



Addendum No. 1

Project: **Dental Clinic**

—

Date: **11-04-2019**

All bidders are herewith notified of the following additions, deletions, changes or clarifications to the drawings dated 10-28-2019 and shall be acknowledged as received on the proposal.

Corrections/Clarifications:

1. Civil C3.01
 - a. See attached civil drawing showing updated spot elevation behind dumpster enclosure. Ref. CSK-1
2. Architectural A100:
 - a. Add attic plan showing 3/4" plywood decking to from scuttle to A/C equipment. Ref. SK-1 attached
3. Architectural A100
 - a. At Janitor 114, provide (2) full sheets of FRP panels glued over moisture resistant gypsum board, (1) at North wall and (1) at east wall. Provide surface mounted mop and broom holder (Bobrick B-223 x 24") and mount top of rack at 6'-0" above finished floor at North wall.
4. Architectural A500
 - a. At Detail 5, replace 6" long brushed standoffs to 2" long standoffs.
5. Structural S2:
 - a. Relocate Attic Access Door to location in front of break room. Reference Architectural RCP
 - b. Ceiling Joist Framing Plan shows framing of barrel vault ceiling at Waiting Area-100, Ref. SA01, SA02 and SA03.
6. Structural S4:
 - a. Relocate Attic Access Door to location in front of break room. Reference Architectural RCP.
 - b. Modify roof framing members as shown.

7. Mechanical, Electrical, Plumbing

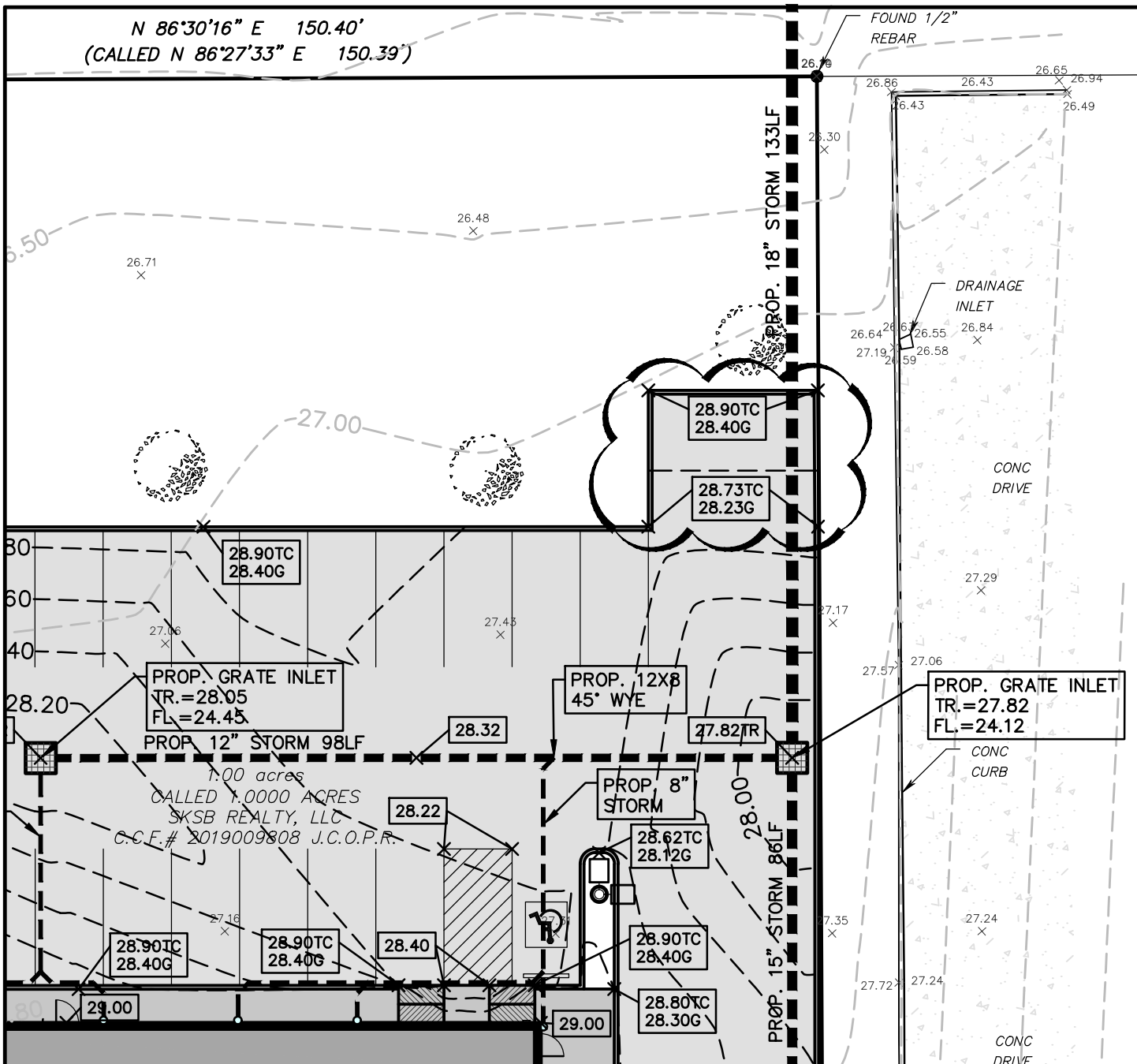
- a. Replace issued sheets with attached M.1R, M.2R, E.1R, E.2R, E.3R, P.1R, P.2R, P.3R and P.4R.

End of Addendum



Date: 11-04-2019

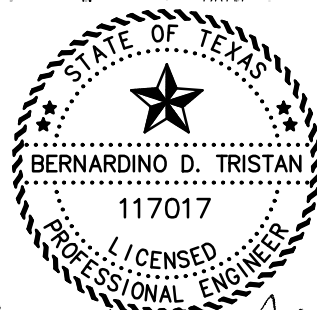
N 86°30'16" E 150.40'
(CALLED N 86°27'33" E 150.39')



Grading Plan



Scale 1" = 20'



Bernardino D. Tristan

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Oct 31, 2019

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Revised Dumpster Grading - Ref. Sheet C3.01

PROJECT NAME: Dental Clinic
SKSB Realty, LLC
Beaumont, Texas

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SHT. NO.

CSK-1

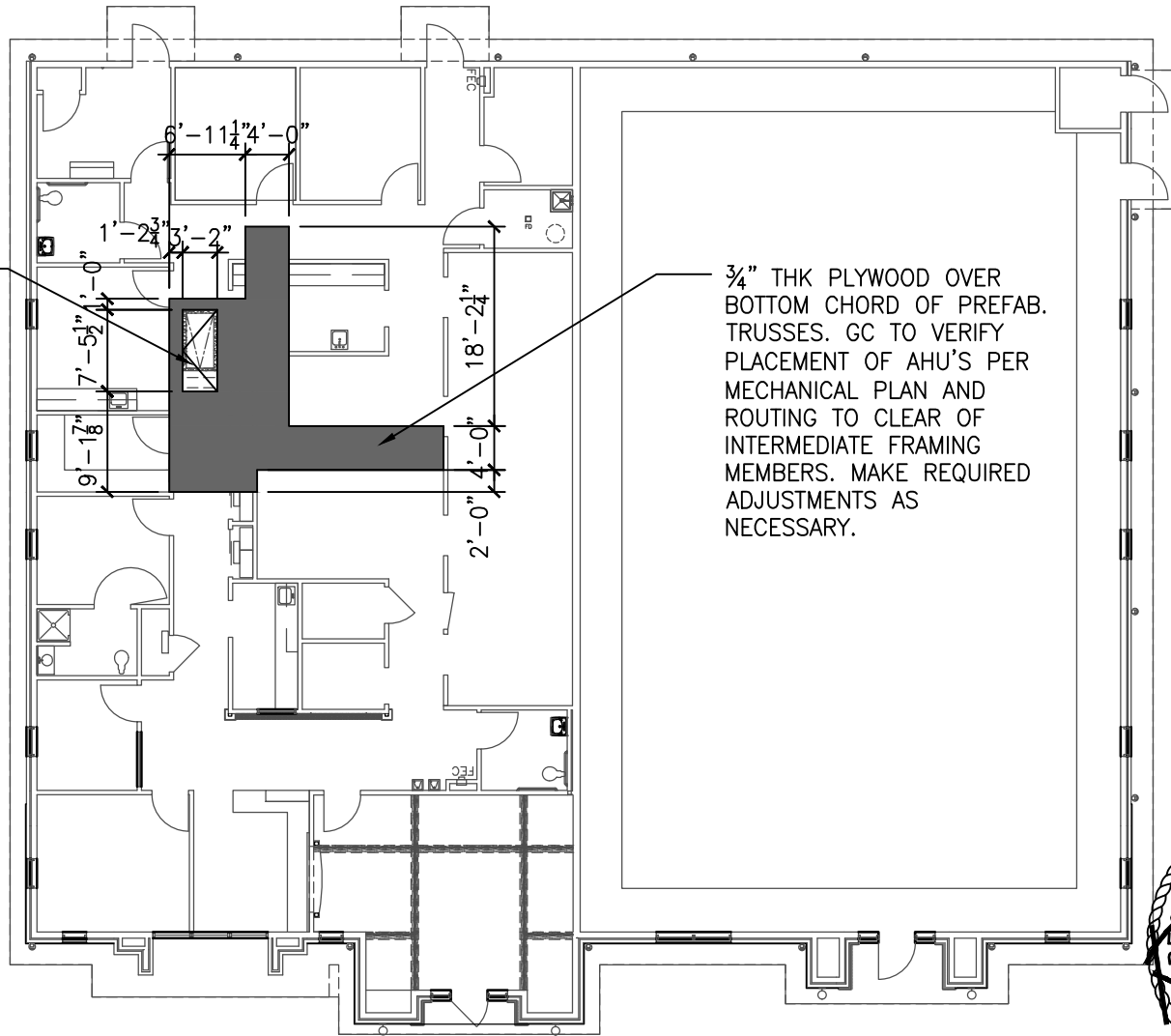
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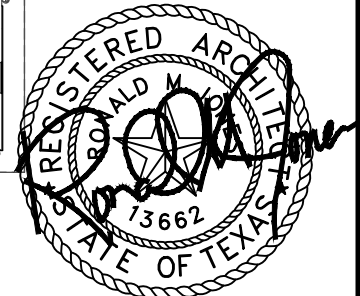
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DECK FRAMING PLAN

CEILING ACCESS HATCH. REF. A300 FOR DETAILS



3/4\" THK PLYWOOD OVER BOTTOM CHORD OF PREFAB. TRUSSES. GC TO VERIFY PLACEMENT OF AHU'S PER MECHANICAL PLAN AND ROUTING TO CLEAR OF INTERMEDIATE FRAMING MEMBERS. MAKE REQUIRED ADJUSTMENTS AS NECESSARY.



1 DECK FRAMING PLAN
SCALE: 1/16" = 1'-0"

10/30/2019



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J. ROB CLARK, A.I.A.
RONALD M. JONES, A.I.A.

Dental Clinic
SKSB Realty, LLC

6330 Delaware

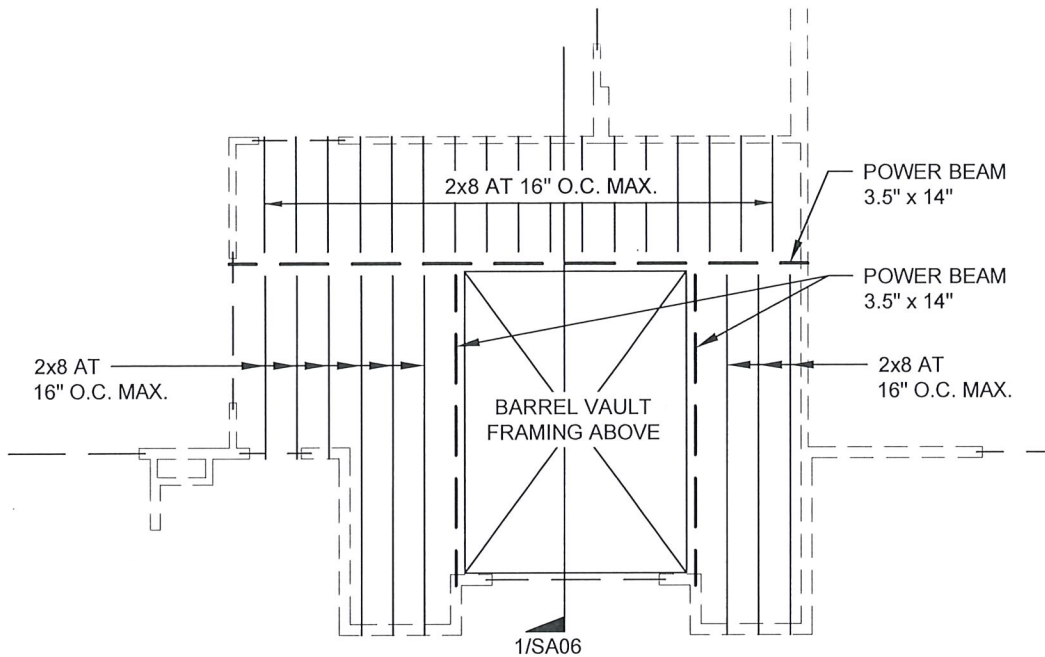
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DATE

Beaumont, TX, 77706

SHEET NUMBER

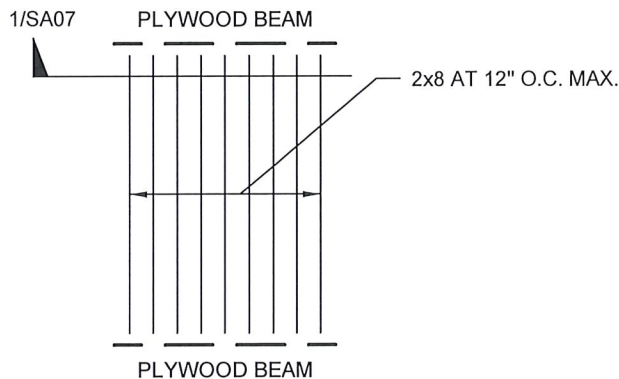
SK-1

1936
PROJECT NUMBER



CEILING JOIST FRAMING PLAN

SCALE: N.T.S.



BARREL VAULT FRAMING PLAN

SCALE: N.T.S.

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BARREL VAULT FRAMING PLAN

PROJECT NAME: KODALI DENTAL CLINIC

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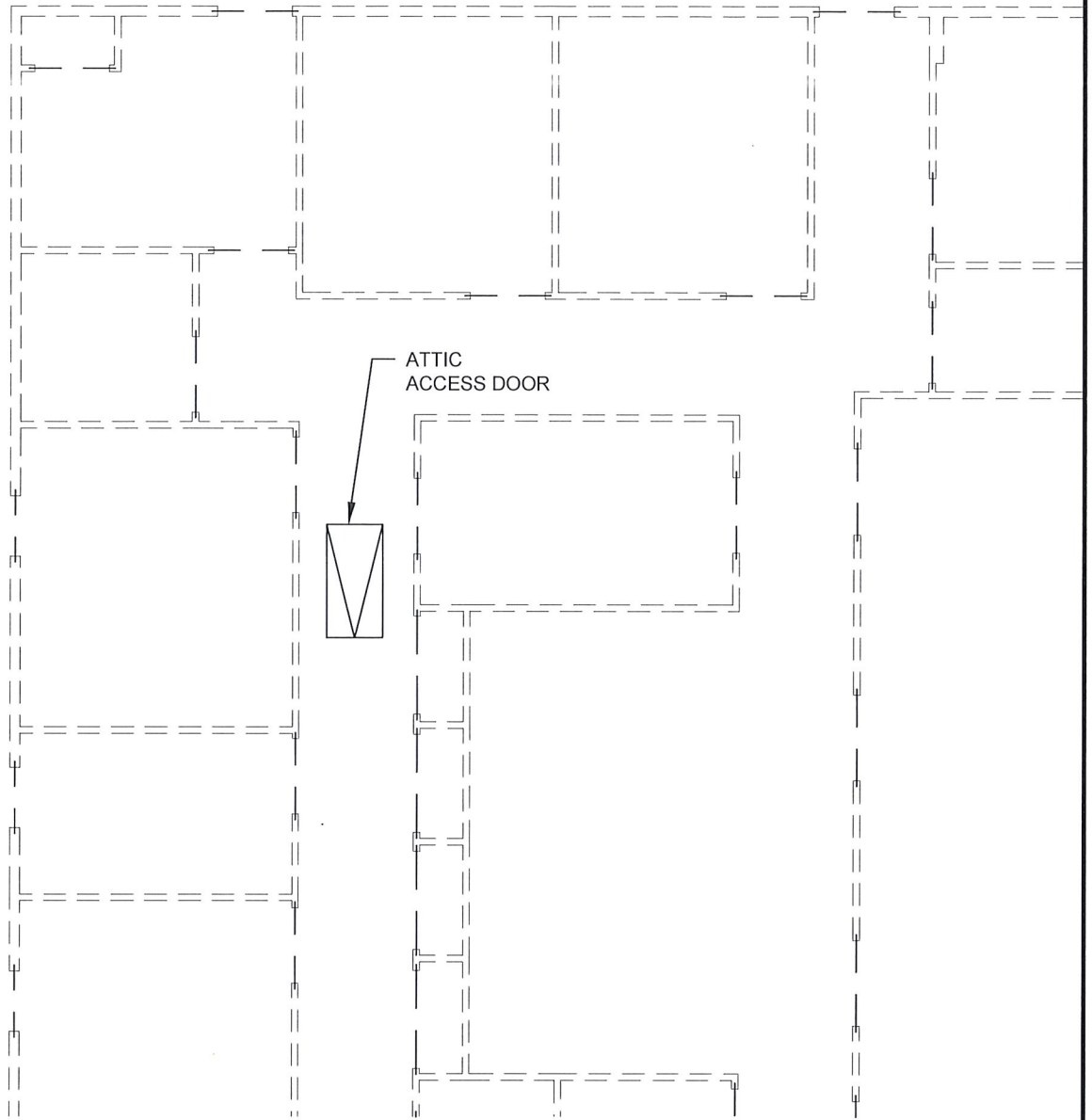
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SA01

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PARTIAL CEILING JOIST FRAMING PLAN

SCALE: N.T.S.



