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DESCRIPTION	SUPPLIED BY				REMARKS
	FRCHS	STRETCH LAB	G.C.		
	FURNISH	INSTALL	FURNISH	INSTALL	
GENERAL REQUIREMENTS (DIVISION 1)					
1. BUILDING PERMITS					PERMITS PAID FOR BY FRANCHISEE
2. THIRD PARTY INSPECTION					ANY THIRD PARTY INSPECTION REQUIRED BY CITY
A. TEST AND BALANCE					
3. TEMPORARY UTILITIES					
4. FINAL CLEAN UP					
5. INSURANCE					
6. PROTECTION OF ALL FINISHED SURFACES					BOTH OWNER & GENERAL CONTRACTOR
7. TEMPORARY LABOR					
8. DUMPSTER					
9. STORAGE CONTAINER					TO COORDINATE AND PROVIDE STORAGE CONTAINER FOR OWNER FURNISHED ITEMS DURING LAST 2 WEEKS OF CONSTRUCTION
METALS (DIVISION 5)					
1. RETAIL SLAT WALL					
WOOD & PLASTICS (DIVISION 6)					
1. WOOD FRAMING - STUDS, BACKING					
2. WOOD CARPENTRY - CASEWORK, MILLWORK					SL VENDOR DELIVERS AND INSTALLS ALL MILLWORKS
A. RECEPTION DESK W/ ADA RETURN					
B. STRETCH BEDS					
C. BENCH					
D. 2 OR 4 - WAY DISPLAY					
E. PEDESTAL RETAIL					
THERMAL AND MOISTURE (DIVISION 7)					
1. ROOFING PENETRATION					
2. INSULATION (INTERIOR WALLS)					
3. INSULATION (ROOF DECK)					
OPENINGS (DIVISION 8)					
1. INTERIOR DOORS & FRAMES					
2. HOLLOW METAL FRAMES					
3. DOOR HARDWARE					
4. ENTRANCES AND STOREFRONT (IF REQ'D)					
5. MIRRORS					
6. REAR SERVICE DOOR					G.C. TO BRING REAR DOOR TO PROPER WORKING ORDER WHEN APPLICABLE
FINISHES (DIVISION 9)					
1. VINYL FLOORING					ORDERED THROUGH S.P.S. VENDOR
2. TILE FLOORING					ORDERED THROUGH S.P.S. VENDOR, GC. TO PROVIDE GROUT.
3. BRICK VENEER INSTALL					
SPECIALTIES (DIVISION 10)					
1. GRAB BAR					
2. HAND TOWEL DISPENSERS IN RESTROOMS					CINTAS PREFERRED VENDOR/ OTHERWISE G.C.
3. TOILET PAPER DISPENSER					CINTAS PREFERRED VENDOR/ OTHERWISE G.C.
4. SANITARY NAPKIN DISPOSALS (WOMEN'S)					CINTAS PREFERRED VENDOR/ OTHERWISE G.C.
5. RESTROOM MIRRORS					
6. ADA & HC TACTILE SIGN PER CODE					
A. FIRE EXTINGUISHERS					
7. ALL SPECIALTY SIGNAGE PER CODE					
EQUIPMENT - RECOMMENDED NOT REQUIRED (DIVISION 11)					
1. SECURITY CAMERAS					OWNER OR G.C. CAN INSTALL
2. SPEAKERS					OWNER OR G.C. CAN INSTALL
3. MAPS MACHINE					
FURNISHINGS (DIVISION 12)					
1. SIGNAGE					
A. EXTERIOR SIGNAGE					SL PREFERRED VENDOR
B. LOBBY SIGNAGE					SL PREFERRED VENDOR
C. WALL GRAPHICS					SL PREFERRED VENDOR
PLUMBING (DIVISION 22)					
1. WATER CLOSET & LAVATORY					ADA COMPLIANT RESTROOM (EXISTING)
2. FLOWWATER					G.C. TO INSTALL HARD LINE FOR FLOWWATER
HVAC (DIVISION 23)					
1. THERMOSTATS AND REMOTE SENSORS					
2. RTU'S					WHEN APPLICABLE
3. RTU FILTER & CHANGE CONSTRUCTION TURNOVER TO FZ					
ELECTRICAL (DIVISION 26)					
1. LIGHT FIXTURES					WESPEC VENDOR
2. LIGHT FIXTURE LIGHT BULBS (LAMPS)					
A. FIRE ALARM SYSTEM (IF REQUIRED)					
3. ELECTRICAL PANELS					WHEN APPLICABLE
COMMUNICATION (DIVISION 27)					
1. TELEPHONE/ INTERNET ROUGH IN & CABLING					
2. INTERIOR RECESSED ACCESS PANEL					
A. TELEPHONE EQUIPMENT INSTALLATION					
B. TELEPHONE BACKER BOARD AT DEMARK					
3. AUDIO/ VISUAL EQUIPMENT					OWNER OR G.C. CAN INSTALL

SYMBOL	DESCRIPTION
	DIMENSION LINE
	SECTION
	DETAIL
	EXTERIOR ELEVATION
	INTERIOR ELEVATION
	PARTITION TYPE
	DOOR IDENTIFICATION
	WINDOW IDENTIFICATION
	EQUIPMENT IDENTIFICATION
	ROOM NAME AND NUMBER
	KEYNOTE REFERENCE
	ELEVATION MARKER
	REVISION
	FINISH TYPE MARKER
	COLUMN OR GRID LINE
	KEY FOR ENLARGED PLAN
	EXISTING ABBREVIATION
	RCP HEIGHT MARKER



GOVERNING CODES:																													
ALL WORK SHALL BE IN COMPLIANCE WITH, BUT NOT LIMITED TO THE REQUIREMENTS OF THE FOLLOWING AND ANY OTHER STATE AND LOCAL CODES HAVING JURISDICTION:																													
BUILDING:	2021 INTERNATIONAL BUILDING CODE																												
MECHANICAL:	2021 INTERNATIONAL MECHANICAL CODE																												
PLUMBING:	2021 INTERNATIONAL PLUMBING CODE																												
ELECTRICAL:	2020 NATIONAL ELECTRICAL CODE																												
ENERGY:	2021 INTERNATIONAL ENERGY CONSERVATION CODE																												
FIRE:	2021 INTERNATIONAL FIRE CODE																												
ACCESSIBILITY:	2009 ICC A117.1 ACCESSIBILITY STANDARD																												
TYPE OF CONSTRUCTION: VB																													
FIRE SPRINKLERS:	YES																												
BUILDING USE:	BUSINESS (B) MERCANTILE (M)																												
PROJECT LEASE AREA:	1,305 S.F. (NO CHANGE FROM EXISTING)																												
PREVIOUS OCCUPANCY:	CLOSET & STORAGE CONCEPTS																												
PROPOSED OCCUPANCY:	B (A3x50) IBC SECTION 303.1.2(1) A BUILDING TENANT SPACE USED FOR ASSEMBLY PURPOSES WITH AN OCCUPANCY LOAD OF LESS THAN 50 PERSONS SHALL BE CLASSIFIED AS A GROUP B OCCUPANCY.																												
OCCUPANCY LOAD:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ROOM NAME</th> <th>AREA</th> <th>OCCUPANT LOAD FACTOR</th> <th>CALCULATED</th> </tr> </thead> <tbody> <tr> <td>LOBBY</td> <td>180 SF</td> <td>60 SF</td> <td>3</td> </tr> <tr> <td>STUDIO</td> <td>945 SF</td> <td>150 SF</td> <td>7</td> </tr> <tr> <td>(E) RESTROOM</td> <td>70 SF</td> <td>0 SF</td> <td>0</td> </tr> <tr> <td>(E) OFFICE</td> <td>110 SF</td> <td>150 SF</td> <td>1</td> </tr> <tr> <td>TOTAL OCCUPANTS:</td> <td></td> <td></td> <td>11</td> </tr> </tbody> </table>	ROOM NAME	AREA	OCCUPANT LOAD FACTOR	CALCULATED	LOBBY	180 SF	60 SF	3	STUDIO	945 SF	150 SF	7	(E) RESTROOM	70 SF	0 SF	0	(E) OFFICE	110 SF	150 SF	1	TOTAL OCCUPANTS:			11				
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PER IPC SECTION 403.2.1 - SINGLE-USER TOILET FACILITIES AND BATHING ROOMS, INCLUDING FAMILY OR ASSISTED-USE TOILET ROOMS AND BATHING ROOMS SHALL BE IDENTIFIED FOR USE BY EITHER SEX.																													
** ADA-COMPLIANT DRINKING FOUNTAIN STATION PROVIDED.																													
PLUMBING FIXTURE LOAD:	1 1/2"= 5M/5W																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">MINIMUM NUMBER</th> <th rowspan="2">OCCUPANCY</th> <th colspan="2">WATER CLOSET</th> <th colspan="2">LAVATORIES</th> <th rowspan="2">DRINKING FOUNTAIN</th> <th rowspan="2">OTHER SINK SERVICE</th> </tr> <tr> <th>MALE</th> <th>FEMALE</th> <th>MALE</th> <th>FEMALE</th> </tr> </thead> <tbody> <tr> <td>REQUIRED</td> <td>B</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>PROVIDED</td> <td>B</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	MINIMUM NUMBER	OCCUPANCY	WATER CLOSET		LAVATORIES		DRINKING FOUNTAIN	OTHER SINK SERVICE	MALE	FEMALE	MALE	FEMALE	REQUIRED	B	1	1	1	1	1	1	PROVIDED	B	1	1	1	1	1	1	
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REQUIRED	B	1	1	1	1	1	1																						
PROVIDED	B	1	1	1	1	1	1																						
EXIT REQUIREMENT:	TOTAL REQUIRED: 1 TOTAL PROVIDED: 2																												
PARKING:	EXISTING - NO CHANGE IN PARKING																												

- GENERAL NOTES**
- GENERAL CONTRACTOR SHALL VISIT THE SITE, REVIEW THE DRAWINGS AND BECOME THOROUGHLY FAMILIAR WITH THE SITE CONDITIONS PRIOR TO CONSTRUCTION.
 - GENERAL CONTRACTOR SHALL CONSULT WITH THE CLIENT AND ARCHITECT TO RESOLVE ANY CHANGES, OMISSIONS OR PLAN DISCREPANCIES PRIOR TO CONSTRUCTION.
 - ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH LOCAL, COUNTY, STATE AND FEDERAL CODES AND ORDINANCES.
 - GENERAL CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES.
 - GENERAL CONTRACTOR TO VERIFY ALL DIMENSIONS, INCLUDING CLEARANCES REQUIRED BY OTHER TRADES AND NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH WORK. ALL DIMENSIONS ARE TO THE FACE OF FRAMING UNLESS NOTED OTHERWISE.
 - GENERAL CONTRACTOR SHALL PATCH AND REPAIR ALL EXISTING WALLS, FLOORS, CEILINGS, OR OTHER SURFACES IDENTIFIED TO REMAIN THAT MAY BECOME DAMAGED DURING THE COURSE OF WORK.
 - GENERAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING PERMITS FOR FIRE PROTECTION, FIRE ALARM, OR SPECIALTY SYSTEMS PRIOR TO INSTALLATION OF SUCH SYSTEMS.
 - GENERAL CONTRACTOR SHALL RETAIN ONE SET OF PERMIT PLANS ON-SITE TO DOCUMENT ALL CHANGES MADE DURING CONSTRUCTION. THE RECORD DRAWINGS SHALL BE ISSUED TO THE CLIENT AT PROJECT CLOSE-OUT AS DESCRIBED IN THE GENERAL REQUIREMENTS OF THE PROJECT MANUAL.
 - GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING DELIVERY OF MATERIALS AND INSTALLING SUCH MATERIALS SUPPLIED BY CLIENT OR CLIENT'S VENDOR.
 - RESPONSIBILITY FOR SUPPLY AND DELIVERY OF MATERIALS AND EQUIPMENT IS IDENTIFIED IN THE DRAWING SCHEDULE SHEETS UNDER THE COLUMN LABELED 'RESPONSIBILITY'.
 - FOR THE PURPOSE OF THE DOCUMENTS, TO 'INSTALL' SHALL MEAN TO PROVIDE ALL FASTENERS, MISCELLANEOUS HARDWARE, BLOCKING, ELECTRICAL CONNECTIONS, PLUMBING CONNECTIONS AND OTHER ITEMS REQUIRED FOR A COMPLETE AND OPERATIONAL INSTALLATION UNLESS OTHERWISE NOTED.
 - ALL ITEM SUBSTITUTIONS MUST BE APPROVED BY CLIENT AND DESIGN TEAM.
 - THESE DRAWINGS WERE PREPARED FROM EXISTING AS-BUILT DRAWINGS PROVIDED. NO SITE WALK WAS PERFORMED.

SHEET INDEX		CITY SUBMITTAL	
GENERAL			
G0.0	COVER SHEET		
G1.0	LIFE SAFETY PLAN		
G2.0	WALL TYPES & CONNECTIONS		
G3.0	DOOR SCHEDULE, DETAILS AND HARDWARE		
G4.0	ARCHITECTURAL SPECIFICATIONS		
ARCHITECTURAL			
AP1.0	ACCESSIBLE PATH OF TRAVEL PLAN		
D1.0	DEMOLITION PLAN		
A1.0	FLOOR & EQUIPMENT PLAN		
A2.0	FINISH PLAN		
A3.0	REFLECTED CEILING PLAN		
A4.0	INTERIOR ELEVATIONS		
A5.0	ENLARGED RESTROOM PLAN AND ELEVATIONS		
MECHANICAL			
M0.1	MECHANICAL SCHEDULES		
M1.0	MECHANICAL PLANS		
M2.0	MECHANICAL SPECIFICATIONS		
PLUMBING			
P0.1	PLUMBING SCHEDULES		
P1.0	PLUMBING PLANS		
P2.0	PLUMBING DETAILS		
P3.0	PLUMBING DETAILS		
ELECTRICAL			
E0.1	ELECTRICAL SPECIFICATIONS & SYMBOLS		
E1.0	ELECTRICAL LIGHTING FLOOR PLAN		
E2.0	ELECTRICAL POWER FLOOR & ROOF PLAN		
E3.0	ONE-LINE DIAGRAM & PANEL SCHEDULE		

PROJECT DATA	
PROJECT NAME:	STRETCH LAB
PROJECT DESCRIPTION:	TENANT IMPROVEMENT PROJECT: ALTERATION TO AN EXISTING TENANT SPACE WORK TO INCLUDE NEW INTERIOR WALL(S), CEILING SYSTEM, MECHANICAL SYSTEMS, ELECTRICAL SYSTEMS, INTERIOR FINISHES, AND MILLWORK. EXISTING RESTROOM TO REMAIN. EXISTING EXITING REQUIREMENTS ARE TO BE MAINTAINED. THIS ALTERATION DOES NOT MODIFY THE SQUARE FOOTAGE OF THE SPACE. THIS IS CLASSIFIED AS A LEVEL 2 ALTERATION.
PROJECT LOCATION:	1242 S. HOVER STREET UNIT B200 LONGMONT, CO. 80501
JURISDICTION:	CITY OF LONGMONT COLORADO 385 KIMBARK STREET LONGMONT, CO. 80501

PROJECT TEAM	
CORPORATE:	DIRECTOR OF CONSTRUCTION SUPPORT 17877 VON KARMAN AVE. #100, IRVINE, CA 92614 CONTACT: AVI SHANBHAG T: 949.490.6964 E: avi@xponential.com
ARCHITECT:	FM GROUP INC. 15974 N 77TH STREET, SUITE 100 SCOTTSDALE, AZ 85260 CONTACT: CHRIS JARVIS T: 480.397.0003 E: cjarvis@fmgroup.net
TENANT:	BUELL FAMILY INCORPORATED 1117 ROBERTSON STREET FORT COLLINS, CO 80524 CONTACT: JACKSON BUELL T: 734.845.7135 E: jackson.buell@stretchlab.com
MEP:	ARDEBILI CONSULTING ENGINEERS 7328 E. STETSON DR. SCOTTSDALE, AZ 85251 CONTACT: OMID ARDEBILI T: 480.550.8439 F: 480.247.4993 E: omid@ardebili.com
LANDLORD:	NMMS TWIN PEAKS, LLC. C/O NEWMARK MERRILL MOUNTAIN STATES 650 15TH STREET, SUITE 100 LONGMONT, CO 80501 CONTACT: RENATTA BANNING T: 720.438.2510 E: rbanning@newmarkmerrill.com
DEFERRED SUBMITTALS	
<ul style="list-style-type: none"> • FIRE ALARM • FIRE SPRINKLERS 	
SEPARATE SUBMITTAL	
OWNER'S SIGNAGE CONTRACTOR SHALL PREPARE SIGNAGE SHOP DRAWINGS AND SUBMIT TO BUILDING DEPT. & LANDLORD FOR APPROVAL. ALL SIGNAGE IS UNDER SEPARATE PERMIT.	

PRELIMINARY
NOT FOR CONSTRUCTION

XPONENTIAL
FITNESS
17877 VON KARMAN AVE
SUITE 100
IRVINE, CA 92614

STRETCH LAB

PROJECT ADDRESS:
1242 S. HOVER STREET
UNIT B200
LONGMONT, CO. 80501

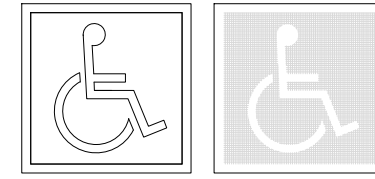
REVISIONS:

TITLE:
COVER SHEET

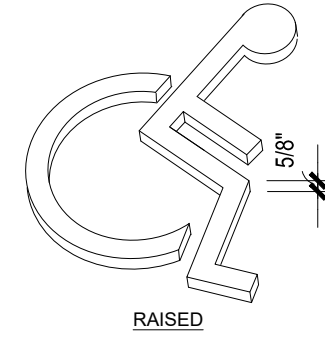
DATE:
11.01.2022
PROJECT NO.
22-254

SHEET NO.
G0.0

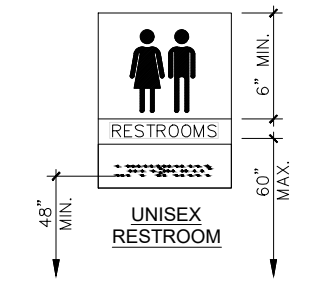
ACCESSIBILITY SIGNS & PICTOGRAMS



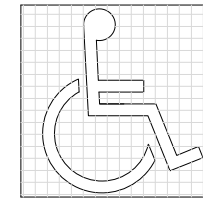
INTERNATIONAL ACCESSIBILITY SYMBOL



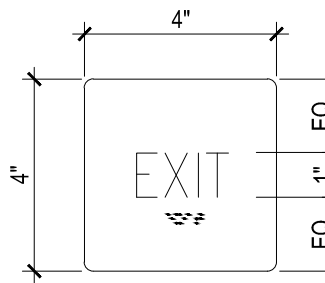
RAISED



UNISEX RESTROOM



PROPORTIONS INTERNATIONAL SIGN OF ACCESSIBILITY



LETTERS AND NUMBERS:

- LETTERS AND NUMBERS ON SIGNS SHALL BE RAISED 1/32" MINIMUM AND SHALL BE SANS-SERIF UPPERCASE CHARACTERS ACCOMPANIED BY GRADE 2 BRAILLE.
- RAISED CHARACTERS OR SYMBOLS SHALL BE A MINIMUM OF 5/8" HIGH.
- PICTORIAL SYMBOL SIGNS (PICTOGRAMS) SHALL BE ACCOMPANIED BY THE EQUIVALENT VERBAL DESCRIPTION PLACED DIRECTLY BELOW THE PICTOGRAM. THE BORDER DIMENSION OF THE PICTOGRAM SHALL BE A MINIMUM OF 6" IN HEIGHT.
- CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND, EITHER LIGHT CHARACTERS ON A DARK BACKGROUND OR DARK CHARACTERS ON A LIGHT BACKGROUND.
- CHARACTER HEIGHT MEASURED VERTICALLY FROM THE BASELINE OF THE CHARACTER SHALL BE 5/8" MINIMUM AND 2" MAXIMUM BASED ON THE HEIGHT OF UPPERCASE "T".

BRAILLE:

- USE CONTRASTED GRADE 2 BRAILLE. DOTS TO BE 0.1 INCH ON CENTER IN EACH CELL.
- 0.2 INCH SPACE BETWEEN CELLS.
- DOTS RAISED MINIMUM 0.025 INCH ABOVE BACKGROUND.

SIGN LOCATIONS:

- ALL BUILDING ENTRANCES THAT ARE ACCESSIBLE TO AND USABLE BY PERSONS WITH DISABILITIES AND AT EVERY MAJOR JUNCTION ALONG OR LEADING TO AN ACCESSIBLE ROUTE OF TRAVEL SHALL BE IDENTIFIED WITH A SIGN DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND WITH ADDITIONAL DIRECTIONAL SIGNS, AS REQUIRED, TO BE VISIBLE TO PERSONS ALONG APPROACHING PEDESTRIAN WAYS.
- WHEN PERMANENT IDENTIFICATION IS PROVIDED FOR ROOMS AND SPACES, RAISED LETTERS SHALL BE PROVIDED AND SHALL BE ACCOMPANIED BY BRAILLE IN CONFORMANCE WITH SECTION. SIGNS SHALL BE INSTALLED ON THE WALL ADJACENT TO THE LATCH OUTSIDE OF THE DOOR. WHERE THERE IS NO WALL SPACE ON THE LATCH SIDE, INCLUDING AT LEAF DOORS, SIGNS SHALL BE PLACED ON THE NEAREST ADJACENT WALL, PREFERABLY ON THE RIGHT. MOUNTING LOCATION SHALL BE DETERMINED SO THAT THE PERSON MAY APPROACH WITHIN 3" OF THE SIGNAGE WITHOUT ENCOUNTERING PROTRUDING OBJECTS OR STANDING WITHIN THE SWING OF A DOOR.
- ADDITIONAL DIRECTIONAL SIGNS ALONG ACCESSIBLE PATH OF TRAVEL ARE REQUIRED.
- BUILDINGS REMODELED TO PROVIDE ACCESSIBLE SANITARY FACILITIES FOR PUBLIC USE SHALL HAVE INFORMATION POSTED IN THE LOBBY AS PART OF THE BUILDING DIRECTORY.
- TACTILE SIGNS SHALL BE MOUNTED 48" MIN. AFF MEASURED TO THE BASELINE OF THE LOWEST CHARACTER, AND 60" MAX. AFF TO THE BASELINE OF THE HIGHEST RAISED CHARACTER AN 18" X 18" CLEAR SPACE IS REQUIRED IN FRONT OF THE TACTILE SIGN, BEYOND THE ARC OF ANY DOOR SWING. WHERE SIGNS ARE MOUNTED AT DOORS, THE SIGN SHALL BE ON THE LATCH SIDE OF THE DOOR. WHERE SIGNS ARE MOUNTED AT DOUBLE DOORS, OR WHERE THERE IS NO WALL SPACE, THE SIGN SHALL BE MOUNTED ON THE NEAREST ADJACENT WALL, PREFERABLY THE RIGHT SIDE.

- SIGNS SHALL BE ALLOWED TO BE MOUNTED ON THE PUSH SIDE OF DOORS WHERE THE DOOR HAS A CLOSER, BUT NO HOLD OPEN.

INTERNATIONAL SYMBOL OF ACCESSIBILITY:

- STANDARD USED TO IDENTIFY ACCESSIBLE FACILITIES.
- WHITE FIGURE ON BLUE BACKGROUND, COLOR # 15090 ON FEDERAL STANDARD # 595A.
- WHEN ENFORCING AGENCY DETERMINES, IF APPROPRIATE, SPECIAL DESIGNS AND COLORS MAY BE APPROVED.

OCCUPANCY TABULATION

ROOM NAME	AREA	OCCUPANT LOAD FACTOR	CALCULATED
LOBBY	180 SF	60 SF	3
STUDIO	945 SF	150 SF	7
(E) RESTROOM	70 SF	0 SF	0
(E) OFFICE	110 SF	150 SF	1
TOTAL OCCUPANTS:			11

EGRESS ANALYSIS

EXIT WIDTH CALCULATIONS:

TOTAL # OF OCCUPANTS: 11 X 0.2 = 2.2" REQUIRED
 EXIT 1 = 36" NET (EXIT 1)
 EXIT 2 = 36" NET (EXIST 2)
 TOTAL WIDTH PROVIDED 72" > 2.2"

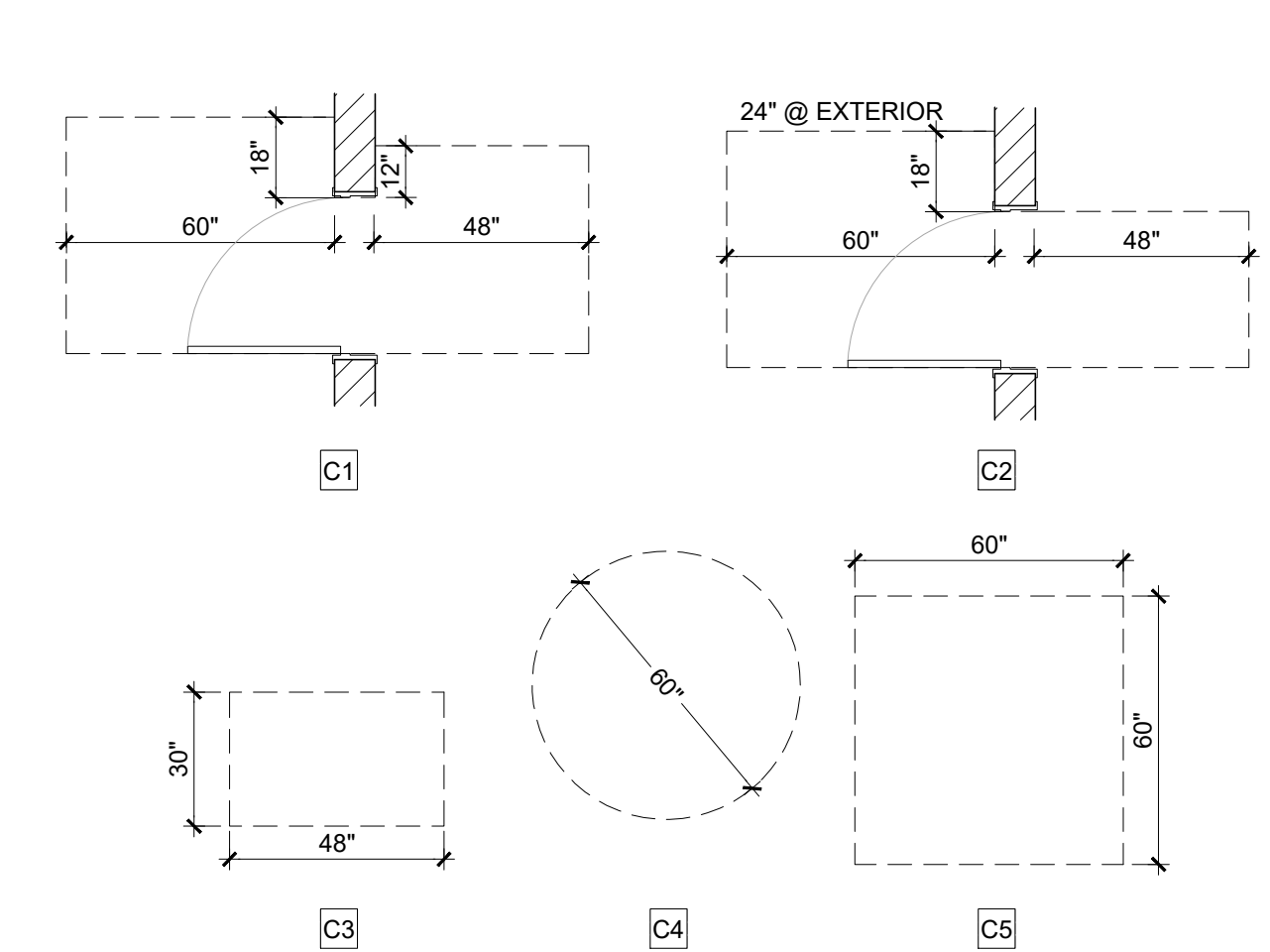
GREATEST PATH OF TRAVEL: 55'-7"
 MAX. COMMON PATH OF TRAVEL ALLOWED PER SECTION 1006.2.1: B OCC- 50 OCC - SPRINKLERED BLDG. 100'-0" (55'-7" < 100'-0")
 MAXIMUM EGRESS PATH ALLOWED PER TABLE 1017.2 - SPRINKLERED BLDG= 300'-0" 55'-7" < 300'-0"

DOOR EGRESS CAPACITY

EXIT 1	DOOR WIDTH	EGRESS FACTOR	MAXIMUM PERMITTED	ACTUAL EGRESS LOAD
36"	36"	0.2	172	10

EXIT 2	DOOR WIDTH	EGRESS FACTOR	MAXIMUM PERMITTED	ACTUAL EGRESS LOAD
36"	36"	0.2	172	1

LEGEND - ACCESSIBILITY MINIMUM CLEARANCES

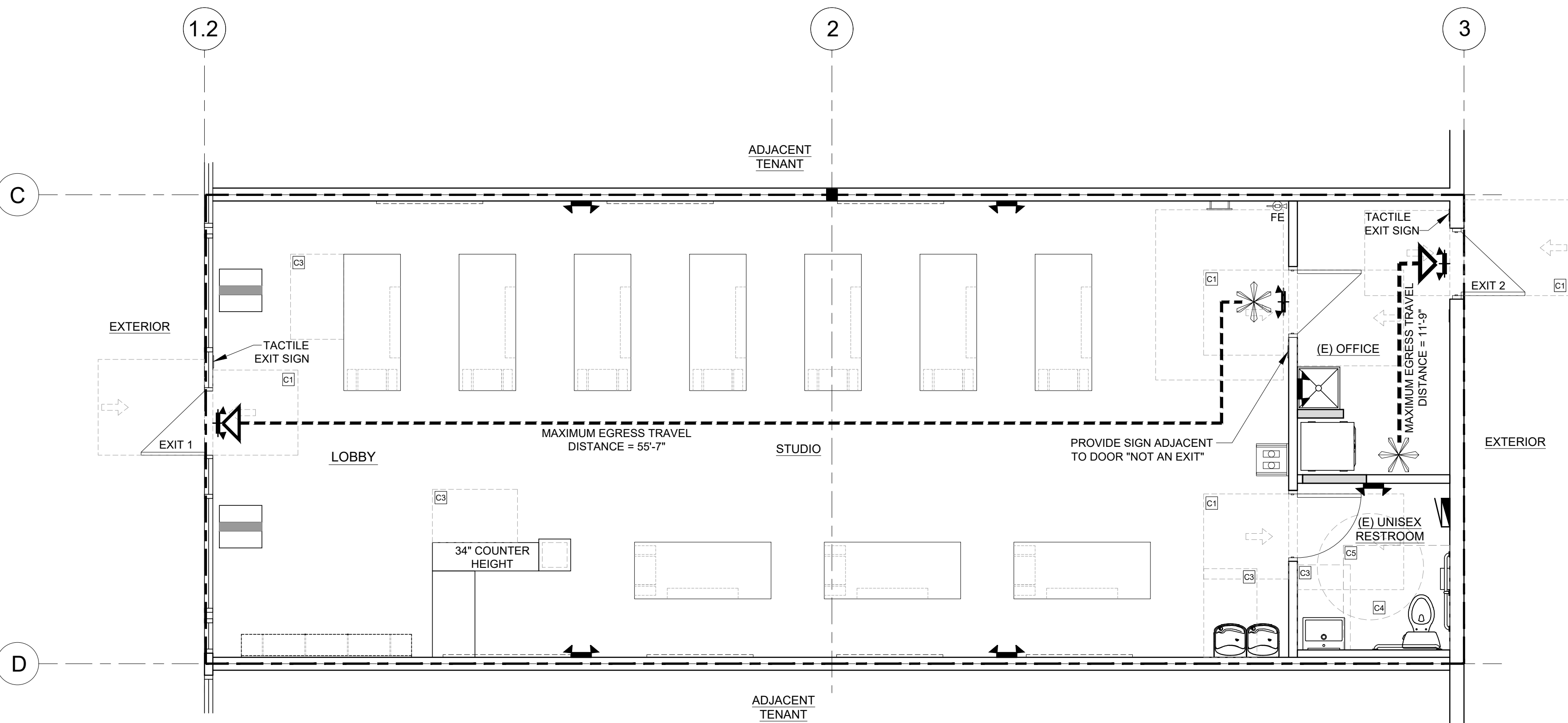


GENERAL NOTES - LIFE SAFETY PLAN

- FIRE & EXTINGUISHERS:**
 - CONTRACTOR TO PROVIDE A SUFFICIENT NUMBER OF 2A10BC RATED FIRE EXTINGUISHERS DURING CONSTRUCTION SO THAT ALL PORTIONS OF THE BUILDING ARE WITHIN 75 FT. TRAVEL DISTANCE OF SAID EXTINGUISHER & SO THAT AT LEAST ONE 2A10BC RATED FIRE EXTINGUISHER IS PROVIDED FOR EACH 3,000 SQ. FT. OF FLOOR SPACE OR
 - PROVIDE FIRE EXTINGUISHERS AS REQUIRED BY FIRE DEPARTMENT FIELD INSPECTOR DURING CONSTRUCTION & FOR COMPLETED PROJECT.
- EXIT DOORS**
 - ALL EXIT DOORS SHALL SWING IN THE DIRECTION OF TRAVEL.
 - ALL EXIT DOORS SHALL BE OPENABLE FROM THE INSIDE WITHOUT SPECIAL KNOWLEDGE OR EFFORT (NO BOLTS, NO SLIDING BOLTS, ETC.).
 - THE MAIN DOOR(S) SHALL BE PERMITTED TO BE EQUIPPED WITH A KEY OPERATED LOCKING DEVICE ON THE EGRESS SIDE OF THE DOOR(S) PROVIDED THAT: a) THE LOCKING DEVICE IS READILY DISTINGUISHABLE AS "LOCKED" b) THERE IS A SIGN DIRECTLY ABOVE OR ADJACENT TO THE DOOR THAT STATES "THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED" IN 1" (ONE INCH) HIGH LETTERS ON A CONTRASTING BACKGROUND
 - PROVIDE ILLUMINATED EXIT SIGNS ABOVE EXITS WITH MIN. 3/4"x6" LETTERS LIGHTED ON CONTRASTING BACKGROUND.
- EXIT SIGNS & SIGNAGE:**
 - EXIT SIGNS SHALL BE INTERNALLY OR EXTERNALLY ILLUMINATED
 - EXIT SIGNS ILLUMINATED BY AN EXTERNAL SOURCE SHALL HAVE AN INTENSITY OF NOT LESS THAN 5 FOOT CANDLES (54 LUX).
 - INTERNALLY ILLUMINATED SIGNS SHALL BE LISTED AND LABELED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND SECTION 2702.
 - EXIT SIGNS SHALL BE ILLUMINATED AT ALL TIMES. (1011.3)
 - EXIT SIGNS SHALL BE CONNECTED TO AN EMERGENCY POWER SYSTEM THAT WILL PROVIDE AN ILLUMINATION OF NOT LESS THAN 90 MIN. IN CASE OF PRIMARY POWER LOSS (1011.6.3).
 - ADDITIONAL EXIT SIGNS SHALL BE PROVIDED AS/IF DIRECTED BY THE CITY INSPECTOR.
 - EXIT SIGNAGE SHALL BE PROVIDED & MAINTAINED FOR CORRIDORS & AISLE WAYS LEADING TO EXITS IN ACCORDANCE WITH STATE CODE. SIGNAGE SHALL STATE: "OBSTRUCTIONS, INCLUDING STORAGE, SHALL NOT BE PLACED IN THE REQUIRED WIDTH OF AN EXIT OR EXIT PASSAGEWAY".
 - AN OCCUPANT LOAD SIGN SHALL BE POSTED IN EACH ASSEMBLY ROOM HAVING AN OCCUPANT CONTENT OF 50 OR MORE. SIGN IS TO BE POSTED NEAR ENTRANCE. COORDINATE LOCATION OF SUCH SIGN WITH FIRE MARSHALL SIGN TO BE PROVIDED AND INSTALLED BY OWNER VENDOR.)
- EGRESS & EGRESS EMERGENCY LIGHTING:**
 - THE MEANS OF EGRESS, INCLUDING THE EXIT DISCHARGE, SHALL BE ILLUMINATED AT ALL TIMES THE BUILDING SPACE SERVED BY THE MEANS OF EGRESS IS OCCUPIED.
 - THE MEANS OF EGRESS ILLUMINATION LEVEL SHALL NOT BE LESS THAN 1 FOOT-CANDLE AT THE WALKING SURFACE.
 - THE POWER SUPPLY FOR MEANS OF EGRESS ILLUMINATION SHALL NORMALLY BE PROVIDED BY THE PREMISES' ELECTRICAL SUPPLY IN THE EVENT OF SUPPLY; FAILURE AN EMERGENCY ELECTRICAL SYSTEM SHALL AUTOMATICALLY ILLUMINATE.
 - EMERGENCY & EXIT LIGHTING SHALL COMPLY WITH THE BUILDING CODE AS AMENDED BY THE CITY CONSTRUCTION ORDINANCE.
 - MAINTAIN A MIN. OF 44" WITHIN AISLES TO EXITS OR PUBLIC WAYS.
- FINISHES & DECORATIONS:**
 - INTERIOR WALL & CEILING FINISHES FOR ASSEMBLY AREAS SHALL NOT EXCEED AN END POINT FLAME SPREAD RATING OF 20.
 - ANY DECORATIONS SHALL BE NON-COMBUSTIBLE OR FLAME PROOFED IN AN APPROVED MANNER.
 - FINISHES SHALL NOT EXCEED CLASS A, B, OR C AS INDICATED IN THE BUILDING CODE.

LEGEND - LIFE SAFETY PLAN

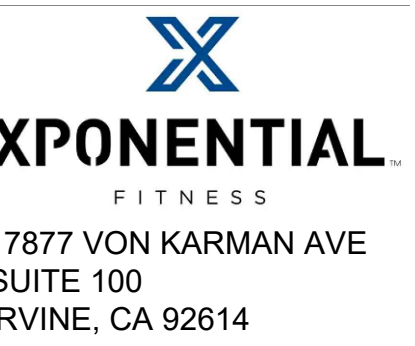
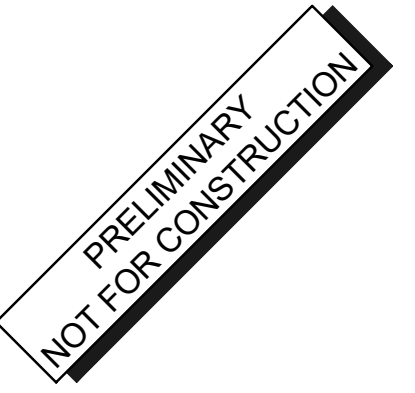
- ILLUMINATED EXIT LIGHT/SIGN WITH BATTERY BACKUP
- EMERGENCY SAFETY LIGHT WALL MOUNTED
- TRAVEL PATH & DISTANCE
- FIRE EXTINGUISHER - W/CABINET - 4A-60B-C



1 FLOOR & EQUIPMENT PLAN

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

NORTH



REVISIONS:

TITLE:
LIFE SAFETY PLAN

DATE:
11.01.2022

PROJECT NO.
22-254

SHEET NO.

G1.0

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PRELIMINARY
NOT FOR CONSTRUCTION

REVISIONS:

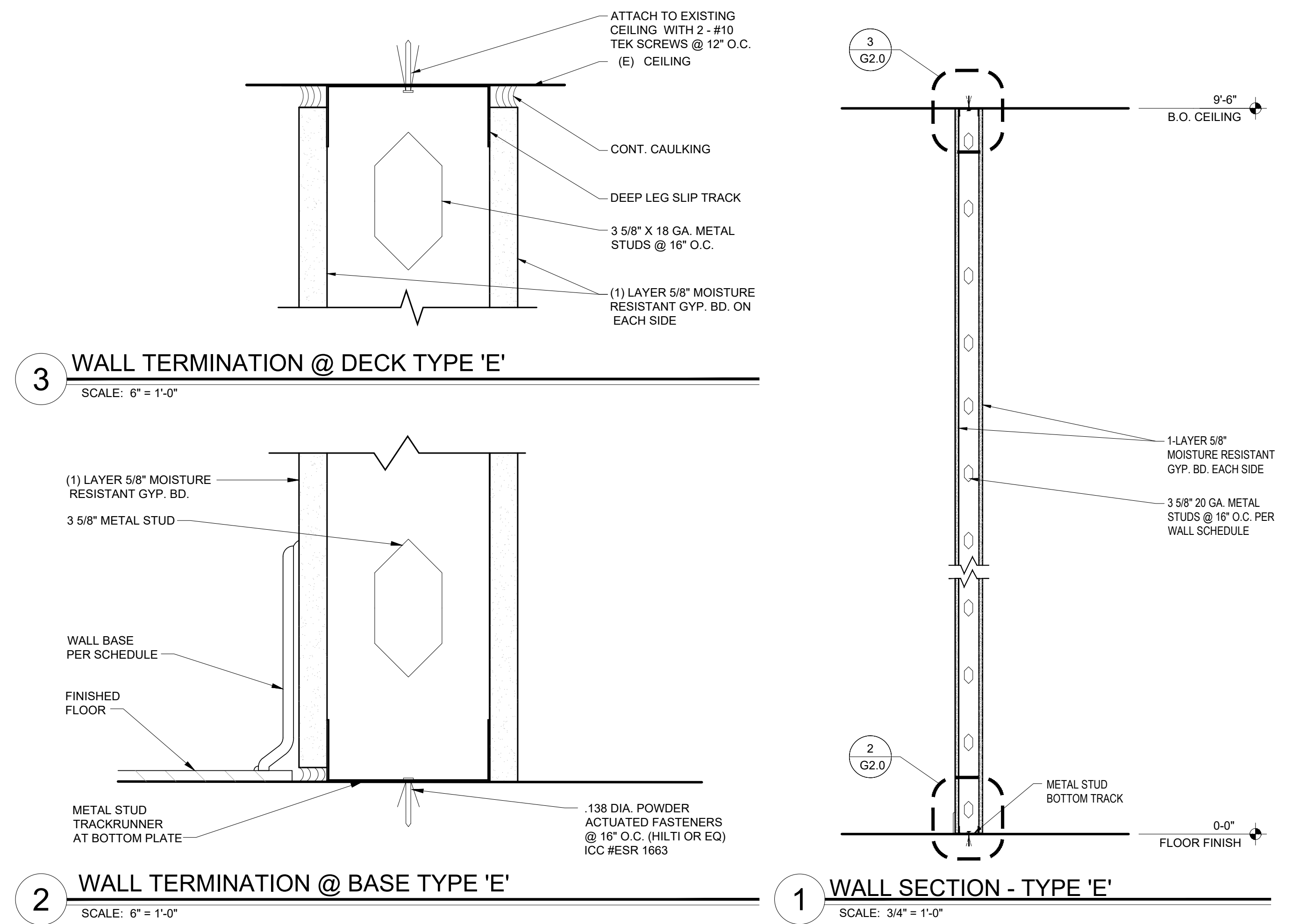
TITLE:
**WALL TYPES &
WALL
CONNECTIONS**

DATE:
11.01.2022

PROJECT NO.
22-254

SHEET NO.

G2.0



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DOOR SCHEDULE									
DOOR TAG	DOOR				FRAME		HARDWARE SET	COMMENTS	
	TYPE	WIDTH	HEIGHT	THICK.	MATERIAL	FRAME TYPE			
101	EXIST.	EXIST.	EXIST.	EXIST.	AL/GL	EXIST.	ALUM.	1	EXISTING, PROVIDE WEATHER STRIP, CLOSER AND ADA COMPLIANT THRESHOLD IF NOT EXISTING. 8
102	EXIST.	EXIST.	EXIST.	EXIST.	H.M.	EXIST.	EXIST.	1	1,2,5
103	B	3' - 0"	7' - 0"	0' - 1 3/4"	H.M.	F1	H.M.	2	1,2,3,4,6
104	EXIST.	EXIST.	EXIST.	EXIST.	H.M.	EXIST.	EXIST.	1	EXISTING, PROVIDE WEATHER STRIPING, CLOSER AND ADA COMPLIANT THRESHOLD IF NOT EXISTING. 8

GENERAL NOTES - DOOR & WINDOW (SATIN GRADE HOLLOW METAL)

FINISH NOTES:

- ALL NEW FRANCHISEE DOORS TO BE SOLID CORE WOOD DOORS TO MANUFACTURER'S DETAIL.
- PAINT ALL HOLLOW METAL DOOR FRAMES AND DOOR PT-1.

DOOR & HARDWARE NOTES:

- ALL KEYING TO BE PER LANDLORD AND FRANCHISEE'S REQUIREMENTS - EXTERIOR DOORS AND SUITE ENTRANCES ALSO KEYED LIKE BUILDING MASTER.
- EGRESS DOOR HARDWARE SHALL BE SINGLE - CYLINDER LEVER TYPE LOCKSET, ALLOWING EGRESS FROM FRANCHISEE SPACES AT ALL TIMES WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE.
- MANUALLY OPERATED OR SURFACE MOUNTED FLUSH BOLTS SHALL NOT BE INSTALLED ON EGRESS DOORS.
- ALL DOOR AND WINDOW GLAZING SHALL BE 1/4" MIN. CLEAR TEMPERED, UNLESS NOTED OTHERWISE.
- DOOR CLOSERS SHALL TAKE AT LEAST FIVE SECONDS TO MOVE TO A POINT 12 DEGREES FROM THE LATCH, MEASURED TO THE LEADING EDGE OF THE DOOR.
- ALL DOORS NOT LABELED ARE EXISTING AND ARE TO REMAIN AS IS.
- NEW DOORS SHALL BE LOCATED 4" FROM ADJACENT WALLS, UNLESS NOTED OTHERWISE, OR AS REQUIRED FOR HARDWARE INSTALLATION.
- DOOR HANDLES, PULLS, LATCHES AND OTHER OPERATING DEVICES SHALL BE AT A MINIMUM 34" TO A MAXIMUM 48" ABOVE THE FINISHED FLOOR. THE OPERATING DEVICES SHALL BE CAPABLE OF OPERATION WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST TO OPERATE.
- ALL MEANS OF EGRESS DOORS SHALL BE OF A SIDE SWINGING TYPE.
- ALL DOORS SHALL SWING IN THE DIRECTION OF EGRESS WHERE SERVING AN OCCUPANT LOAD OF 50 OR MORE PERSON OR WHERE SERVING A HIGH-HAZARD OCCUPANCY.
- OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS MAXIMUM.
- ALL EXTERIOR DOOR LANDINGS SHALL HAVE A MAX. SLOPE OF 2%.

GENERAL NOTES - HARDWARE SETS

SET #1 - ENTRY/EXITING DOOR:
EXISTING HARDWARE TO REMAIN,
RE-KEY AS REQUIRED.

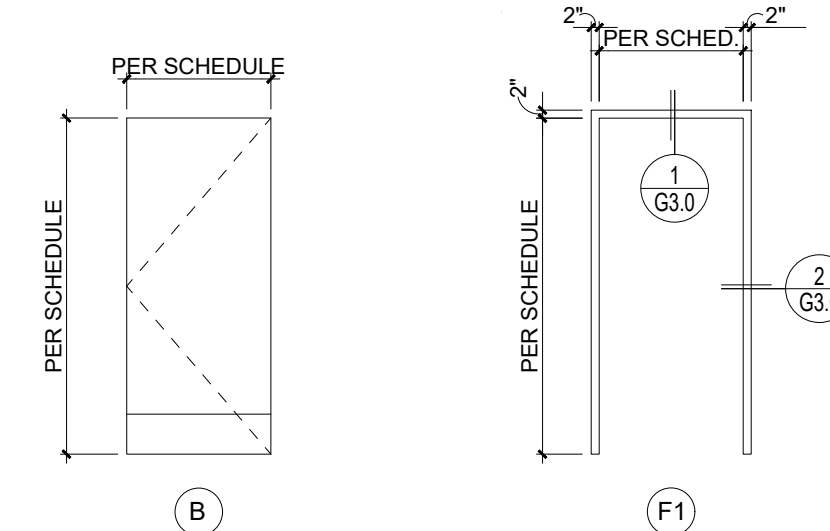
SET #2 - RESTROOM DOOR:

- 3 HINGES
- 1 PRIVACY LATCHSET
- 1 CLOSER
- 1 KICK PLATE
- 1 WALL BUMPER
- 3 DOOR SILENCERS

DOOR/HARDWARE MANUF.'S

NOTE: ACTUAL HARDWARE EMPLOYED MAY DIFFER FROM THAT SHOWN. MFG. AND MODEL NUMBERS ARE SHOWN TO ESTABLISH FUNCTION AND QUALITY. ALL HARDWARE MAY BE SUBSTITUTED BY EQUALS.

- SOLID CORE WOOD DOORS: COMMERCIAL WOOD DOORS
- HOLLOW METAL FRAMES: CECO
- CYLINDRICAL LOCKSETS: SCHLAGE AL SERIES W/ JUPITER
- LEVER, SARGENT 7 LINE WITH B LEVER AND L ROSE, HAGER 3500 SERIES WITH AUGUST LEVER
- MORTISE HINGES: 3 KNUCKLE 4-1/2" X 4-1/2" WITH ANTI-FRICTION ROLLERS. IVES 3CB1, MCKINNEY TA314, HAGER AB700
- SURFACE CLOSER: LCN 1460 SERIES, NORTON 8301 SERIES, HAGER 5400 SERIES
- FLOOR STOP: IVES FS436, ROCKWOOD 441, HAGER 241F
- DOOR SILENCERS: IVES SR64, ROCKWOOD 608-RKW, HAGER 3070
- PROTECTION PLATE: IVES 8400, ASSA ABLOY K1050, HANGER 1905
- * ALL HARDWARE SHALL BE SATIN CHROME US26D



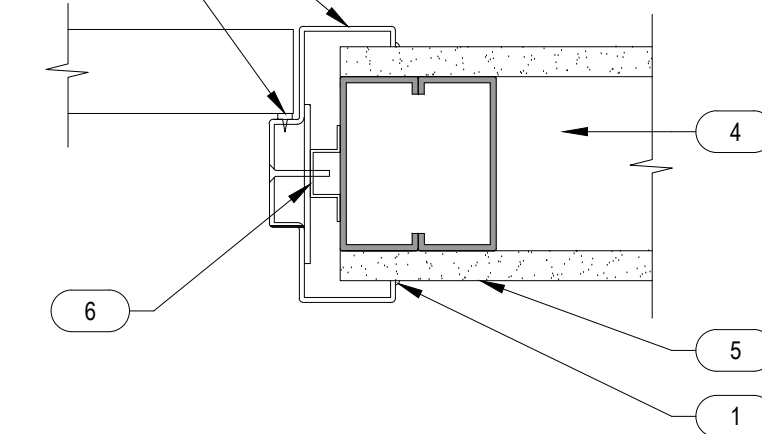
DOOR TYPE DOOR FRAME TYPES

DOOR/ HARDWARE COMMENTS

- DOOR HINGES PER OWNER'S STANDARD OR USE 3-1/2" SCREWS (ALL HARDWARE TO BE STAINLESS STEEL)
- DOOR CLOSER: PER OWNER'S STANDARD OR HEAVY DUTY - AMERICAN DEVICE SERIES 6301 OR LCN 4021.
- CLEAN, REPAIR AS NEEDED.
- KICK PLATE: FULL WIDTH OF DOOR AT 10" MIN. HEIGHT AT BASE.
- PROVIDE ACCESSIBLE IDENTIFICATION SYMBOLS.
- SIGNAGE: "MEN" / "WOMEN" / "UNISEX" ADJACENT TO RESTROOM DOOR.
- PROVIDE PANIC HARDWARE TO SECONDARY EXIT DOOR.
- EXTERIOR DOORS ARE SELF-CLOSING, AND RODENT PROOF.

KEY NOTES

- CAULK ALL RETURNS TO WALL, TYP.
- INSTALL DOOR SILENCER.
- HOLLOW METAL FRAME
- STUDS PER WALL TYPES
- GYP. BD. PER WALL TYPE
- MTL. ANCHOR

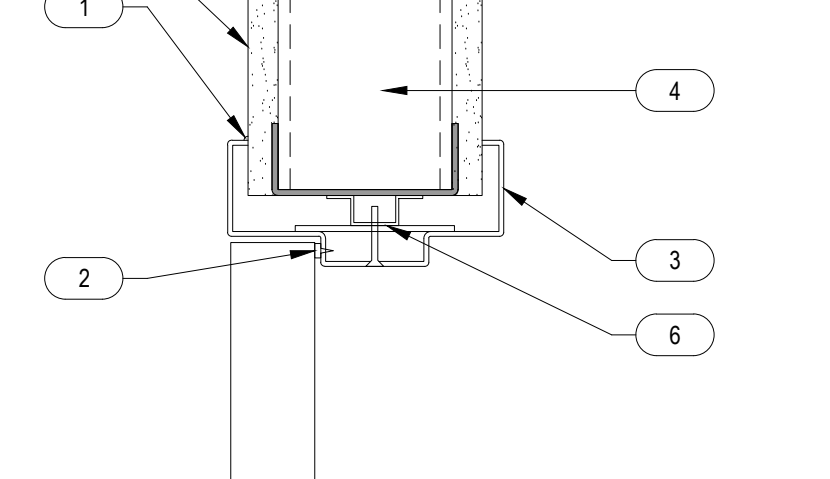


2 DOOR JAMB @ FRAMED WALL

SCALE: 3" = 1'-0"

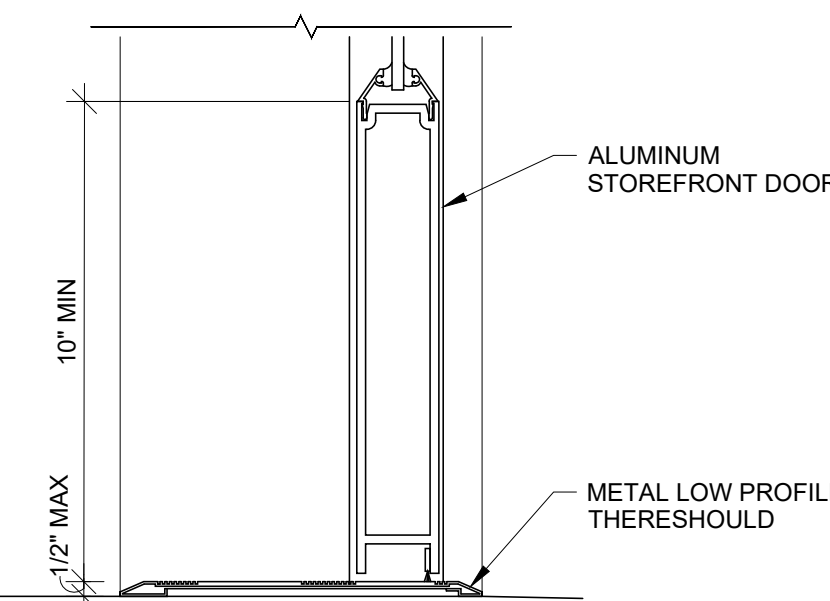
KEY NOTES

- CAULK ALL RETURNS TO WALL, TYP.
- INSTALL DOOR SILENCER.
- HOLLOW METAL FRAME
- STUDS PER WALL TYPES
- GYP. BD. PER WALL TYPE
- MTL. ANCHOR



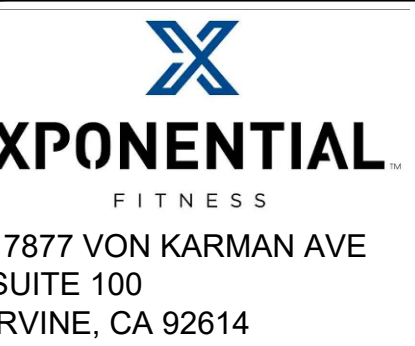
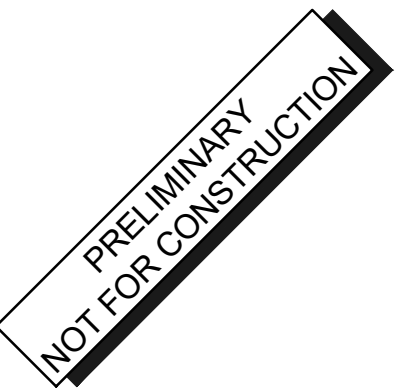
1 DOOR HEAD @ FRAMED WALL

SCALE: 3" = 1'-0"



3 DOOR THRESHOLD DETAIL

SCALE: 3" = 1'-0"



PROJECT ADDRESS:
1242 S. HOVER STREET
UNIT B200
LONGMONT, CO. 80501

REVISIONS:

TITLE:
DOOR
SCHEDULE,
DETAILS AND
HARDWARE

DATE:
11.01.2022
PROJECT NO.
22-254

SHEET NO.

