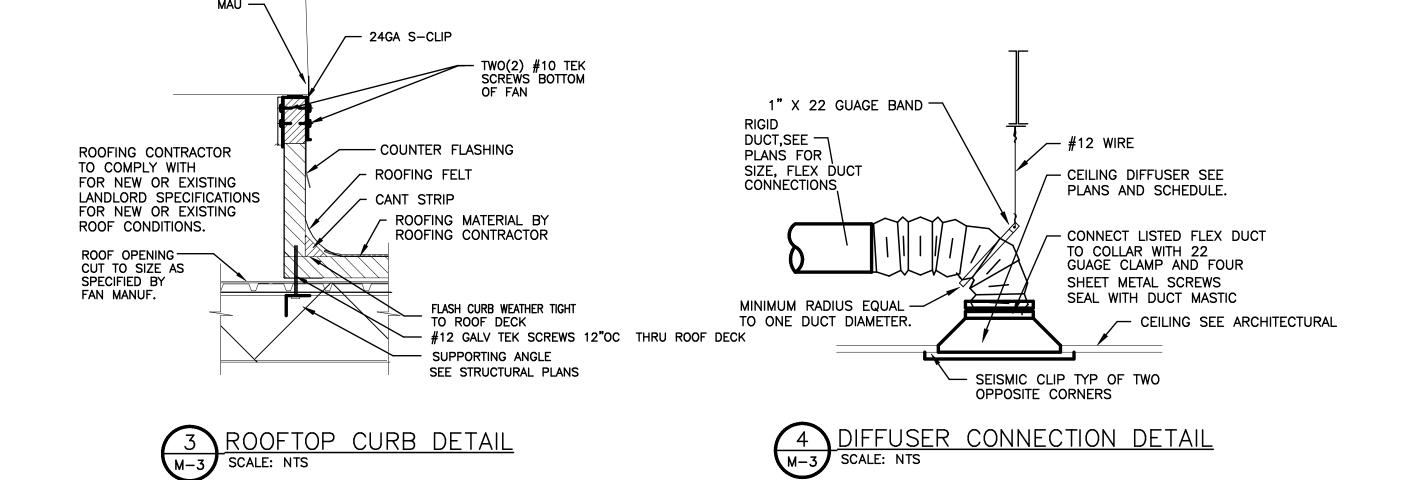
SUPPORT GAS PIPING OFF REAR WALL AT 4' INTERVALS

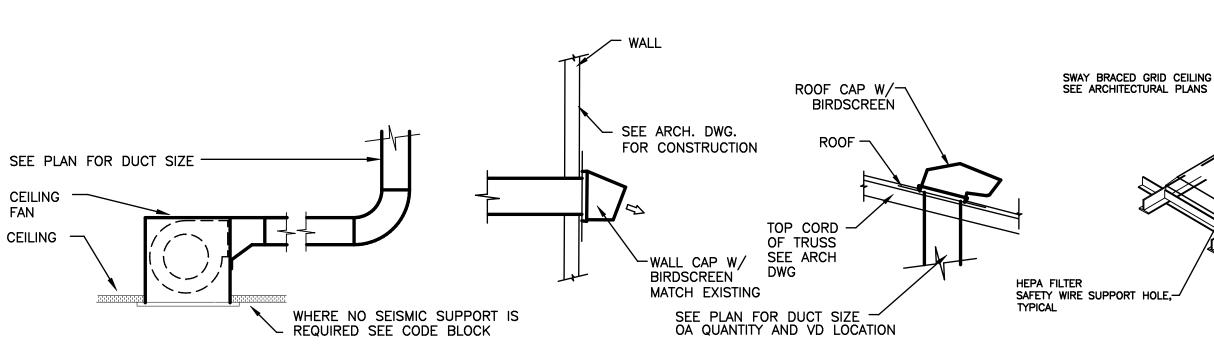
AND ON WOOD BLOCKS ON ROOF AT 8'-0" INTERVALS WITH TWO-HOLE CLAMPS

MOUNT ON WALL OR CEILING GAS PIPING SUPPORT DETAIL















STRUCTURE

► HILTI CC27 CLIP (OR APPROVED EQUAL)

#12 GA. SAFETY WIRE TIED TO SAFETY

WIRE SUPPORT HOLES & FASTENED TO

BLDG. STRUCTURE. MINIMUM (1) SAFETY

- WIRE AT CENTER OF FIXTURE FOR LIGHT

SAFETY WIRES PLACED AT DIAGONAL

CORNERS FOR FANS WEIGHING

SEISMIC RESTRAINT CLIP

MINIMUM (4) PER LIGHT FIXTURE, SECURELY AND POSITIVELY ATTACHED TO CEILING GRID, TYPICAL

FIXTURES LESS THAN 10 LBS. MINIMUM (2)

10 LBS. OR MORE BUT LESS THAN 56 L

MINIMUM (4) PER FIXTURE, SECURELY AND

POSITIVELY ATTACHED TO

CEILING GRID, TYPICAL



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allwin,

THE SEAL AND SIGNATURE APPLY ONLY TO THE DOCUMENT TO WHICH THEY ARE AFFIXED. THE SIGNER OF THIS DOCUMENT EXPRESSLY DISCLAIMS ANY AND ALL RESPONSIBILITY FOR DOCUMENTS HAT DO NOT BEAR HIS SEAL AND SIGNATURE INCLUDING, BUT NOT NECESSARILY LIMITED TO, DRAWINGS, SPECIFICATIONS, ESTIMATES, REPORTS, AND OTHER SIMILAR INSTRUMENTS OF SERVICE INTENDED O BE USED FOR THIS PROJECT. PLANS ARE NOT VALID UNLESS ORIGINAL SEAL AND SIGNATURE IS PRESENT, AND DATED.

1-11-23 PERMIT Sheet Number

D POLLMANN Checked By D POLLMANN

FIFCTBICAL CAMABOLG IFCEND

IRING DEVICE	DESCRIPTION	MOUNTING	COMMUNICATIONS	DESCRIPTION MC	DUNTING
	RECEPTACLE OPTIONS DENOTED BY "X", W "X" CAN BE ONE OF THE FOLLOWING:	HERE		DATA	18"
	DG = DEDICATED GROUND		® 		
	GFI = GROUND FAULT INTERRUPTER TR = TAMPER RESISTANT				18"
	SS = SURGE SUPPRESSOR WP = WEATHERPROOF (blank) = STANDARD RECEPTACLE			VOICE/DATA OUTLET	18 "
→×	SIMPLEX RECEPTACLE, NORMAL POWER	18"	⊣□⁄	BUZZER	80"
⇒×	DUPLEX RECEPTACLE, NORMAL POWER	18"	S	CEILING MOUNTED SPEAKER WITH TYPE AND ZONE NUMBER INDICATED	
±₩×	FOURPLEX RECEPTACLE	18"		TIPE AND ZONE NOMBER INDICATED	
•	FLOOR OUTLET BOX, POWER, VOICE AND/OR DATA		H®	WALL MOUNTED SPEAKER WITH TYPE AND ZONE NUMBER INDICATED	
⊢⊚ ^{10–30R}	SPECIAL PURPOSE RECEPTACLE, WITH NEMA CONFIGURATION NOTED	18"			
	DISCONNECT SWITCH, NON-FUSED				
\square	DISCONNECT SWITCH, FUSED		BRANCH CIRCUITING	DESCRIPTION	
 ₩s	MOTOR STARTER SWITCH WITHOUT OVERLOAD PROTECTION	54 "	A-1,3,	5 — PANEL NAME	
MSS ()	MOTOR STARTER SWITCH WITH OVERLOAD PROTECTION	54"	1,3,5	CIRCUIT NUMBER(S) GROUND CONDUCTOR NEUTRAL CONDUCTOR	
EF-1	MAGNETIC MOTOR STARTER WITH EQUIPMENT NUMBER INDICATED		3/4"	PHASE CONDUCTORS	
EF−1 ∑U	COMBINATION MOTOR STARTER AND FUSED DISCONNECT WITH EQUIPMENT NUMBER INDICATED			CONDUIT AND WIRE SIZE (1/2" C, 2#12, UNLESS NOTED OTHERWISE)	
	208/120 VOLT PANELBOARD			LIGHT FIXTURE DESIGNATOR, REFER TO LIGHT FIXTURE SCHEDULE FOR TYPE AND VOLTAGE	
	480/277 VOLT PANELBOARD		ه.	CIRCUIT NUMBER	
	TERMINAL CABINET			SWITCH LEG	
	ANNUNCIATOR PANEL		LIGHTING CONTROL	DESCRIPTION	MOUNTING
Ю	JUNCTION BOX, RECESSED WALL		 ∽ x	SWITCH, WHERE "X" CAN BE ONE OF THE FOLLOWING:	46"
①	JUNCTION BOX, RECESSED CEILING			DOUBLE POLE LV = LOW VOLTAGE THREE WAY MC = MOMENTARY WITH RTC	
H	LINE VOLTAGE THERMOSTAT	58"	4 =	FOUR WAY OS = OCCUPANCY SENSOR WALL SWITCH KEYED (blank) = SINGLE POLE	Н
Η•	PUSHBUTTON	48"	 	SWITCH WITH PILOT LIGHT	46"
HTC	TIME CLOCK		600W		
Hc	CONTACTOR		I H⊡	DIMMER SWITCH, OPERATING WATTAGE INDICATED	46"
SDC	SECURITY DOOR CONTACTOR		Hos os	OCCUPANCY SENSOR, WHERE "Y" IS THE RATED AREA OF COVERAGE AND	
s ^{KP}	SECURITY KEY PAD			"X" IS ONE OF THE FOLLOWING:	
S ^{MD}	SECURITY MOTION DETECTOR				
<u>-</u> ⊮S <	SECURITY SIREN				
. <u> </u>	HOLDUP BUTTON				
<i>⊗</i>	FAN MOTOR				

GENERAL ELECTRICAL NOTES

THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE 2017 EDITION OF THE NATIONAL CODES, INCLUDING ORDINANCES TO SAID CODES. ALL ITEMS SHALL BE UL LISTED 2. THE EC SHALL CAREFULLY EXAMINE ELECTRICAL PLANS,

ARCHITECTURAL PLANS AND ALL DETAILS PERTAINING TO THE PROJECT AND HIS WORK, AND SHALL IDENTIFY THE SCOPE OF HIS WORK PRIOR TO BIDDING WORK SHOWN ON THESE OR ANY PROJECT PLANS. THE EC SHALL PROVIDE A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM WHICH HAS BEEN INSPECTED AND WHICH COMPLIES WITH ALL LOCAL CODES. THE ELECTRICAL CONTRACTOR SHALL CONTACT THE ELECTRIC UTILITY TO VERIFY AVAILABILITY OF SERVICE REQUIRED FOR THE BUILDING, AND SHALL NOTIFY THE OWNER OF ANY SURCHARGES REQUIRED FOR SUCH SERVICE PRIOR TO BID DATE. OMISSIONS OR ERRORS SHALL BE CORRECTED BY THE EC AT HIS EXPENSE.

