

Existing Shell Building & Parking
 Building: 20,000 sf gross
 Parking: 102 spaces



Site Plan
 1/32" = 1'-0"

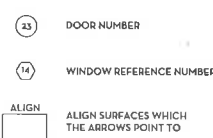
ABBREVIATIONS:

A AFF ALT APPL ARCH AUTO & AND	ABOVE FINISH FLOOR ALTERNATE APPLIANCE ARCHITECTURAL AUTOMATIC	F FAB FD FIN FPLC FR FRMG FKD FXTR FLR FURN	FABRICATION FLOOR DRAIN FINISH FIREPLACE FIRE GATE(WING) FRAMING DIXED FITTURE FLOORING FURNITURE	N NIC NO. NTS	NOT IN CONTRACT NUMBER NOT TO SCALE	O OVFL OVHD OPNG OPR OH	OVERFLOW OVERHEAD OPENING(S) OPERABLE OPPOSITE HAND	P PTN PBD PNL PREFIN PREFAB PLAM PLAS PLYWD	PARTITION PARTICLE BOARD PANEL PREFINISHED PREFABRICATED PLASTIC LAMINATE PLASTER PLYWOOD	R R/A RCP RECS RECP RE REF REF REQD RENF RESIL REST RFG ROOM RO ROW	HVAC RETURN AIR REFLECTED CEILING PLAN RECESSED RECEPTACLE REFER REFLECTED REFRIGERATOR REQUIRED REINFORCED RESILIENT RESTROOM ROOFING ROOM ROUGH OPENING RIGHT OF WAY	S SF SGL SGHC	SQUARE FOOT (FEET) SINGLE SOLAR HEAT GAIN COEFFICIENT	SIM SS STD STL STRFR STRUCT SURF SUSP SYS	SIMILAR STAINLESS STEEL STANDARD STEEL STOREFRONT STRUCTURAL SURFACE SUSPENDED SYSTEM(S)	T TBD THK TLT TRANS TRTD T&G TYP	TO BE DETERMINED THICK TOILET TRANSPARENT TREATED TONGUE & GROOVE TYPICAL	U UNO UWA	UTILITY UNLESS NOTED OTHERWISE UNDER WALL ABOVE	V VIF	VERIFY IN FIELD	W WC WD W/D WDW W/O WT WTRPRF	WITH WATER CLOSET WOOD WASHER & DRYER WINDOW WITHOUT WEIGHT WATERPROOFING
B BLDG BD BLKG	BUILDING BOARD BLOCKING	G GA GC CONTRACTOR GYP	GAUGE GENERAL CONTRACTOR GYPSUM	H HD HOR HVAC	HEAD HORIZONTAL HEATING, VENTILATING & AIR CONDITIONING	I INFO INSUL INT	INFORMATION INSULATION INTERIOR	K KIT K/S	KITCHEN KNEE SPACE	L LAV LB LF LT LVR	LAVATORY POUND LINEAR FOOT (FEET) LIGHT LOUVER	M MAX MFD MFR MECH MEMB MEZZ MIN MISC MLWK MTD MW	MAXIMUM MANUFACTURED MANUFACTURER MECHANICAL MEMBRANE MEZZANINE MINIMUM MISCELLANEOUS MILLWORK MOUNTED MICROWAVE	D DBL DEPT DET DIA DIFF DIM DISP DIV DN DR DSCON DW DWR	DOUBLE DEPARTMENT DETAIL DIAMETER DIFFUSER DIMENSION DISPENSER DIVISION DOWN DOOR DISCONNECT DISHWASHER DRAWER	E EIFS ELAST ELEC ENGR EQ EQUIP EXIST EXP JT EXT	EXTERIOR INSULATED FINISH SYSTEM ELASTOMERIC ELECTRICAL ENGINEER(ED) EQUAL EQUIPMENT EXISTING EXPANSION JOINT EXTERIOR						

GENERAL NOTES:

1. COMPLY WITH ALL CODES, LAWS, ORDINANCES, RULES AND REGULATIONS OF PUBLIC AUTHORITIES GOVERNING THIS WORK.
2. OBTAIN AND PAY FOR PERMITS AND INSPECTIONS AS REQUIRED BY THE AUTHORITIES GOVERNING THIS WORK.
3. REVIEW THESE DOCUMENTS, VERIFY DIMENSIONS AND EXISTING CONDITIONS AND CORRECT IF THE WORK IS BUILDABLE AS SHOWN. REPORT ANY CONFLICTS OR OMISSIONS TO THE ARCHITECT FOR CLARIFICATION PRIOR TO ORDERING ANY MATERIALS OR PERFORMING ANY WORK IN QUESTION.
4. SUBMIT REQUESTS FOR SUBSTITUTIONS, REVISIONS, OR CHANGES TO THE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO PURCHASE, FABRICATION OR INSTALLATION.
5. COORDINATE WORK WITH THE OWNER, INCLUDING SCHEDULING TIME AND LOCATIONS FOR DELIVERIES, PROPERTY AND/OR BUILDING ACCESS, USE OF SERVICES AND FACILITIES, AND USE OF ELEVATORS. MINIMIZE DISTURBANCE OF BUILDING FUNCTIONS AND OCCUPANTS.
6. WORK NOTED "BY OTHERS" OR "NIC" WILL BE PROVIDED BY THE OWNER UNDER A SEPARATE CONTRACT. INCLUDE SCHEDULE REQUIREMENTS IN THE CONSTRUCTION PROGRESS SCHEDULE AND COORDINATE WITH OWNER TO ENSURE ORDERLY SEQUENCE OF INSTALLATION OF ALL WORK, INCLUDING "NIC" AND "BY OTHERS" WORK.
7. COORDINATE THE INSTALLATION OF TELECOMMUNICATIONS, DATA AND SECURITY SYSTEMS WITH THE PROPER PARTIES.
8. MAINTAIN EXITS, EXIT LIGHTING, FIRE PROTECTIVE DEVICES, AND ALARMS IN CONFORMANCE WITH APPLICABLE CODES AND ORDINANCES.
9. PROTECT WORK AND SURROUNDING AREAS FROM DAMAGE.
10. MAINTAIN WORK AREAS SECURE AND LOCKABLE DURING CONSTRUCTION. COORDINATE WITH TENANT AND LANDLORD TO ENSURE SECURITY.
11. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN. CONSULT THE ARCHITECT IN CASE OF CONFLICT.
12. PARTITIONS, FLOORS AND CEILING ARE DIMENSIONED FROM FINISH FACE TO FINISH FACE, UNLESS OTHERWISE NOTED. MAINTAIN DIMENSIONS MARKED "CLEAR". ALLOW FOR THICKNESS OF FINISHES.
13. COORDINATE AND PROVIDE BACKING FOR MILLWORK AND ITEMS ATTACHED OR MOUNTED TO WALLS OR CEILINGS.
14. UNDERCUT DOORS TO CLEAR TOP OF FLOOR FINISHES BY 1/2", UNLESS OTHERWISE NOTED.
15. ENSURE SURFACES TO RECEIVE FINISHES ARE CLEAN, TRUE, AND FREE OF IRREGULARITIES. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
16. PROVIDE STRAIGHT, FLUSH RESILIENT BASE AT CARPETED AREAS, AND COVER, TOP SET RESILIENT BASE AT RESILIENT FLOORING, UNLESS OTHERWISE NOTED.

GRAPHIC SYMBOLS:



MEDICAL CLINIC INTERIOR BUILD-OUT FORT BEND HEART CENTER

13020 Dairy Ashford Dr. Suite 101, Sugar Land TX 77478

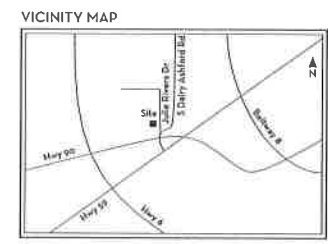
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Medical Clinic Interior Build-out
 FORT BEND HEART CENTER
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Project Description:
 Interior build-out of medical clinic in vacant shell building space.

- Codes:**
- 2009 International Building Code
 - 2009 International Energy Code
 - City of Sugar Land adopted Codes and Amendments.
 - 2008 National Electric Code.
 - 2012 Texas Accessibility Standards (TAS): TAS standards closely follow the Americans with Disabilities Act Accessibility Guidelines (ADAAG), and have been approved by the Department of Justice (DOJ).

FIRE ALARM NOTE

THIS BUILDING IS PROTECTED BY AN APPROVED FIRE ALARM SYSTEM.
 A LICENSED FIRE ALARM CONTRACTOR SHALL MODIFY THE EXISTING FIRE ALARM EQUIPMENT AS REQUIRED TO FULLY PROTECT THE NEW LEASE SPACE IN ACCORDANCE WITH LOCAL AND STATE FIRE CODES. FIRE ALARM SUBMITTALS SHALL BE SUBMITTED TO THE CITY OF SUGAR LAND FOR REVIEW AND PERMIT.

FIRE SPRINKLER SYSTEM NOTE

THIS BUILDING IS PROTECTED BY AN APPROVED AUTOMATIC FIRE SPRINKLER SYSTEM.
 A LICENSED FIRE SPRINKLER CONTRACTOR SHALL MODIFY THE EXISTING FIRE SPRINKLER SYSTEM AS REQUIRED TO FULLY PROTECT THE NEW LEASE SPACE IN ACCORDANCE WITH LOCAL AND STATE FIRE CODES. SPRINKLER SUBMITTALS SHALL BE SUBMITTED TO THE CITY OF SUGAR LAND FOR REVIEW AND PERMIT.

Project No.
 Dwg. Name
Cover Page
Site Plan

Dwg. No.
Ao.o



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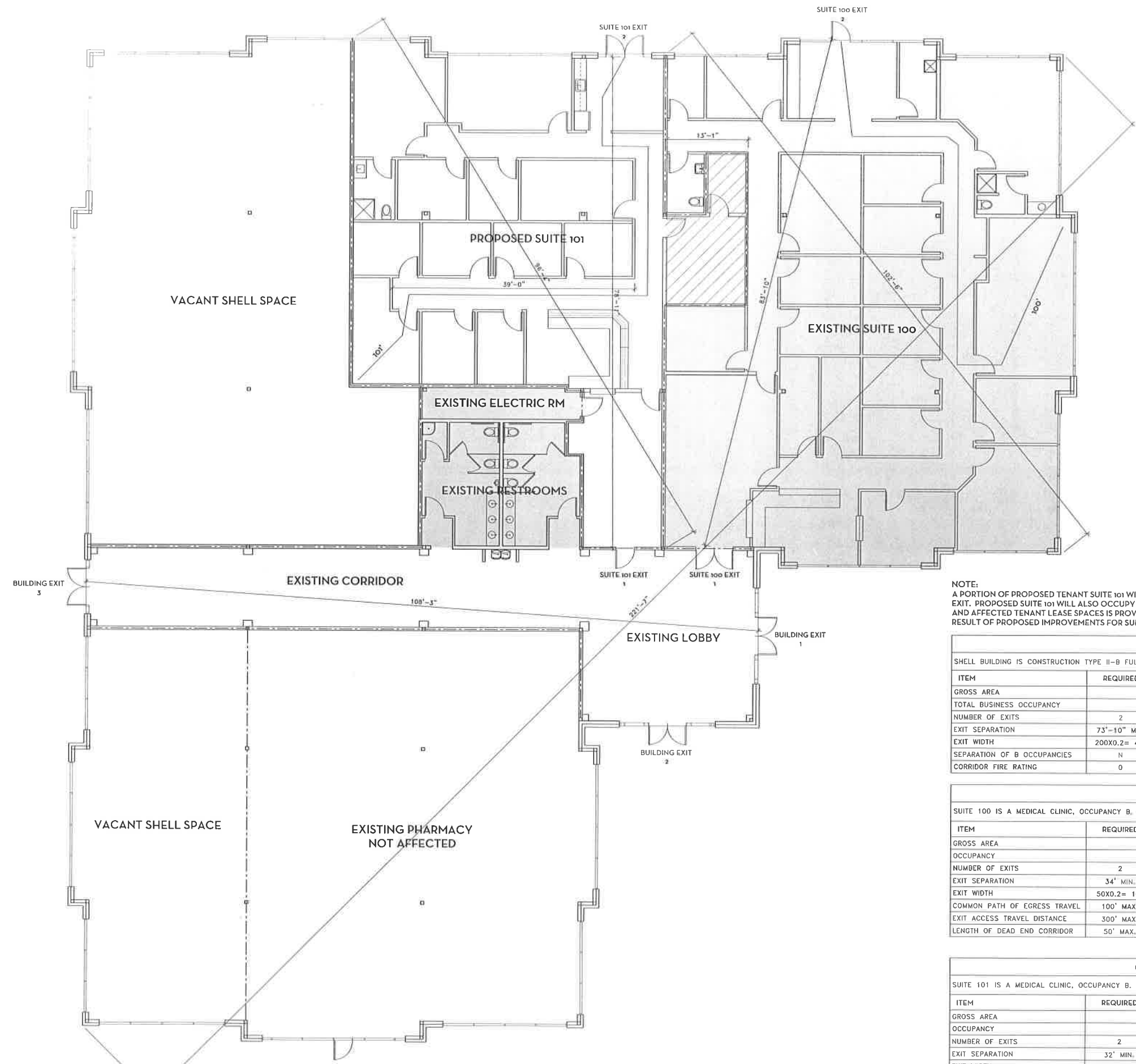
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Project No.

Dwg. Name
CODE ANALYSIS

Dwg. No.

A1.0



LEGEND:

- LEASE LINE
- [Hatched Box] AREA TRANSFERRED FROM SUITE 100 TO SUITE 101
- [Solid Box] EXISTING: SUITE 100, COMMON RESTROOMS, AND ELECTRIC ROOM

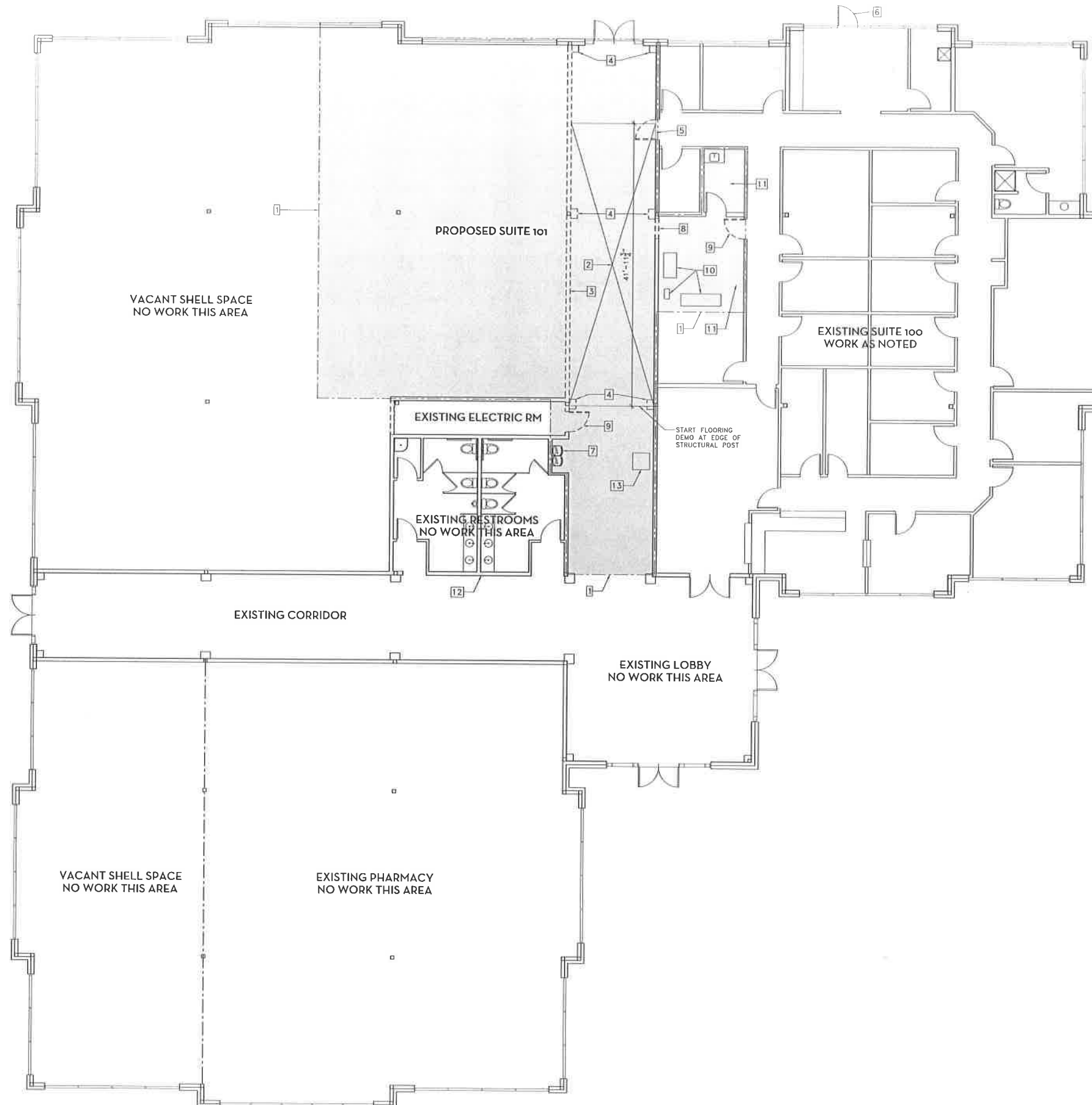
NOTE:
 A PORTION OF PROPOSED TENANT SUITE 101 WILL OCCUPY AND ELIMINATE ONE OF THE SHELL BUILDING'S CORRIDORS AND EXIT. PROPOSED SUITE 101 WILL ALSO OCCUPY A PORTION OF EXISTING SUITE 100. A CODE ANALYSIS FOR THE SHELL BUILDING AND AFFECTED TENANT LEASE SPACES IS PROVIDED ON THIS SHEET TO VERIFY CODE COMPLIANCE OF THESE SPACES AS A RESULT OF PROPOSED IMPROVEMENTS FOR SUITE 101.

CODE ANALYSIS: SHELL BUILDING						
SHELL BUILDING IS CONSTRUCTION TYPE II-B FULLY SPRINKLERED.						
ITEM	REQUIRED	EXISTING	PROPOSED	CODE SECTION	NOTES	
GROSS AREA		20,000 SF	20,000 SF			
TOTAL BUSINESS OCCUPANCY		200	200			
NUMBER OF EXITS	2	4	3	1021.1		
EXIT SEPARATION	73'-10" MIN.	108'	108'	1015.2.1		
EXIT WIDTH	200X0.2= 40"	288"	216"	1005.1		
SEPARATION OF B OCCUPANCIES	N	-	-	508.4	N = NOT REQUIRED	
CORRIDOR FIRE RATING	0	0	0	1018.1		

CODE ANALYSIS: EXISTING SUITE 100						
SUITE 100 IS A MEDICAL CLINIC, OCCUPANCY B.						
ITEM	REQUIRED	EXISTING	PROPOSED	CODE SECTION	NOTES	
GROSS AREA		5,222 SF	4,966 SF			
OCCUPANCY		52	50			
NUMBER OF EXITS	2	2	2	1021		
EXIT SEPARATION	34' MIN.	67'	83'	1015.2.1		
EXIT WIDTH	50X0.2= 10"	108"	108"	1005.1		
COMMON PATH OF EGRESS TRAVEL	100' MAX.	31'	31'	1014.3		
EXIT ACCESS TRAVEL DISTANCE	300' MAX.	130'	100'	1016		
LENGTH OF DEAD END CORRIDOR	50' MAX.	0	13'	1018.4		

CODE ANALYSIS: PROPOSED SUITE 101						
SUITE 101 IS A MEDICAL CLINIC, OCCUPANCY B.						
ITEM	REQUIRED	EXISTING	PROPOSED	CODE SECTION	NOTES	
GROSS AREA		-	3,345 SF			
OCCUPANCY		-	33			
NUMBER OF EXITS	2	-	2	1021	TRAVEL DISTANCE FOR 1 EXIT EXCEEDS ALLOWED.	
EXIT SEPARATION	32' MIN.	-	78'	1015.2.1		
EXIT WIDTH	33X0.2= 7"	-	108"	1005.1		
COMMON PATH OF EGRESS TRAVEL	100' MAX.	-	55'	1014.3		
EXIT ACCESS TRAVEL DISTANCE	300' MAX.	-	101'	1016		
LENGTH OF DEAD END CORRIDOR	50' MAX.	-	39'	1018.4		

1. CODE ANALYSIS PLAN (ENTIRE BUILDING AFTER PROPOSED IMPROVEMENTS)
 1/8" = 1'-0"



- DEMOLITION KEYED NOTES:**
1. LINE OF PROPOSED LEASE SPACE.
 2. DEMOLISH FLOOR TILE WITHIN THE AREA INDICATED BY THE "X". SAW CUT EDGES AT TILE TO REMAIN TO HAVE CLEAN STRAIGHT EDGE.
 3. DEMOLISH WALL. STRUCTURAL COLUMNS TO REMAIN. PROTECT DURING DEMOLITION AND CONSTRUCTION. REFER TO MECH AND ELECT DWGS FOR HVAC EQUIPMENT AND LIGHTING DEMOLITION EXTENTS.
 4. STONE CLAD PILASTERS TO BE DEMOLISHED.
 5. DOOR TO ADJACENT SUITE (100) TO BE DEMOLISHED.
 6. NEW DOOR ADDED FOR SUITE 100. DEMOLISH PORTION OF WINDOW SYSTEM AND SAWCUT BRICK BELOW WINDOWS TO CREATE DOOR OPENING.
 7. DRINKING FOUNTAIN TO BE RELOCATED.
 8. CREATE OPENING FOR PROPOSED DOOR. REFER TO CONSTRUCTION FLOOR PLAN FOR LOCATION.
 9. DEMOLISH DOOR AND FRAME.
 10. EXISTING MEDICAL EQUIPMENT TO REMAIN. GC TO COVER AND PROTECT EQUIPMENT FROM DUST AND PHYSICAL CONTACT THROUGHOUT ENTIRE DEMOLITION AND CONSTRUCTION PERIOD.
 11. EXISTING CEILING GRID IN THESE ROOMS TO BE TERMINATED ON BOTH SIDES OF THE EXISTING PARTITIONS WHICH SHALL BE EXTENDED UP TO DECK TO BECOME DEMISING WALLS.
 12. LOCATION FOR RELOCATED DRINKING FOUNTAINS.
 13. RELOCATE EXISTING VENDING MACHINE TO ADJACENT TO NEW LOCATION OF DRINKING FOUNTAINS.

1. DEMOLITION PLAN
 1/8" = 1'-0"

Medical Clinic Interior Build-out
 FORT BEND HEART CENTER
 13020 Dairy Ashford Dr. Suite 101, Sugar Land, TX 77478



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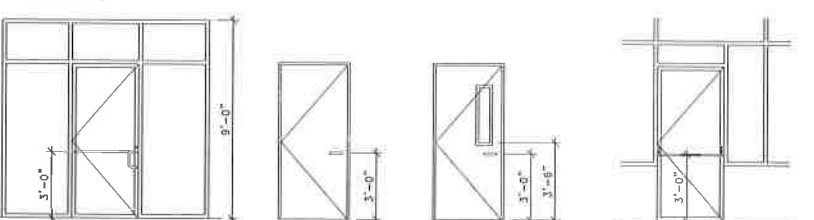
Dwg. Name
Demolition Plan

Dwg. No.