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PARTIAL CEILING PLAN

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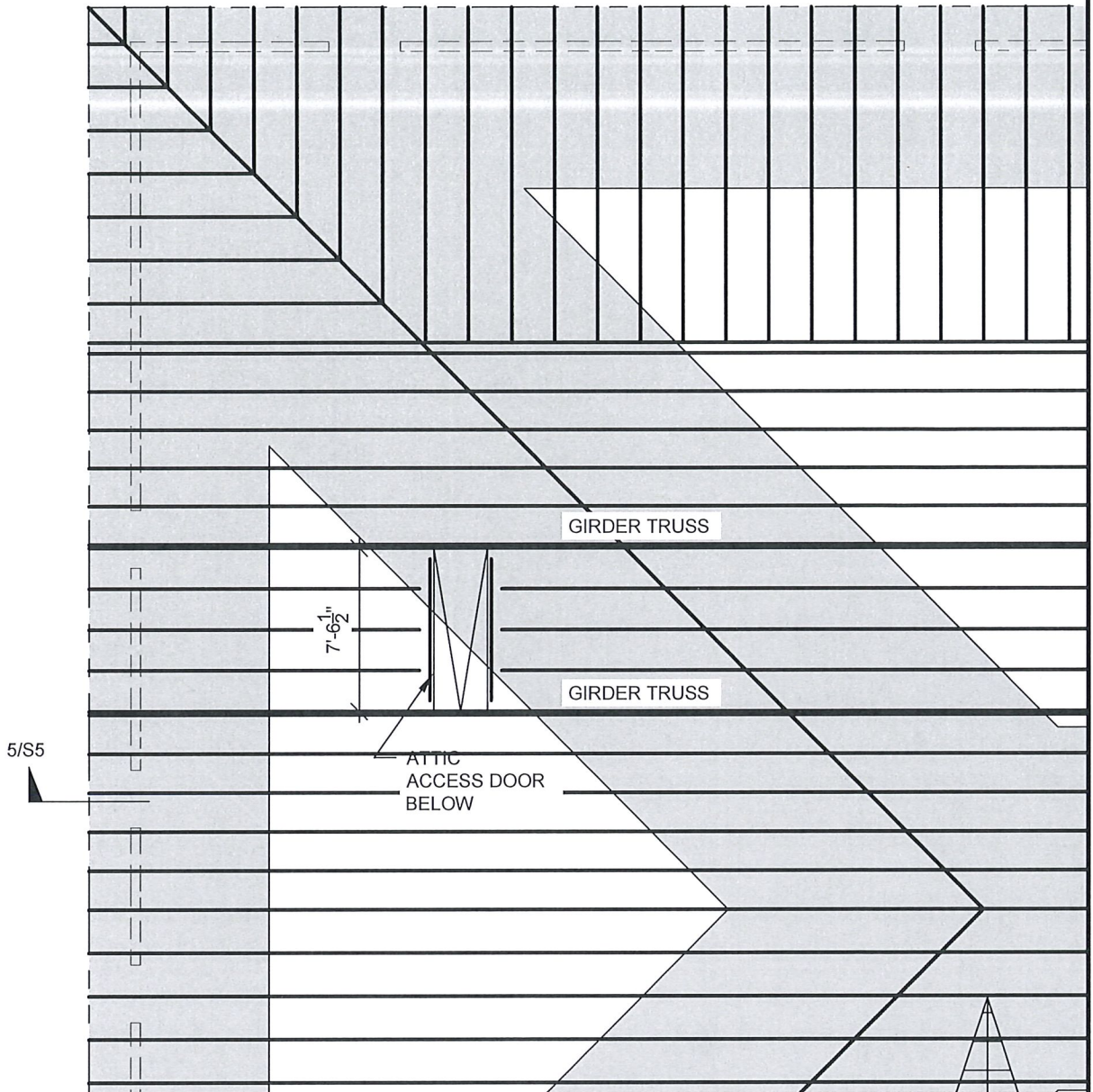
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SA02

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19143



PARTIAL ROOF FRAMING DIAPHRAGM PLAN

SCALE: N.T.S.



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PARTIAL ROOF PLAN

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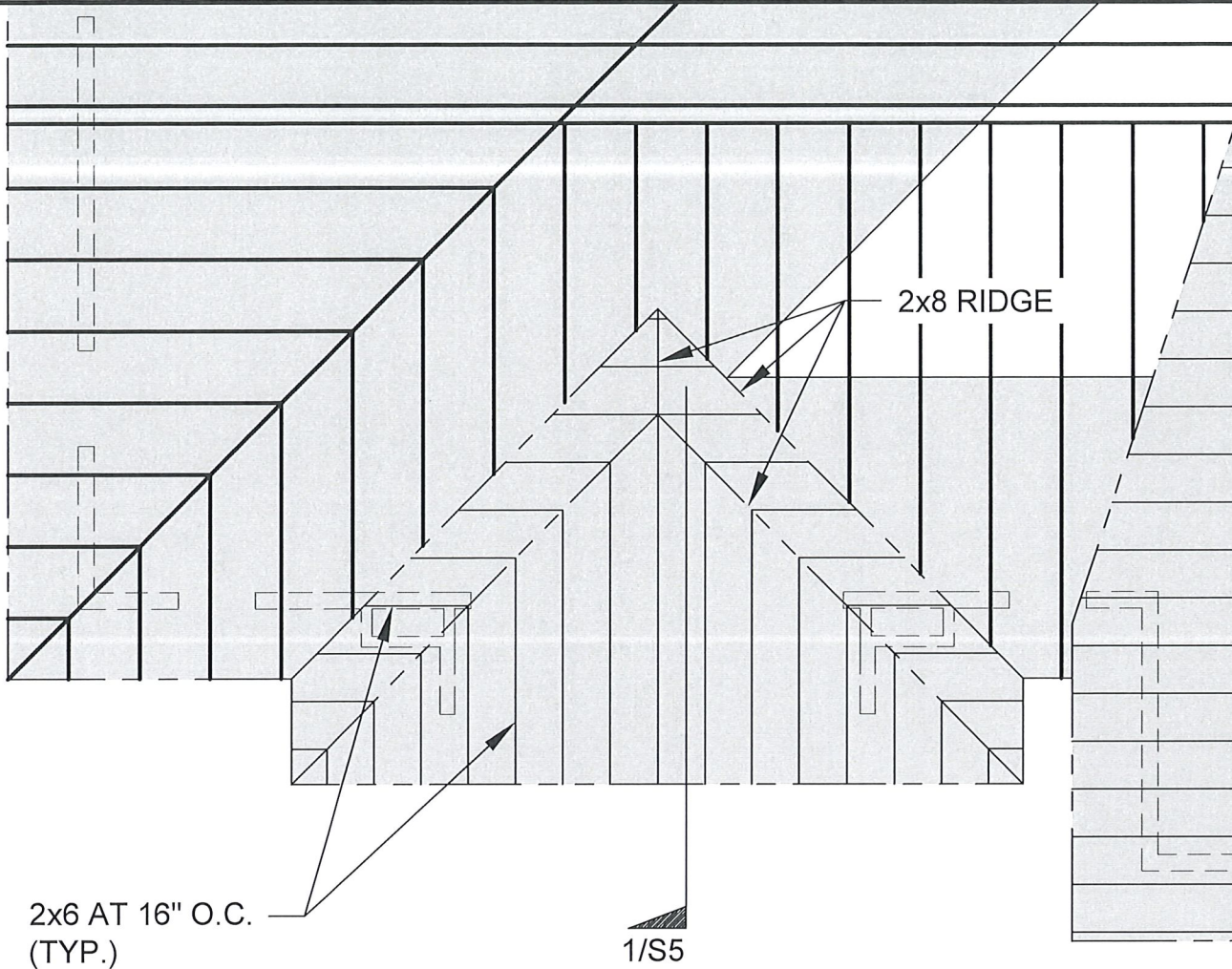
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SA03

PROJECT NO.

19143



2x6 AT 16" O.C.
(TYP.)

1/5



PARTIAL ROOF FRAMING DIAPHRAGM PLAN

SCALE: N.T.S.



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PARTIAL ROOF PLAN

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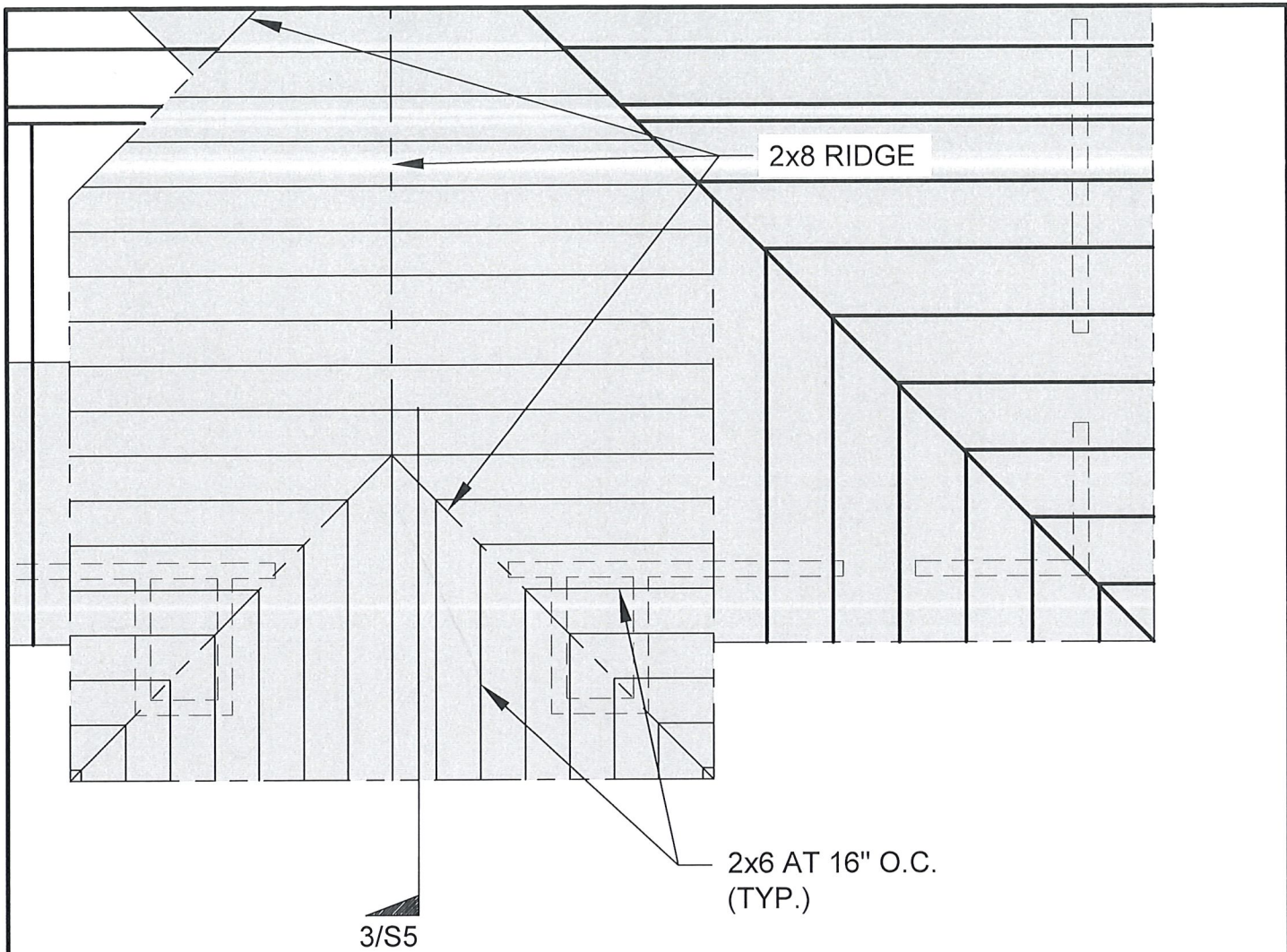
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SA04

PROJECT NO.

19143



3/S5

2x6 AT 16" O.C.
(TYP.)



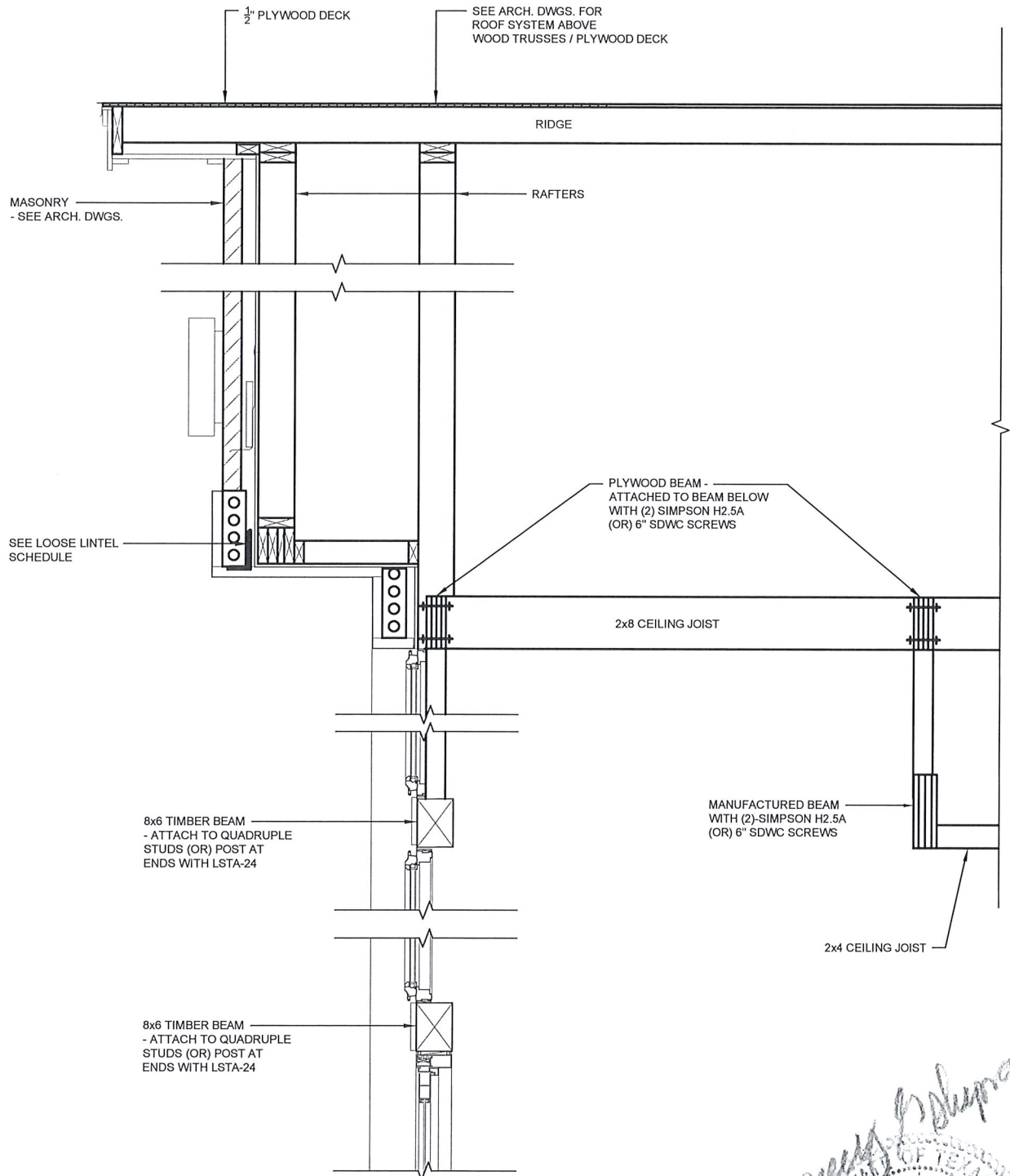
PARTIAL ROOF FRAMING DIAPHRAGM PLAN

SCALE: N.T.S.



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1- FRAMING DETAIL

SCALE: N.T.S.

Terry Glen Shipman
 STATE OF TEXAS
 TERRY GLEN SHIPMAN
 39176
 REGISTERED PROFESSIONAL ENGINEER
 10-31-19

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FRAMING DETAIL

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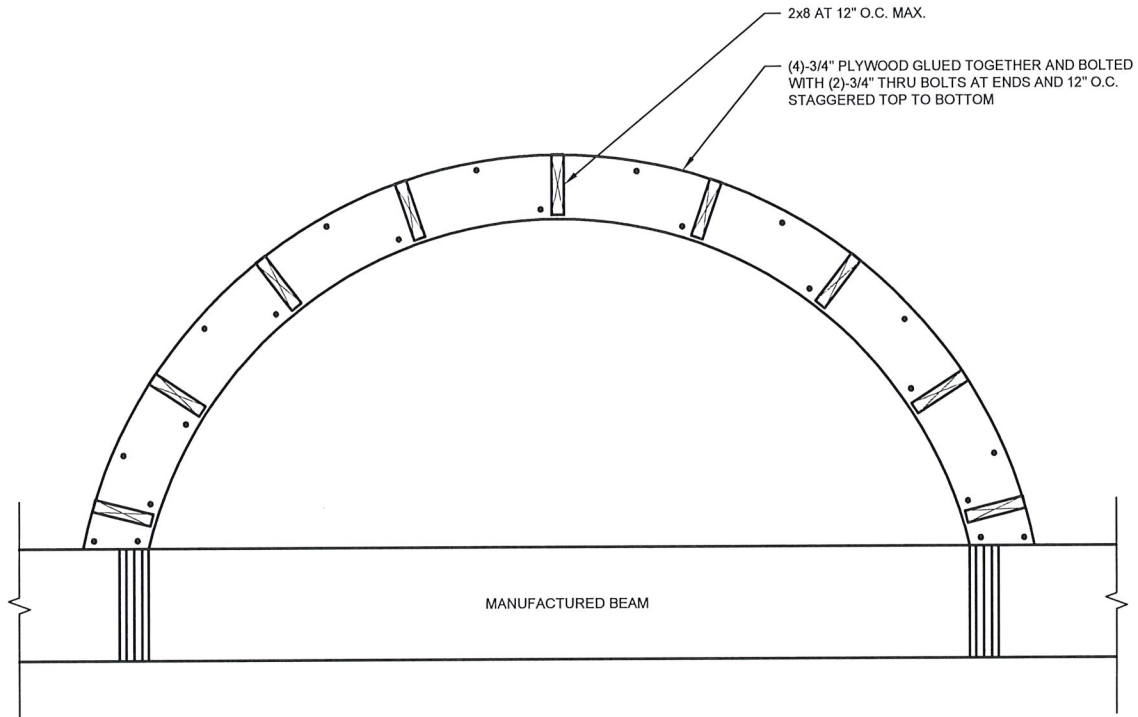
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SA06

PROJECT NO.