G3.0

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0310 CONCRETE

- A. ALL CONCRETE CONSTRUCTION AND DETAILS SHALL CONFORM TO THE LATEST EDITION OF ACI 318.
- B. MINIMUM 28 DAY COMPRESSIVE STRENGTH (F'_c) SHALL BE AS FOLLOWS:
- SLABS ON GRADE -----3,000 PSI
- C. ALL CONCRETE IS TO BE MECHANICALLY VIBRATED WHEN PLACED, EXCEPT SLABS ON GARDE NEED BE VIBRATED ONLY AROUND UNDER-FLOOR DUCTS, PENETRATIONS, ETC. CONCRETE SHALL BE DEPOSITED AS NEAR AS POSSIBLE TO ITS FINAL POSITION AND BE USED TO MOVE CONCRETE INTO POSITION. ALL REINFORCING, EMBED PLATES, ANCHORS, SHALL BE IN PLACE AND PROPERLY SECURED PRIOR TO PLACING CONCRETE WET SLABbing IS NOT ALLOWED.
- D. ALL CONCRETE SLABS ON GRADE SHALL BE BOUND BY KEVED OR SAW CUT CONTROL JOINTS AS SHOWN ON THE FOUNDATION PLAN, SUCH THAT THE ENCLOSED AREA DOES NOT EXCEED 400 SQUARE FEET. UNLESS APPROVED OTHERWISE IN WRITING BY THE ARCHITECT. KEVED CONTROL JOINTS NEED OCCUR ONLY AT SLAB EDGES LEFT EXPOSED DURING PLACEMENT. ALL OTHER JOINTS MAY BE SAW CUT.
- C. NO FLY ASH ADDITIVES SHALL BE USED IN FLATWORK OR ARCHITECTURALLY EXPOSED CONCRETE.

0320 REINFORCING

- A. ALL REINFORCING SHALL COMPLY WITH REQUIREMENTS OF THE LATEST EDITION OF ACI 318, CRSI SPECIFICATIONS AND HANDBOOK, AND THE STEEL REINFORCING DETAILING MANUAL. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 (F_y=60KSI) DEFORMED BARS FOR ALL BARS UNLESS NOTED OTHERWISE. ALL GRADE 60 REINFORCING TO BE WELDED SHALL BE ASTM A706. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 WITH THE WIRE CONFORMING TO ASTM A82. REINFORCING BARS SHALL NOT BE TACK WELDED. REINFORCING BAR SPACING AS SHOWN ARE MAXIMUM ON CENTER SPACING.
- B. CLEAR CONCRETE COVERAGES SHALL BE AS FOLLOWS:
- CAST AGAINST AND PERMANETELY EXPOSED TO EARTH ----- 3"
 - EXPOSED TO EARTH OR WEATHER
 - #6 OR LARGER ----- 2"
 - #4 OR SMALLER ----- 1 1/2"
 - ALL OTHER PER LATEST EDITION OF ACI 318.
- C. ALL REINFORCING AND EMBEDDED ITEMS SUCH AS PLATES, BOLTS, ETC. SHALL BE IN PLACE AND PROPERLY SECURED PRIOR TO PLACING GROUT OR CONCRETE. IN NO CASE SHALL ITEMS BE "WET SET" OR STABBED INTO UNSET GROUT OR CONCRETE. REINFORCING SHALL BE SECURED IN PLACE SO AS TO AVOID MOVEMENT DURING PLACEMENT.

0720 -THERMAL INSULATION

- A. GENERAL: PROVIDE THERMAL INSULATION WITH ACCESSORIES AS REQUIRED FOR COMPLETE INSTALLATION.
- INSULATION INTEGRAL WITH ROOFING REPAIRS IS PROVIDED WITH ROOFING, AND ACOUSTICAL INSULATION IS PROVIDED WITH GYPSUM BOARD ASSEMBLIES.
 - THERMAL BATT INSULATION: OWENS CORNING/FS-25, USG/THERMIFIBER FS25, OR JOHNS MANVILLE/FSK-25 FOIL FACED VAPOR RETARDED FACED, VAPOR RETARDER TOWARD INSIDE.
 - THICKNESS/R-VALUE: AS INDICATED ON DRAWINGS.
 - ACCESSORIES: PROVIDE TAPE OR PENETRATION ANCHORS WHERE REQUIRED TO ENSURE PERMANENT INSTALLATION.
 - INSTALLATION: COMPLY WITH MANUFACTURER RECOMMENDATIONS.
- A. MATERIALS:
- ECOBATT INSULATION (KNAUF INSULATION) OR EQUAL UNFACED THERMAL ACOUSTICAL FIBERGLASS INSULATION COMPLYING WITH ASTM C665, TYPE 1 CLASS - A R-19 6-1/4" THICK.
 - MINERAL WOOL INSULATION BATTS (STUDIO SOUND WALLS) COMPLYING WITH ASTM 1338 6" THICK.
 - ACOUSTIC BLANKET INSULATION (SOUND ATTRACTION BATTS): UNFACED FIBER GLASS INSULATION COMPLYING WITH ASTM C665, TYPE 1 3-1/2" THICK.
- B. INSTALLATION:
- INSTALL INSULATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS INDICATED.
 - TRIM INSULATION NEATLY TO FIT SPACES. INSTALL WITHOUT GAPS OR VOIDS.
 - INSTALLATION OF THERMAL BATT INSULATION:
 - INSTALL INSULATION AS NOTED IN DRAWINGS

0790 -CAULKING & SEALANTS

- A. DESCRIPTION:
- WORK INCLUDED: SUPPLY AND INSTALL ALL CAULKING AND SEALANTS WORK AS SHOWN ON DRAWINGS AND SPECIFIED HEREIN. THIS SHALL INCLUDE, BUT NOT IS LIMITED TO, THE FOLLOWING:
 - ALUMINUM ENTRANCE SYSTEM & WINDOWS- SPECIFIED UNDER SECTION 0815 ALUMINUM ENTRANCE SYSTEM.
 - TOILET FIXTURES: CAULK BY PLUMBING CONTRACTOR, COLOR- WHITE.
 - WATER OR WASTE PENETRATIONS: CAULK BY PLUMBING CONTRACTOR, COLOR- WHITE.
 - COMPRESSION CUP MAY BE PROVIDED IN LIEU OF CAULK.
 - TILE CORNERS CAULK BY GENERAL CONTRACTOR, COLOR- TBD
 - TILE AT COOLER WALLS: CAULK BY GENERAL CONTRACTOR, COLOR-TBD
 - TILE AT CEILING GRID: CAULK BY GENERAL CONTRACTOR, COLOR- TBD
 - VANITY TOPS & WAITRESS STATION: CAULK BY GENERAL CONTRACTOR, COLOR- CLEAR.
 - PAPER TOWEL DISPENSER: CAULK BY GENERAL CONTRACTOR, COLOR- CLEAR.
 - HOLLOW METAL DOORS: CAULK BY GENERAL CONTRACTOR, COLOR- CLEAR.
 - HOOD WALLS: CAULK BY GENERAL CONTRACTOR, COLOR- TBD
 - PASS THRU: CAULK BY GENERAL CONTRACTOR, COLOR- TBD
 - INTERIOR SEALANTS: SEALANT BY GENERAL CONTRACTOR, COLOR - TBD.
- B. MATERIALS
- GENERAL INTERIOR CAULK: ONE PART ACRYLIC LATEX CAULK. 90% SOLIDS MINIMUM. USE AS RECOMMENDED BY MANUFACTURER (AS GENERAL PURPOSE INTERIOR SEALANT), ACCEPTABLE MANUFACTURER: DOW CORNING.
 - JOINT BACKING: COMPRESSIBLE ROD OF MATERIAL AS RECOMMENDED BY SEALANT MANUFACTURER FOR JOINT TYPES AND WIDTHS INDICATED ON CONSTRUCTION DRAWINGS.
 - JOINT CLEANER, SEALERS, AND PRIMER SHALL BE USED AS RECOMMENDED BY MANUFACTURER.
- C. INSTALLATION
- JOINT BACKING MATERIAL SHALL BE A WIDTH GREATER THAN THE JOINT, AS RECOMMENDED BY THE MANUFACTURER, TO GUARANTEE A TIGHT FIT WHEN FORCED INTO PLACE.
 - APPLY MATERIALS IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS: OBSERVE MANUFACTURER'S REQUIREMENTS REGARDING TEMPERATURE CONTROL, USABILITY OF MATERIALS, AND PROTECTION OF ADJACENT SURFACES.
 - MAKING SEALING SURFACE SLIGHTLY CONCAVE FREE OF WRINKLES AND SKIPS: UNIFORMLY SMOOTH AND WITH PERFECT ADHESION ALONG BOTH SIDES OF JOINT. PROTECT ADJACENT SURFACES FROM EXCESS MATERIALS LEAVE JOINTS IN A CLEAN NEAT CONDITION. DEFECTIVE JOINTS SHALL BE REMOVED, CLEANED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.SET THRESHOLDS IN FULL BED OF CAULKING AND ANCHOR WITH EXPANSION ANCHORS.

0810 HOLLOW METAL DOORS & FRAMES

- A. DESCRIPTION
- REFER TO DOOR SCHEDULE FOR LOCATIONS AND TYPES OF DOORS REQUIRED.
- B. PRODUCTS
- HOLLOW METAL FRAMES- GENERAL
- COLD ROLLED 18 GAUGE LABELED FRAMES WHERE REQUIRED.
 - FRAMES SHALL RECEIVE TWO COATS OF RUST INHIBITIVE PRIMER. PROVIDE THREE (3) RUBBER BUMPERS AT EACH DOOR.
 - ALL FRAMES TO BE WELDED HOLLOW METAL.
 - APPROVED MANUFACTURERS: STEELCRAFT, CECO, TRUSSBILT, AMWELD, AND FENESTRA
- 1.2 HOLLOW METAL FRAMES - WELDED (INTERIOR & EXTERIOR)
- SAW MITER AND CONTINUOUSLY WELD CORNER JOINTS FOR FULL JAMB DEPTH AND WIDTH OF FRAME AND TRIM. CONTACT EDGES SHALL BE CLOSED TIGHT WELDS ON EXPOSED SURFACES DRESSED SMOOTH AND FLUSH. PRIME COAT PAINT.
 - PROVIDE CHAMBER AT HINGE CUTOUTS TO ALLOW ATTACHMENT OF HINGES AFTER FRAME IS FILLED WITH GROUT.
- 1.3 HOLLOW METAL DOORS
- DOORS SHALL BE FLUSH DESIGN, OF SIZE INDICATED ON DOOR SCHEDULE.
 - CORE SHALL CONSIST OF STRUCTURAL HONEYCOMB OR SOLID POLYSTYRENE CORE BANDED TO BOTH FACES.
 - APPROVED MANUFACTURERS: STEELCRAFT, CECO, TRUSSBILT, AMWELD, AND FENESTRA
- C. INSTALLATION
- FRAMES, WHICH ARE SCHEDULED FOR LABEL CONSTRUCTION, SHALL BE INSTALLED USING UL-APPROVED ANCHORING. FRAMES SHALL BE PROPERLY PREPARED TO RECEIVE UL-APPROVED HARDWARE AND SHALL HAVE PROPER LABEL ATTACHED AT THE FACTORY.
 - ALL FRAMES SHALL BE COMPLETED WITH JAMB ANCHORS FOR ATTACHING TO MASONRY WALLS, OR OTHER ANCHORS, AS REQUIRED BY THE PARTICULAR INSTALLATION.
 - AT THE TIME OF INSTALLATION, THE DOOR JAMBS SHOULD BE HELD 1/4" OFF THE EXISTING CONCRETE FLOOR. BEFORE FLOOR TILE IS INSTALLED.
 - INSTALL ALL HOLLOW METAL DOORS AND FRAMES ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
 - FILL ALL WELDED FRAMES WITH MORTAR.

0870 FINISH HARDWARE

- A. DESCRIPTION
- INSTALL ALL FINISH HARDWARE ON DOORS INDICATED ON DOOR SCHEDULE.
 - COORDINATION: HARDWARE TEMPLATES AND SCHEDULES SHALL BE SENT TO HOLLOW METAL MILL/WORK WOOD DOOR SUPPLIER TO COORDINATE THE NECESSARY PREPARATION.
- B. PRODUCTS
- HARDWARE TO MEET REQUIREMENTS LISTED IN THE DOOR SCHEDULE UNLESS OTHERWISE NOTED.
 - ALL ALUMINUM ENTRANCE SYSTEM HARDWARE ROLLING GRILLES & OVERHEAD FIRE DOORS & SHUTTER HARDWARE IS BY MANUFACTURER.
- C. INSTALLATION
- MOUNT ALL HARDWARE UNITS AT HEIGHTS RECOMMENDED IN "RECOMMEND LOCATIONS FOR BUILDERS HARDWARE" BY NBHA, EXCEPT AS OTHERWISE SPECIFICALLY INDICATED OR REQUIRED TO COMPLY WITH GOVERNING HEDICAPPED REGULATIONS. THESE SHALL BE AS FOLLOWS:
 - LOCK SETS AND LATCH SETS- 40"
 - EXIT DEVICE CROSSBAR- 37"
 - CENTER OF DOOR PULL- 42"
 - CENTER OF PUSH PLATE- 48"
 - DEADLOCK- 60"
 - INSTALL HARDWARE ITEMS COMPLYING WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. REMOVE HARDWARE FROM SURFACES TO BE FINISHED AFTER INSTALLATION AND STORE UNTIL SURFACE FINISH IS APPLIED, THEN REINSTALL.
 - ADJUST EACH OPERATING ITEM OF HARDWARE TO INSURE PROPER OPERATION OF FUNCTION OF UNIT.
 - LUBRICATE MOVING PARTS AS RECOMMENDED BY MANUFACTURER.
 - INSTALL ALL WEATHER-STRIPPING IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS. FIT WEATHER-STRIPPING TIGHTLY AT CORNERS TO MAINTAIN CONTINUITY AROUND PERIPHERY OF DOOR.
 - CLEAN HARDWARE AS RECOMMENDED BY MANUFACTURER.

0880 GLASS & GLAZING

- A. DESCRIPTION
- FURNISH AND INSTALL ALL GLASS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN.
- B. MATERIALS
- GLAZING COMPOUND:
 - (TT-P-781), TYPE 1 OR TYPE 2 MINIMUM AND ACCESSORIES SUCH AS POINTS, SETTING BLOCKS, SHIMS, STOP BEADS, ANGLES, WIRING SPRING CLIPS SHALL BE THE TYPE RECOMMENDED BY THE GLASS MANUFACTURER.
- C. TYPES:
- 5/8" TEMPERED INSULATING GLASS IN EXTERIOR ALUMINUM DOORS. COLOR TO BE SELECTED BY TENANT.
 - 1" TEMPERED INSULATING GLASS @ EXTERIOR LOCATIONS. COLOR TO BE SELECTED BY TENANT.
 - 1/4" TEMPERED GLASS @ INTERIOR LOCATIONS. COLOR TO BE SELECTED BY TENANT.
- D. INSTALLATION
- PERFORM ALL GLAZING WORK IN ACCORDANCE WITH THE MINIMUM STANDARDS OF THE FLAT GLASS JOBBERS ASSOCIATION (FGJA) GLAZING MANUAL.
 - ALL GLASS FACTORY LABELED ON EACH PANE. DIMENSIONS SHOWN ON DRAWINGS ARE GIVEN ONLY AS A GUIDE FOR ESTIMATING PURPOSES, AND ACTUAL SIZE SHALL BE DETERMINED BY MEASUREMENT OF THE ACTUAL OPENINGS. GLASS SHALL BE ACCURATELY CUT TO FIT THESE OPENINGS.
 - INSPECT WINDOWS AND OTHER FRAMES TO DETERMINE THAT THE FRAMES, SASH AND STOPS ARE SET TRUE AND STRAIGHT. SASH RABBETS AND STOPS SHALL BE CLEAN AND DRY AT THE TIME OF GLAZING. BEFORE GLAZING METAL SASH REMOVE ANY OIL, LACQUER, OR OTHER MATERIAL TO WHICH THE COMPOUND WILL NOT READILY ADHERE OR WHICH WILL TEND TO DELAMINATE FROM THE METAL AND CAUSE A LEAK THROUGH THE GLAZING SEAL.

0925 GYPSUM DRYWALL

- A. DESCRIPTION
- PROVIDE ALL LABOR AND MATERIALS NECESSARY TO COMPLETE THE INSTALLATION OF THE GYPSUM WALLBOARD AND METAL STUD FRAMING SYSTEM INDICATED.
 - COMPLY WITH ALL APPLICABLE REQUIREMENTS OF "AMERICAN STANDARDS SPECIFICATION FOR THE APPLICATION AND FINISHING OF GYPSUM WALLBOARD" BY THE AMERICAN STANDARDS ASSOCIATION, EXCEPT WHERE MORE STRINGENT REQUIREMENTS ARE CALLED FOR HEREIN, IN LOCAL CODES, OR BY MANUFACTURER OF WALLBOARD.
 - MAINTAIN TEMPERATURE OF DRYWALL SPACE IN RANGE OF 55 DEGREES TO 90 DEGREES F. UNTIL BUILDING IS ENTIRELY CLOSED AND VENTILATED, AS REQUIRED TO ELIMINATE EXCESSIVE MOISTURE BUILD UP IN THE BUILDING.
- B. PRODUCTS
- METAL FRAMING SYSTEM
 - RUNNER: MINIMUM 20 GAUGE EXTERIOR WALL GALVANIZED STEEL WITH LEGS NOT LESS THAN ONE INCH HIGH, SLIGHTLY BENT IN TO HOLD THE STUDS BY FRICTION.
 - STUDS: 20 GAUGE 6", 3-5/8", 2-1/2", AND 1-1/2" PUNCHED, SCREW-TYPE, MINIMUM ASTM C645, HOT DIPPED STEEL OR ELECTRO-GALVANIZED STEEL WITH FLANGES NOT LESS THAN 1-1/4" SIDE. STUD DEPTH SHALL BE AS REQUIRED FOR WALL-FINISHED THICKNESS ON DRAWINGS.
 - FURRING CHANNELS: ASTM C 645, 22 GAUGE, HAT SHAPED.
 - MANUFACTURERS: CELOTEX, FLINTKOTE, JOHNS-MANVILLE, KAISER, NATIONAL GYPSUM, US GYPSUM, WHELLING CORRUGATING CO.

1.1 GYPSUM WALLBOARD

- GYPSUM WALLBOARD: USE 5/8" TYPE X THROUGHOUT, UNLESS OTHERWISE INDICATED.
 - MOISTURE RESISTANT WALLBOARD: USE 5/8" ON ALL WET WALLS IN RESTROOMS, UTILITY, AND KITCHEN.
 - HARDWARE AND ACCESSORIES REQUIRED FOR COMPLETE INSTALLATION TO BE PROVIDED BY THE CONTRACTOR INCLUDING THE FOLLOWING:
 - CORNER BEAD, 1" TYPE METAL TRIM AT EXPOSED DRYWALL EDGES AND WHERE DRYWALL ABUTS DISSIMILAR CONSTRUCTION.
 - RESILIENT CHANNELS AND FURRING CHANNELS AS REQUIRED.
 - JOINT FINISHING MATERIALS TO BE MANUFACTURER'S BEST-RECOMMENDED MATERIALS FOR A THREE COMPOUND TREATMENT.
 - APPROVED DRYWALL MANUFACTURERS: CELOTEX, FLINTKOTE, GEORGIA-PACIFIC, JOHNS-MANVILLE, KAISER GYPSUM, NATIONAL GYPSUM, US GYPSUM.
- C. INSTALLATION
- FRAMING: ANCHORAGE RUNNER SHALL BE ALIGNED ACCURATELY AT FLOOR AND CEILING AND SECURELY ANCHORED APPROXIMATELY TWO (2) INCHES FROM THE RUNNER ENDS. FLOOR RUNNER AND CEILING RUNNER SHALL BE SECURED MAXIMUM 24" O.C.
 - TAPING & FINISHING
 - MIX JOINT AND FINISHING COMPOUND PER MANUFACTURER'S DIRECTIONS.
 - CENTER TAPE OVER JOINT AND EMBED IN UNIFORM LAYER OF JOINT COMPOUND OF SUFFICIENT WIDTH AND DEPTH TO PROVIDE FIRM AND COMPLETE BOND. APPLY SKIN COAT OVER EMBEDDED TAPE.
 - TREAT ANGLES WITH REINFORCING TAPE FOLDED TO CONFORM TO ADJACENT SURFACES AND STRAIGHT TRUE ANGLES.
 - ALLOW COMPOUND TO THOROUGHLY DRY FOR AT LEAST 24 HOURS. OVER JOINT COMPOUND AND TAPE, APPLY COAT OF FINISHING COMPOUND. SPREAD EVENLY AND FEATHER OUT BEYOND EDGE OF BOARD. AFTER FIRST FINISHING COAT IS THOROUGHLY DRY (AT LEAST 24 HOURS), COVER WITH SECOND COAT, WITH EDGES FEATHERED OUT SLIGHTLY BEYOND PRECEDING COAT.
 - GIVE ALL DIMPLES AT FASTENER HEADS, AND ALL MARRED SPOTS ON SURFACE OF BOARD, ONE COAT JOINT COMPOUND AND TWO COATS FINISHING COMPOUND APPLIED, AS EACH COAT IS APPLIED TO JOINTS.
 - INSTALL METAL CORNER REINFORCEMENT AT ALL EXTERNAL CORNERS, EXCEPT ENDS OF HOOD WALL. CONCEAL FLANGES OR METAL REINFORCEMENT WITH AT LEAST TWO COATS OF COMPOUND. WHEN COMPLETED COMPOUND SHALL EXTEND APPROXIMATELY 8 INCHES TO 10 INCHES ON EACH SIDE OF METAL NOSING.
 - AFTER EACH APPLICATION OF JOINT OR FINISHING COMPOUND HAS DRIED, LIGHTLY SAND ALL JOINTS. LEAVE ALL BOARD AND TREATED AREAS UNIFORMLY SMOOTH AND READY FOR TEXTURING. DO NOT ROUGH PAPER.
- 0950 ACOUSTICAL TREATMENT
- A. GENERAL: PROVIDE ACOUSTICAL CEILINGS INCLUDING SUSPENSION SYSTEM, TRIM AND ACCESSORIES AS REQUIRED FOR COMPLETE FINISHED INSTALLATION.
- B. STANDARDS: CONFORM TO ASTM C635 FOR METAL SUSPENSION SYSTEM AND ASTM C636 FOR INSTALLATION OF ACOUSTICAL CEILINGS.
- C. PERFORMANCE REQUIREMENTS: PROVIDE PRODUCTS LISTED BY UNDERWRITERS LABORATORIES (UL)
- FLAME SPREAD: MODE DENSITY. PROVIDE PRODUCTS MEETING CODE REQUIREMENTS FOR MAXIMUM 25 FLAME SPREAD AND SMOKE DEVELOPED INDEX 50 OR LESS.
 - SEISMIC REQUIREMENTS: COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS FOR SEISMIC BRACING OF CEILING SUSPENSION SYSTEM, AND WITH ASTM E980.
 - PROJECT CONDITION: DO NOT INSTALL CEILING UNTIL BUILDING IS ENCLOSED, SUFFICIENT HEAT IS PROVIDED DUST GENERATING ACTIVITIES HAVE TERMINATED AND, OVERHEAD MECHANICAL WORK IS COMPLETED, TESTED AND APPROVED. ALLOW WET WORK TO DRY PRIOR TO INSTALLATION.
 - ACOUSTICAL UNITS: TYPES AND MANUFACTURERS AS INDICTED ON DRAWINGS.
 - SUSPENSION SYSTEM: AS INDICTED ON DRAWINGS.
 - PREPARATION: MEASURE CEILING AREA AND ESTABLISH LAYOUT OF ACOUSTICAL UNITS TO BALANCE PROPER WIDTHS AT OPPOSITE EDGES OF EACH CEILING; DO NOT USE LESS THAN HALF WIDTH UNITS AT BORDERS.
 - COORDINATE WITH OTHER WORK SUPPORTED BY OR PENETRATING THROUGH CEILINGS INCLUDING LIGHT FIXTURES, HVAC EQUIPMENT AND PARTITIONS SYSTEMS.
 - INSTALLATION: COMPLY WITH MANUFACTURER RECOMMENDATIONS, ASTM C636, AND APPLICABLE REQUIREMENTS FOR FIRE RATINGS.
 - FINISHED CEILINGS: TRUE TO LINES AND LEVELS AND FREE FROM WARPED, SOILED OR DAMAGED GRID OR COUSITAL UNITS.
 - INSTALL CEILING SYSTEMS IN A MANNER CAPABLE OF SUPPORTING ERMPOSED LOADS, WITH MAXIMUM PERMISSIBLE DEFLECTION OF 1/8" IN 10'-0".
 - ENSURE SUSPENSION SYSTEM IS LOCATED TO ACCOMMODATE FITTINGS AND UNITS OF EQUIPMENT WHICH IS TO BE PLACED AFTER INSTALLATION OF CEILING GRID.
 - WHERE DUCTS OR OTHER EQUIPMENT PREVENT REGULAR SPACING OF HANGERS, REINFORCE NEAREST ADJACENT HANGERS AND RELATED CARRYING CHANNELS AS REQUIRED TO SPAN REQUIRED DISTANCE.
 - INSTALL EDGE MOLDINGS AT INTERSECTION OF CEILING AND VERTICAL SURFACES, USING MAXIMUM LENGTHS, STRAIGHT, TRUE TO LINE, AND LEVEL; MITER CORNERS.
 - FIT ACOUSTICAL UNITS IN PLACE, FREE FROM DAMAGED EDGES OR DEFLECTS DETRIMENTAL TO APPEARANCE AND FUNCTION. LAY DIRECTIONALLY PATTERNED UNITS ONE WAY WITH PATTERN AS DIRECTED. FIT BORDER UNITS EATLY AGAINST ABUTTING SURFACES.
 - INSTALL UNITS LEVEL, IN UNIFORM PLANE AND FREE FROM TWIST, WARP AND DENTS.
 - INSTALL HOLD-DOWN CLIPS WHERE REQUIRED BY APPLICABLE CODES AND WHERE CEILING IS WITHIN 20'-0" OF AN EXTERIOR DOOR.
 - ADJUSTMENT: ADJUST SAGS OR TWISTS WHICH DEVELOP IN CEILING SYSTEM AND CEILING IS WITHIN 20'-0" OR AN EXTERIOR DOOR.

0990 PAINTING

- A. DESCRIPTION
- THE CONTRACTOR SHALL DO ALL INTERIOR AND EXTERIOR PAINTING INDICATED ON THE DRAWINGS, INCLUDING WOOD, MASONRY, GYPSUM BOARD FERROUS METALS, PRIME COATED METAL SURFACES, REGISTERS, AND GRILLES.
 - EXAMINE ALL SUBSURFACES TO RECEIVE WORK AND REPORT TO THE GENERAL CONTRACTOR WITH A COPY TO THE TENANT, ALL CONDITIONS DETRIMENTAL TO WORK. COMMENCEMENT OF WORK WILL BE CONSTRUED AS ACCEPTANCE OF ALL SUBSURFACES.
 - DELIVER MATERIALS AND EQUIPMENT IN ONE PLACE WHERE DIRECTED BY THE GENERAL CONTRACTOR'S FOREMAN. PROTECT FLOORS AND WALLS OF STORAGE ROOM. REMOVE OILY RAGS, WASTE ETC. FROM BUILDING EVERY NIGHT AND UNDER NO CIRCUMSTANCES ALLOW THEM TO ACCUMULATE.
- B. PRODUCTS
- ALL MATERIALS SHALL BE OF THE BEST GRADE; REFER TO FINISHES.
- C. INSTALLATION
- THE CONTRACTOR SHALL EXAMINE ALL SURFACES TO BE FINISHED AND MAKE CERTAIN THAT THINGS CAN BE PUT IN PROPER CONDITION FOR FINISHING BY CUSTOMARY CLEANING, SANDING OR PUTTYING. THE CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR PRODUCING A SATISFACTORY JOB WITH THE MATERIALS SPECIFIED.
 - COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE VERY BEST. ALL MATERIALS EVENLY SPREAD AND SMOOTHLY FLOWED ON, GIVING A UNIFORM SHEEN AND COLOR WITHOUT RUNS AND SAGS. TRANSPARENT FINISHES SHALL HAVE ALL COATS BRUSHED OUT SMOOTH. SPRAYING IS ACCEPTABLE FOR PRIME COATS ONLY. ONLY SKILLED PAINTERS SHALL BE EMPLOYED AND ALL MATERIALS SHALL BE APPLIED IN STRICT ACCORDANCE WITH MANUFACTURER'S DIRECTIONS, EXCEPT AS OTHERWISE SPECIFIED, ONLY ONE MANUFACTURER'S MATERIALS SHALL BE USED IN EACH OF THE FINISHES SPECIFIED.
 - ALL SURFACES TO BE PAINTED OR ENAMELED SHALL BE CLEANED FREE OF LOOSE DIRT AND DUST BEFORE PAINTING IS STARTED. ALL KNOTS, PITCH STREAKS, AND SAPPY SPOTS SHALL FIRST BE TOUCHED UP WITH SHELLAC WHERE FINISH CALLS FOR PAINT OR ENAMEL.
 - ALL NECESSARY PUTTYING OF NAIL HOLES, CRACKS ETC SHALL BE DONE AFTER THE FIRST COAT, WITH PUTTY OF A COLOR TO MATCH THAT OF THE FINISH.
 - ALL UNDERCOATS OF PAINT AND ENAMEL SHALL BE TINTED TO THE APPROXIMATE SHADE OF THE FINAL COAT. ALL SUCTION SPOTS OR HOT SPOTS IN CEMENT, AFTER THE APPLICATION OF THE FIRST COAT, SHALL BE TOUCHED UP BEFORE APPLYING THE SECOND COAT. CONTRACTOR SHALL SECURE COLOR SCHEDULE FOR ROOMS BEFORE PRIMING WALLS.
 - TOPS AND BOTTOMS OF ALL DOORS SHALL BE FINISHED SAME AS BALANCE OF DOOR.
 - ALL PAINTING SHALL BE DONE TO CONFORM TO LOCAL HEALTH DEPARTMENT REGULATIONS.

- PAINTING SCHEDULE: THE FOLLOWING SPECIFICATIONS FOR FINISHING IS NOT INTENDED TO MENTION EVERY PARTICULAR ITEM WHICH WILL RECEIVE PAINTER'S FINISH, BUT IS INTENDED TO ESTABLISH TYPE AND QUALITY OF FINISH WHICH WILL BE REQUIRED ON VARIOUS MATERIALS. INTERIOR AND EXTERIOR FERROUS METAL (INCLUDING ELECTRICAL PANELS AT UTILITY AREA): FIRST COAT- RUST INHIBITED PRIMER. SECOND COAT- ENAMEL UNDERCOAT. THIRD COAT- ALKYD SATIN FINISH ENAMEL. WOOD:FIRST COAT- POLYURETHANE VARNISH, SATIN FINISH, SANDED. SECOND COAT- POLYURETHANE VARNISH, SATIN FINISH, SANDED. THIRD COAT- POLYURETHANE VARNISH, SATIN FINISH, SANDED. RECESSED LIGHT TRIMS: DIFFUSERS AND SPEAKER GRILLES 2 COATS. COLOR SCHEDULE: REFER TO FINISH SCHEDULE. ANY QUESTIONS OR UNCLAR COLOR SPECIFICATIONS SHOULD BE DIRECTED TO THE TENANT OR ITS REPRESENTATIVE.
-

0998 FIBERGLASS REINFORCED PLASTIC PANELS (FRP)

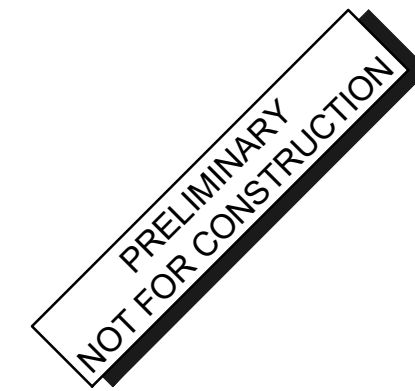
- A. DESCRIPTION
- SUBMITTALS
 - SAMPLES: TWO 8" X 10" SAMPLES OF EACH PANEL, ONE 10" PIECE OF EACH TYPE OF TRIM AND MOLDING. SAMPLE FASTENERS.
 - DETAILED INSTALLATION GUIDE FORM #855.
 - PRODUCTS
 - FRP PANELS: GLASBOR- P AS MANUFACTURED BY KEMLITE INDUSTRIES, INC. COLOR- WHITE.
 - CLEAN WALL SURFACE OF ALL FOREIGN MATERIAL AND PREPARE SURFACE AS REQUIRED BY FRP MANUFACTURER.
 - INSTALLATION
 - INSTALL PANELS IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDE.
 - APPLY ADHESIVE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INSTALL SEAMS PLUMB AND NOT LESS THAN 6" FROM CORNERS. HORIZONTAL SEAMS NOT PERMITTED.
 - REMOVE EXCESS ADHESIVE PROMPTLY; REPLACE PANELS, WHICH CANNOT BE COMPLETELY CLEANED.

10280 WASHROOM ACCESSORIES

- PART 1 GENERAL
- SECTION INCLUDES
 - WASHROOM ACCESSORIES AS SCHEDULED IN THIS SECTION AND AS INDICATED ON THE DRAWINGS.
 - QUALITY ASSURANCE
 - SINGLE SOURCE REQUIREMENTS: TO THE GREATEST EXTENT POSSIBLE PROVIDE PRODUCTS FROM A SINGLE MANUFACTURER.
 - ACCESSIBILITY REQUIREMENTS: COMPLY WITH REQUIREMENTS APPLICABLE IN THE JURISDICTION OF THE PROJECT INCLUDING BUT NOT LIMITED TO ADA AND ICC/ANSI A117.1 REQUIREMENTS AS APPLICABLE.
 - WARRANTY
 - MANUFACTURER'S WARRANTY FOR WASHROOM ACCESSORIES: MANUFACTURER'S STANDARD 1 YEAR WARRANTY FOR MATERIAL AND WORKMANSHIP.
- PART 2 PRODUCTS
- MANUFACTURER
 - VERIFY IF DESIGN PRODUCTS: BASED ON THE QUALITY AND PERFORMANCE REQUIREMENTS OF THE PROJECT. SPECIFICATIONS ARE BASED SOLELY ON THE JURISDICTION OF BOBRICK WASHROOM EQUIPMENT, INC., WWW.BOBRIK.COM. LOCATION OF MANUFACTURING SHALL BE THE UNITED STATES.
 - TOILET ACCESSORY SCHEDULE
 - SINGLE USER WASHROOM: STANDARD DUTY:
 - TA-1: B-5806 SERIES CONCEALED MOUNTING GRAB BAR - 1-1/4 INCH DIAMETER.
 - TA-5: B-2111 CLASSICSERIES WALL-MOUNTED SOAP DISPENSER.

PART 3 EXECUTION

- INSTALLATION
 - INSTALL PRODUCTS IN STRICT COMPLIANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS, INCLUDING THE FOLLOWING:
 - VERIFY BLOCKING HAS BEEN INSTALLED PROPERLY.
 - VERIFY LOCATION DOES NOT INTERFERE WITH DOOR SWINGS OR USE OF FIXTURES.
 - COMPLY WITH MANUFACTURER'S RECOMMENDATIONS FOR BACKING AND PROPER SUPPORT.
 - USE FASTENERS AND ANCHORS SUITABLE FOR SUBSTRATE AND PROJECT CONDITIONS.
 - INSTALL UNITS RIGID, STRAIGHT, PLUMB, AND LEVEL, IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND APPROVED SHOP DRAWINGS.
 - CONCEAL EVIDENCE OF DRILLING, CUTTING, AND FITTING TO ROOM FINISH.
 - TEST FOR PROPER OPERATION.
- CLEANING AND PROTECTION
 - CLEAN EXPOSED SURFACES OF COMPARTMENTS, HARDWARE, AND FITTINGS USING METHODS ACCEPTABLE TO THE MANUFACTURER.
 - TOUCH-UP, REPAIR OR REPLACE MAGED PRODUCTS UNTIL BSBTANTIAL COMPLETION.



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UNIT B200
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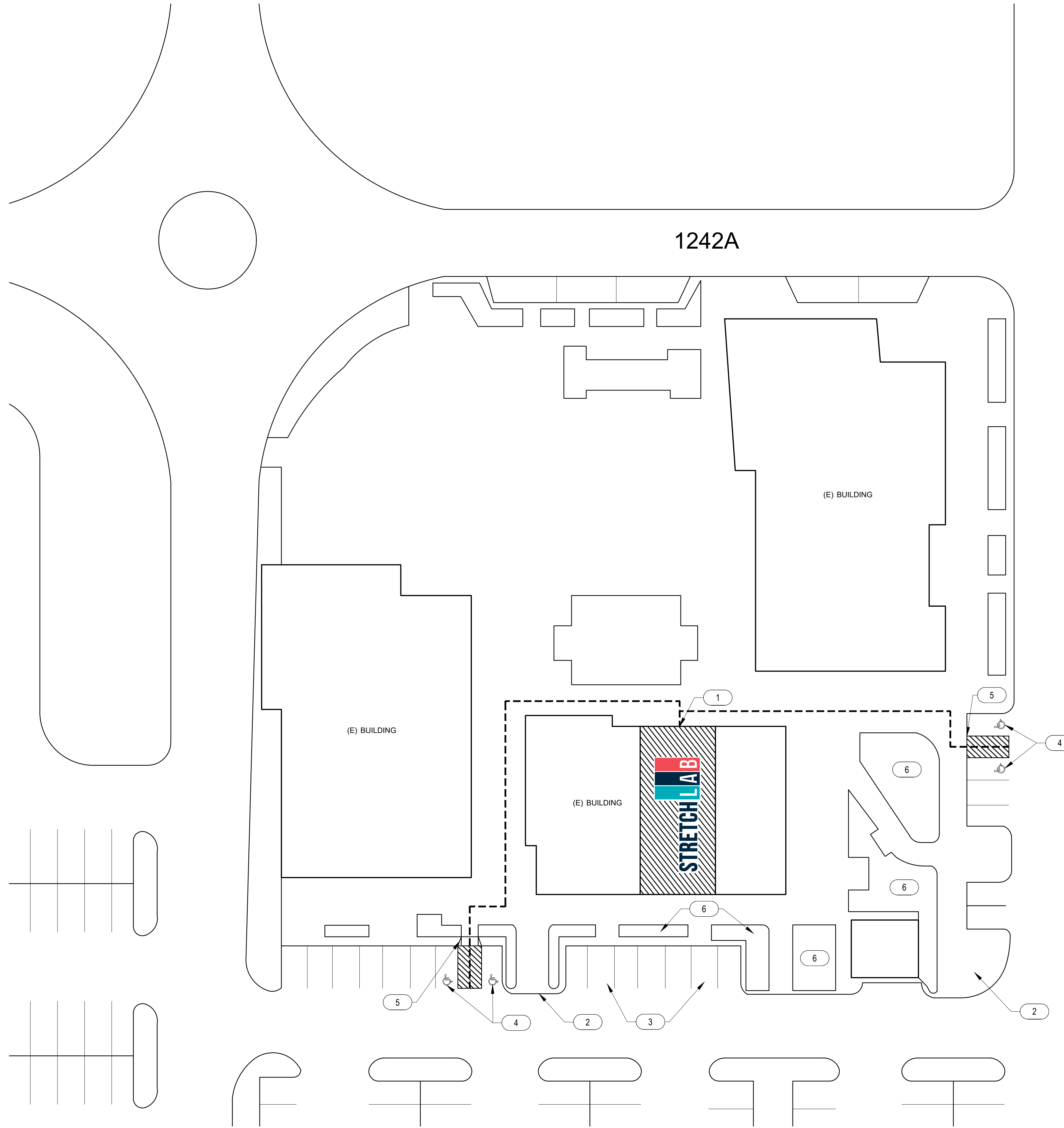
REVISIONS:

TITLE:
ARCHITECTURAL
SPECIFICATIONS

DATE:
11.01.2022
PROJECT NO.
22-254

SHEET NO.
G4.0

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GENERAL NOTES

- A. ALL ACCESSIBLE PARKING AND PATH OF TRAVEL TO TENANT ENTRY ARE EXISTING TO REMAIN
- B. CONTRACTOR TO COORDINATE STAGING AREAS AS REQUIRED
- C. ANY DAMAGE BY CONTRACTOR OR SUBCONTRACTOR TO EXISTING ASPHALT PAVEMENT AND/OR EXISTING LANDSCAPING OUTSIDE OF CONSTRUCTION LIMIT LINE SHALL BE REPAIRED BY CONTRACTOR
- D. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF THE OCCUPANTS & WORKERS AT ALL TIMES

KEYNOTES

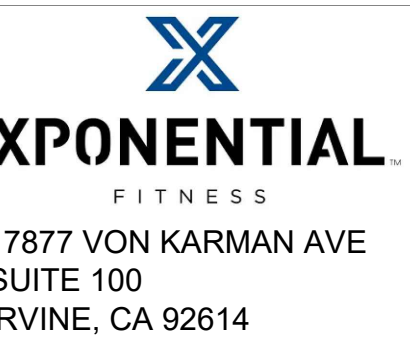
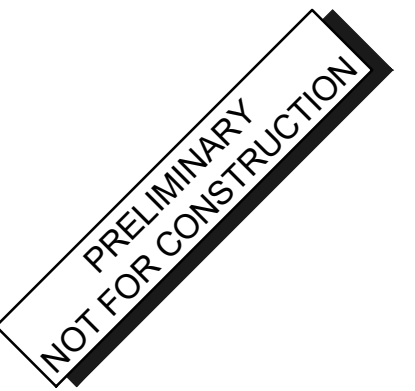
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- 1. TENANT SPACE MAIN ENTRANCE
- 2. EXISTING CONCRETE SIDEWALK & CURB
- 3. EXISTING GENERAL PARKING SPACES
- 4. EXISTING ACCESSIBLE PARKING STALLS AND SIGNAGE
- 5. EXISTING ACCESSIBLE RAMP.
- 6. EXISTING LANDSCAPING

LEGEND

----- ACCESSIBLE PATH OF TRAVEL, SHALL BE MINIMUM 48" WIDE FROM ARRIVAL POINT TO THE MAIN ENTRANCE

NOTE:
THIS IS AN EXISTING SITE, NO NEW WORK - FOR REFERENCE ONLY.



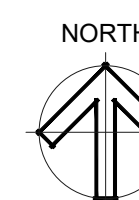
REVISIONS:

TITLE:
ACCESSIBLE
PATH OF TRAVEL
PLAN

DATE:
11.01.2022
PROJECT NO.
22-254

SHEET NO.

AP1.0



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GENERAL NOTES

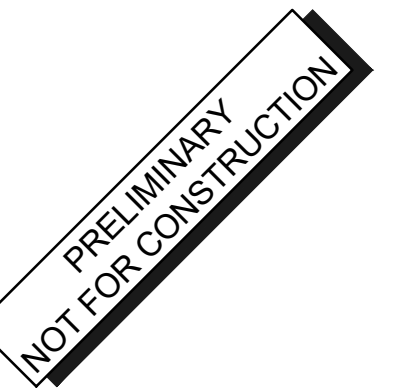
- A. CONTRACTOR TO REMOVE ALL EXISTING LIGHT FIXTURES AND ASSOCIATED CONDUIT.
- B. CONTRACTOR TO REMOVE EXISTING DUCTWORK BACK TO UNIT DROP THROUGH ROOF.
- C. CONTRACTOR TO REMOVE ALL EXISTING CEILING FANS & ASSOCIATED CONDUITS.

KEYNOTES

1. PROVIDE SMOOTH FLUSH CONDITION THOUGH-OUT LEASE SPACE. PREPARE FOR NEW FLOORING FINISHES.
2. EXISTING DEMISING WALL TO REMAIN. PREPARE FOR NEW FINISHES.
3. EXISTING INTERIOR WALL TO BE REMOVED.
4. EXISTING STOREFRONT DOOR AND STSTEM TO REMAIN.
5. EXISTING INTERIOR DOOR & FRAME TO BE REMOVED.
6. EXISTING CEILING TO REMAIN.
7. TENANT LEASE LINE.
8. EXISTING INTERIOR WALL TO REMAIN. PREPARE FOR NEW FINISHES
9. EXISTING W.C., LAVATORY, AND ACCESSORIES TO REMAIN.
10. PORTION OF (E) WALL TO BE REMOVED FOR NEW DOOR. REFER TO FLOOR PLAN
11. EXISTING REAR DOOR TO REMAIN.
12. EXISTING LIGHT FIXTURES TO BE REMOVED.
13. EXISTING COLUMN.
14. EXISTING ILLUMINATED EXIT LIGHT/ SIGN WITH BATTERY BACKUP TO REMAIN.
15. EXISTING INTERIOR DOOR TO REMAIN.
16. EXISTING FLOOR DRAIN TO REMAIN.
17. EXISTING LIGHT FIXTURES TO REMAIN.
18. EXISTING MECHANICAL EQUIPMENT TO REMAIN.
19. EXISTING ELECTRICAL PANEL TO REMAIN.
20. EXISTING WATER HEATER ABOVE CEILING TO REMAIN.
21. EXISTING RTU UNIT TO REMAIN.
22. EXISTING SOFFIT TO BE REMOVED.
23. EXISTING BEAM.
24. OPEN TO DECK.

WALL LEGEND

- TO BE REMOVED
- ==== TO REMAIN



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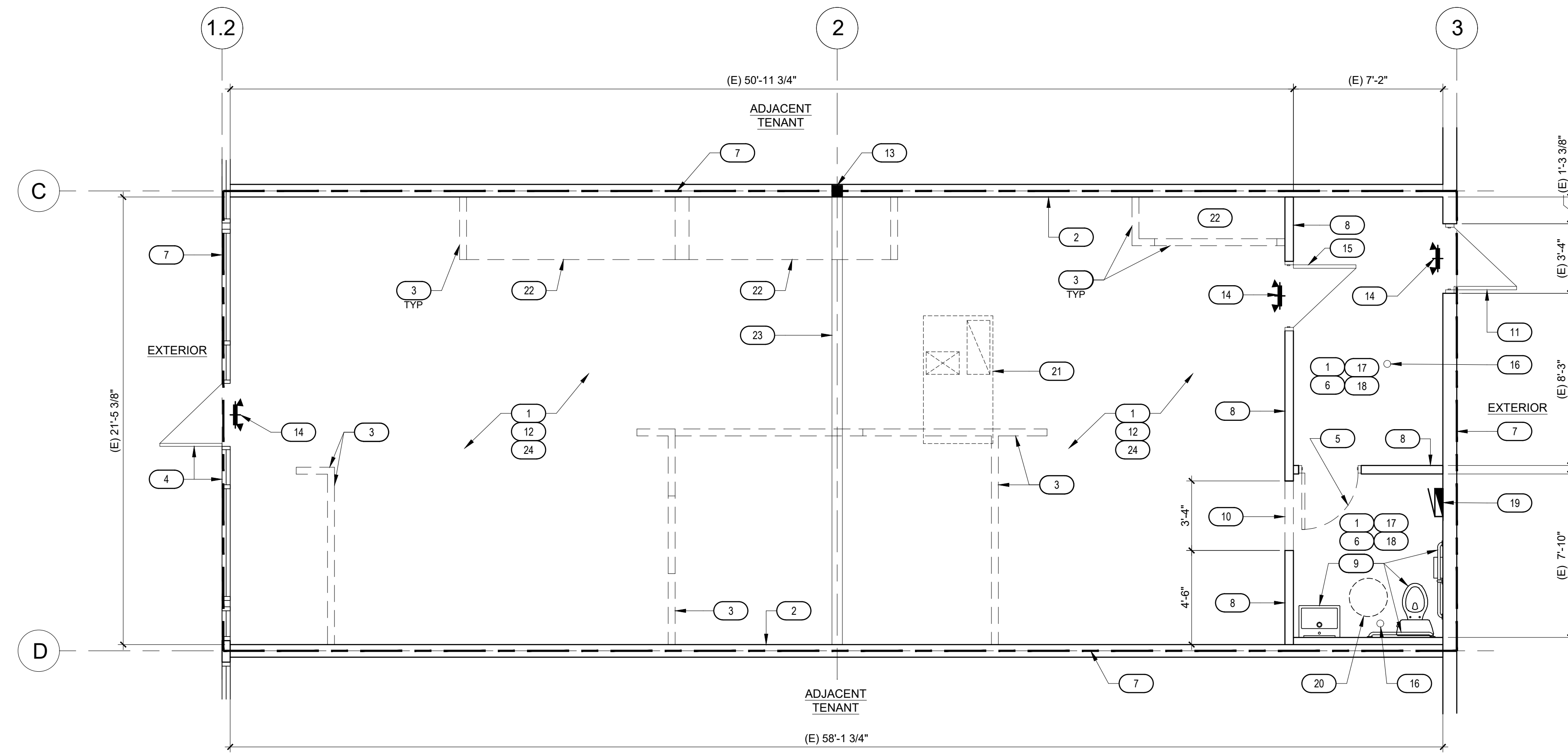
TITLE:
DEMOLITION FLOOR PLAN

DATE:
11.01.2022

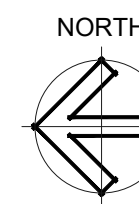
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1 DEMOLITION FLOOR PLAN
SCALE: 1/4" = 1'-0"



EQUIPMENT SCHEDULE (XXX)				
TAG	QTY.	ITEM	DESCRIPTION	NOTES
EQ-1	10	STRETCH BEDS	6'-5" L X 2'-8" W	SL VENDOR INSTALLS
EQ-2	1	MAPS MACHINE	-	WALL MOUNTED - SEE DIP FOR MORE INFO.
EQ-3	1	HI-LOW DRINKING FOUNTAIN WITH BOTTLE FILLER	-	BY OWNER
EQ-4	1	HYPERICE STATION	-	BY OWNER
EQ-5	1	VENTLESS WASHER/ DRYER	-	BY OWNER

FURNITURE / FIXTURE SCHEDULE (XXX)				
TAG	QTY.	ITEM	DESCRIPTION	NOTES
FE-1	0	BENCH W/STORAGE	60" L X 20" W (W/ 18" BACK REST)	MOVEABLE
FE-2	1	RECEPTION DESK	-	SL VENDOR INSTALLS ACCESSIBLE DESK- 34" AFF
FE-3	1	SLAT WALL	96" L x 15" W x 96" H	WALL MOUNTED
FE-4	2	2-WAY RETAIL DISPLAY	24" L x 23" W x 56 -1/2" H	MOVEABLE
FE-5	0	4-WAY RETAIL DISPLAY	40 1/2" L x 40 1/2" W x 56 -1/2" H	MOVEABLE
FE-6	1	PLANTER	-	MOVEABLE

TYPICAL INTERIOR NON-LOAD BEARING STUD WALL - SLIP TRACK AT TOP				
STUDS TO BE USED:				
SIZE	SPACING	ALLOWABLE HEIGHT	BOTTOM TRACK GAUGE	TOP-"SLIP" TRACK TRACK GAGE (3" DEEP TRACK)
3 5/8" - 25G STN	16"	15.4'	20	18
3 5/8" - 20G STR	16"	17.0'	20	18
3 5/8" - 18 G HDS	16"	22.6'	20	18
6" - 20G STR	16"	24.5'	20	18
6" - 18G HDS	16"	33.6'	20	18

NOTES:

BUILDING CODE REQUIRES THAT INTERIOR PARTITION WALLS BE DESIGNED FOR A LATERAL LOAD OF 5 PSI. THE FOLLOWING GUIDELINES ARE BASED ON THIS LOAD. ALL STUDS GIVEN ARE ASSUMED TO BE EQUIVALENT TO THOSE MANUFACTURED BY DIETRICH INDUSTRIES, INC. ALL STUDS AND TRACKS ARE ASSUMED TO HAVE AN Fy = 33.0 KSI. ALL STUDS ARE ASSUMED TO HAVE 3/8" GYP BOARD ON BOTH FACES FOR THE FULL HEIGHT OR ARE PROVIDED WITH BRIDGING AS REQUIRED. DETAILS ARE PROVIDED TO ACCOMMODATE VERTICAL MOVEMENT AT THE TOP USING A 3" DEEP TRACK CONNECTION OR NO MOVEMENT. MAXIMUM HORIZONTAL DEFLECTION IS ASSUMED TO BE LIMITED TO H/240. PROVIDE LATERAL BRACING PER SCHEDULE. STUD SIZES ARE PER SSMA (STEEL STUD MANUFACTURER'S ASSOCIATION) STANDARDS. STEEL STUDS ARE BY SCAFCO CORP. OR APPROVED EQUIVALENT MANUFACTURER. SEE ICC-ES EVALUATION REPORT ESR-3064P FOR ADDITIONAL INFORMATION.

- BOTTOM TRACK GAGES MAY BE SUBSTITUTED FOR TOP-SLIP TRACK GAGES IF STUDS ARE PERMANENTLY ATTACHED TO BOTH FLANGES OF THE TRACK WITH #10 SCREWS.
- ATTACH BOTTOM TRACK TO SLAB WITH HILTI X-DNI 32 P8S15 @ 3'-0" O.C.
- IF GYP BOARD IS ON ONE SIDE ONLY, ADD HORIZONTAL BRIDGING AT 5'-0" O.C. VERTICALLY.
- IF YOU HAVE A CASE THAT DIFFERS FROM THE ABOVE, PLEASE CONTACT THE ARCHITECT.