D1.0

DOOR SCHEDULE									
No.	SIZE	THICK.	DESCRIPTION	TYPE	FIRE RATING	FRAME	HARDWARE	FINISH	NOTES
1	3'-0" x 7'-0"	-	STRUCTURAL GLASS W/ ALUM. FRAME	D1	-	ALUM	H1	F1	1
2	3'-0" x 7'-0"	1 1/2"	FLUSH PANEL LAMINATED SLAB	D2	-	ALUM	H2	F2	
3	3'-0" x 7'-0"	1 1/2"	FLUSH PANEL LAMINATED SLAB	D2	-	ALUM	H3	F2	
4	3'-0" x 7'-0"	1 1/2"	FLUSH PANEL LAMINATED SLAB	D2	-	ALUM	H4	F2	
5	3'-0" x 7'-0"	1 1/2"	FLUSH PANEL LAMINATED SLAB	D2	-	ALUM	H4	F2	
6	3'-0" x 7'-0"	1 1/2"	FLUSH PANEL LAMINATED SLAB	D2	-	ALUM	H4	F2	
7	3'-0" x 7'-0"	1 1/2"	FLUSH PANEL LAMINATED SLAB	D2	-	ALUM	H4	F2	
8	3'-0" x 7'-0"	1 1/2"	FLUSH PANEL LAMINATED SLAB	D2	-	ALUM	H4	F2	
9	3'-0" x 7'-0"	1 1/2"	FLUSH PANEL LAMINATED SLAB	D2	-	ALUM	H4	F2	
10	3'-0" x 7'-0"	1 1/2"	FLUSH PANEL LAMINATED SLAB	D2	-	ALUM	H4	F2	
11	3'-0" x 7'-0"	1 1/2"	EXISTING DOOR & HARDWARE	D2	-	ALUM	H3	F2	
12	3'-0" x 7'-0"	1 1/2"	FLUSH PANEL LAMINATED SLAB	D2	-	ALUM	H4	F2	
13	3'-0" x 7'-0"	1 1/2"	FLUSH PANEL LAMINATED SLAB	D2	-	ALUM	H3	F2	
14	3'-0" x 7'-0"	1 1/2"	FLUSH PANEL LAMINATED SLAB	D2	-	ALUM	H3	F2	
15	3'-0" x 7'-0"	1 1/2"	FLUSH PANEL LAMINATED SLAB	D2	-	ALUM	H3	F2	
16	3'-0" x 7'-0"	1 1/2"	FLUSH PANEL LAMINATED SLAB	D2	-	ALUM	H2-A	F2	
17	3'-0" x 7'-0"	1 1/2"	FLUSH PANEL LAMINATED SLAB	D3	-	ALUM	H3	F2	
18	6'-0" x 7'-0"	-	EXISTING STOREFRONT DOUBLE DOORS	-	-	ALUM	H5	-	
19	3'-0" x 7'-0"	-	FLUSH PANEL LAMINATED SLAB	D2	-	ALUM	H3	F2	
20	4'-0" x 7'-0"	-	CASED OPENING	-	-	WOOD	-	F3	
2	3'-0" x 7'-0"	-	STRUCTURAL GLASS W/ ALUM. FRAME	D4	-	ALUM	H6	F4	

NOTES:
 1. INSTALL 1" WHITE LETTERS ON GLASS FROM INTERIOR TO READ: "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED".



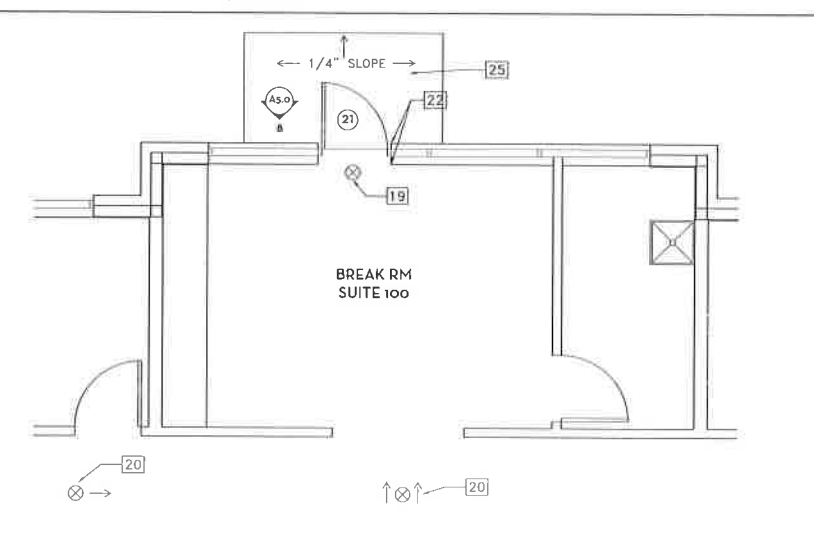
D1 * STRUCTURAL GLASS WITH BRONZE ANOD. ALUM. FRAME STOREFRONT SYSTEM.
 D2 * FLUSH PANEL WOOD DOOR
 D3 * FLUSH PANEL WOOD DOOR WITH 6 X 30 VISION GLASS
 D4 * SAFETY GLASS WITH BRONZE ANOD. ALUM. FRAME STOREFRONT SYSTEM TO MATCH EXISTING

DOOR HARDWARE:

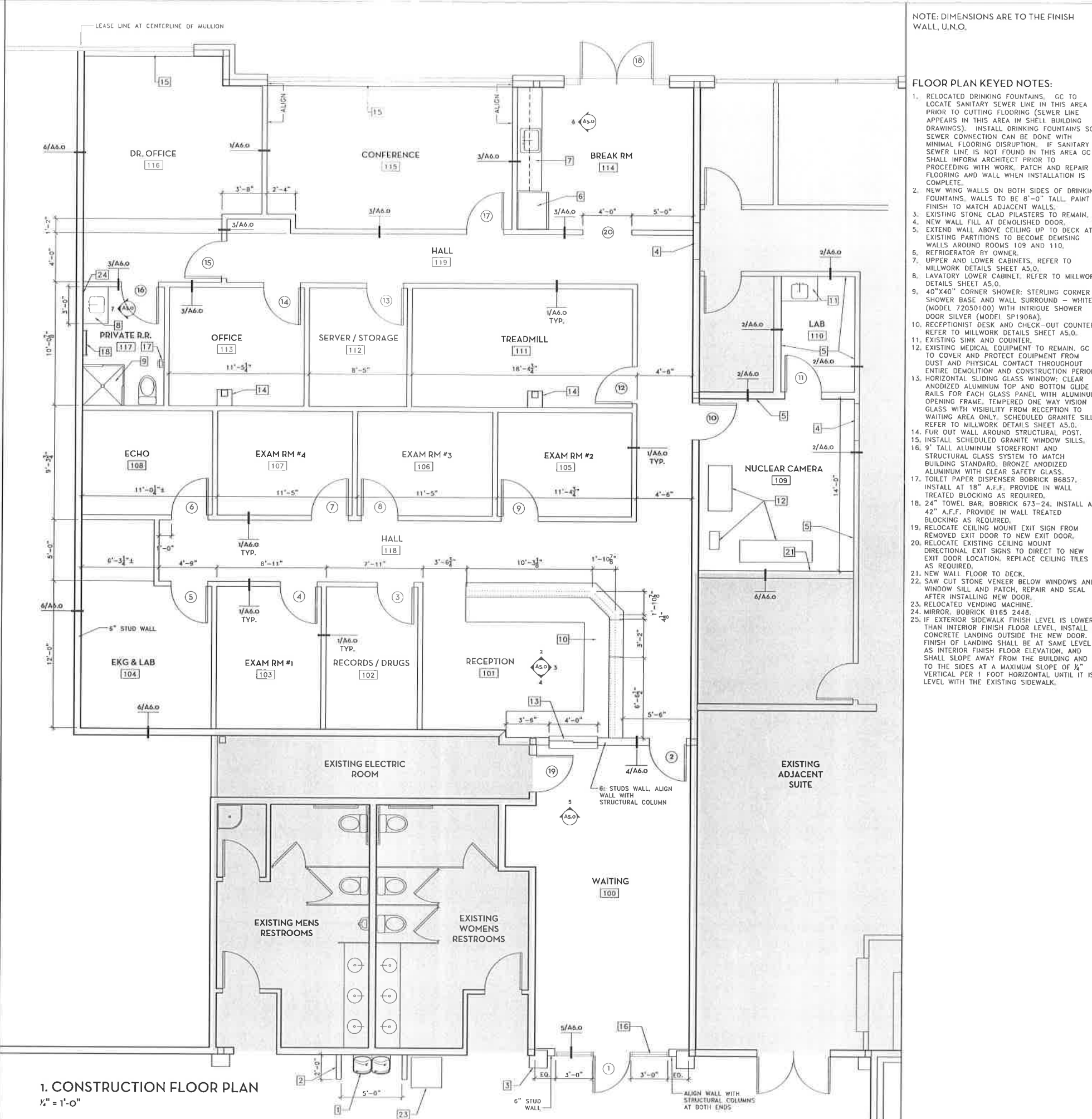
- H1 KEY LOCK.
- H1 PUSH / PULL BARS.
- H1 HEAVY DUTY HINGES.
- H1 HEAVY DUTY CLOSER.
- H1 HEAVY DUTY KICK DOWN HOLD OPEN.
- H2 PRIVACY LOCK
- H2 LEVER HANDLES WITH PUSH BUTTON LOCK ON PRIVATE SIDE, INSIDE LEVER RELEASES LOCK. SCHLAGE AL40S NEPTUNE 626.
- H2 HINGES, CLOSER, DOOR STOP (WALL MOUNT WHERE POSSIBLE, OTHERWISE FLOOR MOUNT).
- H2-A SAME AS H2 BUT WITHOUT A DOOR CLOSER.
- H3 PUSH BUTTON & KEY LOCK
- H3 LEVER HANDLES WITH PUSH BUTTON LOCK ON PRIVATE SIDE, INSIDE LEVER RELEASES LOCK. KEY LOCK/UNLOCK ON OUTSIDE. SCHLAGE AL50P NEPTUNE 626.
- H3 HINGES, DOOR STOP (WALL MOUNT WHERE POSSIBLE, OTHERWISE FLOOR MOUNT).
- H4 HOSPITAL PRIVACY LOCK
- H4 LEVER HANDLES WITH PUSH BUTTON LOCK ON PRIVATE SIDE, INSIDE LEVER RELEASES LOCK. EMERGENCY TURN BUTTON ON OUTSIDE UNLOCKS. SCHLAGE AL44S NEPTUNE 626.
- H4 HINGES, DOOR STOP (WALL MOUNT WHERE POSSIBLE, OTHERWISE FLOOR MOUNT).
- H5 PANIC HARDWARE
- H5 ALL EXISTING HARDWARE TO REMAIN, CONTRACTOR TO VERIFY OPERATION OF ALL HARDWARE AND TO SERVICE AS REQUIRED SO IT IS FULLY OPERATIONAL.
- H6 PANIC HARDWARE
- H6 HEAVY DUTY CROSS BAR PANIC HARDWARE, BRONZE FINISH TO MATCH BUILDING STANDARD.
- H6 HINGES, CLOSER, THRESHOLD AND WEATHERSTRIPPING PER STOREFRONT SYSTEM REQUIREMENTS.

DOOR FINISH:

- F1 ANODIZED BRONZE ALUMINUM FRAME AND HARDWARE.
- F1 CLEAR STRUCTURAL GLASS
- F2 PLASTIC LAMINATE FINISH: WILSON ART WINDSOR MAHOGANY 7039-60 ANODIZED BRONZE ALUMINUM FRAME
- F3 WOOD TRIM AT OPENING TO BE PAINTED SEMI GLOSS WHITE.
- F4 ANODIZED BRONZE ALUMINUM FRAME AND HARDWARE TO MATCH EXISTING
- F4 TINTED STRUCTURAL GLASS TO MATCH ADJACENT EXISTING WINDOWS.



2. PARTIAL FLOOR PLAN AT SUITE 100
 1/4" = 1'-0"



1. CONSTRUCTION FLOOR PLAN
 1/4" = 1'-0"

NOTE: DIMENSIONS ARE TO THE FINISH WALL, U.N.O.

FLOOR PLAN KEYED NOTES:

- RELOCATED DRINKING FOUNTAINS. GC TO LOCATE SANITARY SEWER LINE IN THIS AREA PRIOR TO CUTTING FLOORING (SEWER LINE APPEARS IN THIS AREA IN SHELL BUILDING DRAWINGS). INSTALL DRINKING FOUNTAINS SO SEWER CONNECTION CAN BE DONE WITH MINIMAL FLOORING DISRUPTION. IF SANITARY SEWER LINE IS NOT FOUND IN THIS AREA GC SHALL INFORM ARCHITECT PRIOR TO PROCEEDING WITH WORK. PATCH AND REPAIR FLOORING AND WALL WHEN INSTALLATION IS COMPLETE.
- NEW WING WALLS ON BOTH SIDES OF DRINKING FOUNTAINS. WALLS TO BE 8'-0" TALL. PAINT FINISH TO MATCH ADJACENT WALLS.
- EXISTING STONE CLAD PILASTERS TO REMAIN.
- NEW WALL FILL AT DEMOLISHED DOOR.
- EXTEND WALL ABOVE CEILING UP TO DECK AT EXISTING PARTITIONS TO BECOME DEMISING WALLS AROUND ROOMS 109 AND 110.
- REFRIGERATOR BY OWNER.
- UPPER AND LOWER CABINETS. REFER TO MILLWORK DETAILS SHEET AS.0.
- LAVATORY LOWER CABINET. REFER TO MILLWORK DETAILS SHEET AS.0.
- 40"x40" CORNER SHOWER: STERLING CORNER SHOWER BASE AND WALL SURROUND - WHITE (MODEL 72050100) WITH INTRIQUE SHOWER DOOR SILVER (MODEL SP1906A).
- RECEPTIONIST DESK AND CHECK-OUT COUNTER. REFER TO MILLWORK DETAILS SHEET AS.0.
- EXISTING SINK AND COUNTER.
- EXISTING MEDICAL EQUIPMENT TO REMAIN. GC TO COVER AND PROTECT EQUIPMENT FROM DUST AND PHYSICAL CONTACT THROUGHOUT ENTIRE DEMOLITION AND CONSTRUCTION PERIOD.
- HORIZONTAL SLIDING GLASS WINDOW: CLEAR ANODIZED ALUMINUM TOP AND BOTTOM GUIDE RAILS FOR EACH GLASS PANEL WITH ALUMINUM OPENING FRAME. TEMPERED ONE WAY VISION GLASS WITH VISIBILITY FROM RECEPTION TO WAITING AREA ONLY. SCHEDULED GRANITE SILL. REFER TO MILLWORK DETAILS SHEET AS.0.
- FUR OUT WALL AROUND STRUCTURAL POST.
- INSTALL SCHEDULED GRANITE WINDOW SILLS.
- 9' TALL ALUMINUM STOREFRONT AND STRUCTURAL GLASS SYSTEM TO MATCH BUILDING STANDARD. BRONZE ANODIZED ALUMINUM WITH CLEAR SAFETY GLASS.
- TOILET PAPER DISPENSER BOBRICK B6857. INSTALL AT 18" A.F.F. PROVIDE IN WALL TREATED BLOCKING AS REQUIRED.
- 24" TOWEL BAR. BOBRICK 673-24. INSTALL AT 42" A.F.F. PROVIDE IN WALL TREATED BLOCKING AS REQUIRED.
- RELOCATE CEILING MOUNT EXIT SIGN FROM REMOVED EXIT DOOR TO NEW EXIT DOOR.
- RELOCATE EXISTING CEILING MOUNT DIRECTIONAL EXIT SIGNS TO DIRECT TO NEW EXIT DOOR LOCATION. REPLACE CEILING TILES AS REQUIRED.
- NEW WALL FLOOR TO DECK.
- SAW CUT STONE VENEER BELOW WINDOWS AND WINDOW SILL AND PATCH. REPAIR AND SEAL AFTER INSTALLING NEW DOOR.
- RELOCATED VENDING MACHINE.
- MIRROR. BOBRICK B165 2448.
- IF EXTERIOR SIDEWALK FINISH LEVEL IS LOWER THAN INTERIOR FINISH FLOOR LEVEL, INSTALL A CONCRETE LANDING OUTSIDE THE NEW DOOR. FINISH OF LANDING SHALL BE AT SAME LEVEL AS INTERIOR FINISH FLOOR ELEVATION, AND SHALL SLOPE AWAY FROM THE BUILDING AND TO THE SIDES AT A MAXIMUM SLOPE OF 1" VERTICAL PER 1 FOOT HORIZONTAL UNTIL IT IS LEVEL WITH THE EXISTING SIDEWALK.

Medical Clinic Interior Build-out
 FORT BEND HEART CENTER
 13020 Datty Ashford Dr. Suite 101, Sugar Land, TX 77478

KASHOU
 architecture
 Shawn Kashou, NCARB
 20710 Shadow Mill Ct
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11/14/2013

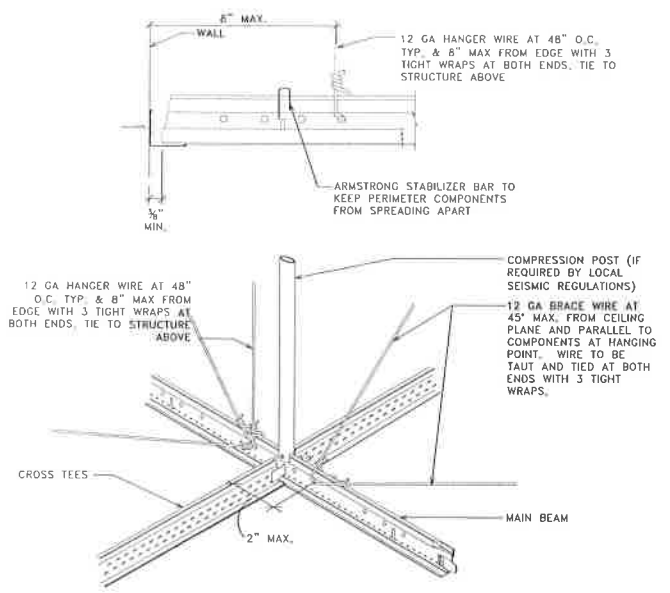
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Project No.

Dwg. Name
**Floor Plan
 Door
 Schedule**

Dwg. No.

A2.0

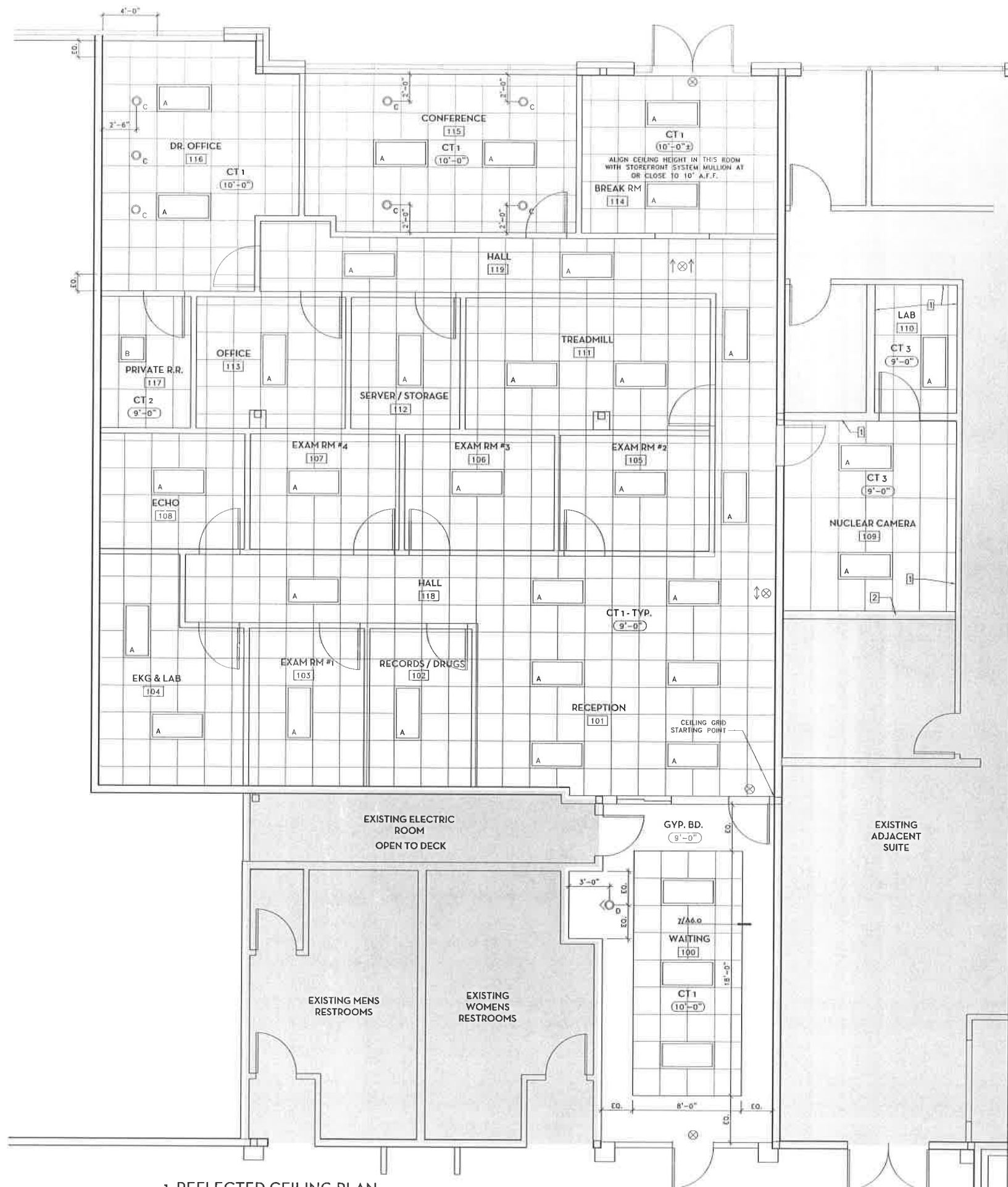


NOTES REGARDING LIGHT FIXTURE AND CEILING DIFFUSER SUSPENSION:
 1. FIXTURES OVER 56# TO BE SUPPORTED DIRECTLY FROM STRUCTURE.
 2. FIXTURES LESS THAN 56# ATTACH 4 CORNERS TO GRID AND PROVIDE 2 SLACK WIRES.
 3. CLIP 4 CORNERS.

2. TYPICAL SUSPENSION SYSTEM FOR LAY-IN CEILING NTS

CEILING PLAN LEGEND:

- LIGHT FIXTURE. REFER TO ELEC DWGS FOR SPECIFICATIONS
- LAY IN LIGHT FIXTURE. REFER TO ELEC DWGS FOR SPECIFICATIONS
- CEILING TILE AND GRID. REFER TO FINISH SCHEDULE.
- INDICATES CEILING FINISH AND HEIGHT



1. REFLECTED CEILING PLAN
 1/4" = 1'-0"

REFLECTED CEILING PLAN KEYED NOTES:
 1. EXISTING CEILING GRID IN THESE ROOMS TO BE TERMINATED ON BOTH SIDES OF THE EXISTING WALLS. EXTEND WALLS ABOVE CEILING UP TO DECK SO EXISTING PARTITIONS BECOME DEMISING WALLS AROUND ROOMS 109 AND 110.
 2. NEW DEMISING WALL FLOOR TO DECK.

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Project No.	
Dwg. Name	Reflected Ceiling Plan
Dwg. No.	

A3.0

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Project No. _____

Dwg. Name
Finish Plan
Finish
Schedule

Dwg. No. _____

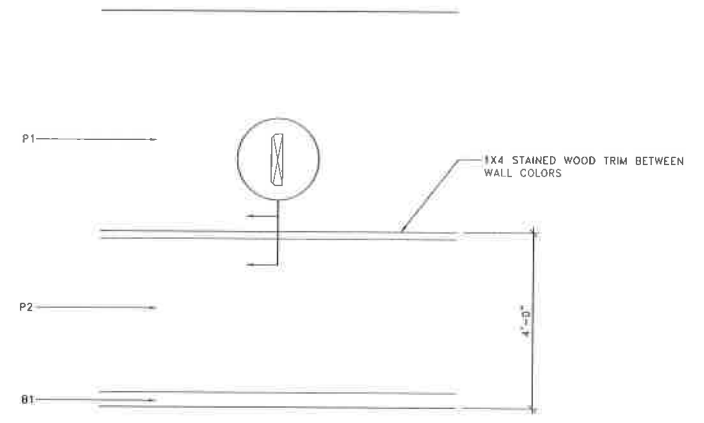
FINISH LEGEND				
FINISH LABEL	DESCRIPTION	COLOR	NOTES	MINIMUM RATING
FLOOR				
T1	PORCELAIN TILE	TAN / BROWN	EXISTING TO REMAIN	CLASS II
T2	PORCELAIN TILE	TAN	18"x18" NON-SLIP PORCELAIN TILE, GROUT & SEAL.	CLASS II
T3	PORCELAIN TILE	WHITE	12"x12" NON-SLIP PORCELAIN TILE, GROUT & SEAL.	CLASS II
VT1	EXISTING VINYL TILE	WHITE	EXISTING TO REMAIN	CLASS II
WD1	HARDWOOD PLANKS	TBD	ENGINEERED HARDWOOD PLANKS 5" WIDE	CLASS II
WALL BASE				
B1	VINYL COVE BASE	TBD	ROOPE 4" VINYL COVE BASE	CLASS C
B2	WOOD BASE	RUSSET	STAINED WOOD WALL BASE MOLDING	CLASS C
B3	PORCELAIN COVE BASE		PORCELAIN COVE BASE TILE TO MATCH ADJACENT WALL TILE FINISH	CLASS C
WALLS				
P1	PAINTED GYP. BD.	TBD	LATEX PRIMER & EGGSHELL PAINT	CLASS C
P2	PAINTED GYP. BD.	TBD	LATEX PRIMER & SEMIGLOSS PAINT	CLASS C
T4	PORCELAIN TILE	WHITE	12"x12" PORCELAIN TILE, GROUT & SEAL.	CLASS C
CEILING				
CT1	2X2 CEILING TILE	WHITE	ARMSTRONG DUKE ANGLED REGULAR #1774, FINE TEXTURE, PRELUDE EXPOSED T 15/16" GRID, WHITE.	CLASS C
CT2	2X4 WET AREA CEILING TILE	WHITE	WASHABLE WATER RESISTANT VINYL FACED CEILING TILE, WHITE, PRELUDE EXPOSED T 15/16" GRID, WHITE.	CLASS C
CT3	EXISTING CEILING TILE	WHITE	TERMINATE EXISTING GRID AT DEMISING WALLS AND PATCH AND REPAIR GRID AND TILES ON BOTH SIDES OF THE WALLS.	CLASS C
P3	PAINTED GYP. BD.	TBD	LATEX PRIMER & EGGSHELL PAINT	CLASS C
COUNTERTOPS & SILLS				
GR1	QUARTZ STONE	TBD	ZODIAC GRANITE STANDARD SELECTION	
PLASTIC LAMINATES				
PL1	PLASTIC LAMINATE	TBD	WILSON ART STANDARD COLORS	
PL2	PLASTIC LAMINATE	TBD	WILSON ART STANDARD COLORS	
PL3	PLASTIC LAMINATE	TBD	WILSON ART STANDARD COLORS	
PL4	PLASTIC LAMINATE	TBD	WILSON ART STANDARD COLORS	

NOTE:
 REFER TO THE ALLOWANCES SECTION IN THE PROJECT MANUAL "INSTRUCTIONS TO BIDDERS" FOR PROVIDING ALLOWANCES FOR FINISH ITEMS NOT SPECIFIED THAT AFFECT PRICING.