19143



1- FRAMING DETAIL

SCALE: N.T.S.

Terry Glen Shipman

STATE OF TEXAS
 TERRY GLEN SHIPMAN
 39176
 REGISTERED PROFESSIONAL ENGINEER

10-31-19

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FRAMING DETAIL

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SA07

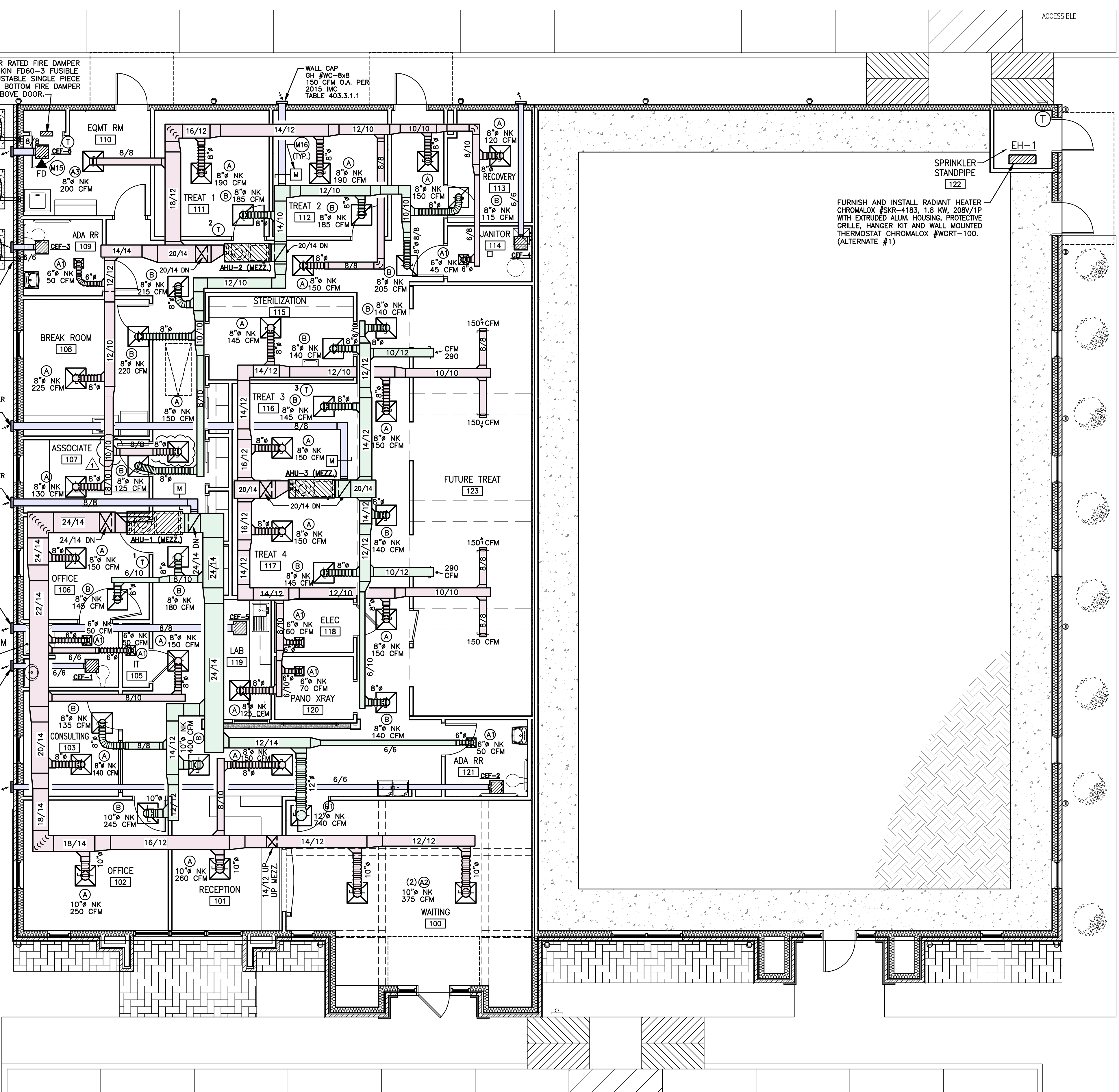
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19143

MECHANICAL SYMBOLS	
	REFERENCE TO DETAIL AND SHEET NUMBER
	EQUIPMENT FURNISHED BY DIVISION 15
	EQUIPMENT FURNISHED BY OTHER DIVISIONS
	THERMOSTAT, 48" AFF. NUMBER DENOTES UNIT
	DUCT MOUNTED SMOKE DETECTOR WITH LIGHT
	ABOVE FINISHED FLOOR
	CONDENSING UNIT/AIR HANDLING UNIT
	REFRIGERANT SUCTION
	REFRIGERANT LIQUID
	CONDENSATE DRAIN PIPING
	REFRIGERANT FILTER/DRYER
	THERMOSTATIC EXPANSION VALVE
	SIGHT GLASS AND MOISTURE INDICATOR
	SUPPLY AIR DEVICE WITH TYPE AND CFM
	RETURN AIR DEVICE WITH TYPE AND CFM
	DUCTWORK WITH DIMENSION (WIDTHxDEPTH)
	MANUAL VOLUME DAMPER
	FIRE DAMPER IN VERTICAL SEPARATION

- MECHANICAL NOTES**
- (M1) THE EXACT MOUNTING HEIGHTS AND/OR LOCATIONS OF ALL HVAC EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL OTHER MECHANICAL, ELECTRICAL, ARCHITECTURAL AND STRUCTURAL SYSTEMS.
 - (M2) THE FINAL LOCATION OF AIR DEVICES MUST BE COORDINATED WITH THE LOCATION OF LIGHT FIXTURES, CEILING FANS, ARCHITECTURAL AND STRUCTURAL SYSTEMS.
 - (M3) ALL ACCESS DOORS REQUIRED IN GENERAL CONSTRUCTION ARE TO BE PROVIDED AND INSTALLED BY THE GENERAL CONTRACTOR. IT IS THE RESPONSIBILITY OF THE HVAC CONTRACTOR TO IDENTIFY SIZE, TYPE AND LOCATION OF SUCH DOORS FOR PROPER ACCESS TO ALL CONCEALED HVAC EQUIPMENT, VALVES AND OTHER RELATED EQUIPMENT. THE HVAC CONTRACTOR SHALL IDENTIFY THESE REQUIREMENTS ON A COORDINATED SHOP DRAWING PRIOR TO SYSTEM FABRICATION AND INSTALLATION.
 - (M4) THE EXACT SIZES AND LOCATIONS OF ALL WALL AND/OR ROOF OPENINGS REQUIRED MUST BE COORDINATED BY GENERAL CONTRACTOR AND OWNER. STRUCTURAL FRAMES AROUND ALL OPENINGS SHALL BE FURNISHED AND INSTALLED AS REQUIRED.
 - (M5) PROVIDE SLEEVES AND FLASHING REQUIRED FOR PIPING AND DUCTWORK PENETRATIONS. PROVIDE ESCUTCHEON PLATES FOR ALL PIPING PENETRATING FINISHED WALLS AND CEILINGS.
 - (M6) VERIFY ALL EQUIPMENT VOLTAGES WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING ALL HVAC EQUIPMENT. ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL POWER AND CONTROL CONDUIT FOR HVAC EQUIPMENT AS REQUIRED. HVAC CONTRACTOR SHALL INSTALL CONTROL VOLTAGE WIRING IF REQUIRED. HVAC CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS WITH ALL TRADES.
 - (M7) ONLY THE MANUFACTURERS LISTED ON CONTRACT DRAWINGS OR SPECIFICATIONS ARE APPROVED FOR BIDDING UNLESS INSTRUCTED OTHERWISE BY OWNER. ALL OTHER MANUFACTURERS WILL BE CONSIDERED AS SUBSTITUTIONS AND MUST HAVE PRIOR APPROVAL IN WRITING SUBMITTED TO THE OWNER AS SOON AS POSSIBLE BEFORE THE BID DATE.
 - (M8) FOR ALL CEILING SUPPLY AIR DIFFUSERS, PROVIDE A 2" THICK R-8 FOIL FACED INSULATION BLANKET COMPLETELY COVERING TOP OF DIFFUSERS. ALL INSULATION MATERIALS USED THROUGHOUT THE AIR DISTRIBUTION SYSTEMS SHALL BE FACTORY STAMPED WITH RELATED R VALUE OR PER LOCAL CODES.
 - (M9) MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCE AROUND HVAC EQUIPMENT. ALL DUCT SIZES NOTED ARE INSIDE CLEAR DIMENSIONS.
 - (M10) ALL INTERIOR SUPPORTS, CLAMPS AND RELATED ITEMS SHALL BE SHOP PRIMED UNLESS GALVANIZED CONSTRUCTION. EXTERIOR SUPPORTS, CLAMPS AND RELATED ITEMS SHALL BE OF GALVANIZED CONSTRUCTION. COAT ANY FIELD WELDS, CUTS OR DAMAGED WITH GALVANIZED COATING WITH TWO COATS ZINC RICH CHROMATE PAINT.
 - (M11) FLEXIBLE DUCT DIAMETER SHALL MATCH THE NECK SIZE OF THE DIFFUSER TO WHICH IT CONNECTS, UNLESS NOTED OTHERWISE. THE TOTAL LENGTH OF FLEXIBLE DUCT RUN SHALL NOT EXCEED 6 FT. EXTEND HARD DUCT WITHIN 6 FT. OF THE AIR DEVICE FOR COMPLIANCE. FLEXIBLE DUCTWORK IS NOT PERMITTED FOR USE IN ANY PARTS OF THE RETURN OR EXHAUST AIR SYSTEMS. FLEXIBLE DUCTWORK MUST BE INSTALLED WITH SUPERIOR WORKMANSHIP MAINTAINING FULL CROSS SECTIONAL AREA THROUGHOUT. SUPPORT FROM STRUCTURE AT 24" INTERVALS WITH THREADED RODS AND UNISTRUTS TO ENSURE FULL CROSS SECTIONAL AREA FOR MAXIMUM AIR FLOW.
 - (M12) PROVIDE PROGRAMMABLE THERMOSTAT AT 48" AFF AT LOCATION AS SHOWN ON PLANS. VERIFY THE EXACT LOCATION AND REQUIREMENTS WITH OWNER AND/OR ARCHITECT. INSTALL WALL BOX AND CONDUIT SYSTEM REQUIRED FOR WALL MOUNTED THERMOSTAT. COORDINATE THE REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
 - (M13) ADJUST AND BALANCE THE OUTSIDE AIR REQUIREMENTS PER MECHANICAL SYSTEMS TESTING AND BALANCING.
 - (M14) PROVIDE 1 1/4" INSULATED CONDENSATE DRAIN LINE FROM AHUs TO CONDENSATE RECEIVER. PLUMBING CONTRACTOR TO INSTALL AND RUN DRAIN PIPING TO NEAREST APPROVED DRAIN SYSTEM. COORDINATE WITH PLUMBING CONTRACTOR EXACT REQUIREMENTS.
 - (M15) PROVIDE AND INSTALL CEF-6 WITH CEILING RADIATION DAMPER FOR FIRE RESISTANCE AT FIRE RATED CEILING. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND FIRE RATING REQUIREMENTS. PROVIDE UL CLASSIFIED CEILING RADIATION DAMPER TO MEET UL555 STANDARDS.
 - (M16) INSTALL LOW VOLTAGE MOTORIZED VOLUME DAMPER REQUIRED. INTERLOCK WITH AHU. OPENS WHEN FAN IS ON AND CLOSES WHEN FAN IS OFF.

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 BEAUMONT, TEXAS 77708-4411
 PHONE: (409) 673-2013
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MECHANICAL FLOOR PLAN
 SCALE: 3/16" = 1'-0"
 1

CONDENSING UNIT SCHEDULE

MARK	COOLING CAPACITY			AMBIENT TEMP. (°F)		COMPRESSOR					OUTDOOR COIL					OUTDOOR FAN					REFRIGERANT			ELECTRICAL SUPPLY					REMARKS					
	TON	TOTAL	SENSIBLE	db	wb	TYPE	STAGE	RLA	LRA	PF	FACE AREA (SF)		TUBE Ø (IN.)	NO. OF ROWS	FP1	DRIVE	Ø (IN.)	NO. OF BLADES	MOTOR HP	CFM	RPM	WATTS	FLA	LRA	TYPE	REFRIG. CHARGE	PIPE SIZE (IN.)			MCA	MOCP	VOLT	PHASE	Hz
											OUTER	INNER															SUCTION	LIQUID						
CU-1	5.0	58.5	50	97	77	SCROLL	2	17.62	135	0.99	24.93	24.14	5/16	2	22	DIRECT	26	3	1/3	4380	850	280	1.8	2.9	R-410A	14 LB. 2 OZ.	1 1/8	3/8	23.9	40	208	3	60	LENNOX SSB060H4S41Y
CU-2,3	4.0	48	39.5	97	77	SCROLL	2	13.46	88	0.99	21.00	20.27	5/16	2	22	DIRECT	22	4	1/4	3955	835	320	1.7	3.1	R-410A	11 LB. 4 OZ.	7/8	3/8	18.6	30	208	3	60	LENNOX SSB048H4S41Y

NOTES: 1.) TWO-STAGE (CU-1,2,3,4,5), HIGH EFFICIENCY COMPRESSOR WITH CRANKCASE HEATER.
2.) HEAVY-GAUGE STEEL CONSTRUCTION, PRE-PAINTED CABINET FINISH AND BASE SECTION AND HDP UNIT SUPPORT FEET.
3.) 15 SEER (CU-1) 15.7 SEER (CU-2,3) RATING.
4.) FIVE (5) YEARS LIMITED WARRANTY FOR COMPRESSOR & ALL COVERED COMPONENTS.
5.) APPROVED EQUAL: TRANE.

AIR HANDLING UNIT SCHEDULE

MARK	DISCHARGE FLOW	CFM	EVAPORATOR COIL								BLOWER					ELECTRIC HEATING COIL					REFRIGERANT			CONDENSATE DRAIN		SYSTEM ELECTRICAL POWER SUPPLY					REMARKS								
			COOLING CAPACITY		AIR ENTERING TEMP. (°F)		AIR LEAVING TEMP. (°F)		NET FACE AREA (SF)	TUBE O.D. (IN.)	NO. OF ROWS	FPI	DRIVE TYPE	SPEED	MOTOR HP	FLA	ESP H ₂ O	ELECTRICAL SUPPLY			KW	NO. OF STAGES	NO. OF CIRCUITS	MODEL NUMBER	ELECTRICAL SUPPLY			TYPE	PIPE SIZE (IN.)			CONNECTION/SIZE (IN.)	POWER SOURCE CONTROL BOX		VOLT	PHASE	Hz	MCA	MOCP
			TOTAL	SENSIBLE	db	wb	db	wb										VOLT	PHASE	Hz					VOLT	PHASE	Hz		GAS	LIQUID			CONNECTION	MODEL NO.					
AHU-1	HORIZONTAL	2150	68.0	50.0	86.8	69.5	54.9	54.2	7.77	3/8	3	12	DIRECT	VARIABLE	1	7.4	0.50	208	1	60	11.3	1	1	ECB40-15CB (35W00)	208	3	60	R-410A	1 1/8	3/8	(2) 3/4	SINGLE-POINT	21H39	208	3	60	48	50	LENNOX CBX32MV-068-208-6-01
AHU-2,3	HORIZONTAL	1600	48.0	39.5	86.8	69.5	54.9	54.2	7.22	3/8	3	12	DIRECT	VARIABLE	1	7.4	0.50	208	1	60	7.5	1	1	ECB40-10 (34W99)	208	3	60	R-410A	7/8	3/8	(2) 3/4	SINGLE-POINT	21H39	208	3	60	35	40	LENNOX CBX32MV-048-208-6-01

NOTES: 1.) AHU-1,2,3 WITH:
a.) HEALTHY CLIMATE FILTER CABINET AND UV GERMICIDAL LAMP MODEL NO. PCO20-28.
AHU-1) FILTER SIZE - 20"x25"x1", 50A/3P CB AND COVER KIT MODEL NO. 93M85.
AHU-2,3) FILTER SIZE - 20"x24"x1", 40A/3P CB AND COVER KIT MODEL NO. 93M85.
b.) SINGLE-POINT POWER SOURCE CONTROL BOX (FAN, HEATER AND UV LAMP) WITH CB DISCONNECT SAFETY SWITCH AND COVER KIT MODEL NO. 21H39/93M85.
c.) DEEP, CORROSION RESISTANT PLASTIC DRAIN PANS HAVE DUAL PIPE DRAINS.
d.) TOUCHSCREEN THERMOSTAT.
e.) APPROVED EQUAL: TRANE.

EXHAUST FAN SCHEDULE

MARK	CFM	STATIC PRESSURE "H ₂ O"	DRIVE	FAN RPM	MOTOR		ELECTRICAL SUPPLY			REMARKS
					AMPS	WATTS	VOLT	Ø	Hz	
CEF-1,2,3,4	85	0.125	DIRECT	850	0.27	20.2	115	1	60	GREENNECK SP-A90
CEF-5	160	0.25	DIRECT	1400	1.30	113	115	1	60	GREENNECK SP-A190
CEF-6	250	0.25	DIRECT	1050	0.72	81	115	1	60	GREENNECK SP-A290-CRD

NOTES:
1. PROVIDE BACKDROP DAMPER FOR EACH FAN.
2. PROVIDE SAFETY DISCONNECT SWITCH FOR EACH FAN.
3. PROVIDE ALUMINUM GRILLE IN WHITE ENAMEL FINISH.
4. CEF-1, 2, 3, 4 & 5 CONTROLLED BY LIGHT SWITCH.
5. CEF-6 CONTROLLED BY WALL THERMOSTAT AND WITH CEILING RADIATION DAMPER.