GENERAL NOTES - FLOOR PLAN

- G.C. TO VERIFY EXISTING FLOOR CONSTRUCTION CONDITION AND NOTIFY ARCHITECT OF ANY DISCREPANCY UPON DISCOVERY.
- WHERE NEW GYPSUM BOARD PARTITIONS ARE A CONTINUATION OF AN EXISTING PARTITION OR COLUMN ENCASUREMENT, THE FACE OF GYPSUM BOARD SHALL BE ALIGNED W/ THE FACE OF THE EXISTING SURFACE.
- WHERE DEMOLITION OF CERTAIN ITEMS LEAVES PENETRATIONS IN EXISTING TO REMAIN FLOORS, WALLS, CEILING, ROOFS, ETC. PATCH SUCH PENETRATIONS AS REQUIRED TO MEET ORIGINAL FIRE PROTECTION & STRUCTURAL REQUIREMENTS. CONTRACTOR TO VERIFY ALL EXISTING DEMISING WALLS ARE DRYWALLED TO DECK.
- ALL EXTERIOR DOORS, EXTERIOR WINDOWS AND STOREFRONT SYSTEMS ARE EXISTING U.N.O.
- ALL DOORS ARE 4" OFF ADJACENT WALLS U.N.O. CONTRACTOR SHALL PROVIDE BACKING/ BLOCKING AT ALL WALL MOUNTED EQUIPMENT & ACCESSORIES.
- ALL ANGLES AT 45° OR 90° U.N.O.
- TAPE, BED, FLOAT & SAND GYP. BD. JOINTS. FINISH TO A LIGHT ROLLED TEXTURE AT ALL PAINTED AREAS. PAINT (1) COAT OF PRIMER & (1) COAT OF COLOR.
- WHERE DEMISING WALL ENDS INTO MIDDLE OF THE GLASS STOREFRONT, CONTRACTOR IS TO INSTALL END WALL CAP TO MATCH STOREFRONT

KEYNOTES

- EXISTING STOREFRONT SYSTEM & DOOR.
- POST INTERNATIONAL SIGN OF ACCESSIBILITY AT MAIN ENTRANCE.
- PROVIDE TACTILE EXIT SIGN. PROVIDE 18" X 18" CLEAR FLOOR SPACE FOR SIGN.
- (E) ELECTRICAL PANEL - REFER TO ELECTRICAL DRAWINGS.
- FRONT DESK COUNTER AT NO HIGHER THAN 34" A.F.F.
- HI-LOW DRINKING FOUNTAIN W/ BOTTLE FILLER.
- LIVE LONG GRAPHIC CENTER ON THIS WALL.
- STRETCH LAB LOGO
- LEASE LINE
- EXISTING COLUMN.
- (E) WATER HEATER ABOVE CEILING - REFER TO PLUMBING DRAWINGS
- TACTILE RESTROOM SIGN W/ 18" X 18" CLEAR FLOOR SPACE.
- ARTWORK
- MOP SINK - REFER TO PLUMBING DRAWINGS
- NEW WATER HEATER ABOVE CEILING - REFER TO PLUMBING DRAWINGS
- INFILL DOOR OPENING
- WOOD TRIM - REFER TO FINISH PLAN
- G.C. TO PROVIDE WALL BLOCKING
- FIRE EXTINGUISHER
- 3 5/8" 20 GA METAL STUD FRAMING @ 16" O.C. - TO DECK. (1) LAYER 5/8" GYP. BD ON STUDIO SIDE.

WALL LEGEND

FRAMING / DIMENSIONING NOTE:
ALL DIMENSIONS ARE TO FACE OF STUD AT FRAMED WALLS. TYPICAL. U.N.O. AT MILLWORK. LOW WALLS DIMENSIONS ARE TO FACE OF FINISHED WALL, TYPICAL.

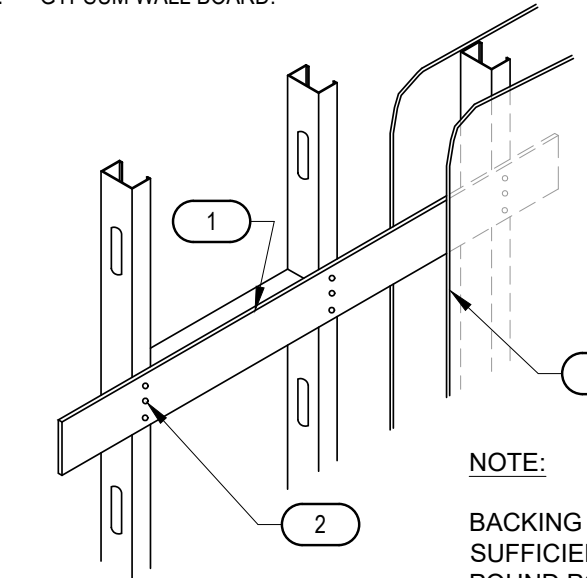
PURPLE BOARD / WATERPROOFING NOTE:
ALL WALLS IN THROUGHOUT WET AREAS ARE OR HAVE 5/8" CEMENTITIOUS BOARD INSTALLED AT BOTTOM 12" OF WALL AND 5/8" MOLD. MILDEW, & MOISTURE RESISTANT PURPLE BOARD 12" A.F.F. TO CEILING.

NOTE: SEE SHEET G2.0 FOR WALL SECTIONS & DETAILS CALLOUTS.

TAG	DESCRIPTION
A1	EXISTING EXTERIOR WALL
A2	EXISTING DEMISING WALL - (FULL HEIGHT)
A3	EXISTING PARTITION WALL - (PARTIAL HEIGHT)
E	INTERIOR PARTITION WALL - (PARTIAL HEIGHT): 3 5/8" X 18 GA. MTL. STUDS @ 16" O.C. W/ 1-LAYER 5/8" MOISTURE RESISTANT GYP. BD. EACH SIDE.

KEYNOTES

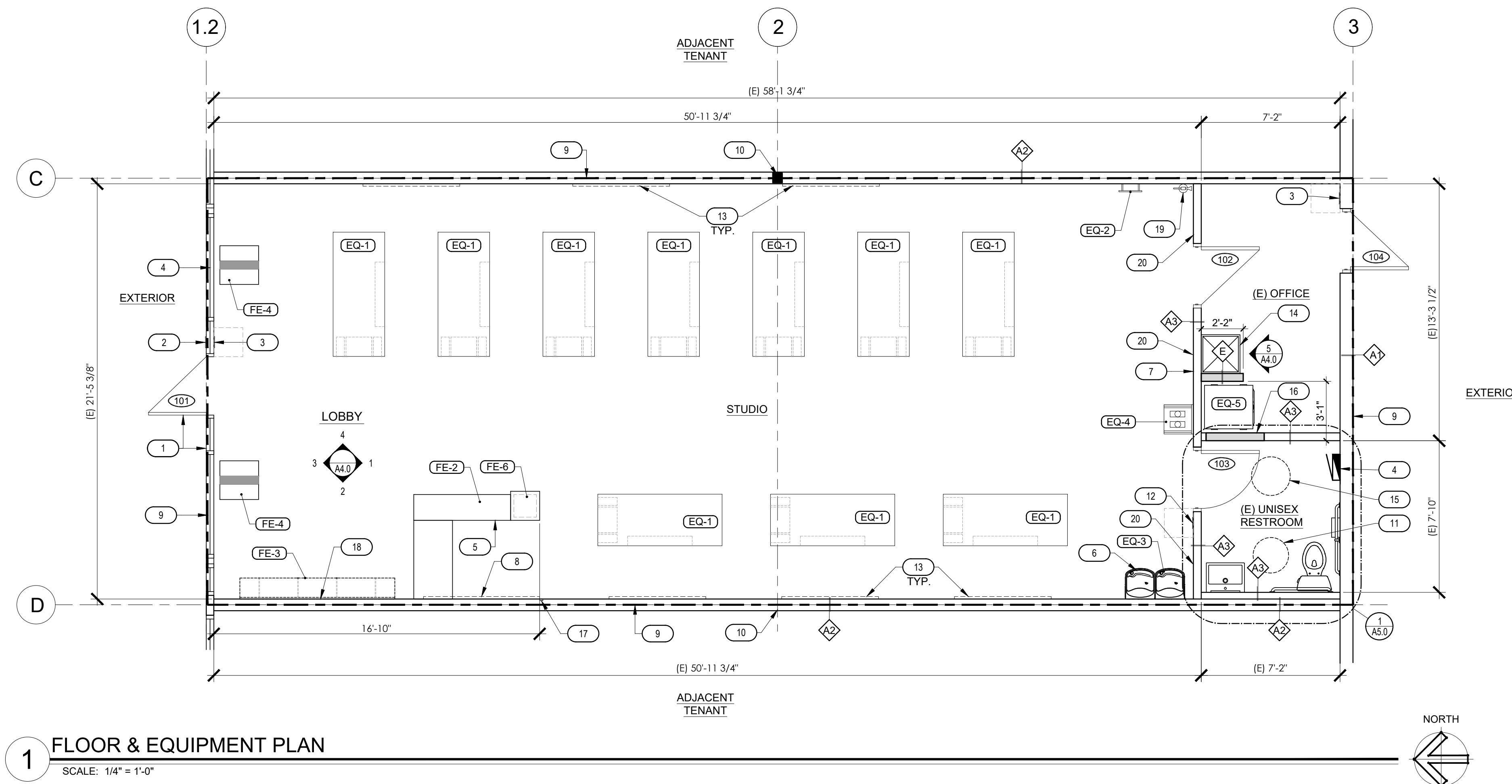
- 18 GA. x 6" ANCHOR PLATE SCREWED TO STUDS @ 16" O.C. (REFER TO PLAN FOR DEPTH).
- (3) FLAT HEAD DRYWALL SCREWS PER STUD, TYP.
- GYPSUM WALL BOARD.



NOTE:
BACKING SUPPORT SHALL BE SUFFICIENT TO SUPPORT A 250 POUND POINT LOAD.

3 BACKING CHANNEL

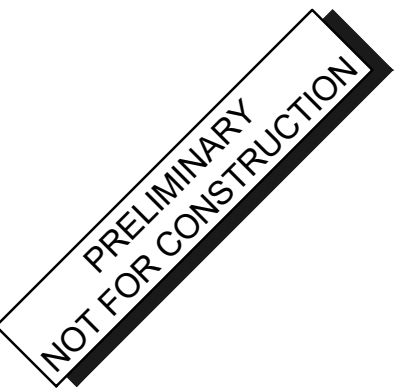
SCALE: N.T.S.



1 FLOOR & EQUIPMENT PLAN

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

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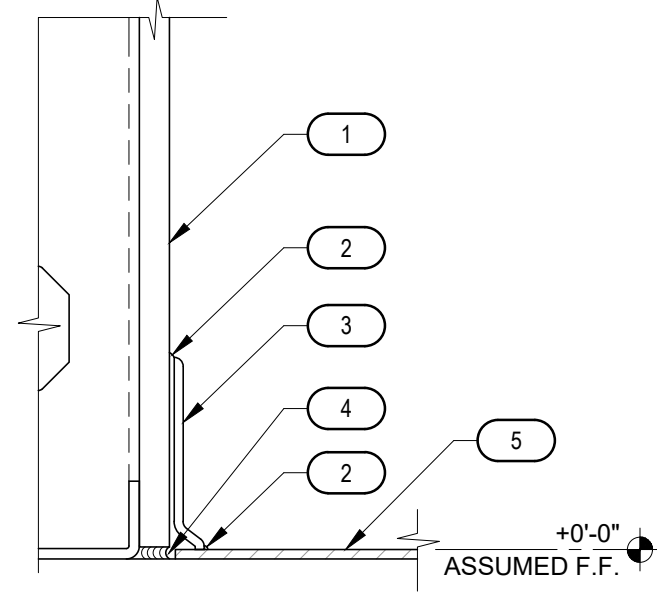
TITLE:
FLOOR & EQUIPMENT PLAN

DATE:
11.01.2022
PROJECT NO.
22-254

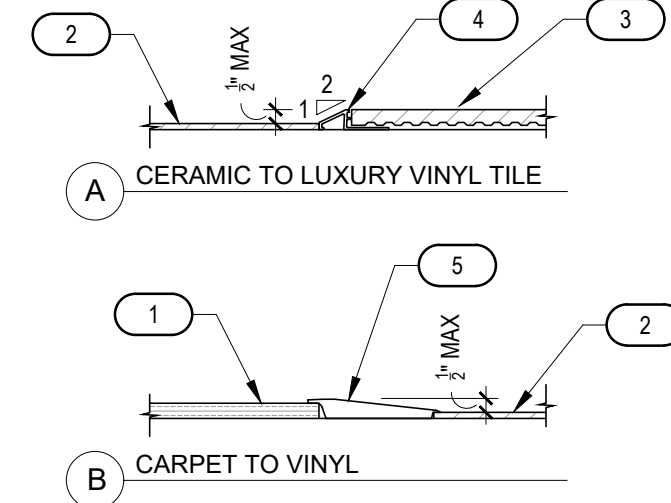
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A1.0

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- KEY NOTES**
- SCHEDULED PAINT FINISH, REFER TO ELEVATIONS.
 - CONT. BEAD OF CLEAR SILICONE.
 - SCHEDULED WALL BASE, REFER TO ELEVATIONS.
 - PAINTABLE FIRE-STOP CONT. SEALANT AS REQD. (ACOUSTIC SEALANT AT STUDIO WALLS)
 - SCHEDULED LUXURY VINYL FLOOR TILE.

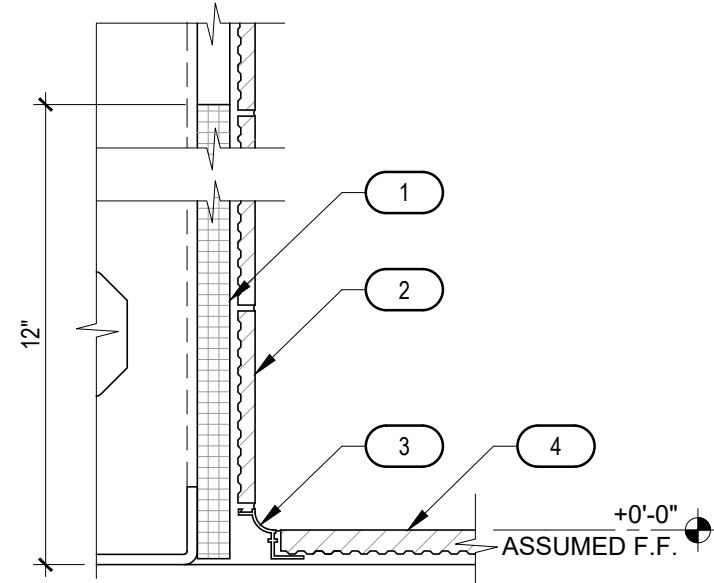


3 RUBBER WALL BASE
SCALE: 3" = 1'-0"



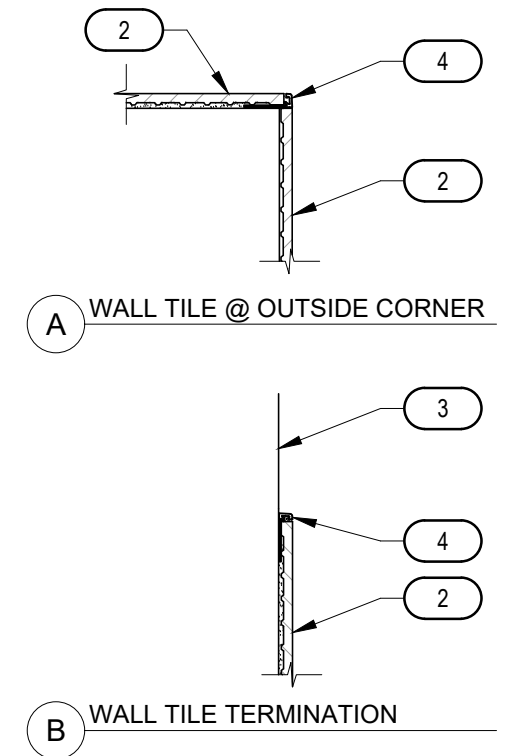
5 FLOOR TRANSITIONS
SCALE: 3" = 1'-0"

- KEY NOTES**
- 5/8" CEMENTITIOUS BOARD AT BOTTOM 12" OF WALL.
 - SCHEDULED TILE ON MORTAR BED, REFER TO ELEVATIONS.
 - SCHLUTER DILEX-AHK METAL COVE TRANSITION STRIP FLUSH W/ FLOOR TILE.
 - SCHEDULE FLOOR TILE.



2 SCHLUTER COVE BASE
SCALE: 3" = 1'-0"

- KEY NOTES**
- ADJACENT WALL AT CORNER.
 - SCHEDULED WALL TILE.
 - SCHEDULED PAINT FINISH.
 - SCHLUTER - SCHEIN TRANSITION STRIP.



4 WALL TRANSITIONS
SCALE: 3" = 1'-0"

FINISH LEGEND				
TAG	DESCRIPTION	MANUFACTURER	PRODUCT INFO	COMMENTS
FLOOR FINISH:				
FF-1	SPS LVT OAK PLANK (36 SF PER CARTON).	SPORT PRO SURFACING	SIZE: 6" X 48"	INSTALLED HORIZONTAL TO FRONT ENTRANCE
FF-2	CERAMIC FLOOR TILE-LG93 (15.60 SF PER CARTON).	SPORT PRO SURFACING	SIZE: 12" X 24"	RUNNING BOND PATTERN, GROUT: GR-1
WALL TILE:				
WT-1	CERAMIC WALL TILE - LG92	SPORT PRO SURFACING	SIZE: 3" X 6"	WAINSCOT, CERAMIC TILE 48" AFF, STACKED PATTERN. GROUT: GR-2
GROUT:				
GR-1	COLOR: SANDSTONE SANDED # 34	LATICRETE PERMACOLOR	-	JOINT SPACING 3/16" FLOOR TILE GROUT
GR-2	COLOR: BRIGHT WHITE NON SANDED # 44	LATICRETE PERMACOLOR	-	JOINT SPACING 1/16" WALL TILE GROUT
FIBER REINFORCED PLASTIC:				
FRP-1	COLOR: WHITE - SMOOTH, SPECIFICATION: S100G	MARLITE OR EQUAL	S100/SI2/S	INSTALLATION: W/ PVC TRIM @ 4'-0" A.F.F.
WALL BASE:				
WB-1	ROPPE 4" 700 SERIES COLOR: LUNAR DUST 114	ROPPE	4" COVE	COVE BASE AT ALL AREAS
WALL FINISH:				
PT-1	COLOR: EXTRA WHITE - SW7006, EGGSHELL	SHERWIN WILLIAMS	-	AT LOBBY/RETAIL AREA, RESTROOM & BACK SPACE.
PT-2	COLOR: IN THE NAVY - SW 9178, EGG SHELL	SHERWIN WILLIAMS	-	AT STRETCH AREA
BV-1	EMBOSSED RED BRICK HARDBOARD WALL PANEL CLASS C FLAME SPREAD: 155 SMOKE DEVELOPED INDEX: 175	LOWES	47.75" X 7.98"	GC FURNISHED, GC TO INSTALL NOTE: VENNER MUST BE PAINTED "WHITE" PER STRETCH LAB DESIGN STANDARDS. INSTALL WITH 1" STEEL PANEL BOARD NAILS AND LOCTITTE CONSTRUCTION ADHESIVE.
TRANSITION:				
TR-1	ROPPE PART NUMBER 22 BLACK	SCHLUTER	-	LVT TO CARPET. SEE DETAIL 5B/A2.0
TR-2	SCHLUTER RENO U AEU125	SCHLUTER	RENO U AEU125	FLOOR CERAMIC TILE TO LVT. SEE DETAIL 5A/A2.0
TR-3	SCHLUTER SCHEIN	SCHLUTER	SCHEIN	VERTICAL CORNERS AND HORIZONTAL TERMINATIONS POINTS. SEE DETAILS 4A & 4B/A2.0
TR-4	SCHLUTER DILEX-AHK	SCHLUTER	DILEX-AHK	AT RESTROOM COVE BASE. SEE DETAILS 2A2.0
TRIM:				
WD-1	1 X 2 FINISH GRADE PINE	-	-	PRIME & PAINT PT-1. SEE ELEVATIONS

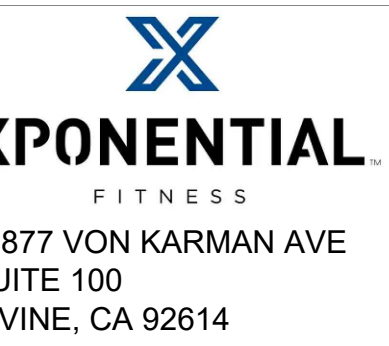
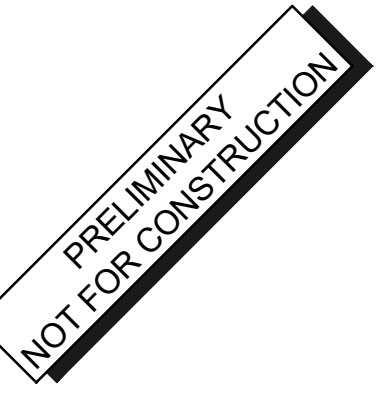
GENERAL NOTES - FINISH PLAN

- REFER TO WALL SECTIONS AND ELEVATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- INTERIOR WALL AND CEILING FINISH MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES.
- ALL FINISHES SHALL MEET FLAME SPREAD AND SMOKE DEVELOPMENT RATINGS FOR THEIR USE, AS REQUIRED BY LOCAL CODES.
- TAPE, BED, FLOAT & SAND GYP BOARD JOINTS. PAINT (1) COAT OF PRIMER AND (2) COATS OF SCHEDULED COLOR WHERE PATCHING OCCURS IN A SMOOTH PAINTED SURFACE. EXTEND FINAL PAINT COAT OVER ENTIRE UNBROKEN SURFACE CONTAINING THE PATCH, AFTER THE PATCHED AREA HAS RECEIVED PRIMER AND SECOND COAT.
- G.C. SHALL PROVIDE WOOD BACKING FOR ALL WALL MOUNTED/ RECESSED ITEMS (U.N.O.).
- G.C. SHALL PREP AND MAKE SMOOTH EXISTING CONCRETE SLAB PRIOR TO NEW FLOOR FINISH INSTALLATION.
- ALL HOLLOW METAL DOORS AND FRAMES (U.N.O.) SHALL BE PRIMED & PAINTED
- CHANGES IN LEVEL UP TO 1/4" BETWEEN DIFFERENT FLOOR FINISHES CAN BE MADE VERTICAL AND WITHOUT EDGE TREATMENT. CHANGES IN LEVEL OF 1/4" - 1/2" SHALL BE MADE WITH A BEVELED TRANSITION OR OTHER MATERIAL WITH A SLOPE NO GREATER THAN 1:2. VERIFY FINISH OF TRANSITION STRIP MATERIAL WITH OWNER. G.C. SHALL FURNISH & INSTALL TRANSITION STRIP.
- TENANTS G.C. SHALL PROVIDE SERVICES FOR THE FINAL CLEAN-UP PRIOR TO TURNING STUDIO OVER. TO INCLUDE, MOPPING & BROOM CLEAN-UP.
- THE CONTRACTOR SHALL PROTECT ALL ADJACENT MATERIALS AND EQUIPMENT AGAINST DAMAGE FROM SPILLAGE, DRIPPING AND SPATTER OF COATING MATERIALS. REPLACE DAMAGED TILE AS REQUIRED. ALL BUILDING MATERIALS AND EQUIPMENT SHALL BE LEFT CLEAN, WITH ALL DAMAGED SURFACES CORRECTED. PROVIDE "WET PAINT" SIGNS TO INDICATE NEWLY PAINTED SURFACES.
- ALL GROUT TO CONTAIN ACRYLIC ADDITIVE SEALER.
- WALLS & CEILING: LEVEL 4 - DURABLE, NONABSORBENT & WASHABLE.
- G.C. SHALL PREP AND MAKE SMOOTH ALL EXISTING WALLS TO RECEIVE NEW FINISHES. EXTEND WALL FRAMING / GYP. BD. AS REQUIRED TO MAINTAIN MIN. OF 6" ABOVE NEW CEILING.

NOTE: NO ALTERATIONS ON FINISHES WITHOUT OWNER APPROVAL

KEYNOTES- FINISH PLAN

- LIVE LONG GRAPHIC CENTERED ON BRICK WALL - REFER TO SHEET A4.0



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1242 S. HOVER STREET
UNIT B200
LONGMONT, CO. 80501

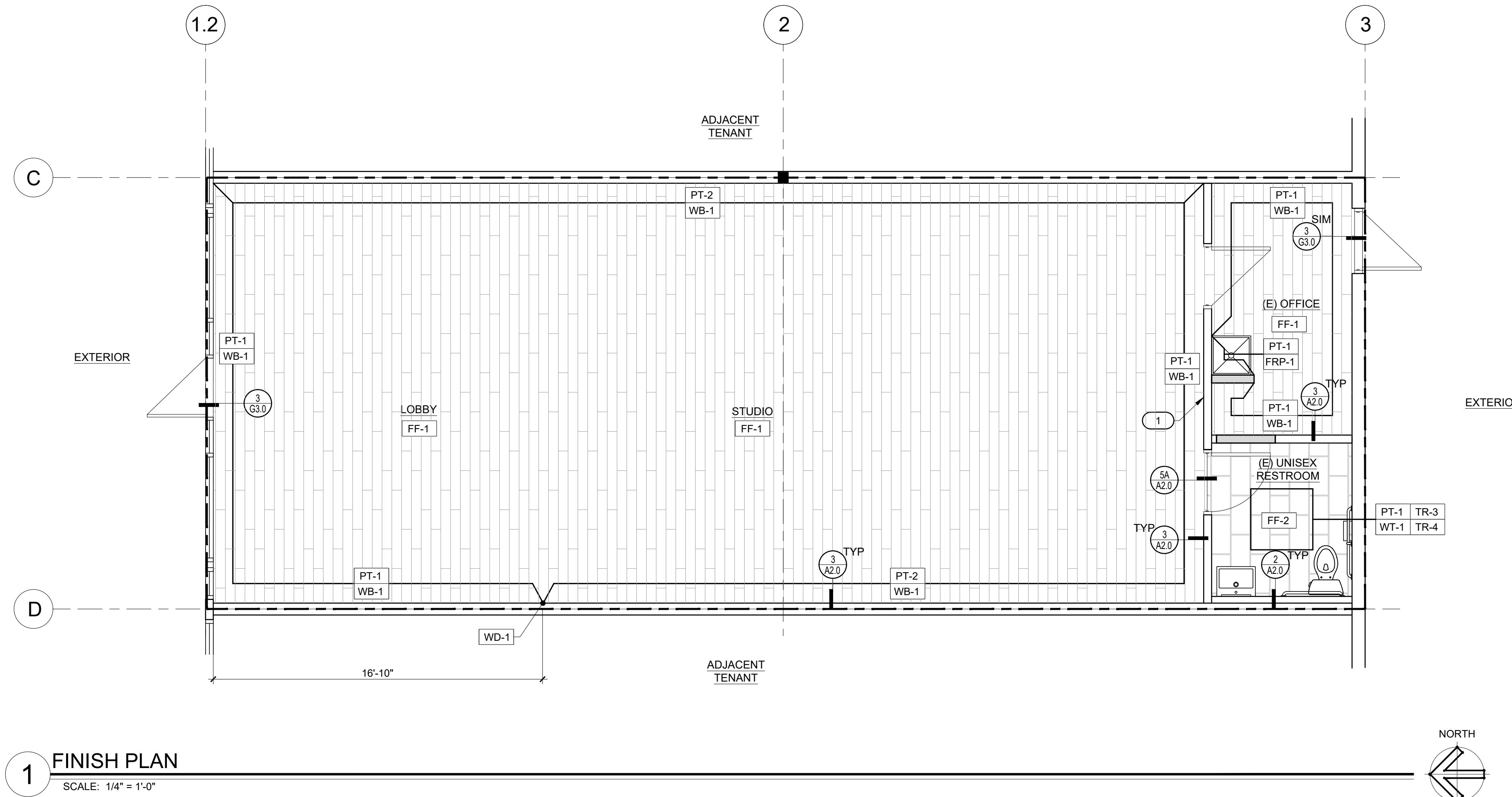
REVISIONS:

TITLE:
FINISH PLAN

DATE:
11.01.2022
PROJECT NO.
22-254

SHEET NO.

A2.0



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

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GENERAL NOTES - REFLECTED CEILING PLAN

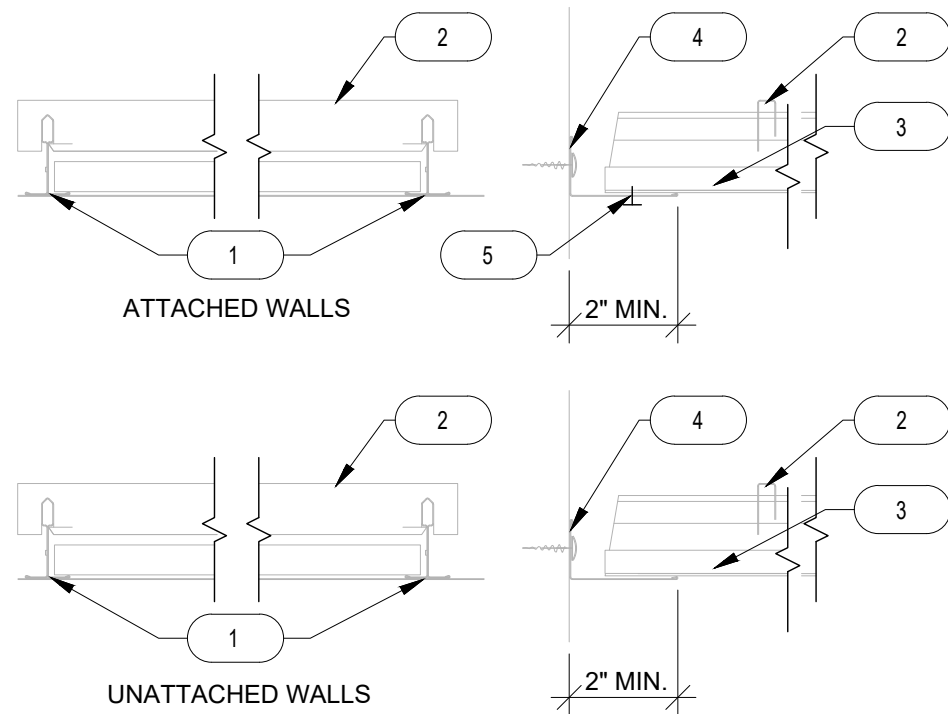
- A. AT NO TIME SHALL THE CEILING BE SUPPORTED FROM THE ROOF DECK. ALL SUPPORT WIRES AND FASTENERS MUST BE ATTACHED TO THE STRUCTURAL PORTIONS OF THE BUILDING. G.C. SHALL CLAMP 16 GA. RED IRON STUDS FROM JOIST TO JOIST. SUPPORT WIRES SHALL BE SHOT INTO RED IRON STUDS.
- B. REFER TO SHEET A2.0 FOR ROOM FINISH SCHEDULE & FOR ALL WALL SPECIFICATIONS.
- C. DIFFUSERS, RETURNS TO BE PAINTED TO MATCH ADJACENT CEILING COLOR WITH THE EXCEPTION DIFFUSERS IN SEATING AREA. SEE INTERIOR ELEVATIONS FOR FINISHES.
- D. ALL DIMENSIONS ARE TO CENTERLINE OF FIXTURES U.N.O.
- E. EXIT SHALL BE ILLUMINATED AT ANY TIME THE BUILDING IS OCCUPIED, WITH LIGHT HAVING AN INTENSITY OF NOT LESS THAN 1' CANDLE AT FLOOR LEVEL.
- F. PROVIDE APPROVED EXITING ILLUMINATION AND ILLUMINATION EXIT SIGNS WHICH ARE POWERED FROM SEPARATE SOURCES.
- G. SEE ELECTRICAL PLANS FOR LIGHT FIXTURE SCHEDULE.
- H. ALL CEILING GRID, LIGHT FIXTURES, HVAC DUCT WORK, AND WATER LINES TO BE SUPPORTED FROM THE STRUCTURE ABOVE.
- I. SEE SHEET A3.0 FOR ALL SUSPENDED CEILING DETAILS.
- J. ACOUSTICAL CAULKING BETWEEN T-BAR FRAME AND WALL AT PERIMETER WALLS.
- K. LIGHT FIXTURES ARE TO BE PLACED IN CENTER OF ACOUSTIC CEILING TILE.
- L. G.C. TO VERIFY WITH VENDOR ON LIGHTING AND EXIT LIGHTING PACKAGE.
- M. CENTER CEILING TILE IN ROOM / SPACE, UNO

GENERAL NOTES:

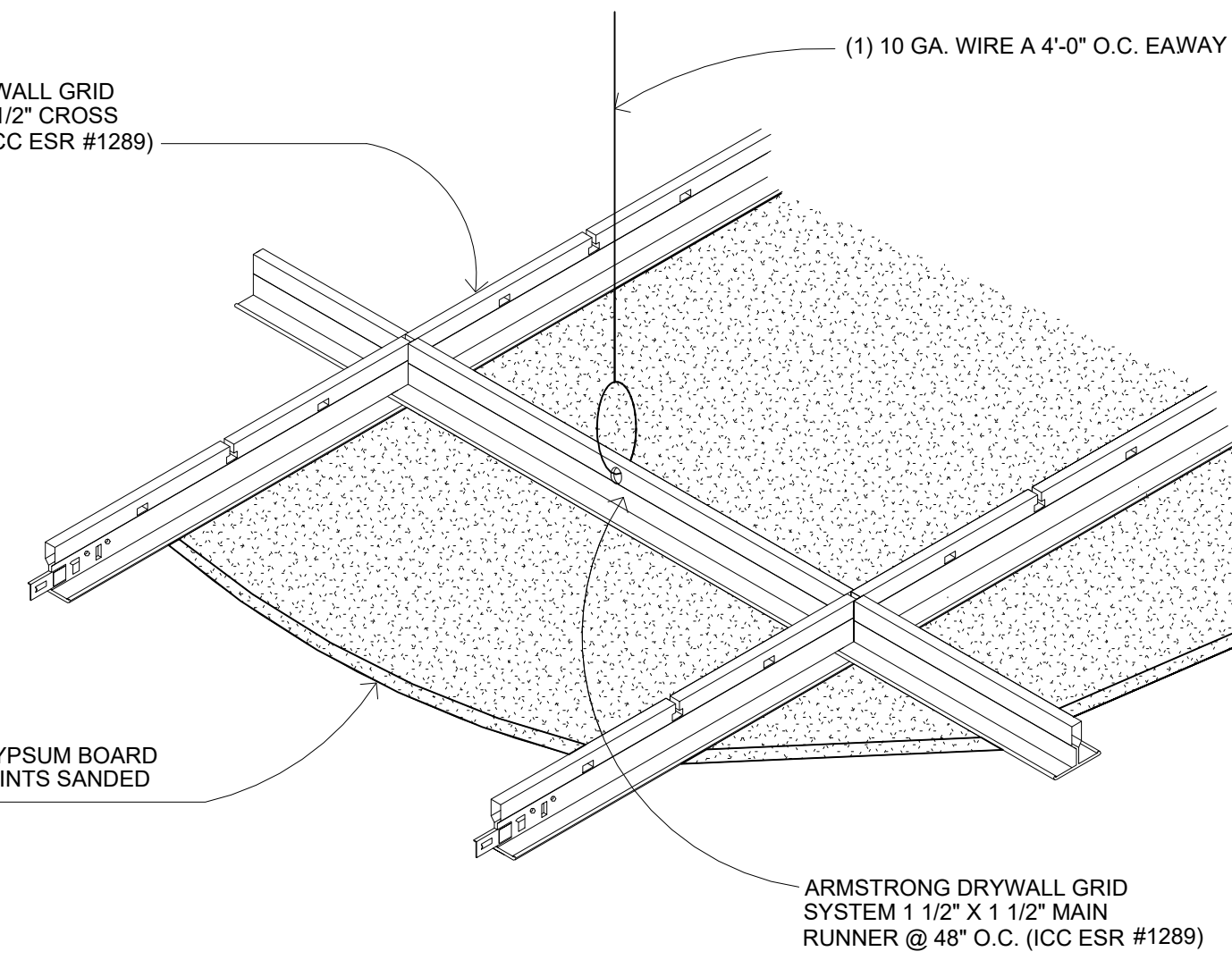
- SEE RCP SHEET A3.0 FOR PARTICULARS OF CEILING MATERIALS.
- ALL LIGHT FIXTURES OVER 50 LBS. & AIR DIFUSERS OVER 20 LBS. SHALL BE SUPPORTED FROM STRUCTURE ABOVE.
- CEILING FASTENERS SHALL BE POWER DRIVEN TO STUDS W/ AN EYELET "J" CUP OR THREADED ENDS FOR EYE TYPE COUPLINGS 1/4" - 0.14" SHANK MIN. 1-3/8".
- FOR PENETRATIONS INTO CONCRETE USE "HILTI" W/ 6-11-42: OMARK OF 2000 OR EQUAL.
- SUSPENDED CEILING MAY BE ATTACHED AT TWO ADJACENT WALLS. MAINTAIN (2) SIDES UNRESTRAINED.
- HANGER WIRE SCHEDULE:
1. SUSPENDED GYPSUM BOARD: #10 GA.,
2. SUSPENDED ACOUSTICAL TILE: #12 GA.
- SUSPENDED CEILING SYSTEM SHALL BE IN COMPLIANCE W/ ADOPTED IBC.

KEY NOTES:

- 1. MAIN RUNNER.
- 2. STABILIZER BAR.
- 3. CROSS TEE.
- 4. ANGLE MOLDING.
- 5. POP RIVET / SCREW



ARMSTRONG DRYWALL GRID SYSTEM 1 1/2" X 1 1/2" CROSS TEES @ 24" O.C. (ICC ESR #1289)



5/8" TYPE "X" GYPSUM BOARD WITH TAPED JOINTS SANDED SMOOTH.

ARMSTRONG DRYWALL GRID SYSTEM 1 1/2" X 1 1/2" MAIN RUNNER @ 48" O.C. (ICC ESR #1289)

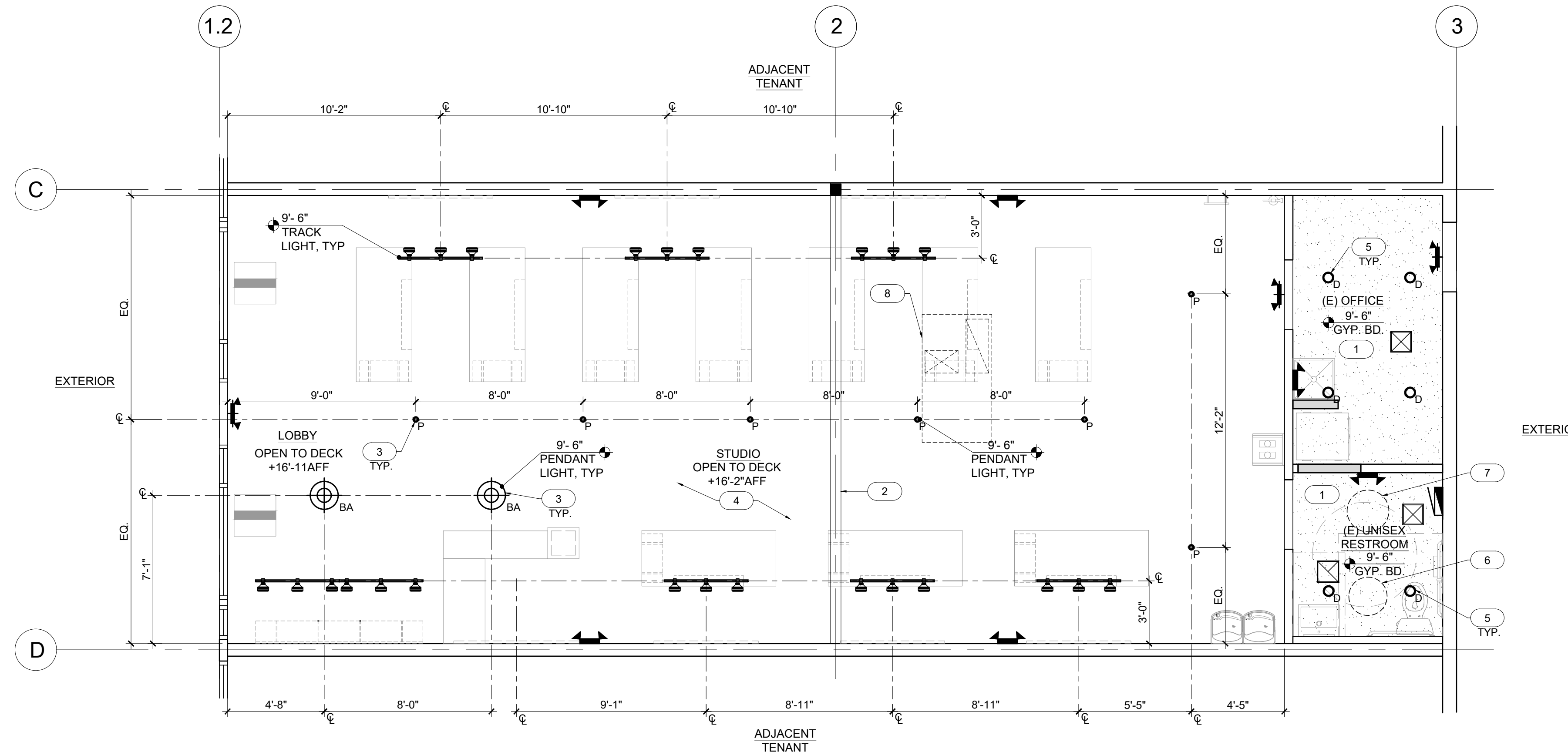
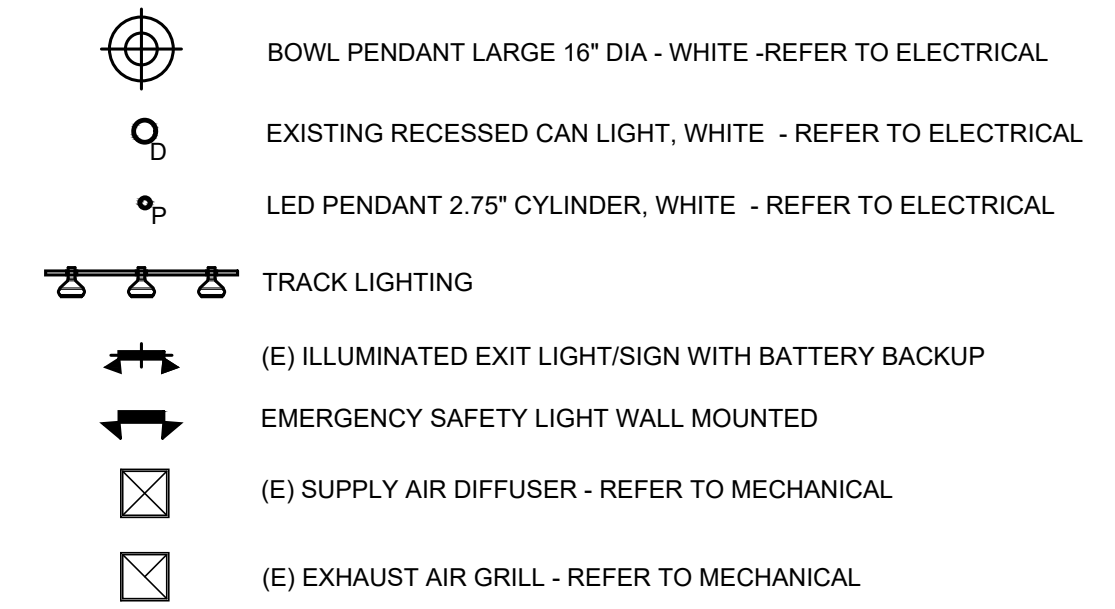
3 SUSPENDED CEILING @ WALL
SCALE: 1" = 1'-0"

6 SUSPENDED GYP. BOARD CEILING
SCALE: 3/4" = 1'-0"

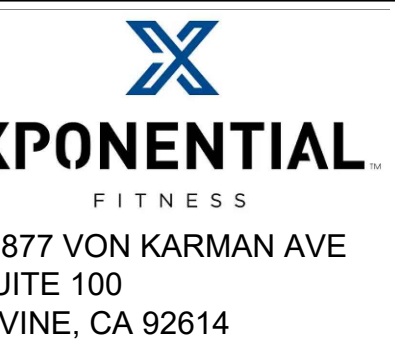
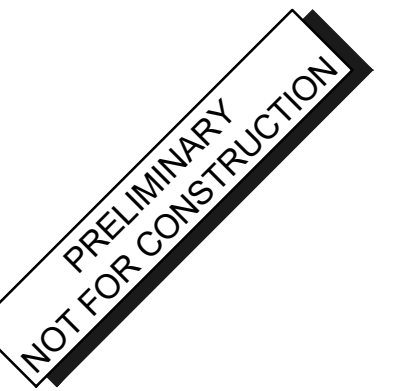
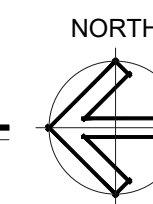
KEYNOTES - REFLECTED CEILING PLAN

- 1. (E) GYPSUM BOARD CEILING. PAINT PT-1
- 2. (E) BEAM. PAINT PT-1
- 3. NEW LIGHTING FIXTURES - REFER TO ELECTRICAL DRAWINGS.
- 4. OPEN TO DECK. PAINT EXPOSED STRUCTURE. PAINT PT-1.
- 5. (E) RECESSED CAN LIGHT FIXTURES - REFER TO ELECTRICAL DRAWINGS.
- 6. (E) RESTROOM WATER HEATER ABOVE CEILING - REFER TO PLUMBING DRAWINGS.
- 7. NEW WATER HEATER ABOVE CEILING - REFER TO PLUMBING DRAWINGS.
- 8. (E) ROOF MOUNTED HVAC UNIT - REFER TO MECHANICAL DRAWINGS.

LEGEND - REFLECTED CEILING PLAN



1 REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"



PROJECT ADDRESS:
1242 S. HOVER STREET
UNIT B200
LONGMONT, CO. 80501

REVISIONS:

TITLE:
REFLECTED
CEILING PLAN

DATE:
11.01.2022
PROJECT NO.
22-254

SHEET NO.

A3.0

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GENERAL NOTES - INTERIOR ELEVATIONS

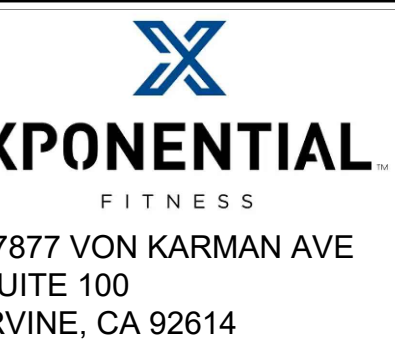
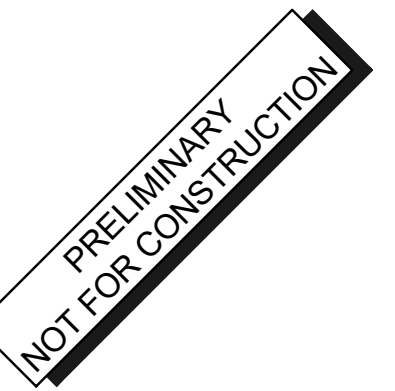
- A. GENERAL CONTRACTOR TO PROVIDE AND INSTALL SOLID WOOD BLOCKING OR PLYWOOD FOR ALL WALL MOUNTED ITEMS; SIGNAGE, EQUIPMENT, MILLWORK, ETC. COORDINATE EXACT LOCATIONS WITH YOGA SIX CONSTRUCTION REPRESENTATIVE AS REQUIRED.
- B. FOR EQUIPMENT AND MILLWORK, REFER TO EQUIPMENT AND FURNITURE PLAN - SHEET A1.0
- C. FOR BACKING - SEE DETAILS ON SHEET A1.0

KEYNOTES - INTERIOR ELEVATIONS

- 1. EXISTING STOREFRONT SYSTEM TO REMAIN
- 2. 60" X 40" ARTWORK .
- 3. PAINT BREAK-WHITE LOBBY TO BLUE STUDIO (ALIGN WITH BACK OF FRONT DESK). PROVIDE FULL HEIGHT 1X2 TRIM PAINTED PT-1.
- 4. TACTILE EXIT SIGN
- 5. WALL MOUNTED OUTLET, SEE ELECTRICAL DRAWINGS
- 6. FIRE EXTINGUISHER
- 7. TACTILE RESTROOM SIGN W/18" X 18" CLEAR FLOOR
- 8. HI/ LOW DRINKING FOUNTAIN
- 9. EXIST SIGN

SIGNAGE / GRAPHICS LEGEND

TAG	QTY.	ITEM	DESCRIPTION	NOTES
G-1	1	STOREFRONT GRAPHIC	DOOR VINYL	-
G-2	1	STRETCH LAB LOGO	INTERIOR FCO SINTRA LETTERS	6'-0" X 11 5/8"
G-3	1	LIVE LONG LOGO	INTERIOR FCO SINTRA LETTERS	@ BRICK VENEER WALL
G-4	1	STRETCH LAB LOGO	VINYL	@ MAPS MACHINE



REVISIONS:

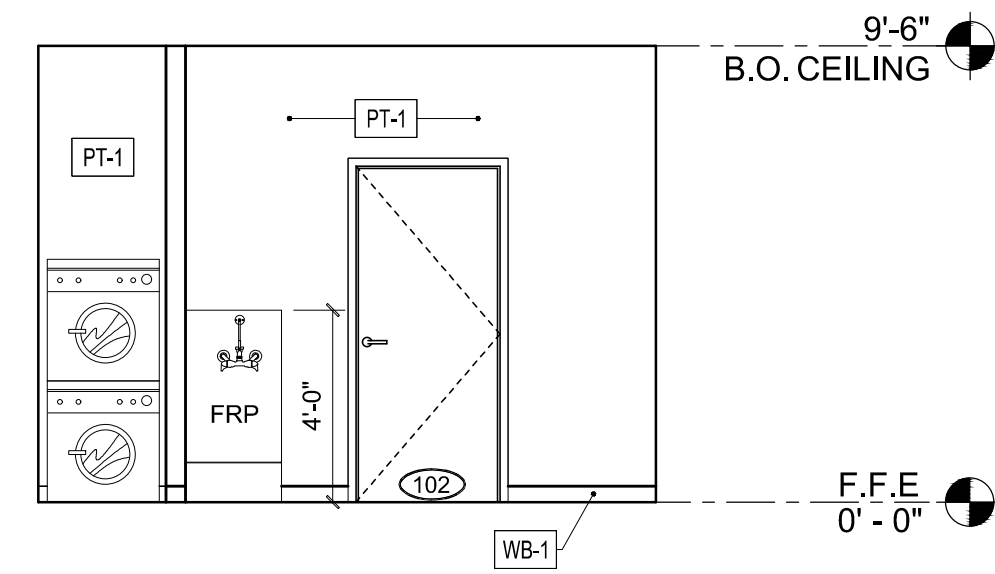
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INTERIOR ELEVATIONS

DATE:
11.01.2022

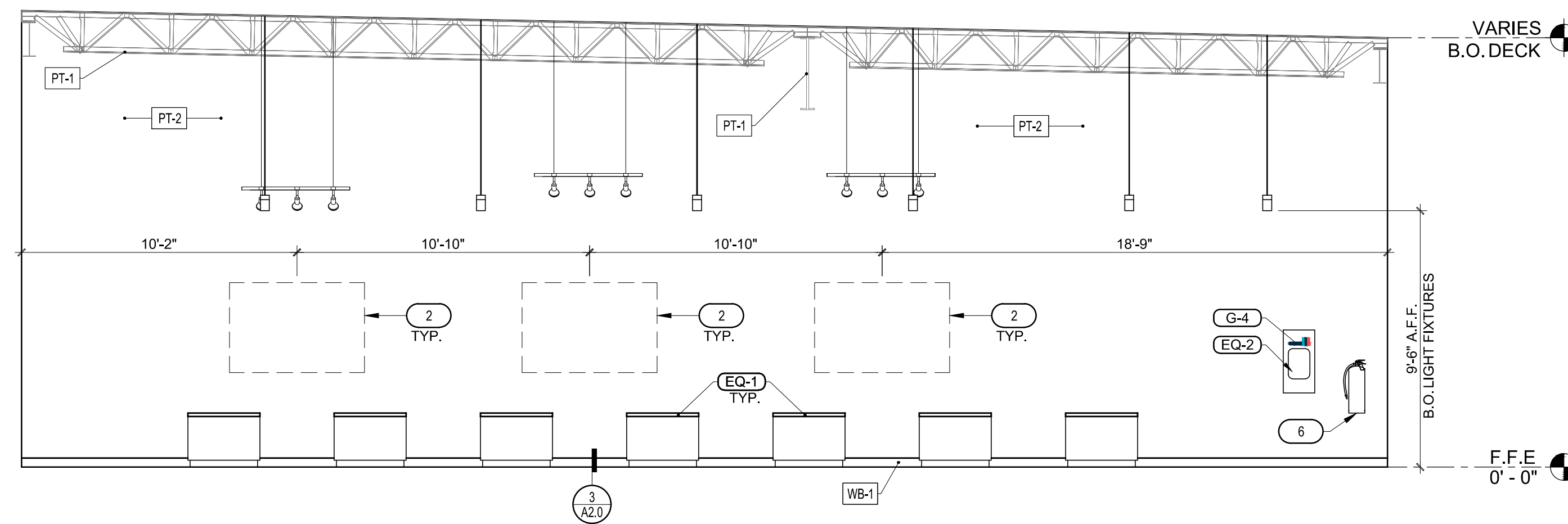
PROJECT NO.
22-254

SHEET NO.

