



City of Fitchburg
 Planning/Zoning Department
 5520 Lacy Road
 Fitchburg, WI 53711
 (608) 270-4200

CONDITIONAL USE PERMIT APPLICATION

The undersigned owner, or owner's authorized agent, of property herein described hereby applies for a conditional use permit for the following described property:

1. Location of Property:

Street Address: _____

Legal Description - (Metes & Bounds, or Lot No. And Plat): _____

***Also submit in electronic format (MS WORD or plain text) by email to: **PLANNING@FITCHBURGWI.GOV**

2. Current Use of Property: _____

3. Proposed Use of Property: _____

4. Proposed Development Schedule: _____

5. Zoning District: _____

6. Future Land Use Plan Classification: _____

***Pursuant to Section 22-3(b) of the Fitchburg Zoning Ordinance, all Conditional Use Permits shall be consistent with the currently adopted City of Fitchburg Comprehensive Plan.

***Attach three (3) copies of a site plan which shows any proposed land divisions, plus vehicular access points and the location and size of all existing and proposed structures and parking areas. Two (2) of the three (3) copies shall be no larger than 11" x 17". Submit one (1) pdf document of the entire submittal to planning@fitchburgwi.gov.

Additional information may be requested.

Type of Residential Development (If Applicable): _____

No. of Dwelling Units by Bedroom: 1 BR _____ 2 BR _____ 3 BR _____ 4 or More _____

No. Of Parking Stalls: _____

Type of Non-residential Development (If Applicable): _____

Proposed Hours of Operation: _____ **No. Of Employees:** _____

Floor Area: _____ **No. Of Parking Stalls:** _____

Sewer: Municipal _____ Private _____ **Water:** Municipal _____ Private _____

Current Owner of Property: _____

Address: _____ **Phone No:** _____

Contact Person: _____

Email: _____

Address: _____ **Phone No:** _____

Respectfully Submitted By: _____

Owner's or Authorized Agent's Signature

**** It is highly recommended that an applicant hold at least one neighborhood meeting prior to submitting an CUP application to identify any concerns or issues of surrounding residents.**

PLEASE NOTE - Applicants shall be responsible for legal or outside consultant costs incurred by the City. Submissions shall be made at least four (4) weeks prior to desired plan commission meeting.