ALL GROUNDING SHALL BE IN STRICT COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE(LATEST EDITION). RECEPTACLES SHALL NOT BE MOUNTED BACK TO BACK. SEPARATION OF RECEPTACLES SHALL BE PER THE NEC. INSTALLATION OF RECEPTACLES IN WALLS WITH SHARED DEMISING PARTITIONS SHALL BE PROVIDED WITH FIRESTOPPING, AND SHALL MAINTAIN THE WALL RATINGS AS OUTLINED ON THE ARCHITECTURAL PLANS.

4. ALL PANELBOARDS SHALL BE FURNISHED AND INSTALLED WITH A CURRENT AND ACCURATELY TYPED SCHEDULE CARD LOCATED ON THE INSIDE FRONT COVER OF THE PANEL. EC IS RESPONSIBLE

FOR FINAL BALANCING OF ALL ELECTRICAL LOADS. 5. REFERENCE MECHANICAL, PLUMBING, AND ARCHITECTURAL PLANS OR EQUIPMENT PLANS FOR EXACT LOCATION OF ALL EQUIPMENT AND FIXTURES WHICH REQUIRE POWER. THIS INCLUDES POWER CONTROL POWER FOR DAMPERS, SMOKE OR HEAT

DETECTORS, PUMPS AND OTHER EQUIPMENT. 6. RECEPTACLES SHALL BE MOUNTED AS REQUIRED BY CODE.

SWITCHES SHALL BE MOUNTED AT HEIGHTS REQUIRED BY CODE. THE CONTRACTOR SHALL MOUNT RECEPTACLES AND SWITCHES AS REQUIRED BY ADA. SWITCH, RECEPTACLE, DATA OR TELEPHONE BOXES SHALL NOT BE MOUNTED BACK-TO-BACK.

7. OVERCURRENT PROTECTION DEVICE SIZES AND TYPES FOR HVAC EQUIPMENT SHALL BE VERIFIED WITH THE MECHANICAL ENGINEER AND CONTRACTOR PRIOR TO PROVIDING SUCH. PROVIDE OVERCURRENT PROTECTION DEVICES IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. PROVIDE DISCONNECTS, WP GFI CONVENIENCE RECEPTACLES, AND SMOKE DETECTION DEVICES FOR ALL EQUIPMENT AS REQUIRED BY CODE. SHUNT TRIP BREAKERS SHALL BE PROVIDED FOR ELECTRIC KITCHEN EQUIPMENT UNDER HOOD AND THE ELEVATOR.

8. ALL WIRING SHALL BE # 12 THHN/THWN COPPER ONLY. RUNS IN EXCESS OF 75 FEET SHALL BE # 10

9. THE EC SHALL INSTALL NEW RECEPTACLES WHERE SUCH RECEPTACLES ARE REQUIRED TO MEET CURRENT CODE REQUIREMENTS. THE EC SHALL VERIFY ALL LOCATIONS WITH THE TENANT PRIOR TO INSTALL

10. THE EC SHALL LOCATE LIGHT SWITCHES PER THE ARCHITECTURAL PLANS, AND WHERE REQUIRED BY THE TENANT/OWNER.

11. THE EC IS RESPONSIBLE FOR INSTALLATION OF EMERGENCY LIGHTS AND EXIT SIGNS IN ACCORDANCE WITH THE ELECTRICAL AND ARCHITECTURAL PLANS. THE FINAL QUANTITY OF EMERGENCY LIGHTS/EXIT SIGNS IS THE RESPONSIBILITY OF THE EC, AND WILL DEPEND ON THE LIGHT FIXTURE(S) SELECTED. EXIT AND EGRESS PATHWAYS SHALL MAINTAIN A MINIMUM OF 1 FOOT-CANDLE AT THE

12. ALL DIMMING SWITCHES, OR DIMMING PANELS SHALL BE RATED FOR THE POWER CONNECTED TO THE CIRCUIT, BY SHALL NOT BE LESS THAN 2000 WATTS. SUFFICIENT CLEARANCE SHALL BE PROVIDED IN BOXES OR PANELS TO ALLOW DISSIPATION OF HEAT BUILD-UP.

13. THE EC SHALL REVIEW ARCHITECTURAL PLANS AND NOTE LOCATIONS OF ALL OFFICE EQUIPMENT, AND EQUIPMENT AS REQUESTED OR REQUIRED BY THE TENANT/OWNER AND SHALL PROVIDE POWER TO SAID EQUIPMENT. NEMA CONFIGURATIONS

SHALL BE VERIFIED PRIOR TO BID. 14. ALL LIGHTING FIXTURES AND LAMPS SHALL STORED BY THE

EC. THE EC SHALL BE RESPONSIBLE FOR SAFE STORAGE FOR THE DURATION OF THE PROJECT. 15. THE EC SHALL NOT INSTALL ELECTRICAL DISCONNECTS.

JUNCTION BOXES OR ELECTRICAL ROUGH-INS FOR EQUIPMENT, OR LIGHTING PRIOR TO HIS FULL COORDINATION AND DISCUSSION WITH OTHER TRADES. INSTALLATION OF THESE ITEMS WHICH CONFLICTS WITH OTHER TRADES WILL SHALL BE CORRECTED BY THE EC AT HIS EXPENSE.

16. THE EC SHALL FURNISH AND INSTALL 120V SMOKE DETECTORS WITH BATTERY BACKUP, ON SAME CCT WITH LOCKING TYPE BREAKER 17. USE OF MC AND HOSP GRADE MC IS ALLOWED. ALL CONDUIT SHALL BE INSTALLED PLUMB AND LEVEL. PARALLEL AND PERPENDICULAR TO THE BUILDING WALLS, CEILINGS AND OTHER STRUCTURE. EMT CONDUIT MAY BE USED FOR PANEL FEEDERS. EMT MUST BE USED FOR ALL HOMERUNS TO PANELS. HWC SHALL BE USED FOR ALL APPLICATIONS WHERE EXPOSED TO WEATHER. SCHEDULE 40 PVC CONDUIT MAY BE USED UNDER SLABS OR BELOW GRADE, PROVIDE LONG SWEEP ELBOWS.

ELECTRICAL SPECIFICATIONS

GENERAL

REQUIREMENTS FOR THE CONDITIONS OF THE CONTRACT AND WORK INCLUDED HEREIN SHALL COMPLY WITH THE LATEST ADOPTED NEC. THE WORD "PROVIDE" SHALL HEREIN MEAN, THAT THE EC SHALL PROVIDE/FURNISH AND INSTALL COMPLETE.

FIELD CONDITIONS AND MEASUREMENTS

THE EC SHALL VISIT THE SITE PRIOR TO BID. THE EC SHALL FAMILIARIZE HIMSELF WITH ALL THE AVAILABLE INFORMATION CONCERNING THE NATURE OF THE PROJECT, EXCAVATIONS REQUIRED, AND FOR TRANSPORTATION, HANDLING AND STORAGE OF THE MATERIALS REQUIRED FOR THE PROJECT.

THE EC SHALL MAKE HIS OWN ESTIMATES OF THE FACILITIES NEEDED, AND ANY DIFFICULTIES IF ANY THAT AFFECT EXECUTION OF THE CONTRACT FOR ELECTRICAL WORK UNDER THIS PERMIT. IN NO EVENT WILL THE ENGINEER ASSUME LIABILITY FOR ANY INTERPRETATIONS, DEDUCTIONS, OR CONCLUSIONS DRAWN FROM HIS EXAMINATION AND SITE REVIEW. FAILURE OF THE CONTRACTOR TO AQUAINT HIMSELF WITH THE CONDITIONS FOR CONSTRUCTION AND/OR EXISTING CONDITIONS WILL NOT RELIEVE HIM OF THE RESPONSIBILITY FOR INCURSION OF THE COSTS RELATED TO COMPLETION OF THE WORK DETAILED IN THE PLAN AND SPECIFICATIONS.