FINISH SCHEDULE							
ROOM NUMBER	ROOM USAGE	FLOOR	WALL BASE	WALLS	CEILING	CEILING HEIGHT	NOTES
100	PATIENT WAITING	T1	B1	P1 / P2	P3 / CT1	10'-0" / 9'-0"	REFER TO 2/A4.0
101	RECEPTION / CHECKOUT	T1	B1	P1 / P2	CT1	9'-0"	REFER TO 2/A4.0
102	RECORDS / DRUG STORAGE	T3	B1	P1	CT1	9'-0"	
103	EXAM ROOM #1	T3	B1	P1	CT1	9'-0"	
104	EKG & LAB	T3	B1	P1	CT1	9'-0"	
105	EXAM ROOM #2	T3	B1	P1	CT1	9'-0"	
106	EXAM ROOM #3	T3	B1	P1	CT1	9'-0"	
107	EXAM ROOM #4	T3	B1	P1	CT1	9'-0"	
108	ECHO	T3	B1	P1	CT1	9'-0"	
109	NUCLEAR CAMERA	VT1	B1	P1	CT3	9'-0"	
110	LAB	VT1	B1	P1	CT3	9'-0"	
111	TREADMILL	T3	B1	P1	CT1	9'-0"	
112	SERVER / STORAGE	T3	B1	P1	CT1	9'-0"	
113	OFFICE	WD1	B2	P1	CT1	9'-0"	
114	BREAK ROOM	T1	B1	P1	CT1	10'-0"	
115	CONFERENCE ROOM	WD1	B2	P1	CT1	9'-0"	
116	OFFICE	WD1	B2	P1	CT1	9'-0"	
117	PRIVATE RESTROOM	T3	B3	T4 / P1	CT2	9'-0"	REFER TO 7/A5.0
118	HALL	T2	B1	P1 / P2	CT1	9'-0"	REFER TO 2/A4.0
119	HALL	T2	B1	P1 / P2	CT1	9'-0"	REFER TO 2/A4.0

FINISH MATERIALS NOTE:
 INTERIOR WALL AND CEILING FINISHES SHALL BE CLASSIFIED IN ACCORDANCE WITH ASTM E 84. INTERIOR FINISH MATERIALS SHALL MEET THE MINIMUM CLASS FLAME SPREAD AND SMOKE-DEVELOPED INDEXES INDICATED IN THE FINISH LEGEND.
 CLASS A: FLAME SPREAD 0-25; SMOKE-DEVELOPED 0-450.
 CLASS B: FLAME SPREAD 26-75; SMOKE-DEVELOPED 0-450.
 CLASS C: FLAME SPREAD 76-300; SMOKE-DEVELOPED 0-450.

INTERIOR FLOOR FINISH AND FLOOR COVERING MATERIALS SHALL BE CLASS II AS CLASSIFIED IN ACCORDANCE WITH NFPA 253.
 CLASS I, 0.45 WATTS/CM² OR GREATER;
 CLASS II, 0.22 WATTS/CM² OR GREATER.

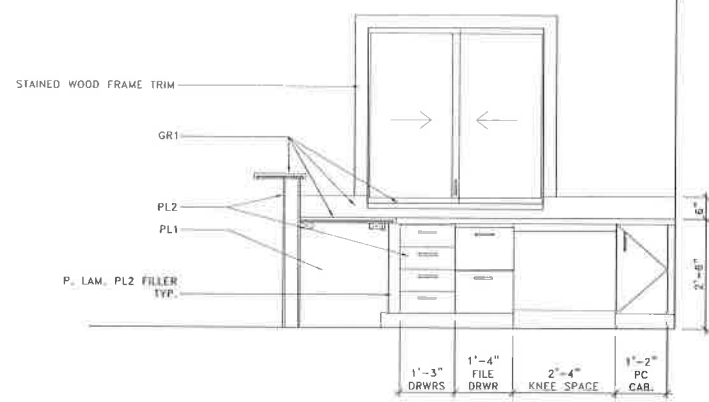


2. TYPICAL COLOR SCHEME AT MULTICOLORED WALLS
 NTS

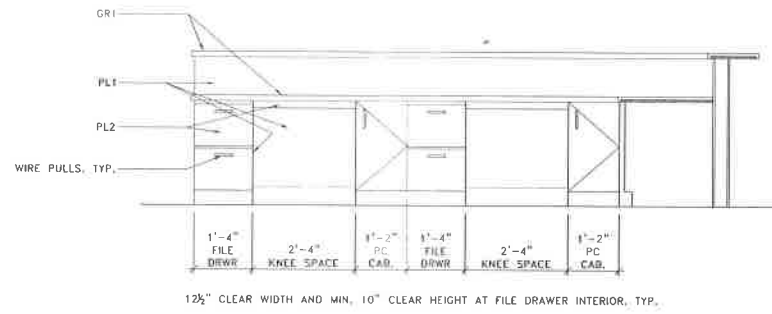


1. FINISH FLOOR PLAN
 1/4" = 1'-0"

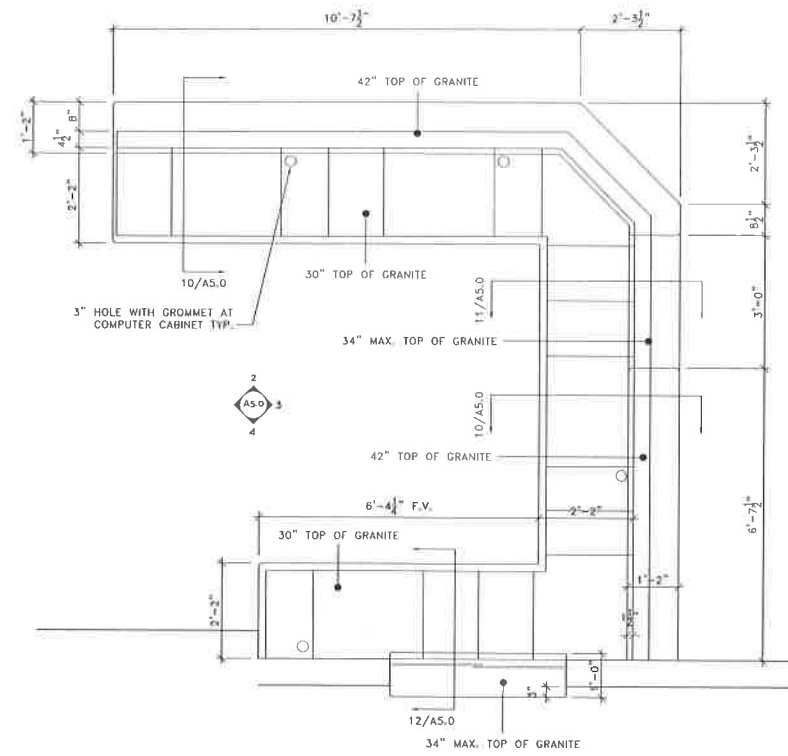
4. COUNTER ELEVATION 1/2" = 1'-0"



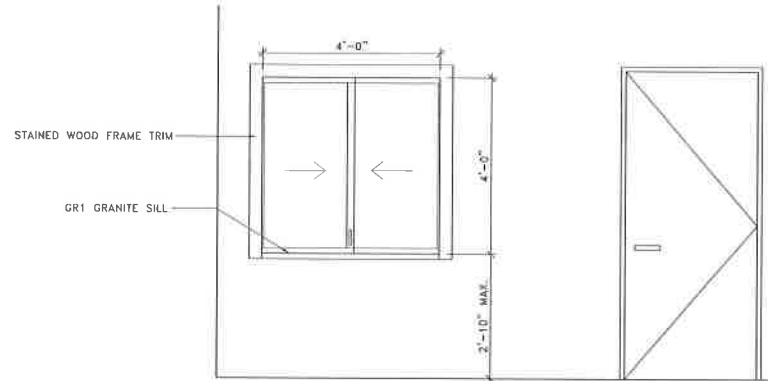
2. COUNTER ELEVATION 1/2" = 1'-0"



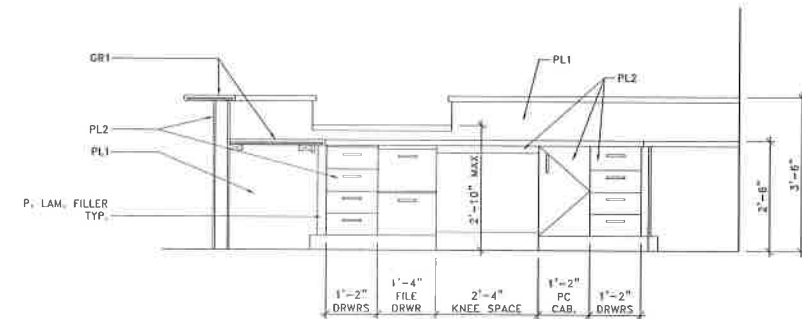
1. RECEPTION / CHECKOUT COUNTER 1/2" = 1'-0"



5. RECEPTION WINDOW ELEVATION 1/2" = 1'-0"

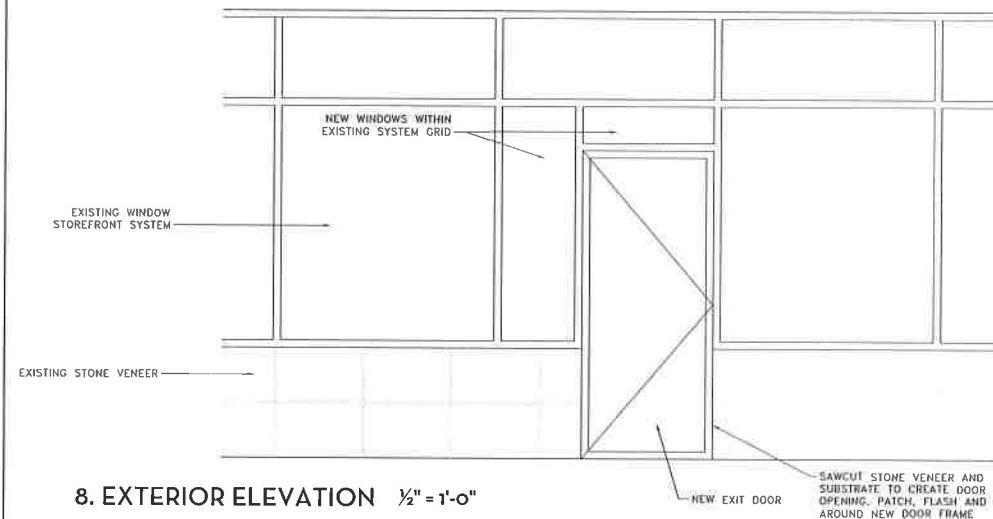


3. COUNTER ELEVATION 1/2" = 1'-0"

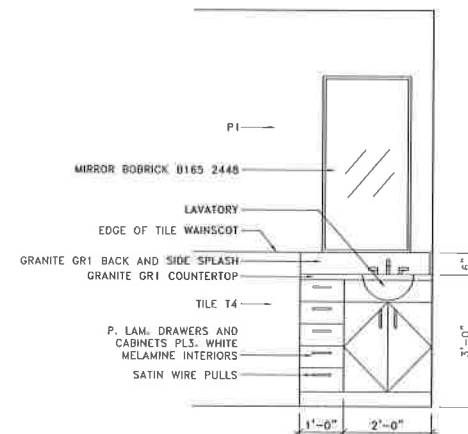


9. NOT USED

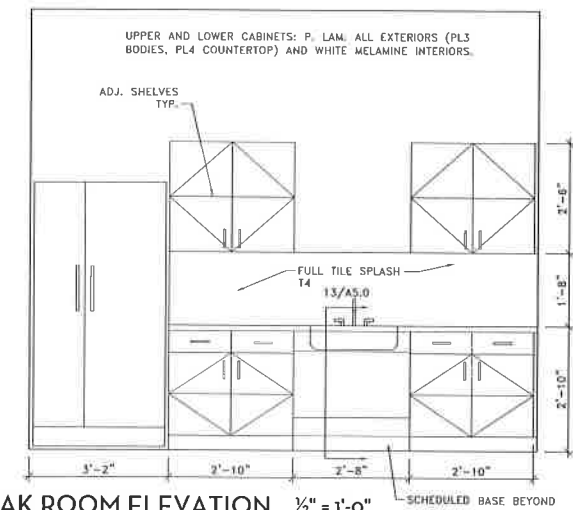
8. EXTERIOR ELEVATION 1/2" = 1'-0"



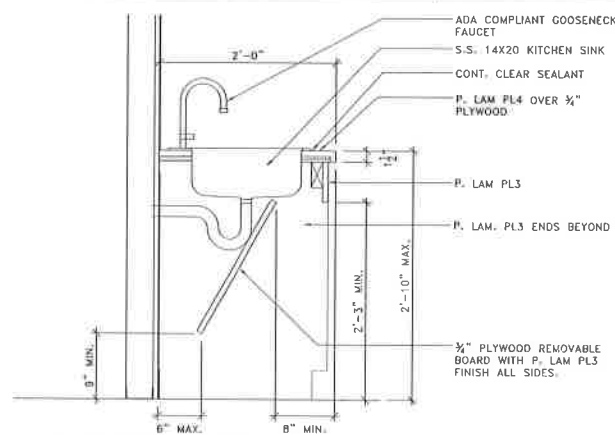
7. PRIVATE RR ELEVATION 1/2" = 1'-0"



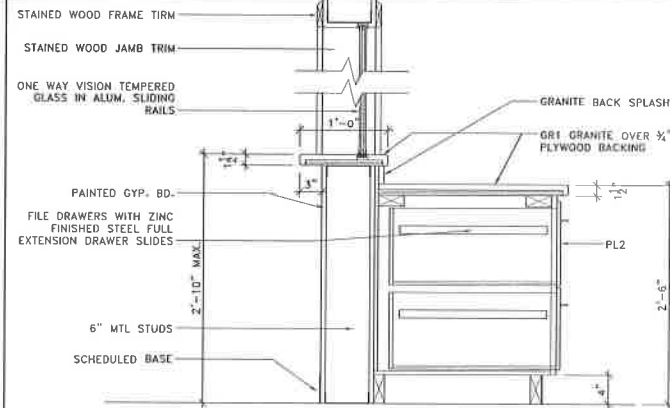
6. BREAK ROOM ELEVATION 1/2" = 1'-0"



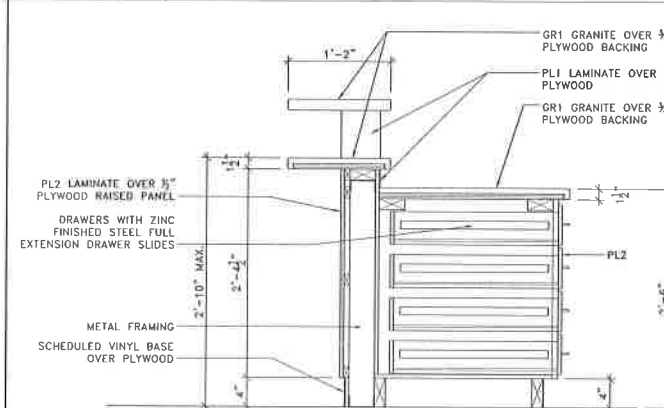
13. COUNTER SECTION AT SINK 1" = 1'-0"



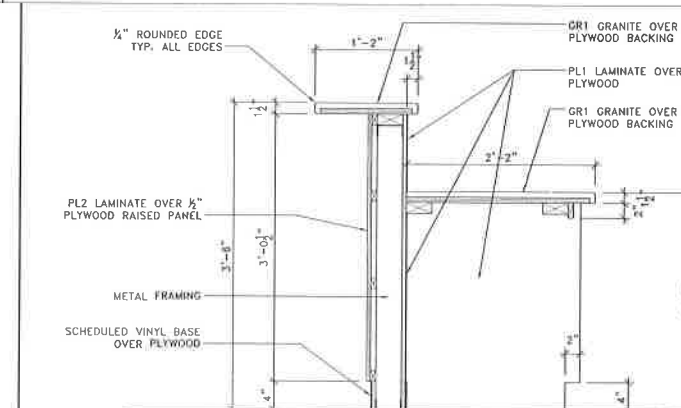
12. COUNTER SECTION AT WINDOW 1" = 1'-0"



11. COUNTER SECTION AT ADA COUNTER 1" = 1'-0"



10. COUNTER SECTION AT KNEE SPACE 1" = 1'-0"



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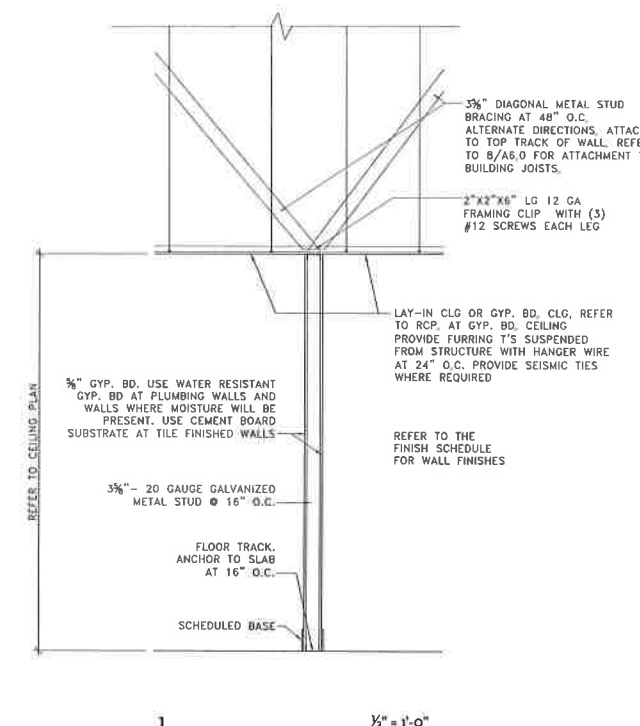
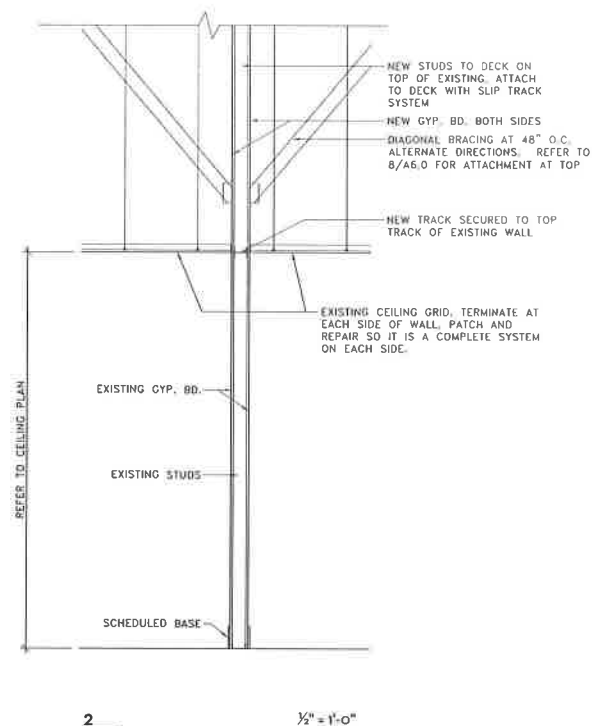
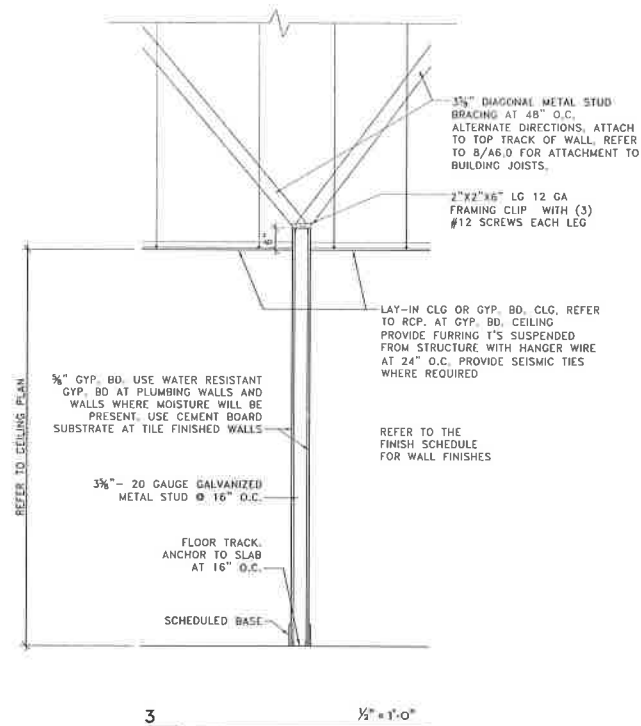
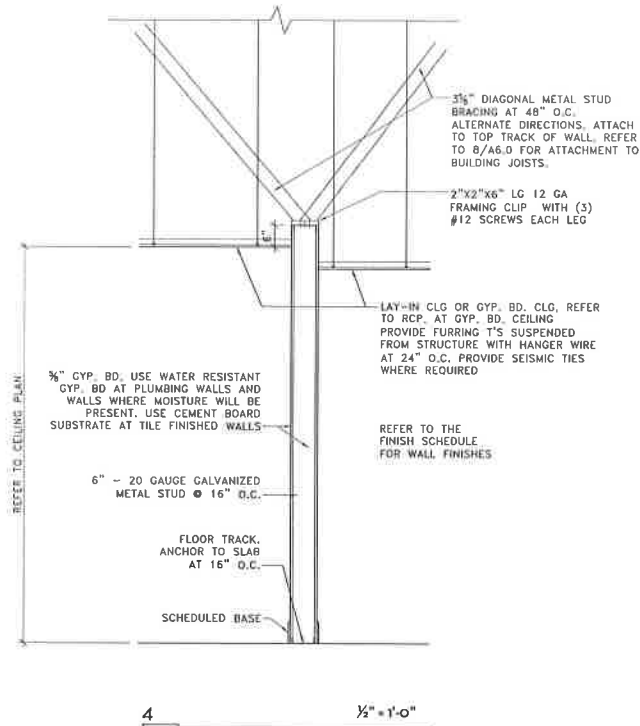
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Dwg. Name
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Details

Dwg. No.