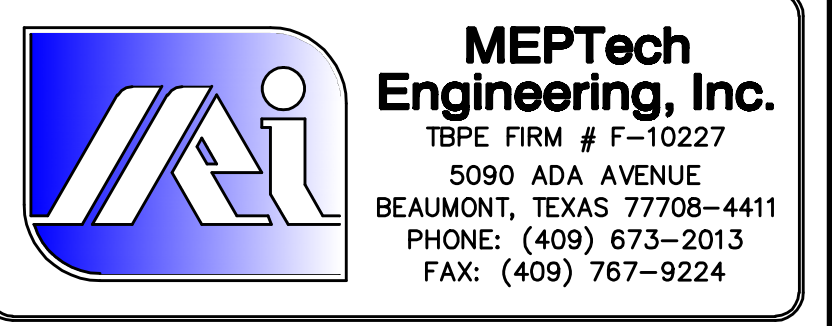
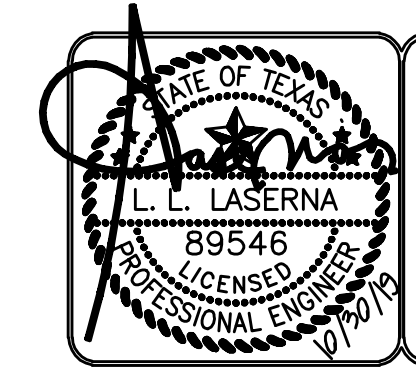
AIR DISTRIBUTION DEVICE SCHEDULE

MARK	FUNCTION	MAKE AND MODEL NO.	FACE SIZE (INCH)	OPENING SIZE (INCH)	MOUNTING STYLE BORDER	MATERIAL OF CONSTRUCTION	REMARKS
Ⓐ	SUPPLY AIR DIFFUSER	TITUS OMNI-AA	24x24	22x22	GRID/LAY-IN	ALUMINUM	NOTES: 1, 2, 3, 4
Ⓐ1	SUPPLY AIR DIFFUSER	TITUS OMNI-AA	12x12	10x10	GRID/LAY-IN	ALUMINUM	NOTES: 1, 2, 3, 4
Ⓐ2	SUPPLY AIR DIFFUSER	TITUS OMNI-AA	24x24	22x22	SURFACE	ALUMINUM	NOTES: 1, 2, 3, 4
Ⓐ3	SUPPLY AIR DIFFUSER	TITUS TDCA-FR	16x16	14x14	SURFACE	STEEL	NOTES: 1, 2, 3, 4, 5
Ⓑ	RETURN AIR GRILLE	TITUS 45F	24x24	22x22	GRID/LAY-IN	ALUMINUM	NOTES: 1, 2, 3, 4, 6

NOTES:
1. REFER TO MECHANICAL FLOOR PLAN FOR NECK SIZES.
2. 4-WAY THROW UNLESS OTHERWISE NOTED.
3. WITH ALUMINUM VOLUME CONTROL DAMPER.
4. STANDARD FINISH #26 WHITE. CONFIRM COLOR WITH OWNER.
5. 1-HOUR RATED SUPPLY AIR REGISTER WITH DAMPER.
6. 1/2" x 1/2" x 1" EGGRATE RETURN GRILLES

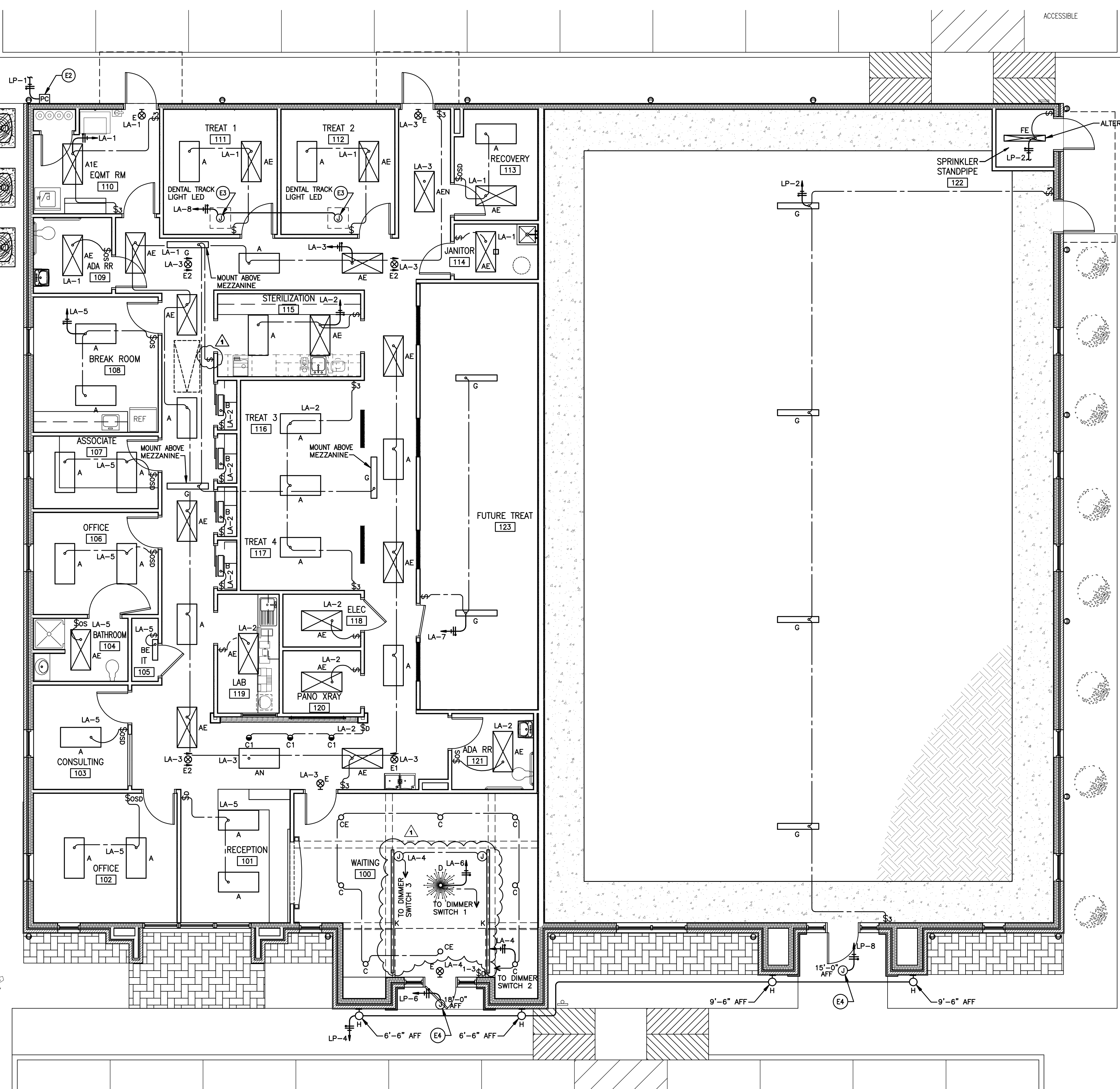
MECHANICAL SPECIFICATIONS

- CONTRACTOR QUALIFICATIONS**
 - Be a specialist in this field and provide trained, experienced and skilled personnel to construct a practical working system.
 - Coordinate with other divisions of work to provide a complete and functioning system.
 - All materials and equipment shall be new and of best grade and quality, provided by reputable manufacturers.
 - The mechanical drawings are diagrammatic in nature, but should be followed as closely as possible.
 - Any changes required due to poor workmanship or coordination shall be made without additional expense to the owner.
 - Install all equipment, materials and required supports in a neat, workman-like manner in accordance with the manufacturers printed instructions.
 - The design is based on the equipment scheduled. The contractor shall bear all costs of variations in electrical, mechanical, structural requirements if the contractor chooses to utilize any other approved equipment manufacturer.
- CORRECTIONS AND MAINTENANCE DURING THE WARRANTY PERIOD**
 - The guarantee and warranty period is for 12 months after substantial completion of the project.
 - Corrections to failures or defects during this period shall be at no cost to the owner.
 - Response time shall be no longer than the day after notification.
- SHOP DRAWINGS AND SUBMITTALS**
 - Provide submittals of all equipment and materials utilized for this project for review by owner/architect/engineer.
- CONDENSATE DRAIN PIPING SYSTEMS**
 - Type L copper tubing with drainage pattern fittings, soldered joints and a water seal trap.
 - Insulate same as specified for refrigerant suction piping.
 - Provide condensate drain piping from each cooling coil drain connection sized equal to the unit drain connection and auxiliary drain.
- DUCTWORK SYSTEMS**
 - Coordinate the duct installation with Architectural and Structural elements of the project.
 - Construct and install systems in accordance with SMACNA and other referenced standards.
- MECHANICAL SYSTEMS TESTING AND BALANCING**
 - Provide a trained, experienced technician to test, adjust and balance the air distribution and exhaust systems.
 - Adjust the outside and return air to the design conditions.
 - Adjust fan rpm required to obtain design air quantities.
 - Measure and adjust all duct systems and air outlets to design air quantities.
- DELIVERY, STORAGE AND HANDLING**
 - Protect all equipment and materials to be installed from weather and damage.
- CODES, PERMITS AND FEES**
 - Installation of mechanical systems in their entirety shall comply with the 2015 International Building Code and Mechanical Code, and comply with the most recent versions of all applicable laws, rules, regulations and ordinances of all governing codes and authorities. Obtain all required permits and pay all fees required by these authorities.
 - Modifications required by above Authorities shall be made without additional expense to the owner.
- CONTROLS**
 - The wall mounted thermostat (specified to be provided with the HVAC equipment) shall cycle the stages of direct expansion cooling and the electric heating cycle as required to maintain the space set point temperature (± 74° F.) when place in the "AUTO" mode. Seven (7) day Programmable Thermostat.
- Provide turning vanes in all square elbows.**
- Seal all joints and seams with fireproof, non-hardening, non-migrating mastic. Leakage in excess of 5% of total airflow is not acceptable. All mastics and adhesives utilized shall meet flame spread of 25 and developed smoke of 50 per ASTM E-84, NFPA 255 and U.L. 723.**
- Provide all unit duct connections with flexible duct connectors.**
- Provide the following duct systems:**
 - Outside air/Exhaust air duct - Galvanized sheet metal with 2" thick, 3/4 lb. external insulation or per local code.
 - All supply and return air ductwork shall be fiberglass ductwork shall have 1 1/2" thick aluminum cased certainteed #475R4 "TOUGHGARD" or approved with as thermosetting acrylic polymer coating with immobilized EPA approved anti-microbial agent fiberglass ductwork. Foil tape to be U.L. 181/181A listed. All flexible ductwork to supply air diffusers to be insulated with minimum R-6 external insulation. All starting collars, spin-ins for flexible ductwork shall be sealed with mastic, both under and on top of the collar with no metal surfaces of the starting collar exposed. Insulation on the flexible ductwork to be sealed to the main trunk and shall not be crushed at the main trunk to be U.L. 181/181A listed or local codes.
- Seal airtight all ductwork penetrating non-rated wall assemblies.**

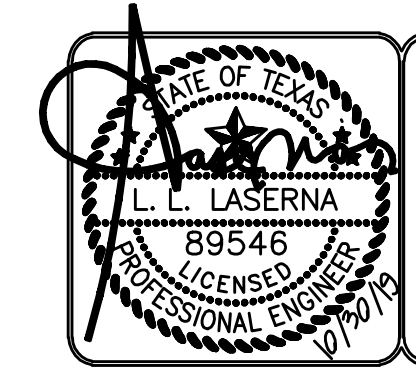


ELECTRICAL NOTES

- E1 COORDINATE EXACT LOCATION OF ALL LIGHT FIXTURES WITH ACTUAL CEILING GRID SYSTEMS AND STRUCTURES. REFERENCE ARCHITECTURAL REFLECTED CEILING PLAN, WALLS, ROOF/CEILING STRUCTURES, SECTIONS & ELEVATIONS. IN EXPOSED CEILING STRUCTURES, CONFIRM WITH ENGINEER AND ARCHITECT EXACT CONDUIT ROUTING PRIOR TO MAKE INSTALLATION AND MUST BE CONCEALED AS MUCH AS POSSIBLE.
- E2 INSTALL INTERMATIC PHOTO ELECTRIC CONTROL SERIES K4521 WITH COMPLETE OF ACCESSORIES AND ADJUSTABLE STEM TO CONTROL LP-3 TO LP-10 THROUGH 10 POLES, 30 AMP, 120V, NEMA 1, MECHANICAL HELD LIGHTING CONTACTOR LC14 WITH CONTROL RELAY. LOCATE PHOTO ELECTRIC CONTROL AT 8'-0" AFF OR AS REQUIRED TO FACE FACE NORTH. CONNECT PHOTO ELECTRIC CONTROL AND LIGHTING CONTACTOR TO LA-4.
- E3 MOUNT LIGHT FIXTURE TYPE "G" UNDER ROOF STRUCTURE ABOVE MEZZANINE FOR ATTIC LIGHT. FIELD COORDINATE FINAL LOCATION PRIOR TO MAKE FINAL INSTALLATION.
- E4 INSTALL JUNCTION BOX WITH CIRCUIT AS INDICATED FOR BUILDING SIGN FURNISHED AND INSTALLED BY OTHERS. FIELD COORDINATE WITH OWNER EXACT REQUIREMENTS.
- E5 INSTALL WALL BOX AT 48" AFF FOR INTRA ORAL X-RAY REMOTE SWITCH AT LOCATION AS SHOWN. INSTALL CONDUIT SYSTEM AND WIRES FROM X-RAY WALL UP TO CENTRAL CABINET WHEREIN THE X-RAY LOCATED. CONFIRM EXACT TERMINATION AND REQUIREMENTS WITH PATTERSON DENTAL.
- E6 INSTALL WALL BOX AT 48" AFF FOR MASTER CONTROL PANEL AT LOCATION AS SHOWN. INSTALL CONDUIT SYSTEM WITH 3#18 WIRES EACH RUNS FROM MASTER CONTROL PANEL TO VACUUM PUMP COMPRESSOR AND WATER SHUT-OFF/SOLENOID VALVES LOCATED IN MECH. 116. FIELD COORDINATE EXACT TERMINATION AND REQUIREMENTS WITH PATTERSON DENTAL EQUIPMENT INSTALLER.
- E7 INSTALL DEDICATED SINGLE RECEPTACLE AS INDICATED FOR DENTAL XRAY POWER. FIELD CONFIRM EXACT REQUIREMENTS WITH EQUIPMENT INSTALLER PRIOR TO MAKE FINAL INSTALLATION.
- E8 INSTALL POWER CIRCUIT AS INDICATED AND CONDUIT SYSTEM FOR FUTURE DENTAL EQUIPMENT. EQUIPMENT. REFER TO PATTERSON DENTAL DRAWINGS FOR EXACT TERMINATION, STUB-UP AND REQUIREMENTS.
- E9 INSTALL POWER CIRCUIT AS INDICATED FOR STERILIZATION CABINET. REFER TO PATTERSON DRAWINGS EXACT REQUIREMENTS. CONFIRM EXACT REQUIREMENTS PRIOR TO SUBMIT BIDDING.
- E10 INSTALL SINGLE GANG DEEP WALL BOX WITH APPROPRIATE COVER PLATE FOR DATA AND/OR VOICE OUTLETS. PROVIDE (1)-1" EMPTY CONDUIT WITH PULL STRING FROM SINGLE GANG DEEP WALL BOX UP WALL TO 6" ABOVE ACCESSIBLE CEILING WITH BUSHING.
- E11 INSTALL SINGLE GANG DEEP WALL BOX WITH APPROPRIATE COVER PLATE FOR TV CABLE OUTLET. PROVIDE (1)-1" EMPTY CONDUIT WITH PULL STRING FROM SINGLE GANG DEEP WALL BOX UP WALL TO 6" ABOVE ACCESSIBLE CEILING WITH BUSHING IN ELEC. ROOM 116.
- E12 INSTALL WALL AND/OR BACK BOX WITH 3/4" EMPTY CONDUIT WITH PULL STRING UP WALL TO 6" ABOVE ACCESSIBLE CEILING WITH BUSHING FOR FIRE ALARM AND/OR SECURITY DEVICES. CONFIRM ALL REQUIREMENTS WITH FIRE ALARM AND SECURITY SYSTEMS INSTALLER. ALL LOCATIONS AND REQUIREMENTS OF SECURITY SYSTEM MUST BE CONFIRMED AND COORDINATED WITH SECURITY SYSTEM INSTALLER. FIRE ALARM AND SECURITY SYSTEMS INSTALLER TO PROVIDE SEPARATE DRAWINGS PER NFPA 72 AND 101.
- E13 INSTALL 4"x8"x3/4" GRADE PLYWOOD ON WALL AS SHOWN FOR DATA, VIDEO & TELEPHONE BOARD. PAINT TO MATCH WALL COLOR. PROVIDE GROUNDING WITH #6 GROUND CONDUCTOR AND TO CONNECT TO ELECTRICAL SERVICE GROUND ROD. INSTALL (2)-3" EMPTY CONDUIT WITH PULL STRINGS FROM 6" STUB UP BELOW TELEPHONE BOARD DOWN UNDERGROUND UP TO 12" STUB UP ABOVE FINISHED GRADE 6" AWAY FROM ENTERGY POWER POLE. FIELD COORDINATE EXACT CONDUIT TERMINATION WITH TELEPHONE AND/OR CABLE COMPANY PRIOR TO MAKE FINAL INSTALLATION.
- E14 INSTALL WALL BOX AT 48" AFF FOR N/O ALARM MONITORING STATION AT LOCATION AS SHOWN. INSTALL 3/4" EMPTY CONDUIT SYSTEM FROM N/O ALARM MONITORING STATION UP WALL DOWN TO CLOSET NITROUS OXIDE AND OXYGEN MANIFOLD/CONTROLS IN EQUIPMENT ROOM 110. INSTALL ALL WIRES REQUIRED BY PATTERSON DENTAL. FIELD COORDINATE EXACT TERMINATIONS AND REQUIREMENTS PRIOR TO MAKE FINAL INSTALLATION.
- E15 INSTALL STAINLESS STEEL PEDESTAL FOUR GANG BOX WITH TWO DUPLEX OPENINGS AND BLANK PLATE HUBBELL #546887 (HOUSING WITH 3/4" HUB), S82 (FACEPLATE) AND S23 (BLANK PLATE) WITH DOUBLE DUPLEX RECEPTACLES FOR DENTAL CHAIR POWER AND ALL CONDUIT SYSTEM REQUIRED. REFER TO PATTERSON DENTAL DRAWINGS FOR EXACT REQUIREMENTS.
- E16 LOCATE RECEPTACLE BEHIND ELECTRIC WATER COOLER ENCLOSURE. FIELD COORDINATE EXACT REQUIREMENTS AND LOCATION WITH PLUMBING CONTRACTOR.
- E17 INSTALL SINGLE GANG WALL BOX WITH APPROPRIATE COVER PLATE FOR HVAC THERMOSTAT. PROVIDE 3/4" EMPTY CONDUIT WITH PULL STRING FROM SINGLE GANG WALL BOX UP TO 6" ABOVE ACCESSIBLE CEILING WITH BUSHING. COORDINATE EXACT LOCATION WITH DIVISION 15. MECHANICAL CONTRACTOR. REFER TO MECHANICAL FLOOR PLAN, SHEET 1/M.1 FOR LOCATION OF THERMOSTAT.
- E18 ROUGH-IN AND MAKE FINAL CONNECTIONS TO EQUIPMENT SPECIFIED IN OTHER DIVISIONS. OR OWNER. FIELD CONFIRM WITH EQUIPMENT SUPPLIER AND/OR INSTALLER EXACT REQUIREMENTS PRIOR BIDDING AND INSTALLATION.
- E19 ALL LOCATIONS OF ELECTRICAL AND TECHNOLOGY DEVICES MUST BE CONFIRMED WITH ARCHITECTURAL SECTIONS, ELEVATIONS, MILLWORKS AND CASEWORK PRIOR TO MAKE FINAL INSTALLATIONS. ALL CHANGES DUE TO CONFLICT OF LOCATIONS AND/OR LACK OF ARCHITECTURAL SHEETS COORDINATION SHALL BE MADE WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
- E20 ALL CONDUIT PENETRATIONS AT FIRE RATED WALLS MUST BE PROVIDED WITH SCHEDULE 40 GALVANIZED CONDUIT SLEEVE SECURED TO PARTITION WITH GROUT AND CAULK ANNUAL SPACE BETWEEN CONDUIT AND SLEEVE WITH FIRE RETARDANT SEALANT. WHERE CONDUIT IS EXPOSED AT FINISHED WALLS, PROVIDE FLUSH MOUNTED SLEEVE AND STAINLESS STEEL ESCUTCHEON PLATES. AT NON-FIRE RATED INTERIOR WALLS, CAULK ANNUAL SPACE BETWEEN CONDUIT AND SLEEVE WITH 1 LB. DENSITY FIBERGLASS AND SEAL ENDS WITH DOW CORNING 732 RTV OR EQUAL.
- E21 ALL EXHAUST FANS (120V/1Ø) ARE SPECIFIED WITH FACTORY INSTALLED DISCONNECT SAFETY SWITCH. MOTOR STARTERS ARE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. THERMOSTATS, FAN INTERLOCKS AND HVAC CONTROLS ARE ALL PROVIDED AND INSTALLED UNDER DIVISION 15. CONFIRM WITH DIVISION 15 AND MECHANICAL SCHEDULES.
- E22 COORDINATE AND CONFIRM HORSEPOWER RATING AND LOCATION OF ALL MECHANICAL AND PLUMBING EQUIPMENT WITH DIVISION 15 AND MECHANICAL SCHEDULES PRIOR TO ORDERING AND INSTALLATION OF DISCONNECT SAFETY SWITCHES, MOTOR STARTERS OR COMBINATION MOTOR STARTERS.
- E23 ALL LIGHTING CIRCUITS SHALL HAVE SEPARATE NEUTRALS. NO SHARED NEUTRALS.