THE ELECTRICAL CONTRACTOR SHALL VERIFY FIELD MEASUREMENTS, FIELD CONDITIONS FOR HIS WORK OR WORK OF HIS SUBCONTRACTOR(S) INCLUDING ANY LOW VOLTAGE WORK TO BE PERFORMED, OR COORDINATION WITH OTHER SUBCONTRACTOR PROVIDING EQUIPMENT THAT NEEDS CONNECTION, INTERLOCKING OR CONTROL

CLEANUP

THE ELECTRICAL CONTRACTOR SHALL HAVE ANY ELECTRICAL DEBRIS REMOVED AND CLEANED DAILY FROM THE PREMISES. ON COMPLETION OF THE ELECTRICAL WORK ALL ASSOCIATED DEBRIS AND LEFT OVER MATERIALS SHALL BE REMOVED FROM THE PREMISES

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN A CLEAN AND SAFE WORK ENVIRONMENT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED BY THE CONTRACTOR SHALL BE CLEANED AND READY FOR USE UPON COMPLETION OF THE WORK. ALL PANELS AND CIRCUIT BREAKERS CLEANED AND LABELED GUARANTEE

THE ELECTRICAL CONTRACTOR SHALL GUARANTEE BY HIS ACCEPTANCE OF THE CONTRACT, THAT ALL WORK WILL BE FREE FROM ALL DEFECTS IN WORKMANSHIP AND/OR MATERIALS THAT ARE PROVIDED. FURTHER THAT FOR A PERIOD OF ONE YEAR, OR OTHERWISE SPECIFIED, FROM THE DATE OF APPROVAL BY THE AHJ. HE WILL, AT NO COST TO THE OWNER, REMEDY ANY DEFECTS WITHIN A REASONABLE AMOUNT OF TIME, TO BE ESTABLISHED BY THE OWNER. IN DEFAULT THEREOF, THE OWNER MAY ELECT TO HAVE WORK COMPLETED BY A THIRD PARTY ELECTRICAL CONTRACTOR AND ANY CHARGES WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR ORIGINALLY PERFORMING THE WORK.

CODES:

ALL ELECTRICAL WORK SHALL BE COMPLETED IN STRICT ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, AND ANY CODE REQUIREMENTS ESTABLISHED UNDER ADOPTING ORDINANCES. A CERTIFICATE OF FINAL INSPECTION AND APPROVAL SHALL BE SUBMITTED WITH THE FINAL REQUEST FOR PAY-MENT, NO FINAL PAYMENTS WILL BE APPROVED WITHOUT RESULTS AND PROOF OF FINAL INSPECTION.

PAYMENT FOR ALL ELECTRICAL PERMITS, INSPECTION FEES OR OTHER REQUIRED FEES FOR PLAN REVISIONS, AS-BUILT DRAWINGS OR OTHER SUCH REQUIREMENTS SHALL BE PAID BY THE ELECTRICAL CONTRACTOR. SHOP DRAWINGS:

IN GENERAL, SHOP DRAWINGS WILL BE APPROVED FOR TYPE AND MANUFACTURER, AND IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO FURNISH CORRECT QUANTITIES, TYPE, SIZE AND CAPACITY AS REQUIRED OR LISTED ON THE DRAWINGS, ON THE ARCHITECTURAL DRAWINGS OR IN ANY SPECIFICATIONS. THE APPROVAL OF SHOP DWGS BY THE ELECTRICAL ENGINEER OR ARCHITECT DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PROVIDE APPROVED MATERIALS AS SPECIFIED, OR AS REQUIRED

SHOP DRAWINGS, GIVING ALL DETAILS, DIMENSIONS, CONSTRUCTION INFORMATION, PERFORMANCE CHARACTERISTICS SHALL BE SUBMITTED TO THE OWNER UPON COMPLETION IN CAD FORMAT, WITH PDF COPY.

THE WORK COVERED BY THIS SECTION SHALL CONSIST OF PROVIDING ALL MATERIALS, LABOR, EQUIPMENT, FIXTURES. AND SERVICES AS REQUIRED AND NECESSARY TO COMPLETE THE ELECTRICAL WORK IMPLIED SERVICE, SECONDARY POWER, TRANSFORMERS, PANELS, BRANCH CIRCUITS, GROUNDING, LIGHTING FIXTURES, CONDUITS, EXCAVATION, BOXES, RACEWAYS, TELEPHONE WHERE REQUIRED, DATA WHERE REQUIRED, PULLING, PATCHING, PERMITS, FEES AND INSPECTIONS.

MISCELLANEOUS

CONDUIT

THE OWNER, ENGINEER, OR KITCHEN EQUIPMENT CONTRACTOR SHALL HAVE THE RIGHT TO RELOCATE ANY ELECTRICAL CONNECTION WITHIN 10FT OF THE LOCATION AS SPECIFIED OR SHOWN ON THE DRAWINGS, WITHOUT ANY ADDITIONAL COST TO THE OWNER. ALL LOCATIONS SHALL BE COORDINATED AND VERIFIED BETWEEN THE CONTRACTOR AND GENERAL CONTRACTOR/OWNER BEFORE SETTING BOXES OR PULLING WIRE.

IN GENERAL, UNLESS OTHERWISE NOTED, CONDUIT 2"DIA AND SMALLER SHALL BE THINWALL ELECTRIC METALLIC TUBING, TUBING SHALL BE COLD ROLLED STEEL, GALVANIZED WITH COATED INTERIOR.

PVC CONDUITS ARE TO BE USED UNDERGROUND. HEAVY WALL "RIGID" CONDUIT SHALL BE USED WHERE CONDUITS LEAVE THE SLAB OR EARTH.

INSTALL GROUND WIRE AND PULL TAPES IN CONDUITS

WIRE AND CABLE

BUILDING WIRE AND CABLE WITH 600V THWN INSULATION SHALL BE 98% CONDUCTIVITY COPPER, UNLESS OTHERWISE NOTED. THE MINIMUM CONDUCTOR SIZING FOR POWER AND LIGHTING SHALL BE PER THE FEEDER SCHEDULES SHOWN AND, WHERE NOT NOTED, SHALL BE SIZED IN ACCORDANCE WITH THE NEC. AND MOST STRINGENT REQUIREMENTS

OUTLET BOXES

OUTLET BOXES FOR WORK EXPOSED TO WEATHER, IN FLOORS OR OTHERWISE EXPOSED, SHALL BE THE CAST TYPE. OUTLET BOXES CONCEALED IN THE EARTH OR IN CONTACT WITH WATER SHALL BE PLASTIC AND WATERTIGHT. BOXES SHALL BE DESIGNED FOR THE TYPE OF CONDUIT THAT IS INSTALLED INTO THE BOX. CONDUIT FILL SHALL BE PER THE NEC. CONDUITS SHALL BE PROTECTED FROM PHYSICAL DAMAGE. EMPTY(SPARE) CONDUITS SHALL BE PROVIDED WITH PULL TAPE, AND SHALL BE SEALED WATER TIGHT. LABELING OF CONDUITS IS REQUIRED WITH CIRCUIT INFORMATION

ELECTRICAL SERVICE

THE ELECTRICAL SERVICE SHALL BE NEW WHERE NOTED, AND FULLY COORDINATED WITH THE CONTRACTOR AND UTILITY. ELECTRICAL SERVICES, WHERE EXISTING, SHALL BE UPGRADED WHERE REQUIRED, CLEANED AND FULLY RELABLED. THE CONTRACTOR SHALL COORDINATE ALL TRANSFORMER AND METER LOCATIONS WITH THE OWNER AND UTILITY

COMPANY REPRESENTATIVES ON SITE PRIOR TO COMMENCEMENT OF WORK. THIS CONTRACTOR SHALL OBTAIN APPROVAL FROM UTILITY COMPANY AND PAY ALL FEES ASSOCIATED WITH SERVICE ESTABLISHMENT. MOUNTING ALL SWITCHGEAR IN ACCORDANCE WITH UTILITY REQUIREMENTS

GROUNDING SYSTEM

FURNISH AND INSTALL A GROUNDING SYSTEM INCLUDING ALL FITTINGS, CLAMPS, CONDUIT, AND WIRE OF THE PROPER SIZE TO MAKE GROUND CONNECTIONS BETWEEN ALL APPARATUS, NEUTRAL BUS, CONDUITS, ETC. ALL GROUNDING AND BONDING SHALL BE REQUIRED TO BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

PANELBOARDS

PANELBOARDS SHALL BE DEAD FRONT AND CONSIST OF CABINETS, INTERIORS, BUS, MAIN AND BRANCH CIRCUIT PROTECTIVE DEVICES, MAIN LUGS, AND ALL NECESSARY EQUIPMENT FOR A COMPLETE PANELBOARD. DETAILED CHARACTERISTICS SUCH AS NUMBER OF BRANCHES, FRAME AND AMP RATING, TRIP, BUS SIZE, MOUNTING TYPE OR VOLTAGE RATINGS, SHALL BE AS SHOWN ON THE DETAILS.

LOAD CENTER TYPE PANELBOARDS ARE NOT ACCEPTABLE

FUNISH AND INSTALL A TYPED INDEX IDENTIFYING THE PANELBOARD AND INDICATING THE CIRCUIT NUMBER WITH THE DESCRIPTION OR FUNCTION OF THE ASSOCIATED BRANCH CIRCUIT. INDEX SHALL BE MOUNTED OVER CLEAR PLASTIC PROTECTIVE COATING, AND SHALL BE CURRENT AND UPDATED PRIOR TO FINAL INSPECTION.

ALL PANELBOARDS SHALL BE NEMA 3R RATED WITH LOCABLE COVERS, WHERE REQUIRED. PROVIDE PANELBOARD KEYS TO THE OWNER. KEY ALL PANELS ALIKE.

ALL LUGS SHALL BE SOLDERLESS TYPE AND RATED AT A MINIMUM OF 75 DEGREES.

ALL PANELBOARDS SHALL INCLUDE AN EQUIPMENT GROUND BUS.

ALL PANELBOARDS SHALL HAVE ENGRAVED NAMEPLATES IDENTIFYING PANELBOARDS AS INDICATED BY OWNER. ALL PANELBOARD SWITCHES AND CIRCUIT BREAKERS SHALL BE LABELED.