A5.0

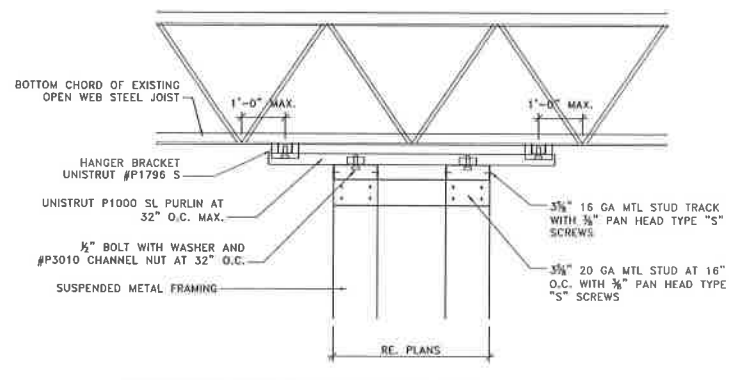


4 1/2" = 1'-0"

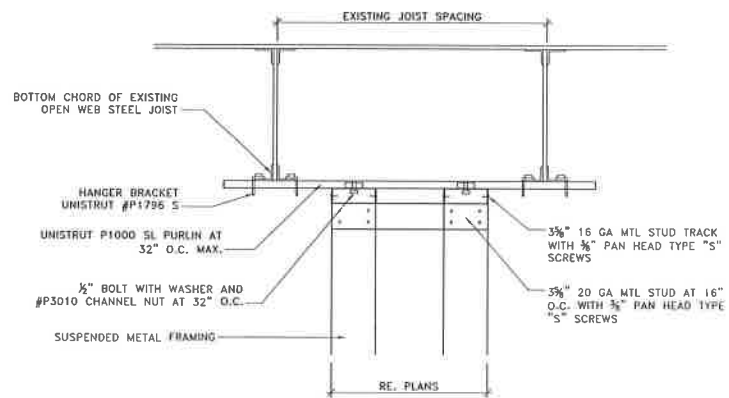
3 1/2" = 1'-0"

2 1/2" = 1'-0"

1 1/2" = 1'-0"

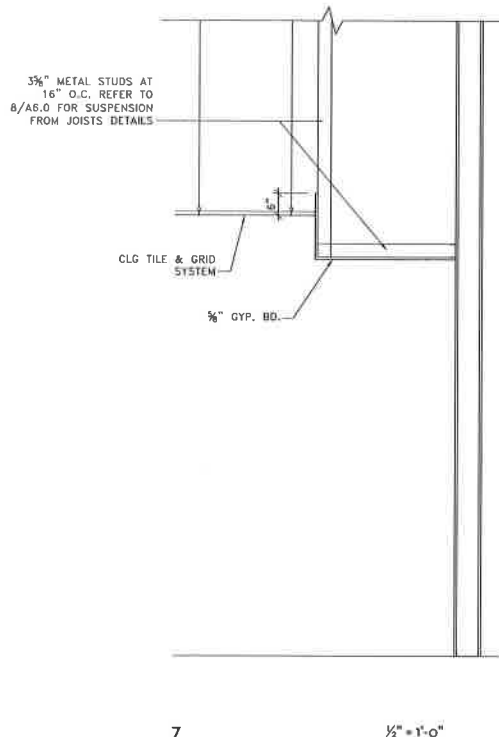


FRAMING LENGTH IS PERPENDICULAR TO JOISTS

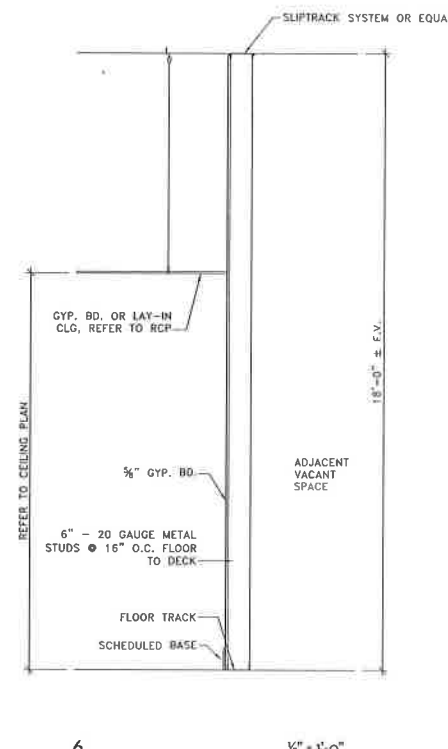


FRAMING LENGTH IS PARALLEL TO JOISTS

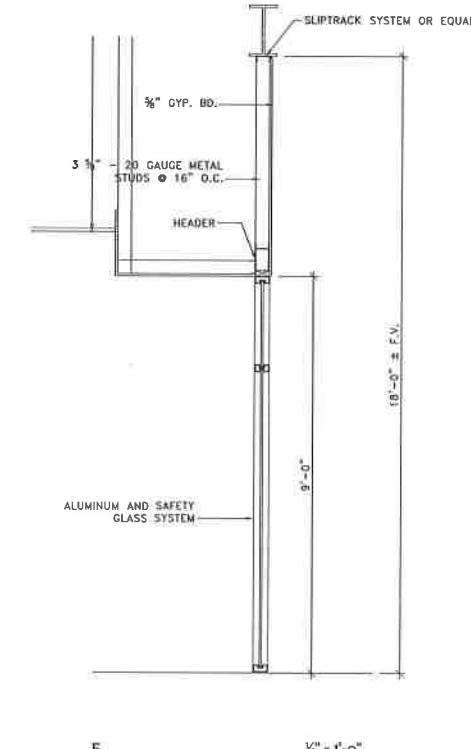
8 SUSPENDED FRAMING DETAILS NTS



7 1/2" = 1'-0"



6 1/2" = 1'-0"



5 1/2" = 1'-0"

Medical Clinic Interior Build-out
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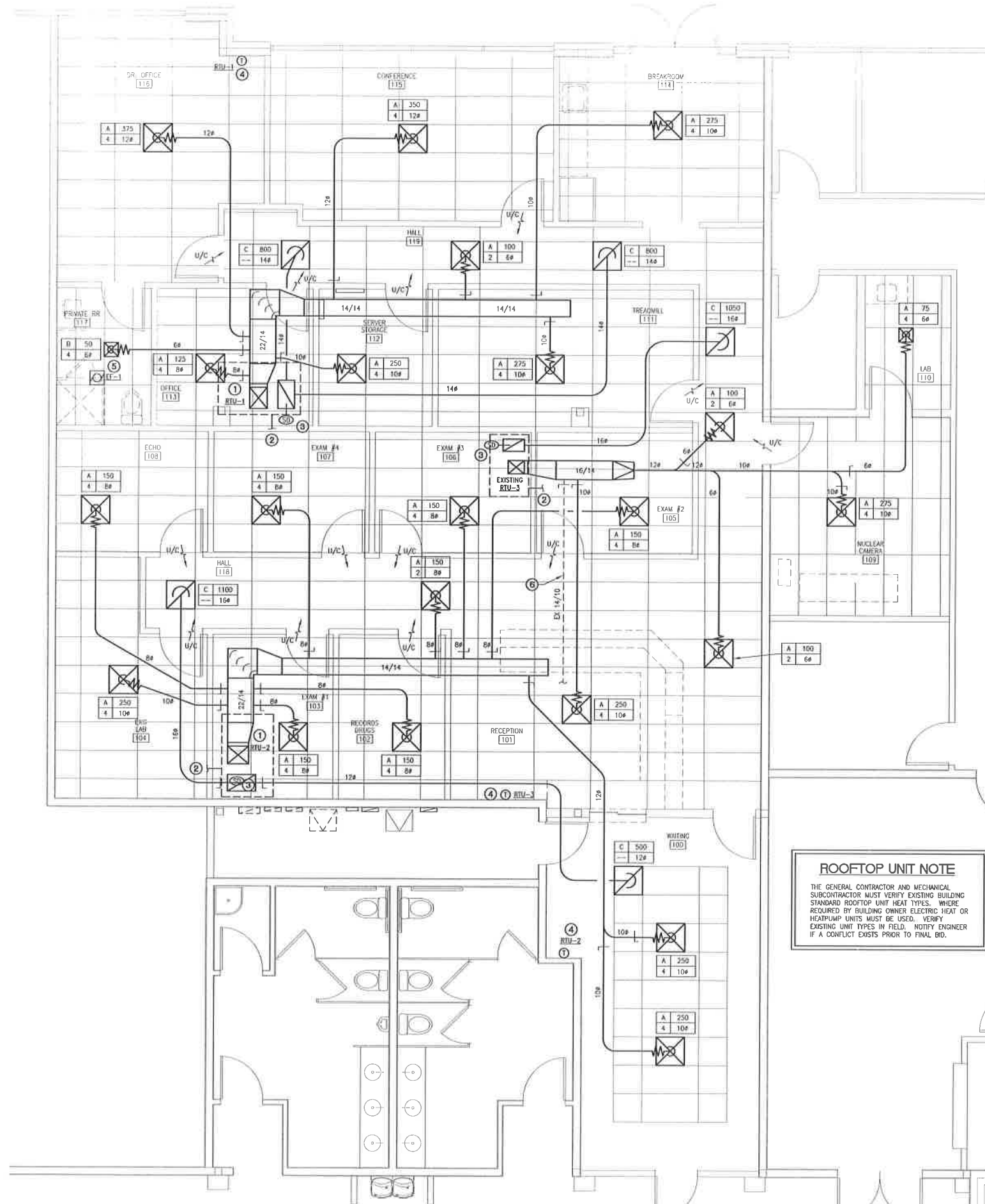
Project No.

Dwg. Name

Wall Sections

Dwg. No.

A6.0



MECHANICAL PLAN KEYED NOTES:

- 1 NEW ROOFTOP UNIT. UNIT MUST BE INSTALLED TO BEAR ON JOISTS WITH ADDED BRACING AS REQUIRED BY STRUCTURAL ENGINEER. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL BRACING REQUIRED. UNIT SHALL BE LOCATED WITH ADEQUATE CLEARANCES FOR MAINTENANCE PER MANUFACTURER. OUTSIDE AIR INTAKE SHALL BE A MINIMUM OF 10'-0" FROM ANY FLUE VENT OR PLUMBING VENT. ALL ROOF WORK SHALL BE PERFORMED BY LANDLORDS ROOFER TO RETAIN ROOF WARRANTY WHEN REQUIRED.
- 2 3/4" MINIMUM CONDENSATE LINE SHALL BE PIPED TO THE CLOSEST CODE APPROVED DISPOSAL SITE. INSTALL SECONDARY DRAIN PAN AND ROUTE SECONDARY CONDENSATE TO DRAIN AT A CONSPICUOUS LOCATION.
- 3 SMOKE DETECTOR LOCATED IN RETURN AIR STREAM. INTEGRATE INTO THE THERMOSTAT CONTROL CIRCUIT SO THAT WHEN ACTIVATED THE BLOWER MOTOR IS DE-ENERGIZED. SMOKE DETECTORS SHALL BE COMPATIBLE WITH THE LANDLORD'S FIRE ALARM SYSTEM. ALL WIRING, INCLUDING FINAL CONNECTIONS FROM THE SMOKE DETECTORS TO THE LANDLORD'S FIRE ALARM SYSTEM ARE BY THE LANDLORD'S DESIGNATED FIRE ALARM CONTRACTOR AT THE TENANT'S EXPENSE.
- 4 THERMOSTAT MOUNTED AT 48" A.F.F. MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL CONTROL WIRING REQUIRED FOR OPERATING THE HVAC SYSTEM. CONTRACTOR SHALL VERIFY THERMOSTAT LOCATION WITH OWNER PRIOR TO ROUGH-IN. CONTRACTOR SHALL INSTALL THERMOSTATS IN NON ACCESSIBLE LOCATION WITH REMOTE SENSORS NEAR RETURN GRILLES IF PREFERRED BY THE OWNER. PROVIDE OPAQUE LOCKING COVER IF REQUIRED.
- 5 EXHAUST FAN TO BE CONTROLLED BY SWITCH AND BRANCH CIRCUIT SHOWN. ROUTE EXHAUST DUCTS UP TO GREENHECK ROOF VENTILATOR GREENHECK "GRS" WITH BUILT IN FLASHING FLANGE. PROVIDE WITH BIRDSCREEN AND BACKDRAFT DAMPER. INSTALLATION SHALL RETAIN ROOF BOND AND ROOF WARRANTY. INSTALL AS REQUIRED BY FACTORY AND COMPATIBLE WITH ROOFING SYSTEM. COORDINATE LOCATION IN FIELD WITH LANDLORD PRIOR TO INSTALLATION. EXHAUST TERMINATION SHALL BE A MINIMUM 10'-0" FROM ANY OUTSIDE AIR INTAKE.
- 6 RTU-3 IS EXISTING TO REMAIN. RTU-3 PROVIDES COOLING FOR THE EXISTING SHELL BUILDING TOILET ROOMS. CONTRACTOR MUST RECONNECT EXISTING 14/10 SUPPLY DUCT TO TOILET ROOMS, 400 CFM TOTAL, 200 CFM TO EACH TOILET ROOM. COORDINATE REQUIREMENTS IN FIELD. CONTRACTOR MUST VERIFY ZONING OF EXISTING RTU-3 WITH BUILDING OWNER PRIOR TO CONSTRUCTION.

MECHANICAL GENERAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL CONDITIONS AND IS RESPONSIBLE FOR REPORTING ANY CONFLICTS TO THE ARCHITECT PRIOR TO THE START OF WORK.
2. "EXISTING" OR "VERIFY IN FIELD" MEANS THE CONTRACTOR IS TO CONFIRM THE ITEM SHOWN ON THE DRAWING EXISTS AND IS IN GOOD WORKING CONDITION. SHOULD THE CONTRACTOR FIND THE EQUIPMENT IS NOT AS SHOWN ON THESE DRAWINGS, IT IS TO BE INSTALLED AS REQUIRED TO PROVIDE THE TENANT WITH A FULLY FUNCTIONING SYSTEM AND AS REQUIRED BY ALL LOCAL CODES AND THE LOCAL AUTHORITY HAVING JURISDICTION.
3. CONFIRM THE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT PRIOR TO INSTALLATION OF MECHANICAL ROUGH-IN.
4. ANY PENETRATIONS THRU FIRE RATED PARTITIONS SHALL BE SEALED AS REQUIRED AND PROVIDED WITH FIRE DAMPERS WHERE REQUIRED TO UPHOLD THE RATING OF THE PARTITION.
5. THE MECHANICAL CONTRACTOR SHALL NOT INSTALL DUCTWORK ABOVE OR WITHIN THE CODE REQUIRED WORKING CLEARANCES OF ANY ELECTRICAL PANEL BOARD OR SWITCHGEAR. COORDINATE WITH ELECTRICAL CONTRACTOR.
6. CONTRACTOR IS REQUIRED TO CONTACT THE BUILDING OWNER FOR ANY ROOF WORK. IF BUILDING OWNER REQUIRES A SPECIFIC ROOFING CONTRACTOR, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT, COORDINATE AND PAY FOR ANY AND ALL ROOFING WORK WITH THE BUILDING OWNERS ROOFING CONTRACTOR.
7. POWER WIRING, CONDUIT, SWITCHES AND TIME CLOCKS SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
8. LOW VOLTAGE WIRE AND CONDUIT SHALL BE FURNISHED & INSTALLED BY ELECTRICAL CONTRACTOR. FINAL CONNECTIONS BY AIR CONDITIONING CONTRACTOR.
9. ROUTE CONDENSATE DRAIN PIPING TO AN APPROVED RECEPTOR BY PLUMBING CONTRACTOR. CONDENSATE DRAIN TO BE TRAPPED.
10. GENERAL CONTRACTOR SHALL FURNISH AND/OR INSTALL CUTTING, PATCHING, FRAMING, ROOFING, PAINTING, EQUIPMENT SCREENING, CURBS, OR PLATFORMS WITH THE REQUIREMENTS OF THE AIR CONDITIONING SYSTEM.
11. MAINTAIN 10'-0" HORIZONTAL DISTANCE BETWEEN EXHAUST & PLUMBING VENTS AND A/C UNITS FRESH AIR INTAKE.

ROOFTOP UNIT NOTE
 THE GENERAL CONTRACTOR AND MECHANICAL SUBCONTRACTOR MUST VERIFY EXISTING BUILDING STANDARD ROOFTOP UNIT HEAT TYPES. WHERE REQUIRED BY BUILDING OWNER ELECTRIC HEAT OR HEATPUMP UNITS MUST BE USED. VERIFY EXISTING UNIT TYPES IN FIELD. NOTIFY ENGINEER IF A CONFLICT EXISTS PRIOR TO FINAL BID.

FIRE ALARM NOTE
 THE GENERAL CONTRACTOR AND MECHANICAL SUBCONTRACTOR SHALL VERIFY AND INCLUDE IN THEIR FINAL BID ALL LIFE SAFETY, SMOKE/FIRE ALARM SYSTEMS NEEDED TO BRING TENANTS SPACE COMPATIBLE WITH THE LANDLORD'S SYSTEM AND CURRENT WITH LOCAL AND STATE CODES. FAILURE TO DO SO SHALL RESULT IN NO EXPENSE TO THE TENANT.

ROOFING NOTE
 ALL ROOF WORK AND PENETRATIONS SHALL BE PERFORMED BY LANDLORDS ROOFING CONTRACTOR TO RETAIN ROOF WARRANTY AND BOND. CONTACT LANDLORD FOR REQUIREMENTS.

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Shawn Kashou, Architect
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 Tel: 713.965.4470

MEP Engineer:
William K Hall & Co

Consulting Engineers
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 Tel: 214.681.2179
 Texas Firm Registration: # F-12258

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Project No.
 Dwg. Name

MECHANICAL PLAN AND NOTES

Dwg. No.

1 MECHANICAL FLOOR PLAN
 1/4" = 1'-0"

MECHANICAL ABBREVIATIONS			
AC	AIR CONDITIONING	LBS.	POUNDS
AFF	ABOVE FINISHED FLOOR	MD	MANUAL DAMPER
AHJ	AUTHORITY HAVING JURISDICTION	N/A	NOT APPLICABLE
BHP	BRAKE HORSE POWER	O/A	OUTSIDE AIR
BTU	BRITISH THERMAL UNIT	OPD	OPPOSED BLADE DAMPER
CD	CONDENSATE DRAIN	PH	PHASE
CFM	CUBIC FEET PER MINUTE	R/A	RETURN AIR
CO	CLEANOUT	RPM	REVOLUTIONS PER MINUTE
(C)	EXISTING	RTU	ROOF TOP UNIT
EER	ENERGY EFFICIENCY RATIO	S/A	SUPPLY AIR
EF	EXHAUST FAN	SD	SMOKE DAMPER
ESP	EXTERNAL STATIC PRESSURE	SP	STATIC PRESSURE (N, W, G.)
EUH	ELECTRIC UNIT HEATER	T	THERMOSTAT
FD	FIRE DAMPER	TYP.	TYPICAL
FT	FEET	UC	UNDER CUT DOOR
FPM	FEET PER MINUTE	UMC	UNIFORM MECHANICAL CODE
HVAC	HEATING, VENTILATING & AC	V	VOLT
IN.	INCHES	VD	VOLUME DAMPER
KW	KILOWATT	W	WATT
LAT	LEAVING AIR TEMPERATURE	WB	WET BULB TEMPERATURE

ROOFTOP PACKAGE UNIT SCHEDULE																
SYMBOL	MAKE	MODEL #	UNIT (TONS)	SUPPLY FAN DATA				COOLING CAPACITY		SEER/EER	HEAT KW	ELECTRICAL			WEIGHT (LB.)	NOTES:
				CFM	MIN O/A	E.S.P.	H.P.	TOTAL MBH	SENSIBLE MBH			VOLT/PH	MOC	M.C.A.		
RTU-1	CARRIER	50HC006	5.0	1800	200	0.6	1.0	58.0	43.5	15.2 SEER	11.5	460/3	25	25.0	800	1, 2, 3, 4, 5, 6, 7, 8 & 9
RTU-2	CARRIER	50HC006	5.0	1800	200	0.6	1.0	58.0	43.5	15.2 SEER	11.5	460/3	25	25.0	800	1, 2, 3, 4, 5, 6, 7, 8 & 9
EXISTING RTU-3	CARRIER	50TMD36	3.0	1200	150	0.5	0.5	36.0	27.0	13.0 SEER	8.8	460/3	15	14.9	VERIFY	4, 6

NOTES:
 1. PROVIDE FULL PERIMETER FACTORY PREFABRICATED INSULATED ISOLATION ROOF CURB.
 2. PROVIDE WITH HAIL GUARD.
 3. PROVIDE WITH R-410A REFRIGERANT.
 4. PROVIDE PROGRAMMABLE THERMOSTAT PER ENERGY CODE REQUIREMENTS.
 5. PROVIDE WITH FACTORY INSTALLED CIRCUIT BREAKER AND CONVENIENCE OUTLET.
 6. SUPPLY AIR FAN SHALL OPERATE CONTINUOUSLY DURING BUSINESS HOURS FOR VENTILATION.
 7. PROVIDE OUTSIDE AIR AUTOMATIC INTAKE DAMPER WHICH SHALL CLOSE WHEN UNIT IS IN OFF MODE.
 8. PROVIDE WITH THRU-THE-BASE ELECTRICAL UTILITY ACCESS.
 9. CARRIER, LENNOX, TRANE AND YORK ARE CONSIDERED EQUIVALENT MANUFACTURERS.

EXHAUST FANS										
MARK	MAKE	QUANTITY	MODEL	CFM	STATIC PRESSURE	RPM	VOLT/PH	WATTS	SONES	NOTES:
EF-1	GREENHECK	1	SP-B0-00	75	0.25"	700	120/1	50	1.9	1,2,3

NOTES:
 1. PROVIDE BACKDRAFT DAMPER.
 2. ROUTE EXHAUST DUCT TO ROOF CAP.
 3. INTERLOCK FOR OPERATION WITH LOCAL ROOM LIGHTING WHERE REQUIRED.

MECHANICAL LEGEND											
AIR DEVICE SPECIFICATION			SYMBOLS			RECTANGULAR DUCT			RECTANGULAR DUCT		
MARK	THROW	NECK SIZE	SUPPLY AIR	RETURN AIR EXHAUST AIR	OUTSIDE AIR	SINGLE LINE	DOUBLE LINE	FITTING	SINGLE LINE	DOUBLE LINE	FITTING
	120°	4" x 6"						VOLUME DAMPER			ROUND WYE
	90°	4" x 6"						FIRE DAMPER			EXTRACTOR
	90°	4" x 6"						MOTORIZED DAMPER			BELLMOUTH
	90°	4" x 6"						90° RECTANGULAR ELBOW WITH TURNING VANES			ROUND DUCT
	90°	4" x 6"						RADIUS ELBOW			ROUND MAIN DUCT WITH ROUND BRANCH
	90°	4" x 6"						RECTANGULAR MAIN WITH ROUND BRANCH			CONCENTRIC ROUND TRANSITION
	90°	4" x 6"						RECTANGULAR MAIN WITH RECTANGULAR BRANCH			ACOUSTICALLY LINED DUCT (SIZES SHOWN ARE NET INSIDE)
	90°	4" x 6"						CONCENTRIC SQUARE TO ROUND			FLEXIBLE CONNECTION
	90°	4" x 6"									SMOKE DETECTOR

DIFFUSERS/GRILLES/REGISTERS									
MARK	MAKE	MODEL	FACE SIZE	MOUNTING TYPE	VOLUME DAMPERS	FIRE DAMPERS	FINISH	DESCRIPTION	NOTES:
A	NAILOR	4320AA	24"x24"	T-BAR	YES	NO	OFF-WHITE	PERFORATED SUPPLY	1, 2, 3, 4, 5, 7, 9
B	NAILOR	4320AA	12"x12"	T-BAR	YES	NO	OFF-WHITE	PERFORATED SUPPLY	1, 2, 3, 4, 5, 7, 9
C	NAILOR	51FP	24"x24"	T-BAR	NO	NO	OFF-WHITE	PERFORATED FILTER RETURN	1, 2, 4, 5, 8, 9

NOTES:
 1. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF CEILING MOUNTED AIR DISTRIBUTION DEVICES.
 2. ALL AIR DISTRIBUTION DEVICES SHALL BE ALUMINUM CONSTRUCTION WITH BAKED ENAMEL FINISH.
 3. ALL CEILING DIFFUSERS SHALL BE 4-WAY THROW UNLESS NOTED OTHERWISE. SEE MECHANICAL PLAN.
 4. PAINT TO MATCH CEILING COLOR OR AS DIRECTED BY ARCHITECT WHERE REQUIRED.
 5. CONTRACTOR SHALL RECEIVE APPROVAL VIA SUBMITTAL WITH OWNER PRIOR TO ORDERING AIR DEVICES.
 6. PROVIDE WITH ADJUSTING OPTIONAL DAMPER IN NON-ACCESSIBLE CEILING.
 7. PROVIDE WITH FACTORY INSTALLED FOAM-BACKED INSULATION.
 8. PROVIDE WITH FILTER IN RETURN GRILLE.
 9. KRUEGER, PRICE, AND TITUS ARE CONSIDERED EQUIVALENT MANUFACTURERS.