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



MEPTech Engineering, Inc.
TSP# FIRM # F-10227
5090 ADA AVENUE
BEAUMONT, TEXAS 77708-4411
PHONE: (409) 673-2013
FAX: (409) 767-9224

ARCHITECT HAS REVIEWED THE CONSULTANT'S WORK AND COORDINATED IT WITH THE OVERALL PROJECT

Beaumont, TX 77708

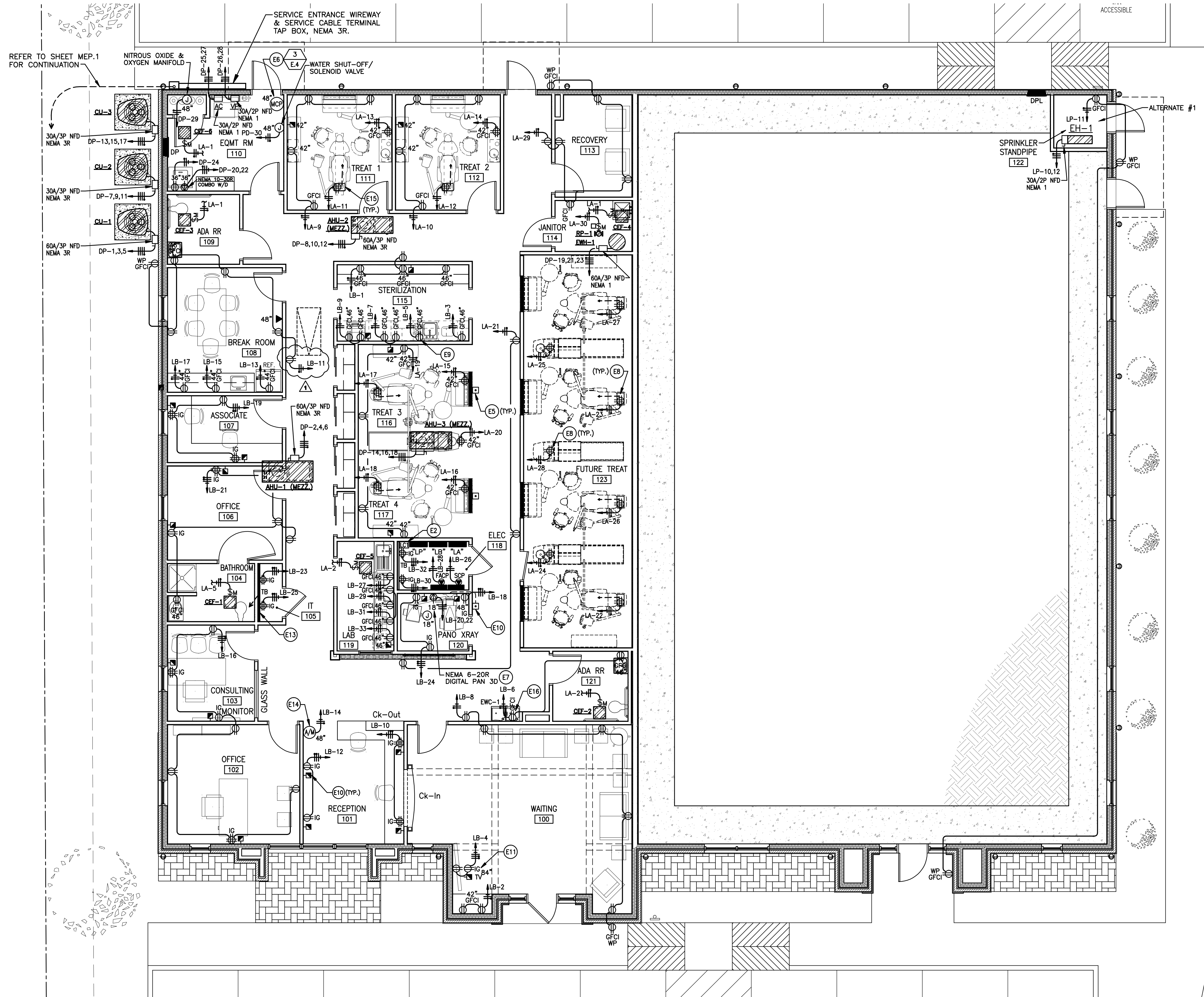
DENTAL CLINIC
 SKSB Realty, LLC

6330 Delaware

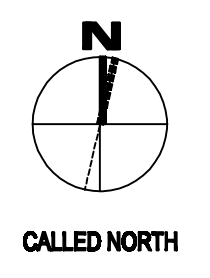
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DESIGN DEVELOPMENT	<input checked="" type="checkbox"/>
DATE: 8/1/2019	
BIDS & CONSTRUCTION	<input checked="" type="checkbox"/>
DATE: 10/28/2019	
REVISION:	
DATE: 11-04-2019	
REVISION:	
DATE:	
REVISION:	
DATE:	

DRAWINGS SHEET TITLE
POWER & COMMUNICATIONS FLOOR PLAN

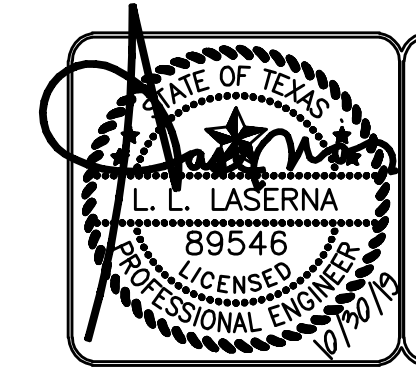
SHEET NUMBER
E.2R
 PROJECT NUMBER
 1936



REFER TO SHEET MEP.1 FOR CONTINUATION



1 POWER & COMMUNICATIONS FLOOR PLAN
 SCALE: 3/16" = 1'-0"



MEPTech Engineering, Inc.
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 PHONE: (409) 873-2013
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BAVED: L.LASERNA
 PLOT DATE: 11/4/2019 3:42 PM
 SHEET SIZE: ARCH (standard) (24.00 x 36.00)

ARCHITECT HAS REVIEWED
 THE CONSULTANT'S WORK
 AND COORDINATED IT WITH
 THE OVERALL PROJECT

ARCHITECT HAS REVIEWED
 THE CONSULTANT'S WORK
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 THE OVERALL PROJECT

DENTAL CLINIC
SKSB Realty, LLC
 6330 Delaware
 Beaumont, TX 77708

ISSUED FOR
 SCHEMATIC DESIGN
 DATE: 8/18/2019

DESIGN DEVELOPMENT
 DATE: 8/1/2019

BIDS & CONSTRUCTION
 DATE: 10/28/2019

REVISION:
 DATE: 11-04-2019

REVISION:
 DATE:

DRAWINGS SHEET TITLE
**ELECTRICAL
 SYMBOLS, LIGHT
 FIXTURE SCHED
 & SPECS.**

SHEET NUMBER
E.3R
 PROJECT NUMBER
 1936

ELECTRICAL SPECIFICATIONS

<p>1. GENERAL REQUIREMENTS AND CONTRACTOR QUALIFICATIONS</p> <p>A. The Contractor for this work shall be a specialist in this field, having the organization to provide trained, experienced and skilled personnel required to construct a practical and working system.</p> <p>B. Study all matters and conditions of the Project and coordinate with the other Divisions of work to provide a complete and functioning system in accordance with the Contract Documents.</p> <p>C. Use only the specified materials, equipment and procedures in fabricating the systems.</p> <p>D. Notify the Engineer of any and all conflicts in ample time to avoid unwarranted changes in any work.</p> <p>E. Obtain all applicable permits and pay all fees charged by above authorities.</p> <p>F. Existing conditions</p> <p>1. Prior to submitting a proposal, visit the job site to become familiar with existing conditions and equipment for the work to be accomplished.</p> <p>2. Verify exact location of existing electrical system.</p> <p>G. Provide "AS BUILT" shop drawings at completion of project.</p> <p>H. The Electrical Systems in their entirety shall be installed in accordance with the NFPA 70, 2017 National Electrical Code, International Energy Code and all other governing Codes and Authorities. Modifications required by the above said authorities shall be made without additional charge to the owner.</p> <p>I. With submission of bid, Contractor shall give written notice to the Architect or Engineer of any materials or apparatus believed inadequate or unsuitable, in violation of laws, ordinances, rules and any necessary items or work omitted. In the absence of such written notice, it is mutually agreed the Contractor has included the cost of all required items in his proposal, and that he will be responsible for the approved satisfactory functioning of the entire system without extra compensation.</p>	<p>K. Minimum wire size 20 amp branch circuit shall be AWG listed size per distance shown below. Distance shall be measured from the panelboard circuit breaker to the furthest outlet.</p> <p style="text-align: center;"><u>120V</u></p> <p>A. #12 Less than 100 feet B. #10 Between 100-150 feet C. #8 Between 150-250 feet</p>
<p>2. LIGHTING AND POWER CIRCUITS AND SWITCHES</p> <p>A. Provide a luminaire for each luminaire symbol shown on the drawings and install all luminaires complete with lamps.</p> <p>B. Install luminaires complete with all materials, devices, parts, cables, hardware, hangers, supports, frames and equipment required for a complete, safe and fully operational installation.</p> <p>C. Furnish and install all conduit and conductors necessary for complete circuiting of general power and lighting and for light switching.</p>	<p>5. WIRING DEVICES</p> <p>A. Furnish and install all wiring devices for convenience outlets, telephone outlets, push buttons, conductor splices, and switches as shown on the drawings unless otherwise noted.</p> <p>B. Unless shown otherwise, convenience outlets shall be Hubbell #CR5362GR/WH.</p> <p>C. Unless shown otherwise, light switches shall be Hubbell #CS1221GR/WH/CS1222GR/WH/CS1233GR/WH/CS1224GR/WH. Dimmer - 120V LED Incandescent: Greengate WBS-D-DEC-W (White) Dimmer - 0-10V LED/Fluorescent: Greengate WBS-D-010M-C1-W (White)</p> <p>D. Where shown on drawings, duplex receptacles designated with ground fault circuit interruption shall be HUBBELL #GFR53521 and weatherproof cover shall be HUBBELL CWP26H.</p> <p>E. The following are the ADA Accessibility Guidelines for switches, receptacles, telephones and outlets. Unless shown otherwise on the drawings, mounting heights to be as follows:</p> <p>1. Wall switches - 4'-0" 2. Wall switches at countertops 3'-8" to center of device or shown on drawings. 3. Wall receptacles, telephone and data outlets - 1'-6" to center of device or shown on drawings. 4. Wall receptacles, telephone and data outlets at countertops 3'-8" to center of device or shown on drawings.</p> <p>F. Provide white wall/face plates for all interior areas. Confirm color with Architect or GC.</p> <p>G. Occupancy Sensors: 1.) Wall mounted: Greengate-Cooper Model ONW-D-1001-DMV-N/OSW-D-010 120V and white color. 2.) Ceiling mounted: Greengate-Cooper Model OAC-DT-2000-R/DT2000 120V and white color.</p>
<p>3. SHOP DRAWINGS AND PRODUCT DATA</p> <p>A. Submit manufacturer's printed product literature for all components of the electrical systems prior to purchase and installation.</p>	<p>6. LIGHT FIXTURES AND LIGHTING CONTROLS</p> <p>A. Furnish and install all lighting fixtures in accordance with the fixture designation, light fixture schedule or indicated on drawings.</p>
<p>4. BRANCH CIRCUITS FOR POWER AND LIGHTING</p> <p>A. Conduit systems shall be U.L. labeled EMT with U.L. labeled compression or die cast type fittings.</p> <p>1. Minimum 3/4" for homeruns. 1/2" for switchlegs.</p> <p>B. Branch circuit conductors to be soft drawing annealed copper having a conductivity of not less than 99% of pure copper.</p> <p>1. Type "THHN" (interior), or "THHW" (exterior) solid conductor.</p> <p>C. All feeders, service conductors & branch circuit wiring shall be copper only.</p> <p>D. Use flexible conduit for light fixture wiring where length is within limits as prescribed by NEC and Local Codes.</p> <p>E. Conduit interconnection of lighting fixtures shall be from jacket level. Do not extend runs horizontally from fixture to fixture.</p> <p>F. Except where wiring and conduit is routed exposed in electrical/mechanical rooms all wiring shall be concealed within floors, walls or partitions.</p> <p>G. Color coding of wire larger than No. 6 AWG and other types of wire accomplished by means of self-adhesive, wrap around type markers of solid colors.</p> <p>1. Mark each wire at panelboards, junction boxes, pull boxes, and outlets. 2. Color Code. 208/120V A. black B. red C. blue N. white G. green SL. pink</p> <p>H. Motor circuit conductors shall be continuous throughout their entire length.</p> <p>I. Splices and joints in branch circuit wiring shall be made only in accessible junction boxes and shall be made with compression type solderless connectors. Connectors of the nonmetallic screw type are not approved.</p> <p>J. Minimum wire size shall be no less than #12 AWG unless otherwise noted on plans.</p>	<p>7. TELEPHONE, VIDEO AND DATA CONDUIT SYSTEM REQUIREMENT</p> <p>A. Where shown on drawings, at each telephone, video and data outlet location, furnish and install recessed wall or floor boxes with 3/4" empty conduit and pull string extending to 6" above ceiling. Provide white plastic cover plate over wall box if not in used.</p>
<p>8. CUTTING AND PATCHING</p> <p>A. The contract shall do all cutting and patching of the existing construction work which may be required for the proper installation of the electrical work. All patching shall be of the same materials, workmanship and finish as, and shall accurately match all surrounding work.</p>	<p>9. FIRE ALARM, SMOKE DETECTION AND SECURITY SYSTEMS</p> <p>A. Installation of new fire alarm devices shall comply with the current applicable provisions of NFPA 70, NFPA 71, NFPA 72/72E, NFPA 101, local and state building codes, and all requirements of the local authority having jurisdiction.</p> <p>B. Furnish and install new security devices with all necessary equipment, wiring, conduits, boxes, etc. required to ensure a fully operational system.</p> <p>C. It shall be the responsibility of the Electrical Contractor to provide all conduit systems, standard electrical boxes, and operating power for the security system as outlined on the project drawings or as required by the Security System Contractor. Verify all requirements prior to installation of conduit and wall boxes.</p> <p>D. Wiring and installation shall be in accordance with standard professional security system engineering practices and Texas State Board of Private Investigators. All installation and service personnel working on this project shall be "Registered" Alarm system installers.</p>
<p>10. PANELBOARDS, CBs, DISCONNECT SAFETY SWITCHES & MOTOR STARTERS</p> <p>A. Furnish and install at locations as shown on the drawings and shall be of the type approved by owner, indicated or specified.</p>	<p>11. GROUNDING OF ELECTRICAL SYSTEMS</p> <p>A. Grounding of the electrical systems shall conform to the requirements of the latest National Electrical Code and other governing local codes.</p>