ALL SPARE CIRCUITS SHALL BE LEFT IN THE OFF POSITION AND SO LABELED

THE FOLLOWING PANEL MANUFACTURERS ARE APPROVED FOR USE: SQUARE D, SIEMENS GE, EATON

TRANSFORMERS

ANY TRANSFORMERS, MOUNTING, PRIMARY AND SECONDARY CONDUITS SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

SAFETY SWITCHES

SAFETY AND DISCONNECT SWITCHES SHALL BE PROVIDED, FUSED AND NON-FUSED, AS CALLED FOR ON THE DRAWING AND AS REQUIRED BY CODE. SWITCHES SHALL BE HEAVY DUTY, LOAD AND HORSEPOWER RATED. SWITCH ENCLOSURE(S) SHALL BE SUITABLE FOR THE APPLICATION.

CARTRIDGE FUSES SHALL BE ONE TIME BUSSMANN FUSETRON, LOW PEAK, OR HI CAP FUSES SIZED ACCORDING TO THE LOAD OR AS INDICATED ON THE DRAWINGS

FURNISH AND INSTALL FUSES IN ALL SWITCHES REQUIRING SUCH, IN ADDITION FURNISH TO THE OWNER ONE SET OF EACH SIZE AND TYPE ON THE JOB, AS SPARES.

TELEPHONE/POS SYSTEMS

FURNISH AND INSTALL ALL WIRING FOR TELEPHONE AND POS SYSTEMS. PROVIDE SHIELDED CABLE FOR POS SYSTEMS AS REQUIRED. COORDINATE DEMARK LOCATIONS WITH VENDOR AND UTILITY AS REQUIRED. PULL SPARE POS COMMUNICATIONS WIRING WHERE REQUIRED BY THE VENDOR(S)

LIGHTING SYSTEMS, FIXTURES AND CONTROLS

THE CONTRACTOR SHALL PROVIDE FIXTURES. WHERE NOT OTHERWISE SPECIFIED AS BY THE OWNER. PROVIDE SWITCHES AND OR CONTROLS AS SHOWN ON THE DRAWINGS, AND WHERE NO CONTROL TYPE IS SPECIFIED, PROVIDE OWNER WITH A SUGGESTION AND RECOMMENDATION FOR CONTROL OF FIXTURES PROVIDED OR FURNISHED.

CLEAN ALL FIXTURES ONCE INSTALLED. RELAMP FIXTURES AS REQUIRED.

EXCAVATION AND BACKFILL

THIS CONTRACTOR SHALL DO ALL EXCAVATION REQUIRED TO INSTALL ELECTRICAL CONDUITS, POLE BASES, ETC. AS SHOWN ON THE PLANS OR WHERE REQUIRED TO ROUTE TO FIXTURES OR JUNCTION

ALL CONDUITS SHALL BE INSPECTED PRIOR TO COVER. ALL CONDUITS SHALL BE LABELED. AND PROVIDED WITH PULL TAPE.

THE BOTTOM OF ANY TRENCH OR EXCAVATION SHALL BE TAMPED HARD AND GRADED TO SECURE THE REQUIRED DEPTH. ROCK, WHERE ENCOUNTERED, SHALL BE REMOVED. TRENCHES SHALL BE BACKFILLED AND COMPACTED PRIOR TO FINAL COVER.

INCIDENTAL OVERTIME OR NIGHT WORK

THE COST FOR INCIDENTAL OVERTIME, NIGHT SHIFT WORK OR OTHER OVERTIME WORK FOR CHANGE-OVER OF SERVICES. SHALL BE ANTICIPATED AND INCLUDED BY THE CONTRACTOR. ANY WORK AS REQUIRED ON WEEKENDS OR AFTER NORMAL OPERATING HOURS SHALL BE INCLUDED BY THE CONTRACTOR ANY WORK EXCLUDED IN THE CONTRACTOR SHALL BE NOTED DIRECTLY IN THE CONTRACTOR FOR WORK AND RECOGNIZED BY THE GENERAL CONTRACTOR.

COORDINATION OF WORK

NOTES: 1.

Table 500, exception 4. a.

Table 500, exception 4. b.

Table 500, exception 4. c.

Table 500, exception 4. d.

Table 500, exception 5, a.

6. Table 500, exception 5. b.

THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE UTILITY. SHALL PROVIDE UTILITY WITH APPLICATIONS. LOAD SHEETS, ESTIMATED DEMAND LOADS, TEMPORARY SERVICES REQUIRED WITH THE UTILITY. THE OWNER AND TELEPHONE COMPANY AS REQUIRED TO PROVIDE SERVICE TO THE BUILDING WITHOUT DELAY.

SEISMIC RESTRAINTS FOR EQUIPMENT AND FIXTURES

THE CONTRACTOR SHALL COMPLY WITH SEISMIC CODE REQUIREMENTS AS IMPOSED BY THE AUTHORITY HAVING JURISDICTION. PROVIDE ALL BRACING, ATTACHMENTS, FOR EQUIPMENT AND FIXTURES, HOLDDOWNS

INSTALLATION OF SWITCHGEAR IN FLOOD PLAINS

ANY SWITCHGEAR INSTALLED IN OR ON BUILDINGS, WITHIN A REGISTERED FLOOD PLAIN SHALL BE INSTALLED ABOVE THE FLOOD LINE AS ESTABLISHED BY THE CIVIL ENGINEER. THE BOTTOM OF ALL SWITCHGEAR SHALL BE INSTALLED A MINIMUM OF 12 INCHES ABOVE THE 100 YEAR FLOOD PLAIN, OR WHERE REQUIRED HIGHER AS SPECIFIED BY THE CIVIL ENGINEER OR UTILITY. ALL ELECTRICAL WORK SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION OF SWITCH GEAR IN A FLOOD PLAIN.

SHEET NUMBER	DRAWING INDEX
E-1	ELECTRICAL NOTES, SYMBOL LEGEND AND GENERAL SPECIFICATIONS
E-2	ELECTRICAL POWER PLANS
E-3	ELECTRICAL LIGHTING PLANS

ANCHORAGE & SWAY BRACING FOR **ELECTRICAL SYSTEM COMPONENTS**

ELECTRICAL SYSTEM COMPONENTS THIS DOCUMENT IS BASED ON 3/14/11 ATTACHMENT "C" OF ST. LOUIS COUNTY SEISMIC RULES AND REGULATIONS ANCHORAGE-SWAY BRACING MEP SYSTEM COMPONENTS

SEISMIC USE GROUP ()									SEISMIC DESIGN CATEGORY (D)	
EQUIPMENT AND SYSTEM COMPONENTS	TO FLOOI WALL	ANCHORAGE TO FLOORS, ROOF WALLS, ETC		SWAY BRACING		ON OF PRO PARED AN AY BRACIN	ICHORAGE		NOTES (N/A) - NOT APPLICABLE (E) - EXISTING NOT APPLICABLE	
						ON CONSTRUCTION DOCUMENTS		QUENT ITALS	(ÚŚC) – UNDER SEPERATE CONTRACT	
	NOT PROVIDED	PROVIDED	NOT PROVIDED	PROVIDED	DETAIL NO. NUMBER	SPEC. SECTION	SHOP DRAWNGS	SEPERATE PERMIT & DRAWNGS		
BRANCH CIRCUIT PANELS	Х		Х						N/A WALL MOUNTED	
CONDUIT LARGER THAN 1"	Х		X						11.	
LIGHT FIXTURES	Х			Х					SEE ARCHITECTURAL PLAN	
SINGLE HANGER CONDUIT SUPPORT	Х		Х						8.	
ELECTRICAL PANELBOARDS	X		Х						POSITIVELY ATTACHED TO WALL	
NOTES: *1 OR WHOSE FAILURE	COULD IMPAI	R THEIR C	ONTINUED	USE	I	<u> </u>	1	ı		

Table 600, piping and tubing systems exception 1.

Table 600, piping and tubing systems exception 2.

Table 600, piping and tubing systems exception 3d

10. Table 600, piping and tubing systems exception 3b

11. Table 600, piping and tubing systems exception 3c.

12. Table 600, piping and tubing systems exception 3d.

13. Table 600, HVAC ductwork exception a.

14. Table 600, HVAC ductwork exception b.

Mechanical Electrical Plumbing Engineering 1 13610 Barrett Office Dr. Suite 200, Ballwin, MO 63021 Phone 314-965-8032

| David H. Pollmann, P.E., C.B.O.∼e-mail designstl@outlook.coi State of MO Engineering Corp: 1999141113 State of Missouri Prof. Engineer: E-26777 Registered Discipline: Mechanical Engineer ODCUMENT COPYRIGHT 1999—2023 dp Design & Construction, Inc. Unauthorized duplication prohibited