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Project No. _____
Dwg. Name _____

MECHANICAL SCHEDULES AND LEGEND

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Project No.
Dwg. Name

MECHANICAL SPECIFICATIONS AND DETAILS

Dwg. No.

MECHANICAL SPECIFICATIONS

SECTION 15000 BASIC MECHANICAL REQUIREMENTS

M1- SCOPE:
A. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, TOOLS, PLANT, INCIDENTALS AND CONTRACTUAL EXPENSES NECESSARY TO INSTALL AND MAKE READY FOR OWNER'S USE A COMPLETE HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) SYSTEM AS CALLED FOR IN THE CONTRACT DOCUMENTS AND AS NOTED OR SPECIFIED HEREIN, TO THE SATISFACTION OF THE OWNER, ARCHITECT AND MECHANICAL ENGINEER.
B. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL WORK NECESSARY TO MAKE A COMPLETE SYSTEM WHETHER OR NOT SUCH DETAILS ARE MENTIONED IN THESE SPECIFICATIONS AS SHOWN ON THE PLANS, BUT WHICH ARE OBVIOUSLY NECESSARY TO MAKE A COMPLETE SYSTEM, EXCEPTING ONLY THOSE PORTIONS THAT ARE SPECIFICALLY MENTIONED HEREIN OR PLAINLY MARKED ON THE ACCOMPANYING DRAWINGS AS BEING INSTALLED UNDER ANOTHER SECTION OF THE SPECIFICATIONS.
C. BEFORE STARTING ANY WORK, THE CONTRACTOR FOR THIS SECTION OF THE WORK SHALL EXAMINE A COMPLETE SET OF DRAWINGS AND SPECIFICATIONS FOR ALL TRADES, INCLUDING ARCHITECTURAL, STRUCTURAL, HVAC, ELECTRICAL, FIRE PROTECTION, AND PLUMBING. DIMENSIONS, SPACE REQUIREMENTS, AND POINTS OF CONNECTION TO ALL EQUIPMENT SHALL BE VERIFIED, AND ANY MINOR ADJUSTMENTS NECESSARY TO AVOID CONFLICT WITH THE BUILDING STRUCTURE AND THE WORK OF THE OTHER TRADES SHALL BE MADE. CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY IF ANY MAJOR CONFLICTS OCCUR.

M2- WORKMANSHIP:
ALL WORK SHALL BE PERFORMED BY COMPETENT MECHANICS USING PROPER TOOLS AND EQUIPMENT TO PRODUCE FIRST-QUALITY WORK. ALL WORK SHALL BE NEATLY INSTALLED, ACCESSIBLE FOR MAINTENANCE, COMPLETE WITH ALL ACCESSORIES REQUIRED, AND MEETING THE APPROVAL OF THE OWNER AND THE ARCHITECT.

M3- MATERIALS:
ALL PRODUCTS, EQUIPMENT, MATERIALS, AND ACCESSORIES SHALL BE OF FIRST-LINE QUALITY, GRADE AND TYPE SHOWN ON THE DRAWINGS AND SPECIFIED, OR EQUIVALENTS ACCEPTED BY THE ARCHITECT OR ENGINEER IN WRITING.

M4- SITE INSPECTION:
CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO SUBMITTING HIS BID AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS AND EXACT NATURE OF THE WORK, THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC. SUBMISSION OF A BID ACKNOWLEDGES FULL RESPONSIBILITY FOR FURNISHING A COMPLETE AND FUNCTIONAL SYSTEM. NO CHANGES IN CONTRACT WILL BE MADE TO ACCOMMODATE OR ALLOW EXTRA FUNDS FOR ANY OMISSION WHICH RESULTS FROM A FAILURE TO THOROUGHLY MAKE THE EXAMINATION.

M5- CODES:
THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST APPLICABLE EDITION OF THE CODES, ORDINANCES AND REGULATIONS INTERPRETED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

M6- PERMITS:
THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, INSPECTIONS AND FEES. COPIES OF ALL PERMITS AND INSPECTION REPORTS SHALL BE SUBMITTED TO THE ARCHITECT.

M7- AS-BUILTS:
CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILTS TRANSPARENTS WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT AND PRIOR TO FINAL ACCEPTANCE AND PAYMENT. THESE DRAWINGS SHALL HAVE ALL INSTALLATIONS REFERENCED BY DIMENSIONS TO A SET REFERENCE POINT OR POINTS.

M8- GUARANTEE:
CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE ALL LABOR AND MATERIALS ON ALL WORK AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER COMPLETION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO ANY PART OF THE PREMISES CAUSED BY EQUIPMENT FURNISHED AND INSTALLED UNDER THIS SECTION OF THE SPECIFICATIONS FOR A PERIOD OF ONE (1) YEAR AFTER DATE OF ACCEPTANCE OF HIS WORK.

M9- OPERATING MANUALS:
CONTRACTOR SHALL FURNISH THE OWNER WITH ALL OPERATING MANUALS AND MAINTENANCE INSTRUCTIONS FOR THE EQUIPMENT INSTALLED. MANUALS SHALL BE BOUND IN THREE RING LOOSE-LEAF BINDERS AND INDEXED BY PRODUCT TYPE. A SECTION WITHIN THE MANUAL SHALL INCLUDE THE NAME, TELEPHONE NUMBER AND ADDRESS OF ALL LOCAL SUPPLIERS OF ALL MATERIAL AND EQUIPMENT INSTALLED TOGETHER WITH NAME, TELEPHONE NUMBER AND ADDRESS OF ALL CONTRACTORS OF THE PROJECT. PROVIDE 3 SETS OF MANUALS TO THE OWNER. CONTRACTOR SHALL AFFIX A MAINTENANCE LABELS TO ALL EQUIPMENT REQUIRING ROUTINE MAINTENANCE.

M10- COORDINATION AND VERIFICATION:
THE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW SCOPE. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES TO PROVIDE THE BEST ARRANGEMENT OF ALL DUCTS, PIPES, CONDUIT, WIRING, ETC. THE EXACT LOCATION OF ALL PIPING AND DUCTWORK SHOWN IS APPROXIMATE. CONTRACTOR SHALL VERIFY THEIR LOCATION PRIOR TO BEGINNING WORK OF THIS SECTION AND SHALL MAKE MODIFICATIONS AND ADJUSTMENTS REQUIRED TO INSTALL THE WORK OF THIS SECTION.
A. THE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT SHALL BE VERIFIED WITH THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO COMMENCEMENT OF WORK.
B. COORDINATE THE LOCATION OF ALL ROOF MOUNTED OPENINGS AND THE EXACT LOCATION OF ALL ROOF MOUNTED EQUIPMENT WITH THE STRUCTURAL AND ARCHITECTURAL PLANS PRIOR TO ANY INSTALLATION. PROVIDE THE EQUIPMENT WEIGHTS, PLATFORMS AND CURB SIZES.
C. COORDINATE WIRING, FUSED DISCONNECT SWITCHES AND CONDUIT REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR. THESE ITEMS SHALL ALSO BE INSTALLED BY THE ELECTRICAL CONTRACTOR.
D. CONTRACTOR SHALL ALSO COORDINATE ALL GAS, INDIRECT WASTE, AND DRAIN PIPING WITH THE PLUMBING CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

M11- EXTERIOR OPENINGS:
COORDINATE LOCATIONS OF ALL EXTERIOR WALL AND ROOF OPENINGS WITH ALL RELEVANT TRADES AND PROVIDE WATER-TIGHT FLASHINGS WHEREVER PENETRATIONS OCCUR. EXACT LOCATIONS AND SIZES MAY BE DEPENDENT UPON EQUIPMENT SELECTIONS. COORDINATE SIZES AND LOCATIONS OF ALL OPENINGS WITH APPROPRIATE EQUIPMENT REQUIREMENTS.

M12- CUTTING AND PATCHING:
ALL CUTTING AND PATCHING REQUIRED OF THE STRUCTURE SHALL BE PROVIDED UNDER OTHER SECTIONS OF THE WORK. PROVIDE NECESSARY TO THE PROJECT SUPERINTENDENT.

M13- CLEANUP:
UPON COMPLETION OF THE WORK UNDER THIS SECTION, THE CONTRACTOR SHALL REMOVE ALL SURPLUS MATERIALS AND DEBRIS INCIDENTAL TO THIS WORK AND LEAVE THE PREMISES CLEAN AND ORDERLY.

M14- EQUIPMENT ACCESS:
PERMANENT ACCESS TO EQUIPMENT SHALL BE PROVIDED AND A MINIMUM OF 30" CLEAR WORKING SPACE IN FRONT OF ACCESS PANELS TO THE COMPRESSOR, BLOWER ASSEMBLY AND AIR FILTER SECTION OF THE EQUIPMENT SHALL BE PROVIDED. ADDITIONAL SPACE SHALL BE PROVIDED WHEN RECOMMENDED BY THE EQUIPMENT MANUFACTURER FOR MAINTENANCE.

M15- FILTERS:
FILTERS SHALL BE U.L. RATED AND APPROVED. CONTRACTOR SHALL PROVIDE NEW FILTERS FOR ALL HVAC EQUIPMENT BEFORE INITIAL START-UP. THESE FILTERS SHALL BE REPLACED WITH NEW FILTERS AT TIME OF FINAL ACCEPTANCE BY OWNER.

M16- DUCTWORK:
A. DUCTWORK SHALL BE FABRICATED WITH GALVANIZED STEEL CONSTRUCTION AND INSTALLED IN ACCORDANCE WITH THE MOST RESTRICTIVE OF STATE CODES, LOCAL CODES, ASHRAE AND SMACNA STANDARDS. SIZES NOTED ARE CLEAR INTERNAL DIMENSIONS.
B. FOR EXPOSED DUCTWORK PROVIDE INTERNAL DUCT LINING FOR A MINIMUM OF THE FIRST 10 FEET OF SUPPLY AND RETURN AIR DUCT FROM EACH AIR CONDITIONING UNIT FOR SOUND ATTENUATION. DUCTWORK TO BE INCREASED IN EACH DIMENSION TO INCORPORATE THICKNESS OF LINING. LINING TO BE MINIMUM 1" THICK, 1-1/2 LBS./CU.FT. DENSITY, JOHNS-MANVILLE "LINACUSTIC" OR EQUAL.
C. PROVIDE AIR VOLUME EXTRACTORS, SPLITTER DAMPERS OR ADJUSTABLE TURNING VANES AT ALL BRANCH TAKE-OFFS AS REQUIRED FOR PROPER AIR BALANCING.
D. VOLUME DAMPERS SHALL BE PROVIDED IN EACH BRANCH DUCT TO EACH DIFFUSER AND REGISTER. FULL DUCT SIZE AND ACCESSIBLE, IF DUCTS ARE INSTALLED ABOVE A GYPSUM BOARD CEILING, DIFFUSERS SHALL BE PROVIDED WITH OPPOSED BLADE DAMPERS.
E. DOUBLE THICKNESS TURNING VANES SHALL BE USED ON ALL DUCT TURNS OF 90°.
F. DUCT RUNOUTS TO DIFFUSERS AND DUCT/PIPING CONNECTIONS TO EQUIPMENT SHALL BE SIZED TO MATCH NECK OR EQUIPMENT INTAKE/DISCHARGE SIZES, UNLESS OTHERWISE NOTED.
G. PROVIDE FIRE DAMPERS AND/OR COMBINATION FIRE SMOKE DAMPERS WHERE DUCTS PENETRATE THROUGH RATED WALLS OR CEILINGS WHERE REQUIRED BY CODE.
H. ALL DUCT JOINTS SHALL BE SEALED AIR TIGHT WITH APPROVED DUCT SEALER AND DUCT TAPE.
I. FLEXIBLE DUCT USED FOR CONDITIONED AIR SHALL BE U.L. APPROVED, VINYL COATED, WIRE REINFORCED FIBERGLASS, 1" EXTERNAL INSULATION, THERMAFLEX TYPE MKE, CLASS 1 OR EQUAL.
J. DUCTWORK OR OPEN PLENUM WHICH IS VISIBLE THRU AIR OUTLETS SHALL BE PAINTED FLAT BLACK ON THE VISIBLE PORTIONS. SHEET METAL DUCT WORK EXPOSED TO OPEN CEILING SHALL BE INTERNALLY LINED.
K. FINAL LOCATION OF CEILING DIFFUSERS SHALL BE PER THE ARCHITECTURAL REFLECTED CEILING PLAN OR AS PER FIELD REQUIREMENTS. PAINT AS DIRECTED BY ARCHITECT.

M17- INSULATION:
A. INSULATION SHALL BE U.L. LISTED IN COMPLIANCE WITH FLAME-SPREAD RATING OF NOT MORE THAN 25 AND SMOKE DENSITY NOT EXCEEDING 50, PER THE MECHANICAL CODE. INSTALLATION SHALL BE IN ACCORDANCE WITH ALL MECHANICAL CODE REQUIREMENTS.
B. INSULATE ALL INTERIOR CONDITIONED SUPPLY AND RETURN AIR DUCTWORK WITH 1-1/2" THICK, 0.75 LB. PER CU. FT. DENSITY FIBERGLASS INSULATION WITH VAPOR BARRIER AND A MINIMUM R-VALUE = 8.0 FOR SUPPLY DUCTS AND A MINIMUM R-VALUE = 4.0 FOR RETURN DUCTS.
C. CONDITIONED SUPPLY AND RETURN AIR DUCTWORK EXPOSED TO THE WEATHER SHALL BE INTERNALLY LINED WITH FIBERGLASS DUCT LINER MINIMUM R-VALUE = 8.0 FOR SUPPLY AND A MINIMUM R-VALUE = 4.0 FOR RETURN DUCTS.

M18- EXTERIOR INSTALLATION:
ALL EQUIPMENT, DUCTS, PIPING, DEVICES AND MATERIALS INSTALLED OUTSIDE THE BUILDING OR OTHERWISE EXPOSED TO THE WEATHER SHALL BE COMPLETELY WEATHER-PROOFED.

M19- MECHANICAL VENTILATION:
EACH MECHANICAL VENTILATION SYSTEM (SUPPLY AND/OR EXHAUST) SHALL BE EQUIPPED WITH A MEANS OF SHUT-OFF WHEN VENTILATION IS NOT REQUIRED, AND BACKDRAFT DAMPERS WHICH CAN BE CLOSED ON FAN SHUTDOWN SHALL BE PROVIDED FOR AIR INTAKES AND/OR DISCHARGES.

M20- GRAVITY VENTILATION:
EACH GRAVITY VENTILATION SYSTEM, EXCEPT FOR COMBUSTION AIR OPENINGS, SHALL BE PROVIDED WITH AUTOMATIC DAMPERS IN ALL OPENINGS TO THE OUTSIDE.

M21- SMOKE DETECTORS:
EACH AIR HANDLING SYSTEM ABOVE 2000 CFM SHALL BE PROVIDED WITH SUITABLE SMOKE DETECTORS IN THE SUPPLY AND/OR RETURN DUCT AS REQUIRED BY CODE, INTERLOCKED WITH FAN STARTER(S) FOR AUTOMATIC SHUT-OFF.

M22- CONTROLS:
A. EACH HVAC SYSTEM SHALL BE PROVIDED WITH AN AUTOMATIC SPACE TEMPERATURE CONTROL DEVICE CAPABLE OF BEING SET TO MAINTAIN SPACE TEMPERATURE SET POINTS FROM 55°F TO 85°F AND HAVE THE ABILITY TO OPERATING THE SYSTEM HEATING AND COOLING IN SEQUENCE. CONTROLS SHALL BE ADJUSTED TO PROVIDE A TEMPERATURE RANGE OF AT LEAST 5°F AND UP TO 10°F BETWEEN FULL HEATING AND COOLING, AND HAVE THE CAPABILITY OF TERMINATING ALL HEATING AT A TEMPERATURE OF NO MORE THAN 70°F AND COOLING AT NOT LESS THAN 78°F.
B. THERMOSTATS SHALL HAVE NUMERIC SETPOINTS IN °F, ADJUSTABLE SETPOINT STOPS ACCESSIBLE TO ONLY AUTHORIZED PERSONNEL, AND SHALL BE MOUNTED AT 48" ABOVE FINISHED FLOOR.
C. CONTROLS SHALL BE PROVIDED THAT TEMPORARILY OPERATE THE SYSTEM AS REQUIRED DURING OFF HOURS TO MAINTAIN A SETBACK HEATING AND COOLING THERMOSTAT SETPOINT.
D. ALL LINE AND LOW VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT. ALL CONDUITS SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

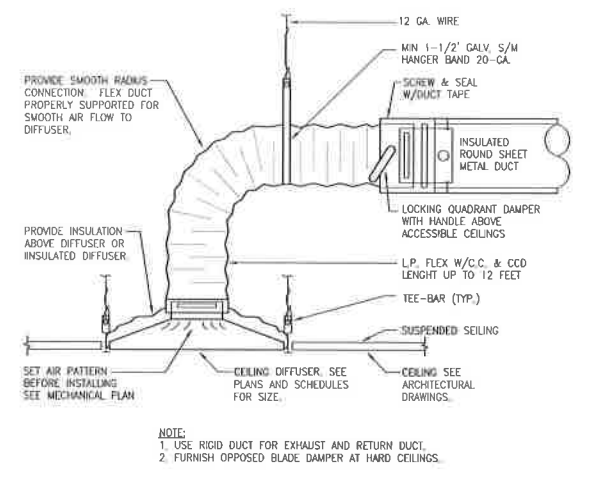
M23- VIBRATION ISOLATION:
ALL EQUIPMENT SHALL BE SECURELY FASTENED TO THE BUILDING STRUCTURE WITH CODE APPROVED VIBRATION ISOLATORS AND EARTHQUAKE RESTRAINTS.

M24- CONDENSATE DRAIN:
A 3/4" MINIMUM CONDENSATE DRAIN FROM EACH AIR CONDITIONING UNIT TO A CODE APPROVED RECEPTOR SHALL BE PROVIDED. CONDENSATE PIPING SHALL BE TYPE "M" COPPER.

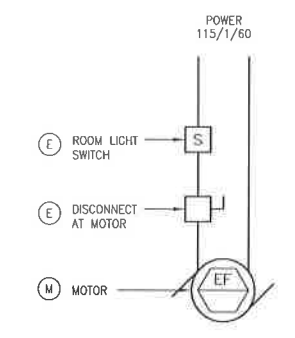
M25- OUTSIDE AIR:
MINIMUM VENTILATION RATES SHALL COMPLY WITH THE LATEST EDITION OF ASHRAE REQUIREMENTS. CONTROLS SHALL BE PROVIDED TO ALLOW OUTSIDE AIR DAMPERS OR DEVICES TO BE OPERATE AT THE REQUIRED VENTILATION RATES. OUTSIDE AIR INTAKES SHALL BE A MINIMUM OF 10'-0" FROM ROOF JACKS AND EXHAUSTS, VENTS AND INTAKES SHALL BE COVERED WITH 1/2" MESH GALVANIZED SCREEN.

M26- ACCESS DOORS:
WHERE NECESSARY IN DUCTWORK OR CASINGS, SUITABLE ACCESS DOORS AND FRAMES TO PERMIT INSPECTION, OPERATION AND MAINTENANCE OF ALL CONTROLS, MOTOR BEARINGS, OR OTHER APPARATUS CONCEALED BEHIND THE SHEET METAL WORK SHALL BE PROVIDED. ACCESS DOORS IN DUCTS MAY BE OF SINGLE PANEL CONSTRUCTION OF NOT LESS THAN NO. 18 GAUGE GALVANIZED STEEL AND SHALL HAVE SPONGE RUBBER GASKETS WITH HINGES AND LATCHES.

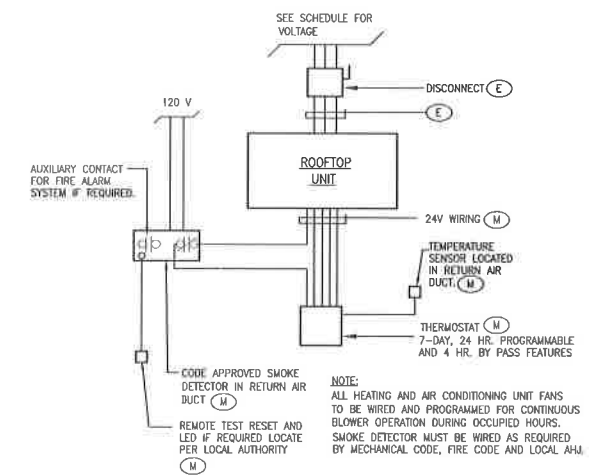
M27- BALANCING AND ADJUSTING:
A. ALL AIR SYSTEMS SHALL BE ADJUSTED BY AN INDEPENDENT BALANCING CONTRACTOR THAT IS A MEMBER OF THE ASSOCIATED AIR BALANCING COUNCIL (AABC) OR THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). SUBMIT BALANCE REPORT TO OWNER PRIOR TO RECEIVING FINAL PAYMENT. ADDITIONAL BALANCING DAMPERS AND/OR PULLEY CHANGES SHALL BE PROVIDED AS REQUIRED TO BALANCE SYSTEMS AT NO INCREASE IN CONTRACT PRICE.
B. EACH PIECE OF EQUIPMENT AND ALL SYSTEMS SHALL BE ADJUSTED AND RE-ADJUSTED TO INSURE PROPER FUNCTION OF ALL CONTROLS, MAINTENANCE OF TEMPERATURES, ADEQUACY OF FLOWS AND CAPACITIES, ELIMINATION OF NOISE AND VIBRATION, AND SHALL BE LEFT IN PROPER OPERATING CONDITION. OPERATING POWER REQUIREMENTS FOR EACH ITEM OF EQUIPMENT SHALL NOT EXCEED THE RATED MOTOR HORSEPOWER.