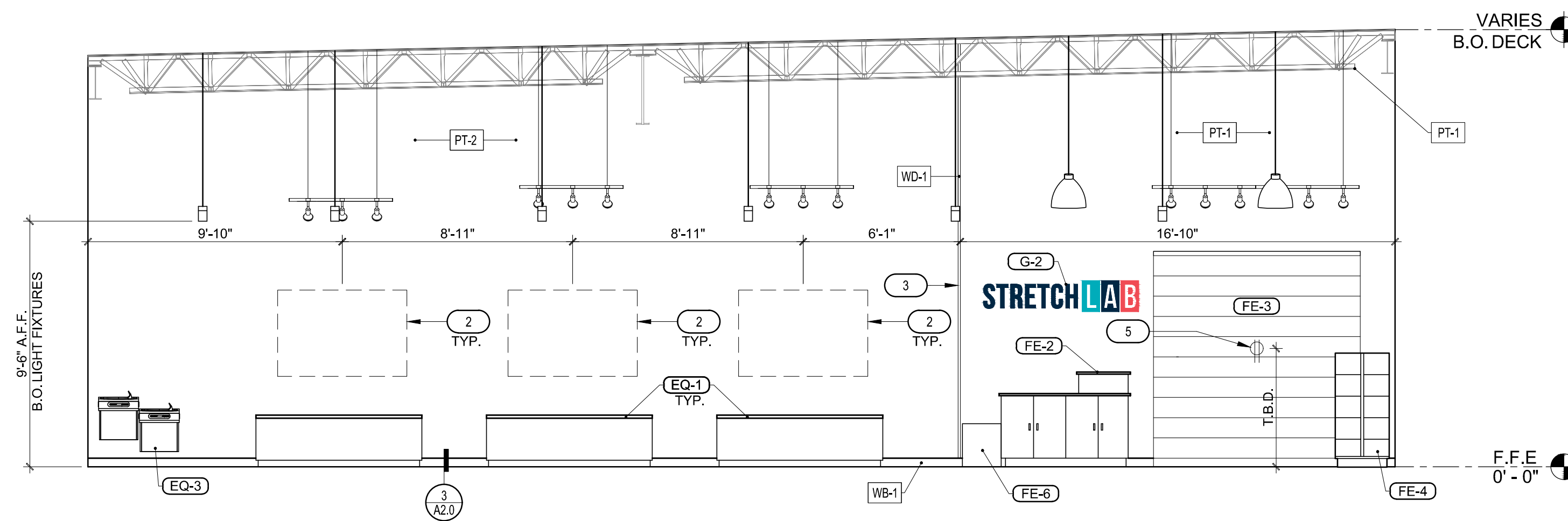
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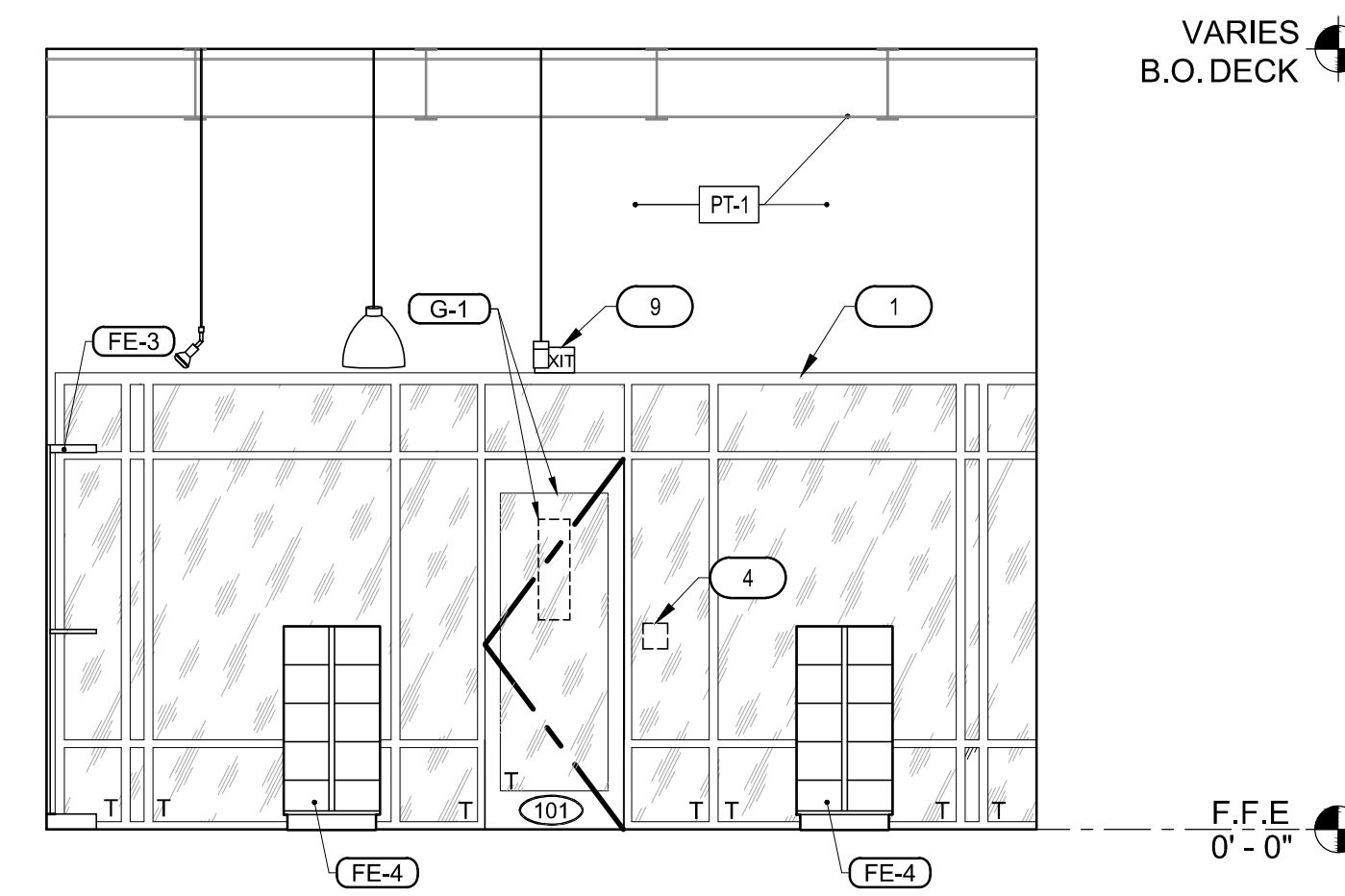
5 INTERIOR ELEVATION - EXISTING OFFICE
SCALE: 1/4" = 1'-0"



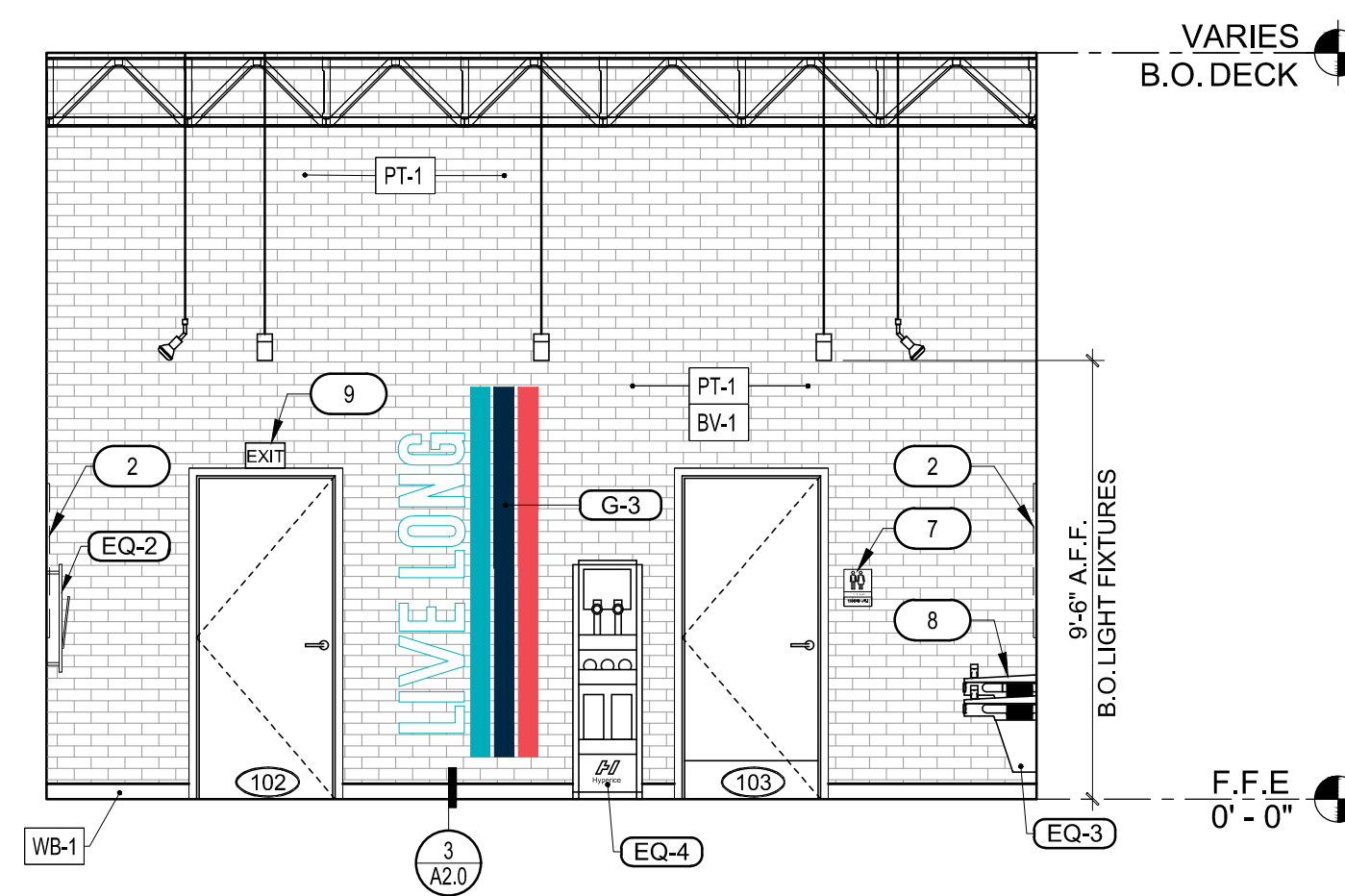
4 INTERIOR ELEVATION - LOBBY/ STUDIO
SCALE: 1/4" = 1'-0"



2 INTERIOR ELEVATION - LOBBY/ STUDIO
SCALE: 1/4" = 1'-0"

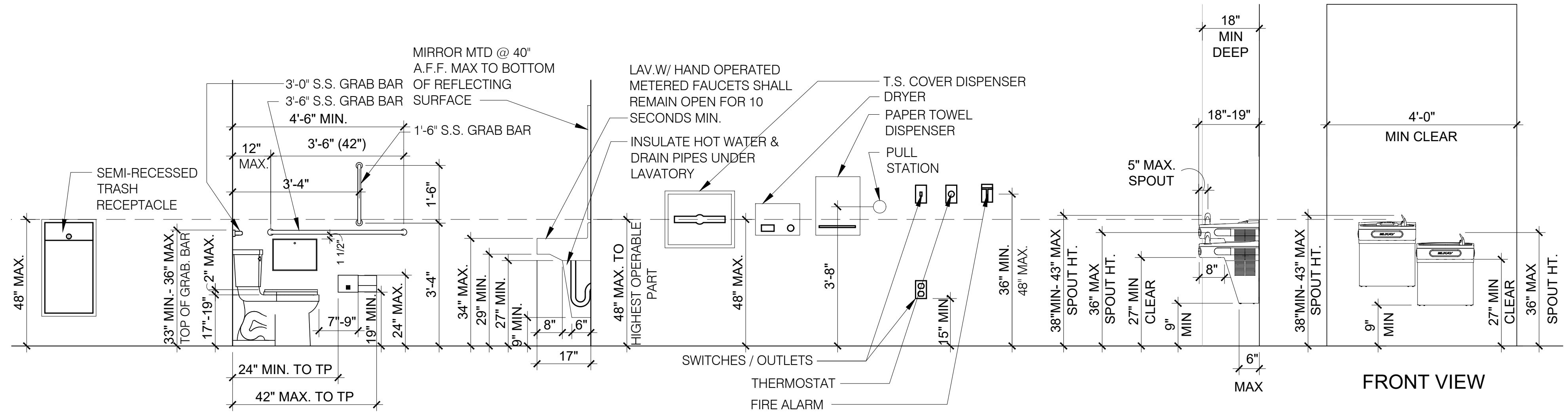


3 INTERIOR ELEVATION - LOBBY
SCALE: 1/4" = 1'-0"



1 INTERIOR ELEVATION - STUDIO/RESTROOM
SCALE: 1/4" = 1'-0"

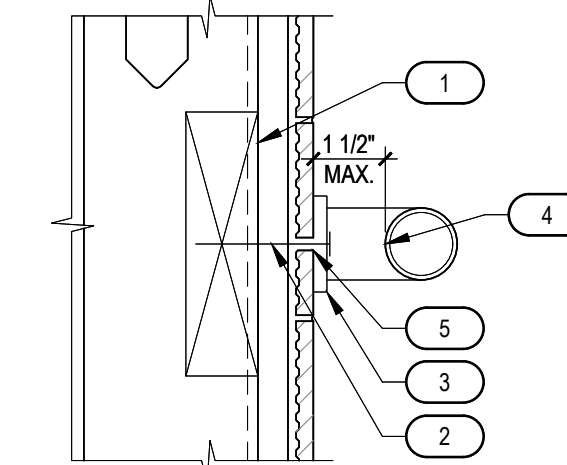
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7 ADA MOUNTING HEIGHTS AND CLEARANCES FOR ACCESSIBILITY

SCALE: 1/2" = 1'-0"

- KEY NOTES**
- 2x6 BLOCKING AT STUD WALL, TYP.
 - 2#10 SCREWS AT STUD WALL, TYP.
 - 1/8" x 2" BENT PLATE WELDED TO RAIL AND 1/8" x 3" DIAMETER MOUNTING PLATE AT 4'-0".
 - GRAB BAR SHALL BE 1-1/2" MAX. OUTSIDE DIAMETER TO FINAL WALL FINISH, TYP.
 - DIAMOND DRILL THRU TILE.



6 GRAB BAR BACKING

SCALE: 3" = 1'-0"

GENERAL NOTES - ENLARGED PLAN

- PROVIDE 1-1/2" CLEARANCE BETWEEN WALL AND GRAB BARS.
- DRAIN AND HOT WATER PIPES UNDER ALL LAVATORIES TO BE INSULATED.
- GRAB BARS SHALL BE DESIGNED TO SUPPORT 250LB. LOAD AND SHALL NOT ROTATE WITHIN THEIR FITTINGS.
- FLUSH VALVE CONTROL ON WATER CLOSET SHALL BE OPERABLE BY AN OSCILLATING HANDLE WITH MAXIMUM FORCE OF 5 LBS. TOP OF ALL ELECTRICAL SWITCHES AND CONVENIENCE OUTLET NOT TO EXCEED 40", TYPICAL THROUGH-OUT.
- CONTROLS FOR WATER CLOSET FLUSH VALVES SHALL BE MOUNTED THE WIDE SIDE OF TOILET AREAS.
- NO SHARP OR ABRASIVE SURFACES IN FRONT OF LAVATORIES.
- OPERATING PARTS OF DISPENSING AND DISPOSAL FIXTURES (TOWELS, WASTE, COIN SLOTS ETC.) ARE TO BE AT 40" A.F.F. MAX.
- THE RESTROOM DOORS MUST BE WELL FITTING AND SELF-CLOSING.
- TOILET ACCESSORIES LOCATED ON OR WITHIN WALLS BE INSTALLED AND SEALED TO PROTECT STRUCTURAL ELEMENTS FROM MOISTURE.
- FAUCET CONTROLS AND OPERATING MECHANISM SHALL BE OF TYPE NOT REQUIRING TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST & AN OPERATING FORCE NOT EXCEEDING 5 LBS.
- REGARDLESS OF STALL CONFIGURATION, 48" LONG MIN. CLEARANCE FLOOR SPACE SHALL BE PROVIDED IN FRONT OF THE WATER CLOSET.
- WATER CLOSET COMPARTMENTS SHALL BE EQUIPPED WITH A DOOR THAT HAS AN AUTOMATIC CLOSING DEVICE, AND SHALL HAVE A CLEAR UNOBSTRUCTED OPENING WIDTH OF 32" WITH THE DOOR POSITIONED AT AN ANGLE OF 90 DEGREES FROM ITS CLOSED POSITION.

KEYNOTES-ACCESSORY FIXTURES

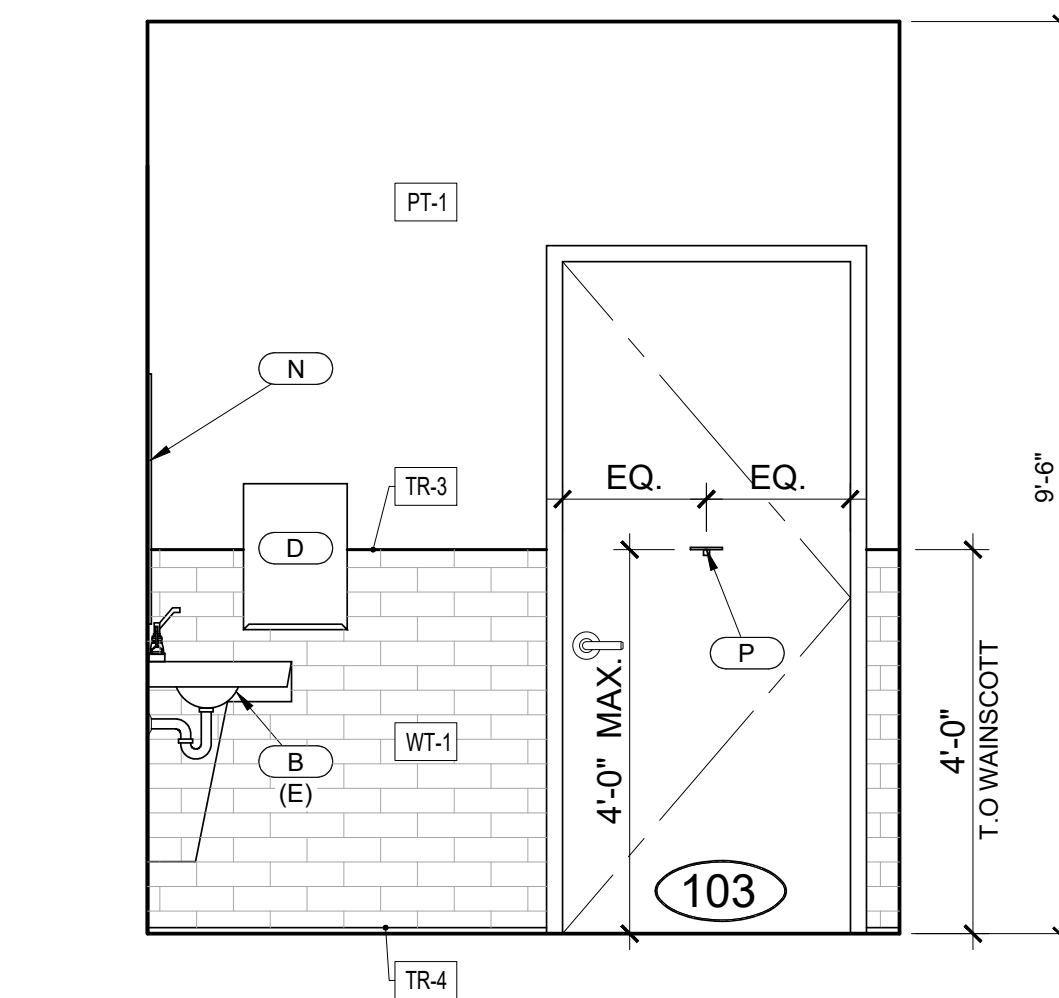
TAG	QTY.	ITEM	MANUFACTURER
A	-	FLOOR MOUNTED ELONGATED TOILET	EXISTING
B	-	WALL MOUNTED LAVATORY W/ ELECTRONIC FAUCET	EXISTING
C	1	SURFACE MOUNTED SOAP DISPENSER	CINTAS SIGNATURE SERIES, COLOR WHITE
D	1	SURFACE MOUNTED PAPER TOWEL DISPENSER	CINTAS SIGNATURE SERIES, COLOR WHITE
E	1	RECESSED MOUNTED SANITARY NAPKIN DISPOSAL	BOBRICK MODEL #B-4353 CONTURA SERIES (SATIN FINISH)
F	1	SURFACE MOUNTED MULTI-ROLL TOILET TISSUE DISPENSER	CINTAS SIGNATURE SERIES, COLOR WHITE
G	1	SURFACE MOUNTED SEAT COVER DISPENSER	BOBRICK MODEL #B-221 CLASSIC SERIES (SATIN FINISH)
H	-	3'-6" GRAB BAR	EXISTING
J	-	3'-0" GRAB BAR	EXISTING
K	-	1'-8" VERTICAL GRAB BAR	EXISTING
M	1	TACTILE ACCESSIBLE SIGN, MOUNTED STRIKE SIDE	-
N	-	MIRROR	EXISTING
P	1	COAT HOOK BUMPER	BOBRICK MODEL #B-212 (SOLID CAST ALUM. WITH MATTE FINISH)
Q	1	SIGNAGE	SIGNAGE: CREW MUST WASH HANDS

* EXISTING ACCESSORIES, IF ANY, MAY BE REUSED WITH THE APPROVAL FROM STRETCHLAB CORPORATE.

LEGEND - GENERAL

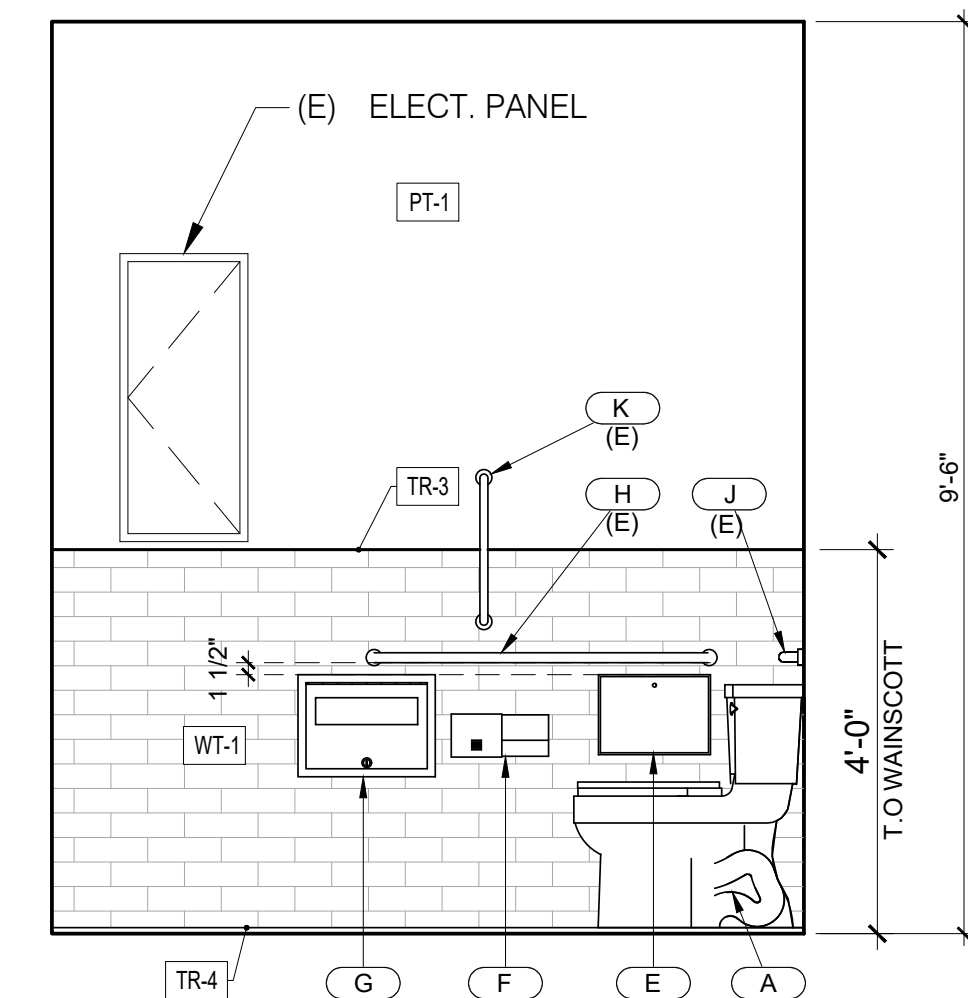
- WALL TAG - SEE WALL TYPES SHEET G2.0
- DOOR TAG - SEE SCHEDULE ON SHEET G3.0
- EQUIPMENT TAG - SEE SCHEDULE ON SHEET A1.0
- MATERIAL TAG - SEE SCHEDULE ON SHEET A2.0

NOTE: GC SHALL VERIFY EXISTING CONDITIONS AND RELOCATE/ RE-INSTALL ITEMS AND ACCESSORIES THAT ARE NOT TO CURRENT CODES AND STANDARDS.



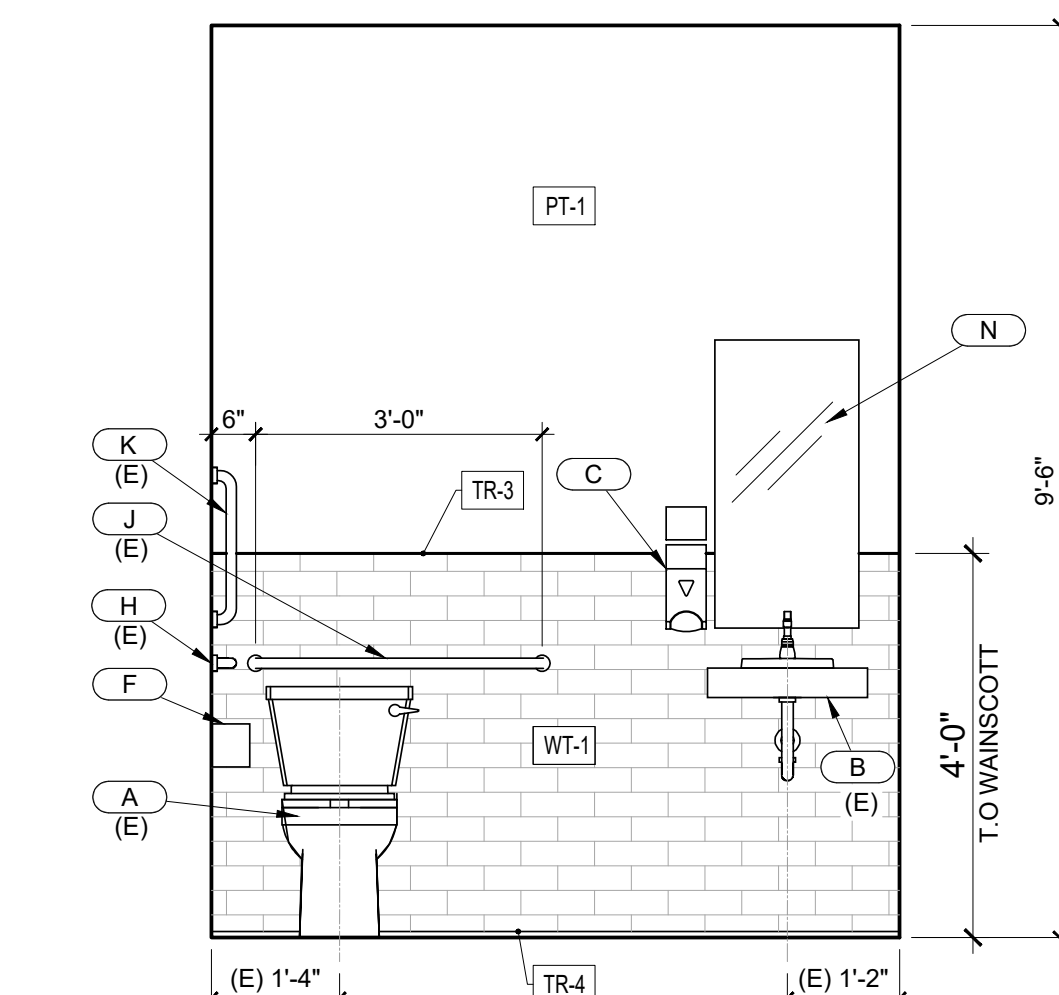
5 INTERIOR ELEVATION - RESTROOM

SCALE: 1/2" = 1'-0"



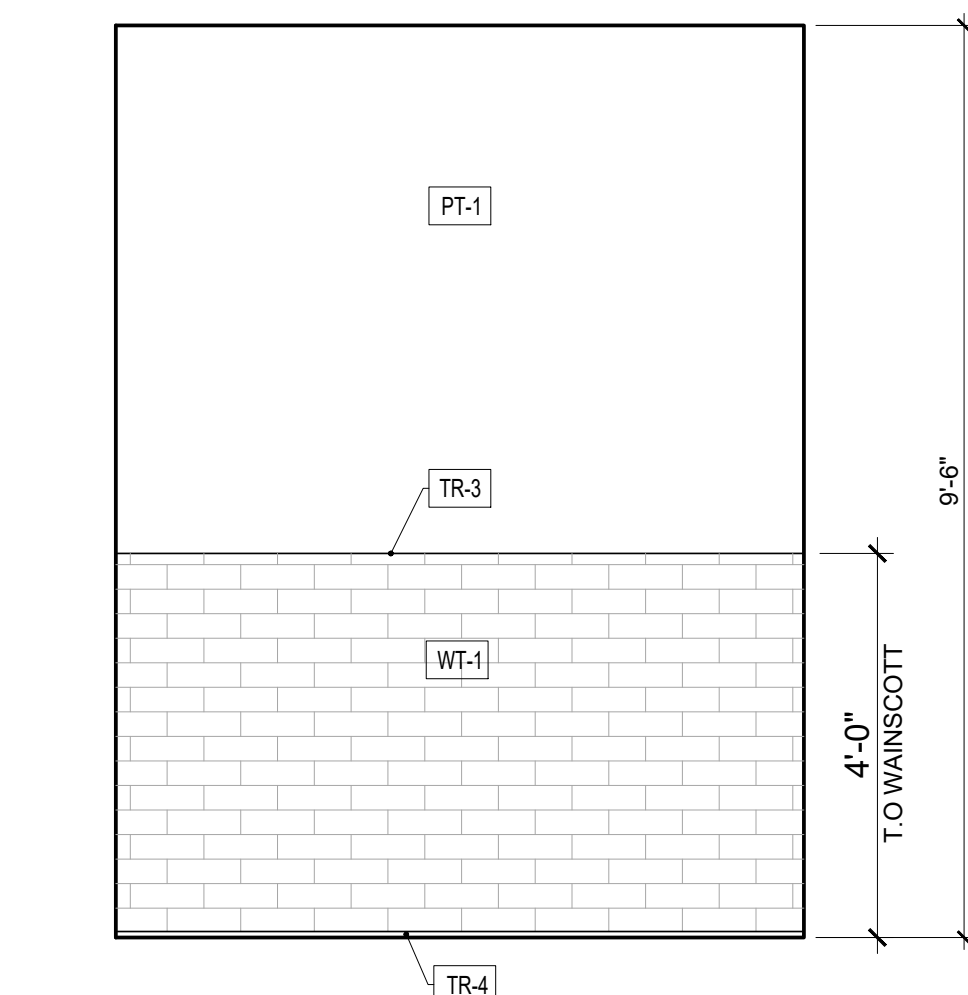
3 INTERIOR ELEVATION - RESTROOM

SCALE: 1/2" = 1'-0"



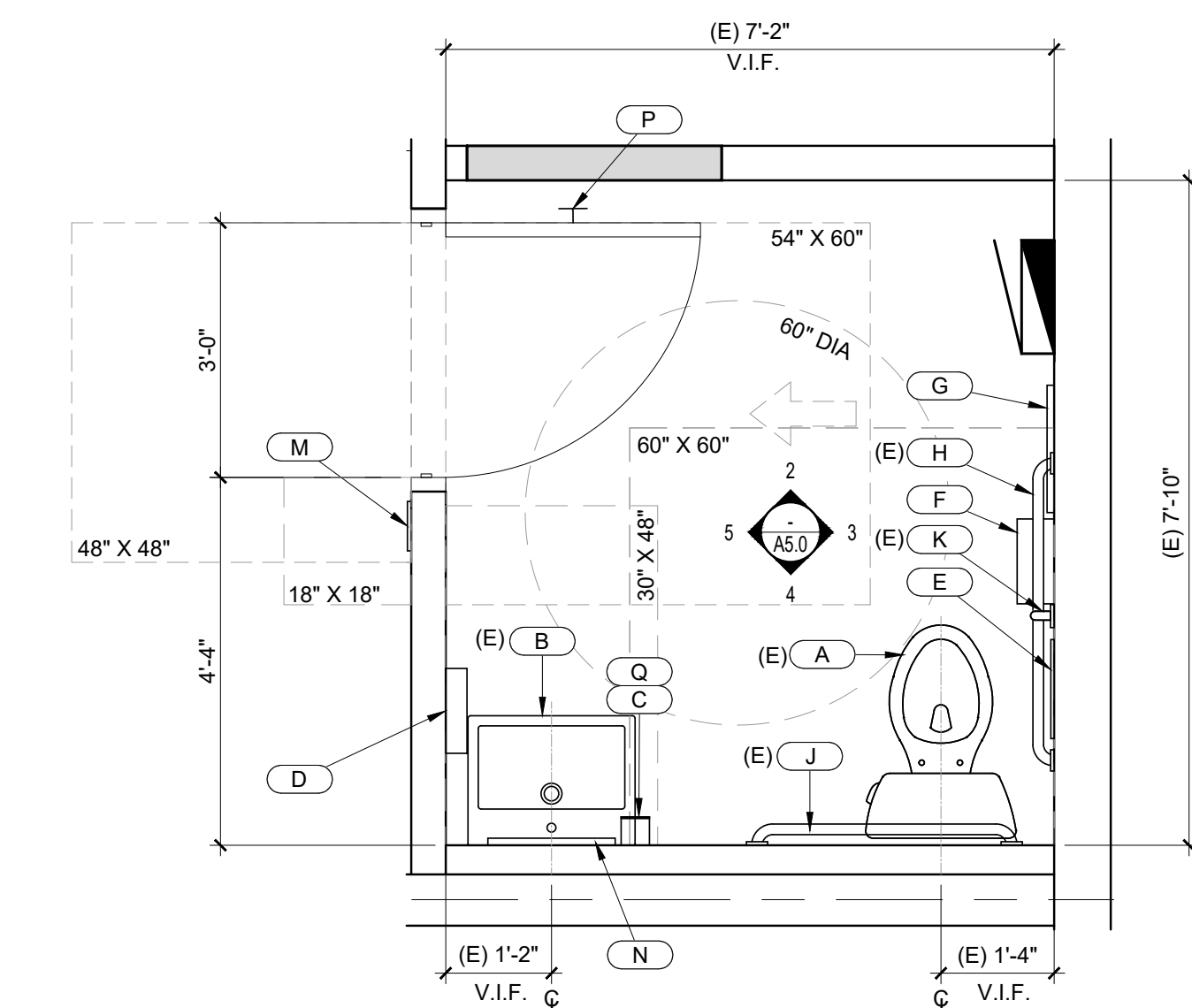
4 INTERIOR ELEVATION - RESTROOM

SCALE: 1/2" = 1'-0"



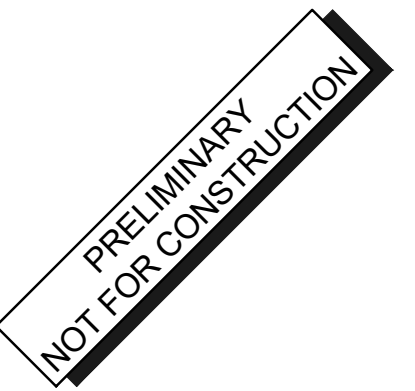
2 INTERIOR ELEVATION - RESTROOM

SCALE: 1/2" = 1'-0"



1 ENLARGED RESTROOMS PLAN

SCALE: 1/2" = 1'-0"



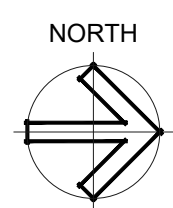
PROJECT ADDRESS:
1242 S. HOVER STREET
UNIT B200
LONGMONT, CO. 80501

REVISIONS:

TITLE:
ENLARGED RESTROOM PLAN AND ELEVATIONS

DATE:
11.01.2022
PROJECT NO.
22-254

SHEET NO.
A5.0



MECHANICAL SYMBOLS

NOTE: THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ETC. ARE NECESSARILY USED ON THE DRAWINGS.

HVAC EQUIPMENT & DUCTWORK

NOTE: ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE DIMENSIONS.

- EXISTING DUCTWORK OR EQUIPMENT TO REMAIN
- EXISTING DUCTWORK OR EQUIPMENT TO BE REMOVED
- BRANCH DUCT WITH 45° RECTANGLE-ROUND BRANCH FITTING AND MANUAL VOLUME DAMPER
- ELBOW WITH TURNING VANES
- LINEAR SLOT DIFFUSER
- INSULATED FLEXIBLE DUCT (MAX. 5'-0" LONG)
- EXHAUST AIR DUCT UP
- EXHAUST AIR DUCT DOWN
- RETURN AIR DUCT UP
- RETURN AIR DUCT DOWN
- SUPPLY OR OUTSIDE AIR DUCT UP
- SUPPLY OR OUTSIDE AIR DUCT DOWN
- DUCT ROOF PENETRATION
- EQUIPMENT WITH FLEXIBLE DUCT CONNECTION
- 10" CD-1 300 CFM NECK SIZE, TYPE, CFM OF SUPPLY DIFFUSER OR REGISTER
- MANUAL VOLUME DAMPER
- SQUARE TO ROUND TRANSITION
- DUCT MOUNTED SMOKE DETECTOR (SD=SUPPLY/RD=RETURN)
- FIRE DAMPER
- FIRE SMOKE DAMPER
- SMOKE DAMPER
- VOLUME DAMPER
- MOTORIZED DAMPER
- BACKDRAFT DAMPER
- CARBON MONOXIDE SENSOR
- CARBON DIOXIDE SENSOR
- HUMIDITY SENSOR
- PULL STATION
- STATIC PRESSURE SENSOR
- TEMPERATURE SENSOR
- HUMIDISTAT
- THERMOSTAT

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	MC	MECHANICAL CONTRACTOR
BAS	BUILDING AUTOMATION SYSTEM	MIN	MINIMUM
BD	BACKDRAFT DAMPER	NC	NOISE CRITERIA
CFM	CUBIC FEET PER MINUTE	OA	OUTSIDE AIR
DDC	DIRECT DIGITAL CONTROL	RA	RETURN AIR
DX	DIRECT EXPANSION	SA	SUPPLY AIR
EA	EXHAUST AIR	SD	SMOKE DUCT DETECTOR
FFA	FROM FLOOR ABOVE	TFA	TO FLOOR ABOVE
FFB	FROM FLOOR BELOW	TFB	TO FLOOR BELOW
GPM	GALLONS PER MINUTE	TYP	TYPICAL
IN WC	INCHES OF WATER COLUMN	UNO	UNLESS NOTED OTHERWISE
MAX	MAXIMUM	W/	WITH
MBH	1000 BTU PER HOUR	W/O	WITHOUT

STANDARD MOUNTING HEIGHTS

MECHANICAL	(AFF, AFG, UNLESS NOTED OTHERWISE)
THERMOSTATS (USER ADJUSTABLE)(TOP OF DEVICE)	48"
CONTROLS (TOP OF DEVICE)	48"

ANNOTATION

- MECHANICAL PLAN CALLOUT
- MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
- CONNECTION POINT OF NEW WORK TO EXISTING
- DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
- SECTION CUT DESIGNATION

GENERAL MECHANICAL NOTES:

- A. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- B. COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. INSTALL DUCTWORK AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF DUCTWORK TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. ANY MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
- C. NEW MECHANICAL EQUIPMENT AND DUCTWORK ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
- D. REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. VERIFY CHASES AND PENETRATIONS SHOWN ON ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR DUCTWORK AND PIPING MEET REQUIREMENTS.
- E. COORDINATE LOCATION OF ROOF MOUNTED HVAC EQUIPMENT AND ROOF PENETRATIONS WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- F. INDOOR AIR QUALITY MEASURES: PROTECT INSIDE OF (INSTALLED AND DELIVERED) DUCTWORK AND HVAC UNITS FROM EXPOSURE TO DUST, DIRT, PAINT AND MOISTURE. REPLACE INSULATION THAT HAS GOTTEN WET AT ANY TIME DURING CONSTRUCTION, DRYING THE INSULATION IS NOT ACCEPTABLE. SEAL ANY TEARS OR JOINTS OF INTERNAL FIBERGLASS INSULATION. REMOVE DEBRIS FROM CEILING/RETURN AIR PLENUM INCLUDING DUST. AN INDEPENDENT, PROFESSIONAL DUCT CLEANING COMPANY SHALL VACUUM CLEAN ANY DUCTWORK CONNECTED TO HVAC UNITS THAT WERE OPERATED DURING THE CONSTRUCTION PERIOD AFTER NEW FILTERS, MINIMUM MERV-8, ARE INSTALLED AND PRIOR TO TURNING SYSTEM OVER TO THE OWNER.
- G. INSTALL DUCTWORK PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.
- H. OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF EXCEPT WHERE CONCRETE INSERTS IN CONCRETE SLABS ARE ALLOWED BY THE SPECIFICATIONS.
- I. COORDINATE LOCATION OF EQUIPMENT SUPPORTS WITH LOCATION OF EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT AND/OR FILTER REPLACEMENT.
- J. SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
- K. COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL AND DUCT INSTALLATION REQUIREMENTS.
- L. ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID AND LIGHTING LOCATIONS.
- M. LOCATE AND SET THERMOSTATS SENSORS AT LOCATIONS SHOWN ON PLANS. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. INSTALL THERMOSTATS WITH TOP OF DEVICE AT MAXIMUM 48" AFF TO MEET ADA REQUIREMENTS UNLESS NOTED OTHERWISE ON PLANS. TEMPERATURE SENSORS SHALL BE MOUNTED AT A MAXIMUM OF 72" AFF. INSTALL WIRING IN CONDUIT PROVIDED BY DIVISION 16.
- N. PROVIDE A MANUAL BALANCING DAMPER IN EACH BRANCH DUCT TAKEOFF FROM MAIN SUPPLY, RETURN, OUTDOOR AND EXHAUST AIR DUCTS.
- O. PROVIDE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY, RECTANGULAR/ROUND BRANCH DUCT TAKEOFF FITTING WITH MANUAL BALANCING DAMPER AND LOCKING QUADRANT FOR BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS AND GRILLES.
- P. BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE NOTED.
- Q. RIGID DUCTWORK INSULATION: PROVIDE 3/4 LB DENSITY, MINIMUM R-6.0 DUCT WRAP, 2" THICK, INSULATION WRAP ON RIGID ROUND, CONCEALED, SUPPLY AND RETURN AIR DUCTS. PROVIDE 1-1/2" (R-6.0) THICK 1-1/2 LB DENSITY INTERNAL DUCT LINER ON RECTANGULAR SUPPLY AND RETURN AIR DUCTS. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE AIRFLOW DIMENSIONS, INCREASE SHEET METAL SIZES ACCORDINGLY.
- R. PROVIDE THERMAFLEX TYPE M-KE, FLEXMASTER TYPE 8, OR APPROVED EQUAL FLEXIBLE DUCTWORK. FLEXIBLE DUCTWORK SHALL BE LISTED UNDER UL 181 AS CLASS 1 AIR DUCT AND BE PROVIDED WITH INTEGRAL R-6.0, 3/4 LB DENSITY FIBERGLASS INSULATION. FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORTED TO AVOID SHARP BENDS AND SAGGING.
- S. PROVIDE A NEW SET OF AIR FILTERS IN UNITS PRIOR TO TESTING, ADJUSTING AND BALANCING, AND BEFORE TURNING SYSTEM(S) OVER TO OWNER.
- T. PROVIDE A COPY OF THE AIR BALANCE REPORT TO THE CITY INSPECTOR AT THE TIME OF INSPECTION.
- U. CONTRACTOR SHALL FIELD VERIFY THAT THE EXISTING EQUIPMENT INCLUDING ACCESSORIES BEING REUSED FOR THIS PROJECT IS NOT DAMAGED AND IS IN GOOD WORKING ORDER. REPORT ANY DEFICIENCIES TO THE OWNER OR ARCHITECT. CONTRACTOR SHALL SUBMIT TO THE OWNER AND ARCHITECT A WRITTEN REPORT DESCRIBING TESTS PERFORMED TO VERIFY OPERATION AND RESULTS OF THE TESTS.
- V. CLEAN EXISTING EQUIPMENT AND EQUIPMENT COMPONENTS BEING REUSED FOR THIS PROJECT. PROVIDE NEW FILTERS FOR EXISTING AIR HANDLING EQUIPMENT PRIOR TO STARTUP OF EQUIPMENT. NEW FILTERS SHALL BE COMPATIBLE WITH THE EXISTING EQUIPMENT AND EQUAL IN PERFORMANCE TO THE EXISTING FILTERS AT NEW CONDITION UNLESS OTHERWISE NOTED. CLEAN STRAINERS IN PIPING SYSTEMS PRIOR TO STARTING PUMPS.
- W. LUBRICATE EXISTING EQUIPMENT BEING REUSED FOR THIS PROJECT IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. OBTAIN INSTRUCTIONS FROM MANUFACTURER IF THEY ARE NOT AVAILABLE AT THE SITE.
- X. FULLY CHARGE EXISTING REFRIGERANT SYSTEMS BEING REUSED FOR THIS PROJECT IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. CHARGE SYSTEMS WITH NEW REFRIGERANT MATCHING EXISTING.

EXISTING ROOFTOP UNIT SCHEDULE (NATURAL GAS HEAT)

MARK	NOMINAL CAPACITY (TONS)	MANUFACTURER	MODEL	SUPPLY FAN				COOLING COIL				HEAT EXCHANGER				MIN. O/A CFM	EFFICIENCY RATING	ELECTRICAL			WEIGHT LBS	NOTES	
				FAN TYPE	AIRFLOW (CFM)	MIN HP	ESP (IN)	REFR. TYPE	TOTAL (MBH)	SENSIBLE (MBH)	EAT DB/WB (°F)	LAT DB/WB (°F)	MIN. OUTPUT (MBH)	EFFICIENCY (%)	NOM. INPUT (MBH)			MIN. LAT. DB (°F)	V/PH	MCA			MOC
RTU-1	5	CARRIER	48TCFA06A	FC	2,000	1.0	0.5	R410-A	60.0	N/A	80/67	60/58	120.0	80	150.0	-	270	-	208/3	30.0	ETR	-	A

A. EXISTING EQUIPMENT TO REMAIN. REPLACE FILTERS AND BALANCE OSA AS INDICATED ON SCHEDULE.

FAN SCHEDULE

MARK	SERVICE (EA, RA, SA)	MANUFACTURER	MOUNTING	MODEL	AIRFLOW (CFM)	ESP (IN)	DRIVE (BELT/DIRECT)	FAN POWER	FAN RPM	ELECTRICAL		WEIGHT (LBS)	NOTES
										V/PH	FLA		
EF-1 (ETR)	EXHAUST	GREENHECK	CEILING	SP-A90	75	0.2	DIRECT	15 W	900	120/1	--	15	D
EF-2	EXHAUST	GREENHECK	CEILING	SP-A200	150	0.3	DIRECT	49 W	900	120/1	--	24	A, B, C

- NOTES:
 A. PROVIDE RUBBER IN SHEAR ISOLATION AND ALL-THREAD HANGING RODS.
 B. MANUFACTURER TO PROVIDE WITH DECORATIVE GRILLE.
 C. INTERLOCK FAN OPERATION WITH LIGHT SWITCH.
 D. EXISTING FAN TO REMAIN.

GRILLE, REGISTER AND DIFFUSER SCHEDULE

MARK	MANUFACTURER	MODEL	FACE TYPE	MOUNTING LOCATION	FACE SIZE (IN)	MAX. NC	MAX. PRESS. DROP (IN. W.C.)	NOTES
CD-1	EXISTING	ETR	CONE	GYP.	12x12	-	-	A-E
CD-2	TITUS	TMS	CONE	GYP.	12x12	25	0.05	A-E
SR-1	TITUS	S300FL	LOUVERED	ROUND DUCT	NECK-1-1/2"	30	0.1	A,D,H
RG-1	TITUS	350FL	LOUVERED	DUCT/WALL	NECK-1-3/4"	25	0.1	A,D

- NOTES:
 A. NECK SIZE SHOWN ON DRAWINGS. BRANCH DUCT SIZE SHALL BE SAME AS NECK SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS.
 B. 4-WAY THROW PATTERN UNLESS OTHERWISE SHOWN ON DRAWINGS.
 C. BAKED ENAMEL FINISH, WHITE TO MATCH CEILING COLOR.
 D. FRAME TYPE TO MATCH MOUNTING LOCATION CONSTRUCTION MATERIAL. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLAN.
 E. PROVIDE OPPOSED BLADE DAMPER ADJUSTABLE FROM FACE OF DEVICE.
 H. PROVIDE WITH MANUFACTURER'S AIR SCOOP DEVICE.
 J. EXISTING DIFFUSER TO REMAIN.

OUTSIDE AIR REQUIREMENTS (IMC TABLE 403.3)

AREA PURPOSE	GROSS FLOOR AREA (SQ. FT)	CODE OUTSIDE AIR REQUIREMENTS					SYSTEM NUMBER	ACTUAL OUTSIDE AIR (CFM PER UNIT)
		CFM PER SQ. FT	CFM REQD.	CFM PER PERSON	OCCUPANCY DENSITY	NO. OF PEOPLE		
OFFICE	92	0.06	6	5.0	25	3	15	
LOBBY	244	0.06	15	5.0	5	2	10	
STUDIO	840	0.06	50	10.0	20	17	170	
TOTAL		1,176	TOTAL = 71			195	TOTAL = 270	

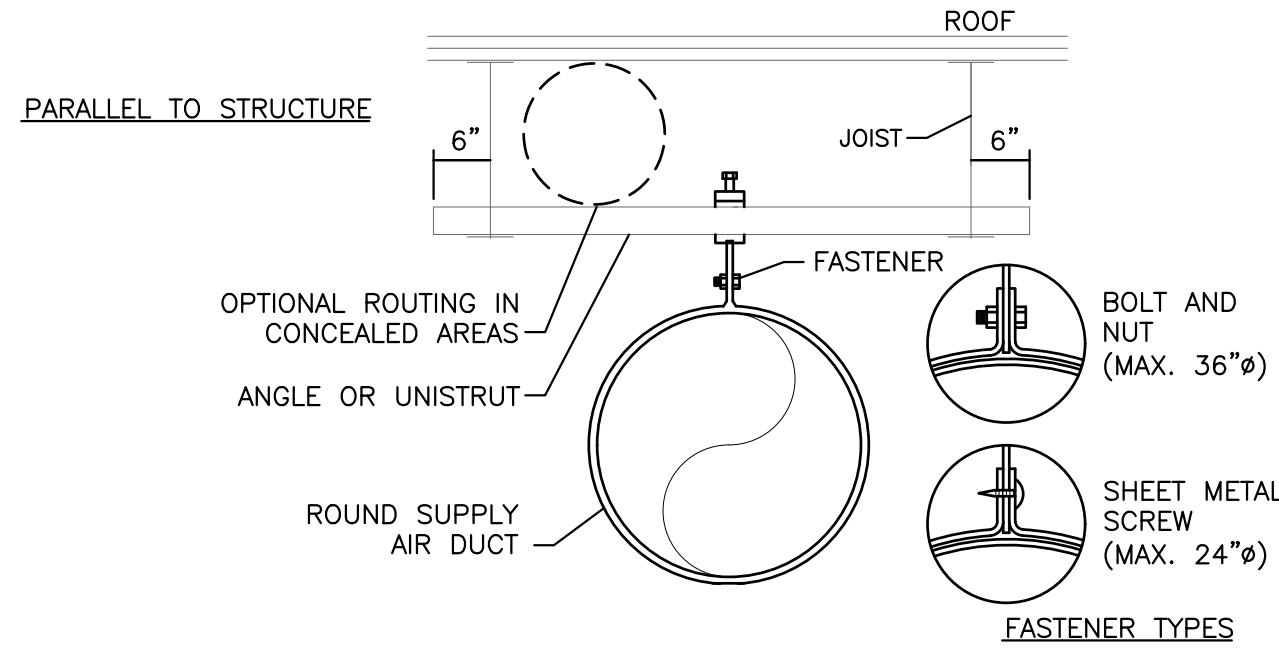
AIR BALANCE SCHEDULE

EXHAUST EQUIPMENT	AREA/EQUIPMENT SERVED	EXHAUST (CFM)	TOTALS (CFM)
EF-1(ETR)	RESTROOM	75	
EF-2	UTILITY	150	
			225

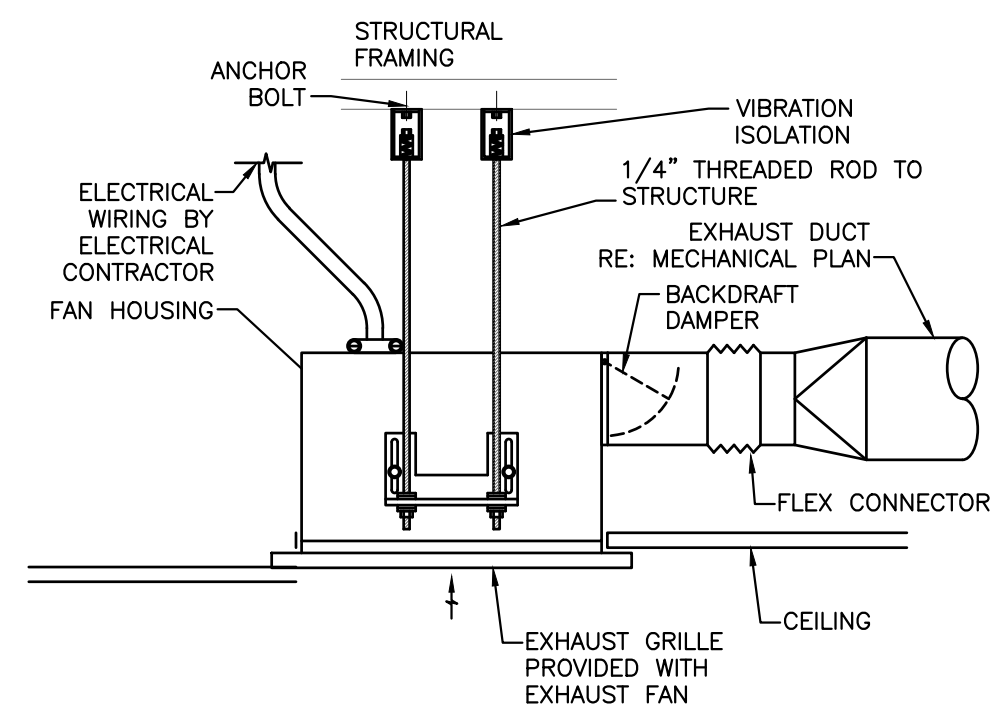
OUTDOOR AIR EQUIPMENT	AREA/EQUIPMENT SERVED	SUPPLY AIR (CFM)	DESIGN OA (CFM)	PERCENT OA/SA
RTU-1 (ETR)	STUDIO	2,000	270	13.5%
TOTAL AIRFLOW		2,000	270	13.5%
		TOTAL POSITIVE AIR FLOW		45
		PERCENT POSITIVE AIR FLOW		16.7%

EXHAUST AIR REQUIREMENTS

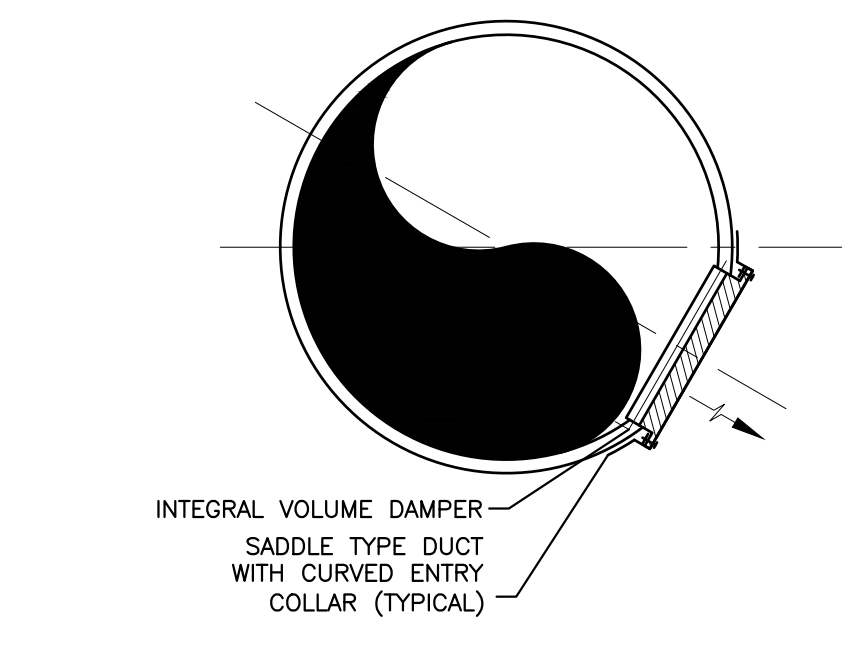
AREA PURPOSE	FIXTURE QUANTITY	GROSS FLOOR AREA (SQ. FT)	CODE EXHAUST AIR REQUIREMENTS IMC TABLE 403.3			SYSTEM NUMBER	ACTUAL EXHAUST AIR
			CFM PER SQ. FT	CFM PER FIXTURE	CFM REQD.		
PUBLIC RESTROOM	1	0	70	70	70	70	
			TOTAL = 70			TOTAL = 210	