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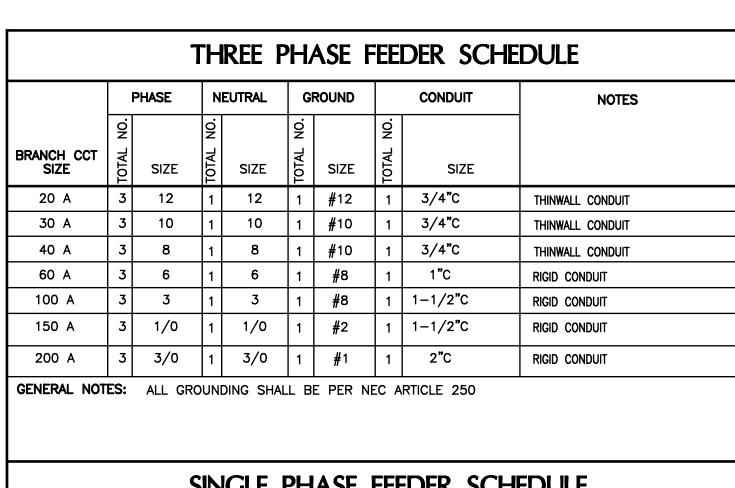
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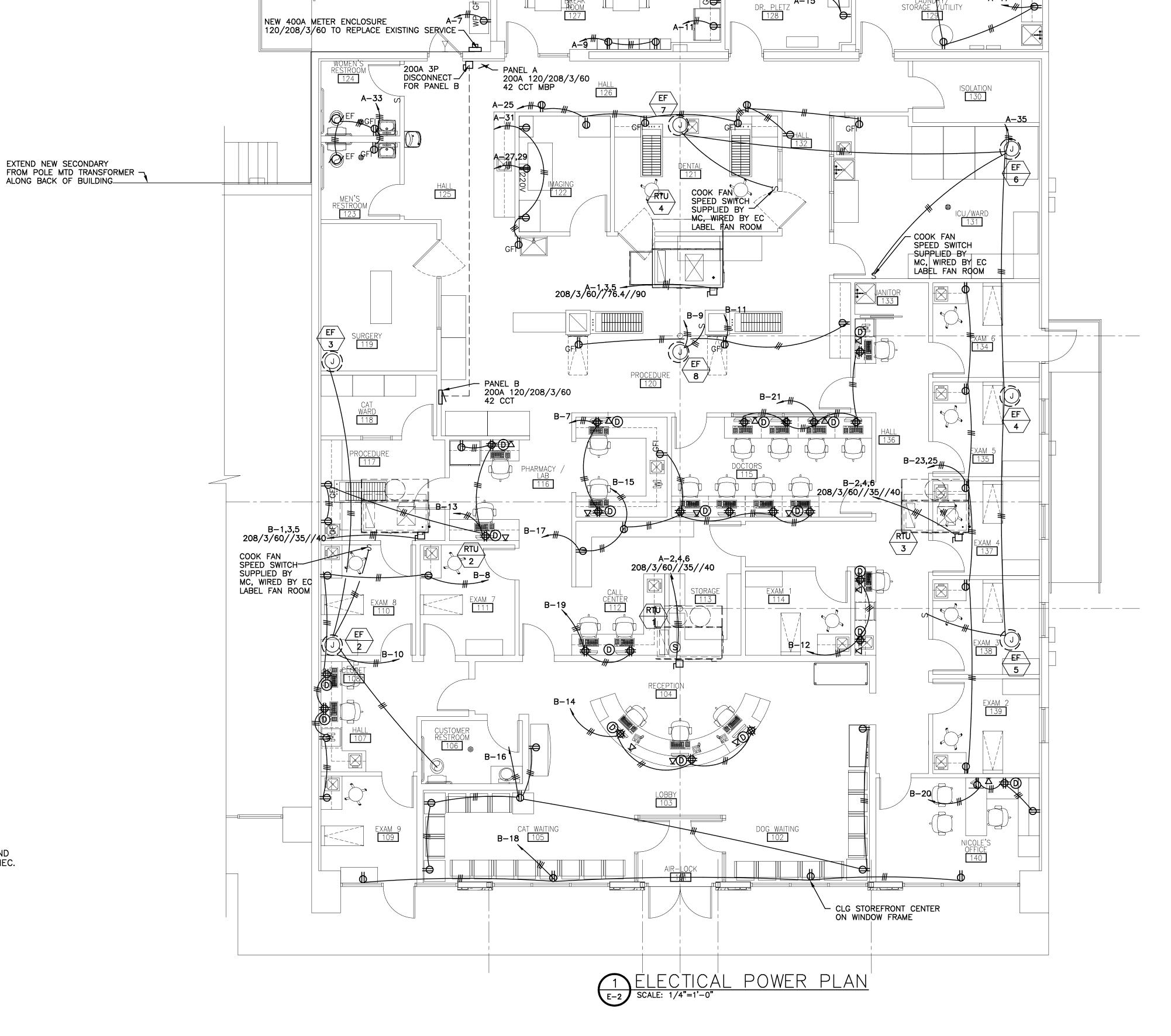


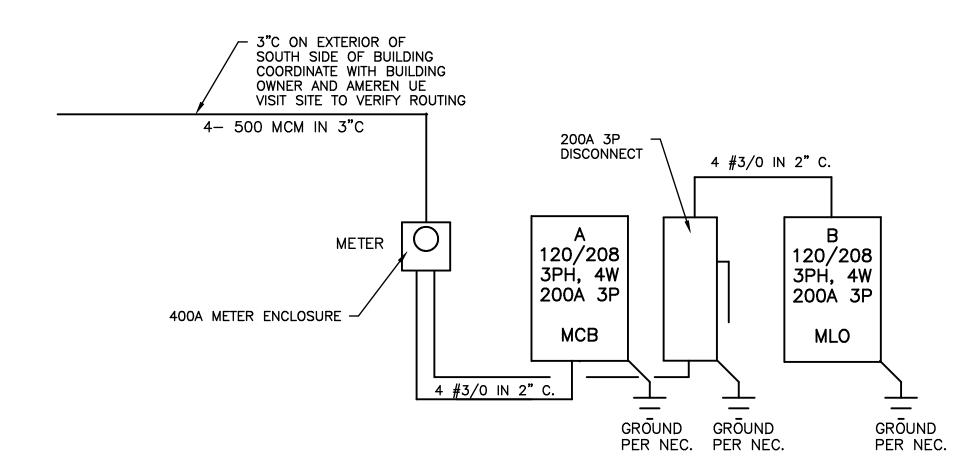
SINGLE	PHASE	FEEDER	SCHEDULE
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PI		PHASE		NEUTRAL		GROUND		CONDUIT	NOTES
BRANCH CCT	L NO.		L NO.		آ NO.		ŇO.		
SIZE	TOTAL	SIZE	TOTAL	SIZE	TOTAL	SIZE	TOTAL	SIZE	
20 A	1	12	1	12	1	#12	1	1/2 " C	THINWALL CONDUIT
30 A	1	10	1	10	1	#10	1	1/2"C	THINWALL CONDUIT
40 A	1	8	1	8	1	#10	1	3/4"C	THINWALL CONDUIT
60 A	2	6	1	6	1	#8	1	1 " C	RIGID CONDUIT
100 A	2	3	1	3	1	#8	1	1-1/2°C	RIGID CONDUIT
150 A	2	1/0	1	1/0	1	#2	1	1-1/2"C	RIGID CONDUIT
200 A	2	3/0	1	3/0	1	#1	1	2"C	RIGID CONDUIT
GENERAL NOT	ES:	ALL 20A	CC	T WIRING	SHA	LL BE #		THHN/THWN UNLI	

ALL 20A CCT WIRING SHALL BE # 12 THHN/THWN UNLESS OTHERWISE NOTED. RUNS IN EXCESS OF 75 FEET SHALL BE # 10 THHN/THWN. ALL HOMERUNS SHALL BE RUN IN THINWALL CONDUIT TO THE PANELS. FLEXIBLE CONDUITS ARE NOT ACCEPTABLE

UNLESS SPECIFICALLY NOTED AND APPROVED BY THE ENGINEER.