ELECTRICAL SYMBOLS

	REFERENCE TO DETAIL AND SHEET NUMBER
	SURFACE MOUNTED PANEL
	FLUSH MOUNTED PANEL
	LED LIGHT FIXTURE
	LED EMERGENCY LIGHT FIXTURE
	CEILING MOUNTED DOWNLIGHT LIGHT FIXTURE
	CEILING MOUNTED EXIT LIGHT FIXTURE
	WALL MOUNTED EXIT LIGHT FIXTURE
	NEUTRAL CONDUCTOR
	PHASE CONDUCTOR
	GROUND CONDUCTOR
	ISOLATED GROUND & GROUND CONDUCTOR
	SWITCH LEG AND/OR BRANCH CIRCUIT
	BRANCH CIRCUIT
	HOME RUN TO PANELBOARD
	SWITCH, 48" AFF
	THREE-WAY SWITCH, 48" AFF
	THREE-WAY DIMMER SWITCH, 48" AFF
	MOTOR RATED SWITCH
	SWITCH WITH PILOT LIGHT, 48" AFF
	OCCUPANCY SENSOR SWITCH, 48" AFF
	OCCUPANCY SENSOR DIMMER SWITCH, 48" AFF
	MOTOR
	DISCONNECT SAFETY SWITCH
	COMBINATION MOTOR STARTER AND DISCONNECT SAFETY SWITCH
	HARDWIRED CONNECTION
	DUPLEX RECEPTACLE, 12" AFF
	DUPLEX RECEPTACLE ABOVE CEILING
	FLOOR MOUNTED DUPLEX RECEPTACLE
	ISOLATED GROUND DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE WITH MOUNTING HEIGHT
	WEATHER PROOF DUPLEX RECEPTACLE
	GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE, 12" AFF
	ISOLATED GROUND DOUBLE DUPLEX RECEPTACLE, 12" AFF
	DOUBLE DUPLEX RECEPTACLE WITH MOUNTING HEIGHT
	JUNCTION BOX
	DATA AND/OR VOICE OUTLETS, 12" AFF (DOUBLE DUPLEX CAT 5)
	DATA AND/OR VOICE OUTLETS, 12" AFF (DUPLEX CAT 5)
	CEILING MOUNTED DATA AND/OR VOICE OUTLETS (DOUBLE DUPLEX CAT 5)
	FLOOR MOUNTED DATA AND/OR VOICE OUTLETS (DOUBLE DUPLEX CAT 5)
	DATA AND/OR VOICE OUTLETS WITH MOUNTING HEIGHT (DOUBLE DUPLEX CAT 5)
	TV DATA OUTLET
	FIRE ALARM PULL STATION, 48" AFF
	FIRE ALARM VISUAL-STROBE DEVICE, 80" AFF
	FIRE ALARM AUDIO/VISUAL DEVICE, 80" AFF
	FIRE ALARM WP EXTERIOR HORN, 108" AFF
	FIRE ALARM SHUT DOWN RELAY
	DUCT MOUNTED SMOKE DETECTOR WITH INDICATOR LIGHT
	FIRE ALARM STROBE/VISUAL DEVICE, 80" AFF
	CEILING MOUNTED HEAT DETECTOR
	CEILING MOUNTED SMOKE DETECTOR
	PHOTO ELECTRIC CONTROL, 108" AFF
	LIGHTING CONTACTOR, 54" AFF

ABBREVIATIONS

A	AMPERES
AIC	AMPS INTERRUPTING CURRENT
AFF	ABOVE FINISHED FLOOR
C	CONDUIT
CU	COPPER
CB	CIRCUIT BREAKER
FD	FUSED DISCONNECT SAFETY SWITCH
GND	GROUND CONDUCTOR
IG	ISOLATED GROUND
KVA	KILOVOLT-AMPS
MLO	MAIN LUGS ONLY
MCB	MAIN CIRCUIT BREAKER
NEC	NATIONAL ELECTRICAL CODE
NFD	NON-FUSED DISCONNECT SAFETY SWITCH
UC	UNDER COUNTER
V	VOLTS
WP	WEATHERPROOF

LIGHT FIXTURE SCHEDULE

MARK	MANUFACTURER	MODEL NO.	LAMPS	VOLTAGE	REMARKS
A	METALUX	24FP-64-UNV-L840-CD1	(1)-42W LED/840 (INCLUDED)	120	2' x 4' RECESSED FLANGED LED WITH DIE FORMED COLD ROLLED STEEL, INTEGRAL DRIVER, SMOOTH FROSTED ACRYLIC LENS AND DRYWALL FRAME KIT.
AE	METALUX	24FPX-64-UNV-EL14W-L840-CD1	(1)-42W LED/840 (INCLUDED)	120	SAME AS FIXTURE TYPE "A" EXCEPT WITH EMERGENCY BATTERY PACK INSTALLED.
AEN	METALUX	24FPX-64-UNV-EL14W-L840-CD1	(1)-42W LED/840 (INCLUDED)	120	SAME AS FIXTURE TYPE "AE" EXCEPT HARDWIRED FOR NIGHT LIGHT.
AN	METALUX	24FPX-64-UNV-EL14W-L840-CD1	(1)-42LED/840 (INCLUDED)	120	SAME AS FIXTURE TYPE "A" EXCEPT HARDWIRED FOR NIGHT LIGHT.
B	METALUX	2BCLED-LD4-28SL-UNV-L840-CD1	(1)-29W LED/840 (INCLUDED)	120	2' WALL BRACKET LED WITH DIE FORMED COLD ROLLED STEEL, INTEGRAL DRIVER, SMOOTH OPAL WHITE ACRYLIC LENS.
BE	METALUX	2BCLED-LD4-28SL-UNV-EL7W-L840-CD1	(1)-29W LED/840 (INCLUDED)	120	SAME AS FIXTURE TYPE "B" EXCEPT WITH EMERGENCY BATTERY PACK INSTALLED.
C	HALO	H630D010-HM612840-61WDCWF-RMB22	(1)-28 LED/840	120	6" OPEN DOWNLIGHT SELF FINISHED, WIDE BEAM WITH SPECULAR ALUM. HOUSING & C-CHANNEL BAR HANGER.
CE	HALO	H620D010-HM634840-61WDCWF-RMB22 1EM14	(1)-28 LED/840	120	SAME AS FIXTURE TYPE "C" EXCEPT WITH EMERGENCY BATTERY PACK INSTALLED.
C1	HALO	H6150D010-HM634840-61RWWHWF	(1)-28 LED/840	120	6" LED WALL WASHER.
D	---	---		120	CHANDLIER FURNISHED BY OWNER AND INSTALLED BY ELECTRICAL CONTRACTOR.
E	SURE-LITES COOPER	LPX7SD20	(LED LAMPS INCLUDED)	120	BACK MOUNT SINGLE FACE EXIT SIGN WITH HIGH IMPACT POLYCARBONATE HOUSING, STENCIL RED FACE, WHITE FACE/HOUSING TEXTURED FINISH, LED LAMP AND NICKEL CADMIUM BATTERY. MOUNT BOTTOM EXIT SIGN 12" CENTERED ABOVE DOOR.
E1	SURE-LITES COOPER	LPX7SD20	(LED LAMPS INCLUDED)	120	TOP MOUNT SINGLE FACE EXIT SIGN WITH HI HI POLYCARBONATE HOUSING, STENCIL RED FACE, WHITE HOUSING FINISH, LED LAMP, NICKEL CADMIUM BATTERY AND CHEVRON DIRECTIONAL INDICATOR KNOCKOUTS AS INDICATED ON PLANS.
E2	SURE-LITES COOPER	LPX7SD20	(LED LAMPS INCLUDED)	120	SAME AS FIXTURE TYPE "E1" EXCEPT WITH DOUBLE FACE.
FE	METALUX	4BCLED-LD4-28SL-UNV-EL7W-L840-CD1	(1)-29W LED/840 (INCLUDED)	120	4' LED WALL BRACKET WITH DIE FORMED COLD ROLLED STEEL, INTEGRAL DRIVER, SMOOTH OPAL WHITE ACRYLIC LENS.
G	METALUX	4CWPLD4040C	(1)-45W LED/840 (INCLUDED)	120	4' LED WRAPAROUND WITH COLD ROLLED STEEL, INTEGRAL DRIVER, HIGH-IMPACT POLYMER STEEL & FROSTED WHITE LENS.
H	ELK	87042/1	(1)-20W LED A19/840	120	WALL SCONCES WITH MATTE BLACK LANTERN STYLE SHADE WITH MESH AND CLEAR GLASS.
J	LUMARK COOPER	PRV-C60-D-UNV-T5-SA-BZ (2 @ 180') ADAPTOR FOR 3 -1/2" TENON SSS-6-M-20-S-F-3-1 EPA (120 MPH)	(2)-306 LED 4000K (INCLUDED)	120	20"-0" STEEL SQUARE POLE WITH DURAGRIP PLUS DOUBLE MOUNT FIXTURE WITH DIE FORMED HEAVY GAUGE ALUM. CONSTRUCTION, COMPLETELY GASKETED, HEAT RESISTANT FLAT CLEAR TEMPERED GLASS, TENON MOUNT, BRONZE FINISH, LED AND U.L. LISTED FOR WET LOCATIONS.
J1	LUMARK COOPER	PRV-C60-D-UNV-T5-SA-BZ (2 @ 90') ADAPTOR FOR 3 -1/2" TENON SSS-6-M-20-S-F-3-1 EPA (120 MPH)	(2)-306 LED 4000K (INCLUDED)	120	SAME AS FIXTURE TYPE "J" EXCEPT ARM MOUNT 2890'.
K	ACCLAIM	FLEXOSE#4 -12 FT. CVD60L24DC	(1)-28W LED 4000K (INCLUDED)	120	12"-0" LED STRIP WITH DIMMABLE, MULTI VOLTAGE DRIVER, COPPER STRIP AND WHITE FINISH.

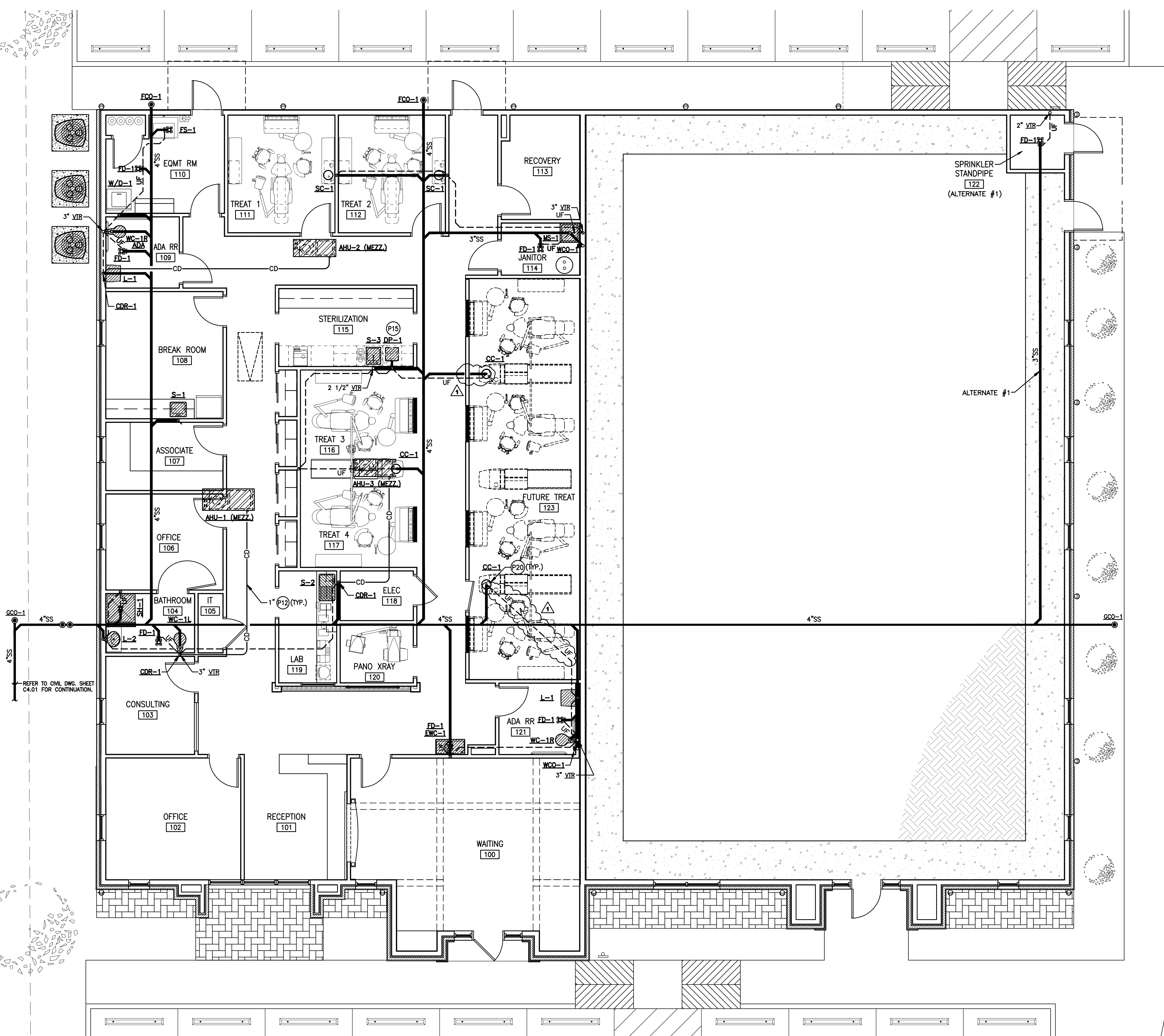


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PLUMBING SYMBOLS

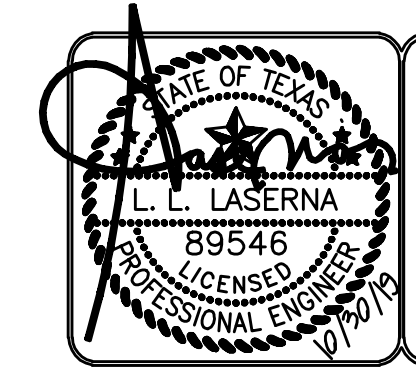
	REFERENCE TO DETAIL AND SHEET NUMBER		CLEANOUT IN FINISHED FLOOR
	POINT OF CONNECTION NEW TO EXISTING		CLEANOUT IN FINISHED GRADE
	EQUIPMENT FURNISHED BY DIVISION 15		CLEANOUT IN WALL
	EQUIPMENT FURNISHED BY OTHER DIVISIONS		FLOOR DRAIN
AFF	ABOVE FINISHED FLOOR		THERMOMETER
UF	UNDER FLOOR		VENT THRU ROOF
UDG	UNDERGROUND		RECESSED HOSE BIBB
---	DOMESTIC COLD WATER		DRAIN VALVE WITH HOSE THREAD
---	DOMESTIC HOT WATER: 120°F		GATE VALVE
—HWR—	HOT WATER RETURN		BALL VALVE
—P—	PIPE RISER DOWN		CHECK VALVE
—U—	PIPE RISER UP		UNION
—S—	SOIL OR WASTE LINE		RELIEF VALVE
—CD—	AHU CONDENSATE DRAIN		SHOCK ARRESTOR
---	VENT LINE		P-TRAP