1 ROUND DUCT SUPPORT DETAIL NO SCALE

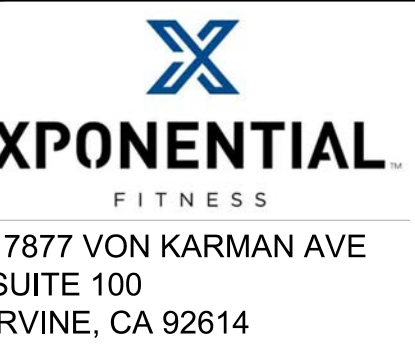
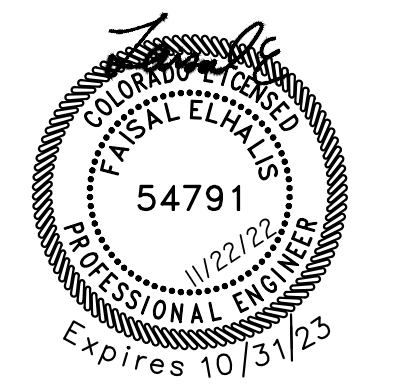


2 CEILING MOUNTED EXHAUST FAN NO SCALE



3 CURVED REGISTER MOUNTING TO ROUND DUCT DETAIL NO SCALE

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 1242 S. HOVER STREET
 UNIT B200
 LONGMONT, CO. 80501

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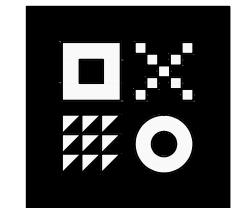
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MECHANICAL SCHEDULES

DATE:
 11.01.2022
 PROJECT NO.
 22-254

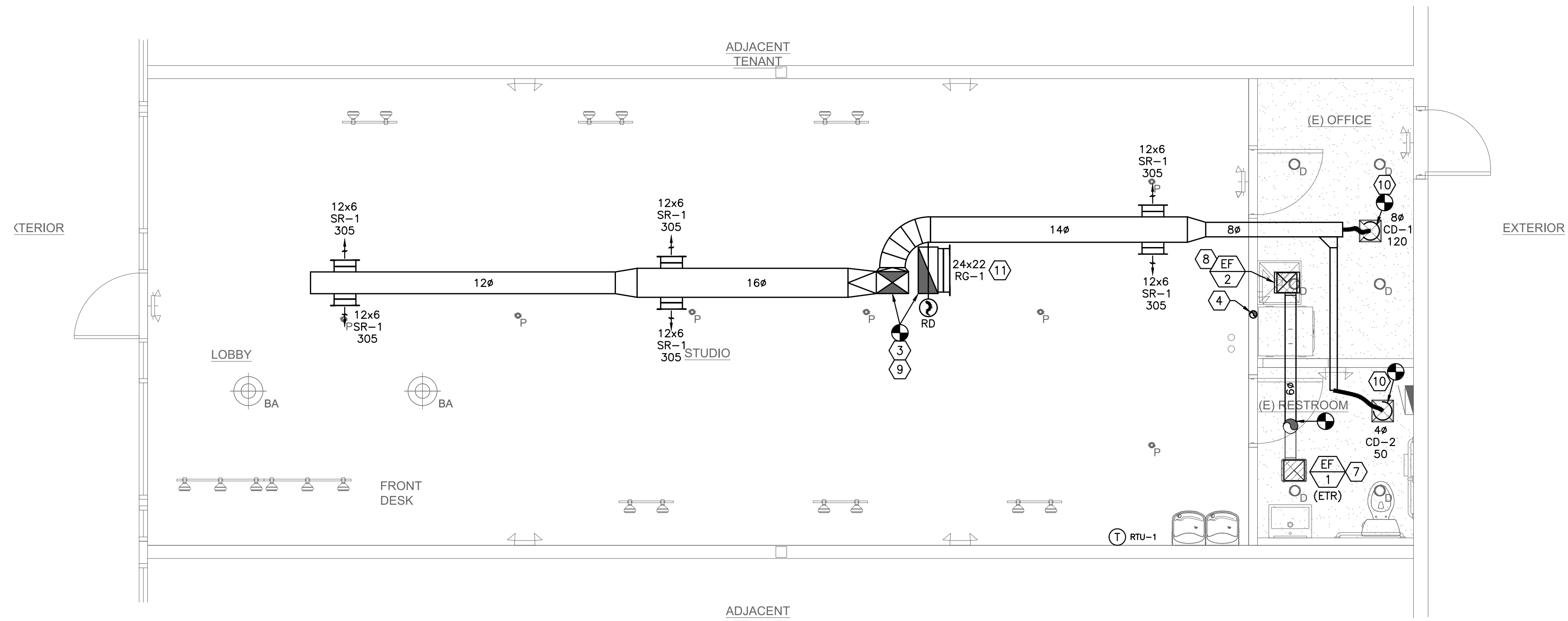
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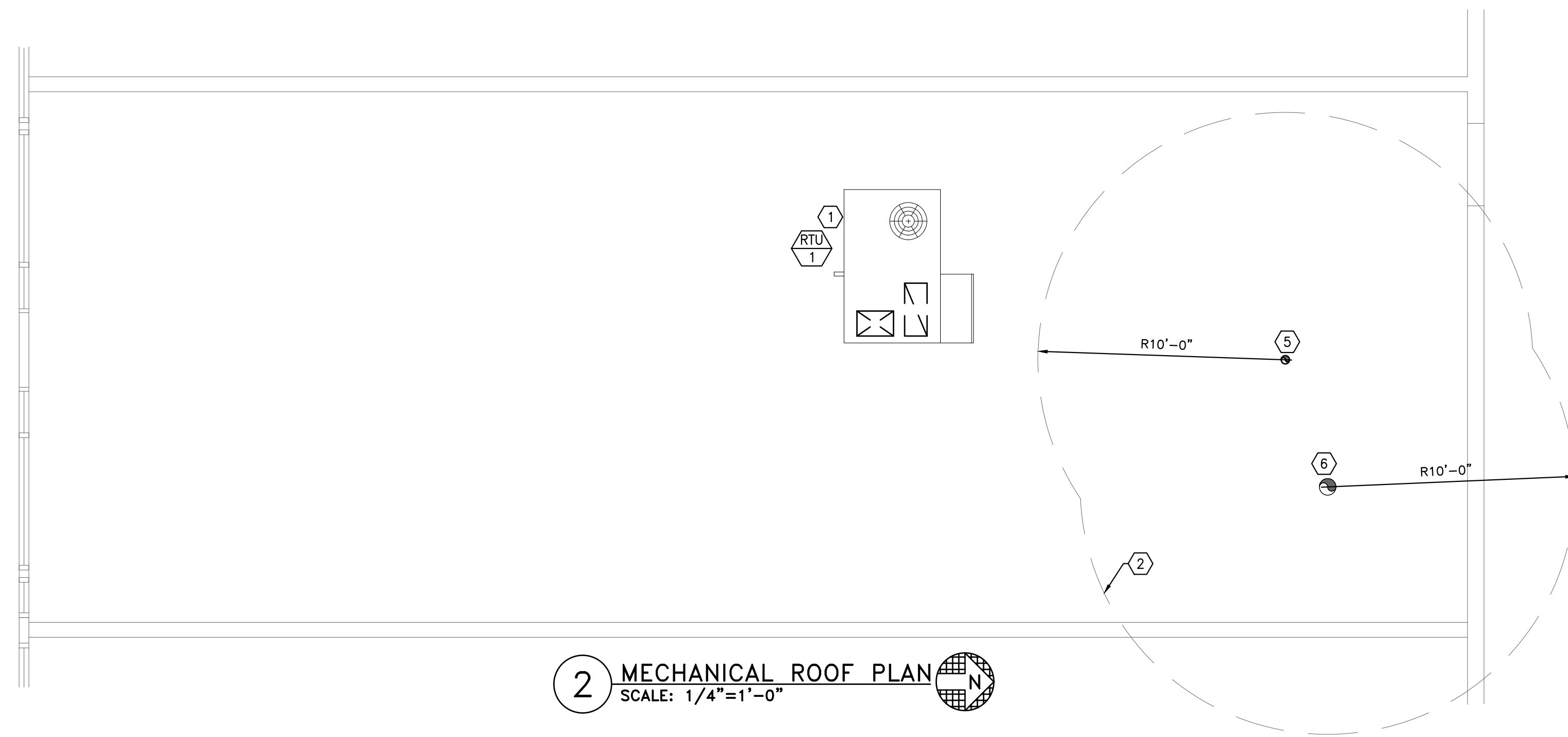


ARDEBILI Engineering
 Project Number: 22690 | Project Manager: KK
 7328 E Stetson Dr., Scottsdale, AZ 85251
 P: 480.626.7072 | ardebilieng.com

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



2 MECHANICAL ROOF PLAN
SCALE: 1/4"=1'-0"

MECHANICAL PLAN NOTES:

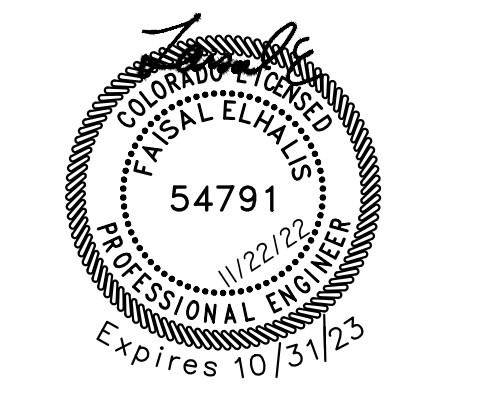
1. EXISTING TO REMAIN ROOF TOP UNIT WITH EXISTING SUPPLY AND RETURN DUCT DROPS DOWN THROUGH ROOF. ROUTE NEW DUCTWORK TO DIFFUSERS INDICATED ON PLAN. BALANCE OUTSIDE AIR DUCTWORK CFM TO AIRFLOW INDICATED ON PLAN. ELECTRICAL CONTRACTOR SHALL WIRE AND PROVIDE SMOKE DETECTOR AND MECHANICAL CONTRACTOR SHALL INSTALL SMOKE DETECTOR ON THE RETURN AIR DUCT. SMOKE DETECTOR SHALL SHUT DOWN ROOF TOP UNIT SUPPLY FAN UPON THE DETECTION OF SMOKE.
2. 10'-0" HORIZONTAL EXHAUST CLEARANCE RADIUS FROM EQUIPMENT AND BUILDING INTAKES.
3. ROUTE FULL SIZE SUPPLY AND RETURN AIR DUCTWORK THROUGH ROOF AND TRANSITION TO DUCTWORK INDICATED ON FLOOR PLAN. BALANCE OUTSIDE AIR DUCTWORK CFM TO AIRFLOW INDICATED ON PLAN. ELECTRICAL CONTRACTOR SHALL WIRE AND PROVIDE SMOKE DETECTOR ON THE RETURN AIR DUCT. SMOKE DETECTOR SHALL SHUT DOWN ROOF TOP UNIT SUPPLY FAN UPON THE DETECTION OF SMOKE.
4. ROUTE 4" DRYER VENT UP AND TERMINATE ON ROOF WITH ROOF VENT CAP. THE MAXIMUM LENGTH OF THE DRYER EXHAUST DUCT SHALL BE DETERMINED BY THE GREATER OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS OR 35 FEET FROM THE FROM THE DRYER TO THE OUTLET TERMINAL. WHERE FITTINGS ARE USED, SUBTRACT 5 FEET FOR EVERY 90 DEGREE ELBOW AND 2.5 FEET FOR EVERY 45 DEGREE ELBOW FROM THE TOTAL ALLOWABLE LENGTH.
5. LOCATION OF 4" DRYER VENT PIPE TERMINATION ON ROOF. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR TERMINATION INSTALLATION.
6. EXISTING RESTROOM EXHAUST TERMINATION ROOF CAP ON ROOF CURB.
7. EXISTING RESTROOM EXHAUST FAN TO REMAIN. INTERLOCK FAN OPERATION WITH WALL SWITCH AND SET FAN TO 75 CFM.
8. CEILING MOUNTED UTILITY EXHAUST FAN, INTERLOCKED WITH WALL SWITCH.
9. CONNECT NEW SA DUCTWORK TO EXISTING SA DUCT DROP.
10. CONNECT NEW SA DUCT TO EXISTING SA DIFFUSER NECK.
11. RETURN AIR GRILLE MOUNTED TO THE RETURN AIR DUCT DROP. EXTEND DUCT DOWN AS NECESSARY TO ACCOMMODATE HEIGHT OF RETURN GRILLE.

CONTRACTOR NOTE:

- A. EXISTING MECHANICAL EQUIPMENT LOCATIONS AND CONDITIONS HAVE NOT BEEN FIELD VERIFIED. CONTRACTOR TO FIELD VERIFY ALL EXISTING EQUIPMENT AND LOCATIONS PRIOR TO BEGINNING OF WORK. REPLACE WITH NEW IF EXISTING EQUIPMENT CAN NOT PROVIDE PERFORMANCE INDICATED ON PLANS.



15974 N. 77th ST., STE 100
SCOTTSDALE AZ 85260



17877 VON KARMAN AVE
SUITE 100
IRVINE, CA 92614



PROJECT ADDRESS:
1242 S. HOVER STREET
UNIT B200
LONGMONT, CO. 80501

REVISIONS:

TITLE:

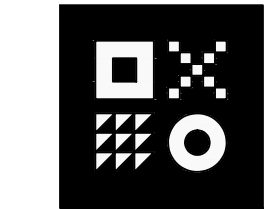
MECHANICAL PLANS

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ARDEBILI Engineering
Project Number: 22690 | Project Manager: KK
7328 E Stetson Dr., Scottsdale, AZ 85251
P: 480.626.7072 | ardebileng.com

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MECHANICAL SPECIFICATIONS:

GENERAL REQUIREMENTS

REQUIREMENTS UNDER DIVISION ONE AND THE GENERAL AND SUPPLEMENTARY CONDITIONS OF THESE SPECIFICATIONS SHALL BE A PART OF THIS SECTION. CONTRACTOR SHALL BECOME THOROUGHLY ACQUAINTED WITH ITS CONTENTS AS TO REQUIREMENTS THAT AFFECT THIS DIVISION OR SECTION. THE WORK REQUIRED UNDER THIS SECTION INCLUDES MATERIAL, EQUIPMENT, APPLIANCES, TRANSPORTATION, SERVICES, AND LABOR REQUIRED TO COMPLETE THE ENTIRE SYSTEM AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS.

THE SPECIFICATIONS AND DRAWINGS FOR THE PROJECT ARE COMPLEMENTARY, AND PORTIONS OF THE WORK DESCRIBED IN ONE SHALL BE PROVIDED AS IF DESCRIBED IN BOTH. IN THE EVENT OF DISCREPANCIES, NOTIFY THE ENGINEER AND REQUEST CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK INVOLVED.

DEFINITIONS

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT THE PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

FURNISHED BY OWNER OR FURNISHED BY OTHERS: THE ITEM WILL BE FURNISHED BY THE OWNER OR OTHERS. IT IS TO BE INSTALLED AND CONNECTED UNDER THE REQUIREMENTS OF THIS DIVISION, COMPLETE AND READY FOR OPERATION, INCLUDING ITEMS INCIDENTAL TO THE WORK, INCLUDING SERVICES NECESSARY FOR PROPER INSTALLATION AND OPERATION. THE INSTALLATION SHALL BE INCLUDED UNDER THE GUARANTEE REQUIRED BY THIS DIVISION.

AHJ: THE LOCAL CODE AND/OR INSPECTION AGENCY (AUTHORITY) HAVING JURISDICTION OVER THE WORK.

THE TERMS "APPROVED EQUAL", "EQUIVALENT", OR "EQUAL" ARE USED SYNONYMously AND SHALL MEAN "ACCEPTED BY OR ACCEPTABLE TO THE ENGINEER AS EQUIVALENT TO THE ITEM OR MANUFACTURER SPECIFIED". THE TERM "APPROVED" SHALL MEAN LABELED, LISTED, OR BOTH, BY A NATIONALLY RECOGNIZED TESTING LABORATORY (E.G. UL, ETL, CSA), AND ACCEPTABLE TO THE AHJ OVER THIS PROJECT.

COORDINATION

COORDINATE WORK WITH THAT OF OTHER TRADES SO THAT THE VARIOUS COMPONENTS OF THE SYSTEMS WILL BE INSTALLED AT THE PROPER TIME, WILL FIT THE AVAILABLE SPACE, AND WILL ALLOW PROPER SERVICE ACCESS TO THOSE ITEMS REQUIRING MAINTENANCE. COMPONENTS WHICH ARE INSTALLED WITHOUT REGARD TO THE ABOVE SHALL BE RELOCATED AT NO ADDITIONAL COST TO THE OWNER.

UNLESS OTHERWISE INDICATED, THE GENERAL CONTRACTOR WILL PROVIDE CHASES AND OPENINGS IN BUILDING CONSTRUCTION REQUIRED FOR INSTALLATION OF THE SYSTEMS SPECIFIED HEREIN. CONTRACTOR SHALL FURNISH THE GENERAL CONTRACTOR WITH INFORMATION WHERE CHASES AND OPENINGS ARE REQUIRED. KEEP INFORMED AS TO THE WORK OF OTHER TRADES ENGAGED IN THE CONSTRUCTION OF THE PROJECT AND EXECUTE WORK IN A MANNER AS TO NOT INTERFERE WITH OR DELAY THE WORK OF OTHER TRADES.

FIGURED DIMENSIONS SHALL BE TAKEN IN PREFERENCE TO SCALE DIMENSIONS. CONTRACTOR SHALL TAKE HIS OWN MEASUREMENTS AT THE BUILDING, AS VARIATIONS MAY OCCUR. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ERRORS THAT COULD HAVE BEEN AVOIDED BY PROPER CHECKING AND INSPECTION.

PROVIDE MATERIALS WITH TRIM THAT WILL PROPERLY FIT THE TYPES OF CEILING, WALL, OR FLOOR FINISHES ACTUALLY INSTALLED. MODEL NUMBERS LISTED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS ARE NOT INTENDED TO DESIGNATE THE REQUIRED TRIM.

WARRANTIES

WARRANT EACH SYSTEM AND EACH ELEMENT THEREOF AGAINST ALL DEFECTS DUE TO FAULTY WORKMANSHIP, DESIGN OR MATERIAL FOR A PERIOD OF 12 MONTHS FROM DATE OF SUBSTANTIAL COMPLETION, UNLESS SPECIFIC ITEMS ARE NOTED TO CARRY A LONGER WARRANTY IN THE CONSTRUCTION DOCUMENTS OR MANUFACTURER'S STANDARD WARRANTY EXCEEDS 12 MONTHS. REMEDY ALL DEFECTS, OCCURRING WITHIN THE WARRANTY PERIOD(S), AS STATED IN THE GENERAL CONDITIONS AND DIVISION 1.

WARRANTIES SHALL INCLUDE LABOR AND MATERIAL. MAKE REPAIRS OR REPLACEMENTS WITHOUT ANY ADDITIONAL COSTS TO THE OWNER.

PERFORM THE REMEDIAL WORK PROMPTLY, UPON WRITTEN NOTICE FROM THE ENGINEER OR OWNER.

AT THE TIME OF SUBSTANTIAL COMPLETION, DELIVER TO THE OWNER ALL WARRANTIES, IN WRITING AND PROPERLY EXECUTED, INCLUDING TERM LIMITS FOR WARRANTIES EXTENDING BEYOND THE ONE YEAR PERIOD, EACH WARRANTY INSTRUMENT BEING ADDRESSED TO THE OWNER AND STATING THE COMMENCEMENT DATE AND TERM.

CUTTING AND PATCHING

PERFORM CUTTING OF WALLS, FLOORS, CEILINGS, ETC. AS REQUIRED TO INSTALL WORK UNDER THIS SECTION. OBTAIN PERMISSION FROM THE ARCHITECT PRIOR TO CUTTING. DO NOT CUT OR DISTURB STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL FROM THE ARCHITECT. CUT HOLES AS SMALL AS POSSIBLE. GENERAL CONTRACTOR SHALL PATCH WALLS, FLOORS, ETC. AS REQUIRED BY WORK UNDER THIS SECTION. PATCHING SHALL MATCH THE ORIGINAL MATERIAL AND CONSTRUCTION. REPAIR AND REFINISH AREAS DISTURBED BY WORK TO THE CONDITION OF ADJOINING SURFACES IN A MANNER SATISFACTORY TO THE ARCHITECT.

CONCRETE BASES

PROVIDE CONCRETE BASES FOR EQUIPMENT WHERE INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN. CONCRETE BASES SHALL HAVE CHAMFERED EDGES. SIZE OF PAD SHALL BE A MINIMUM OF 4" GREATER THAN THE FOOTPRINT OF THE EQUIPMENT THAT IT IS SUPPORTING AND SHALL HAVE A MINIMUM HEIGHT OF 3-1/2".

CONSTRUCT EQUIPMENT BASES AND HOUSEKEEPING PADS OF A MINIMUM 28 DAY, 4000 PSI CONCRETE CONFORMING TO AMERICAN CONCRETE INSTITUTE STANDARD BUILDING CODE FOR REINFORCED CONCRETE (ACI 318-19) AND THE LATEST APPLICABLE RECOMMENDATIONS OF THE ACI STANDARD PRACTICE MANUAL. CONCRETE SHALL BE COMPOSED OF CEMENT CONFORMING TO ASTM C 150 TYPE I, AGGREGATE CONFORMING TO ASTM C33, AND POTABLE WATER. EXPOSED EXTERIOR CONCRETE SHALL CONTAIN 5 TO 7 PERCENT AIR ENTRAINMENT.

PROVIDE GALVANIZED ANCHOR BOLTS FOR EQUIPMENT PLACED ON CONCRETE EQUIPMENT BASES AND HOUSEKEEPING PADS OR ON CONCRETE SLABS. ANCHOR BOLTS SIZE, NUMBER AND PLACEMENT SHALL BE AS RECOMMENDED BY THE MANUFACTURER OF THE EQUIPMENT.

ACCESS DOORS

PROVIDE ACCESS DOORS IN CEILINGS, WALLS, ETC. WHERE INDICATED OR REQUIRED FOR ACCESS OR MAINTENANCE TO CONCEALED VALVES AND EQUIPMENT INSTALLED UNDER THIS SECTION. PROVIDE CONCEALED HINGES, SCREWDRIVER-TYPE LOCK, ANCHOR STRAPS, MANUFACTURED BY MILCOR, ZURN, TITUS, OR EQUAL. OBTAIN ARCHITECT'S APPROVAL OF TYPE, SIZE, LOCATION AND COLOR BEFORE ORDERING.

PENETRATIONS

PROVIDE SLEEVES FOR PIPES PASSING THROUGH ABOVE GRADE CONCRETE OR MASONRY WALLS, CONCRETE FLOOR OR ROOF SLABS. SLEEVES ARE NOT REQUIRED FOR CORE DRILLED HOLES IN EXISTING MASONRY WALLS, CONCRETE FLOORS OR ROOFS. PROVIDE 10 GAUGE GALVANIZED STEEL SLEEVES FOR SLEEVES 6" AND SMALLER. PROVIDE GALVANIZED SHEET METAL SLEEVES FOR LARGER THAN 6". SCHEDULE 40 PVC SLEEVES ARE ACCEPTABLE FOR INSTALLATION IN AREAS WITHOUT RETURN AIR FLENUMS.

SEAL ELEVATED FLOOR, EXTERIOR WALL AND ROOF PENETRATIONS WATERTIGHT AND WEATHERTIGHT WITH NON-SHRINK, NON-HARDENING COMMERCIAL SEALANT. PACK WITH MINERAL WOOL AND SEAL BOTH ENDS WITH MINIMUM OF 1/2" OF SEALANT. SEAL AROUND PENETRATIONS OF FIRE RATED ASSEMBLIES. COORDINATE FIRE RATINGS AND LOCATIONS WITH THE ARCHITECTURAL DRAWINGS. REFER TO ARCHITECTURAL SPECIFICATIONS FOR FIRE STOPPINGS. PROVIDE A PRODUCT SCHEDULE FOR UL LISTING, LOCATION, WALL OR FLOOR RATING AND INSTALLATION DRAWING FOR EACH PENETRATION FIRE STOP SYSTEM.

EXTEND PIPE INSULATION FOR INSULATED PIPE THROUGH FLOOR, WALL AND ROOF PENETRATIONS, INCLUDING FIRE RATED WALLS AND FLOORS. THE VAPOR BARRIER SHALL BE MAINTAINED. SIZE SLEEVE FOR A MINIMUM OF 1" ANNULAR CLEAR SPACE BETWEEN INSIDE OF SLEEVE AND OUTSIDE OF INSULATION.

PROVIDE PREFABRICATED ROOF CURBS MANUFACTURED BY CUSTOM CURB, INC., PATE COMPANY, THYCURB OR APPROVED EQUAL. PROVIDE ROOF CURB WITH FACTORY INSTALLED WOOD NAILER; WELDED, 18 GAUGE GALVANIZED STEEL SHELL, BASE PLATE AND FLASHING; 1-1/2" THICK, 3 POUND RIGID INSULATION; FULLY MITERED 3/4" THICK COVERED CANT; COVERED WITH WEATHER-RESISTANT, WEATHER-PROOF MATERIAL AND PIPE COLLAR OF WEATHER-RESISTANT MATERIAL WITH STAINLESS STEEL PIPE CLAMPS.

PROVIDE BOX FRAMES FOR RECTANGULAR OPENINGS WELDED 12 GAUGE GALVANIZED STEEL ATTACHED TO FORMS AND OF A MAXIMUM DIMENSION ESTABLISHED BY THE ARCHITECT. NOTIFY THE GENERAL CONTRACTOR OR ARCHITECT BEFORE INSTALLING ANY BOX OPENINGS NOT SHOWN ON THE ARCHITECTURAL OR STRUCTURAL DRAWINGS.

SEAL CONCRETE OR MASONRY EXTERIOR WALL PENETRATIONS BELOW GRADE WITH "WALL PIPES" AND MECHANICAL SLEEVE SEALS. PROVIDE CAST IRON "WALL PIPES" WITH INTEGRAL WATERSTOP RING MANUFACTURED BY JOSAM, JAY R. SMITH, WADE, WATTS OR ZURN. PROVIDE MODULAR MECHANICAL SLEEVE SEALS, MANUFACTURED BY THUNDERLINE / LINK SEAL, CALPICO, INC. AND METRAFLEX.

SEAL ELEVATED CONCRETE SLAB WITH WATERPROOF MEMBRANE PENETRATIONS WITH "WALL PIPES" AND WATER PROOF SEALANT. SECURE WATERPROOF MEMBRANE FLASHING BETWEEN "WALL PIPE" CLAMPING FLANGE AND CLAMPING RING. PROVIDE CAST IRON "WALL PIPES" WITH INTEGRAL WATERSTOP RING MANUFACTURED BY JOSAM, JAY R. SMITH, WADE, WATTS OR ZURN.

PROVIDE SLEEVES FOR HORIZONTAL PIPE PASSING THROUGH OR UNDER FOUNDATION. SLEEVES SHALL BE CAST IRON SOIL PIPE TWO NOMINAL PIPE SIZES LARGER THAN THE PIPE SERVED.

PROVIDE SCHEDULE 40 PVC PIPE SLEEVES FOR VERTICAL PRESSURE PIPE PASSING THROUGH CONCRETE SLAB ON GRADE. SLEEVES SHALL BE ONE NOMINAL PIPE SIZE LARGER THAN THE PIPE SERVED AND TWO PIPE SIZES LARGER THAN PIPE SERVED FOR DUCTILE IRON PIPES WITH RESTRAINING RODS. SEAL WATER-TIGHT WITH SILICONE CAULK.

PROVIDE 1/2" THICK CELLULAR FOAM INSULATION AROUND PERIMETER OF NON-PRESSURE PIPE PASSING THRU CONCRETE SLAB OR GRADE. INSULATION SHALL EXTEND TO 2" ABOVE AND BELOW THE CONCRETE SLAB.

ELECTRICAL WIRING

LINE VOLTAGE WIRING SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR. LINE VOLTAGE CONTROL AND INTERLOCK WIRING FOR MECHANICAL SYSTEMS SHALL ALSO BE PROVIDED BY ELECTRICAL CONTRACTOR. LOW VOLTAGE CONTROL WIRING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR. FURNISH WIRING DIAGRAMS TO THE ELECTRICAL CONTRACTOR AS REQUIRED FOR PROPER EQUIPMENT HOOKUP. COORDINATE WITH THE ELECTRICAL CONTRACTOR THE ACTUAL WIRE SIZING AMPS FOR MECHANICAL EQUIPMENT (FROM THE EQUIPMENT NAMEPLATE) TO ENSURE PROPER INSTALLATION.

FINAL TESTING AND ADJUSTMENTS

FINAL SYSTEM TESTING, BALANCING AND ADJUSTMENTS SHALL BE PERFORMED BY A CONTRACTOR CERTIFIED BY THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB), ASSOCIATED AIR BALANCE COUNCIL (AABC) OR OTHER APPROVED AGENCY. PERFORM TEST READINGS ON FANS, UNITS, COILS, ETC. AND ADJUST EQUIPMENT TO DELIVER SPECIFIED AMOUNTS OF AIR. PREPARE TESTING AND BALANCING REPORT LOG SHOWING AIR SUPPLY QUANTITIES, AIR ENTERING AND LEAVING TEMPERATURES AND PRESSURES, FAN AND UNIT TEST READINGS, MOTOR VOLTAGE AND AMP DRAWS, ETC., AND SUBMIT SIX COPIES OF THE FINAL COMPILATION OF DATA TO THE ARCHITECT FOR EVALUATION AND APPROVAL BEFORE FINAL INSPECTION OF THE PROJECT. BALANCE AIR SYSTEMS TO WITHIN PLUS OR MINUS 10 PERCENT FOR TERMINAL DEVICES AND BRANCH LINES AND PLUS OR MINUS 5 PERCENT FOR MAIN DUCTS AND AIR HANDLING EQUIPMENT OF THE AMOUNT OF AIR SHOWN ON THE DRAWINGS. FURTHER ADJUSTMENTS SHALL BE MADE TO OBTAIN UNIFORM TEMPERATURE IN SPACES. ADJUST EQUIPMENT TO OPERATE AS INTENDED BY THE SPECIFICATION. ALIGN BEARINGS AND REPLACE BEARINGS THAT HAVE DIRT OR FOREIGN MATERIAL IN THEM WITH NEW BEARINGS WITHOUT ADDITIONAL COST TO THE OWNER. BALANCE CONTRACTOR SHALL INCLUDE IN THE REPORT ANY IMPROPERLY INSTALLED OR MISSING BALANCING DEVICES THAT WOULD NEGATIVELY IMPACT THE SYSTEM OPERATION.

ADJUST THERMOSTATS AND CONTROL DEVICES TO OPERATE AS INTENDED. ADJUST BURNERS, PUMPS, FANS, ETC. FOR PROPER AND EFFICIENT OPERATION. CERTIFY TO ARCHITECT THAT ADJUSTMENTS HAVE BEEN MADE AND THAT SYSTEM IS OPERATING SATISFACTORILY. FURTHER ADJUSTMENTS SHALL BE MADE TO OBTAIN UNIFORM TEMPERATURE IN SPACES. CALIBRATE, SET, AND ADJUST AUTOMATIC TEMPERATURE CONTROLS. CHECK PROPER SEQUENCING OF INTERLOCK SYSTEMS, AND OPERATION OF SAFETY CONTROLS.

EQUIPMENT FURNISHED BY OTHERS

PROVIDE NECESSARY EQUIPMENT AND ACCESSORIES THAT ARE NOT PROVIDED BY THE EQUIPMENT SUPPLIER OR OWNER TO COMPLETE INSTALLATION OF COOKING EQUIPMENT, WASHING EQUIPMENT, ETC., FURNISHED BY OTHERS, IN LOCATIONS AS INDICATED ON THE DRAWINGS AND/OR DESCRIBED IN THE GENERAL NOTES TO THIS CONTRACTOR. EQUIPMENT AND ACCESSORIES NOT PROVIDED BY THE EQUIPMENT SUPPLIER MAY INCLUDE FLUES, VENTS, INTAKES, ASSOCIATED ROOF JACKS AND CAPS TO OUTDOORS, DAMPERS, IN-LINE FANS, ROOF FANS, CONTROL INTERLOCKS, ETC. AS REQUIRED FOR PROPER OPERATION OF THE COMPLETE SYSTEM IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECT ROUGH-IN DIMENSIONS AND SHALL VERIFY SAME WITH ARCHITECT AND/OR EQUIPMENT SUPPLIER PRIOR TO SERVICE INSTALLATIONS.

DUCT INSULATION

PROVIDE DUCT LINER IN CONCEALED RECTANGULAR SUPPLY AND RETURN AIR DUCTWORK. LINER SHALL BE 1-1/2" THICK, 1-1/2 ZOUND DENSITY FIBERGLASS, MINIMUM R-8.0 CERTAINTED CORP. "TOUGHARD" OR EQUIVALENT OWENS-CORNING OR KNAUF LONG TEXTILE FIBER DUCT LINER. LINER SURFACE SHALL SERVE AS A BARRIER AGAINST INFILTRATION OF DUST AND DIRT, SHALL MEET ASTM C 1338 FOR FLUOR RESISTANCE AND SHALL BE CLEANABLE USING DUCT CLEANING METHODS AND EQUIPMENT OUTLINED BY NORTH AMERICAN INSULATION MANUFACTURERS ASSOCIATION (NAIMA) DUCT CLEANING GUIDE. INSTALL WITH LINER ADHESIVE AND MECHANICAL FASTENERS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. DUCTWORK SIZES SHOWN ON DRAWINGS ARE INSIDE CLEAR DIMENSIONS. INCREASE SHEET METAL BY LINER THICKNESS IN BOTH DIRECTIONS WHERE LINER IS INSTALLED.

COVER CONCEALED, RIGID DUCTWORK WITH 2" THICK, 3/4 POUND DENSITY, MINIMUM R-8.0 DUCT WRAP, CERTAINTED OR EQUIVALENT OWENS-CORNING OR KNAUF WITH HEAVY-DUTY FOIL-SCRIM-KRAFT FACING, AND WITH JOINTS TAPED WITH 3" WIDE FOIL TAPE AS FOLLOWS:

A. ROUND AND/OR RECTANGULAR SUPPLY AND RETURN AIR DUCTWORK.

B. ROUND AND RECTANGULAR OUTSIDE AIR DUCTWORK.

C. ROUND AND RECTANGULAR EXHAUST AND RELIEF AIR DUCTWORK WITHIN 10 FEET OF EXTERIOR DISCHARGE.

INSULATING MATERIALS, ADHESIVES, COATINGS, ETC., SHALL NOT EXCEED FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED RATING OF 50 PER ASTM E 84. CONTAINERS FOR MASTICS AND ADHESIVES SHALL HAVE U.L. LABEL.

FOR DUCTWORK THAT IS LOCATED EXTERIOR TO THE BUILDING AND INSTALLED WITH SEAMS SEALED WITH SEALANT, PROVIDE 2" (MINIMUM R-8.0) THICK, 3 POUND DENSITY LINER. FOR WELDED DUCTWORK THAT IS EXTERIOR TO THE BUILDING, INSULATE WITH 2" (MINIMUM R-8.0) THICK FIBROUS BOARD INSULATION AND PROVIDE MINIMUM 20 GAUGE ALUMINUM JACKET OR 2" (MINIMUM R-8.0) THICK FLEXIBLE ELASTOMERIC CLOSED CELL INSULATION SIMILAR TO ARMACELL ARMATUFF PLUS WITH A WEATHER AND UV RESISTANT LAMINATED METAL FOIL AND POLYESTER MEMBRANE AROUND A SCRIM REINFORCED CORE. SEAL ALL EXPOSED EDGES.

DUCTWORK

PROVIDE GALVANIZED STEEL DUCTWORK AND HOUSINGS AS SHOWN ON DRAWINGS. CONSTRUCT DUCTWORK INCLUDING FITTINGS AND TRANSITIONS IN CONFORMANCE WITH CURRENT SMACNA STANDARDS RELATIVE TO GAUGE, BRACING, JOINTS, ETC. MINIMUM THICKNESS OF DUCT SHALL BE 26-GAUGE SHEET METAL. REINFORCE HOUSINGS AND DUCTWORK OVER 30" WITH 1-1/4" ANGLES NOT LESS THAN 5"-6" ON CENTERS, AND CLOSER IF REQUIRED FOR SUFFICIENT RIGIDITY TO PREVENT VIBRATION. SUPPORT HORIZONTAL RUNS OF DUCT FROM STRAP IRON HANGERS ON CENTERS NOT TO EXCEED 8'-0". DO NOT SUPPORT CEILING GRID, CONDUITS, PIPES, EQUIPMENT, ETC. FROM DUCTWORK. COORDINATE ROUTING OF DUCTWORK WITH OTHER CONTRACTORS SUCH THAT PIPING, ELECTRICAL CONDUIT, AND ASSOCIATED SUPPORTS ARE NOT ROUTED THROUGH THE DUCTWORK.

CONSTRUCT SUPPLY DUCTS TO MEET SMACNA POSITIVE PRESSURE OF 2" W.G. EXTERIOR RETURN, OUTDOOR AND EXHAUST DUCTWORK UPSTREAM OF FANS TO MEET SMACNA NEGATIVE PRESSURE OF 2" W.G. CONSTRUCT EXHAUST DUCTWORK DOWNSTREAM OF FANS TO MEET SMACNA POSITIVE PRESSURE OF 2" W.G.

PROVIDE MILL PHOSPHATIZED OR GALVANEALD FINISH FOR EXPOSED DUCTWORK TO BE FIELD PAINTED. SHOP TREATED SHEET METAL SHALL HAVE GALVANIZED METAL PRIMER APPLIED IN THE SHOP AFTER FABRICATION AND PRIOR TO SHIPPING.

DUCTWORK ABOVE ROOF OR OTHERWISE EXTERIOR TO BUILDING SHALL BE MINIMUM #18 GAUGE WITH LONGITUDINAL AND TRANSVERSE JOINTS WELDED OR SEALED AIRTIGHT WITH WEATHERPROOF HEAVY LIQUID SEALANT APPLIED ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

SEAL DUCTWORK WITH HEAVY LIQUID SEALANT, HARDCAST IRONGRIP 601, DESIGN POLYMER DP 1010, UNILET MCGILL DUCT SEALER OR APPROVED EQUAL, APPLIED ACCORDING TO SEALANT MANUFACTURER'S INSTRUCTIONS. FOR DUCTS WITH PRESSURE CLASSIFICATION OF 2" W.G. AND GREATER SEAL LONGITUDINAL AND TRANSVERSE DUCTWORK JOINTS AIRTIGHT TO MEET SMACNA CLASS B. FOR DUCTS WITH PRESSURE CLASSIFICATION LESS THAN 2" W.G. SEAL TRANSVERSE JOINTS AIRTIGHT TO MEET SMACNA CLASS C. TAPES AND MASTICS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A.

PROVIDE RADIUS ELBOWS, TURNS, AND OFFSETS WITH A MINIMUM CENTERLINE RADIUS OF 1-1/2 TIMES THE DUCT WIDTH. WHERE SPACE DOES NOT PERMIT FULL RADIUS ELBOWS, PROVIDE SHORT RADIUS ELBOWS WITH A MINIMUM OF TWO CONTINUOUS SPLITTER VANES. VANES SHALL BE THE ENTIRE LENGTH OF THE BEND. PROVIDE MITERED ELBOWS WHERE SPACE DOES NOT PERMIT RADIUS ELBOWS, WHERE SHOWN ON THE DRAWINGS, OR AT THE OPTION OF THE CONTRACTOR WITH THE ENGINEER'S APPROVAL, MITERED ELBOWS LESS THAN 45 DEGREES SHALL NOT REQUIRE TURNING VANES. MITERED ELBOWS 45-DEGREES AND GREATER SHALL HAVE SINGLE THICKNESS TURNING VANES OF SAME GAUGE AS DUCTWORK, RIGIDLY FASTENED WITH GUIDE STRIPS IN DUCTWORK. VANES FOR MITERED ELBOWS SHALL BE PROVIDED IN ALL SUPPLY AND EXHAUST DUCTWORK AND IN RETURN AND OUTSIDE AIR DUCTWORK THAT HAS AN AIR VELOCITY EXCEEDING 1000 FPM. DO NOT INSTALL VANES IN GREASE DUCTWORK.

DUCTS SHALL BE CONNECTED TO FANS, FAN CASINGS AND FAN FLENUMS BY MEANS OF FLEXIBLE CONNECTORS. FLEXIBLE CONNECTORS SHALL BE NEOPRENE COATED GLASS CLOTH CANVAS CONNECTIONS, DURO-DYNE, ELGEN, VENTAFIBR OR EQUAL. FLEXIBLE CONNECTORS SHALL HAVE A FLAME SPREAD OF 25 OR LESS AND SMOKE DEVELOPED RATING NOT HIGHER THAN 50. MAKE AIRTIGHT JOINTS AND INSTALL WITH MINIMUM 1-1/2" SLACK.

PROVIDE BALANCING DAMPERS, MANUFACTURED BY RUSKIN, GREENHECK, NAILOR INDUSTRIES, CESCO, LOUVERS & DAMPERS, POTTOFF OR APPROVED EQUAL, WHERE SHOWN ON DRAWINGS AND WHEREVER NECESSARY FOR COMPLETE CONTROL OF AIR FLOW. SPLITTER DAMPERS SHALL BE CONTROLLED BY LOCKING QUADRANTS; PROVIDE YOUNG REGULATOR OR VENTLOK END BEARINGS FOR THE DAMPER ROD. RECTANGULAR VOLUME DAMPERS SHALL BE OPPOSED BLADE INTERLOCKING TYPE. ROUND VOLUME DAMPERS SHALL BE BUTTERFLY TYPE CONSISTING OF CIRCULAR BLADE MOUNTED TO A SHAFT. DAMPER LEAKAGE FOR OUTSIDE AIR DAMPERS SHALL NOT EXCEED 4.0 CFM/SQUARE FOOT IN FULL CLOSED POSITION AT 1" WG PRESSURE DIFFERENTIAL ACROSS DAMPER. REFERENCE MANUFACTURER AND MODEL NUMBER FOR OUTSIDE AIR DAMPERS IS RUSKIN MODEL CD-50. PROVIDE FLEXMASTER MODEL STO OR EQUAL 45 DEGREE RECTANGULAR/ROUND SIZE TAKEOFF FITTING WITH MODEL SLBO DOUBLE BEARING DAMPER WITH INSULATION BUILT OUT FOR ROUND DUCTWORK BRANCH TAKEOFFS TO INDIVIDUAL AIR DEVICES. OMIT DAMPER AT TAKEOFF FITTING WHEN DAMPER IS LOCATED DOWNSTREAM OF TAKEOFF.

WHERE ACCESS TO DAMPERS THROUGH A HARD CEILING IS REQUIRED, PROVIDE A METROPOLITAN AIR TECHNOLOGY MODEL RT-250 OR EQUAL BY YOUNG'S REGULATOR CONCEALED, CABLE OPERATED VOLUME DAMPER WITH REMOTE OPERATOR. DAMPER SHALL BE ADJUSTABLE THROUGH THE DIFFUSER FACE OR FRAME WITH STANDARD 1/4" NUTDRIVER OR FLAT SCREWDRIVER. CABLE ASSEMBLY SHALL ATTACH TO DAMPER AS ONE PIECE WITH NO LINKAGE ADJUSTMENT. POSITIVE, DIRECT, TWO-WAY DAMPER CONTROL SHALL BE PROVIDED WITH NO SLEEVES, SPRINGS OR SCREW ADJUSTMENTS TO COME LOOSE AFTER INSTALLATION. SUPPORT CABLE ASSEMBLY TO AVOID BENDS AND KINKS IN CABLE. WHERE APPROVED BY ARCHITECT, A CEILING CUP WITH COVER PLATE CAN BE USED FOR ACCESS TO CABLE OPERATOR.

ROUND OR OVAL DUCTWORK SHALL BE SEMCO, UNITED, WESCO OR EQUAL, SHEETMETAL, WITH SMOOTH INTERIOR SURFACE, WITH LOW PRESSURE (DUCT PRESSURE CLASS UP TO AND INCLUDING 2" W.G.) ROUND DUCTWORK GAUGES PER THE FOLLOWING TABLE (REFERENCE SMACNA HVAC DUCT CONSTRUCTION STANDARDS FOR GAUGES WHEN PRESSURES EXCEED 2" W.G.):

SIZE	DUCT GAUGE	FITTING GAUGE
14" & UNDER	26	24
15" THRU 26"	24	22
28" THRU 36"	22	20
38" THRU 50"	20	20

LINDBA SPIROSAFE, LEWIS & LAMBERT OR APPROVED EQUAL FACTORY-MANUFACTURED ROUND DUCTWORK AND FITTINGS MAY BE SUBSTITUTED FOR SPECIFIED ROUND BRANCH DUCTWORK, AT CONTRACTORS OPTION. HEAVY LIQUID JOINT SEALANT MAY BE OMITTED ON FACTORY-MANUFACTURED ROUND DUCTWORK.

LOW PRESSURE (DUCT PRESSURE CLASS UP TO AND INCLUDING 2" W.G.) FITTINGS 24" IN DIAMETER AND LESS SHALL BE PREFABRICATED, SPOTWELDED AND INTERNALLY SEALED, CONTINUOUSLY WELD FITTINGS LARGER THAN 24" IN DIAMETER. FITTING GAUGE SHALL BE 22 GAUGE FOR 36" FITTINGS AND UNDER, 20 GAUGE FOR LARGER SIZES. 90 DEGREE TEE'S SHALL BE CONICAL TYPE. SEAL LONGITUDINAL AND TRANSVERSE DUCTWORK JOINTS AIRTIGHT WITH HEAVY LIQUID SEALANT APPLIED ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

FLEXIBLE DUCT

LOW PRESSURE (DUCT PRESSURE CLASS UP TO AND INCLUDING 2" W.G.) AND MEDIUM PRESSURE (DUCT PRESSURE CLASS 2.1" TO 6" W.G.) FLEXIBLE DUCT SHALL BE FLEXMASTER TYPE 8B, THERMAFLEX TYPE G-KM, M-KE, OR EQUAL (FIRE RETARDANT POLYETHYLENE) PROTECTIVE VAPOR BARRIER, UL181 CLASS 1, ACCORDING TO MANUFACTURER'S INSTRUCTIONS. FIBERGLASS INSULATION. PROVIDE ONE LINER WITH STEEL WIRE HELIX MECHANICALLY LOCKED OR PERMANENTLY BONDED TO THE LINER.

FLEXIBLE DUCT RUNS SHALL NOT EXCEED 5 FEET IN LENGTH AND SHALL BE INSTALLED FULLY EXTENDED AND STRAIGHT AS POSSIBLE AVOIDING TIGHT TURNS. INSTALL FLEXIBLE DUCT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. SUPPORT FLEXIBLE DUCT AT MAXIMUM 5 FEET ON CENTER AND WITHIN 6 INCHES OF CENTERLINE. BENDS SHALL NOT EXCEED CENTERLINE RADIUS OF ONE DUCT DIAMETER. DUCT SAG SHALL NOT EXCEED 1/2 INCH. SUPPORTING MATERIAL IN DIRECT CONTACT WITH THE DUCT SHALL NOT BE LESS THAN 1-1/2 INCHES IN WIDTH.

CONNECT FLEXIBLE DUCT TO RIGID METAL DUCT OR AIR DEVICES AS RECOMMENDED BY THE MANUFACTURER. AT A MINIMUM, INSTALL TWO WRAPS OF DUCT TAPE AROUND THE INNER CORE CONNECTION AND A METALLIC OR NON-METALLIC CLAMP OVER THE TAPE AND TWO WRAPS OF DUCT TAPE OR A CLAMP OVER THE OUTER JACKET. DUCT CLAMPS SHALL BE LABELED IN ACCORDANCE WITH UL-181B AND MARKED 181B-C. DUCT TAPE SHALL BE LABELED IN ACCORDANCE WITH UL 181B AND MARKED 181B-FX.

FIRE DAMPERS

PROVIDE FIRE DAMPERS WHERE SHOWN ON DRAWINGS, AND AS REQUIRED BY CODE ENFORCING AUTHORITY. DAMPER RATINGS SHALL BE AS REQUIRED TO MAINTAIN THE FIRE AND/OR SMOKE RATINGS NOTED ON THE ARCHITECTURAL DRAWINGS. PROVIDE FIRE DAMPERS CONFORMING TO NFPA-90A AND UBC STANDARD 43-7 WITH RECOMMENDED STEEL SLEEVES OF LENGTH AS REQUIRED TO MEET THE INSTALLED LOCATION, 165°F FUSIBLE LINK, SPRING CATCHES AND NON-CORROSIVE BEARINGS. DAMPERS SHALL BE U.L. LISTED, MANUFACTURED BY RUSKIN, GREENHECK, AIR BALANCE, CESCO, UNITED AIR OR NAILOR INDUSTRIES. PROVIDE ACCESS DOOR, SIZED PER SMACNA WITH MINIMUM SIZE OF 10" BY 10", IN DUCT FOR INSPECTION AND SERVICE TO FIRE DAMPER AND FUSIBLE LINK.

PROVIDE DUCT ACCESS DOOR(S) WITHIN 12 INCHES OF THE DEVICE TO ALLOW FOR TESTING AND MAINTENANCE. LABEL EACH DOOR (WITH MINIMUM 1" LETTERING) INDICATING WHICH DAMPER TYPE IS SERVED. DOOR SHOULD BE CAPABLE OF BEING FULLY OPENED OR PROVIDE REMOVABLE DOOR. PROVIDE REMOVABLE SECTION OF DUCT WHERE DUCT SIZE IS TOO SMALL FOR 10" BY 10" ACCESS DOOR. PROVIDE ACCESS DOOR IN CEILING OR WALL AS REQUIRED TO ACCESS DAMPER.

COMBINATION FIRE/SMOKE DAMPERS

PROVIDE COMBINATION FIRE/SMOKE DAMPERS WHERE SHOWN ON DRAWINGS AND AS REQUIRED BY CODE ENFORCING AUTHORITY WITH FIRE/SMOKE RATINGS AS REQUIRED TO MAINTAIN THE FIRE RATING NOTED ON THE ARCHITECTURAL DRAWINGS. DAMPERS SHALL MEET U.L. 555 CLASSIFICATION FOR FIRE RATING AND UL 555S CLASSIFICATION OF LEAKAGE CLASS 1 SMOKE DAMPER; DAMPER SHALL BEAR A U.L. LABEL ATTESTING TO THESE CLASSIFICATIONS. PROVIDE FIRE DAMPER WITH A 165° F RESETTABLE TEMPERATURE DEVICE. RATE FIRE/SMOKE DAMPERS FOR A MINIMUM VELOCITY OF 2,000 FPM AND PRESSURE OF 4" W.G. PROVIDE MANUFACTURER RECOMMENDED STEEL SLEEVES OF LENGTH AS REQUIRED TO MEET THE INSTALLED LOCATION. PROVIDE A QUALIFIED 120 VOLT ELECTRIC ACTUATOR INSTALLED BY THE MANUFACTURER AT TIME OF DAMPER FABRICATION. ACTUATORS SHALL BE RATED FOR A MINIMUM OF 20,000 CYCLES OF OPERATION, SHALL COMPLY WITH THE LOCALLY ADOPTED BUILDING CODE AND SHALL OPEN IN 15 SECONDS OR LESS AND CLOSE IN 15 SECONDS OR LESS AFTER ALARM OR SMOKE DETECTION HAS OCCURRED. PROVIDE STAINLESS-STEEL SPRING-LOADED LEAKAGE SEALS IN SIDES OF CASING, AND TERMINAL BLOCK FOR CONNECTION TO THE BUILDING FIRE ALARM SYSTEM. DAMPER SHALL BE MANUFACTURED BY RUSKIN, AIR BALANCE, GREENHECK, CESCO, UNITED AIR OR NAILOR INDUSTRIES.

PROVIDE ACCESS DOOR, SIZED PER SMACNA WITH MINIMUM SIZE OF 10" BY 10", IN DUCT FOR INSPECTION AND SERVICE TO FIRE DAMPER AND FUSIBLE LINK. PROVIDE DUCT ACCESS DOOR(S) WITHIN 12 INCHES OF THE DEVICE TO ALLOW FOR TESTING AND MAINTENANCE. LABEL EACH DOOR (WITH MINIMUM 1" LETTERING) INDICATING WHICH DAMPER TYPE IS SERVED. DOOR SHOULD BE CAPABLE OF BEING FULLY OPENED OR PROVIDE REMOVABLE DOOR. PROVIDE REMOVABLE SECTION OF DUCT WHERE DUCT SIZE IS TOO SMALL FOR 10" BY 10" ACCESS DOOR. PROVIDE ACCESS DOOR IN CEILING OR WALL AS REQUIRED TO ACCESS DAMPER.

REFRIGERANT PIPING AND INSULATION

PROVIDE ASTM B 88, TYPE L OR ASTM B 280, TYPE ACR HARD DRAWN COPPER PIPE AND FITTINGS. INSULATE AND SEAL AT THE FACTORY, AND SPECIFICALLY DESIGNED FOR REFRIGERANT. FITTINGS SHALL BE HARD DRAWN AND HAVE LONG RADIUS TURNS. SOLDER JOINTS WITH "SILFOS" (15 PERCENT SILVER, 5 PERCENT PHOSPHORUS, 80 PERCENT COPPER, 1300 DEGREES FAHRENHEIT FLOW TEMPERATURE). SOLDER JOINTS WITH A SLOW STREAM OF DRY NITROGEN PASSING THROUGH THE PIPING.

INSULATE SUCTION LINES WITH 1" AND LIQUID LINES WITH 1/2" FOAMED PLASTIC INSULATION, ARMAFLEX OR EQUAL. PIPING INSULATION SHALL HAVE A FLAME SPREAD OF 25 OR LESS AND SMOKE DEVELOPED RATING OF 50 OR LESS WHEN TESTED IN ACCORDANCE WITH ASTM E84. COAT INSULATION THAT IS EXPOSED TO THE ELEMENTS WITH A PROTECTIVE SEALER. INSTALL AND SUPPORT PIPING TO KEEP NOISE AND VIBRATION TO A MINIMUM. SUPPORT AND SECURE PIPING TO UNISTRUT TYPE SUPPORTS AND TO THE BUILDING STRUCTURE. INSULATE VIBRATION POINTS. PIPE ATTACHMENTS SHALL BE COPPER-PLATED OR HAVE NONMETALLIC COATING FOR ELECTROLYTIC PROTECTION WHERE ATTACHMENTS ARE IN DIRECT CONTACT WITH COPPER TUBING. INSTALL A SUPPORT WITHIN ONE FOOT OF EACH CHANGE OF DIRECTION. MOUNT PIPE HANGERS AROUND THE OUTSIDE OF THE INSULATION WITH SADDLES TO PREVENT HANGERS FROM RUPTURING THE INSULATION. REPLACE INSULATION THAT IS CUT OR BROKEN BY THE HANGERS.

RUN REFRIGERANT LINES PARALLEL AND PERPENDICULAR TO WALL AND FLOOR LINES AND TO APPEAR STRAIGHT AND IN GOOD ORDER. PITCH SUCTION LINES DOWN SLIGHTLY (1" IN 20') TOWARDS THE COMPRESSOR. PROVIDE OIL TRAPS AT THE BASE OF VERTICAL SUCTION RISERS OVER 6 FEET HIGH.