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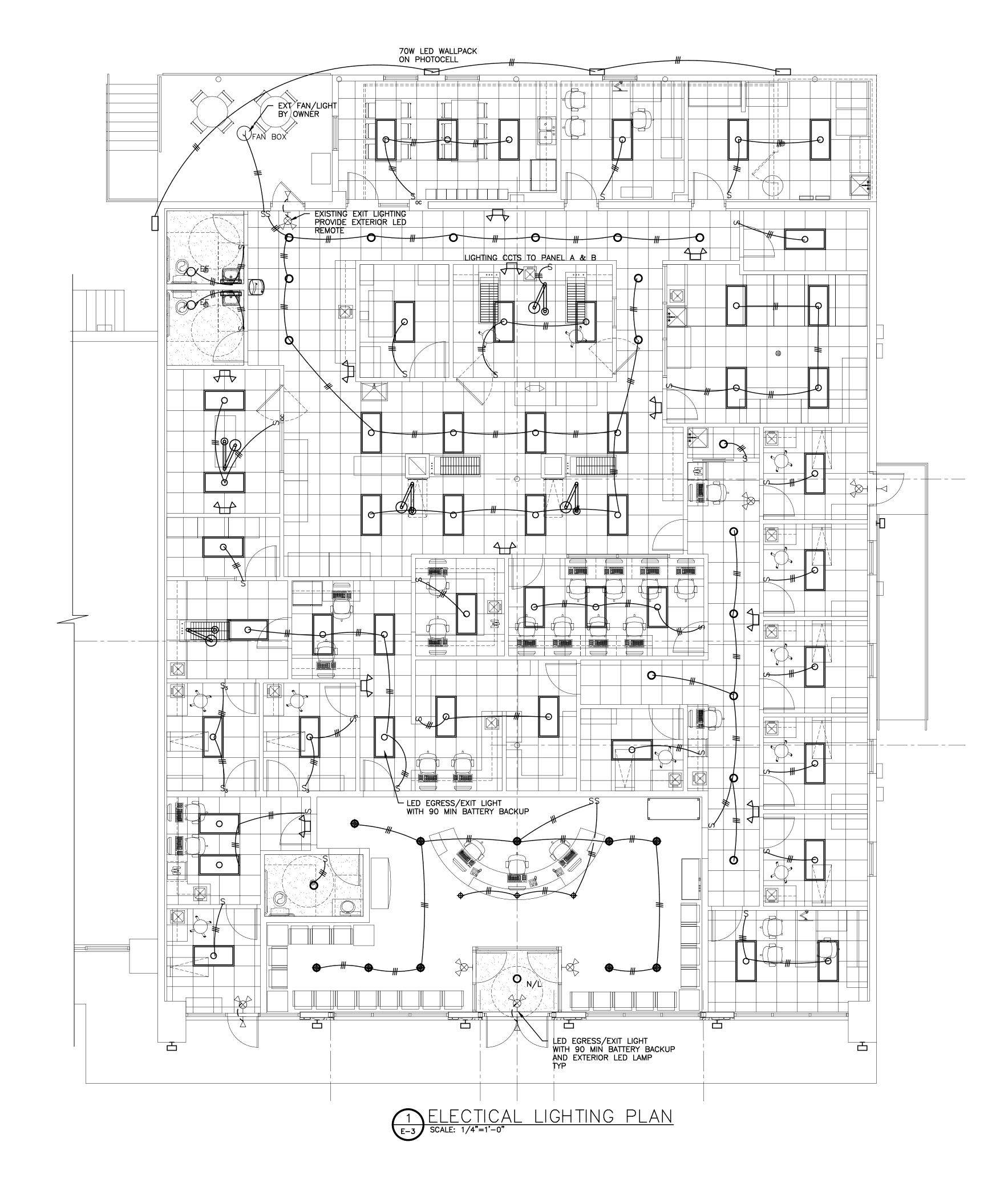
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PIPING SYMBOLS LEGEND GENERAL NOTES-PLUMBING COUNTY SIESMIC CODE BLOCK PIPING SYMBOLS PIPING LINETYPES BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE ANCHORAGE & SWAY BRACING FOR EXACT LOCATION, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES DIRECTION OF FLOW EXISTING PIPING TO BE REMOVED OR RELOCATED PLUMBING SYSTEM COMPONENTS AND PIPING AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES. CONTROL VALVE EXISTING PIPING TO REMAIN THIS DOCUMENT IS BASED ON 6-30-20 ATTACHMENT "A" OF ST. LOUIS COUNTY SEISMIC RULES AND REGULATIONS ANCHORAGE-SWAY BRACING MEP SYSTEM COMPONENTS EXACT LOCATIONS AND MOUNTING HEIGHTS OF PLUMBING FIXTURES SHALL THREE-WAY CONTROL VALVE CONDENSATE DRAIN - HIGH EFFICIENCY RTU (CDH) BE OBTAINED FROM THE ARCHITECTURAL DRAWINGS. SEISMIC DESIGN CATEGORY (D) SEISMIC USE GROUP (||) SHUTOFF VALVE CONDENSATE DRAIN (CD) ALL PLUMBING SHALL BE INSTALLED SO AS TO AVOID INTERFERENCE EQUIPMENT AND LOCATION OF PROFESSIONALLY WITH ELECTRICAL AND MECHANICAL EQUIPMENT AND STRUCTURAL FRAMING. SWAY BRACING AUXILIARY CONDENSATE DRAIN (ACD) SYSTEM COMPONENTS PREPARED ANCHORAGE (N/A) - NOT APPLICABLE(E) - EXISTING NOT APPLICABLE & SWAY BRACING DETAILS BALANCING VALVE WITH PRESSURE PORTS ALL WORK SHALL CONFORM TO THE 2015 UPC, IN CASE OF CONFLICTS WITH CODES, ÚSC) – UNDER SEPERATE CONTRACT NON POTABLE WATER (NPW) SUBSEQUENT SUBMITTALS DRAWINGS, OR SPECIFICATIONS, THE MOST STRINGENT SHALL PREVAIL. CONSTRUCTION TRIPLE DUTY VALVE WITH PRESSURE PORTS DOCUMENTS NATURAL GAS (G) VENTS THRU ROOF SHALL BE INSTALLED 12'-0" FROM OR TERMINATED NOT PROVIDED NOT PROVIDED NATURAL GAS ON ROOF (G) 3'-0" ABOVE ANY FRESH AIR INTAKES. PROVIDED DETAIL NO. SPEC. SHOP STRAINER WITH BLOWOFF ALL CLEANOUTS SHALL BE INSTALLED WHERE READILY ACCESSIBLE. MEDIUM PRESSURE NATURAL GAS (MPG) WASTE PIPING < OR = 3" DIA THE CONTRACTOR SHALL COORDINATE ALL CLEANOUT LOCATIONS OF RELIEF/SAFETY VALVE — — MPG — — DOM WATER PIPING < OR = 2-1/2" DIA MEDIUM PRESSURE NATURAL GAS ON ROOF (MPG) EQUIPMENT, CABINETS, ETC., WITH THE ARCHITECT PRIOR TO ANY INSTALLATION. SOLENOID VALVE —— FOS —— FUEL OIL SUPPLY (FOS) STORM WATER PIPING < OR = 3" DIA THESE DRAWINGS ARE FOR BIDDING PURPOSES ONLY. THEY ARE ESSENT-PRESSURE REDUCING VALVE GAS PIPING Х FUEL OIL RETURN (FOR) IALLY DIAGRAMMATIC TO THE EXTENT THAT MANY OFFSETS, BONDS, UNIONS, GAS PRESSURE REGULATOR HOT WATER HEATER PROVIDE 2 - 1" BANDS TO FOUND WALL SPECIFIC FITTINGS AND EXACT LOCATIONS ARE NOT INDICATED. FUEL OIL VENT (FOV) DO NOT LOCATE ANY PIPING OVER ELECTRICAL PANELS THERMOSTATIC MIXING VALVE *1 OR WHOSE FAILURE COULD IMPAIR THEIR CONTINUED USE LIQUIFIED PETROLEUM GAS (LPG) NOTES: TABLE 4.4, ITEM 1, A, Lp=1.0, COMPONENT DOES NOT WEIGH MORE THAN 400LB AND FLEXIBLE CONNECTIONS ARE PROVIDED. PIPE ANCHOR COORDINATE WITH SITE CIVIL DRAWINGS FOR THE EXACT LOCATION OF 2. TABLE 4.4, NOTE 2 SEWER & WATER SERVICES TO THE BUILDING. BOILER FEED WATER (BFW) A. THE FOLLOWING SANITARY DRAIN, WASTE AND VENT PIPING: **EXPANSION JOINT** SCH 40 PVC, 6" OR LESS IN DIAMETER, SCH 80 PVC, 4" OR LESS IN DIAMETER, SERVICE WEIGHT OR NO-HUB CI 2" OR LESS IN DIA 10 THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN HIGH PRESSURE STEAM SUPPLY (HPS) B. THE FOLLOWING STORM DRAIN PIPING: PIPE GUIDE WITHIN 5 FEET OF THE FACE BUILDING EXCEPT WHERE NOTED. SCH 40 PVC & SCH 80 PVC, 3" OR LESS IN DIAMETER, SERVICE WEIGHT OR NO-HUB CI NOT APPLICABLE HIGH PRESSURE STEAM CONDENSATE (HPC) C. THE FOLLOWING DOMESTIC WATER PIPING: A MINIMUM OF 50 PSI WATER PRESSURE IS REQUIRED IN THE TYLE L & M COPPER 2-1/2" OR LESS IN DIAMTETER, SCH 40 & 80 CPVC 3" OR LESS IN DIAMETER BUILDING, DOWNSTREAM OF THE WATER METER AND RP BACKFLOW LOW PRESSURE STEAM SUPPLY (LPS) FLEXIBLE CONNECTIONS ARE NOT REQ'D FOR CONNECTIONS TO APPLIANCES OR PLUMBING FIXTURES PRIOR TO SUBMITTAL PREVENTOR. ALL BACKFLOW DEVICES SHALL BE TESTED AND APPROVED BY CCCDI CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO SUBMITTAL

PLUMBING FIXTURE SCHEDULE PLUMBING CONTRACTOR TO VERIFY PIPE MATERIALS FOR PLUMBING SYSTEM PRIOR PLUMBING FIXTURE DATA ALL PIPING, HANGERS, SUPPORTS AND FITTINGS LOCATED WITHIN THE PLENUM SHALL COMPLY WITH IMC602.2.1 2015 "AMERICAN STANDARD" MODEL NO. CADET RIGHT HEIGHT TOILET WITH ELONGATED BOWL 5055A65C.020 PLASTIC SEAT WITH COVER PLUMBING CONTRACTOR SHALL COORDINATE SITE UTILITIES W/ ARCHITECT & CIVIL. PLUMBING CONTRACTOR SHALL COORDINATE EXACT LOCATION OF PLUMBING ROUGH-AMERICAN STANDARD WALL MOUNTED ADA LAVATORY LUCERNE OR EQUAL MOEN CHATEAU 64922, WATTS LFUSG-B-M2 OATEY 760-1, 707-1 OVERFLOW AND P-TRAP, WATTS B1F12S BRAIDED SUPPLY KIT TRUBRO 102W, 102EZ TRAP COVER WITH ANGLE STOP COVERS WATTS TCA-411 CONCEALED ARM CARRIER ALL WORK SHALL BE IN COMPLIANCE WITH THE 2015 UPC(ST. LOUIS COUNTY) OR LATEST ADOPTED VERSION AS ADOPTED BY THE MUNICIPALICTY HAVING JURISDICTION

FD	FLOOR DRAIN ZURN ZN415B BODY ASSEMBLY WITH TYPE B STRAINER AND TRAP PRIMER (NPT) CONNECTION.
нwн	GAS HOT WATER HEATER STATE OR EQUAL GS6-75 PROLINE XE POWER VENT SERIES GAS HOT WATER HEATER WITH THERMAL EXPANSION TANK PROVIDE TACO 0012 HOT WATER RETURN PUMP, 1/8 HP WITH AQUASTAT

5. TYPICAL SEISMIC ANCHORAGE OR SWAY BRACING IS PROVIDED ON THE DRAWINGS FOR REFERENCE ONLY. SHOP DRAWINGS ARE REQUIRED.

PLUMBING NOTES:	ALL TOILE	S TO HAVE	QUICK	RELEASE	HINGES,	BATH FIXTURE	FINISHES	TO E	BE BRUSHED	NICKEL,	OR
						OT PERMITTED.				·	
PROVIDE FOLD-DOW	VN SEATS I	N ADA RES	TROOMS	ONLY.							