For City Use Only: **Date Received:** _____ **Publish:** _____

Ordinance Section No. _____ **Fee Paid:** _____

Permit Request No. _____

RESPONSIBILITY MATRIX					
NO.	QTY	EQUIPMENT DESCRIPTION	PROVIDER	VENDOR	INSTALLER
GENERAL REQUIREMENTS (DIVISION 1)					
*		BUILDING PERMIT	F	LJ	
		PERMIT FEES	F	LJ	
		UTILITIES	F	UC	
		FIELD VERIFY ALL EXISTING CONDITIONS	GC	GC	
		TEMPORARY FACILITIES	GC	CC	GC
		TRASH REMOVAL / CLEAN UP	GC	CC	GC
CONCRETE (DIVISION 3)					
		SLAB - NEW POUR / EXISTING	GC	CC	GC
		FLOOR/SLAB MOISTURE TEST	GC	CC	GC
METALS, WOOD & PLASTICS (DIVISION 5 & 6)					
		KNEE WALLS	GC	GC	GC
		WALLS / BULKHEADS	GC	CC	GC
		UNISTRUTS, THREADED RODS, BRACKETS, RAILINGS	GC	CC	GC
		STRUCTURAL STEEL, SUPPORTS, BRACES, ETC	GC	CC	GC
		FRAMING / CARPENTRY	GC	CC	GC
		WALL CABINETS	F	EV	EV
		SOLID SURFACE COUNTER TOP	F	EV	EV
		BUTCHER BLOCK COUNTER TOP	F	EV	EV
		MILLWORK SOFFIT	F	EV	EV
THERMAL & MOISTURE PROTECTION (DIVISION 7)					
		ROOF PENETRATIONS	GC	CC	GC
		EXHAUST FAN CURB ON ROOF	GC	CC	GC
DOORS & WINDOWS (DIVISION 8)					
		NEW DOORS, FRAMES & HARDWARE	GC	CC	GC
		NEW GLASS STOREFRONT	GC	CC	GC
FINISHES (DIVISION 9)					
		WALL FINISHES (GYPSUM BOARD & FRP PER PLAN)	GC	CC	GC
		WALL FINISHES (PAINT, TILE, SPECIALTY)	GC	SFS	GC
		CEILING AND SUSPENSION GRID	GC	SFS	GC
		WOOD TRIM / FINISHES	GC	SFS	GC
		FLOORING FINISHES	GC	SFS	GC
		WALL BASE	GC	SFS	GC
		FIRE RATED PENETRATIONS CAULK & SEALANTS	GC	CC	GC
SPECIALTIES (DIVISION 10)					
		SIGNAGE PERMIT (EXTERIOR) & INSTALL	F	SC	SC
		INTERIOR SIGNS	GC	GC	GC
		MALE AND FEMALE RESTROOM SIGNS	GC	CC	GC
		RESTROOM ACCESSORIES	GC	GC	GC
**		FIRE EXTINGUISHERS	GC	CC	GC
EQUIPMENT (DIVISION 11)					
		ALL KITCHEN EQUIPMENT (UNLESS NOTED)	F	EV	EV
		POS SYSTEMS AND MONITORS	F	M	PB
FURNISHINGS (DIVISION 12)					
		FURNISHINGS(TABLES, CHAIRS, STOOLS, BANQUET)	F	EV	EV
		OLO & 3RD PARTY CUBBY CABINETS	F	EV	EV
		MENU BOARDS	F	EV	EV
		OPERATIONAL MARKETING MATERIAL	F	UMI	GC
AG-1		FOOD MONTAGE PHOTO	F	EV	GC
AG-2		DOCK PHOTO	F	EV	GC
AG-3		BEACH HUT PHOTO	F	EV	GC
AG-4		SURF BOARD PHOTO	F	EV	GC
***		CHEMICAL PROGRAM	F	KC	KC
SPECIAL CONSTRUCTION (DIVISION 13)					
		SURVEILLANCE SYSTEM	F	VLL	V
		SECURITY SYSTEM	F	VLL	V
***		MUSIC/ENTERTAINMENT	F	MMM	V
		FIRE SPRINKLER	GC	VLL	GC
		FIRE ALARM	GC	VLL	GC
MECHANICAL (DIVISION 15)					
		PLUMBING ROUGH-IN DWV & H2O DISTRIBUTION	GC	CC	GC
		RESTROOMS TOILETS AND SINKS	GC	SPS	GC
		WATER HEATER	GC	SPS	GC
		WALK-IN COOLER & FREEZER BOX	V	EV	GC
		NEW HVAC (IF APPLICABLE)	GC	CC	GC
		MECH CONNECTIONS/DUCT/DIFFUSERS/CONTROLS	GC	CC	GC
		TEST & BALANCE	GC	CC	GC
		PLUMBING CERTS & WATER TESTS	GC	CC	GC
ELECTRICAL (DIVISION 16)					
		ELECTRICAL ROUGH-IN WIRING	GC	CC	GC
		ELECTRICAL PANELS	GC	CC	GC
***		LIGHTING FIXTURES AND CONTROLS	GC	HL	GC
		TELECOMMUNICATIONS	F	UC	UC
		POS WIRING AND INSTALLATION	F	M	PB