- ### PLUMBING NOTES
- (P1) CONFIRM AND COORDINATE EXACT LOCATION OF ALL FLOOR DRAINS WITH ARCHITECTURAL, STRUCTURAL ELEMENTS, HVAC EQUIPMENT AND/OR ELECTRICAL SYSTEMS PRIOR TO MAKE FINAL INSTALLATION. SAW CUT AND PATCH TO MATCH EXISTING CONCRETE SLAB FOR ALL PIPING ROUTED UNDER EXISTING CONCRETE SLAB.
 - (P2) ALL EXTERIOR BRACKETS, CLAMPS AND HANGERS SHALL BE GALVANIZED. COAT ALL ENDS AND WELDS WITH "ZRC" COLD GALVANIZING COMPOUND. PROVIDE SHIELDING AT ALL DISJUNCTURE INTERIOR CONTACT. ALL MISCELLANEOUS INTERIOR BRACKETS SHALL BE SHOP PRIMED UNLESS GALVANIZED OR STAINLESS STEEL.
 - (P3) PROVIDE NEOPRENE ROPE SEAL WITH SILICONE CAULKING TO FORM A WATERTIGHT SEAL WHERE SERVICE MOP SINK ABUTS WALL.
 - (P4) LOCATE FULL PORT VALVES 12" MAXIMUM ABOVE CEILING AND ACCESSIBLE FOR SERVICE. FIELD COORDINATE EXACT LOCATION WITH MECHANICAL AND ELECTRICAL DRAWINGS PRIOR TO MAKE FINAL INSTALLATION.
 - (P5) REFER TO SHEET P.3 MINIMUM LINE SIZE SCHEDULE FOR LINE SIZES NOT SHOWN ON FLOOR PLANS.
 - (P6) INSTALL 12" AIR CHAMBER FOR DOMESTIC HOT AND COLD WATER PIPING AT SINGLE PLUMBING FIXTURE.
 - (P7) PROVIDE TYPE "K" COPPER UNDER SLAB WITH CORROSION PROTECTION AS SPECIFIED OR SCHEDULED.
 - (P8) ALL PLUMBING FIXTURES INDICATED ON FLOOR PLANS OR SCHEDULED FOR ADA MUST COMPLY WITH ADA HEIGHTS AND REQUIREMENTS. CONFIRM WITH ARCHITECTURAL DRAWINGS. INSULATE P-TRAP, TAILPIECE AND WATER SUPPLIES OF ALL ADA COMPLIANT PLUMBING FIXTURES WITH HANDI-LAV INSULATION OR EQUAL.
 - (P9) PROVIDE NEW COLD WATER CUTOFF VALVE WITH CAST IRON TOP WITH MARKED "WATER" AND IN HEAVY DUTY BOX. REFER TO CIVIL DRAWINGS FOR REQUIREMENTS.
 - (P10) LOCATE WATER BACKFLOW PREVENTOR CLOSE TO WATER METER TO COMPLY WITH CITY OF BEAUMONT LOCATION REQUIREMENTS. FIELD CONFIRM FINAL LOCATION PRIOR TO MAKE FINAL INSTALLATION WITH CITY OF BEAUMONT WATER UTILITIES. REFER TO CIVIL DRAWING SHEET C4.01 FOR LOCATION.
 - (P11) PROVIDE HYDROTROL SHOCK ARRESTOR EQUAL TO MFAB OR ZURN Z1700, MODEL #300 IN COLD WATER LINE, 33-60 P.U. INSTALL STAINLESS STEEL 12" x 12" ACCESS FOR SERVICING.
 - (P12) INSTALL AND CONNECT 1" CONDENSATE DRAIN OF AHU_s TO SANITARY SEWER FLOOR DRAIN AS SHOWN ON PLAN. FIELD COORDINATE EXACT CONNECTION WITH MECHANICAL CONTRACTOR.
 - (P13) PUT TOP OF EXTERIOR CLEANOUTS IN 12" x 12" x 6" THICK CONCRETE PAD FLUSH WITH FINISHED GRADE. FIELD CONFIRM EXACT LOCATION OF EXTERIOR CLEANOUTS PRIOR TO MAKE FINAL INSTALLATION.
 - (P14) PLUMBING PIPING INSTALLATION MUST BE WITHIN 3 FEET OF ALL ELECTRICAL PANELS AND HVAC EQUIPMENT OR PER CODES.
 - (P15) WATER FILTRATION/ULTRAPURE AND RELATED EQUIPMENT FURNISHED AND INSTALLED BY PATTERSON DENTAL. INSTALL AND PROVIDE MASTER WATER SHUT-OFF VALVES, SOLENOID VALVE, DRAIN AND 3/4" COPPER PIPING SYSTEM IN EQUIPMENT ROOM 110. EXTEND 3/4" COPPER PIPING WITH SHUT-OFF/SOLENOID VALVES TO ULTRAPURE TANK WATER SYSTEM LOCATED UNDER SINK IN STERILIZATION 115. INSTALL FLEX PIPING FROM TANK UP TO COUNTERTOP ULTRASONIC STERILIZATION UNIT. CONFIRM EXACT REQUIREMENTS WITH PATTERSON DENTAL PRIOR TO SUBMIT BIDDING. COORDINATE TO ALL TRADES PRIOR TO MAKE FINAL INSTALLATION.
 - (P16) MASTER CONTROL PANEL FOR COMPRESSED AIR AND VACUUM SYSTEM FURNISHED AND INSTALLED BY PATTERSON DENTAL. PLUMBING CONTRACTOR TO PROVIDE AND INSTALL (1) 1/4" POLYFLOW TUBING EACH TO COMPRESSED AIR LINE AND TO VACUUM LINE FROM MASTER CONTROL PANEL. FIELD CONFIRM EXACT REQUIREMENTS WITH PATTERSON DENTAL PRIOR TO MAKE FINAL INSTALLATION.
 - (P17) INSTALL 2" PVC SCH. 40 PIPING EACH FOR EXHAUST LINE AND FRESH AIR FROM VACUUM PUMP AND AIR COMPRESSOR UP TO WALL CAP AS SHOWN. FIELD CONFIRM AND COORDINATE EXACT REQUIREMENTS WITH DENTAL EQUIPMENT INSTALLER PRIOR TO MAKE FINAL INSTALLATION OF 2" PIPING.
 - (P18) INSTALL ASME THERMAL EXPANSION TANK EQUAL TO WATTS MODEL PET-12-M1 AT COLD WATER CONNECTION TO ELECTRIC WATER HEATER.
 - (P19) MAKE CONNECTIONS TO SIDE CABINET SINK FURNISHED AND INSTALLED BY PATTERSON DENTAL. FIELD COORDINATE EXACT REQUIREMENTS WITH PATTERSON DENTAL PRIOR TO SUBMIT BIDDING.
 - (P20) STUB-UP AT 18" AFF AND CAP FOR FUTURE CENTRAL CABINET. PROVIDE SHUT-OFF VALVES FOR HOT AND COLD WATER LINES. FIELD COORDINATE EXACT REQUIREMENTS WITH PATTERSON DENTAL PRIOR TO SUBMIT BIDDING.
 - (P21) INSTALL GALVANIZED IRON HANGER ROD AND HANGER EVERY 10'-0" AND CONNECT TO BAR JOISTS. PROVIDE A SECTION OF HIGH COMPRESSION STRENGTH INSULATION AT EACH HANGER POINT. INSULATION SHALL BE HALF ROUND AND EXTEND 2" BEYOND 1/2" GAUGE GALVANIZED SHEET SHIELD EACH WAY.



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

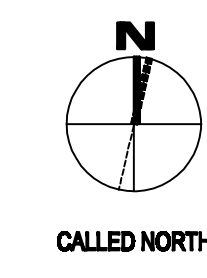
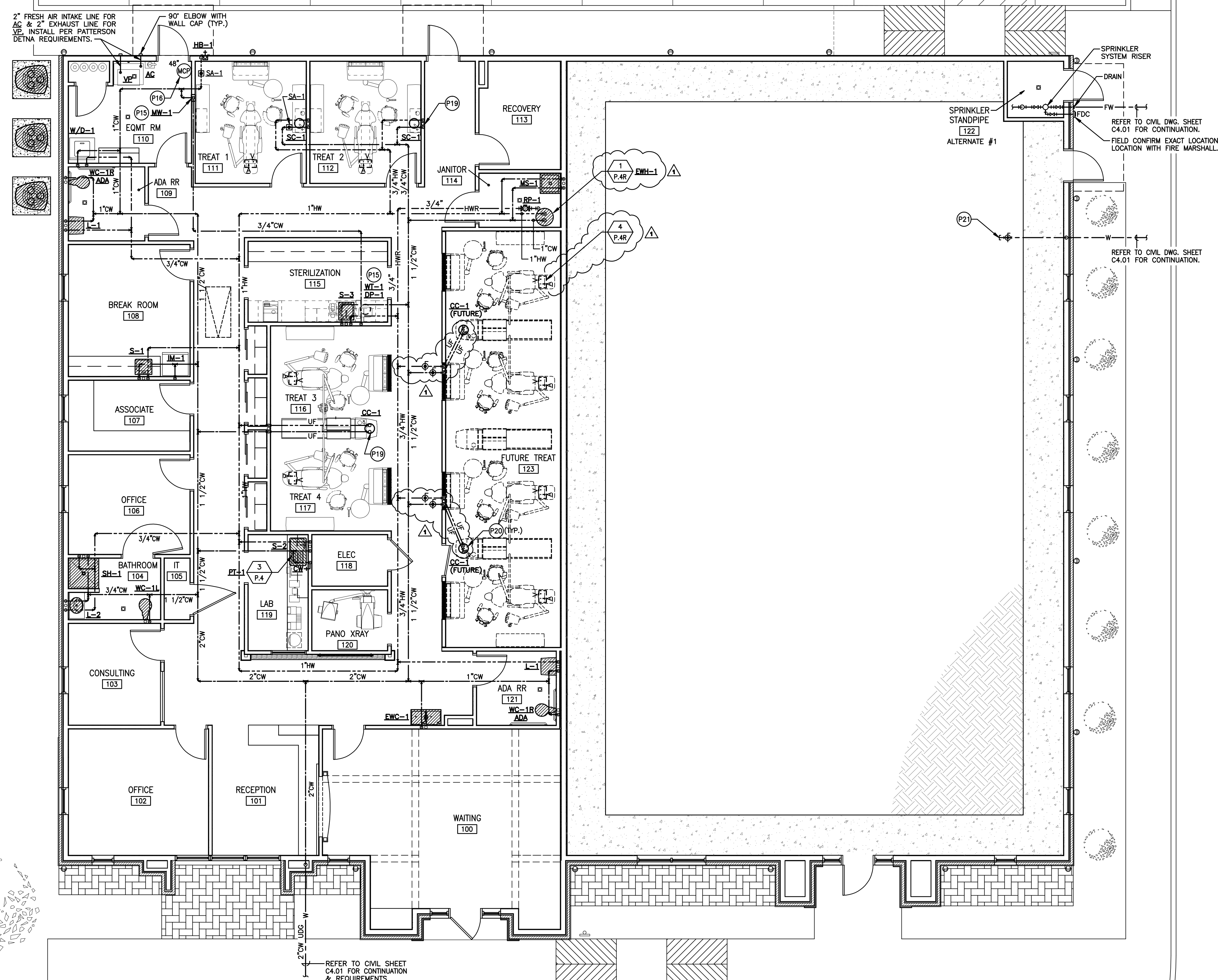
CALLLED NORTH



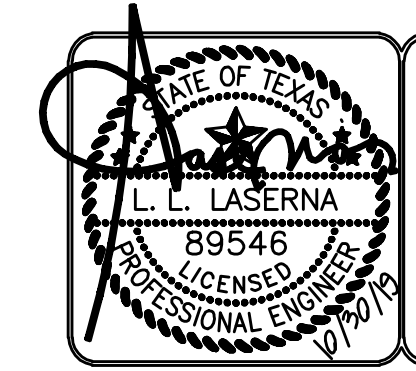
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DESIGNED: L.L. LASERNA
 PLOTT DATE: 11/4/2019 3:52 PM
 SHEET SIZE: ARCH (landscape) (24.00 x 36.00)

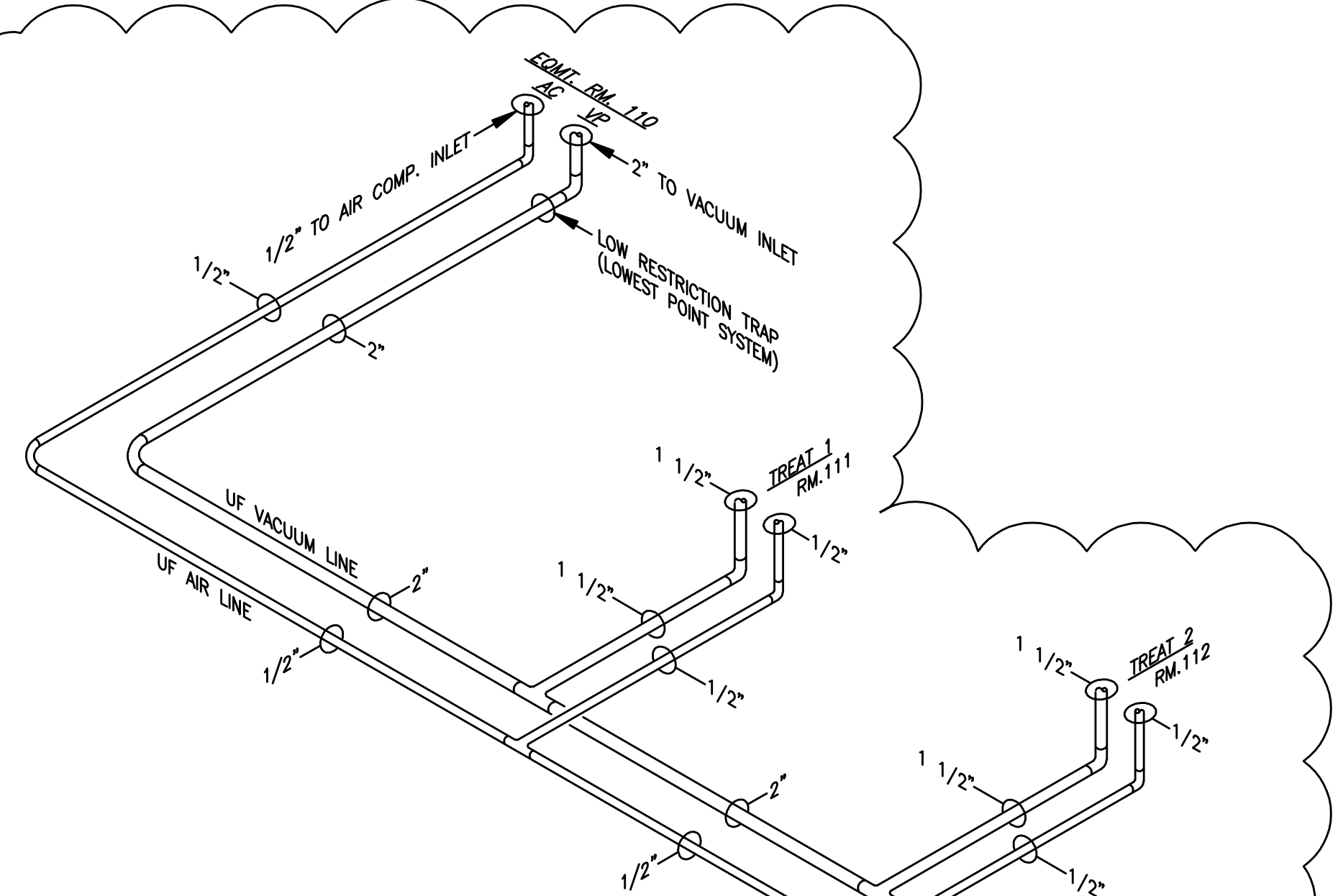
- SPRINKLER SYSTEM NOTES (ALT. #1)**
- (SS1) INSTALL NEW 4" WET PIPE SYSTEM WITH QUICK RESPONSE SPRINKLERS, CONTROL VALVE, TAMPER SWITCH, FLOW SWITCH, DRAIN AND FDC AND SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH NFPA 13 AND MEET LOCAL FIRE MARSHALL REQUIREMENTS.
 - (SS2) SPRINKLER SYSTEM SHALL BE HYDRAULICALLY CALCULATED PER NFPA 13 11.2.3.2.3.
 - (SS3) 1"-2" PIPE TO BE ALLIED BLK LIGHTWALL THREADABLE PIPE WITH STANDARD BLACK CAST FITTINGS. 2 1/2"-4" PIPE TO BE ALLIED DYN-A-FLOW WITH WELDED THREAD-O-LETS, CLAMP TEES AND GROOVED FITTINGS AND COUPLINGS.
 - (SS4) SPRINKLER SYSTEM WORK BEGINS FROM FINISHED FLOOR 6" PIPE TO 4" SPRINKLER PIPE. LOCATION OF FDC MUST BE CONFIRMED WITH LOCAL FIRE MARSHALL PRIOR TO BIDDING AND INSTALLATION.
 - (SS5) SPRINKLER SYSTEM CONTRACTOR MUST SUBMIT DRAWINGS AND SUBMITTALS PRIOR TO INSTALLATION. COORDINATE LOCATION OF ALL SPRINKLER HEADS AND ROUTING OF PIPING WITH ARCHITECTURAL REFLECTED CEILING PLAN, ELEVATIONS, SECTIONS AND STRUCTURAL DRAWINGS.