CONTRACTOR TO PROVIDE FULL PLUMBING SUBMITTAL TO OWNER AND ARCHITECT FOR APPROVAL

THESE FIXTURES SHALL SUPERCEDE FIXTURES NOTED IN OTHER SPECIFICATIONS

PIPING INSULATION MATRIX

(PIPÉ ELECTRICALLY TRACED PRIOR TO INSULATING)

(PIPE ELECTRICALLY TRACED PRIOR TO INSULATING)

1-1/2" FIBERGLASS WITH A.S.J. & 0.016 ALUMINUM JACKET, WEATHERPROOF

1/2 INCH THICK ELASTOMERIC CLOSED CELL INSULATION - ASTM E-84

4. SEISMIC DETAILS ARE ATTACHED TO THE SET OF DRAWINGS

GENERAL CONDITIONS:

THE OWNER PRIOR TO BID

OWNER/ARCHITECT PRIOR TO BID

BE PRESSURE TESTED

THE CONTRACTOR SHALL VERIFY THE EXISTING OR NEW CONDITIONS OF THE JOBSITE. BEFORE SUBMITTAL OF ANY PROPOSALS FOR WORK THE CONTRACTOR SHALL EXAMINE PLANS AND DOCUMENTS, INCLUDING BUT NOT LIMITED TO THE ARCHITECTURAL PLANS, CIVIL PLANS, PLUMBING PLANS AND ALL AS-BUILT DRAWINGS AS NECESSARY. IT IS TO BE UNDERSTOOD THAT THE CONTRACTORS PROPOSAL IS BASED ON REVIEW OF ALL THE ABOVE DOCUMENTS AND THAT HIS WORK COVER ALL NECESSARY LABOR AND MATERIAL TO COMPLETE THE PROJECT.

12. ALL SANITARY PIPING TO BE SCHEDULE 40 PVC, SEE ALSO NOTE 21

PERIMETER. SITE CIVIL DRAWINGS FOR FINAL CONNECTION.

ALL INSULATION SHALL MEET 25/50 FLAME SPREAD SMOKE DEVELOPMENT

TO BIDDING & INSTALLATION. PVC SHALL NOT BE UTILIZED IN PLENUM AREAS.

PLUMBING CONTRACTOR TO STOP WORK @ 5'-0" OUTSIDE OF BUILDING

COORDINATE WITH KES AND ADJUST ROUTING OF PIPING IF NECESSARY

16. PLUMBING CONTRACTOR SHALL INSTALL WATER PIPING ONLY IN AREAS

20 ALL DWV PIPING SHALL BE SCHEDULE 40 PVC UNLESS PROHIBITED

WHICH ARE PROVIDED WITH SUFFICIENT HEAT TO PREVENT FREEZING.

17. ALL ABOVE GRADE WATER PIPING SHALL BE TYPE K COPPER. ALL PIPING SHALL

18. A RPZ SHALL BE INSTALLED ON ANY WATER LINES WITH CROSS CONNECTIONS

AT ANY LOCATION WHERE CHEMICALS OR NONPOTABLE LIQUIDS ARE UTILIZED

ALL DWV & WATER PIPING BEHIND OR WITHIN 18" OF KITCHEN HOODS OR

EQUIPMENT SHALL BE NON-COMBUSTIBLE, I.E CAST IRON OR COPPER

SPECIFIC MATERIALS TO BE UTILIZED, CODE STANDARDS SHALL BE USED

AND WHEN OR IF A SPECIFIC FIXTURE IS NOT SCHEDULED, CONFIRM WITH THE

TRANSMITTER TRACE/LOCATE WHERE EXISTING PIPING IS BEING CONNECTED TO WHERE EXISTING PIPING EXISTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR EITHER RETAINING A LOCATE CONTRACTOR OR SECURING THIS SERVICE WITH

22 WHERE THE PLUMBING PLAN DOES NOT INDICATE SPECIFIC ROUTING OR

23 PLUMBING FIXTURES SHALL BE PROVIDED PER THE ATTACHED SCHEDULE

24 PLUMBING CONTRACTOR SHALL VERIFY THROUGH EITHER SCOPING OR

NO DEVIATION FROM THE PLANS AND SPECIFICATIONS SHALL BE ALLOWED WITHOUT PRIOR APPROVAL FROM THE ENGINEER OF RECORD OR THE ARCHITECT (IF REQUIRED), THE CONTRACTOR SHALL INSURE THAT ALL WORK CONFORMS WITH THE LATEST ADOPTED PLUMBING CODE, AND STATE OR FEDERAL CODES OR STANDARDS. THE CONTRACTOR SHALL LEAVE ALL WORK OPEN FOR INSPECTION BY THE AUTHORITY HAVING JURISDICTION AND SHALL FITTING HIS WORK IN PLACE WITHOUT CONFLICT FROM OTHER TRADES, WHERE THIS WORK ALLOWS FOR INSTALLATION OF OTHER TRADE WORK IN THE SAME SPACE IF REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER PLANNING AND PROJECT MANAGEMENT. THE DRAWINGS ARE DIAGRAMMATIC AND WILL REQUIRE FIELD CONDITIONS TO BE INCORPORATED INTO ALL FINAL ROUTING.

NOTHING IN THESE DRAWINGS OR SPECIFICATIONS SHALL CONFLICT WITH ANY CODE, ORDINANCE, UNDERWRITERS REQUIREMENTS, OR OTHER STANDARDS WHICH GOVERN INSTALLATION OF PLUMBING DRAIN WASTE, VENT, OR OTHER PIPING. SHOULD ANY CONFLICT ARISE, THE WORK SHALL BE INSTALLED IN STRICT COMPLIANCE WITH LAWS, CODES, OR ORDINANCES AS REQUIRED. THIS CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS PRIOR TO INSTALLING ANY PLUMBING PIPING, AND SHALL MAINTAIN THE REQUIRED APPROVED ENGINEERING PLANS ON SITE. THE CONTRACTOR SHALL NOT PROCEED UNTIL ALL INSPECTIONS HAVE BEEN MADE AND DULY NOTED.

THE INFORMATION GIVEN WITHIN THE ATTACHED DRAWINGS IS EXACT AND DETAILED AS POSSIBLE, ITS COMPLETE ACCURACY IS NOT GUARANTEED, AND THIS CONTRACTOR SHALL FIELD VERIFY BY SIGHT, TRANSMITTER TRACE, OR EMPLOY OTHER TRACING/INSPECTION MEANS AS IS REQUIRED TO DETERMINE ACCURACY. THEREFORE, THE CONTRACTOR SHALL PROVIDE ADDITIONAL FITTINGS, OFFSETS. RISES, DROPS, AND OTHER FITTINGS AS REQUIRED TO PERFORM HIS WORK WITHOUT ADDITIONAL COST TO THE PROJECT OR PROJECT TEAM.

THE DRAWINGS SHALL NOT BE SCALED. THE EXACT BUILDING DIMENSIONS AND SCALED DRAWINGS WILL BE ISSUED BY THE ARCHITECT, AND FIELD VERIFIED.

SHOP AND INSTALLATION DRAWINGS, EQUIPMENT SPECIFICATIONS, EQUIPMENT DRAWINGS AND OTHER DETAILS SHALL BE PROVIDED WHERE REQUESTED OR REQUIRED BY THE ARCHITECT OR ENGINEER. THESE DRAWING SHALL BE CLEARLY MARKED INDICATING WHICH ITEMS ARE TO BE SUPPLIED, AND SHALL STATE CAPACITIES, SIZES, COLOR, GENERAL DESCRIPTION AND SHALL NOTE IF ANY CHANGES HAVE BEEN MADE TO WHAT HAS BEEN SPECIFIED, AND WHY SUCH SUBSTITUTION HAS BEEN MADE.

ALL SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW BY THE CONTRACTOR OR THE CONTRACTORS VENDOR IN A TIMELY MANNER, AND SHALL BE PROVIDED IN DIGITAL FORMAT, AND PRINTED FORMAT WHERE REQUIRED.

PROCESSING OF THE SHOP SUBMITTALS BY THE ARCHITECT DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR ERRORS AND/OR OMISSIONS.

TYPE OF MATERIAL PRE-FORMED FITTING COVERS 1 INCH FIBERGLASS WITH ALL-SERVICE JACKET 1 INCH FIBERGLASS WITH ALL-SERVICE JACKET 1-1/2" FIBERGLASS WITH A.S.J.