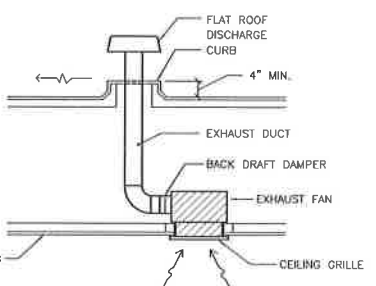
2 DIFFUSER INSTALLATION DETAIL
NOT TO SCALE



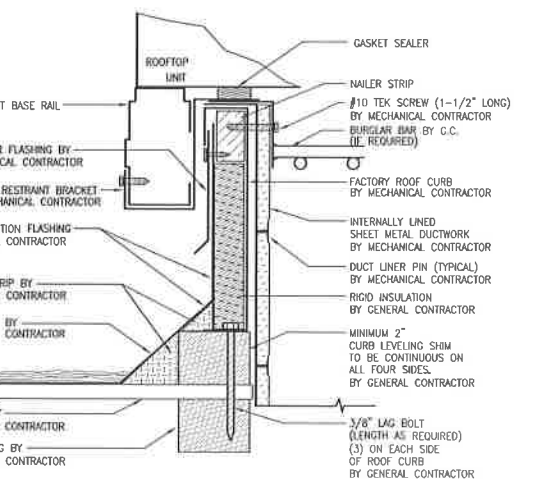
1 EXHAUST FAN CONTROL DETAIL
NOT TO SCALE



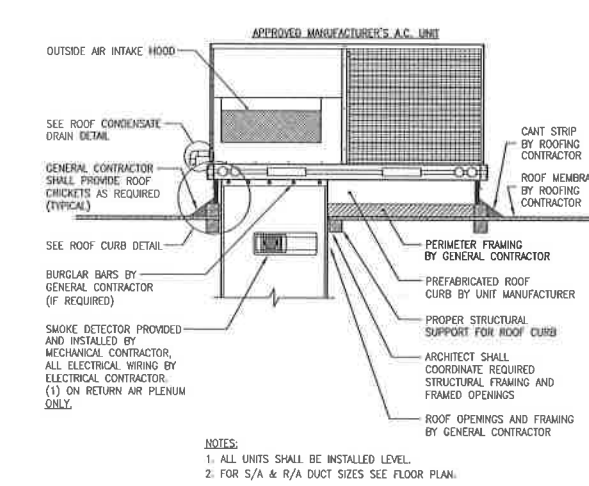
4 ROOFTOP UNIT CONTROL DIAGRAM
NOT TO SCALE



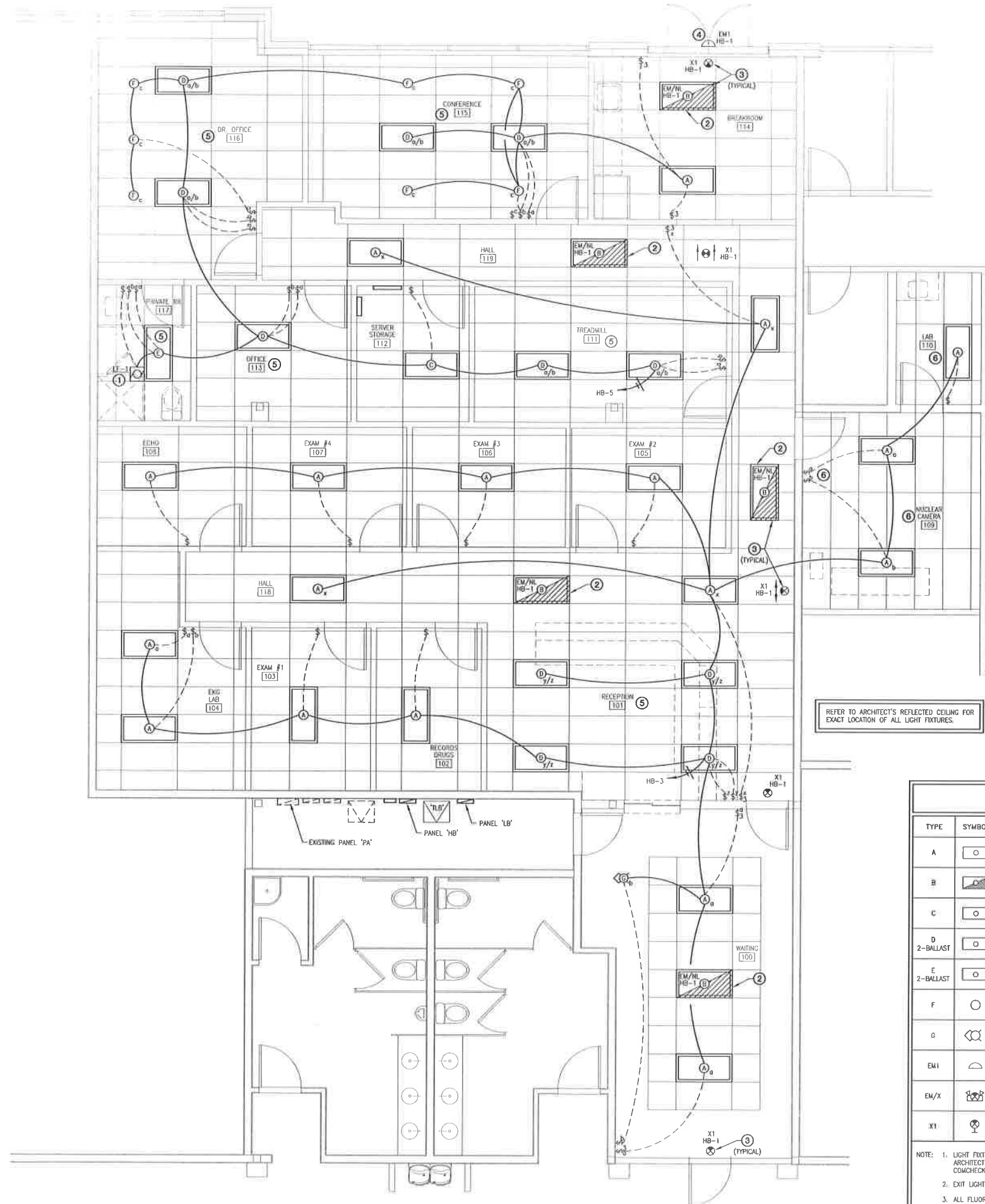
3 EXHAUST FAN SYSTEM DETAIL
NOT TO SCALE



5 ROOFTOP UNIT CURB DETAIL
NOT TO SCALE



6 ROOFTOP UNIT INSTALLATION DETAIL
NOT TO SCALE



1 LIGHTING FLOOR PLAN
1/4" = 1'-0"

LIGHTING PLAN KEYED NOTES:

- EXHAUST FANS TO BE CONTROLLED VIA SWITCH AS SHOWN.
- VERIFY FIXTURES AND QUANTITY OF FIXTURES TO BE USED FOR NIGHT LIGHTING WITH LANDLORD AND OWNER PRIOR TO CONSTRUCTION. CONTRACTOR MUST PROVIDE NIGHT LIGHTING ON A 24 HOUR CIRCUIT OR TIME CLOCK CONTROL. COORDINATE ON/OFF TIMES AND REQUIREMENTS IN FIELD.
- NIGHT LIGHTS, EXIT SIGNS AND EMERGENCY LIGHTING SHALL BE CONNECTED TO LOCAL CIRCUIT AHEAD OF SWITCH IF REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION. CONTRACTOR MUST COORDINATE LOCATIONS AND REQUIREMENTS FOR FIXTURES WITH TENANT, LANDLORD AND AUTHORITY HAVING JURISDICTION.
- EGRESS EMERGENCY FIXTURE SPECIFICATION SHOWN FOR REFERENCE. FIXTURE INSTALLED MUST BE BUILDING STANDARD AS REQUIRED BY LANDLORD. VERIFY REQUIREMENTS IN FIELD FOR EGRESS LIGHTING AND SECURITY LIGHTING. PROVIDE IN LOCATIONS AS REQUIRE BY LANDLORD AND LOCAL AHA.
- LIGHT FIXTURES TYPE 'D' AND 'E' ARE SPECIFIED WITH (2) TWO BALLASTS. A/B SWITCHING IN ROOMS WITH THESE FIXTURES MUST BE ACHIEVED BY SWITCHING THE BALLASTS AS DIRECTED BY THE TENANT. THE CONTRACTOR MUST VERIFY WITH THE TENANT ALL ROOMS REQUIRING THIS METHOD OF LIGHTING REDUCTION CONTROL. THE CONTRACTOR MUST ORDER THE CORRECT NUMBER OF FIXTURES WITH MULTIPLE BALLASTS AND COORDINATE ALL REQUIREMENTS WITH TENANT PRIOR TO CONSTRUCTION.
- CAMERA ROOM AND LAB ROOM ARE EXISTING. CONTRACTOR MUST VERIFY EXISTING LIGHT FIXTURES ARE 277V. EXISTING LIGHT FIXTURE CIRCUITING AND SWITCHING IN THESE ROOM MUST BE INTERCEPTED AND INTEGRATED INTO NEW TENANT SPACE LIGHTING POWER AND CONTROL. COORDINATE ALL REQUIREMENTS WITH TENANT AND ARCHITECT PRIOR TO CONSTRUCTION. PROVIDE NEW SWITCHES WHERE REQUIRED.

BUILDING LIGHTING CONTROL

EXISTING SHELL BUILDING LIGHTING CIRCUITS MUST BE CONTROLLED BY EXISTING CONTACTORS WHERE REQUIRED BY LANDLORD AND AUTHORITY HAVING JURISDICTION. ROUTE LIGHTING CIRCUITS THRU EXISTING CONTACTOR AND PROVIDE "NIGHT TIME LIGHTING OVER RIDE" SWITCHES WHERE REQUIRED. COORDINATE ALL REQUIREMENTS IN FIELD WITH EXISTING BUILDING SYSTEMS PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IF A CONFLICT EXISTS.

ELECTRICAL GENERAL NOTES:

- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL CONDITIONS AND IS RESPONSIBLE FOR REPORTING ANY CONFLICTS TO THE ARCHITECT PRIOR TO THE START OF WORK.
- "EXISTING" OR "VERIFY IN FIELD" MEANS THE CONTRACTOR IS TO CONFIRM THE ITEM SHOWN ON THE DRAWING EXISTS AND IS IN GOOD WORKING CONDITION. SHOULD THE CONTRACTOR FIND THE EQUIPMENT IS NOT AS SHOWN ON THESE DRAWINGS, IT IS TO BE INSTALLED AS REQUIRED TO PROVIDE THE TENANT WITH A FULLY FUNCTIONING SYSTEM AND AS REQUIRED BY ALL LOCAL CODES AND THE LOCAL AUTHORITY HAVING JURISDICTION.
- THE CONTRACTOR SHALL PROVIDE A COMPLETE, USEABLE, AND OPERABLE FACILITY IN ACCORDANCE WITH ALL PERTINENT CODES AND REGULATIONS.
- ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTIONS TO ALL ELECTRICALLY ENERGIZED EQUIPMENT WHETHER FURNISHED BY CONTRACTOR OR OWNER AND SHALL MEET THE LATEST APPROVED NATIONAL ELECTRICAL CODE (N.E.C.) FOR THE AREA.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE BUILDINGS STRUCTURE OR UTILITIES CAUSED BY SLAB PENETRATIONS. IT IS RECOMMENDED THAT THE CONTRACTOR X-RAY THE FLOOR PRIOR TO ANY SLAB PENETRATIONS.
- CONTRACTOR SHALL COMPLY WITH THE LATEST APPROVED NATIONAL ELECTRICAL CODE AND OSHA'S FAULT PROTECTION STANDARD ON THE CONSTRUCTION SITE.
- CONTRACTOR SHALL PROVIDE EMPTY CONDUIT WITH PULL STRING FOR SECURITY SYSTEM WIRING BY OWNERS SECURITY SYSTEM VENDOR 1/2" MINIMUM. ALL SECURITY SYSTEM CONDUIT SHALL BE CONCEALED. EXPOSED SECURITY SYSTEM CONDUIT SHALL NOT BE ALLOWED. VERIFY REQUIREMENTS WITH OWNER PRIOR TO FINAL BID.
- CONTRACTOR SHALL REFER TO ELECTRICAL SPECIFICATIONS WITHIN THIS SUBMITTAL FOR ADDITIONAL REQUIREMENTS.
- VOLTAGE DROP THRU ALL CONDUCTORS SHALL NOT EXCEED THAT ALLOWED BY THE NEC. CONTRACTOR SHALL UPSIZE FEEDERS AND BRANCH CIRCUITS AS REQUIRED WHERE REQUIRED.

LIGHTING FIXTURE SCHEDULE

TYPE	SYMBOL	QUANTITY	MOUNTING	MANUFACTURER	DESCRIPTION	LAMPS	WATTS	VOLTS
A	○	18	RECESSED	METALUX	#2GRB332A1227TEB81 - 2'X4' FLUORESCENT LENSED TROFFER, 3-LAMP, T-8, ACRYLIC PATTERN, 277V.	3-F32/18/735	88W	277V
B	◻	5	RECESSED	METALUX	#2GRB332A1227TEB81-EL4 - 2'X4' FLUORESCENT LENSED TROFFER, 3-LAMP, T-8, ACRYLIC PATTERN, 277V. EMERGENCY FIXTURE WITH BATTERY, 90 MINUTES OF EMERGENCY POWER.	3-F32/18/735	88W	277V
C	○	1	RECESSED	METALUX	#2GRB232A1227TEB81 - 2'X4' FLUORESCENT LENSED TROFFER, 2-LAMP, T-8, ACRYLIC PATTERN, 277V.	2-F32/18/735	58W	277V
D	○	11	RECESSED	METALUX	#2GRB332A1227TEB82 - 2'X4' FLUORESCENT LENSED TROFFER, 3-LAMP, T-8, ACRYLIC PATTERN, 277V, 2-BALLAST.	3-F32/18/735	88W	277V
E	○	1	RECESSED	METALUX	#2GRB232A1227TEB82 - 2'X4' FLUORESCENT LENSED TROFFER, 2-LAMP, T-8, ACRYLIC PATTERN, 277V, 2-BALLAST.	2-F32/18/735	58W	277V
F	○	7	RECESSED	PORTFOLIO	#C7126E-7250-U - 7" RECESSED DOWN LIGHT, 1-26W DIT LAMP, LENS AND TRIM AS SPECIFIED BY TENANT.	1-26W/PL/35K	26W	277V
G	◻	1	RECESSED	PORTFOLIO	#C7118E-7210-U - 7" RECESSED DOWN LIGHT, 1-26W DIT LAMPS, ELECTRONIC BALLAST, SINGLE WALL WASH, LENS AND TRIM AS SPECIFIED BY TENANT.	1-18W/PL/35K	18W	277V
EM1	◻	1	SURFACE	SURELIGHT	#AEL2 - ARCHITECTURAL EMERGENCY LIGHT SERIES. COLOR AS DIRECTED BY BUILDING OWNER.	WITH FIXTURE	--	277V
EM/X	◻	0	SURFACE	SURELIGHT	#LPX-7 - LPX SERIES COMBO; LED EXIT AND EMERGENCY LIGHT WITH RED LETTERS; ARROWS AS INDICATED. EMERGENCY BATTERY WITH MINIMUM 90 MINUTES OF EMERGENCY POWER. UNIVERSAL MOUNTING BRACKET.	WITH FIXTURE	--	277V
X1	⊗	5	SURFACE	SURELIGHT	#LPX-7 - LED EXIT LIGHT WITH RED LETTERS ARROWS AS INDICATED. EMERGENCY BATTERY WITH MINIMUM 90 MINUTES OF EMERGENCY POWER. UNIVERSAL MOUNTING BRACKET.	WITH FIXTURE	--	277V

NOTE: 1. LIGHT FIXTURES SHOWN ARE FOR REFERENCE ONLY. CONTRACTOR SHALL SUBMIT CUT SHEETS FOR ALL LIGHTING FIXTURES TO ARCHITECT AND TENANT FOR APPROVAL PRIOR TO ORDERING OF FIXTURES. FIXTURES INSTALLED SHALL MEET ALL REQUIREMENTS OF COMCHECK FORMS AT A MINIMUM.

2. EXIT LIGHTS TO BE PROVIDED WITH UNIVERSAL MOUNTING HARDWARE FOR CEILING OR WALL MOUNTING.

3. ALL FLUORESCENT FIXTURES CONTROLLED BY OCCUPANCY SENSORS WHICH DO NOT HAVE DIMMABLE BALLASTS SHALL HAVE PROGRAM START BALLASTS OR AS REQUIRED BY FIXTURE MANUFACTURER FOR FULL WARRANTY.

4. FIXTURE MANUFACTURERS MAY INCLUDE BUT ARE NOT LIMITED TO ACUITY, COOPER AND PHILIPS.

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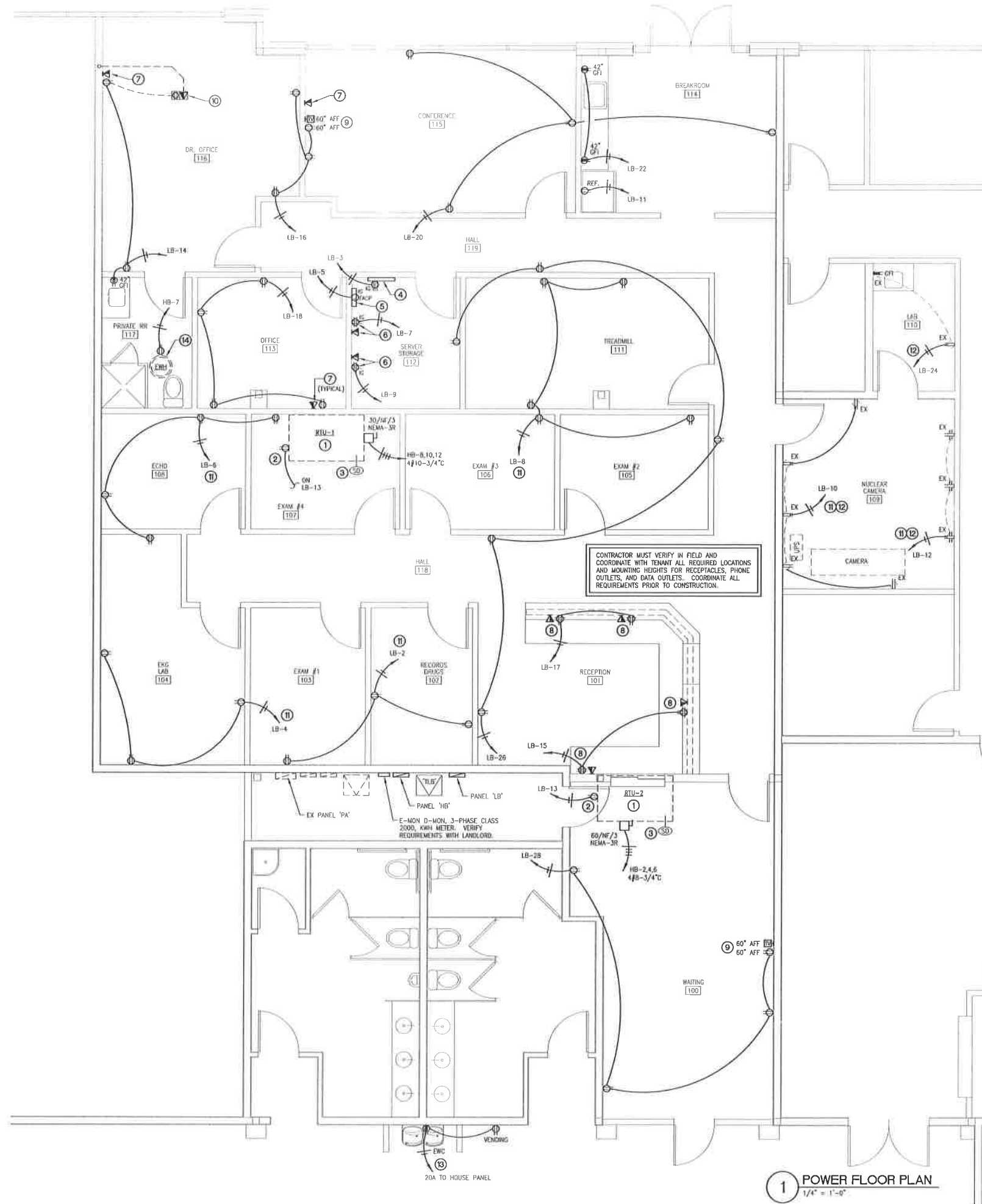
Issued for:
Permit & Construction 11/14/2013

Project No.

Dwg. Name

ELECTRICAL LIGHTING PLAN AND NOTES

Dwg. No.



POWER PLAN KEYED NOTES:

1. ROOFTOP UNIT PROVIDED WITH FACTORY INSTALLED CIRCUIT BREAKER AND CONVENIENCE OUTLET. ALL POWER WIRING AND FINAL CONNECTION MUST BE BY ELECTRICAL CONTRACTOR. COORDINATE WITH MECHANICAL CONTRACTOR FOR THRU-THE-BASE ELECTRICAL UTILITY ACCESS. SEE PLAN FOR AMPERAGE AND NEMA RATING. COORDINATE RTU LOCATION WITH LANDLORDS STRUCTURAL ENGINEER.
2. WEATHER RESISTANT, WATERPROOF, GFCI, MAINTENANCE RECEPTACLE FURNISHED WITH RTU. COORDINATE WITH MECHANICAL CONTRACTOR. ALL WIRING AND FINAL CONNECTION SHALL BE BY ELECTRICAL CONTRACTOR.
3. APPROXIMATE LOCATION OF DUCT SMOKE DETECTOR. COORDINATE EXACT LOCATION IN FIELD WITH MECHANICAL CONTRACTOR AND LOCAL A.H.J.
4. PLYWOOD TELEPHONE BACKBOARD WITH #6 GROUND AND RECEPTACLE WITH ISOLATED GROUND. CONTRACTOR MUST MAKE ALL FINAL CONNECTIONS AS REQUIRED FOR LOW VOLTAGE SYSTEMS AS REQUIRED BY PHONE COMPANY, CABLE COMPANY, COMMUNICATIONS, ALARM COMPANY, BUILDING OWNER AND TENANT. PROVIDE PULL STRINGS WHERE REQUIRED.
5. PROVIDE FIRE ALARM CONTROL PANEL (FACP) AS REQUIRED BY LOCAL FIRE MARSHALL. REFER TO "FIRE ALARM NOTE" THIS SHEET FOR ADDITIONAL INFORMATION.
6. COMPUTER SERVER RECEPTACLES AND DATA LOCATION SHOWN FOR REFERENCE. COMPUTER SERVER LOCATION AND REQUIREMENTS MUST BE COORDINATED WITH THE FACILITY DIRECTOR AND LOCATED AS REQUIRED. SERVER RECEPTACLES MUST BE PROVIDED WITH ISOLATED GROUND.
7. ROUTE CONDUIT FOR PHONE AND DATA LINES UP TO ABOVE CEILING. TERMINATE WITH 90° BEND AND BUSHING. PROVIDE LOW VOLTAGE TELEPHONE AND DATA CABLING AS DIRECTED BY TENANT. VERIFY LOCATION OF JUNCTION BOXES WITH TENANT PRIOR TO INSTALLATION. WHERE RIGID CEILINGS INTERFERE WITH ACCESS TO CONDUITS, EXTEND CONDUITS TO TERMINATION POINT WITH PULL STRINGS AS DIRECTED BY TENANT.
8. POWER OUTLET AND TELEPHONE/DATA OUTLET PAIRS IN RECEPTION AREA MUST BE LOCATED AS REQUIRED BY THE FACILITIES DIRECTOR. CONTRACTOR MUST INSTALL POWER AND DATA OUTLETS ABOVE AND/OR BELOW COUNTERS AS DIRECTED. PROVIDE HOLES WITH GROMMETS IN COUNTERS WHERE REQUIRED. COORDINATE ALL REQUIREMENTS WITH THE FACILITY DIRECTOR PRIOR TO CONSTRUCTION. COORDINATE ALL RECEPTACLE HEIGHTS AND DATA/TELEPHONE HEIGHTS IN FIELD.
9. POWER AND T.V. OUTLET MOUNTED ON WALL AT HEIGHT AND LOCATION AS DIRECTED BY TENANT. CONTRACTOR MUST VERIFY REQUIREMENTS AND LOCATION WITH TENANT PRIOR TO INSTALLATION.
10. 1" POWER CONDUIT AND 1" COMMUNICATIONS CONDUIT BELOW SLAB WITH PULL STRINGS FOR POWER AND COMMUNICATIONS TO FLOOR OUTLETS IN DOCTORS OFFICE. ROUTE COMMUNICATIONS CONDUIT TO SERVER CLOSET. COORDINATE OUTLET LOCATIONS WITH DOCTOR PRIOR TO CONSTRUCTION. BACKFILL AND PATCH AS REQUIRED.
11. REFER TO PATIENT CARE NOTE AND REDUNDANT GROUNDING NOTE. VERIFY ALL AREAS USCS WITH FACILITIES GOVERNING BODY DURING CONSTRUCTION. PROVIDE GFI BREAKER WHERE REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.
12. CAMERA ROOM AND LAB ROOM ARE EXISTING. CONTRACTOR MUST VERIFY EXISTING CAMERA, UPS, AND OTHER CIRCUITS ARE AS REQUIRED BY TENANT AND TENANTS EQUIPMENT REQUIREMENTS. INTERCEPT EXISTING CIRCUITING IN THESE ROOMS AND CONNECT TO NEW TENANT PANEL FOR SEPARATION OF POWER AND NEW METERING.
13. EXISTING EWC AND VENDING MACHINE IS BEING RELOCATED. RELOCATE EXISTING EWC AND VENDING MACHINE POWER CIRCUIT TO THIS NEW LOCATION. CIRCUIT TO BE CONNECTED TO HOUSE PANEL. WHERE TWO CIRCUITS ARE EXISTING BOTH MUST BE RELOCATED.
14. WATER HEATER ON PLATFORM ABOVE CEILING.

PATIENT CARE AREA WIRING NOTE

ELECTRICAL CONTRACTOR MUST COORDINATE AND ESTABLISH WITH THE FACILITIES GOVERNING BODY OR ITS DESIGNEE LOCATIONS CONSIDERED PATIENT CARE AREAS AS DEFINED IN CHAPTER 5 OF NFPA 99, HEALTH CARE FACILITIES CODE. ROOMS DESIGNATED AS PATIENT CARE ROOMS AND CONTAINING PATIENT CARE AREAS MUST HAVE WIRING INCLUDING REDUNDANT GROUNDING WITHIN THE PATIENT CARE AREAS WHICH COMPLY WITH NEC 517.13(A) & (B) AND NFPA 99 CHAPTER 5. COORDINATE ALL REQUIREMENTS WITH BUILDING OCCUPANT AND LOCAL AUTHORITY HAVING JURISDICTION.

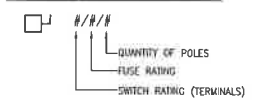
GROUNDING NOTE

THE ELECTRICAL CONTRACTOR MUST INSTALL THE ELECTRICAL SYSTEM INCLUDING THE GROUNDING SYSTEM AND REDUNDANT GROUNDING AS REQUIRED BY NFPA 70 (NATIONAL ELECTRICAL CODE) SECTION AND NFPA 99 (STANDARD FOR HEALTH CARE FACILITIES) AND THE LOCAL AUTHORITY HAVING JURISDICTION.