1 PLUMBING FLOOR PLAN - COLD/ HOT WATER, AIR & VACUUM
SCALE: 3/16" = 1'-0"



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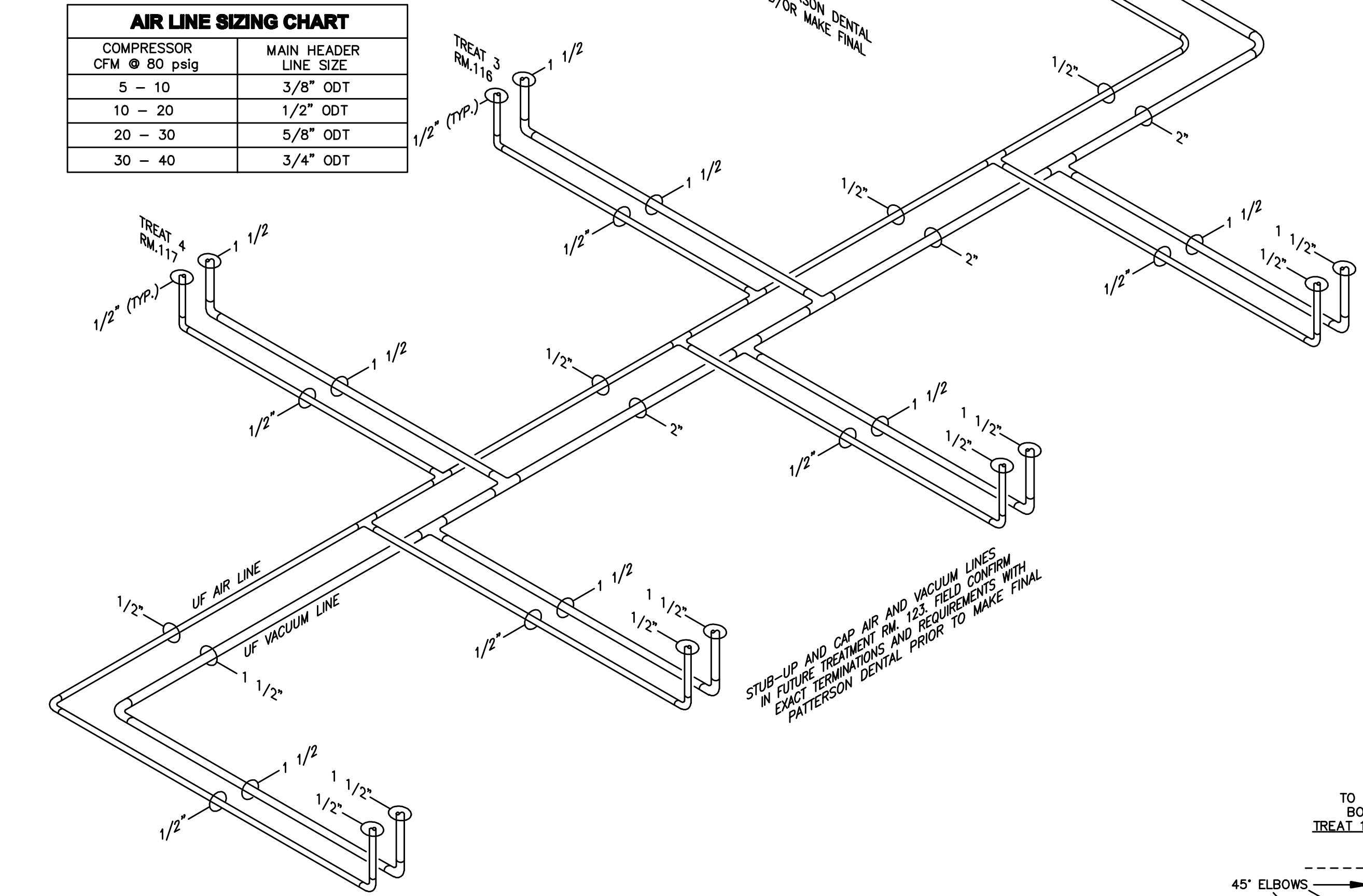


VACUUM LINE SIZING CHART

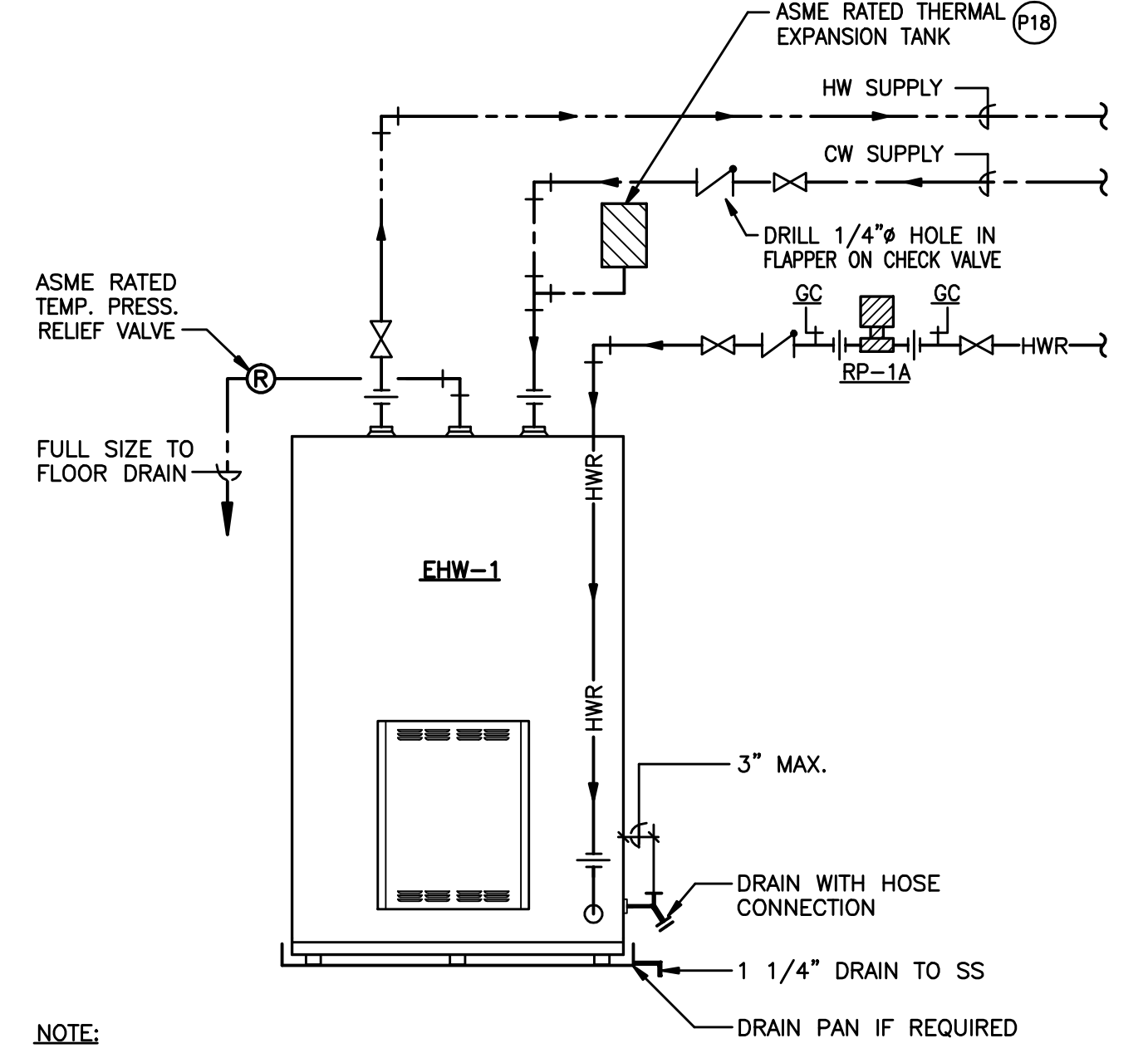
NUMBER OF OPERATORIES SUPPLIED THROUGH LINE	MAIN LINE (PVC Sch 40) PIPE DIAMETER IN INCHES
1	3/4
2	1
3	1
4	1 1/4
5	1 1/4
6	1 1/2
7	1 1/2
8	1 1/2

AIR LINE SIZING CHART

COMPRESSOR CFM @ 80 psig	MAIN HEADER LINE SIZE
5 - 10	3/8" ODT
10 - 20	1/2" ODT
20 - 30	5/8" ODT
30 - 40	3/4" ODT

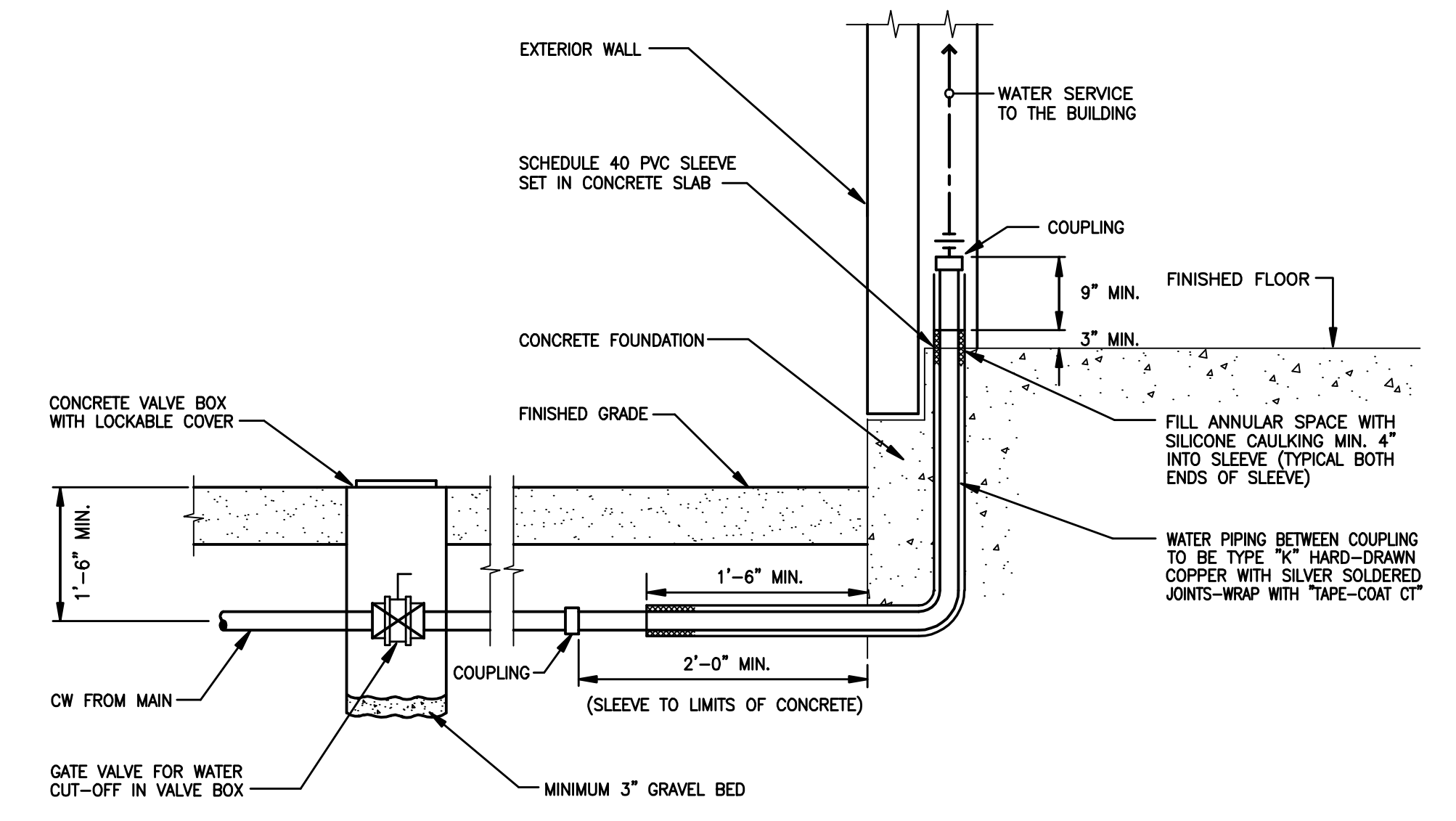


4 VACUUM AND AIR PIPING RISER DIAGRAM
 SCALE: NOT TO SCALE



NOTE:
 PROVIDE GALV. PLATFORM SUPPORT IF REQUIRED BY LOCAL CODES.

1 ELECTRIC WATER HEATER DETAIL
 SCALE: NOT TO SCALE



2 DOMESTIC WATER ENTRY DETAIL
 SCALE: NOT TO SCALE

VACUUM NOTES

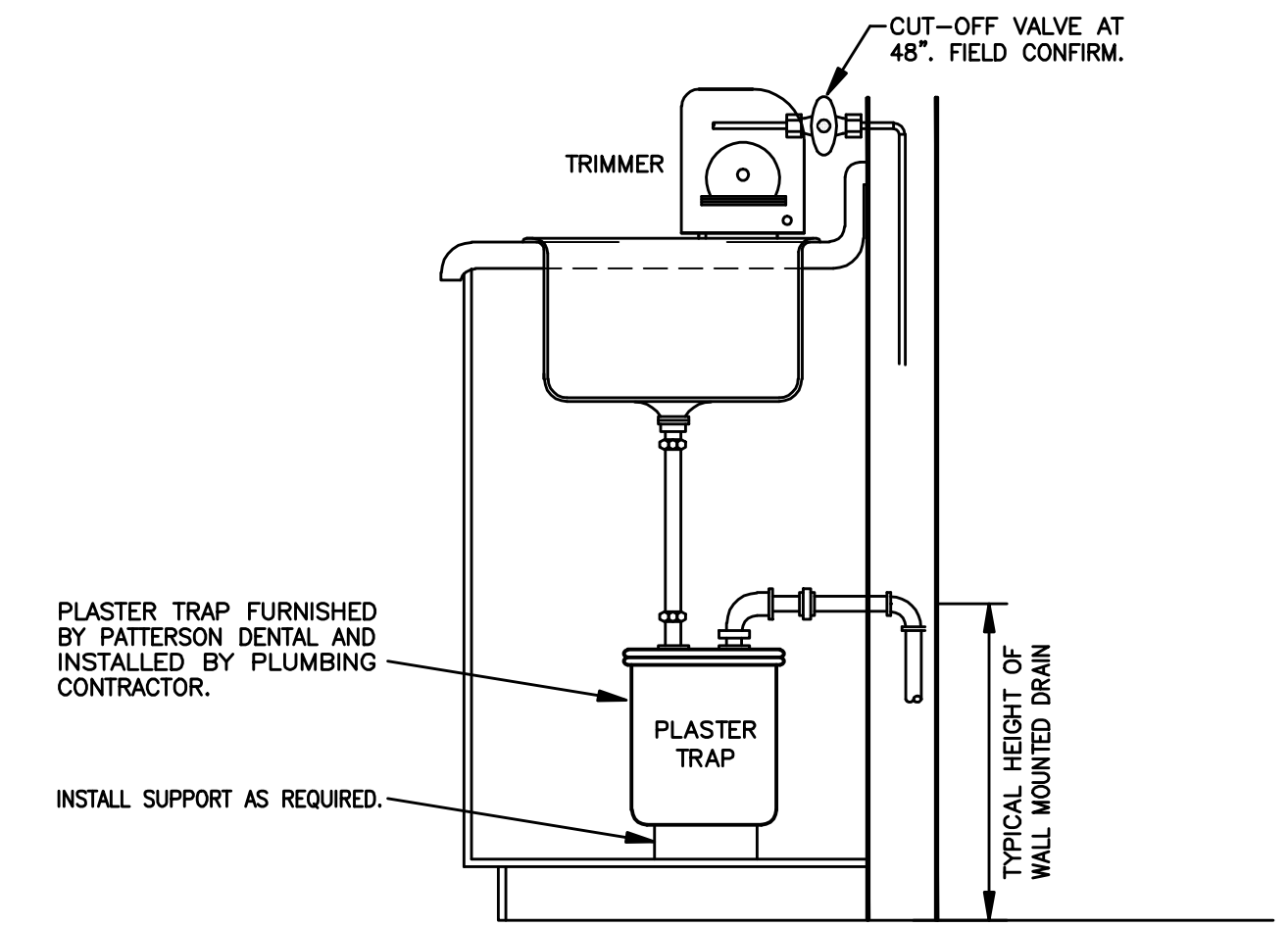
AIR EXHAUST TO OUTSIDE
 ▶ Vent with 2" PVC (galvanized for Cyclone vacuums) to outside of building.

EXHAUST TO SEWER
 ▶ Use Apollo P/N SVA95775 1 1/2" P-Trap (with 1" air gap) or floor sink, use open drain only if required by local code.

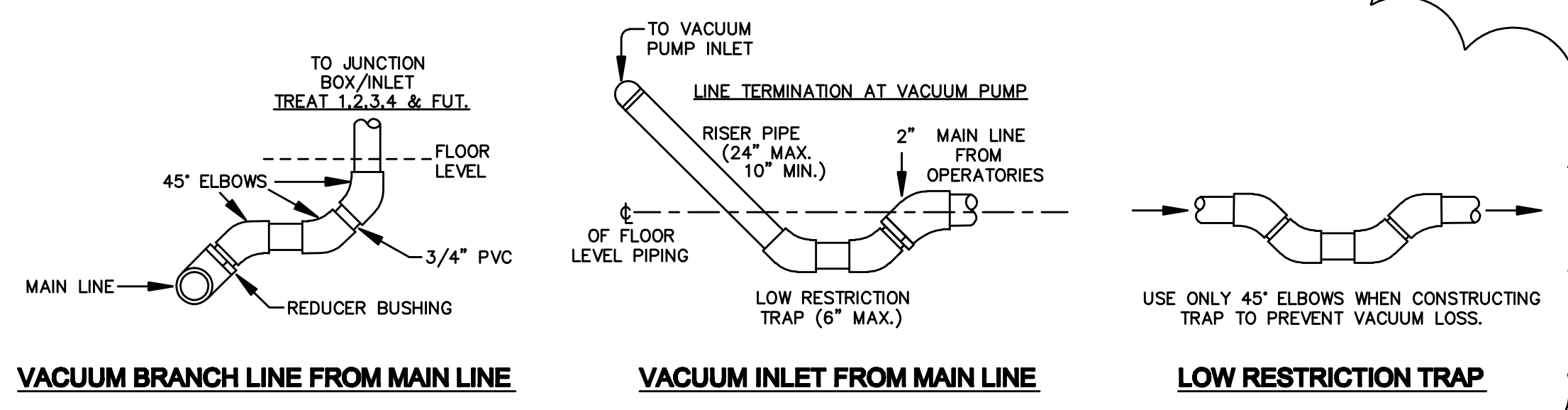
VACUUM INLET FROM MAIN LINE
 ▶ Terminate with 2" PVC pipe (illustrated), or refer to Specification Designer sheet for correct vacuum inlet size.
 ▶ Plumb low restriction trap in line before riser to vacuum inlet. For sub-floor systems, this must be the only trap in the vacuum system, and for any system it should be the lowest point.
 ▶ Connect to Vacuum Unit with provided PVC flex hose, do not cement intake hose.

BRANCH LINE FROM MAIN LINE
 ▶ Always branch a pipe off the main line above the centerline of the main line. This prevents back flow from the main line into the operatories.
 ▶ Branch tees are the same size as main line and are reduced to 3/4" for sub-floor systems.

VACUUM PIPING GUIDELINES
 ▶ It is important to MINIMIZE 90° ELBOWS in the system. These will not only cause vacuum losses, but will also provide a place for sediment to accumulate. A combination of two 45° elbows is preferable to a 90° elbow. A "Y" tee fitting should be used when available to branch two lines together.
 ▶ Overhead systems require the next larger vacuum pump. They also require 1/2" branch line, instead of a 3/4" line for sub-floor systems from the operator. See above for additional provisions of branch line plumbing.
 ▶ Use only 3/4" pipe when attaching nitrous scavenger lines to the main or branch line.
 ▶ If the operator branch line runs more than 40 feet away from the main line or the main line runs more than 50 feet from the vacuum location, use the next larger pipe as shown in the following Vacuum Line Sizing Chart.
 ▶ Vacuum lines should be supported every 6 feet to prevent sag and should be sloped 1/4" for every 10 feet toward the vacuum pump.
 ▶ When determining vacuum line sizes within the system, use the number of operatories being supplied by branch lines, not the number of outlets within the operatories.



3 TRIMMER/PLASTER TRAP DETAIL
 SCALE: NOT TO SCALE



VACUUM BRANCH LINE FROM MAIN LINE **VACUUM INLET FROM MAIN LINE** **LOW RESTRICTION TRAP**