* PROVIDED BY FRANCHISEE VIA PROJECT COORDINATOR
 ** LOCATION TO BE DETERMINED BY LOCAL FIRE JURISDICTION AUTHORITY
 *** PREFERRED VENDOR

tropical SMOOTHIE CAFE®

eat better.  feel better.®

6231 MCKEE RD., SUITE A
 FITCHBURG, WI 53719
 STORE# WI 021

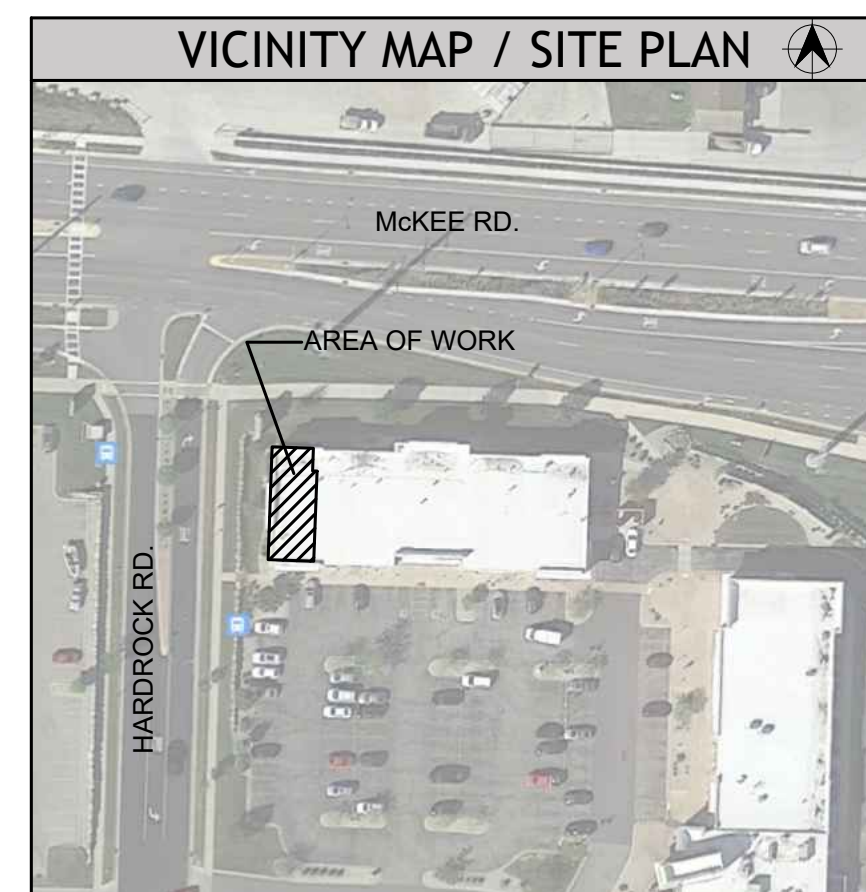
STORE ADDRESS

6231 McKee Rd, Suite A
 Fitchburg, WI 53719

STORE NUMBER

WI 021

GENERAL NOTES	
1.	ALL ROUGH-INS AND CONNECTIONS SHOWN ON THESE PLANS ARE FOR FOOD SERVICE FIXTURES AND EQUIPMENT PROVIDED BY THE EQUIPMENT VENDOR OR BY OUTSIDE PARTIES LISTED AS 'VENDOR' OR 'BY OTHERS'. ALL INFORMATION PROVIDED ON THESE PLANS ARE TO BE VERIFIED BY THE GENERAL CONTRACTOR THRU THE SPECIFICATIONS MANUAL PROVIDED BY THE EQUIPMENT VENDOR OR BY CONSULTING THE APPROPRIATE OUTSIDE PARTIES.
2.	THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ADJUSTING ACTUAL ROUGH-IN LOCATIONS AS NEEDED BY FIELD CONDITIONS FOR EQUIPMENT UTILITY CONNECTION(S) PER MANUFACTURER'S CURRENT SPECIFICATION SHEETS.
3.	SERVICE ROUGH-INS AND EQUIPMENT CONNECTIONS MUST BE MADE BY APPROPRIATE TRADES.
4.	ALL BUILDING PENETRATIONS REQUIRED FOR FOOD SERVICE EQUIPMENT INSTALLATION SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AND SEALED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS.
5.	ALL WALL SUPPORT (BLOCKING) FOR WALL HUNG EQUIPMENT SHALL BE PROVIDED BY GENERAL CONTRACTOR PER PLAN.
6.	GENERAL CONTRACTOR IS RESPONSIBLE FOR ENSURING PROPER WORKING CONDITION AND MEETING CURRENT LOCAL CODE REQUIREMENTS FOR ANY / ALL EQUIPMENT LISTED ON THESE PLANS AS 'EXISTING'.
7.	GENERAL CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND WALL LOCATIONS. ALL DIMENSIONS ARE TO FINISHED WALL AND/OR CENTER LINES OF COLUMNS.
8.	ANY DIMENSIONS LABELED "HOLD" OR "CRITICAL" MUST MAINTAIN THAT FINISHED DIMENSION. ALL CORNERS TO BE 90° OR AS SPECIFIED. ANY DISCREPANCIES WITH SPECIFIED DIMENSIONS REQUIRING TRIM OR EQUIPMENT MODIFICATION IS TO BE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR AT THEIR EXPENSE.