INSTALL LIQUID LINE SIGHT GLASSES IN LIQUID LINES NEAREST THE EXPANSION VALVE. FACTORY MOUNT EXPANSION VALVES WITH THE SENSING BULBS SHIPPED LOOSE. FIELD MOUNT EXPANSION VALVE BULB AFTER REFRIGERANT PIPING IS COMPLETE (DAMAGE MAY OCCUR IF BULBS COME IN CONTACT WITH HEAT).

FOR SYSTEMS OF 5 TON CAPACITY AND SMALLER, THE CONTRACTOR SHALL HAVE THE OPTION TO PROVIDE COPPER REFRIGERANT TUBING LINE SET SIZED AS RECOMMENDED BY EQUIPMENT MANUFACTURER AND OF LENGTH AS REQUIRED FOR THE INSTALLATION. PROVIDE 1" THICK FOAMED PLASTIC INSULATION, ARMAFLEX OR EQUAL, ON THE SUCTION LINE. PROVIDE QUICK-CONNECT FLARE TUBING COMPRESSION FITTINGS OR SOLDER CONNECTIONS AS REQUIRED TO MATCH THE CONNECTIONS OF THE CONDENSING UNIT AND EVAPORATOR COIL.

TEMPERATURE CONTROLS

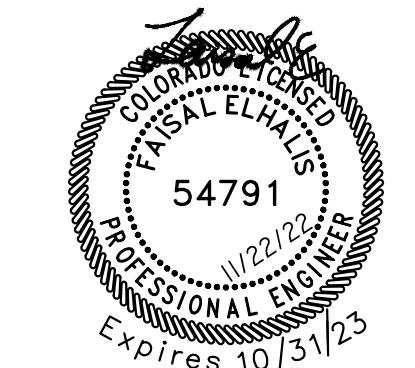
GENERAL REQUIREMENTS

PROVIDE A SYSTEM OF TEMPERATURE CONTROLS INCLUDING THERMOSTATS, CONTROL PANELS, TIME SWITCHES, OVERRIDE TIMERS, DAMPER MOTORS, AND RELAYS REQUIRED TO PROVIDE THE DESIRED SEQUENCE OF OPERATION. PROVIDE INTEGRATED WIRING DIAGRAMS SHOWING INTERCONNECTIONS BETWEEN FIELD INSTALLED EQUIPMENT AND PACKAGE WIRING FURNISHED WITH THE HVAC EQUIPMENT. CONTROL WIRING SHALL BE SIZED TO ACCOMMODATE THE VOLTAGE DROP ASSOCIATED WITH THE DISTANCE BETWEEN THE CONTROL DEVICE AND THE CONTROLLER.

PROVIDE SUPERVISION AND ON-JOB CHECKOUT SERVICE AS REQUIRED TO ENSURE THAT INSTALLATION MEETS REQUIREMENTS OF THE SPECIFICATION. THE SYSTEM SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FOLLOWING THE ACCEPTANCE OF THE SYSTEM BY THE ARCHITECT/ENGINEER. CORRECT DEFECTS OCCURRING DURING THIS PERIOD AT NO ADDITIONAL COST TO THE OWNER.



15974 N. 77th ST., STE 100
SCOTTSDALE AZ 85260



PROJECT ADDRESS:
1242 S. HOVER STREET
UNIT B200
LONGMONT, CO. 80501

REVISIONS:

TITLE:

MECHANICAL SPECIFICATIONS

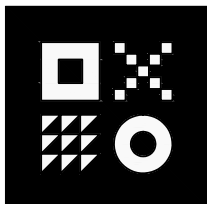
DATE:

11.01.2022

PROJECT NO.

22-254

SHEET NO.



ARDEBILI
Engineering

Project Number: 22690 | Project Manager: KK
7328 E Stetson Dr., Scottsdale, AZ 85251
P: 480.626.7072 | ardebilieng.com

PLUMBING SYMBOLS

NOTE: THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ETC. ARE NECESSARILY USED ON THE DRAWINGS.

ANNOTATION

- ① PLUMBING PLAN NOTE CALLOUT
- ① PLUMBING FIXTURE DESIGNATION. (CONTRACTOR FURNISHED AND INSTALLED). REFER TO PLUMBING FIXTURE SCHEDULES.
- ① EQUIPMENT DESIGNATION (OWNER FURNISHED, CONTRACTOR INSTALLED)
- CU MECHANICAL/PLUMBING EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
- ① CONNECTION POINT OF NEW WORK TO EXISTING
- ① P1 DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER

ABBREVIATIONS

AFB	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MBH	1000 BTU PER HOUR
BFF	BELOW FINISHED FLOOR	MIN	MINIMUM
BFG	BELOW FINISHED GRADE	ORD	OVERFLOW ROOF DRAIN
BOP	BOTTOM OF PIPE	PDI	PLUMBING DRAINAGE INSTITUTE
BOS	BOTTOM OF STRUCTURE	PVC	POLYVINYL CHLORIDE
BTU	BRITISH THERMAL UNIT	PRV	PRESSURE REDUCING VALVE
CPVC	CHLORINATED POLYVINYL CHLORIDE	RD	ROOF DRAIN
DN	DOWN	RPM	REVOLUTIONS PER MINUTE
DS	DOWNSPOUT	SF	SQUARE FEET, SUPPLY FAN
ETR	EXISTING TO REMAIN	SP	SUMP PUMP
FFA	FROM FLOOR ABOVE	TDH	TOTAL DYNAMIC HEAD
FFB	FROM FLOOR BELOW	TFA	TO FLOOR ABOVE
FF	FINISHED FLOOR	TFB	TO FLOOR BELOW
FLA	FULL LOAD AMPS	TV	TYPICAL
FLR	FLOOR	UL	UNDERWRITERS LABORATORIES, INC.
GPM	GALLONS PER MINUTE	VS	VENT STACK
HD	HEAD, HUB DRAIN	VTR	VENT THROUGH ROOF
IE	INVERT ELEVATION	W/	WITH
IN WC	INCHES OF WATER COLUMN	W/O	WITHOUT
KW	KILOWATT	WC	WATER COLUMN
MAU	MAKE-UP AIR UNIT	WS	WASTE STACK

PPING

-----	DOMESTIC COLD WATER (CW)
-----SCW-----	SOFTENED COLD WATER (SCW)
-----FW-----	FILTERED COLD WATER (FW)
-----	DOMESTIC HOT WATER (HW)
-----	DOMESTIC HOT WATER RECIRC. (HWR)
-----140'-----	140' DOMESTIC HOT WATER (140')
-----T-----	TRAP PRIMER LINE (T)
-----S-----	SOIL PIPING - ABOVE FLOOR (S)
-----S-----	SOIL PIPING - BELOW FLOOR (S)
-----W-----	WASTE PIPING - ABOVE FLOOR (W)
-----W-----	WASTE PIPING - BELOW FLOOR (W)
-----GW-----	GREASE WASTE - ABOVE FLOOR (GW)
-----GW-----	GREASE WASTE - BELOW FLOOR (GW)
-----ST-----	STORM DRAIN - ABOVE FLOOR (ST)
-----ST-----	STORM DRAIN - BELOW FLOOR (ST)
-----OST-----	OVERFLOW STORM DRAIN - ABOVE FLOOR (OST)
-----VBG-----	VENT BELOW GRADE (VBG)
-----VBF-----	VENT BELOW FLOOR (VBF)
-----CD-----	CONDENSATE DRAIN (CD)
-----SPD-----	SUMP OR SEWAGE PUMP DISCHARGE (SPD)
-----G-----	NATURAL GAS (G)
-----G-----	NATURAL GAS ON ROOF (G)
-----MPG-----	MEDIUM PRESSURE NATURAL GAS (MPG)
-----MPG-----	MEDIUM PRESSURE NATURAL GAS ON ROOF (MPG)
-----LPG-----	LIQUIFIED PETROLEUM GAS (LPG)
-----	EXISTING PIPING TO BE REMOVED
-----ETR-----	EXISTING PIPING TO REMAIN (ETR)
-----V-----	VENT PIPING (V)
-----	BALL VALVE
-----	CONTROL VALVE
-----	SHUTOFF VALVE
-----	CHECK VALVE
-----	BALANCING VALVE WITH PRESSURE PORTS
-----	WATER METER
-----	STRAINER
-----	STRAINER WITH BLOWOFF
-----	RELIEF/SAFETY VALVE
-----	SOLENOID VALVE
-----	PRESSURE REDUCING VALVE
-----	GAS PRESSURE REGULATOR
-----	THERMOSTATIC MIXING VALVE
-----	BACKFLOW PREVENTER
-----	PRESSURE GAUGE
-----	THERMOMETER
-----	UNION
-----	FLANGE CONNECTION
-----	HOSE BIBB (HB)
-----	NONFREEZE WALL HYDRANT (NW)
-----↑-----	MANUAL/AUTOMATIC AIR VENT OR RELIEF VALVE
-----	CLEANOUT
-----	CAP
-----	WALL CLEANOUT (WCO)
-----	FLOOR CLEANOUT (FCO)
-----	EXTERIOR CLEANOUT (ECO)
-----	ELBOW UP
-----	ELBOW DOWN
-----	TEE UP
-----	TEE DOWN
-----	WATER HAMMER ARRESTER (WHA)
-----	RECIRCULATION PUMP
-----	P-TRAP
-----	GAS COCK
-----	TRAP PRIMER
-----	TRAP PRIMER WITH DISTRIBUTION UNIT

GENERAL PLUMBING NOTES:

- A. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK. PRIOR TO SUBMITTING A BID, VISIT THE JOB SITE TO OBSERVE THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY OWNER'S CONSTRUCTION MANAGER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- B. PROVIDE A CONSTRUCTION RECORD SET OF "AS-BUILT" DOCUMENTS TO THE OWNER'S CONSTRUCTION MANAGER REFLECTING ANY VARIANCES OF INSTALLED PIPING LOCATIONS OR EQUIPMENT CONTRARY TO THE CONSTRUCTION DOCUMENTS, REFER TO SPECIFICATIONS.
- C. PROVIDE TO THE OWNER'S CONSTRUCTION MANAGER A COPY OF INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS, REFER TO SPECIFICATIONS.
- D. INSTALLATION SHALL COMPLY WITH LEGALLY CONSTITUTED CODES AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION AND ALSO MEET ALL REQUIREMENTS OF THE LANDLORD. OBTAIN A COPY OF THE LANDLORD'S REQUIREMENTS AND REVIEW PRIOR TO SUBMITTING BID.
- E. PLANS AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.
- F. VERIFY LOCATION AND DEPTH OF UTILITIES AT POINTS OF CONNECTION BEFORE START OF PIPING INSTALLATION.
- G. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.
- H. DO NOT SCALE FLOOR PLANS FOR EXACT HORIZONTAL LOCATION OF PIPE ROUTING.
- I. INSTALL CONCEALED PIPING TIGHT TO THE STRUCTURE AND AS HIGH AS POSSIBLE. INSTALL EXPOSED PIPING TIGHT TO THE STRUCTURE, WALL OR CEILING AND AS HIGH AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS.
- J. VALVES SHALL BE LINE SIZE UNLESS OTHERWISE NOTED.
- K. PIPING IN FINISHED AREAS SHALL BE ROUTED CONCEALED; EXPOSED PIPING, WHERE NECESSARY, SHALL BE ROUTED AS HIGH AS POSSIBLE AND TIGHT TO WALLS.
- L. COORDINATE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
- M. COORDINATE PIPING INSTALLATION WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, ETC. SLEEVE PIPING THROUGH GRADE BEAMS, FOOTING, ETC. WHERE REQUIRED AND AS NOTED ON PLANS. COORDINATE SLEEVE INSTALLATIONS WITH THE ARCHITECT, STRUCTURAL ENGINEER, STRUCTURAL CONTRACTOR AND GENERAL CONTRACTOR BEFORE CONCRETE IS INSTALLED.
- N. CLEAN FAUCET AERATORS AND PIPE STRAINERS PRIOR TO TURNING BUILDING OVER TO THE OWNER.
- O. PROVIDE TRAP PRIMERS WHERE REQUIRED BY LOCAL AUTHORITIES.
- P. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS.
- Q. PAINT ALL EXPOSED GAS AND WATER PIPING USING RUST INHIBITOR PAINT. PAINT AND COLOR SHALL BE COORDINATED WITH THE ARCHITECT AND / OR OWNER.
- R. COORDINATE ALL ROOF PENETRATIONS WITH OTHER TRADES. MAINTAIN 10" MINIMUM CLEARANCE FROM ALL AIR INTAKES. MAINTAIN 2' CLEARANCE FROM ALL OTHER EQUIPMENT.
- S. INSULATE PIPING ROUTED IN EXTERIOR BUILDING WALLS WITH MINIMUM 2" BATT INSULATION TO PREVENT FREEZING.
- T. SEAL ALL PENETRATIONS THROUGH RATED WALLS AND CEILINGS.
- U. EXAMINE THE CONTRACT DRAWINGS AND ALL AVAILABLE INFORMATION CONCERNING EXISTING INSTALLATION, STRUCTURE, AND LOCAL CONDITIONS. VISIT THE SITE TO UNDERSTAND THE NATURE AND SCOPE OF ALL WORK TO BE PERFORMED AND VERIFY EXISTING CONDITIONS. THE SUBMISSION OF A BID WILL BE TAKEN AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND THAT ALL EXISTING CONDITIONS HAVE BEEN CONSIDERED. NO ALLOWANCES WILL BE MADE AFTER THE PROJECT HAS BEEN AWARDED FOR FAILURE TO VERIFY EXISTING CONDITIONS. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THAT OF THESE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
- V. PLUMBING CONTRACTOR MUST PROVIDE CAMERA VERIFICATION OF EXACT LOCATION OF WASTE LINE TO GC DURING BID. VERIFICATION MUST BE MADE PRIOR TO ISSUANCE OF PERMIT AND AFTER ACCEPTANCE OF CONTRACT TO PROCEED.
- W. CONTRACTOR TO FIELD VERIFY EXISTING DOMESTIC WATER SYSTEM IS PROVIDED WITH A REDUCED PRESSURE BACKFLOW PREVENTER (RPBP). IF NOT EXISTING, PROVIDE AN APPROVED RPBP ASSEMBLY SIZED TO MATCH BUILDING WATER METER. INSTALL NEW RPBP BETWEEN THE WATER METER AND THE BUILDING PER LOCAL JURISDICTION'S REQUIREMENTS

PLUMBING FIXTURE SCHEDULE:

FIXTURES IN THIS SCHEDULE OR THEIR APPROVED EQUIVALENT ARE PROVIDED BY THE PLUMBING CONTRACTOR. SUBMIT SHOP DRAWINGS ON EACH OF THESE ITEMS. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION AND INSTALLATION REQUIREMENTS. VERIFY ROUGH-IN REQUIREMENTS WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS. REFER TO THE ARCHITECTURAL DRAWINGS FOR THE PLUMBING FIXTURE MOUNTING HEIGHTS.

- (ET) EXPANSION TANK; AMTROL "THERM-X-TROL" # ST-12, WELDED STEEL PRESSURE TANK, POLYPROPYLENE LINING, FLEXIBLE BUTYL DIAPHRAGM, AIR CHARGING VALVE, 150 PSI MAXIMUM WORKING PRESSURE, 4.5 GALLON CAPACITY, 0.45 MAXIMUM ACCEPTANCE FACTOR, 3/4" PIPE CONNECTION. SET THE AIR CHARGE PRESSURE TO MATCH EXISTING WATER SYSTEM PRESSURE.
- (MS) MOP SINK; STERN-WILLIAMS # MTB-2424, 24" x 24" x 10" HIGH TERRAZZO BASIN WITH INTEGRAL STAINLESS STEEL DRAIN BODY. FAUCET; CHICAGO FAUCET # 897-CP FAUCET WITH WALL BRACE. INTEGRAL VACUUM BREAKER, PAIL HOOK, AND 3/4" MALE HOSE THREADED OUTLET. SECURE FAUCET IN WALL WITH BACKBOARD. TRIM: # BP TYPE 304, 20 GAUGE, STAINLESS STEEL WALL SURROUNDS, # T-35 THREE FOOT LONG REINFORCED HOSE WITH 3/4" CHROME COUPLING AND WALL HOOK, # V-70 EXTRUDED VINYL BUMPER GUARD, AND # T-40 24" STAINLESS STEEL MOP HANGER.
- (WCO) WALL CLEANOUT; JAY R. SMITH # 4530S, CAST IRON CLEANOUT TEE, COUNTER SINK PLUG, STAINLESS STEEL ROUND COVER AND SCREW, AND IRON PLUG WITH GASKET SEAL. REFER TO SPECIFICATIONS FOR INSTALLATION.
- (DF) ELECTRIC WATER COOLER (ADA ACCESSIBLE); ELKAY # EZSTL8C WALL-MOUNTED, BARRIER FREE, DUAL-LEVEL, FRONT AND SIDE PUSH ACTUATOR BARS, STAINLESS STEEL BOWL, FLEXIBLE POLYESTER ELASTOMER SAFETY BUBBLER AND GALVANIZED STEEL FRONT AND SIDES, CHILLER WITH 8.0 GALLONS PER HOUR CAPACITY, 50' F DRINKING WATER AT 80° F INLET TEMPERATURES 90° F ROOM TEMPERATURE. TRIM: MCGUIRE # 2165CC COMPRESSION ANGLE STOP VALVE WITH RISER AND ESCUTCHEON, MCGUIRE # B8912CF 1-1/2" 17 GAUGE CAST CHROME PLATED BRASS ADJUSTABLE P-TRAP AND WASTE ARM WITH CLEANOUT PLUG AND ESCUTCHEON, AND SUITABLE CARRIER WITH STANCHIONS TO FLOOR. ELECTRICAL REQUIREMENTS: 120-VOLT, 3.7 FULL LOAD AMPS.
- (WHA) WATER HAMMER ARRESTER; PRECISION PLUMBING PRODUCTS, HARD DRAWN COPPER BODY WITH WROUGHT COPPER FITTINGS, PISTON TYPE WITH LUBRICATED EPDM "O" RING SEALS, MEETING ASSE 1010 OR PDI WH-201. PROVIDE PDI SIZES "A" THROUGH "F" AS SHOWN ON PLANS.
- (WMB) WASHING MACHINE BOX; GUY GRAY MODEL # B200, 20 GAUGE GALVANIZED STEEL BOX, 20 GAUGE STEEL FACEPLATE, BOTTOM INLET WATER SUPPLIES WITH ANGLED WHEEL HANDLE 3/4" HOSE BIBBS, AND 2" BOTTOM OUTLET DRAIN. TRIM: PROVIDE 24" LONG TAIL PIECE AND 2" DIAMETER P-TRAP.

PLUMBING PIPE MATERIAL SCHEDULE

PIPING SYSTEM	ABBREVIATION	PIPING MATERIAL
SANITARY DRAINAGE & VENT (ABOVE GRADE)	S, W, GW OR V	HUBLESS CAST IRON (PVC DWV OPTIONAL)
SANITARY DRAINAGE & VENT (BELOW GRADE)	S, W, GW OR V	SERVICE WEIGHT CAST IRON (PVC DWV OPTIONAL)
POTABLE WATER (ABOVE GRADE)	CW, HW OR HWR	TYPE L HARD DRAWN COPPER (PEX TUBING UP TO 2" OPTIONAL)
CONDENSATE DRAIN - 1" & SMALLER	CD	TYPE M HARD DRAWN COPPER (PVC DWV OPTIONAL)

REFER TO SPECIFICATIONS FOR FITTINGS, INSTALLATION REQUIREMENTS AND FURTHER INFORMATION. PIPING MATERIALS WITHIN AIR PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL BE LISTED AND LABELED AS HAVING A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84 OR UL 723.

RECIRCULATION PUMP SCHEDULE

MARK	MANUFACTURER / MODEL#	SERVICE	GPM	HEAD (FT.)	SUCTION & DISCHARGE SIZE	IMPELLER SIZE (IN.)	ELECTRICAL DATA			NOTES
							VOLTS	PHASE	FLA	
RP-1	BELL & GOSSETT # NBF-9U/LW	WH-1	1	7.0	SEE PLAN	N/A	120	1	0.40	A-D

NOTES:

- A. ALL BRONZE BOOSTER.
- B. PROVIDE WITH STRAINER UPSTREAM OF PUMP.
- C. PROVIDE ADJUSTABLE, SURFACE MOUNTED AQUASTAT - HONEYWELL L6006C OR EQUIVALENT.
- D. SET AQUASTAT TO SHUT OFF RECIRCULATION PUMP AT WATER HEATER SET POINT AND ON AT 10F BELOW SET POINT.

ELECTRIC WATER HEATER SCHEDULE

MARK	MANUFACTURER/ MODEL#	AREA SERVED	ENERGY SOURCE	TANK SIZE (GALLONS)	ELECTRICAL DATA		RECOVERY RATE (GPH)	NOTES	
					VOLTS	PHASE			
WH-1	A.O SMITH E6-40J45DV8	SINKS/ LAVS	ELECTRIC	38	208	1	5	30	A-C

NOTES:

- A. 60°F TEMPERATURE RISE WITH 120°F OPERATING TEMPERATURE.
- B. DUAL ELEMENT WIRED FOR NON-SIMULTANEOUS OPERATION
- C. PROVIDE WITH HOLDTRIE WALL MOUNTED WATER HEATER SUPPORT AND SEISMIC RESTRAINT BRACKET.

MINIMUM PIPE INSULATION THICKNESS

Fluid Operating Temperature Range and Usage (F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	Conductivity Btu in./h-ft ² °F)b	Mean Rating Temperature, °F	<1	1 TO 1-1/2	1-1/2 TO <4	4 TO <8	<8
141-200	0.25-0.29	125	1.5	1.5	2.0	2.0	2.0
105-140	0.21-0.28	100	1.0	1.0	1.5	1.5	1.5
40-60	0.21-0.27	75	0.5	0.5	1.0	1.0	1.0
<40	0.20-0.26	75	0.5	1.0	1.0	1.0	1.5

For piping smaller than 1 1/2 inch (38 mm) and located in partitions within conditioned spaces, reduction of these thicknesses by 1 inch (25 mm) shall be permitted (before thickness adjustment required in footnote b) but not to a thickness less than 1 inch (25 mm). b For insulation outside the stated conductivity range, the minimum thickness (T) shall be determined as follows:

$$T = r(1 + U) / Kk - 1$$

Where: T = minimum insulation thickness, r = actual outside radius of pipe, t = insulation thickness listed in the table for applicable fluid temperature and pipe size, K = conductivity of alternate material at mean rating temperature indicated for the applicable fluid temperature (Btu x in/h x ft² x °F) and k = the upper value of the conductivity range listed in the table for the applicable fluid temperature. c For direct-buried heating and hot water system piping, reduction of these thicknesses by 1 1/2 (38 mm) shall be permitted (before thickness adjustment required in footnote b) but not to thicknesses less than 1 inch (25 mm).

IPC WATER & WASTE FIXTURE UNITS

FIXTURE TYPE	QTY	D.F.U.		HOT S.F.U.	COLD S.F.U.	COMBINED S.F.U.	TOTAL S.F.U.	TOTAL S.F.U.	TOTAL S.F.U.
		(EA)	(F.U.)						
PUBLIC CLOTHES WASHER RESIDENTIAL (8 IB)	1	3.0	3.0	2.25	2.25	3.00	2.25	2.25	3.0
BOTTLE FILLER	2	0.5	1.0	0.00	0.25	0.25	0	0.5	0.5
PUBLIC LAVATORY (ETR)	1	1.0	1.0	1.50	1.50	2.00	1.5	1.5	2.0
SERVICE SINK (MOP BASIN)	1	2.0	2.0	2.25	2.25	3.00	2.25	2.25	3.0
PUBLIC WATER CLOSET (1.28 GPF FLUSH TANK) (ETR)	1	4.0	4.0	0.00	5.00	5.00	0	5	5.0
TOTAL UNITS:	6		11.0				6.0	11.5	13.5

WATER PIPE SIZING CHART

FIXTURE UNITS VS. PRESSURE LOSS								
IN PSI / 100 FEET WITH Copper Type L PIPING MATERIAL								
COLD WATER @ 5.5 PSI / 100'				HOT WATER @ 5.5 PSI / 100'				
PIPE SIZE	FLUSH TANK/ FLUSH VALVE/ SFU (CW)	FLUSH VALVE/ SFU (CW)	VELOCITY FEET / SEC	FLOW GPM	FLUSH TANK/ SFU (HW)	VELOCITY FEET / SEC	FLOW GPM	FLUSH TANK/ SFU (HW)
1/2"	3.0	N/A	4.1	3.0	3.0	4.1	3.0	3.0
3/4"	9.2	N/A	5.0	7.6	9.1	5.0	7.5	7.5
1"	21.4	N/A	5.9	15.2	17.7	5.0	12.9	12.9

FIXTURE BRANCH CONNECTION SCHEDULE

FIXTURE TYPE	COLD WATER	HOT WATER	WASTE	VENT
WATER CLOSET (FLUSHMETER)	1/2"	--	4"	2"
LAVATORY/ HAND SINK	1/2"	1/2"	2"	1-1/2"
DRINKING FOUNTAIN	1/2"	--	2"	1-1/2"
MOP SINK	1/2"	1/2"	3"	2"
WASHING MACHINE BOX	1/2"	1/2"	2"	2"

NOTE:

PIPE SIZES SHOWN ARE MINIMUM.



TWENTY FIVE YEARS

15974 N. 77th ST., STE 100
SCOTTSDALE AZ 85260



XPNENTIAL
FITNESS

17877 VON KARMAN AVE
SUITE 100
IRVINE, CA 92614



PROJECT ADDRESS:
1242 S. HOVER STREET
UNIT B200
LONGMONT, CO. 80501

REVISIONS:

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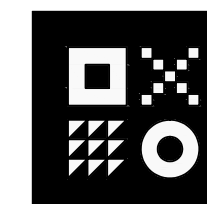
PLUMBING
SHCEDULES

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22-254

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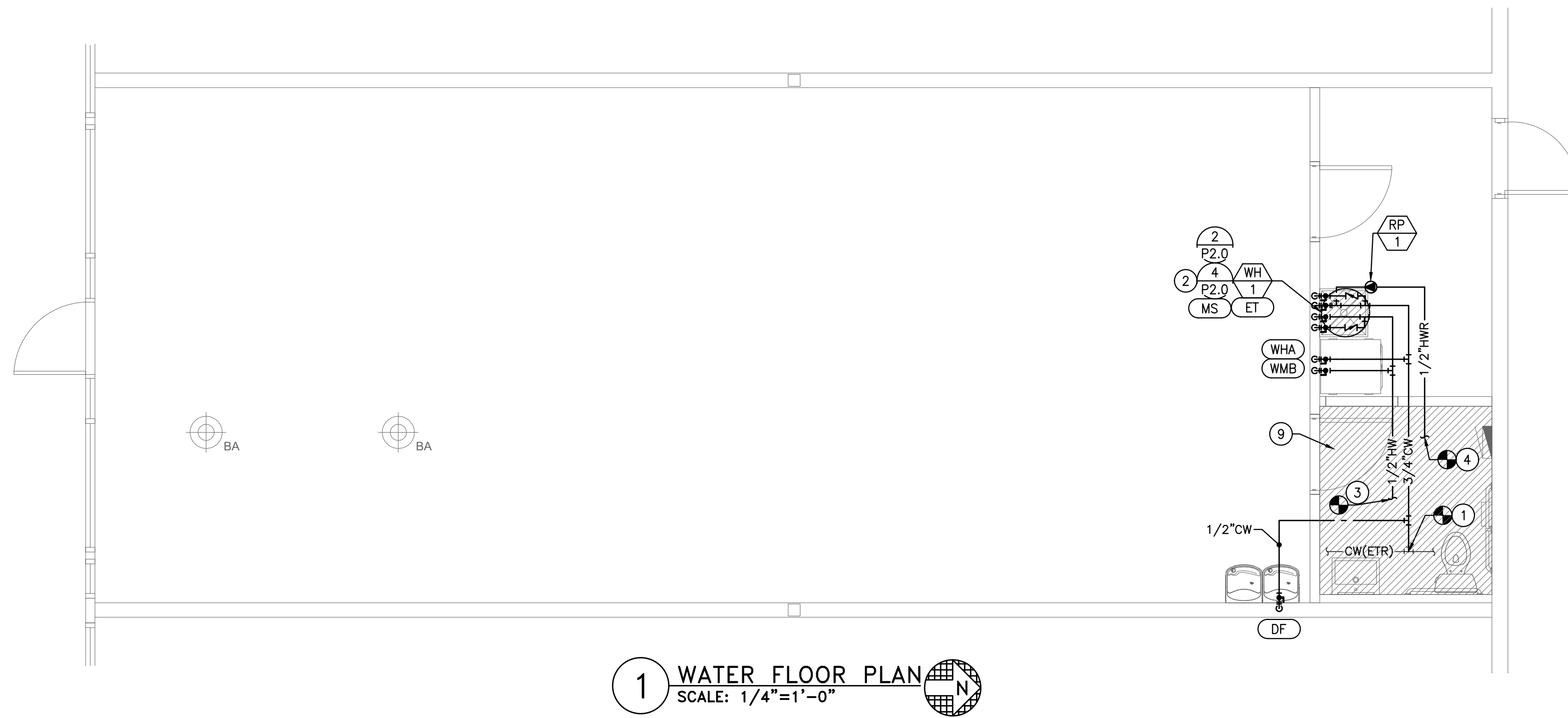
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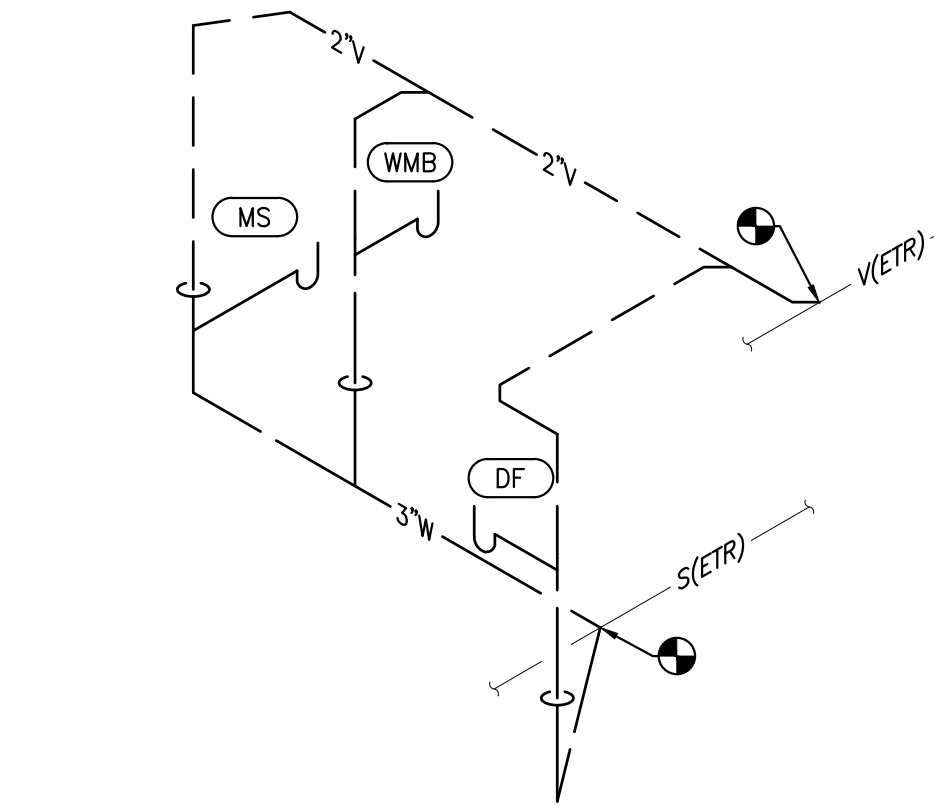
ARDEBILI
Engineering

Project Number: 22690 | Project Manager: KK
7328 E Stetson Dr., Scottsdale, AZ 85251
P: 480.626.7072 | ardebilieng.com

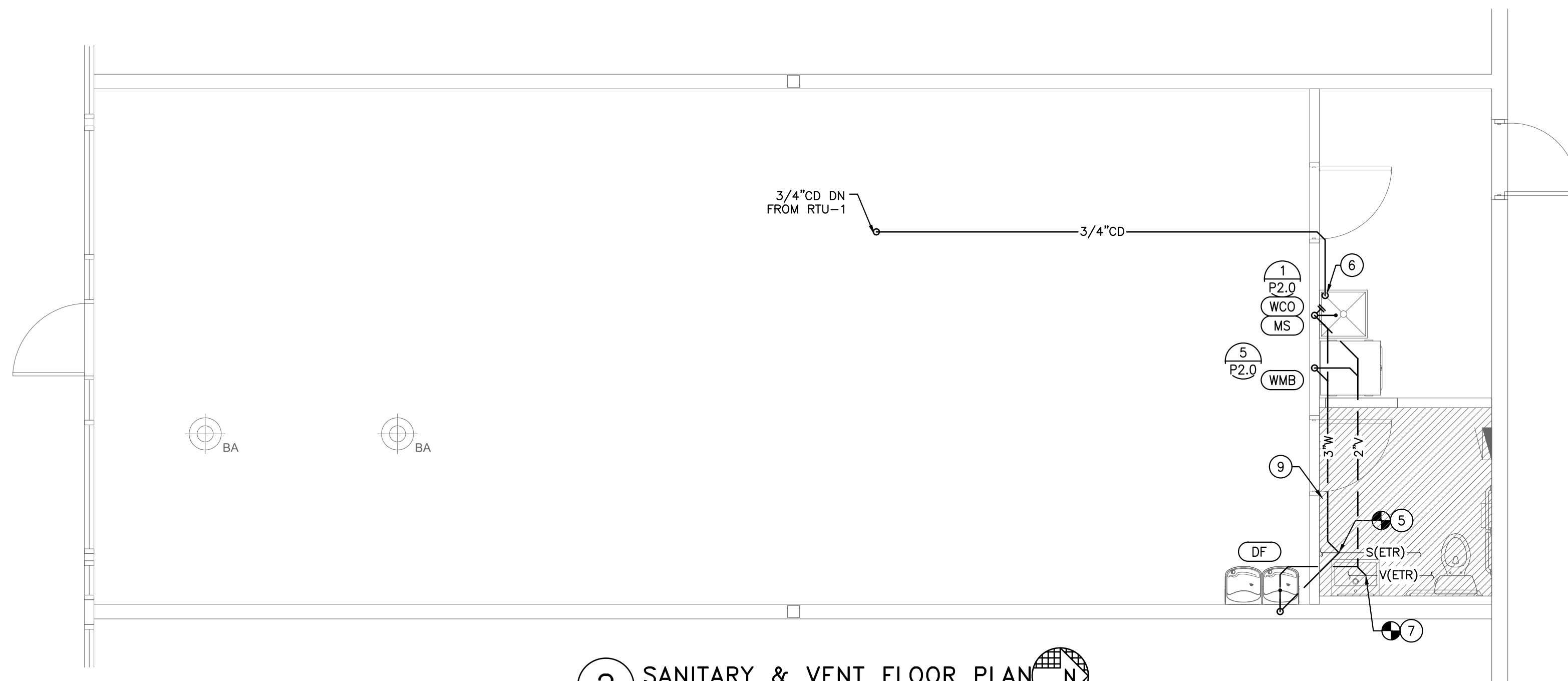
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1 WATER FLOOR PLAN
SCALE: 1/4"=1'-0"



3 SANITARY & VENT RISER DIAGRAM
SCALE: NONE



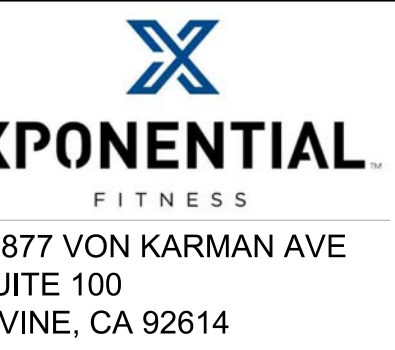
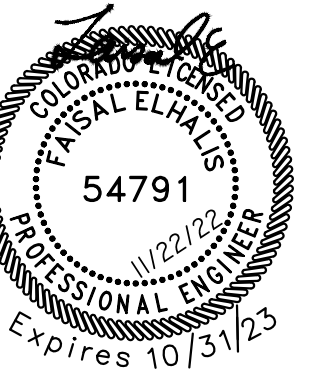
2 SANITARY & VENT FLOOR PLAN
SCALE: 1/4"=1'-0"

PLUMBING PLAN NOTES:

1. CONNECT NEW COLD WATER LINE TO EXISTING COLD WATER LINE PIPING STUB LOCATED ABOVE THE CEILING. VERIFY EXACT LOCATION AND SIZE OF EXISTING LINE PRIOR TO CONSTRUCTION.
2. NEW STORAGE ELECTRIC HOT WATER HEATER TO BE RELOCATED AND MOUNTED ON MOP SINK SHELF. PROVIDE COLD AND HOT WATER LINES FROM WATER HEATER, AND ROUTE TO PLUMBING FIXTURES INDICATED ON PLAN. CONNECT HOT WATER RETURN LINE TO WATER HEATER COLD LINE. FROM RECIRCULATION PUMP. CONTRACTOR TO FIELD VERIFY SIZE AND CONDITION, REPLACE WITH NEW IF NEEDED.
3. CONNECT NEW HOT WATER LINE TO EXISTING HOT WATER LINE PIPING STUB LOCATED ABOVE THE CEILING. VERIFY EXACT LOCATION AND SIZE OF EXISTING LINE PRIOR TO CONSTRUCTION.
4. CONNECT NEW RECIRCULATION LINE TO EXISTING HOT WATER LINE PIPING STUB LOCATED ABOVE THE CEILING. VERIFY EXACT LOCATION AND SIZE OF EXISTING LINE PRIOR TO CONSTRUCTION.
5. CONNECT NEW SANITARY WASTE LINE TO EXISTING SANITARY WASTE LINE. VERIFY EXACT SIZE, LOCATION AND INVERT PRIOR TO INSTALLATION.
6. ROUTE CONDENSATE ALONG THE WALL AND DISCHARGE OVER MOP SINK WITH AIR GAP PER CODE.
7. CONNECT NEW VENT LINE TO EXISTING SANITARY VENT LINE. VERIFY EXACT SIZE AND LOCATION PRIOR TO INSTALLATION.
8. PLUMBING FIXTURES AND ASSOCIATED PIPING IN HATCHED AREA IS EXISTING TO REMAIN.
9. PLUMBING FIXTURES AND ASSOCIATED PIPING IN HATCHED AREA IS EXISTING TO REMAIN.

CONTRACTOR NOTE:

- A. EXISTING PIPE SIZES AND LOCATIONS HAVE NOT BEEN FIELD VERIFIED. CONTRACTOR TO FIELD VERIFY ALL EXISTING PIPE SIZES AND LOCATIONS PRIOR TO BEGINNING OF WORK. REPLACE WITH NEW IF MINIMUM SIZES INDICATED ON PLANS CANNOT BE ACHIEVED.



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LONGMONT, CO. 80501

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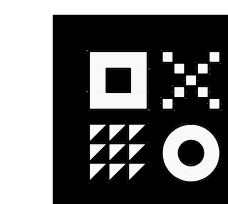
PLUMBING
PLANS

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11.01.2022

PROJECT NO.
22-254

SHEET NO.

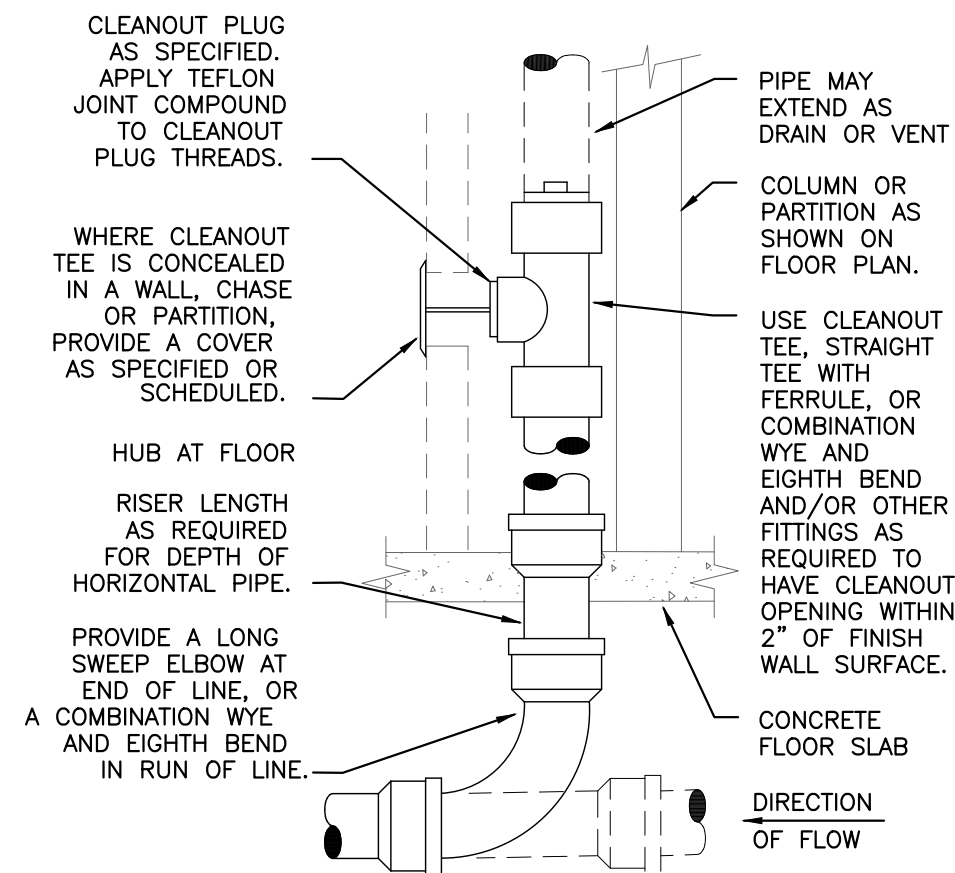
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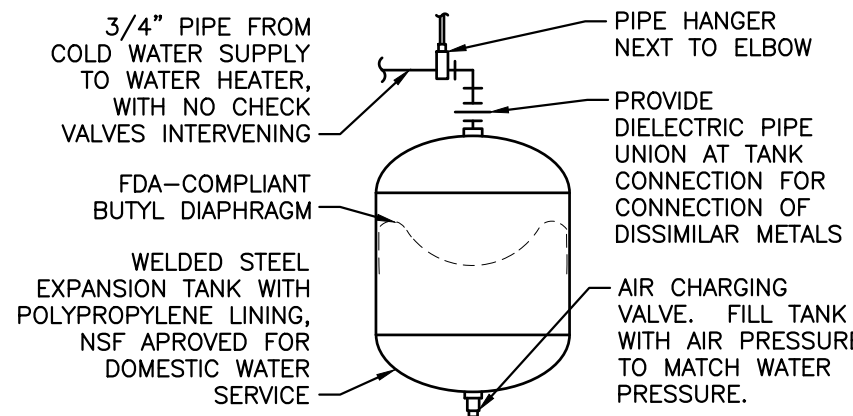
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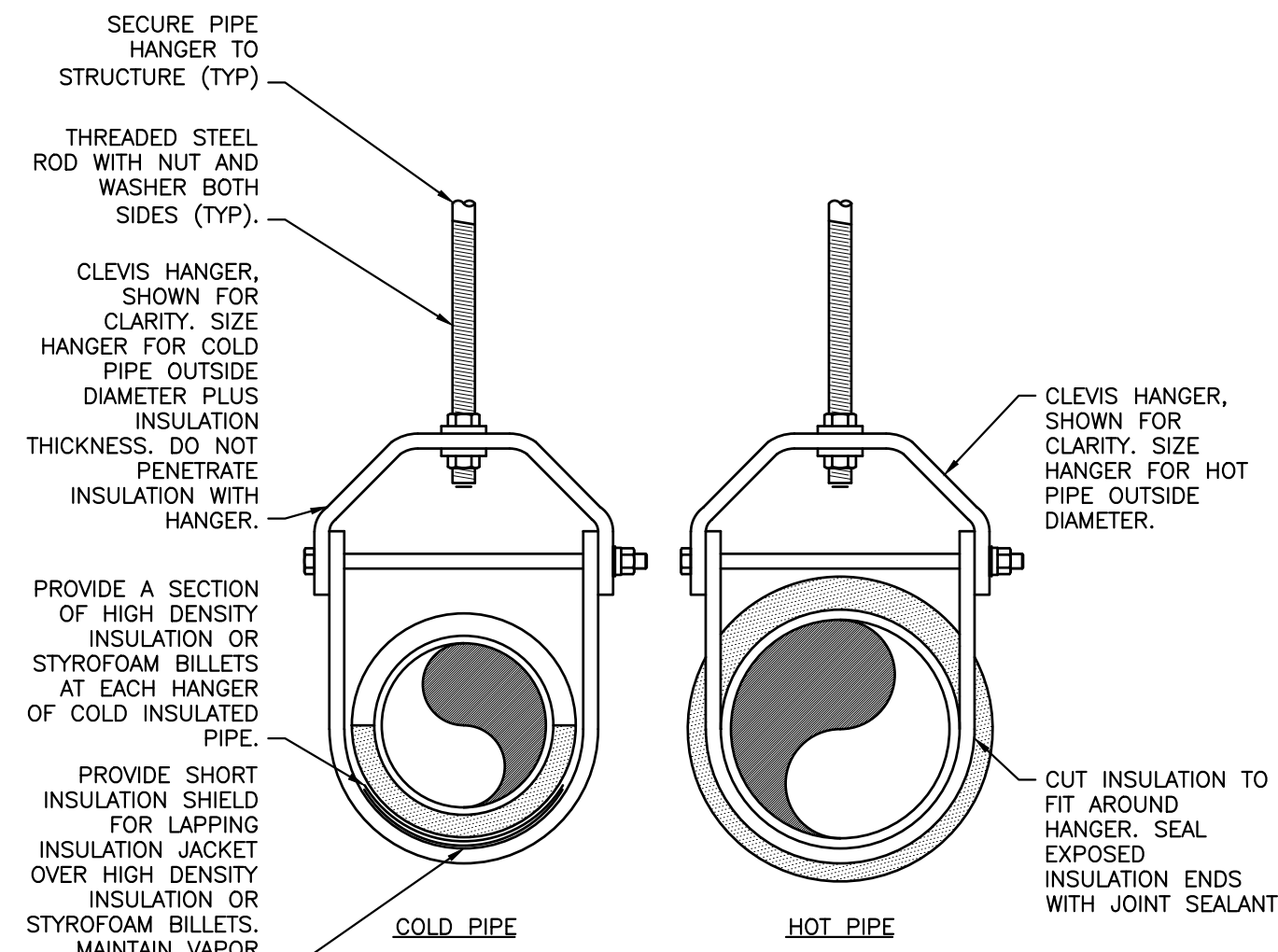
REFER TO SPECIFICATIONS AND SCHEDULES FOR MORE INFORMATION. PROVIDE WCO AT BASE OF RAIN-LEADER DOWNSPOUTS AND SOIL STACKS. PROVIDE WCO WHERE SHOWN ON PLAN, AND ON SANITARY WASTE BRANCHES LONGER THAN FIVE FEET NOT SERVED WITH A FLOOR CLEANOUT. LOCATE ABOVE FIXTURE FLOOR RIM WITHIN FOUR FEET OF FLOOR. CONSULT LOCAL CODES AND OFFICIALS FOR OTHER WCO REQUIREMENTS.

1 WALL CLEANOUT
NO SCALE



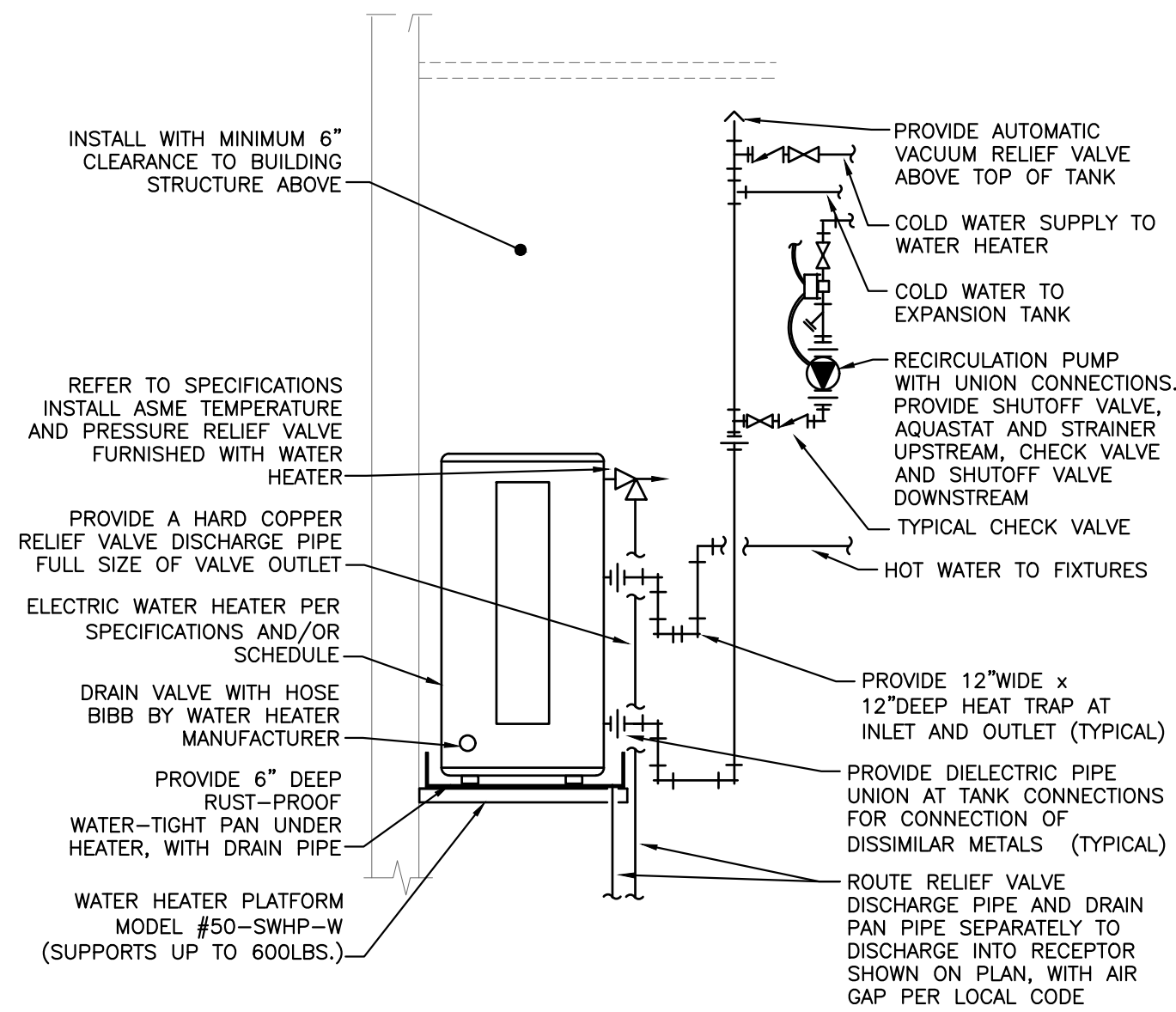
PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION PROCEDURE. VERIFY PROPER OPERATION WHEN INSTALLED. PROVIDE SEISMIC STRAP OR BRACING WHEN REQUIRED BY LOCAL AUTHORITIES.

2 SMALL EXPANSION TANK
NO SCALE



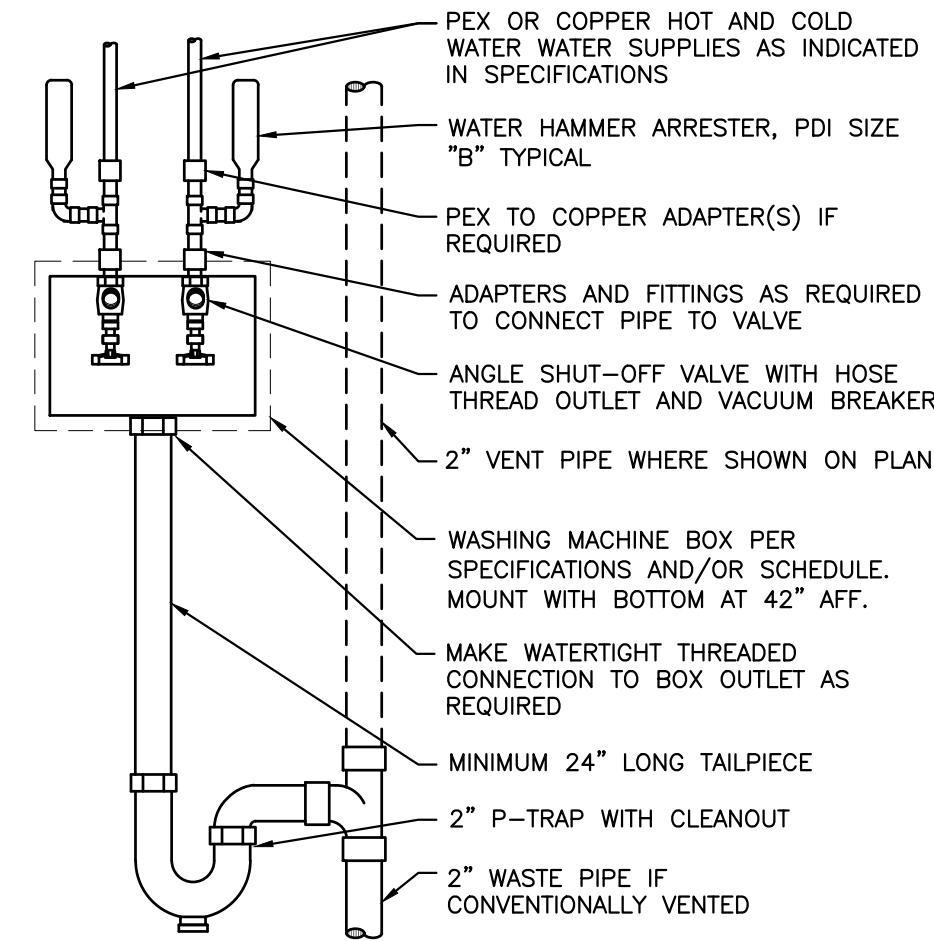
REFER TO SPECIFICATIONS FOR INSULATION TYPES, INSULATION THICKNESSES, HANGER TYPES, HANGER ROD CONNECTIONS TO STRUCTURE AND HANGER SPACING.

3 INSULATED PIPE HANGER DETAIL
NO SCALE



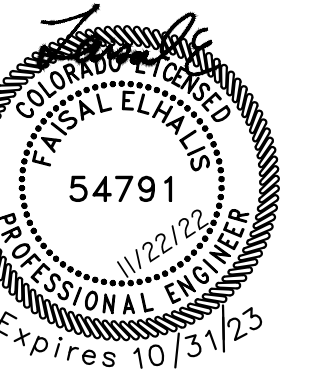
REFER TO SPECIFICATIONS, SCHEDULES AND NOTES FOR MORE INFORMATION. PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. VERIFY CONNECTION SIZES AND LOCATIONS PER MANUFACTURER'S REQUIREMENTS. REFER TO FLOOR PLANS FOR PIPE SIZES. PROVIDE SEISMIC STRAP OR BRACING IF/AS REQUIRED BY LOCAL AUTHORITIES AND/OR SEPARATE DETAIL. INSTALL WITH BOTTOM MINIMUM 6\"/>

4 ELECTRIC WATER HEATER OVERHEAD AND PUMP
NO SCALE



PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. PROVIDE CONNECTIONS AS RECOMMENDED BY EQUIPMENT MANUFACTURER.