FIRE ALARM NOTE

A FIRE ALARM SYSTEM THAT MEETS CURRENT NFPA FIRE CODE MUST BE INSTALLED BY A LICENSED QUALIFIED FIRE SAFETY CONTRACTOR. THIS COMPANY WILL SUBMIT A PLAN TO THE TOWN FIRE MARSHALL'S OFFICE FOR APPROVAL PRIOR TO INSTALLATION. THE GENERAL CONTRACTOR AND ELECTRICAL SUBCONTRACTOR SHALL VERIFY AND INCLUDE IN THEIR FINAL BID ALL LIFE SAFETY, SMOKE/FIRE ALARM SYSTEMS REQUIRED TO BRING SPACE UP TO CURRENT NFPA STANDARDS, LOCAL AND STATE CODES AS REQUIRED BY FIRE MARSHAL.

DISCONNECT SWITCH LEGEND



1 POWER FLOOR PLAN
1/4" = 1'-0"

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ELECTRICAL POWER PLAN AND NOTES

Dwg. No. _____

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Project No.

Dwg. Name

**ELECTRICAL PANEL
 SCHEDULES AND
 RISER DIAGRAM**

Dwg. No.

SHORT-CIRCUIT CURRENT NOTE
 ELECTRICAL CONTRACTOR MUST COORDINATE AND VERIFY WITH THE ELECTRIC UTILITIES SERVICE
 PLANNER AVAILABLE SHORT-CIRCUIT CURRENTS FROM THE UTILITIES INSTALLED TRANSFORMER.
 CONTRACTOR MUST INSTALL BREAKERS WITH PROPER INTERRUPT RATING AND PROTECTION OF
 ELECTRICAL COMPONENTS FOR THE AVAILABLE SHORT-CIRCUIT CURRENTS. BREAKERS MUST BE
 PROVIDED WITH INTERRUPT RATING REQUIRED AS CALCULATED USING THE POINT-TO-POINT
 METHOD. CONTRACTOR MUST RECEIVE APPROVAL FROM THE AUTHORITY HAVING JURISDICTION
 TO INSTALL A SERIES RATED SYSTEM. IF A SERIES RATED SYSTEM IS USED PROVIDE LABELING
 AS REQUIRED BY NEC SECTIONS 110-22 AND 240-86. CONTRACTOR MUST CONTACT THE
 ENGINEER IF A CONFLICT EXISTS.

VOLTAGE: 480/277 3ø 4W
 BUS: 100A
 MAINS: 100A MLO
 AC RATING: 22,000

PANEL 'HB'
 (SURFACE MOUNTED)

C : CONTINUOUS (125%)
 N : NON-CONTINUOUS (100%)
 K : KITCHEN EQUIPMENT (65%)

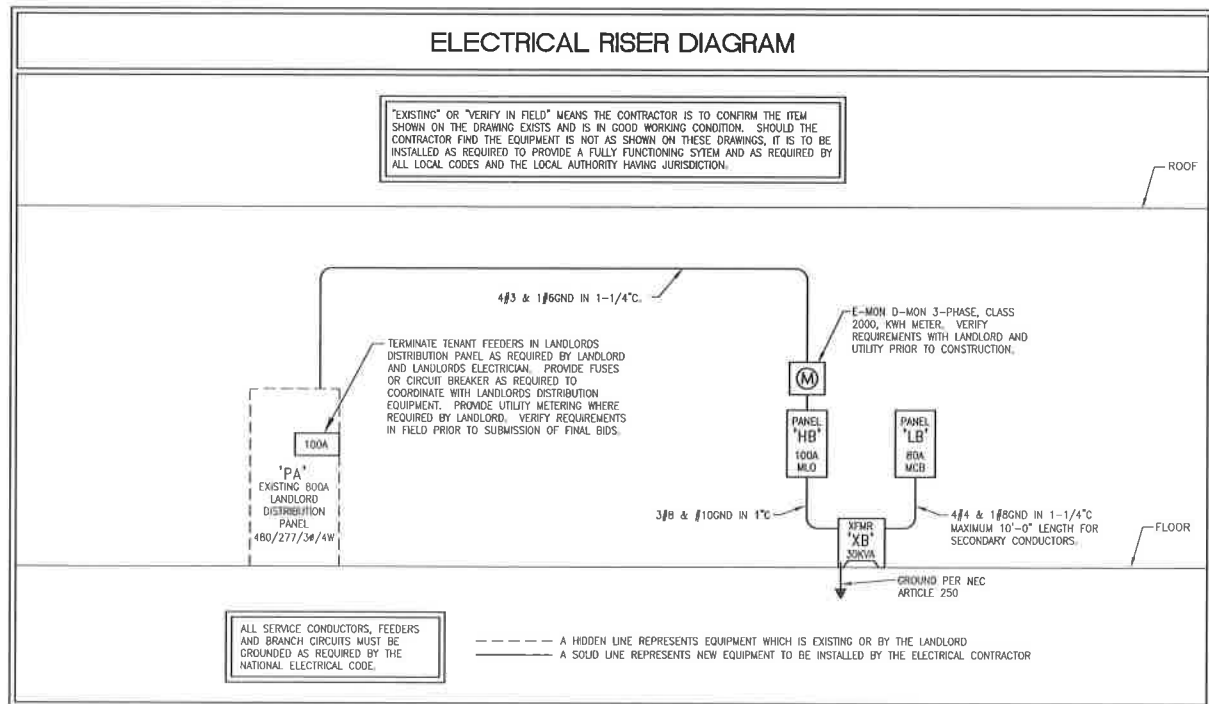
NO	QTY	DESCRIPTION	(NOTE)	C	N	K	CONNECTED VA			LOAD DESIGNATION			TRIP	POLE	BOX	
							ØA	ØB	ØC	A	B	C				(NOTE)
1	20	1	LTG - EMERG, NIGHT, 24HR	S			300			60.30					25	2
3	20	1	LIGHTING				1850			65.30						4
5	20	1	LIGHTING				1350			60.30					3	6
7	20	1	WATER HEATER				3000			60.30					25	8
9	20	1	SPARE							60.30						10
11	20	1	SPARE							60.30						12
13	35	1	XFMR 'TLB' 30KVA				4040			41.20					15	14
15							4780			41.20						16
17							4560			41.20						18
19			SPACE													20
21			SPACE													22
23			SPACE													24
PHASE TOTALS							ØA = 25,320	ØB = 24,090	ØC = 23,230	TOTAL CONNECTED VA			72,640			
PANEL NOTES:										CONNECTED VA (CODE C)			3,600			
① PROVIDE SWITCH TYPE CIRCUIT BREAKER WITH "SWD" LABEL PER NEC.										CONNECTED VA (CODE N)			69,040			
② CIRCUIT CONTROLLED VIA TIME CLOCK OR PHOTOCELL. PROVIDE ENCLOSURE NEAR PANEL.										CONNECTED VA (CODE K)			0			
③ PROVIDE "HACR" TYPE CIRCUIT BREAKER.										PANEL CONNECTED KVA			72.6			
④ PROVIDE "GF" TYPE CIRCUIT BREAKER.										PANEL DEMAND KVA			73.5			
⑤ PROVIDE BREAKER WITH LOCK-ON DEVICE										PANEL DEMAND AMPS			88.6			
⑥ PROVIDE CIRCUIT WITH ISOLATED GROUND.										HIGH Ø AMPS W/LCL			91.4			

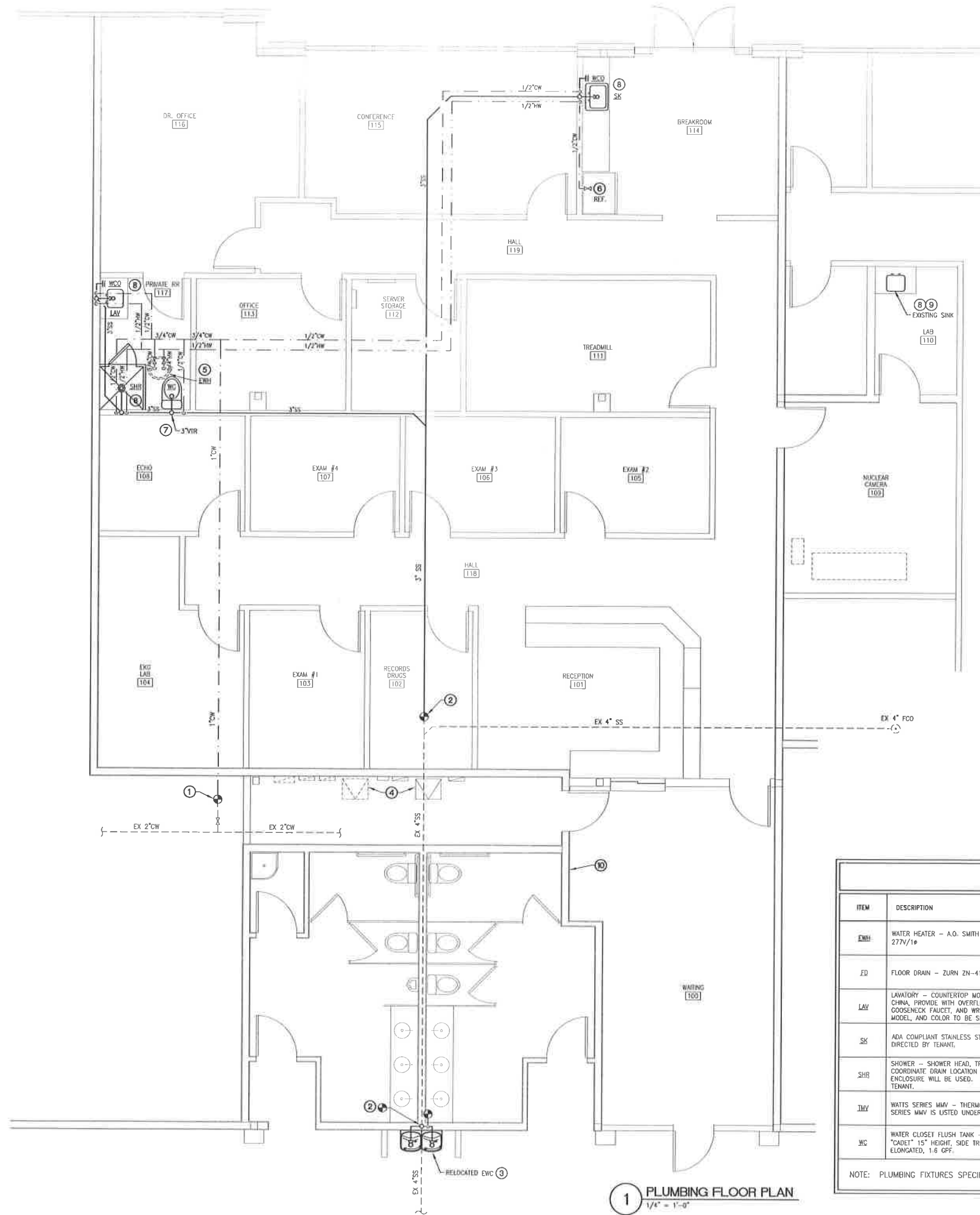
VOLTAGE: 208/120 3ø 4W
 BUS: 100A
 MAINS: 80A MCB
 AC RATING: 10,000

PANEL 'LB'
 (SURFACE MOUNTED)

C : CONTINUOUS (125%)
 N : NON-CONTINUOUS (100%)
 K : KITCHEN EQUIPMENT (65%)

NO	QTY	DESCRIPTION	(NOTE)	C	N	K	CONNECTED VA			LOAD DESIGNATION			TRIP	POLE	BOX	
							ØA	ØB	ØC	A	B	C				(NOTE)
1	20	1	SPARE							540					20	1
3	20	1	PHONE BOARD				300	300		540					20	1
5	20	1	TACP							720					20	1
7	20	1	SERVER				500			900					20	1
9	20	1	SERVER				500			900					20	1
11	20	1	REFRIGERATOR					600		1080					20	1
13	20	1	MAINTENANCE RECEIPT (2)				300			720					20	1
15	20	1	RECEPTION RECEIPT (4)				720			720					20	1
17	20	1	RECEPTION RECEIPT (4)				720			720					20	1
19	20	1	SPARE							720					20	1
21	20	1	SPARE							360					20	1
23	20	1	SPARE							360					20	1
25	20	1	SPARE							900					20	1
27	20	1	SPARE							720					20	1
29	20	1	SPARE												20	1
31			SPACE													32
33			SPACE													34
35			SPACE													36
37			SPACE													38
39			SPACE													40
41			SPACE													42
PHASE TOTALS							ØA = 4,640	ØB = 4,760	ØC = 4,500	TOTAL CONNECTED VA			13,900			
PANEL NOTES:										CONNECTED VA (CODE C)			0			
① PROVIDE REDUNDANT GROUNDING WHERE REQUIRED BY NFPA 99.										CONNECTED VA (CODE N)			13,900			
② CIRCUIT CONTROLLED VIA TIME CLOCK OR PHOTOCELL. PROVIDE ENCLOSURE NEAR PANEL.										CONNECTED VA (CODE K)			0			
③ PROVIDE "HACR" TYPE CIRCUIT BREAKER.										PANEL CONNECTED KVA			13.9			
④ PROVIDE "GF" TYPE CIRCUIT BREAKER.										PANEL DEMAND KVA			13.9			
⑤ PROVIDE BREAKER WITH LOCK-ON DEVICE										PANEL DEMAND AMPS			36.6			
⑥ PROVIDE CIRCUIT WITH ISOLATED GROUND.										HIGH Ø AMPS W/LCL			39.7			





1 PLUMBING FLOOR PLAN
1/4" = 1'-0"

PLUMBING KEYED NOTES:

1. CONNECT NEW 1" DOMESTIC WATER LINE TO EXISTING WATER LINE OF EQUAL OR GREATER SIZE. CONTRACTOR SHALL VERIFY EXACT WATER LINE LOCATION AND SIZE IN FIELD PRIOR TO BID. IF A CONFLICT EXISTS CONTRACTOR SHALL NOTIFY ARCHITECT BEFORE SUBMISSION OF BID.
2. APPROXIMATE LOCATION OF EXISTING 4" SANITARY SEWER. CONTRACTOR MUST VERIFY EXACT LOCATION, DIRECTION OF SLOPE AND INVERT ELEVATION PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IF A CONFLICT EXISTS. ALL NEW TENANT SANITARY WASTE PIPING TO BE SLOPED AT 1/4" PER FOOT MINIMUM.
3. LOCATION FOR RELOCATED EWC. MAKE ALL CONNECTIONS AS REQUIRED. SEE NOTE #10 FOR ADDITIONAL INFORMATION. CONNECT NEW 1/2" CW AND 2" SS INTO EXISTING TOILET ROOM PLUMBING. VERIFY EXACT LOCATIONS AND REQUIREMENTS IN FIELD PRIOR TO FINAL BID.
4. WATER LINES MUST NOT BE ROUTED ABOVE ELECTRICAL PANELS OR WITHIN THE WORKING SPACE OF ELECTRICAL PANELS AND TRANSFORMER.
5. WATER HEATER ON PLATFORM WITH SECONDARY DRAIN PAN (SMITTY PAN). ROUTE SECONDARY DRAIN PAN LINE ALONG WITH TEMPERATURE AND PRESSURE RELIEF LINE TO EXTERIOR, HUB DRAIN, OR CLOSEST APPROVED DISPOSAL SITE ALLOWED BY LOCAL AUTHORITY HAVING JURISDICTION.
6. 1/2" WATER SUPPLY FOR ICE MAKER. CONTRACTOR MUST SUPPLY BACKFLOW PREVENTER AND WATER FILTER AS SPECIFIED BY OWNER AND AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
7. 3" SANITARY VENT THRU ROOF. CONTRACTOR MUST COORDINATE LOCATION WITH OWNER. VENT MUST BE A MINIMUM OF 18"-0" FROM ANY FRESH AIR INTAKE. COORDINATE ROOF PENETRATION WITH OWNERS ROOFER TO MAINTAIN ROOFING WARRANTY WHERE APPLICABLE.
8. ALL SINKS AND SHOWERS MUST BE PROVIDED WITH A THERMOSTATIC MIXING VALVE PROVIDING TEMPERED WATER SET TO A MAXIMUM OF 110°F. DEVICE MUST CONFORM TO ASSE 1070. WHERE ALLOWED AS AN ALTERNATE METHOD OF CONTROL, SET WATER HEATER TO A MAXIMUM OF 110°F.
9. EXISTING SINK IN LAB TO REMAIN. NO MODIFICATIONS ARE REQUIRED. VERIFY CONDITION AND NOTIFY TENANT OF ANY DIFFICIENCIES.
10. EXISTING ELECTRIC WATER COOLER TO BE REMOVED AND REUSED. CONTRACTOR MUST USE CARE DURING REMOVAL PROCESS FOR FUTURE REUSE. EXISTING WATER AND SANITARY PIPING MUST BE REMOVED AND CAPPED AS REQUIRED FOR NEW WAITING ROOM WALL FINISHES. SEE NOTE #11 FOR ADDITIONAL INFORMATION.

PLUMBING GENERAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL CONDITIONS AND IS RESPONSIBLE FOR REPORTING ANY CONFLICTS TO THE ARCHITECT PRIOR TO THE START OF WORK.
2. "EXISTING" OR "VERIFY IN FIELD" MEANS THE CONTRACTOR IS TO CONFIRM THE ITEM SHOWN ON THE DRAWING EXISTS AND IS IN GOOD WORKING CONDITION. SHOULD THE CONTRACTOR FIND THE EQUIPMENT IS NOT AS SHOWN ON THESE DRAWINGS, IT IS TO BE INSTALLED AS REQUIRED TO PROVIDE THE TENANT WITH A FULLY FUNCTIONING SYSTEM AND AS REQUIRED BY ALL LOCAL CODES AND THE LOCAL AUTHORITY HAVING JURISDICTION.
3. CONFIRM THE EXACT LOCATION OF SEWER LINE AND CONFIRM ADEQUATE INVERT ELEVATION IS AVAILABLE FOR SLOPE OF PLUMBING LINES SHOWN. SANITARY PIPING TO BE SLOPED AT THE MINIMUM AS REQUIRED BY TABLE 704.1 OF THE IPC UNLESS NOTED OTHERWISE.
4. ANY PENETRATION THRU OR TRENCHED IN CONCRETE FLOORS OR PARTITIONS SHALL BE SAW CUT OR CORE DRILLED.
5. ANY PENETRATIONS THRU FIRE RATED PARTITIONS SHALL BE SEALED AS REQUIRED TO UPHOLD THE RATING OF THE PARTITION.
6. THE PLUMBING CONTRACTOR SHALL NOT INSTALL EXPOSED PIPING ABOVE OR WITHIN THE CODE REQUIRED WORKING CLEARANCES OF ANY ELECTRICAL PANELBOARD OR SWITCHGEAR. COORDINATE WITH ELECTRICAL CONTRACTOR.
7. PLUMBING CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO OWNER SUPPLIED EQUIPMENT REQUIRING PIPING CONNECTIONS.
8. ALL TAP FEES, IMPACT FEES AND PUBLIC ASSESSMENT FEES ARE TO BE INCLUDED IN THIS CONTRACTORS PRICE.
9. CONTRACTOR IS REQUIRED TO CONTACT THE BUILDING LANDLORD FOR ANY ROOF WORK. IF LANDLORD REQUIRES A SPECIFIC ROOFING CONTRACTOR, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT, COORDINATE AND PAY FOR ANY AND ALL ROOFING WORK WITH THE LANDLORDS ROOFING CONTRACTOR.
10. PROVIDE CLEAN-OUTS AT THE ENDS OF RUNS.
11. MAINTAIN MINIMUM OF 10'-0" HORIZONTAL DISTANCE BETWEEN PLUMBING ROOF JACKS (VENTS) AND FRESH AIR INTAKES OR OUTSIDE AIR INTAKES.
12. PROVIDE ISOLATION VALVES AT ALL FIXTURES.

PLUMBING FIXTURE SCHEDULE

ITEM	DESCRIPTION	COLD WATER	HOT WATER	WASTE	TRAP	VENT	SPECIFICATIONS AND REMARKS
EH	WATER HEATER - A.O. SMITH DEL-30, 3,000W INPUT, 30 GALLON, 277V/1P	3/4"	3/4"	---	---	---	INSTALL WITH AMTRON EXPANSION TANK AND SMITTY PAN. TAP VALVE AND SMITTY PAN TO DRAIN TO FLOOR DRAIN OR HUB DRAIN BELOW. 100% SHUTOFF AT 110°F OUTPUT.
FD	FLOOR DRAIN - ZURN ZN-415-B-P-Y			PER PLAN	PER PLAN	PER PLAN	NICKEL TOP, 1/2" TRAP PRIMER CONNECTION. SIZE AS SHOWN ON DRAWINGS.
LAV	LAVATORY - COUNTERTOP MOUNTED BATHROOM SINK. VITREOUS CHINA. PROVIDE WITH OVERFLOW AND SOAP DISPENSER HOLES, GOOSENECK FAUCET, AND WRIST BLADE HANDLES. MANUFACTURER, MODEL, AND COLOR TO BE SELECTED BY TENANT.	1/2"	1/2"	1-1/2"	1-1/4"	1-1/2"	INSULATE ALL EXPOSED DRAIN AND WATER PIPING UNDER LAVATORY WITH TRUESBIO MODEL #102 (WHITE) OR EQUIVALENT, P TRAP GRID STRAINER & STOPS. ADA APPROVED. FURNISH WITH ALL FITTINGS, VALVES AND SUPPLIES TO COMPLETE INSTALLATION.
SK	ADA COMPLIANT STAINLESS STEEL BREAKROOM SINK AS DIRECTED BY TENANT.	1/2"	1/2"	1-1/2"	1-1/4"	1-1/2"	MODEL PER TENANT. WITH GOOSENECK SPOUT AND WRIST BLADE HANDLES WHERE REQUIRED BY TENANT.
SHR	SHOWER - SHOWER HEAD, TRIM KIT AND VALVE BODY. COORDINATE DRAIN LOCATION WITH ARCHITECT WHERE SHOWER ENCLOSURE WILL BE USED. VERIFY ALL REQUIREMENTS WITH TENANT.	1/2"	1/2"	---	---	---	FURNISH WITH ALL FITTINGS, VALVES AND SUPPLIES TO COMPLETE INSTALLATION.
TMV	WATTS SERIES MMV - THERMOSTATIC MIXING VALVE. WATTS SERIES MMV IS LISTED UNDER ASSE 1017, 1069 AND 1070.	1/2"	1/2"	---	---	---	CONSTRUCTED WITH BRONZE BODY, LOCKING CAP AND ADJUSTMENT FEATURE. SET TEMPERATURE TO A MAXIMUM OF 110°F.
WC	WATER CLOSET FLUSH TANK - AMERICAN STANDARD #2898-012 "CADET" 15" HEIGHT, SIDE TRIP LEVER, WHITE VITREOUS CHINA, ELONGATED, 1.6 GPF.	1/2"	---	4"	INTEGRAL	2"	PROVIDE WITH OLSONITE #95 SOLID PLASTIC OPEN FRONT SEAT, LESS COVER. FURNISH WITH ALL REQUIRED FITTINGS, VALVES AND SUPPLIES. SIDE TRIP LEVER ON SIDE OPPOSITE GRAB BAR.

NOTE: PLUMBING FIXTURES SPECIFIED ARE FOR REFERENCE ONLY. VERIFY FINAL FIXTURE SELECTIONS WITH TENANT AND ARCHITECT PRIOR TO ORDERING FIXTURES.