9.	GENERAL CONTRACTOR / OWNER SHALL BE RESPONSIBLE FOR INSURING THAT ALL ADDENDA AND CHANGES TO BUILDING PLANS WHICH ARE MADE PRIOR TO AND DURING CONSTRUCTION ARE PROVIDED TO TROPICAL SMOOTHIE CAFE. THESE DRAWINGS ARE NOT MEANT TO REPLACE ARCHITECTURAL OR ENGINEERING PLANS. IF DISCREPANCIES EXIST, REFER TO THE ARCHITECTS CONSTRUCTION DOCUMENTS.
10.	THE LATEST DATED REVISION SUPERSEDES AND VOIDS ALL PREVIOUS DRAWINGS. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COLLECTING ALL OLD COPIES OF THE PLAN SET & DISTRIBUTING CURRENT COPIES TO ALL SUBCONTRACTORS.
11.	REFER TO THE EQUIPMENT VENDOR WITH ANY CONCERNS OR QUESTIONS REGARDING DELIVERY AND STORAGE OF EQUIPMENT.
12.	FOLLOWING FINAL FIXTURES INSTALLATION THE GENERAL CONTRACTOR SHALL CLEAN-UP AND DISPOSE OF ALL TRASH, CARTONS, CREATES, DEBRIS, ETC.
13.	GENERAL CONTRACTOR TO REPLACE ALL HVAC FILTERS ONCE CONSTRUCTION IS COMPLETE
14.	



ABBREVIATION KEY	
ABBR.	ABBREVIATION DESCRIPTION
F	FRANCHISEE
EV	EQUIPMENT VENDOR
GC	GENERAL CONTRACTOR
EC	ELECTRICAL CONTRACTOR
CC	CONTRACTOR'S CHOICE
OC	OWNER'S CHOICE
LJ	LOCAL JURISDICTION
SC	SIGN COMPANY
VLL	VERIFY WITH LANDLORD
V	VENDOR
M	MICROS
PB	PAR BRINK
UMI	ULTERIOR MOTIVES INTERNATIONAL
HL	HERMITAGE LIGHTING
MMM	MUZAK (MOOD MEDIA)
UC	UTILITY COMPANY
INSTALL	EQUIPMENT INSTALLER
FIN. CON.	FINAL CONNECTIONS
KC	KAY CHEMICALS

PROJECT INFORMATION		
APPLICABLE CODE:	2015 INTERNATIONAL BUILDING CODE 2015 INTERNATIONAL FUEL GAS CODE 2015 INTERNATIONAL ENERGY CONSERVATION CODE 2015 INTERNATIONAL FIRE CODE 2015 INTERNATIONAL MECHANICAL CODE 2015 INTERNATIONAL PLUMBING CODE 2017 NATIONAL ELECTRIC CODE 2012 NFPA 1 2009 ADA	
CONSTRUCTION TYPE:	TYPE-VB	
OCCUPANCY:	B - BUSINESS	
BUILDING AREA:	ALLOWED:	PROVIDED:
	1,730 SF - TENANT SPACE	1,730 SF - TENANT SPACE