5 WASHING MACHINE BOX
NO SCALE



REVISIONS:

TITLE:

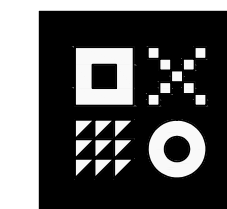
**PLUMBING
DETAILS**

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11.01.2022

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22-254

SHEET NO.

P2.0



PLUMBING SPECIFICATIONS

GENERAL REQUIREMENTS

REQUIREMENTS UNDER DIVISION ONE AND THE GENERAL AND SUPPLEMENTARY CONDITIONS OF THESE SPECIFICATIONS SHALL BE A PART OF THIS SECTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO BECOME THOROUGHLY ACQUAINTED WITH ITS CONTENTS AS TO REQUIREMENTS THAT AFFECT THIS DIVISION OR SECTION. WORK REQUIRED UNDER THIS SECTION INCLUDES MATERIAL, EQUIPMENT, APPLIANCES, TRANSPORTATION, SERVICES AND LABOR REQUIRED TO COMPLETE THE ENTIRE PLUMBING SYSTEM AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS.

THE SPECIFICATIONS AND THE DRAWINGS ARE COMPLEMENTARY, AND ANY PORTION OF WORK DESCRIBED IN ONE SHALL BE PROVIDED AS IF DESCRIBED IN BOTH. IN THE EVENT OF DISCREPANCIES ON THE DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF SAME PRIOR TO PROCEEDING WITH THE WORK INVOLVED, IN ORDER THAT CORRECT PROGRESS OF THE WORK MAY BE PERFORMED.

DEFINITIONS

FURNISH: TO SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION AND SIMILAR OPERATIONS.

INSTALL: TO PERFORM ALL OPERATIONS AT THE PROJECT SITE INCLUDING, BUT NOT LIMITED TO, THE ACTUAL UNLOADING, UNPACKING, ASSEMBLING, PROTECTING, PLACING, POSITIONING, APPLYING, WORKING TO DIMENSIONS, FINISHING, CURING, PROTECTING, CLEANING, TESTING, COMMISSIONING, STARTING UP AND SIMILAR OPERATIONS, COMPLETE, AND READY FOR THE INTENDED USE."

PROVIDE: TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

FURNISHED BY OWNER OR FURNISHED BY OTHERS: "AN ITEM FURNISHED BY THE OWNER OR UNDER OTHER DIVISIONS OR CONTRACTS, AND INSTALLED UNDER THE REQUIREMENTS OF THIS DIVISION, COMPLETE, AND READY FOR THE INTENDED USE, INCLUDING ALL ITEMS AND SERVICES INCIDENTAL TO THE WORKING THEREAS. THE CONTRACTOR SHALL NOTIFY THE OWNER AND OPERATION. INCLUDE THE INSTALLATION UNDER THE WARRANTY REQUIRED BY THIS DIVISION."

AJH: THE LOCAL CODE AND/OR INSPECTION AGENCY (AUTHORITY) HAVING JURISDICTION OVER THE WORK.

THE TERMS "APPROVED EQUAL", "EQUIVALENT", OR "EQUAL" ARE USED SYNONYMOUSLY AND SHALL MEAN "ACCEPTED BY OR ACCEPTABLE TO THE ENGINEER AS EQUIVALENT TO THE ITEM OR MANUFACTURER SPECIFIED". THE TERM "APPROVED" SHALL MEAN LABELED, LISTED, OR BOTH, BY AN NRTL, AND ACCEPTABLE TO THE AHJ OVER THIS PROJECT.

COORDINATION

COORDINATE WORK WITH THAT OF OTHER TRADES SO THAT THE VARIOUS COMPONENTS OF THE SYSTEMS WILL BE INSTALLED AT THE PROPER TIME, AND THE SYSTEMS SPECIFIED HEREIN, CONTRACTOR SHALL FURNISH THE ACCESS TO THOSE ITEMS REQUIRING MAINTENANCE, COMPONENTS WHICH ARE INSTALLED WITHOUT REGARD TO THE ABOVE SHALL BE RELOCATED AT NO ADDITIONAL COST TO THE OWNER.

UNLESS NOTED ELSEWHERE, GENERAL CONTRACTOR WILL PROVIDE CHASES AND OPENINGS IN BUILDING CONSTRUCTION REQUIRED FOR INSTALLATION OF THE SYSTEMS SPECIFIED HEREIN. CONTRACTOR SHALL FURNISH THE GENERAL CONTRACTOR WITH INFORMATION REGARDING CHASES AND OPENINGS WHEN REQUIRED. CONTRACTOR SHALL KEEP INFORMED AS TO THE WORK OF OTHER TRADES ENGAGED IN THE CONSTRUCTION OF THE BUILDING AND SHALL EXECUTE HIS WORK IN SUCH A MANNER AS NOT TO INTERFERE WITH OR DELAY THE WORK OF OTHER TRADES.

FIGURED DIMENSIONS SHALL BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS. CONTRACTOR SHALL TAKE HIS OWN MEASUREMENTS AT THE BUILDING, AS VARIATIONS MAY OCCUR. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ERRORS WHICH COULD HAVE BEEN AVOIDED BY PROPER CHECKING AND VERIFICATION.

PROVIDE MATERIALS WITH TRIM THAT WILL PROPERLY FIT THE TYPES OF CEILING, WALL, OR FLOOR FINISHES ACTUALLY INSTALLED. MODEL NUMBERS LISTED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS ARE NOT INTENDED TO DESIGNATE THE REQUIRED TRIM.

GUARANTEE

THE WORK TO BE PERFORMED UNDER THIS CONTRACT SHALL INCLUDE THE FURNISHING, INSTALLATION, AND CONNECTION OF PLUMBING SYSTEMS INDICATED ON THE DRAWINGS AND SPECIFICATIONS. BY SIGNING THE CONTRACT, THE CONTRACTOR ACKNOWLEDGES THAT HE HAS ACQUIRED HIMSELF WITH THE SITE AND THE EXISTING CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED, AND THE DRAWINGS AND SPECIFICATIONS ACCURATELY REPRESENT THE WORK TO BE PERFORMED. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS AND INTENT OF PERTINENT DOCUMENTS IN THE PERFORMANCE OF THE WORK.

GUARANTEE THAT THE PLUMBING INSTALLED UNDER THIS CONTRACT IS FREE OF DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF JOB ACCEPTANCE BY THE OWNER. THIS SHALL INCLUDE A GUARANTEE OF FREE CIRCULATION OF LIQUIDS THROUGHOUT THE SYSTEM AS INTENDED WITHOUT LEAKS, EXCESSIVE NOISE, OR WATER HAMMER.

IF DEFECTS OCCUR DURING THE ONE YEAR GUARANTEE PERIOD, REPAIR OR REPLACE SUCH DEFECTS AT NO EXPENSE TO THE OWNER, AND TO THE SATISFACTION OF THE OWNER, ARCHITECT AND ENGINEER.

WARRANTIES

WARRANT EACH SYSTEM AND EACH ELEMENT THEREOF AGAINST ALL DEFECTS DUE TO FAULTY WORKMANSHIP, DESIGN OR MATERIAL FOR A PERIOD OF 12 MONTHS FROM THE DATE OF COMPLETION OF THE WORK. UNLESS SPECIFIC ITEMS ARE NOTED TO CARRY A LONGER WARRANTY IN THE CONSTRUCTION DOCUMENTS OR MANUFACTURER'S STANDARD WARRANTY EXCEEDS 12 MONTHS, REPEAT TESTS, CORRECTING LABOR AND MATERIAL, MAKE REPAIRS OR REPLACEMENTS WITHOUT ANY ADDITIONAL COSTS TO THE OWNER. PERFORM THE REMEDIAL WORK PROMPTLY, UPON WRITTEN NOTICE FROM THE ENGINEER OR OWNER.

AT THE TIME OF SUBSTANTIAL COMPLETION, DELIVER TO THE OWNER ALL WARRANTIES, IN WRITING AND PROPERLY EXECUTED, INCLUDING TRM LIMITS FOR WARRANTIES EXTENDING BEYOND THE ONE YEAR PERIOD, EACH WARRANTY INSTRUMENT BEING ADDRESSED TO THE OWNER AND STATING THE COMMENCEMENT DATE AND TERM.

EXCAVATION AND BACKFILLING

PERFORM EXCAVATION AND BACKFILL REQUIRED FOR INSTALLATION OF UNDERGROUND WORK UNDER THIS CONTRACT. TRENCHES SHALL BE OF SUFFICIENT WIDTH, GRAB OR BRACE TRENCHES TO PREVENT CAVING OR SETTLEMENT. DO NOT EXCAVATE TRENCHES CLOSE TO COLUMNS AND WALLS OF NEW BUILDING WITHOUT PRIOR CONSULTATION WITH THE ARCHITECT. CURB UNDER THIS CONTRACT TO DEMONSTRATE PROPER FREE OF WATER. BACKFILL TRENCHES IN MAXIMUM 6" LAYERS OF WELL-TAMPED DRY EARTH IN A MANNER TO PREVENT FUTURE SETTLEMENT.

COMMON EXCAVATION SHALL COMPRISE THE SATISFACTORY REMOVAL AND DISPOSITION OF MATERIAL OF WHATEVER SUBSTANCES AND OF EVERY DESCRIPTION ENCOUNTERED, INCLUDING ROCK, IF ANY, WITHIN THE LIMITS OF THE WORK AS SPECIFIED AND SHOWN ON THE DRAWINGS. EXCAVATION SHALL BE PERFORMED TO THE LINES AND GRADES INDICATED ON THE DRAWINGS. EXCAVATED MATERIALS WHICH ARE CONSIDERED UNSUITABLE FOR BACKFILL AND CANNOT BE REUSED SHALL BE REMOVED FROM THE SITE. MATERIALS TO BE REMOVED SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS OWN EXPENSE AND RESPONSIBILITY, AND TO THE SATISFACTION OF THE ARCHITECT.

CUTTING AND PATCHING

OBTAIN PERMISSION FROM THE ARCHITECT BEFORE CUTTING WALLS, FLOORS, CEILING, ETC. AS REQUIRED BY THE PROJECT. DO NOT DISTURB STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL FROM THE ARCHITECT. CUT HOLES AS SMALL AS POSSIBLE. GENERAL CONTRACTOR SHALL PATCH WALLS, FLOORS, AND CEILING OF ALL TYPES BY WORKING TO THE ORIGINAL FINISH. PATCHING SHALL MATCH ORIGINAL MATERIAL AND CONSTRUCTION. REPAIR AND REFINISH AREAS DISTURBED BY WORK TO THE CONDITION OF ADJOINING SURFACES IN A MANNER SATISFACTORY TO THE ARCHITECT.

CONCRETE BASES

PROVIDE CONCRETE BASES FOR HIS EQUIPMENT WHERE INDICATED ON THE DRAWINGS. CONCRETE BASES SHALL HAVE CHAMFERED EDGES, SIZE OF PAD SHALL BE A MINIMUM OF 4" GREATER THAN THE FOOTPRINT OF THE EQUIPMENT THAT IT IS SUPPORTING.

CONSTRUCT EQUIPMENT BASES AND HOUSEKEEPING PADS OF A MINIMUM 28 DAY, 4000 PSI CONCRETE CONFORMING TO AMERICAN CONCRETE INSTITUTE STANDARD BUILDING CODE FOR REINFORCED CONCRETE (ACI 318-19) AND THE LATEST APPLICABLE RECOMMENDATIONS OF THE ACI STANDARD PRACTICE MANUAL. CONCRETE SHALL BE COMPOSED OF PORTLAND CEMENT CONFORMING TO ASTM C 150, AGGREGATE CONFORMING TO ASTM C 33, AND POTABLE WATER. EXPOSED EXTERIOR CONCRETE SHALL CONTAIN 5 TO 7 PERCENT AIR ENTRAINMENT.

PROVIDE GALVANIZED ANCHOR BOLTS FOR EQUIPMENT PLACED ON CONCRETE EQUIPMENT BASES AND HOUSEKEEPING PADS OR ON CONCRETE SLABS. ANCHOR BOLTS SIZE, NUMBER AND PLACEMENT SHALL BE AS RECOMMENDED BY THE MANUFACTURER OF THE EQUIPMENT.

ACCESS DOORS

PROVIDE ACCESS DOORS IN CEILINGS AND WALLS WHERE INDICATED OR REQUIRED FOR ACCESS TO CONCEALED VALVES AND EQUIPMENT INSTALLED UNDER THIS SECTION. PROVIDE CONCEALED HINGS, SCREWDRIVER-TYPE LOCK, ANCHOR STRAPS; MANUFACTURED BY MILCOR, ZURN, ITTUS, OR EQUAL. OBTAIN ARCHITECT'S APPROVAL OF TYPE, SIZE, LOCATION, AND COLOR BEFORE ORDERING.

PENETRATIONS

PROVIDE SLEEVES FOR PIPES PASSING THROUGH ABOVE GRADE CONCRETE OR MASONRY WALLS, CONCRETE FLOOR OR ROOF SLABS. SLEEVES ARE REQUIRED FOR THROUGH HOLES IN EXISTING MASONRY WALLS, CONCRETE FLOORS OR ROOF. PROVIDE 1" GAUGE GALVANIZED STEEL SLEEVES FOR SLEEVES 6" AND SMALLER. PROVIDE GALVANIZED SHEET METAL SLEEVES FOR LARGER THAN 6". SCHEDULE 40 PVC SLEEVES ARE ACCEPTABLE FOR INSTALLATION IN AREAS WITHOUT RETURN AIR PLENUMS.

SEAL ELEVATED FLOOR, EXTERIOR WALL AND ROOF PENETRATIONS WATER TIGHT AND WEATHER TIGHT WITH NON-SHRINK, NON-HARDENING COMMERCIAL SEALANT. PACK WITH MINERAL WOOL AND SEAL BOTH ENDS WITH MINIMUM OF 1/2" OF SEALANT.

SEAL AROUND PENETRATIONS OF FIRE RATED ASSEMBLIES. COORDINATE FIRE RATINGS AND LOCATIONS WITH THE ARCHITECTURAL DRAWINGS. REFER TO ARCHITECTURAL SPECIFICATIONS FOR FIRE STOPPING. PROVIDE A PRODUCT SCHEDULE FOR UL LISTING, LOCATION, WALL OR FLOOR RATING AND INSTALLATION DRAWING FOR EACH PENETRATION FIRE STOP SYSTEM.

EXTEND PIPE INSULATION FOR INSULATED PIPE THROUGH FLOOR, WALL AND ROOF PENETRATIONS, INCLUDING FIRE RATED WALLS AND FLOORS. THE VAPOR BARRIER SHALL BE MAINTAINED. SIZE SLEEVE FOR A MINIMUM OF 1" AND LEAVE CLEAR SPACE BETWEEN INSIDE OF SLEEVE AND OUTSIDE OF INSULATION.

SEAL CONCRETE OR MASONRY EXTERIOR WALL PENETRATIONS BELOW GRADE WITH AN APPROVED POLYURETHANE SEALANT. PROVIDE CAST IRON "WALL PIPES" WITH INTEGRAL WATERSTOP RING MANUFACTURED BY JOSAM, JAY R. SMITH, WEADE, WATTS OR ZURN. PROVIDE MODULAR MECHANICAL SLEEVE SEALS, MANUFACTURED BY THUNDERLINE / LINK SEAL, CALPICO, INC. AND METAFLEX.

SEAL ELEVATED CONCRETE SLAB WITH WATERPROOF MEMBRANE PENETRATIONS WITH "WALL PIPES" AND WATER PROOF SEALANT. SECURE WATERPROOF MEMBRANE FLASHING BETWEEN "WALL PIPE" CLAMPING FLANGE AND CLAMPING RING. PROVIDE CAST IRON "WALL PIPES" WITH INTEGRAL WATERSTOP RING MANUFACTURED BY JOSAM, JAY R. SMITH, WEADE, WATTS OR ZURN.

PROVIDE SLEEVES FOR HORIZONTAL PIPE PASSING THROUGH OR UNDER FOUNDATION. SLEEVES SHALL BE CAST IRON SOIL PIPE TWO NOMINAL PIPE SIZES LARGER THAN THE PIPE SERVED.

PROVIDE SCHEDULE 40 PVC PIPE SLEEVES FOR VERTICAL PRESSURE PIPE PASSING THROUGH CONCRETE SLAB ON GRADE. SLEEVES SHALL BE ONE NOMINAL PIPE SIZE LARGER THAN THE PIPE SERVED AND TWO PIPE SIZES LARGER THAN THE PIPE SERVED. SEAL WITH SILICONE CAULK WITH RESTRAINING RIDGES. SEAL WATER-TIGHT WITH SILICONE CAULK.

PROVIDE 1/2" THICK CELLULAR FOAM INSULATION AROUND PERIMETER OF CONCRETE OR MASONRY EXTERIOR WALLS. INSULATION SHALL EXTEND TO 2" ABOVE AND BELOW THE CONCRETE SLAB.

ELECTRICAL WIRING

LINE VOLTAGE WIRING SHALL BE PROVIDED BY ELECTRICAL. LINE VOLTAGE CONTROL AND INTERLOCK WIRING FOR PLUMBING SYSTEMS SHALL ALSO BE PROVIDED BY ELECTRICAL CONTRACTOR. LOW VOLTAGE CONTROL WIRING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR. FURNISH WIRING DIAGRAMS TO THE ELECTRICAL CONTRACTOR AS REQUIRED FOR PROPER EQUIPMENT HOOKUP. COORDINATE WITH THE ELECTRICAL CONTRACTOR THE ACTUAL WIRE SIZING AMPS FOR PLUMBING EQUIPMENT (FROM THE EQUIPMENT NAMEPLATE) TO ENSURE PROPER INSTALLATION.

SYSTEM TESTING AND ADJUSTING

UPON COMPLETION OF EACH PHASE OF THE INSTALLATION, TEST EACH SYSTEM IN CONFORMANCE WITH LOCAL CODE REQUIREMENTS AND AS NOTED BELOW. FURNISH LABOR AND EQUIPMENT REQUIRED TO TEST EACH PLUMBING WORK INSTALLED UNDER THIS CONTRACT, AND ASSUME COSTS INVOLVED IN MAKING THE TESTS, AND REPAIRING AND/OR REPLACING DAMAGE RESULTING THEREFROM.

NOTIFY THE ARCHITECT AND THE AUTHORITY HAVING JURISDICTION, THREE (3) WORKING DAYS PRIOR TO MAKING PLUMBING SYSTEM TESTS. LEAVE CONCEALED WORK UNCOVERED UNTIL THE REQUIRED TESTS HAVE BEEN COMPLETED, BUT NOT NECESSARILY DUE TO CONSTRUCTION PROCEDURE. TESTS ON PORTIONS OF THE WORK MAY BE MADE, AND WHEN SATISFACTORY, THE WORK MAY BE CONCEALED. TEST PIPING BEFORE INSULATION IS INSTALLED, AND BEFORE BACKFILL. PIPES, JOINTS, FLANGES, VALVE STEMS, ETC., SHALL BE LEAK TIGHT. REPAIR OR REPLACE SYSTEM DEFECTS WITH NEW MATERIALS. CAULKING OF DEFECTIVE JOINTS, CRACKS OR HOLES WILL NOT BE PERMITTED. REPEAT TESTS AFTER DEFECTS HAVE BEEN ELIMINATED. MAKE TESTS IN THE PRESENCE OF THE ADMINISTRATIVE AUTHORITY AND/OR THE OWNER'S AUTHORIZED REPRESENTATIVE.

UPON COMPLETION OF THE SYSTEMS INSTALLATION, AND PRIOR TO ACCEPTANCE BY THE ARCHITECT AND ENGINEER, MAKE GENERAL OPERATING TESTS TO DEMONSTRATE THAT EQUIPMENT AND SYSTEMS ARE IN PROPER WORKING ORDER, AND ARE FUNCTIONING IN CONFORMANCE WITH THE INTENT OF THE SPECIFICATIONS. AS A PART OF THESE TESTS, OPEN EVERY WATER OUTLET TO ENSURE COMPLETE SYSTEM FLUSHING, REMOVE AND CLEAN FAUCET AERATORS, CLEAN STRAINERS, LIGHT PILOT LIGHTS, AND OPERATE EVERY PIECE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT TO DEMONSTRATE PROPER FUNCTIONING.

TEST THE DRAINAGE AND VENT SYSTEM BY PLUGGING OPENINGS WITH TEST PLUGS, EXCEPT THOSE AT THE TOP OF THE STACKS. FILL THE SYSTEM WITH WATER; TEST RESULTS WILL BE SATISFACTORY IF THE WATER LEVEL REMAINS STATIONARY FOR NOT LESS THAN ONE (1) HOUR. SUBJECT THE DRAINAGE AND VENT SYSTEM TO A PRESSURE OF AT LEAST TEN (10) FEET OF WATER. IF LEAKS DEVELOP, REPAIR THEM AND REPEAT THE TEST.

TEST THE DOMESTIC WATER SYSTEM BY FILLING IT WITH WATER AND THEN ISOLATING THE SYSTEM FROM ITS SOURCE. TEST THE SYSTEM CLOSED FOR A PERIOD OF TWENTY-FOUR HOURS, WITH NO FUTURE BEING USED. THE PRESSURE DIFFERENTIAL FOR THIS TEST PERIOD SHALL NOT EXCEED 10 PSIG. TEST WATER PIPING TO A 125 PSI HYDROSTATIC PRESSURE.

FOR LOW PRESSURE NATURAL GAS SYSTEMS, SUBJECT THE PIPE TO 10 PSIG AIR PRESSURE FOR A PERIOD OF ONE HOUR. THE RESULTANT PRESSURE DIFFERENTIAL FOR THIS PERIOD SHALL BE 0.5 PSIG. TEST PER GAS COMPANY REQUIREMENTS WHERE REQUIRED. FOR WELDED NATURAL GAS SYSTEMS AND SYSTEMS WITH AN OPERATING PRESSURE IN EXCESS OF 14" WATER COLUMN, SUBJECT THE PIPE TO 60 PSIG AIR PRESSURE FOR A PERIOD OF ONE HOUR. THE RESULTANT PRESSURE DIFFERENTIAL FOR THIS PERIOD SHALL BE 0.5 PSIG. TEST PER GAS COMPANY REQUIREMENTS WHERE REQUIRED.

PLUMBING PIPING MATERIALS

MATERIALS SPECIFIED OR NOTED ON THE DRAWINGS ARE SUBJECT TO THE APPROVAL OF LOCAL CODE AUTHORITIES. VERIFY APPROVAL BEFORE INSTALLING ANY MATERIAL OR JOINING METHOD.

DOMESTIC WATER (COLD, HOT AND HOT WATER RECIRCULATION): DOMESTIC WATER PIPING INSTALLED ABOVE THE FLOOR SLAB INSIDE THE BUILDING SHALL BE 1/2" THICK CELLULAR FOAM INSULATION. HARD TEMPER COPPER FITTINGS AND SOLDERED CONNECTIONS MADE UP WITH 95/5 SOLDER. BRAZED MECHANICALLY FORMED TEE CONNECTIONS (T-DRILL) MAY BE USED IN COPPER LINES WHERE APPROVED BY CODE. CONNECTION SHALL BE MADE WITH BRAZED SILVER SOLDER (SILFOFS) JOINTS IN CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS. FOR 2" AND SMALLER APPROVED UNDRILL POLYETHYLENE (PEX) TUBING MEETING ASTM F876, ASTM F877, NSF 14, AND NSF 61, WITH A PRESSURE RATING OF 160PSI AT 73°F AND BLUE OR RED COLOR CODED. DO NOT INSTALL PEX TUBING IN THE RETURN AIR PLENUM CEILING. PEX TUBING MAY BE INSTALLED IN THE RETURN AIR PLENUM CEILING IF INSULATED WITH PLENUM WRAP WHERE APPROVED BY THE AUTHORITY HAVING JURISDICTION.

UNDERGROUND DOMESTIC WATER PIPING 2" AND SMALLER SHALL BE TYPE "K" SOFT TEMPER COPPER TUBING WITH FLARED COPPER ALLOY FITTINGS AND CONNECTIONS, OR TYPE "K" HARD TEMPER COPPER TUBING WITH CONVENTIONAL WROUGHT COPPER FITTINGS AND SILVER SOLDER (SILFOFS) JOINTS. CAST IRON PIPE ABOVE GRADE JOINTS WHEN POSSIBLE, AT BUILDING SERVICE ENTRANCE, NO JOINTS SHALL BE INSTALLED UNDER OR WITHIN 5 FEET OF THE BUILDING. INSTALL DOMESTIC WATER PIPING BELOW GRADE OUTSIDE BUILDING AT ADEQUATE DEPTH TO PREVENT FREEZING.

INTERIOR WASTE AND VENT BELOW SLAB: WASTE AND VENT PIPE BELOW SLAB INSIDE BUILDING SHALL BE HUBLESS CAST IRON SOIL PIPE WITH HUB AND SPIGOT FITTINGS WITH NEOPRENE GASKET JOINTS, MEETING ASTM A74, MANUFACTURED BY AB & I FOUNDRY, CHARLOTTE OR TYLER PIPE AND BEARING THE TRADEMARK OF THE CISPI AND NSF. PVC SCHEDULE 40 DWV ASTM D2665 PIPE WITH SOLVENT WELD JOINTS IS ALSO PERMITTED WHERE APPROVED BY CODE. (NOTE: PVC PIPING IS NOT ALLOWED IN CEILING RETURN AIR PLENUMS)

INTERIOR WASTE AND VENT ABOVE SLAB: WASTE AND VENT PIPE ABOVE SLAB INSIDE BUILDING SHALL BE HUBLESS CAST IRON SOIL PIPE AND FITTINGS. MEETING ASTM A888 AND CISPI 301, MANUFACTURED BY AB & I FOUNDRY, CHARLOTTE OR TYLER PIPE AND BEARING THE TRADEMARK OF THE CISPI AND NSF. PVC SCHEDULE 40 DWV ASTM D2665 PIPE WITH SOLVENT WELD JOINTS IS ALSO PERMITTED WHERE APPROVED BY CODE. (NOTE: PVC PIPING IS NOT ALLOWED IN CEILING RETURN AIR PLENUMS)

NATURAL GAS: GAS PIPING ABOVE GROUND SHALL BE SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON SCREWED FITTINGS, OR STANDARD WELDED FITTINGS. UNDERGROUND GAS PIPING SHALL BE HIGH DENSITY OR ULTRAHIGH DENSITY POLYETHYLENE PIPE AS REQUIRED BY THE GAS UTILITY COMPANY. POLYETHYLENE PIPE SHALL CONFORM TO ASTM D1248, D3350 AND D2513, AS APPROPRIATE. POLYETHYLENE PIPE SHALL BE PHILLIPS DRISCOPEX SERIES 6500, OMEGA ENGINEERING, PECCO, OR APPROVED EQUAL. INSTALLATION SHALL BE IN CONFORMANCE WITH UTILITY COMPANY RULES. PROVIDE POLYURETHANE SEALANT AT TRANSITION FITTINGS BY PERFECTION CORPORATION, R W LYALL OR CENTRAL PLASTICS AT TRANSITIONS FROM BELOW GRADE TO ABOVE GRADE. FACTORY APPLIED PRESSURE TESTED ONE PIECE DESIGN, WITH STEEL HALF OF SCHEDULE 40 STEEL PIPE WITH BEVELED EDGE FOR WELDING AND POLYETHYLENE HALF SHALL BE OF AMPLE LENGTH FOR MAKING WELDS. STEEL PIPE SHALL HAVE EPOXY PROTECTIVE COATING.

CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT: 1-1/4" AND LARGER WASTE CONNECTIONS FROM FIXTURE TRAPS TO CAST IRON PIPE SHALL BE "DWM" COPPER WITH WROUGHT COPPER DRAINAGE PATTERN

INDIRECT AND CONDENSATE DRAIN INSIDE BUILDING: INDIRECT AND CONDENSATE DRAIN PIPE INSTALLED INSIDE THE BUILDING SHALL BE TYPE "M" HARD TEMPER COPPER WITH WROUGHT COPPER FITTINGS FOR 1" AND SMALLER AND "DWM" COPPER WITH WROUGHT COPPER DRAINAGE PATTERN FITTINGS FOR 1-1/4" AND LARGER. HARD TEMPER COPPER TUBE AND SOLDERED CONNECTIONS MADE WITH 95/5 SOLDER OR SCHEDULE 40 PVC PIPE AND FITTINGS WITH SOLVENT WELD JOINTS WHEN ALLOWED BY CODE. (NOTE: PVC PIPING IS NOT ALLOWED IN CEILING RETURN AIR PLENUMS). INSTALL CLEANOUTS AT ELBOWS GREATER THAN 45 DEGREES.

INDIRECT AND CONDENSATE DRAIN OUTSIDE BUILDING: INDIRECT AND CONDENSATE DRAIN PIPE INSTALLED OUTSIDE THE BUILDING ABOVE GRADE SHALL BE TYPE "M" FOR 1" AND SMALLER AND "DWM" FOR 1-1/4" AND LARGER. HARD TEMPER COPPER TUBE WITH WROUGHT COPPER DRAINAGE PATTERN FITTINGS TO SOLDERED CONNECTIONS MADE WITH 95/5 SOLDER. TERMINATE AT NEAREST ROOF DRAIN, GUTTER OR OTHER LOCATION AS SHOWN DRAWINGS. INSTALL CLEANOUTS AT ELBOWS GREATER THAN 45 DEGREES.

INDIRECT AND CONDENSATE DRAIN INSIDE BUILDING: INDIRECT AND CONDENSATE DRAIN PIPE INSTALLED INSIDE THE BUILDING SHALL BE TYPE "M" HARD TEMPER COPPER WITH WROUGHT COPPER FITTINGS FOR 1" AND SMALLER AND "DWM" COPPER WITH WROUGHT COPPER DRAINAGE PATTERN FITTINGS FOR 1-1/4" AND LARGER. HARD TEMPER COPPER TUBE AND SOLDERED CONNECTIONS MADE WITH 95/5 SOLDER OR SCHEDULE 40 PVC PIPE AND FITTINGS WITH SOLVENT WELD JOINTS WHEN ALLOWED BY CODE. (NOTE: PVC PIPING IS NOT ALLOWED IN CEILING RETURN AIR PLENUMS). INSTALL CLEANOUTS AT ELBOWS GREATER THAN 45 DEGREES.

HANGER & SUPPORTS: PIPE HANGERS SHALL AS BE DESCRIBED IN THE SPECIFICATIONS BY B-LINE OR EQUAL BY ANNE HICHMAN, TRUSSCO, OR UNISTRUT. CONNECT HANGERS TO THE STRUCTURE WITH STEEL BEAM CONNECTORS AND ALL THREAD HANGER RODS. PROVIDE ENGINEERED SUPPORT STRUTS BETWEEN JOISTS AND OTHER STRUCTURAL MEMBERS AS REQUIRED TO PROVIDE PROPER HANGING INSTALLATION. DO NOT HANG PIPES FROM OTHER PIPES, CONDUIT OR DUCTWORK. PROVIDE HANGER RODS AND SPACE HANGERS AT INTERVALS AS SPECIFIED IN "HANGER SPACING". PROVIDE SUPPORT WITHIN 1' OF EACH ELBOW AND TEE. PROVIDE SUPPORTS WITHIN 10' OF EACH UNION WHERE CONNECTION. PROVIDE TWO NUTS ON THREADED SUPPORTS TO SECURELY FASTEN THE SUPPORT. INSTALL HANGER TIPS OR SUPPORTS FOR VARIOUS PIPING AS FOLLOWS:

PEX TUBE: PEX TUBING SHALL NOT BE INSTALLED WITHIN THE FIRST 18 INCHES OF PIPING CONNECTED TO THE HOT WATER HEATER. PEX TUBING SHALL NOT BE INSTALLED WITHIN 6 INCHES HORIZONTALLY OR WITHIN 12 INCHES VERTICALLY FROM ANY SOURCE OF HEAT, SUCH AS GAS APPLIANCE VENTS, LIGHT FIXTURES, HEATING APPLIANCES, ETC. PEX TUBING SHALL NOT BE INSTALLED IN LOCATIONS WHERE EXPOSED TO DIRECT SUNLIGHT OR HIGH TEMPERATURES. PEX TUBING SHALL NOT BE TIGHTENED THROUGH DRILLED OR NOTCHED METAL STUDS OR JOIST OR HOLLOW SHELL MASONRY WALLS SHALL BE PROTECTED FROM ABRASION DUE TO THERMAL EXPANSION AND CONTRACTION BY ELASTOMERIC OR PLASTIC SLEEVES. TUBING PENETRATING FRAMING MEMBERS WITHIN ONE INCH OF THE EXPOSED FRAMING SHALL BE PROTECTED BY STEEL NAIL PLATES NOT LESS THAN 18 GAUGE IN THICKNESS. THE STEEL PLATE SHALL EXTEND ALONG THE FRAMING A MINIMUM OF 1-1/2" INTO EACH SIDE OF THE FRAMING MEMBER. IF THE PIPE OR TUBING, PEX TUBING GREATER THAN 3/4" INCH INSTALLED WITHIN AIR PLENUM SHALL BE INSULATED WITH 1/2" INCH THICK MASON ALLEY-K, ARMAFLEX COMPOSITE, JOHNS MANVILLE MICRO-LOK, JOHN MANVILLE MICRO-SHOCK, OWENS CORNING FIBERGLASS COVERING, COMING FIBERGLASS INSULATION, TUBING WITH A MAXIMUM NOMINAL DIAMETER OF 3/4" INCH MAY BE INSTALLED WITHOUT INSULATION SO LONG AS A MINIMUM SPACING OF 18 INCHES IS KEPT BETWEEN ADJACENT RUNS OF TUBING.

COPPER TUBE: ADJUSTABLE BAND HANGERS FOR BARE COPPER TUBE 3" AND SMALLER SHALL BE B-LINE #B3170 CU COPPER PLATED ADJUSTABLE BAND SWIVEL RING TYPE. ADJUSTABLE BAND HANGERS FOR INSULATED COPPER TUBE AND 3" SMALLER SHALL BE B-LINE #B3170 NF ADJUSTABLE BAND SWIVEL RING TYPE. CLEVIS HANGERS FOR GALVANIZED COPPER TUBE 4" AND LARGER SHALL BE B-LINE #B3100 GALVANIZED STEEL CLEVIS TYPE. SUPPORT EXPOSED COPPER TUBE 2" AND SMALLER TO WALLS OR IN CHASES WITH B-LINE #B3198RC COPPER COATED EXTENSION SPLIT RING PIPE CLAMPS. 3" AND LARGER COPPER TUBE #B3199C CEILING FLANGES. SUPPORT COPPER TUBE IN CHASES AND WALLS AT PLUMBING FIXTURES WITH PLASTIC OR COPPER BRACKETS SECURED TO STRUCTURE, AND U-BOLTS SIZED TO BARE ON THE PIPE. RISER CLAMPS TO SUPPORT VERTICAL COPPER TUBE SHALL BE B-LINE #B3373C COPPER COATED STEEL, CUT INSULATION, SEAL VAPOR BARRIER, AND ATTACH TO BARE TUBE.

INSULATE DOMESTIC COLD WATER, HOT WATER, HOT WATER RECIRCULATION, WITH ONE-PIECE FIBERGLASS COVERING FOR WITH FIRE-RESISTANT JACKET WITH SELF-SEALING LAP TO PROVIDE A CONTINUOUS VAPOR BARRIER BY CERTAINTED, OWENS-CORNING OR ARMSTRONG. INSULATE INTERIOR CONDENSATE DRAINPIPE (WITHIN BUILDING) AND INTERIOR HORIZONTAL STORM DRAIN PIPING, THAT IS CONCEALED ABOVE THE CEILING WITH 1" THICK ONE-PIECE FIBERGLASS COVERING. FOH HOT PIPING PROVIDE PIPE HANGERS AND RISER CLAMPS SIZED FOR THE OUTSIDE DIAMETER OF PIPING, BUT INSULATION TO HANGER OR RISER CLAMP FOR VERTICAL PIPE. SEAL EXPOSED INSULATION WITH INSULATION SEALANT. EXCEPTION FOR VERTICAL PIPING: PROVIDE CLAMPS SIZED FOR THE OUTSIDE DIAMETER OF THE VERTICAL PIPE AND EXTEND CLAMP THROUGH INSULATION. SEAL PENETRATIONS OF INSULATION AND VAPOR BARRIER WITH WET COAT OF VAPOR BARRIER LAP CEMENT.

FOR COLD PIPING AT HANGERS PROVIDE 8" LONG SECTIONS OF HIGH DENSITY, HIGH TEMPERATURE CALCIUM SILICATE BY JOHNS-MANVILLE, FIBERGLASS BY KNAUF, OR 8" LONG STYROFOAM BILLETS BY DOW OR FIBREXILE UNICELLULAR PIPING INSULATION MEETING ASTM C 554-01A.

FOR HOT AND COLD WATER PIPING INSTALLED INSIDE MASONRY UNITS OF WALLS, PROVIDE FLEXIBLE UNICELLULAR INSULATION BY ARMOCELL.

COVER FITTINGS WITH ZESTON, KNAUF, OR EQUAL ONE-PIECE PVC PROTECTED INSULATING COVERINGS. COVERERS, BRACKETS AND ADHESIVES SHALL NOT EXCEED FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPMENT RATING OF 50 PER ASTM E84. AT ALL ELBOWS AND TEES, FILL VOIDS BETWEEN COVERS AND PIPING WITH FIBERGLASS INSULATION. COVERERS SHALL BE INSTALLED IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS, WHERE PREMOLDED INSULATING FITTINGS ARE NOT APPROVED BY LOCAL AUTHORITIES, MITER INSULATION AT FITTINGS.

COVER FITTINGS WITH ZESTON, KNAUF, OR EQUAL ONE-PIECE PVC PROTECTED INSULATING COVERINGS. COVERERS, BRACKETS AND ADHESIVES SHALL NOT EXCEED FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPMENT RATING OF 50 PER ASTM E84. AT ALL ELBOWS AND TEES, FILL VOIDS BETWEEN COVERS AND PIPING WITH FIBERGLASS INSULATION. COVERERS SHALL BE INSTALLED IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS, WHERE PREMOLDED INSULATING FITTINGS ARE NOT APPROVED BY LOCAL AUTHORITIES, MITER INSULATION AT FITTINGS.

PROVIDE 1" THICK FIBERGLASS INSULATION ON VENT PIPING WITHIN SIX FEET OF VENT THROUGH THE OF ROOF.

PVC PIPE: ADJUSTABLE BAND HANGERS FOR 2" AND SMALLER, CLEVIS HANGERS FOR 3" AND LARGER SHALL BE B-LINE #B3100 GALVANIZED STEEL CLEVIS TYPE. RISER CLAMPS TO SUPPORT VERTICAL PIPE SHALL BE B-LINE #B3373 GALVANIZED STEEL.

INSULATION PROTECTION SHIELDS: B-LINE #B3119 OF 18 GAUGE GALVANIZED SHEET METAL. SHIELD SHALL COVER HALF OF THE CIRCUMFERENCE OF THE PIPE AND SHALL BE INDICATED BY MANUFACTURER FOR PIPE SIZE AND THICKNESS OF INSULATION.

PIPING JOINTS

COPPER TUBING: JOINTS IN HARD TEMPER TUBING SHALL BE SOLDERED JOINTS USING LEAD-FREE 95/5 SOLDER EXCEPT WHERE TUBING IS GREATER DEPTH THAN THE PIPE WALL THICKNESS. WELDING SHALL BE CASE JOINTS SHALL BE SOLDERED WITH SILVER SOLDER (SILFOFS). JOINTS IN SOFT TEMPER COPPER TUBING SHALL BE OF THE FLARED TYPE INSTALLED IN COMPLIANCE WITH THE FITTING MANUFACTURER'S RECOMMENDATIONS.

THREADED STEEL PIPE: THREADED JOINTS SHALL BE FULL AND CLEAN, CUT WITH NOT MORE THAN THREE (3) THREADS EXPOSED BEYOND THE FITTINGS. MAKE JOINTS TIGHT WITH GRAPHITE BASE PIPE JOINT COMPOUND AND PAINT WOOD PRESERVATIVE. AGGREGATE WITH ACID-RESISTING PAINT AFTER PIPING HAS BEEN TESTED AND PROVEN TIGHT. NO CAULKING, LAMP-WICK OR OTHER MATERIAL WILL BE PERMITTED FOR CORRECTION OF DEFECTIVE JOINTS.

WELDED STEEL PIPE: WELDED JOINTS SHALL BE OF THE BUTT WELDED SINGLE "VEE" TYPE. BEVEL PIPE AT A 45 DEGREE ANGLE TO WITHIN 1/16" OF THE INSIDE WALL AND BUILD UP THE WELD TO ONE FOURTH GREATER DEPTH THAN THE PIPE WALL THICKNESS. WELDING SHALL BE EITHER ELECTRIC OR OXY-ACETYLENE, PERFORMED IN CONFORMANCE WITH THE ASME CODE FOR PRESSURE PIPE WELDING, AND ONLY BY EXPERIENCED CERTIFIED WELDERS.

CAST IRON PIPE BELOW GRADE: JOINTS IN BELLS AND SPIGOT CAST IRON WASTE AND VENT PIPE SHALL BE NEOPRENE COMPRESSION GASKETS, TYSAL OR EQUAL.

CAST IRON PIPE ABOVE GRADE: JOINTS IN HUBLESS PIPE SHALL BE STANDARD CISPI 310 NSF CERTIFIED BY ANACO, IDEAL, MISSION OR TYLER. JOINTS IN STORM PIPING, INCLUDING CONNECTION TO ROOF DRAINS, SHALL BE HEAVY DUTY COUPLING MEETING ASTM C1540 AND MFC 1680, ANACO HUSKY #5D-4000 OR CLAMP-ALL "HI TORQUE" 125-INL-B.

PVC PIPE: CLEAN JOINTS FREE FROM DEBRIS AND MOISTURE. APPLY PVC PRIMER MEETING ASTM F656 TO EACH JOINT. APPLY SOLVENT CEMENT MEETING ASTM D2654 AND MAKE JOINT WHILE WET AND IN ACCORDANCE WITH ASTM D2855.

PEX TUBE: THE FITTINGS ARE ENGINEERED POLYMER AND LEAD-FREE BRASS COLD EXPANSION TYPE WITH PEX REINFORCING RINGS IN COMPLIANCE WITH ASTM F1960. PEX HOSE BANG FITTINGS MEETING ASTM 1807 OF BRASS FOR USE WITH PEX TUBING WITH COPPER CRIMP RING. CUT ENDS OF TUBING STRAIGHT AND TRUE, MANUFACTURED BY IPEX PLUMBETEX PEX TUBING, VIEGA, WIRSBO OR ZURN INDUSTRIES.

PIPE ADAPTERS: MAKE CONNECTION OF NEW WASTE PIPE TO NEW OR EXISTING DISSIMILAR WASTE PIPE USING ADAPTER COUPLINGS. PROVIDE PERNO, PROFLEX 3000 SERIES OR MISSION SERIES MRS6 SERIES WITH NEOPRENE ADAPTER GASKET WITH STAINLESS STEEL SHIELD AND HOSE CLAMPS FOR CONNECTING DISSIMILAR PIPES ABOVE GRADE. PROVIDE PERNO, 1056 SERIES OR MISSION SEWER COUPLINGS WITH NEOPRENE ADAPTER GASKET AND HOSE CLAMPS FOR CONNECTING DISSIMILAR PIPES BELOW GRADE AND COAT STAINLESS STEEL BANDS WITH MASTIC.

CPVC PIPE: CLEAN JOINTS FREE FROM DEBRIS AND MOISTURE. APPLY CPVC PRIMER MEETING ASTM F656 TO EACH JOINT. APPLY SOLVENT CEMENT MEETING ASTM F493 AND MAKE JOINT WHILE WET AND IN ACCORDANCE WITH ASTM D2855.

PIPING INSTALLATION

GENERAL: CLEAN PIPE THOROUGHLY PRIOR TO INSTALLATION. REAM ENDS OF PIPE TO REMOVE BURRS. CUT PIPE ACCURATELY TO MEASUREMENTS TAKEN ON THE JOB. INSTALL WITH ADEQUATE CLEARANCE FOR INSTALLATION OF COVERINGS WHERE REQUIRED. PIPE SHALL NOT BE SPRUNG OR BEZEL EDGED. FITTINGS SHALL BE FULLY IDENTIFIED AND SUPPORT IT FROM THE BUILDING STRUCTURE WITH HANGERS AS SPECIFIED BELOW. PROVIDE CHROME-PLATED ESCUTCHEONS ON PIPES PASSING THROUGH AND OTHER BRANCH CONNECTIONS. SANITARY STEAM RUN PIPES FREELY THROUGH FLOOR AND WALL PENETRATIONS USING PIPE SLEEVES. DO NOT GROUT IN PLACE UNLESS REQUIRED FOR STRUCTURAL FIRE INTEGRITY. INSTALL PIPE CONCEALED IN FINISHED SPACES WHERE POSSIBLE. USE A DIELECTRIC UNION WHERE FERROUS AND COPPER PIPE CONNECT. DIELECTRIC UNION SHALL HAVE A ZINC-PLATED STEEL BODY, A THEREAD NYLON INSERT, AND INSULATING PRESSURE GASKET. NO FERROUS METAL TO-COPPER CONNECTION MADE WITHOUT INSULATING UNIONS WILL BE ALLOWED.

HANGER & SUPPORTS: PIPE HANGERS SHALL AS BE DESCRIBED IN THE SPECIFICATIONS BY B-LINE OR EQUAL BY ANNE HICHMAN, TRUSSCO, OR UNISTRUT. CONNECT HANGERS TO THE STRUCTURE WITH STEEL BEAM CONNECTORS AND ALL THREAD HANGER RODS. PROVIDE ENGINEERED SUPPORT STRUTS BETWEEN JOISTS AND OTHER STRUCTURAL MEMBERS AS REQUIRED TO PROVIDE PROPER HANGING INSTALLATION. DO NOT HANG PIPES FROM OTHER PIPES, CONDUIT OR DUCTWORK. PROVIDE HANGER RODS AND SPACE HANGERS AT INTERVALS AS SPECIFIED IN "HANGER SPACING". PROVIDE SUPPORT WITHIN 1' OF EACH ELBOW AND TEE. PROVIDE SUPPORTS WITHIN 10' OF EACH UNION WHERE CONNECTION. PROVIDE TWO NUTS ON THREADED SUPPORTS TO SECURELY FASTEN THE SUPPORT. INSTALL HANGER TIPS OR SUPPORTS FOR VARIOUS PIPING AS FOLLOWS:

PEX TUBE: PEX TUBING SHALL NOT BE INSTALLED WITHIN THE FIRST 18 INCHES OF PIPING CONNECTED TO THE HOT WATER HEATER. PEX TUBING SHALL NOT BE INSTALLED WITHIN 6 INCHES HORIZONTALLY OR WITHIN 12 INCHES VERTICALLY FROM ANY SOURCE OF HEAT, SUCH AS GAS APPLIANCE VENTS, LIGHT FIXTURES, HEATING APPLIANCES, ETC. PEX TUBING SHALL NOT BE INSTALLED IN LOCATIONS WHERE EXPOSED TO DIRECT SUNLIGHT OR HIGH TEMPERATURES. PEX TUBING SHALL NOT BE TIGHTENED THROUGH DRILLED OR NOTCHED METAL STUDS OR JOIST OR HOLLOW SHELL MASONRY WALLS SHALL BE PROTECTED FROM ABRASION DUE TO THERMAL EXPANSION AND CONTRACTION BY ELASTOMERIC OR PLASTIC SLEEVES. TUBING PENETRATING FRAMING MEMBERS WITHIN ONE INCH OF THE EXPOSED FRAMING SHALL BE PROTECTED BY STEEL NAIL PLATES NOT LESS THAN 18 GAUGE IN THICKNESS. THE STEEL PLATE SHALL EXTEND ALONG THE FRAMING A MINIMUM OF 1-1/2" INTO EACH SIDE OF THE FRAMING MEMBER. IF THE PIPE OR TUBING, PEX TUBING GREATER THAN 3/4" INCH INSTALLED WITHIN AIR PLENUM SHALL BE INSULATED WITH 1/2" INCH THICK MASON ALLEY-K, ARMAFLEX COMPOSITE, JOHNS MANVILLE MICRO-LOK, JOHN MANVILLE MICRO-SHOCK, OWENS CORNING FIBERGLASS COVERING, COMING FIBERGLASS INSULATION, TUBING WITH A MAXIMUM NOMINAL DIAMETER OF 3/4" INCH MAY BE INSTALLED WITHOUT INSULATION SO LONG AS A MINIMUM SPACING OF 18 INCHES IS KEPT BETWEEN ADJACENT RUNS OF TUBING.

COPPER TUBE: ADJUSTABLE BAND HANGERS FOR BARE COPPER TUBE 3" AND SMALLER SHALL BE B-LINE #B3170 CU COPPER PLATED ADJUSTABLE BAND SWIVEL RING TYPE. ADJUSTABLE BAND HANGERS FOR INSULATED COPPER TUBE AND 3" SMALLER SHALL BE B-LINE #B3170 NF ADJUSTABLE BAND SWIVEL RING TYPE. CLEVIS HANGERS FOR GALVANIZED COPPER TUBE 4" AND LARGER SHALL BE B-LINE #B3100 GALVANIZED STEEL CLEVIS TYPE. SUPPORT EXPOSED COPPER TUBE 2" AND SMALLER TO WALLS OR IN CHASES WITH B-LINE #B3198RC COPPER COATED EXTENSION SPLIT RING PIPE CLAMPS. 3" AND LARGER COPPER TUBE #B3199C CEILING FLANGES. SUPPORT COPPER TUBE IN CHASES AND WALLS AT PLUMBING FIXTURES WITH PLASTIC OR COPPER BRACKETS SECURED TO STRUCTURE, AND U-BOLTS SIZED TO BARE ON THE PIPE. RISER CLAMPS TO SUPPORT VERTICAL COPPER TUBE SHALL BE B-LINE #B3373C COPPER COATED STEEL, CUT INSULATION, SEAL VAPOR BARRIER, AND ATTACH TO BARE TUBE.</

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ELECTRICAL SYMBOLS LEGEND	
SYMBOLS	DESCRIPTION
	FLUORESCENT FIXTURE, WITH FIXTURE DESIGNATED BY LETTER.
NL	NIGHT LIGHT - NOT SWITCHED
	CEILING OR WALL MOUNTED FIXTURE
	JUNCTION BOX
	SINGLE/DOUBLE FACED EXIT SIGN - NOT SWITCHED
	DOUBLE HEAD EMERGENCY LIGHT WITH BATTERY BACK UP.
S	SINGLE POLE SWITCH, +48" A.F.F.
S ₃	THREE WAY SWITCH, +48" A.F.F.
S _o	OUTLET CONTROL INDICATOR
S _D	DIMMER SWITCH
S _{OS}	OCCUPANCY SENSOR SWITCH
S _T	THERMAL OVERLOAD SWITCH
	DUPLEX RECEPTACLE, +18" A.F.F.
	DUPLEX RECEPTACLE ABOVE COUNTER, VERIFY HEIGHT
	FOURPLEX RECEPTACLE, +18" A.F.F.
	HALF SWITCHED DUPLEX RECEPTACLE
	POWER/PHONE/DATA FLUSH FLOOR OUTLET
	250 VOLT RECEPTACLE PER UNIT REQUIREMENTS
	600 VOLT RECEPTACLE PER UNIT REQUIREMENTS
	TELEPHONE/DATA SYSTEM OUTLET, 4" SQUARE BOX AND COVERPLATE, 3/4"C. TO CEILING SPACE UNLESS SHOWN WITH HOMERUN, +18" A.F.F.
	TELEVISION OUTLET PLASTER RING AT +18" A.F.F. (U.N.O.) HUBBELL COVERPLATE. 3/4"C. TO CEILING SPACE UNLESS SHOWN WITH HOMERUNS.
	CONDUIT BELOW FLOOR OR UNDERGROUND
	CONDUIT IN WALL OR ABOVE CEILING
LA	HOMERUN TO PANEL (SEE GROUNDING NOTE)
	MOTOR CONNECTION
	DISCONNECT SWITCH
	DUCT SMOKE DETECTOR

- *** ALL SYMBOLS ON LEGEND MAY NOT APPLY TO DRAWING(S). ***
- ### GENERAL NOTES
- PRIOR TO SUBMITTING BID, CONTRACTOR SHALL EXAMINE ALL GENERAL CONSTRUCTION DRAWINGS AND VISIT THE CONSTRUCTION SITE TO BECOME FAMILIAR WITH EXISTING CONDITIONS UNDER WHICH THE CONTRACTOR WILL HAVE TO OPERATE AND WHICH IN ANY WAY AFFECTS THE WORK UNDER CONTRACT. NO SUBSEQUENT ALLOWANCE WILL BE MADE IN BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLIGENCE ON HIS PART.
 - THE CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE FOR THE PROPER RESTORATION OF ALL EXISTING SURFACES REQUIRING PATCHING, PLASTERING, PAINTING AND /OR OTHER REPAIR DUE TO THE INSTALLATION OF ELECTRICAL WORK UNDER THE TERMS OF THE CONTRACT. CLOSE ALL OPENINGS, REPAIR ALL SURFACES, ETC., AS REQUIRED.
 - SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, ELEVATIONS AND BUILDING DETAILS. VERIFY LOCATION OF ALL OUTLETS, SWITCHES, AND WALL MOUNTED LIGHTING FIXTURES WITH ARCHITECTURAL DRAWINGS AND ACTUAL CONDITIONS. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF LIGHTING FIXTURES. VERIFY ALL CEILING TYPES WITH ARCHITECTURAL DRAWINGS BEFORE ORDERING FIXTURES.
 - PRIOR TO ROUGH-IN AND FINAL CONNECTION, VERIFY ELECTRICAL CHARACTERISTICS AND EXACT LOCATION OF EQUIPMENT.
 - GROUT AND SEAL ALL CONDUIT PENETRATIONS OF WALLS AND FLOOR SLABS TO PRESERVE FIRE RATING AND WATERTIGHT INTEGRITY.
 - ALL WIRING TO BE INSTALLED IN RACEWAYS. TYPE OF RACEWAY SHALL BE AS REQUIRED BY CODE. MINIMUM CONDUIT SIZE SHALL BE 3/4"C. FOR POWER AND 1"C. FOR DATA. RACEWAYS RUN ACROSS ROOF SHALL BE MINIMUM 4" ABOVE ROOF.
 - BRANCH CIRCUIT WIRING SHALL BE THHN/THWN INSULATION. EXTERIOR WIRING SHALL BE THWN-2. PANEL FEEDERS, SHALL BE TYPE XHHW. ALL WIRE SHALL BE COPPER. MINIMUM WIRE SIZE SHALL BE #12. PER 2011 NEC SEPARATE NEUTRALS ARE TO BE PROVIDED FOR EACH CIRCUIT OR PROVIDE MULTI-POLE HANDLE TIE FOR EACH MULTI-WIRE CIRCUIT
 - PROVIDE CODE SIZED GROUNDING CONDUCTOR WIRE IN ALL CONDUITS.
 - ALL ELECTRICAL EQUIPMENT SHALL BE NEW, U.L. APPROVED AND COMMERCIAL GRADE.
 - ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NATIONAL CODE, (N.E.C.), AND ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES.
 - IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO PROVIDE ONE (1) SET OF COMPLETE CONSTRUCTION DRAWINGS.
 - PROVIDE NEW PANEL DIRECTORIES INDICATING SPECIFIC CIRCUIT INFORMATION TO DISTINGUISH EACH CIRCUIT FROM ANY OTHER PER NEC.
 - ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION OF DEVICES, WIRE & CONDUIT, WHERE THESE ITEMS ARE NO LONGER USED ALL UNUSED WIRE SHALL BE REMOVED BACK TO THE PANEL. ANY DOWNSTREAM EQUIPMENT TO REMAIN IN USE SHALL BE RECONNECTED.