FITTING COVERS

PIPING MATERIALS MATRIX TYPE OF MATERIAL COPPER PIPE - HARD DRAWN TYPE "M" ASTM B88 COPPER PIPE - SOFT DRAWN TYPE "K" ASTM B88 OR UPONOR F1960 PEX SCHEDULE 40 SOLID WALL PVC with SOLVENT CEMENTED DRAINAGE PATTERN FITTINGS ASTM D-2665 STANDARD WEIGHT NO-HUB CAST IRON ASTM-888 with Std Duty TYPE 304 STAINLESS STEEL COUPLINGS UPONOR PEX-a DISTRIBUTION SYSTEM: ASTM F 876, TUBING WITH ASTM F 1960 EP FITTINGS CPVC TUBING SYSTEM: ASTM D 2846/D 2846M, SDR 11

NUMBER

P-1

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LOW PRESSURE STEAM CONDENSATE (LPC)

CONDENSATE PUMP DISCHARGE (PD)

HEATING HOT WATER SUPPLY (HWS)

HOT WATER RETURN PIPING (HWR)

SANITARY GREASE WASTE (GW)

DRAWING INDEX

PLUMBING NOTES, SYMBOL LEGEND AND PIPING REQUIREMENTS

COLD WATER PIPING (CW)

HOT WATER PIPING (HW)

SANITARY WASTE (SAN)

SANITARY PLAN AND DWV ISOMETRICS

PIPING PLAN AND PLUMBING DETAILS

----- SANITARY VENT PIPING

GENERAL PIPING SIZING SCHEDULE

BUCKET TRAP

THERMOSTATIC TRAP

BACKFLOW PREVENTER

FLANGE CONNECTION

PRESSURE AND TEMPERATURE TEST PLUG

ELBOW UP WITH SHUT-OFF VALVE (SOV)

TEE DOWN WITH SHUT-OFF VALVE (SOV)

ELBOW DOWN WITH SHUT-OFF VALVE (SOV)

PRESSURE GAUGE

THERMOMETER

CLEANOUT

ELBOW UP

TEE UP

TEE DOWN

REDUCER

GAS COCK

TEE UP WITH SHUT-OFF VALVE (SOV)

ELBOW DOWN

CAP

FIXTURE	WASTE	VENT	COLD WATER	HOT WATER	NOTES
WATER CLOSETS (FLUSH VALVE)	4"	2"	1"		PROVIDE FLUSH VALVE
WATER CLOSETS (TANK TYPE)	4"	2"	1/2"		PROVIDE 1/4 TURN STOP
URINALS	2"	2"	3/4"		PROVIDE FLUSH VALVE
SINKS(HAND, KITCHEN, BREAKROOM)	2"	2"	1/2"	1/2"	PROVIDE 1/4 TURN STOP
MOP BASINS	3"	2"	1/2"	1/2"	PROVIDE MOP FAUCET
LAVATORIES	1 ½"	1 ½"	1/2"	1/2"	PROVIDE 1/4 TURN STOP
WASHING MACHINE BOXES	2"	2"	1/2"		PROVIDE AIR ARRESTOR STOP VALVES

NOTES: PROVIDE FIXTURE SUBMITTALS TO OWNER AND ARCHITECT FOR APPROVAL PIPE HANGER SPACING SHALL BE PER IPC 2015 308.5



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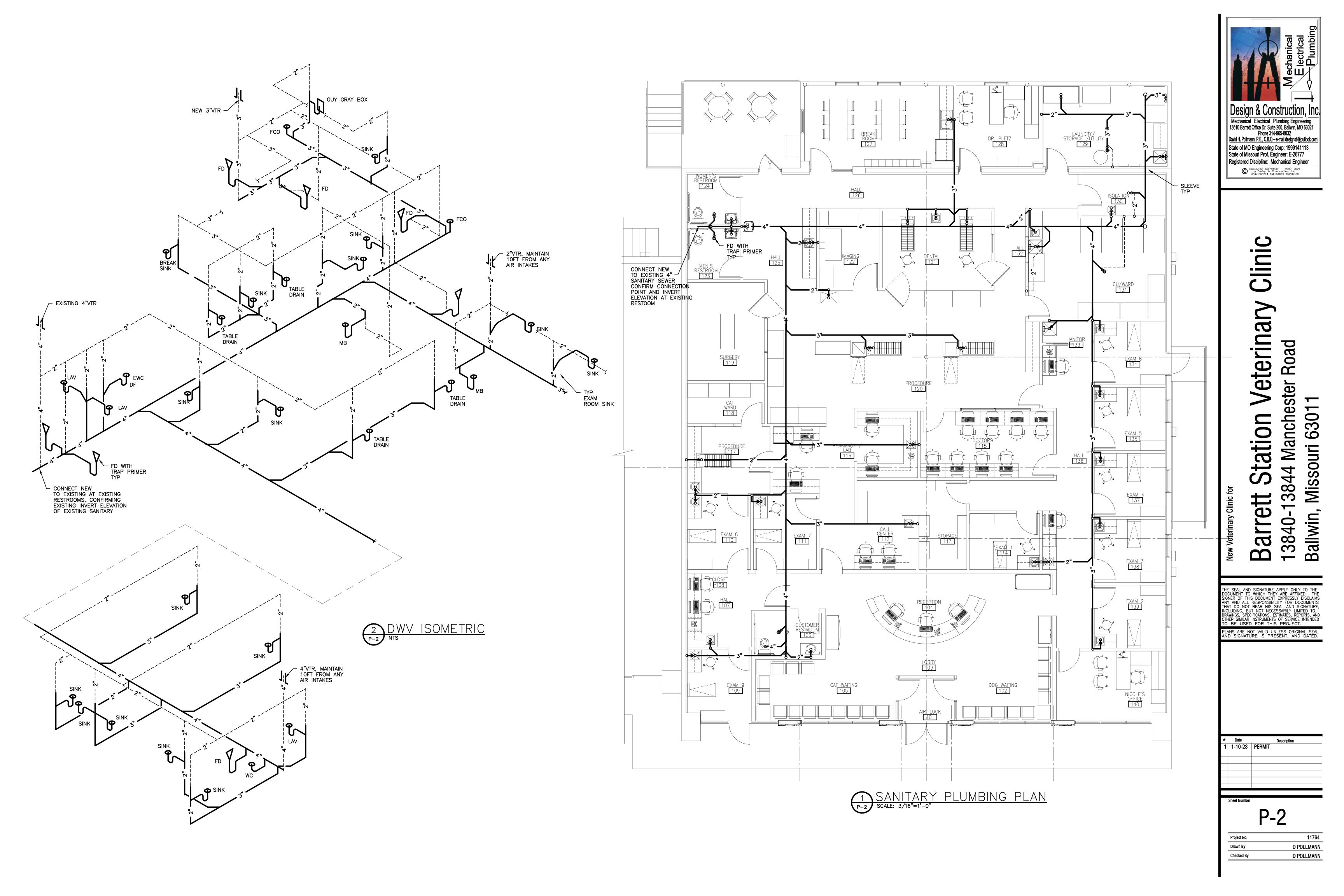
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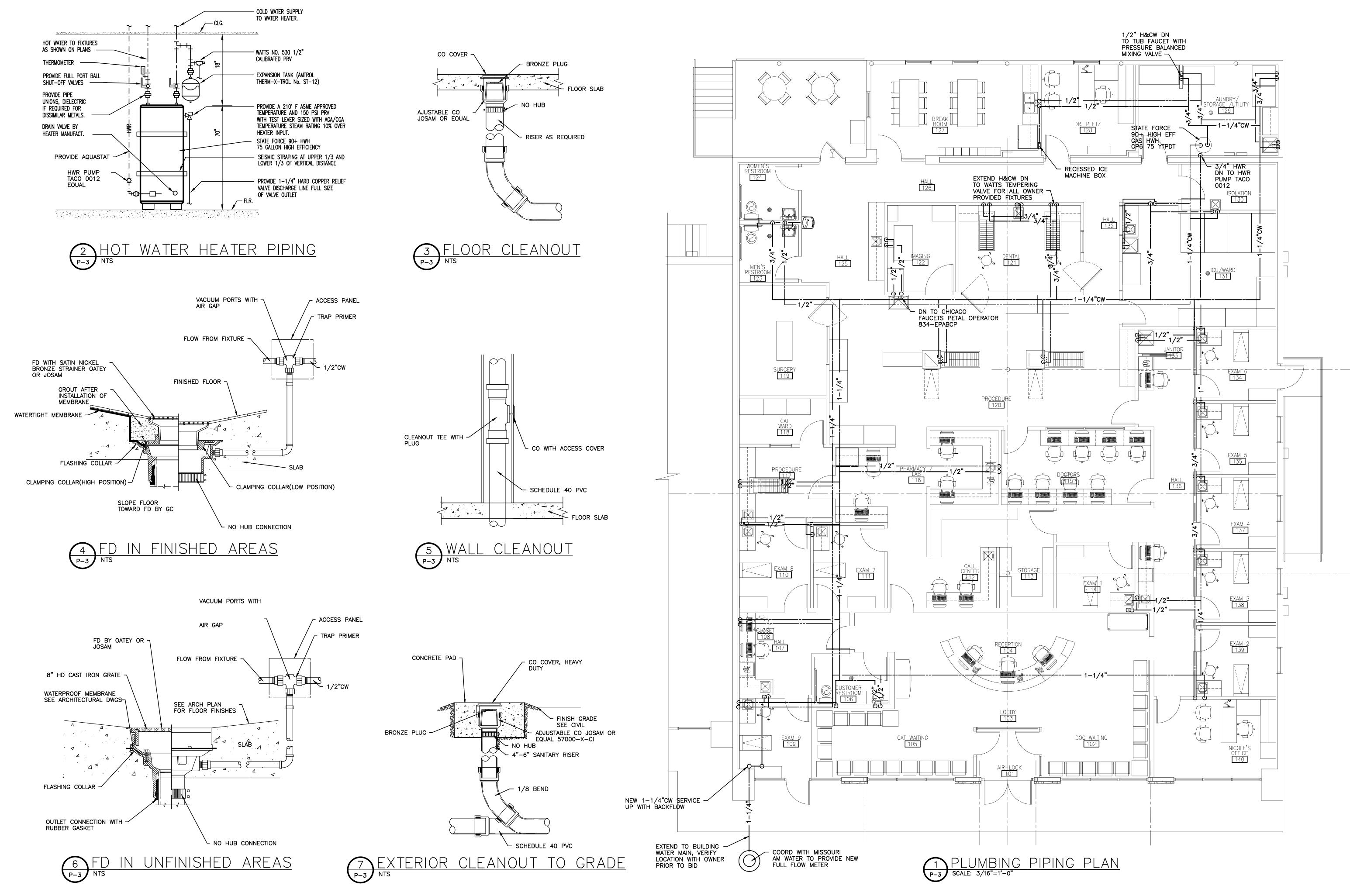
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State of Missouri Prof. Engineer: E-26777
Registered Discipline: Mechanical Engineer

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