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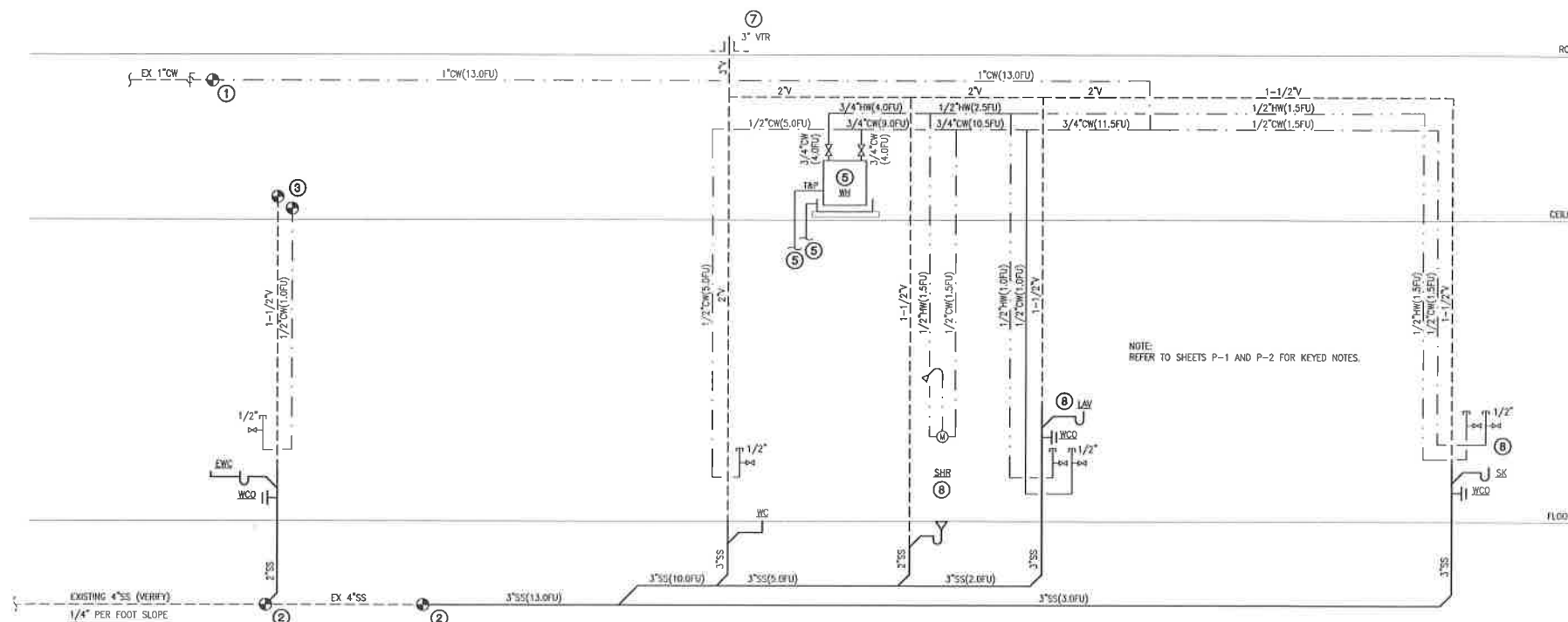
Dwg. Name

PLUMBING DOMESTIC WATER AND SANITARY PLAN

Dwg. No.

PLUMBING ABBREVIATIONS			
A/C	ABOVE CEILING	HB	HOSE BIBB/WALL HYDRANT
A/F	ABOVE FINISHED FLOOR	HW	HOT WATER
AHJ	AUTHORITY HAVING JURISDICTION	HWR	HOT WATER RETURN
B/F	BELOW FLOOR	LAV	LAVATORY
BFP	BACKFLOW PREVENTER	MBH	1000 BTU/HR
CL	CENTER LINE	PRV	PRESSURE REDUCING VALVE
CD	CONDENSATE DRAIN	RPBP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
CO	CLEANOUT	S	SANITARY
CW	COLD WATER	TP	TRAP PRIMER
D	DRAIN	T & P	TEMPERATURE & PRESSURE
DN	DOWN	TYP	TYPICAL
EL	ELEVATION	UR	URINAL
EW	ELECTRIC WATER COOLER	V	VENT
FCO	FLOOR CLEANOUT	VTR	VENT THROUGH ROOF
FD	FLOOR DRAIN	W	WASTE
FS	FLOOR SINK	WC	WATER CLOSET
G	GAS - LOW PRESSURE	WCO	WALL CLEANOUT
GCO	GRADE CLEANOUT	UNO	UNLESS NOTED OTHERWISE

PLUMBING SYMBOLS LEGEND	
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING
	SANITARY SEWER
	GREASE WASTE
	VENT PIPING
	NATURAL GAS PIPING
	COMPRESSED AIR PIPING
	OXYGEN PIPING
	NITROUS OXIDE PIPING
	VACUUM PIPING
	POINT OF CONNECTION
	FLOOR CLEANOUT
	CLEANOUT TO GRADE
	WALL CLEANOUT
	UNION
	TEMPERATURE / PRESSURE RELIEF VALVE
	BACKFLOW PREVENTER
	GATE VALVE
	GAS COCK
	CHECK VALVE
	RISE IN PIPING
	DROP IN PIPING
	HOSE BIBB



1 PLUMBING RISER DIAGRAM
NOT TO SCALE

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PLUMBING RISER DIAGRAM

Dwg. No.
P-2

PLUMBING SPECIFICATIONS

SECTION 15400 BASIC PLUMBING REQUIREMENTS

- P1 - SCOPE:**
 A. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES REQUIRED TO COMPLETE THE INSTALLATION OF THE WORK OF THIS SECTION AS SHOWN ON THE DRAWINGS AND DESCRIBED HEREIN, INCLUDING ALL INCIDENTAL WORK NECESSARY TO MAKE IT COMPLETE, SATISFACTORY AND READY FOR OPERATION AND USE. MAKE READY FOR OWNER'S USE COMPLETE PLUMBING SYSTEMS TO THE SATISFACTION OF THE OWNER, ARCHITECT AND MECHANICAL ENGINEER.
 B. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL WORK NECESSARY TO MAKE A COMPLETE SYSTEM WHETHER OR NOT SUCH DETAILS ARE MENTIONED IN THESE SPECIFICATIONS AS SHOWN ON THE PLANS, BUT WHICH ARE OBVIOUSLY NECESSARY TO MAKE A COMPLETE SYSTEM, EXCEPTING ONLY THOSE PORTIONS THAT ARE SPECIFICALLY MENTIONED HEREIN OR PLAINLY MARKED ON THE ACCOMPANYING DRAWINGS AS BEING INSTALLED UNDER ANOTHER SECTION OF THE SPECIFICATIONS.
 C. BEFORE STARTING ANY WORK, THE CONTRACTOR FOR THIS SECTION OF THE WORK SHALL EXAMINE A COMPLETE SET OF DRAWINGS AND SPECIFICATIONS FOR ALL TRADES, INCLUDING ARCHITECTURAL, STRUCTURAL, HVAC, ELECTRICAL, FIRE PROTECTION, AND PLUMBING, DIMENSIONS, SPACE REQUIREMENTS, AND POINTS OF CONNECTION TO ALL EQUIPMENT SHALL BE VERIFIED, AND ANY MINOR ADJUSTMENTS NECESSARY TO AVOID CONFLICT WITH THE BUILDING STRUCTURE AND THE WORK OF THE OTHER TRADES SHALL BE MADE. CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY IF ANY MAJOR CONFLICTS OCCUR.

P2 - WORKMANSHIP:
 ALL WORK SHALL BE PERFORMED BY COMPETENT MECHANICS USING PROPER TOOLS AND EQUIPMENT TO PRODUCE FIRST-QUALITY WORK. ALL WORK SHALL BE NEATLY INSTALLED, ACCESSIBLE FOR MAINTENANCE, COMPLETE WITH ALL ACCESSORIES REQUIRED, AND MEETING THE APPROVAL OF THE OWNER AND THE ARCHITECT.

P3 - MATERIALS:
 ALL PRODUCTS, EQUIPMENT, MATERIALS, AND ACCESSORIES SHALL BE OF FIRST-LINE QUALITY, GRADE AND TYPE SHOWN ON THE DRAWINGS AND SPECIFIED, OR EQUIVALENTS ACCEPTED BY THE ARCHITECT OR ENGINEER IN WRITING.

P4 - SITE INSPECTION:
 CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO SUBMITTING HIS BID AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS AND EXACT NATURE OF THE WORK. THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC. SUBMISSION OF A BID ACKNOWLEDGES FULL RESPONSIBILITY FOR FURNISHING A COMPLETE AND FUNCTIONAL SYSTEM. NO CHANGES IN CONTRACT WILL BE MADE TO ACCOMMODATE OR ALLOW EXTRA FUNDS FOR ANY OMISSION WHICH RESULTS FROM A FAILURE TO THOROUGHLY MAKE THE EXAMINATION.

P5 - CODES:
 THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST APPLICABLE EDITION OF THE CODES, ORDINANCES AND REGULATIONS INTERPRETED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

P6 - PERMITS:
 THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, INSPECTIONS AND FEES. COPIES OF ALL PERMITS AND INSPECTION REPORTS SHALL BE SUBMITTED TO THE ARCHITECT.

P7 - AS-BUILTS:
 CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILTS TRANSPARENCIES WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT AND PRIOR TO FINAL ACCEPTANCE AND PAYMENT. THESE DRAWINGS SHALL HAVE ALL INSTALLATIONS REFERENCED BY DIMENSIONS TO A SET REFERENCE POINT OR POINTS.

P8 - GUARANTEE:
 CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE ALL LABOR AND MATERIALS ON ALL WORK AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER COMPLETION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO ANY PART OF THE PREMISES CAUSED BY EQUIPMENT FURNISHED AND INSTALLED UNDER THIS SECTION OF THE SPECIFICATIONS FOR A PERIOD OF ONE (1) YEAR AFTER DATE OF ACCEPTANCE OF HIS WORK. THE CONTRACTOR SHALL ADJUST ALL VALVES, CONTROLS, VACUUM BREAKERS AND INCIDENTAL ITEMS AND SHALL LEAVE THE SYSTEM IN PERFECT OPERATING CONDITION. THE CONTRACTOR SHALL FURNISH THE OWNER ALL MANUFACTURERS' WRITTEN GUARANTEE OF MATERIALS AND EQUIPMENT, INCLUDING WATER HEATER WARRANTY REQUIREMENTS AND WATER STERILIZATION REPORT.

P9 - OPERATING MANUALS:
 CONTRACTOR SHALL FURNISH THE OWNER WITH ALL OPERATING MANUALS AND MAINTENANCE INSTRUCTIONS FOR THE EQUIPMENT INSTALLED. MANUALS SHALL BE BOUNDED IN THREE RING LOOSE-LEAF BINDERS AND INDEXED BY PRODUCT TYPE. A SECTION WITHIN THE MANUAL SHALL INCLUDE THE NAME, TELEPHONE NUMBER AND ADDRESS OF ALL LOCAL SUPPLIERS OF ALL MATERIAL AND EQUIPMENT INSTALLED TOGETHER WITH NAME, TELEPHONE NUMBER AND ADDRESS OF ALL CONTRACTORS OF THE PROJECT. PROVIDE 3 SETS OF MANUALS TO THE OWNER. CONTRACTOR SHALL AFFIX A MAINTENANCE LABELS TO ALL EQUIPMENT REQUIRING ROUTINE MAINTENANCE.

P10 - COORDINATION AND VERIFICATION:
 THE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW SCOPE. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES TO PROVIDE THE BEST ARRANGEMENT OF ALL DUCTS, PIPES, CONDUIT, ETC. THE LOCATION OF EXISTING PIPING AND DUCTWORK SHOWN IS APPROXIMATE. CONTRACTOR SHALL VERIFY THEIR LOCATION PRIOR TO BEGINNING WORK OF THIS SECTION AND SHALL MAKE MODIFICATIONS AND ADJUSTMENTS REQUIRED TO INSTALL THE WORK OF THIS SECTION.
 A. THE EXACT LOCATION OF ALL PLUMBING EQUIPMENT SHALL BE VERIFIED WITH THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO COMMENCEMENT OF WORK.
 B. COORDINATE WIRING, FUSED DISCONNECT SWITCHES AND CONDUIT REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR. THESE ITEMS SHALL ALSO BE INSTALLED BY THE ELECTRICAL CONTRACTOR.

P11 - EXTERIOR OPENINGS:
 COORDINATE LOCATIONS OF ALL EXTERIOR WALL AND ROOF OPENINGS WITH ALL RELEVANT TRADES AND PROVIDE WATER-TIGHT FLASHINGS WHEREVER PENETRATIONS OCCUR. EXACT LOCATIONS AND SIZES MAY BE DEPENDENT UPON EQUIPMENT SELECTIONS. COORDINATE SIZES AND LOCATIONS OF ALL OPENINGS WITH APPROPRIATE EQUIPMENT REQUIREMENTS.

P12 - UNDER FLOOR PIPING EXCAVATION AND BACKFILLING:
 ALL UNDER FLOOR PIPING SHALL BE INSTALLED IN CONJUNCTION WITH THE GENERAL CONTRACTORS WORK SCHEDULE. NO UNDERGROUND WORK SHALL BE COVERED OR ENCLOSED UNTIL IT HAS BEEN INSPECTED AND TESTED. THE PLUMBING CONTRACTOR SHALL DO THE NECESSARY TRENCHING, SHORING AND BACKFILLING REQUIRED TO FULFILL HIS CONTRACT. BOTTOMS OF TRENCHES SHALL BE CUT TO GRADE. ALL OPENINGS AND STUB-UP FOR PLUMBING PIPING AND FIXTURES SHALL BE CAREFULLY LOCATED AND COORDINATED. OTHERWISE, PLUMBING CONTRACTOR SHALL CUT NEW OPENINGS AT HIS OWN EXPENSE, AND REIMBURSE OTHER SUBCONTRACTORS FOR ANY DAMAGE DONE TO THEIR WORK.

P13 - DOMESTIC COLD WATER AND HOT WATER PIPING:
 ABOVE GRADE TYPE "L" COPPER, ASTM B-88 COLOR CODED AND BELOW GRADE TYPE "K" COPPER, ASTM B-88, COLD HARD DRAWN SEAMLESS COPPER TUBING. WATER PIPING SHALL BE ABOVE GRADE AS MUCH AS POSSIBLE EXCEPT TO ISLANDS. ALL PIPE CONNECTIONS SHALL RISE ABOVE FLOOR IN INTERIOR WALLS. NO CONNECTIONS UNDER FLOOR. WATER SUPPLY PIPE FITTINGS SHALL BE WROUGHT COPPER, ANSI B16.22 AND CAST FITTINGS WITH NON-LEAD SOLDER JOINTS (100% LEAD FREE). PIPING 4 IN. AND LARGER SHALL BE BELL AND SPIGOT CLASS 50 DUCTILE IRON PIPE CENTRIFUGALLY CAST, CEMENT-LINED INSIDE.

P14 - SANITARY SOIL WASTE AND VENT PIPING:
 ABOVE AND BELOW SLAB WASTE AND VENT SHALL BE SCHEDULE 40 PVC SOIL PIPE AND FITTINGS ASSEMBLED WITH SOLVENT CEMENT JOINTS. DEBURR PIPE AFTER CUTTING. CLEAN PIPE AND FITTINGS WITH PURPLE PRIMER. PIPING 3" DIAMETER AND SMALLER SHALL BE SLOPED AT A MINIMUM OF 1/4" (2%) PER FOOT. PIPING 4" IN DIAMETER AND LARGER MAY BE SLOPED AT A MINIMUM OF 1/8" PER FOOT. CONTRACTOR SHALL BID THE USE OF CAST IRON PIPING WHEN PVC IS NOT ALLOWED BY THE LOCAL AUTHORITY.

P15 - CLEANOUTS:
 PROVIDE CLEANOUTS WHERE INDICATED AND REQUIRED. UNLESS OTHERWISE INDICATED, CLEANOUTS SHALL BE ACCESSIBLE WITH EXTENSIONS TO GRADE, TO OUTSIDE OF BUILDINGS, OR TO FLOORS ABOVE AS INDICATED OR REQUIRED. DO NOT LOCATE CLEANOUTS IN PUBLIC LOBBIES AND PUBLIC CORRIDORS UNLESS APPROVED BY ARCHITECT. FURNISH AND INSTALL CLEANOUTS AT CHANGES IN DIRECTION, AND AS REQUIRED BY LOCAL ORDINANCE AND CODES.

P16 - INDIRECT AND CONDENSATE DRAINS:
 HARD DRAWN, TYPE "M" OR "L" COPPER TUBE, ASTM B88 AND WROUGHT COPPER FITTINGS, ANSI B16.22, SOLDER JOINT TYPE, OR PVC. COORDINATE CONDENSATE TRAP INSTALLATION WITH AIR CONDITIONING UNIT MANUFACTURER. ALL INTERIOR CONDENSATE DRAIN PIPING SHALL BE INSULATED. DRAIN SHALL BE SLOPED AT A MINIMUM OF 1%. DRAIN SHALL TERMINATE AT THE CLOSEST CODE APPROVED DISPOSAL SITE.

P17 - VALVES:
 EVERY PLUMBING FIXTURE SHALL BE INDEPENDENTLY VALVED. VALVES SHALL BE MANUFACTURED BY NIBCO, HAMMOND, POWELL, STOCKHAM, WAITS OR EQUIVALENT APPROVED BY THE ENGINEER. GATE VALVES SHALL CONFORM TO MSS-51F-80 FOR BRONZE AND MSS-51F-70 FOR IRON. VALVES 2" AND SMALLER SHALL BE NIBCO T-113 OR S-113 OR APPROVED EQUIVALENT. BALL VALVES SHALL HAVE CAST BRONZE BODY, BLOWOUT PROOF STEMS, FULL SIZE PORT, 316 STAINLESS STEEL TRIM, TEFLON SEAT AND SEAL AND THRUST WASHERS. VALVES 2" AND SMALLER SHALL BE NIBCO T-585-70-66 OR APPROVED EQUIVALENT.

P18 - NATURAL GAS PIPING:
 PIPE SHALL BE NEW SCHEDULE 40 BLACK STEEL CONFORMING TO ASTM STANDARDS, WITH 150 LB. MIN. BLACK MALLEABLE IRON SCREWED FITTINGS AND COUPLINGS. GAS PIPING INSTALLED UNDERGROUND SHALL BE PROTECTED FROM CORROSION (MACHINE WRAPPED). GATE VALVES ONE INCH AND SMALLER SHALL BE LEVER HANDLE TYPE WITH CHECK. ALL BRONZE, SCREWED, 1-1/4" AND LARGER VALVES SHALL BE IRON BODY WITH BRONZE SQUARE HEAR PLUG. PROVIDE OPERATING WRENCH WHERE REQUIRED FOR EACH VALVE.

P19 - SHOCK ABSORBERS:
 FACTORY FABRICATED WITH STAINLESS STEEL CONSTRUCTION SIMILAR TO JOSAM NO. 75007 (IF REQUIRED BY LOCAL CODES). AIR CHAMBERS WILL NOT BE PERMITTED AS A SUBSTITUTE FOR SHOCK ABSORBERS.

P20 - PIPE HANGERS AND SUPPORTS:
 HOLD HORIZONTAL PIPE RUNS FIRMLY IN PLACE USING APPROVED STEEL AND IRON HANGERS, SUPPORTS, AND/OR PIPE RESTS UNLESS OTHERWISE INDICATED. SUSPEND HANGER RODS FROM CONCRETE INSERTS OR FROM APPROVED BRACKETS, CLAMPS OR CLIPS. HANG PIPES INDIVIDUALLY OR IN GROUPS IF SUPPORTING STRUCTURE IS ADEQUATE TO SUPPORT WEIGHT OF PIPING AND FLUID. EXCEPT FOR BURIED PIPING, HANG OR SUPPORT PIPE RUNS SO THAT THEY MAY EXPAND OR CONTRACT FREELY WITHOUT STRAIN TO PIPE OR EQUIPMENT. HANGERS SHALL BE SUPPLIED WITH FACTORY INSTALLED ISOLATION AND DI-CHROMATE FINISH.

P21 - INSULATION:
 ALL HOT AND COLD DOMESTIC WATER LINES, LAVATORY DRAINS, SINK AND CONDENSATE DRAINS TO BE INSULATED WITH 1/2" FIBERGLASS MOLDED PIPE COVERING ABOVE AND BELOW GRADE. HOT WATER PIPING SHALL BE INSULATED AS REQUIRED BY THE ENERGY CODE AND THE AUTHORITY HAVING JURISDICTION.

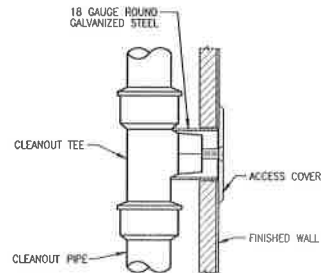
P22 - TRAP PRIMERS:
 WHERE SHOWN ON THE DRAWINGS OR REQUIRED BY THE LOCAL PLUMBING CODE, INSTALL AUTOMATIC TRAP PRIMERS ON COLD WATER SUPPLY AT NEAREST FIXTURE AND RUN DRAIN TO TRAP SEAL BEING PROTECTED. PROVIDE ARCHITECT APPROVED ACCESS PANELS WHEN PRIMERS ARE INSTALLED IN WALLS.

P23 - ROOF FLASHING:
 SANITARY VENT FLASHINGS: SEMCO 1100-3 OR 1100-5, WITH ONE-PIECE LEAD FLASHING AND COUNTER FLASHING SLEEVE. OTHER PIPE THROUGH ROOF FLASHING: SEMCO 1100-2 OR 1100-4, ONE-PIECE 4 LB. LEAD FLASHING AND COUNTER FLASHING SLEEVE.

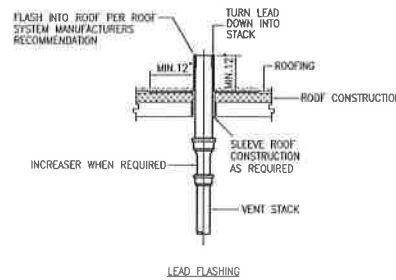
P24 - WATER STERILIZATION:
 BEFORE ANY USE OF THE SYSTEM IS MADE FOR DOMESTIC PURPOSES, IT SHALL BE STERILIZED WITH APPROVED AGENTS. THE LINE IS THEN FLUSHED OUT UNTIL ALL TRACES OF CHEMICAL HAVE BEEN REMOVED.

P25 - TESTING AND INSPECTION:
 THE ENTIRE PLUMBING SYSTEM INCLUDING ALL SEWER, GAS, WATER, WASTE AND VENT PIPING SHALL BE TESTED BEFORE COVERING, ENCLOSING OR INSULATING TO THE SATISFACTION OF THE ARCHITECT AND LOCAL BUILDING INSPECTOR. THE WATER USED FOR THESE TESTS SHALL BE OBTAINED FROM A PORTABLE SOURCE OF SUPPLY IF REQUIRED. WORK SHALL BE INSPECTED FOR COMPLIANCE WITH CODES, ORDINANCES, REGULATIONS AND ADHERENCE TO CONTRACT DOCUMENTS. PLUMBING CONTRACTOR SHALL SUPPLY OWNER WITH SIGNED FORMS OR PROOF OF ACCEPTANCE BY THE LOCAL AUTHORITY BEFORE CONTINUING FROM ONE STAGE TO ANOTHER. FINAL APPROVAL SHALL BE OBTAINED BEFORE FINAL PAYMENT IS MADE ON THE CONTRACT.

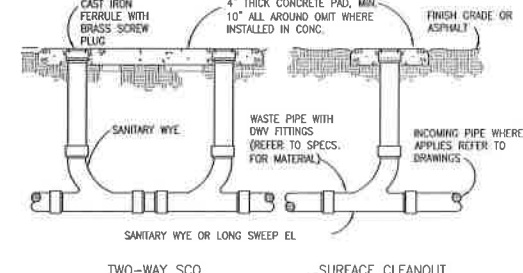
P26 - CLEANUP:
 UPON COMPLETION OF THE WORK UNDER THIS SECTION, THE CONTRACTOR SHALL REMOVE ALL SURPLUS MATERIALS, EQUIPMENT AND DEBRIS INCIDENTAL TO THIS WORK AND LEAVE THE PREMISES CLEAN AND ORDERLY.



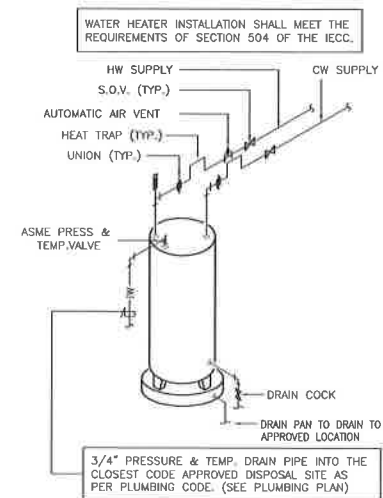
1 WALL CLEANOUT
NOT TO SCALE



2 VENT THRU ROOF DETAIL
NOT TO SCALE



3 GRADE/SURFACE CLEANOUT DETAIL
NOT TO SCALE



4 ELECTRIC WATER HEATER DETAIL
NOT TO SCALE

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PLUMBING SPECIFICATIONS AND DETAILS

Dwg. No.
P-3