ABBREVIATIONS	
E	EXISTING LIGHT OR DEVICE TO REMAIN
ER	EXISTING LIGHT OR DEVICE TO BE REMOVED OR RELOCATED
R	RELOCATED LIGHT OR DEVICE
N	NEW LIGHT OR DEVICE
A.F.F.	ABOVE FINISHED FLOOR
C	CONDUIT
E.C.	EMPTY CONDUIT WITH PULLWIRE
E.D.F.	ELECTRICAL DRINKING FOUNTAIN.
GND	GROUND
MLO	MAIN LUGS ONLY
MCB	MAIN CIRCUIT BREAKER
S.E.S.	SERVICE ENTRANCE SECTION
WP	WEATHER PROOF
WR	WATER RESISTANT
GFI/GFCI	GROUND-FAULT CIRCUIT INTERRUPTER
U.N.O.	UNLESS NOTED OTHERWISE
	SECURITY CAMERA
	SPEAKER

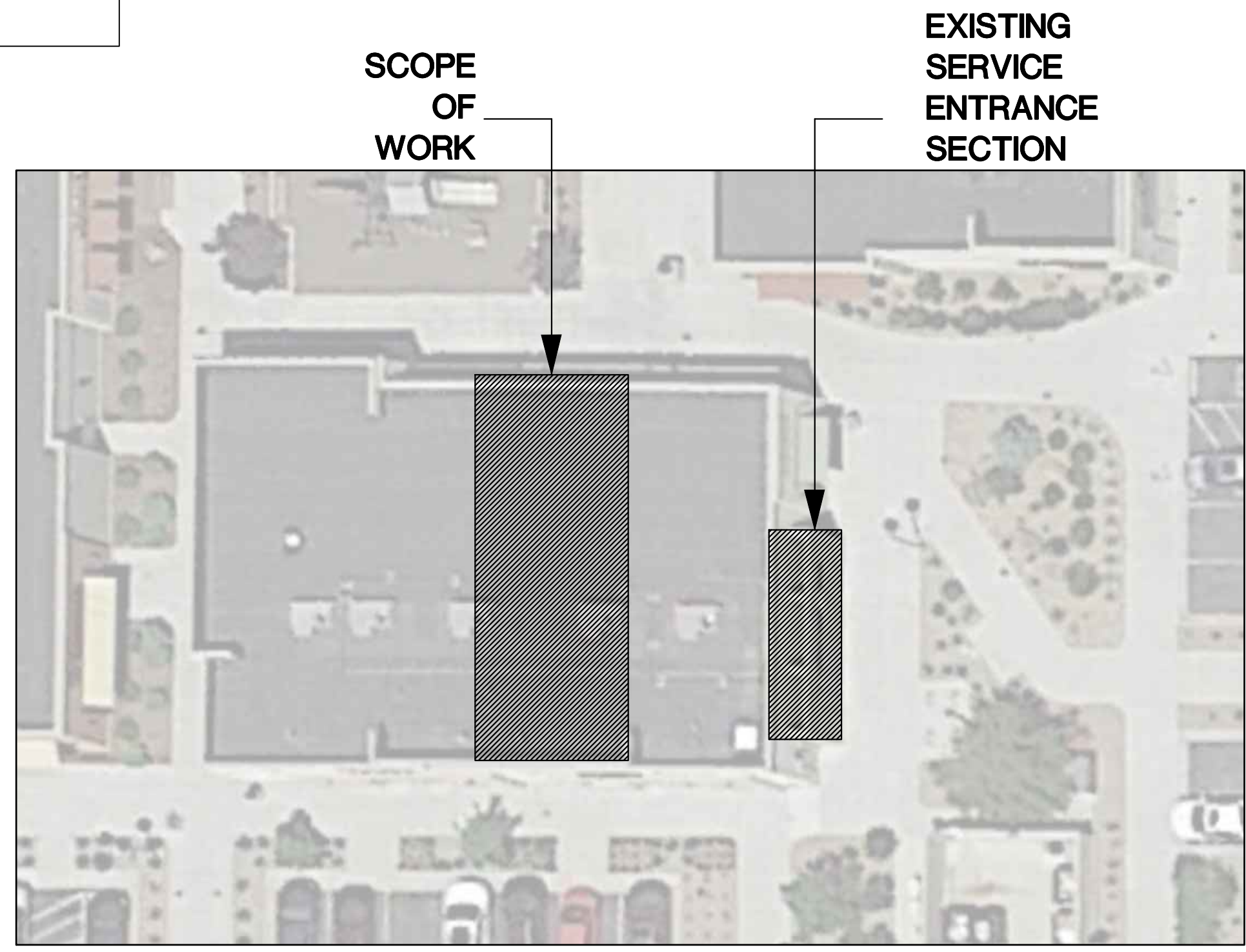
SCOPE OF WORK

TENANT IMPROVEMENT FOR 1318 SF FITNESS STUDIO. MODIFICATIONS BEING MADE TO GENERAL LIGHTING/POWER LAYOUT AND HVAC SYSTEM.

DESIGN INCLUDES:
 - ONE-LINE DIAGRAM
 - IECC REPORT
 - PANEL SCHEDULES
 - FAULT CURRENT CALCULATIONS, AND LOAD CALCULATION.

DEFERRED SUBMITTAL - FIRE ALARM NOTES

FIRE ALARM SYSTEM MODIFICATIONS MAY BE INCLUDED IN THIS PROJECT & SHALL BE A DEFERRED SUBMITTAL. ANY DEVICES SHOWN ON THE ELECTRICAL PLANS ARE FOR BID PURPOSES ONLY, AND NOT FOR CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL VERIFY EXACT FIRE ALARM REQUIREMENTS, INCLUDING ANY MODIFICATIONS OR UPGRADES NECESSARY TO THE EXISTING SYSTEM, WITH LANDLORD AND AUTHORITY HAVING JURISDICTION. CONTRACTOR IS TO PROVIDE COMPLETE DWGS & ALL COSTS SHALL BE INCLUDED IN THE BID. FIRE ALARM DEVICES ARE TO BE COMPATIBLE WITH LANDLORDS FIRE ALARM SYSTEM. IF ENGINEERED FIRE ALARM DRAWINGS ARE REQUIRED, THEY ARE TO BE PREPARED BY A LOCAL, LICENSED FIRE ALARM CONTRACTOR AND SUBMITTED TO THE LANDLORD AND AUTHORITY HAVING JURISDICTION FOR APPROVAL PRIOR TO ANY WORK COMMENCEMENT.



1 SITE KEY PLAN
SCALE: N.T.S.

Interior Lighting Compliance Certificate

Project Information
 Energy Code: 2018 IECC
 Project Title: StretchLab - Longmont, CO
 Project Type: New Construction

Construction Site: 1242 S Hover Street, Longmont, CO 80501
 Owner/Agent:
 Designer/Contractor:

Additional Efficiency Package(s)
 Credits: 1.0 Required 1.0 Proposed
 Reduced Lighting Power, 1.0 credit

A Area Category	B Floor Area (ft ²)	C Allowed Watts / ft ²	D Allowed Watts (B X C)
1-Gymnasium/Fitness Center:Exercise Area	903	0.45	406
2-Common Space Types:Lobby - General	370	0.90	333
3-Common Space Types:Restrooms	120	0.77	92
Total Allowed Watts = 832			

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-Gymnasium/Fitness Center:Exercise Area				
LED 3: P: PENDANT: Other	1	7	14	98
Track lighting 1: T3: 3' TRACK: Wattage based on current limiting device capacity	0	0	60	60
Track lighting 1 copy 1: T3: 3' TRACK: Wattage based on current limiting device capacity	0	0	60	60
Track lighting 1 copy 2: T3: 3' TRACK: Wattage based on current limiting device capacity	0	0	60	60
Track lighting 1 copy 3: T3: 3' TRACK: Wattage based on current limiting device capacity	0	0	60	60
Track lighting 1 copy 4: T3: 3' TRACK: Wattage based on current limiting device capacity	0	0	60	60
LED 2 copy 1: S: SURFACE: Other	1	4	20	80
2-Common Space Types:Lobby - General				
Track lighting 7: T4: 4' TRACK: Wattage based on current limiting device capacity	0	0	60	60
Track lighting 7 copy 1: T4: 4' TRACK: Wattage based on current limiting device capacity	0	0	60	60
Track lighting 1 copy 5: T3: 3' TRACK: Wattage based on current limiting device capacity	0	0	60	60
LED 1: BA: PENDANT: Other	1	2	31	62
3-Common Space Types:Restrooms				
LED 2: S: SURFACE: Other	1	2	20	40
Total Proposed Watts =				760

Project Title: StretchLab - Longmont, CO | Report date: 11/22/22
 Data filename: Z:\Shared\01_Projects\2022\22690_FMG_StretchLab Longmont, CO (22-254)\01_Construction Page 1 of 7
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Interior Lighting PASSES: Design 9% better than code

Interior Lighting Compliance Statement
 Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.3 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

BAILEY HEYSER, P.M. *Signature: Bailey Heyser* 11/21/22
 Name - Title Signature Date

PROJECT ADDRESS:
 1242 S. HOVER STREET
 SUITE 100
 LONGMONT, CO. 80501

REVISIONS:

TITLE:

ELECTRICAL SPECIFICATIONS & SYMBOLS

DATE:
11.01.2022

PROJECT NO.
22-254

Project Title: StretchLab - Longmont, CO | Report date: 11/22/22
 Data filename: Z:\Shared\01_Projects\2022\22690_FMG_StretchLab Longmont, CO (22-254)\01_Construction Page 2 of 7
 Documents\ENERGY\22690_IECC.cck

Project Number: 22690 | Project Manager: BH
 7328 E Stetson Dr., Scottsdale, AZ 85251
 P: 480.626.7072 | ardebiling.com

FM GROUP INC.
 TWENTY FIVE YEARS
 15974 N. 77th ST., STE 100
 SCOTTSDALE AZ 85260

XPONENTIAL FITNESS
 17877 VON KARMAN AVE
 SUITE 100
 IRVINE, CA 92614

PROJECT ADDRESS:
 1242 S. HOVER STREET
 SUITE 100
 LONGMONT, CO. 80501

REVISIONS:

TITLE:

ELECTRICAL SPECIFICATIONS & SYMBOLS

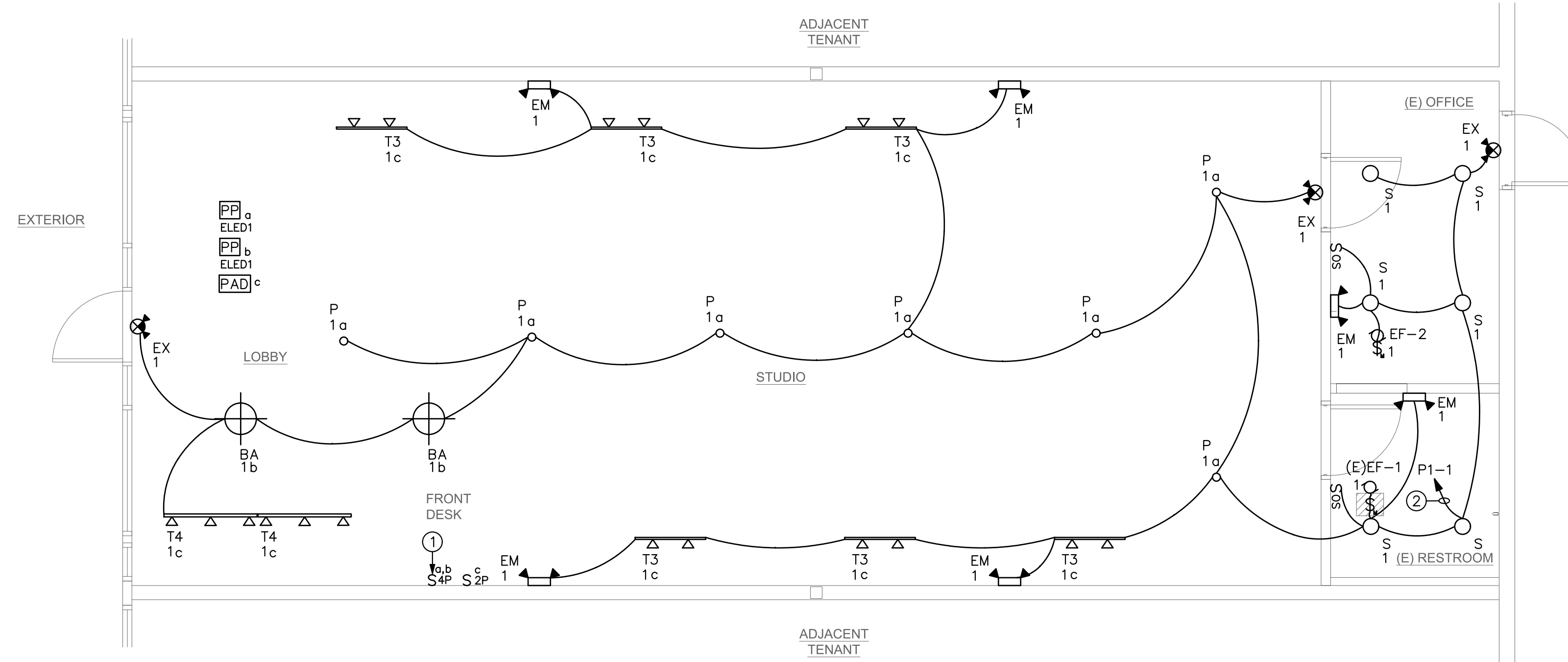
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22-254

SHEET NO.

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1 ELECTRICAL LIGHTING FLOOR PLAN
SCALE: 1/4"=1'-0"

LIGHTING GENERAL NOTES

- A. PRIOR TO ROUGH-IN, THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF ALL LIGHT FIXTURES / EXIT SIGN LOCATION / PLACEMENT WITH THE CITY OF LONGMONT FIELD BUILDING INSPECTOR PRIOR TO ROUGH INSPECTION APPROVAL. ALL CONFLICTS SHALL BE REPORTED TO THE ENGINEER/ARCHITECT.
- B. ALL FIXTURES INSTALLED OUTDOORS SHALL BE RATED FOR DAMP/WET LOCATIONS AS REQUIRED. THE CONTRACTOR SHALL COORDINATE DAMP/WET LOCATION RATING PER NEC ARTICLE 410.10(A). ALL INSTALLATIONS SHALL CONFORM TO NEC ARTICLE 410, ALL SUB ARTICLES.
- C. COORDINATE ALL EXTERIOR BUILDING MOUNTED LIGHT FIXTURES WITH ARCHITECTURAL BUILDING ELEVATIONS FOR HEIGHTS AND LOCATIONS.
- D. PROVIDE EXIT SIGNS FOR ALL EXITS DESIGNATED BY THE CODE STUDY PLAN. REFER TO ARCHITECTURAL CODE PLANS FOR LOCATIONS AND REQUIREMENTS.
- E. ALL EXIT AND EMERGENCY LIGHTS SHALL BE CONNECTED TO UNSWITCHED CIRCUIT LEG.
- F. CONDUIT AND WIRING SHOWN FOR REFERENCE ONLY. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE THE NUMBER OF CONDUCTORS REQUIRED FOR HOT-LEGS, NEUTRAL, AND GROUNDING AT EACH DEVICE FOR PROPER BRANCH CIRCUITING SHOWN FOR EACH AREA OR ROOM.
- G. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL LIGHTING FIXTURES.
- H. VERIFY EXACT CEILING CONSTRUCTION W/ ARCHITECTURAL REFLECTED CEILING PLAN & PROVIDE LIGHTING FIXTURES W/ ALL NECESSARY MOUNTING HARDWARE.
- I. COORDINATE EXACT LIGHTING FIXTURE LOCATIONS W/ MECHANICAL EQUIPMENT & DUCT WORK PRIOR TO ROUGH-IN.
- J. ALL RECESSED FIXTURES SHALL BE PROVIDED W/ ALL REQUIRED STRUCTURAL SUPPORTS AS REQUIRED BY CURRENTLY ACCEPTED EDITION OF ALL APPLICABLE NATIONAL, STATE, & CITY CODES, ORDINANCES, AND AMENDMENTS.
- K. ALL DIMMING BRANCH CIRCUITS SHALL BE PROVIDED W/ A DEDICATED NEUTRAL CONDUCTOR FOR EACH ZONE/CHANNEL.
- L. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXIT SIGN CHEVRONS & NUMBER OF FACES PER EXIT SIGN. ANY DISCREPANCIES BETWEEN EXIT SIGNS SHOWN ON THE ELECTRICAL & ARCHITECTURAL PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECTS PRIOR TO ORDERING EXIT SIGN.
- M. ALL LOW VOLTAGE WIRING NOT RUN IN CONDUIT SHALL BE PLENUM RATED.
- N. GENERAL CONTRACTOR SHALL VERIFY CEILING FIRE RATING W/ ARCHITECT, & BOX OR TENT ALL RECESSED LIGHT FIXTURES, IF REQUIRED, TO MAINTAIN CEILING FIRE RATING.
- O. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED FROM THE SPREAD OF FIRE W/ AN APPROVED FIRE STOP SYSTEM EQUAL OR GREATER THAN THE FIRE RATING OF THE WALL.

KEYED NOTES

- 1. PROVIDE DIMMING SWITCH ON WALL. COORDINATE EXACT LOCATION WITH OWNER/ARCHITECT PRIOR TO INSTALLATION. TYPICAL.
- 2. ROUTE CIRCUIT THROUGH EXISTING TIME CLOCK FOR AUTOMATIC SHUT OFF.

EXISTING LIGHT FIXTURES NOTE

ALL EXTERIOR EGRESS NORMAL/EMERGENCY LIGHT FIXTURES ARE EXISTING TO REMAIN, NO WORK TO BE DONE.

LUMINAIRE SCHEDULE

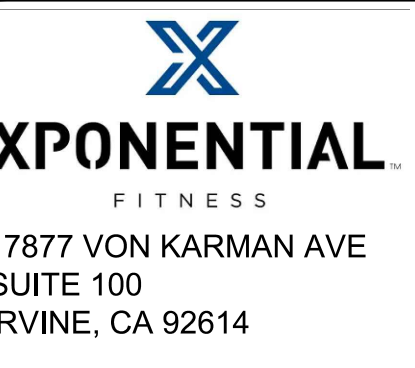
CALLOUT	SYMBOL	LAMP	MODEL	DESCRIPTION	BALLAST	MOUNTING	VOLTS	QUANTITY
BA		(1) 31W LED	WESPEC LDWS-16IN-30W -MV-LVD-W	16" LED SHADES, 4000K TEMP	LED	PENDANT	120V 1P 2W	2
EM		(2) 1.1W INCLUDED	WESPEC WS-BE-W/B	EMERGENCY LIGHT 2 HEAD	NA	WALL	120V 1P 2W	6
EX		(2) 1W INCLUDED	WESPEC WS-C-R-W	LED EXIT SIGN PROVIDES 90 MINUTES OF EMERGENCY ILLUMINATION.	NA	WALL/CEILING	120V 1P 2W	3
P		(1) 14W LED	WESPEC WS-CP-CT-W	LED PENDANT CYLINDERS 4000K	LED	PENDANT	120V 1P 2W	7
S		(1) 20W LED	WESPEC WS-7-15L	SURFACE MOUNT DISK LIGHT 4000K	LED	SURFACE	120V 1P 2W	6
T3		(2) 60W MAX	WESPEC WS-2H-3TK-W-T24	3' TRACK WITH 0.5 AMP CURRENT LIMITER.	LED	SURFACE	120V 1P 2W	6
T4		(3) 60W MAX	WESPEC WS-3H-4TK-W-T24	4' TRACK WITH 0.5 AMP CURRENT LIMITER.	LED	SURFACE	120V 1P 2W	2

CONTACT ELLIOTT PARKS WITH WESPEC LIGHTING SOLUTIONS 949-694-6494 x. 801 xponential@we-spec.com FOR PRICING. SUBSTITUTIONS ARE NOT NOT ALLOWED WITHOUT WRITTEN APPROVAL FROM THE ARCHITECT AND CORPORATE. NO EXCEPTIONS.

NEW DIP SWITCH SCHEDULE

CALLOUT	SYMBOL	MANUFACTURE	CATALOG #	DESCRIPTION
PHASE ADAPTIVE DIMMER		ECHOFLEX	ER6CD-AU-120	600 WATT DIMMER, PHASE ADAPTIVE 120VAC
POWER PACK ELED1		ECHOFLEX	8189A1125-X-1	LED FIXTURE CONTROLLER, 1/2" NIPPLE MOUNT, 120-277VAC.
SENSOR SWITCH		IR-TEC	LDS-700SW	LINE VOLTAGE DUAL-TECH WALL SWITCH SENSOR, 120/277 VAC, WHITE
[2] MULTI BUTTON SWITCH		ECHOFLEX	MBI-2, 8188A1837-[X]-1	2 BUTTON MULTI-BUTTON INTERFACE SWITCH STATION
[4] MULTI BUTTON SWITCH		ECHOFLEX	MBI-4, 8188A1838-[X]-1	4 BUTTON MULTI-BUTTON INTERFACE SWITCH STATION

ELECTRICAL CONTRACTOR SHALL COORDINATE COMPATIBILITY OF LIGHT FIXTURES AND LIGHTING CONTROL DEVICES/SYSTEM WITH CONTROL SYSTEM SUPPLIER PRIOR TO ORDERING/ROUGH-IN. CONTACT ELLIOTT PARKS WITH WESPEC LIGHTING SOLUTIONS 949-694-6494 x. 801 xponential@we-spec.com FOR PRICING. SUBSTITUTIONS ARE NOT NOT ALLOWED WITHOUT WRITTEN APPROVAL FROM THE ARCHITECT AND CORPORATE. NO EXCEPTIONS.



PROJECT ADDRESS:
1242 S. HOVER STREET
UNIT B200
LONGMONT, CO. 80501

REVISIONS:

TITLE:

ELECTRICAL LIGHTING FLOOR PLAN

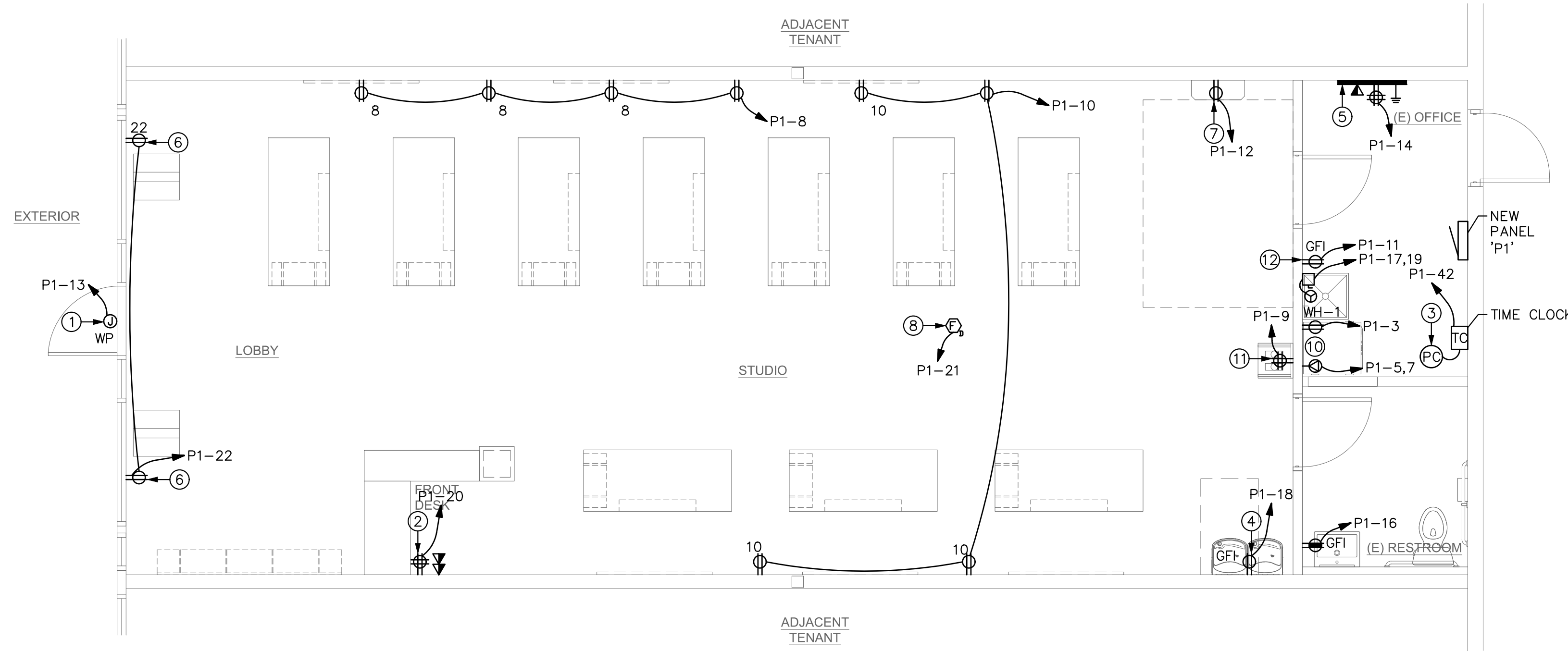
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11.01.2022
PROJECT NO.
22-254

SHEET NO.

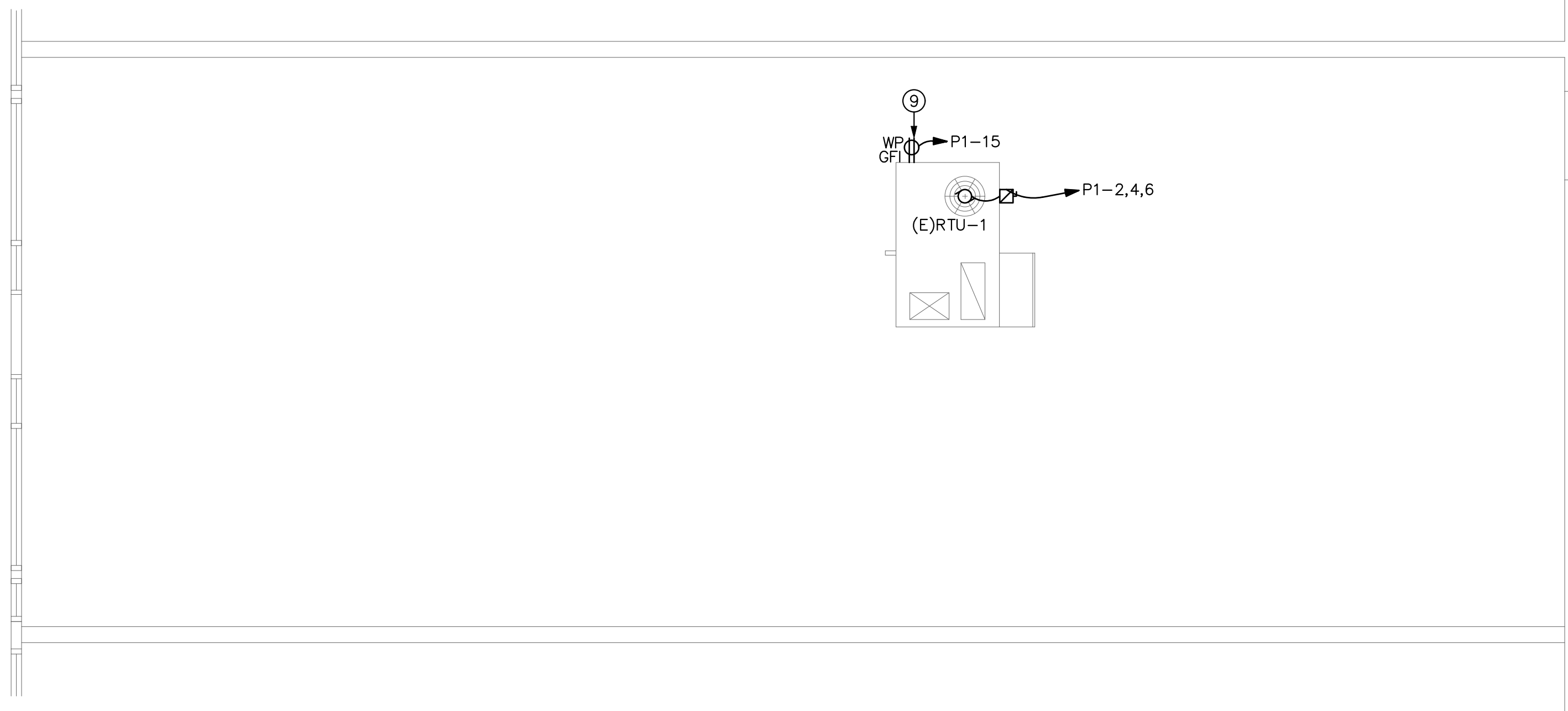
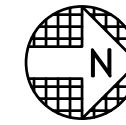
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ARDEBILI Engineering
Project Number: 22690 | Project Manager: BH
7328 E Stetson Dr., Scottsdale, AZ 85251
P: 480.626.7072 | ardebiling.com

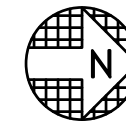
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1 ELECTRICAL POWER FLOOR PLAN
SCALE: 1/4"=1'-0"



2 ELECTRICAL POWER ROOF PLAN
SCALE: 1/4"=1'-0"



POWER GENERAL NOTES

- A. ALL EXTERIOR DISCONNECTS SHALL BE W.P. TYPE.
- B. ALL RECEPTACLES WITHIN 6'-0" OF A SINK TO BE GFCI RATED.
- C. REFER TO MECHANICAL AND PLUMBING PLANS FOR EXACT SIZE, LOCATION, AND ELECTRICAL REQUIREMENTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT.
- D. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ALL CONNECTION REQUIREMENTS (HP, AMPS, VOLTAGE, PHASE, MOUNTING HEIGHT, AND DISCONNECTING MEANS) FOR ALL EQUIPMENT SUPPLIED BY OTHERS BEFORE ROUGH-IN. DISCONNECT SWITCHES SHALL BE LOCATED WITH NEC CODE CLEARANCE OR PROVIDE LOCKOUT TYPE C/B.
- E. ELECTRICAL CONTRACTOR RESPONSIBLE FOR COORDINATING EXACT LOCATION, QUANTITIES, AND INSTALLATION REQUIREMENTS OF ELECTRICAL EQUIPMENT IN MILL WORK.
- F. ALL EXTERIOR RECEPTACLES SHALL BE W.P./GFCI TYPE.
- G. ALL ELECTRICAL PANEL BOARDS SHALL MAINTAIN 3'-0" INFRONT WORKING CLEARANCE REFER TO ONE-LINE FOR DETAILS.
- H. ELECTRICAL CONTRACTOR SHALL PROVIDE #6 COPPER GROUND TO ANY NEW METAL GAS PIPE SYSTEMS PER NEC 250.
- I. CONDUIT AND WIRING SHOWN FOR REFERENCE ONLY. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE THE NUMBER OF CONDUCTORS REQUIRED FOR HOT-LEGS, NEUTRAL, AND GROUNDING AT EACH DEVICE FOR PROPER BRANCH CIRCUITING SHOWN FOR EACH AREA OR ROOM.

MECHANICAL GENERAL NOTES

- A. VERIFY ALL MECHANICAL UNIT LOCATIONS WITH MECHANICAL PLANS.
- B. THE ELECTRICAL CONTRACTOR SHALL NOT MOUNT DISCONNECT EQUIPMENT DIRECTLY TO MECHANICAL UNITS FOR DISCONNECTS 200A AND LARGER. THE ELECTRICAL CONTRACTOR SHALL PROVIDE A SELF-SUPPORTING SYSTEM FOR DISCONNECT EQUIPMENT.
- C. PROVIDE WEATHERPROOF, HEAVY DUTY, NEMA 3R FUSIBLE DISCONNECT SWITCHES FOR ALL MECHANICAL UNITS LOCATED OUTSIDE.
- D. ALL EXTERIOR RECEPTACLES SHALL BE WEATHER RESISTANT GFCI (PASS & SEYMOUR 2095DSWRBK OR EQUAL), INSTALLED IN A WEATHERPROOF ENCLOSURE WITH A WHILE IN USE COVERPLATE (PASS & SEYMOUR #WUC10DCL OR EQUAL).
- E. EXHAUST FANS MOUNTED OUTSIDE SHALL HAVE A WEATHERPROOF DISCONNECT MOUNTED EXTERIOR TO THE UNIT. INTERNAL DISCONNECT SWITCHES SHALL NOT BE ALLOWED.

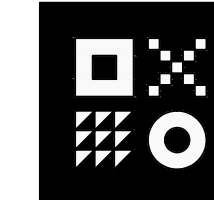
KEYED NOTES

- 1. PROVIDE W.P. J-BOX AND TOGGLE SWITCH LOCATED ON SIGN IN CONCEALED LOCATION FOR EXTERIOR SIGNAGE PER NEC. COORDINATE EXACT LOCATIONS PRIOR TO INSTALLATION. EXTEND CIRCUIT THROUGH TIME CLOCK. VERIFY EXACT REQUIREMENTS W/OWNER. IF POSSIBLE RE-USE EXISTING J-BOX. USE EXISTING CONDUIT AND FEEDER, EXTEND AS REQUIRED.
- 2. (2) CATS TELE/DATA PORTS. VERIFY EXACT REQUIREMENTS WITH OWNER/ARCHITECT PRIOR TO INSTALLATION.
- 3. MOUNT PHOTOCELL ON ROOF (AIM NORTH) AND ROUTE 3/4" CONDUIT TO TIME CLOCK.
- 4. PROVIDE POWER CONNECTION FOR E.D.F. COORDINATE EXACT LOCATION PRIOR TO INSTALLATION.
- 5. PROVIDE TELEPHONE MOUNTING BOARD "T.M.B" WITH #6 CU. GND. TO COMPLY WITH NEC 800-100. PROVIDE CONDUIT WITH PULLSTRING CONNECTED TO THE BUILDING MAIN TELEPHONE ROOM. VERIFY SIZES & ROUTING W/OWNER PRIOR TO INSTALLATION
- 6. NEW RECEPTACLE FOR SHOW WINDOW LIGHTING. MOUNTED ABOVE WINDOW.
- 7. PROVIDE DEDICATED 120V RECEPTACLE FOR MAPS MACHINE. COORDINATE EXACT LOCATION WITH OWNER/ARCHITECT PRIOR TO INSTALLATION.
- 8. PROVIDE 120V CONNECTION TO DUCT SMOKE DETECTORS INTERLOCK FOR SIMULTANEOUS UNIT SHUT-DOWN WITHIN 30 SECONDS OR LESS. VERIFY FINAL CONNECTION LOCATION AND REQUIREMENTS WITH MECHANICAL CONTRACTOR. TYPICAL.
- 9. PROVIDE MAINTENANCE RECEPTACLES FOR MECHANICAL EQUIPMENT PER NEC 210.63. FIELD VERIFY EXISTING CONDITIONS.
- 10. UTILITY ROOM - ELECTRIC OUTLETS GFCI FOR WASHER & DRYER, HOT & CHILLED WATER, DIRECT DRAIN. DRYER WIRE SIZE; 3#10, #10G, 3/4"C.
- 11. PROVIDE QUAD 120V POWER CONNECTION FOR HYPERICE CHARGING STATION. COORDINATE EXACT LOCATION WITH OWNER/ARCHITECT PRIOR TO INSTALLATION.
- 12. PROVIDE POWER CONNECTION FOR RECIRCULATION PUMP ADJACENT TO WATER HEATER. COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER PRIOR TO INSTALLATION.

FIXTURE/ITEM IDENTIFIED WITH LETTER:
 'E' - INDICATES EXISTING TO REMAIN.
 'N' - INDICATES NEW TO MATCH EXISTING.
 'R' - INDICATES EXISTING TO BE RELOCATED.
 'X' - INDICATES EXISTING TO BE REMOVED.

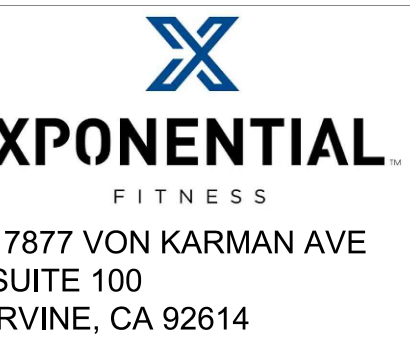
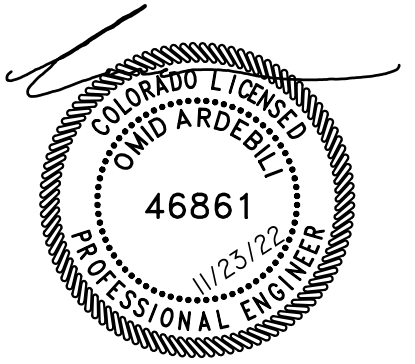
MECHANICAL EQUIPMENT SCHEDULE

CALLOUT	DESCRIPTION	SYMBOL	VOLTS	FLA	MCA	MOCF	WIRE CALLOUT	NOTES
(E)EF-1	EXISTING EXHAUST FAN		120V 1P 2W	0.125		15	3/4"C,2#12,#12G	EXISTING TO REMAIN. PROVIDE NEW HOMERUN FROM EXISTING DISCONNECT SWITCH.
(E)RTU-1	EXISTING ROOFTOP UNIT		208V 3P 4W		30	40	3/4"C,4#8,#10G	EXISTING TO REMAIN. PROVIDE NEW HOMERUN.
EF-2	EXHAUST FAN		120V 1P 2W	0.408		20	3/4"C,2#12,#12G	PROVIDE MANUAL, MOTOR RATED, NEMA 1 TOGGLE SWITCH INTERLOCK FAN OPERATION WITH LIGHT SWITCH.
WH-1	WATER HEATER		208V 2P 2W	24		30	3/4"C,2#10,#10G	PROVIDE 30A/2P NEMA 1 NON-FUSED DISCONNECT SWITCH.



ARDEBILI
Engineering

Project Number: 22690 | Project Manager: BH
 7328 E Stetson Dr., Scottsdale, AZ 85251
 P: 480.626.7072 | ardebiling.com



REVISIONS:

TITLE:

ELECTRICAL
POWER
FLOOR &
ROOF PLAN

DATE:
11.01.2022

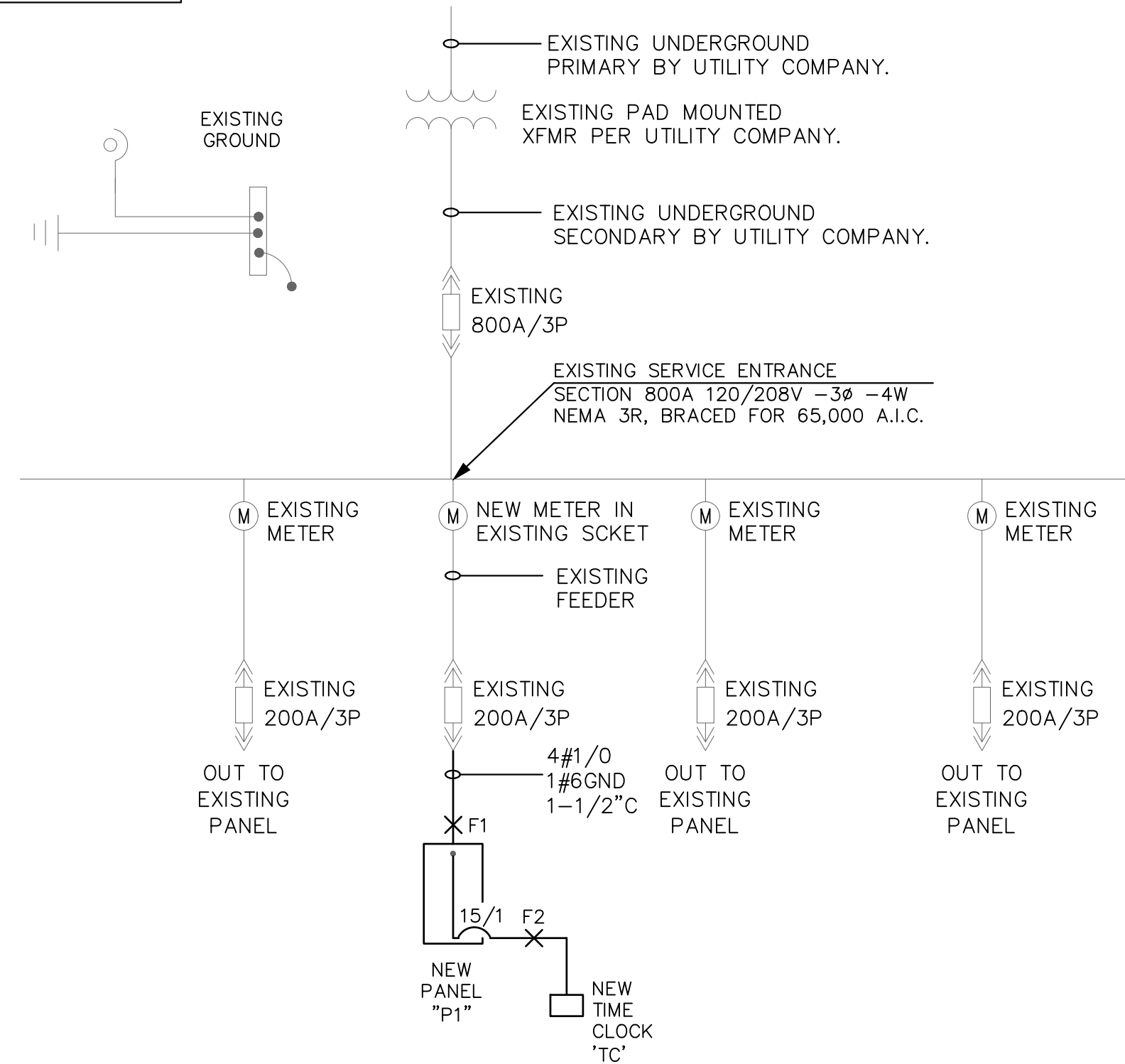
PROJECT NO.
22-254

SHEET NO.

E2.0

ROOM OFFICE		VOLTS 208Y/120V 3P 4W			AIC 65K/10K SERIES RATED						
MOUNTING SURFACE		BUS AMPS 200			MAIN BKR MLO						
FED FROM SES		NEUTRAL 100%			LUGS STANDARD						
NOTE NEMA 1											
CKT #	BKR	CIRCUIT DESCRIPTION	KVA LOAD			CKT #	BKR	CIRCUIT DESCRIPTION	KVA LOAD		
			A	B	C				A	B	C
1	20/1	(E)EF-1, EF-2, LIGHTING	0.834	1.5		2	40/3	(E)RTU-1	2.88	2.88	
3	20/1	WASHER				4					
5	30/2	DRYER			2.88	6					2.88
7			2.88			8	20/1	W STUDIO RECEPTACLES	0.72		
9	20/1	HYPER ICE RECEPTACLE		0.36		10	20/1	E STUDIO RECEPTACLE	0.72		
11	20/1	RECIRC. PUMP			0.18	12	20/1	MAP MACHINE			1
13	20/1	BUILDING SIGNAGE	1.2			14	20/1	T.M.B. RECEPTACLE	0.36		
15	20/1	MAINTENANCE RECEPTACLE		0.18		16	20/1	RESTROOM RECEPTACLE		0.18	
17	30/2	WH-1			2.5	18	20/1	FLOWATER			1
19			2.5			20	20/1	DESK RECEPTACLE	0.36		
21	20/1	DUCT DETECTOR		0.05		22	20/1	SHOW WINDOW LTG.		1.2	
23	-/1	SPACE			0	24	-/1	SPACE			0
25	-/1	SPACE			0	26	-/1	SPACE			0
27	-/1	SPACE			0	28	-/1	SPACE			0
29	-/1	SPACE			0	30	-/1	SPACE			0
31	-/1	SPACE			0	32	-/1	SPACE			0
33	-/1	SPACE			0	34	-/1	SPACE			0
35	-/1	SPACE			0	36	-/1	SPACE			0
37	-/1	SPACE			0	38	-/1	SPACE			0
39	-/1	SPACE			0	40	-/1	SPACE			0
41	-/1	SPACE			0	42	20/1	TIME CLOCK/PHOTOCCELL			0.2
TOTAL CONNECTED KVA BY PHASE									11.7	7.07	10.6
TOTAL CONNECTED AMPS BY PHASE									101	58.9	92.3
CONN KVA			CALC KVA			CONN KVA			CALC KVA		
LIGHTING	0.77	0.962	(125%)	RECEPTACLES	7.58	7.58	(50%>10)				
LARGEST MOTOR	8.65	2.16	(25%)	CONTINUOUS	1.4	1.75	(125%)				
MOTORS	13.7	13.7	(100%)	NONCONTINUOUS	5.99	5.99	(100%)				
TOTAL LOAD				32.2							
BALANCED 3-PHASE LOAD				89.3 A							

AVAILABLE I_{sc} = 29,756 AMPS PER EXISTING DRAWINGS



PARTIAL ONE-LINE DIAGRAM

NTS

- NOTES:
- ALL EQUIPMENT IS EXISTING TO REMAIN U.N.O. AND SHOWN FOR REFERENCE ONLY.
 - ELECTRICAL CONTRACTOR TO VERIFY ALL EXISTING SIZES & RATINGS OF FEEDERS, SWITCHES, FUSES AND CIRCUIT BREAKERS SHOWN.

SES LOAD CALCULATIONS

200A PANEL (WORST CASE LOAD 100%) = 200.0 AMPS
 200A PANEL (WORST CASE LOAD 100%) = 200.0 AMPS
 200A PANEL (WORST CASE LOAD 100%) = 200.0 AMPS
 NEW PANEL P1 = 89.3 AMPS

TOTAL SERVICE LOAD = 689.3 AMPS

ONE-LINE GENERAL NOTES

- SES COMPONENTS, INCLUDING OVERCURRENT PROTECTIVE DEVICES SHALL BE FULLY RATED FOR THE AVAILABLE FAULT CURRENT SHOWN.
- A 65K/10K SERIES RATED SYSTEM IS INTENDED, BASED ON WORST CASE AVAILABLE FAULT FROM THE SES SIZE..
- PER NEC ARTICLE 240.86(A), PROVIDE IDENTIFICATION AT EACH DISCONNECTING MEANS FEEDING DOWNSTREAM DEVICES APPLIED IN SERIES COMBINATION. PROVIDE NOTE INDICATING: "CAUTION - SERIES RATED DEVICES ARE FED FROM THIS REMOTE MAIN. _____ AMPS AVAILABLE. IDENTIFIED REPLACEMENT COMPONENT REQUIRED." CONTRACTOR TO FILL IN BLANK WITH AVAILABLE FAULT CURRENT OBTAINED FROM UTILITY COMPANY, OR AS SHOWN ON THE FAULT CURRENT SCHEDULE.
- PER NEC ARTICLE 110.22, PROVIDE IDENTIFICATION AT ENCLOSURE OF PANELBOARDS WHERE BREAKERS ARE APPLIED IN SERIES COMBINATION, STATING: "CAUTION - SERIES COMBINATION SYSTEM RATED _____ AMPS AVAILABLE. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED." CONTRACTOR TO FILL IN BLANK WITH AVAILABLE FAULT CURRENT FROM FAULT CURRENT SCHEDULE OR AS CALCULATED BY A QUALIFIED PERSON APPROVED BY THE AHJ [AUTHORITY HAVING JURISDICTION] USING ACTUAL AVAILABLE FAULT FROM UTILITY COMPANY.
- PROVIDE ARC FLASH AND SHOCK HAZARD WARNING IDENTIFICATION PER NEC ARTICLE 110.16
- "NO DESIGN CHANGES MAY BE MADE TO THE SYSTEM WITHOUT THE PRIOR APPROVAL OF THE DESIGN ENGINEER AND THE ELECTRICAL INSPECTOR."
- THE FEEDER LENGTHS SHOWN IN THE INPUT DATA IS FOR CALCULATIONS ONLY. IT IS NOT THE INTENT TO USE THESE ENTERED LENGTHS FOR USAGE OF ACTUAL FIELD FEEDER LENGTH MEASUREMENTS.

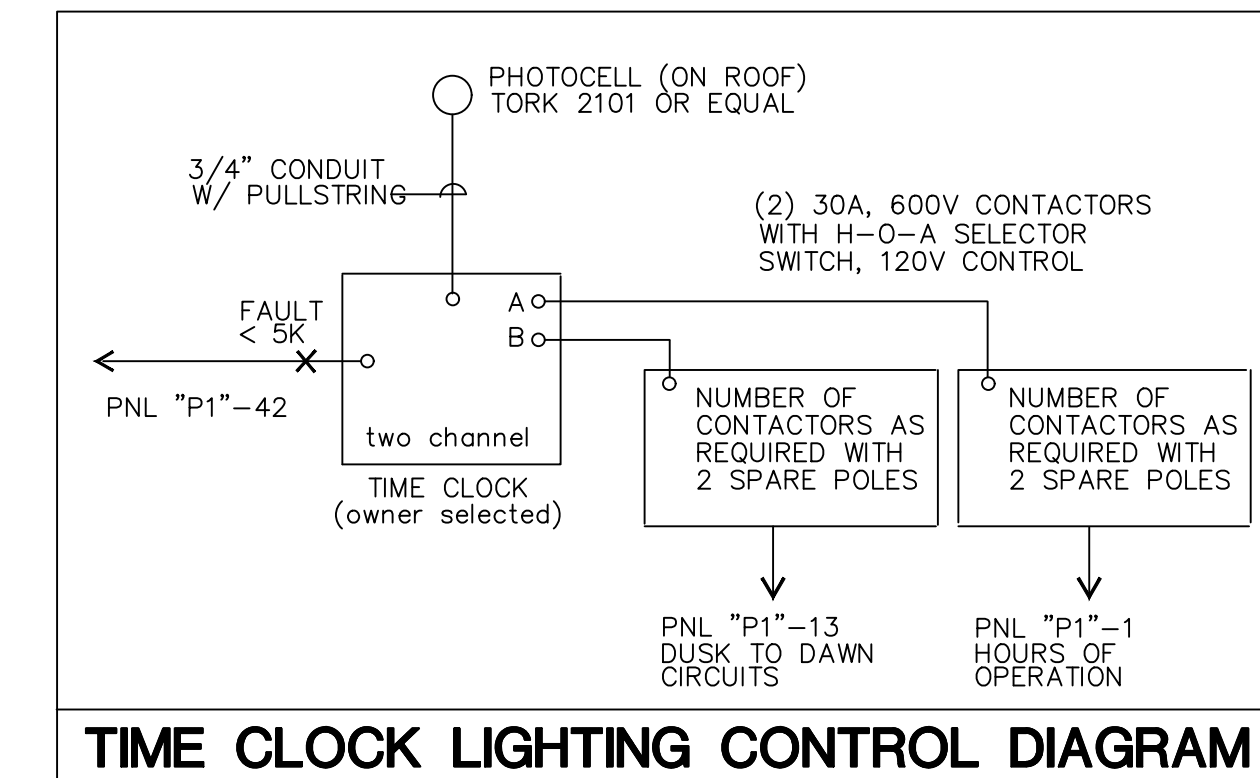
PANEL SCHEDULE GENERAL NOTES

- A.I.C. RATING SHOWN ON PANEL SCHEDULES ARE THE MINIMUM RATING FOR NEW AND REPLACEMENT OVERCURRENT PROTECTIVE DEVICES.
- ALL PANEL BOARDS SHALL HAVE A TYPE WRITTEN DIRECTORY IDENTIFYING EACH NUMBERED CIRCUIT PLACED IN A DIRECTORY HOLDER INSIDE THE DOOR.
- THE CONTRACTOR SHALL PERMANENTLY MARK WITH PERMANENT MARKER THE CIRCUIT IDENTIFICATIONS ON THE COVERPLATES OF RECEPTACLES, EQUIPMENT, AND LIGHTING JUNCTION BOXES. (STICK ON LABELS NOT ACCEPTABLE)
- PER NEC 210.4(B) ALL MULTIWIRE BRANCH CIRCUITS ARE TO BE PROVIDED WITH A DEVICE THAT WILL DISCONNECT POWER TO ALL UNGROUNDED CONDUCTORS SIMULTANEOUSLY AT THE POINT OF ORIGIN.
- PER NEC 408.4(A) EVERY CIRCUIT AND CIRCUIT MODIFICATION SHALL BE LEGIBLY IDENTIFIED AS TO ITS CLEAR, EVIDENT AND SPECIFIC PURPOSE OR USE.

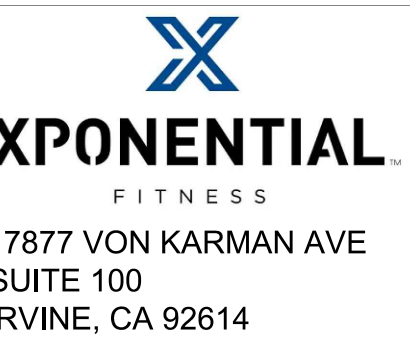
PANELBOARD SYMBOLS

- NEW BREAKER TO MATCH EXISTING IN AIC RATING. IF SERIES RATED SYSTEM, INSURE BREAKER IS A PUBLISHED SERIES RATED COMBINATION WITH THE UPSTREAM OCP DEVICE.
- EXISTING BREAKER WITH EXISTING LOAD TO REMAIN
- CONTROLLED BY TIME CLOCK/PHOTOCCELL
- EXISTING BREAKER WITH NEW LOAD
- PROVIDE BREAKER WITH HANDLE "LOCK-ON" DEVICE AND FIRE ALARM RED IDENTIFICATION PER NEC 760.41(A) & (B)

FAULT CURRENT SCHEDULE																
DEVICE	FAULT	AIC RATING	L-N VOLTS	UTILITY	FED FROM		FEEDER						TOTAL MOTOR FAULT	DIRECTLY CONNECTED MOTOR LOAD		
					FAULT	DEVICE	FAULT	SIZE	X / 1000'	R / 1000'	LENGTH	X		R	KVA	FAULT
SES	29,756	65,000	120V	29,605			(3)#300kcmil	0.0137	0.0147			0	0	151		
F1	P1	12,534	120V	12,382	SES	29,605	#3/0	0.042	0.077	75'	0.0032	0.0058	152	13.7	152	
F2	TC	3,819	120V	3,804	P1	12,382	#12	0.054	2	12'	0.0006	0.024	15			



TIME CLOCK LIGHTING CONTROL DIAGRAM



REVISIONS:

TITLE:

ONE-LINE
DIAGRAM &
PANEL
SCHEDULE

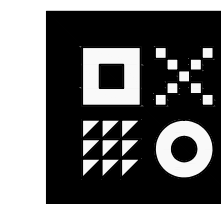
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ARDEBILI
Engineering

Project Number: 22690 | Project Manager: BH
 7328 E Stetson Dr., Scottsdale, AZ 85251
 P: 480.626.7072 | ardebiling.com