CONTACT MATRIX	
HOCKENBERGS / TRIMARK FOODSERVICE EQUIPMENT & SUPPLY 3650 ANNAPOLIS LANE N. #107 PLYMOUTH, MN 55447	PAR / BRINK (POS PROVIDER) BRIAN CONWAY - POS Technology Architect (770) 821-1900, EXT. 6118 bconway@tropicalsmoothie.com
BLAKE VANDERBOSCH (763) 252-0465 blake.vanderbosch@trimarkusa.com	JOHN BLUFF, Manager, Installation Operations (315) 753-8319 John.Bluff@partech.com
STAFFORD SMITH, INC. 2852 JOHNSON FERRY ROAD, SUITE 250 MARIETTA, GA 30062	MUZAK, MOOD MEDIA CO. KIM ROBINSON - ACCOUNT MANAGER (980) 430-2444 www.moodmedia.com
SCOTT BISHOP GENERAL MANAGER O:(678) 495-4660, EXT. 2604/ C: (770) 630-4937 sbishop@staffordsmith.com	
DRIVE-THRU HEADSET PROVIDER: CRAIG GUERIN - SE REGION SALES MGR (770) 309-1768 cguerin@hmc.com	RETAIL TECHNOLOGY GROUP 1663 FENTON BUSINESS PARK COURT FENTON, MO 63026 (POS INSTALLER)
DRIVE-THRU EQUIPMENT PROVIDER: GARY KURTZ - VP OF SALES AND MARKETING (262) 317-7745 gkurtz@howardcompany.com	AMY KUBALA (636) 690-6226 amy.kubala@rtgpos.com

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REVISION

DATE 02/02/2022

PROJECT 1674.010

FOR INTERNAL USE ONLY
 PROTOTYPE REVISION NUMBER

SHEET NAME
 COVER SHEET

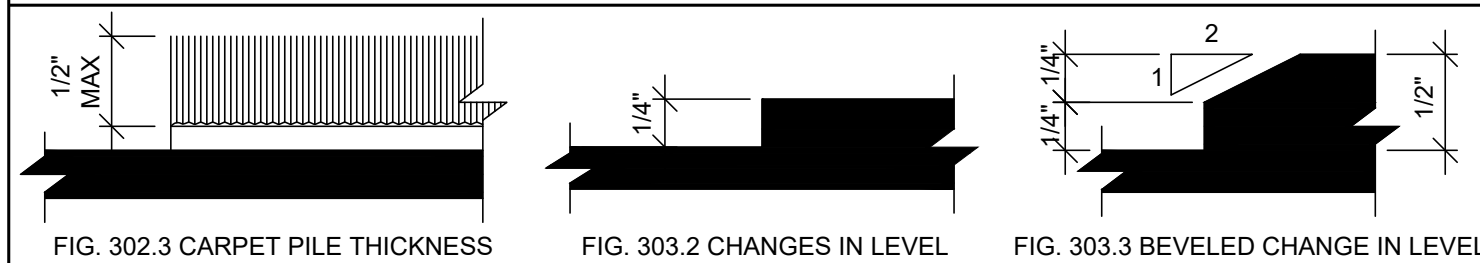
SHEET NUMBER

A000

302 FLOOR OR GROUND SURFACES AND 303 CHANGES IN LEVEL

302.1 General. Floor and ground surfaces shall be stable, firm, and slip resistant.
302.2 Carpet. Carpet or carpet tile shall be securely attached and shall have a firm cushion, pad, or backing or no cushion or pad. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. Pile height shall be $\frac{1}{2}$ " max. Exposed edges of carpet shall be fastened to floor surfaces and shall have trim on the entire length of the exposed edge. Carpet edge trim shall comply with 303.
302.3 Vertical. Changes in level of $\frac{1}{4}$ " high max shall be permitted to be vertical.
303.3 Beveled. Changes in level between $\frac{1}{2}$ " high min and $\frac{1}{2}$ " high max shall be beveled with a slope not steeper than 1:2.

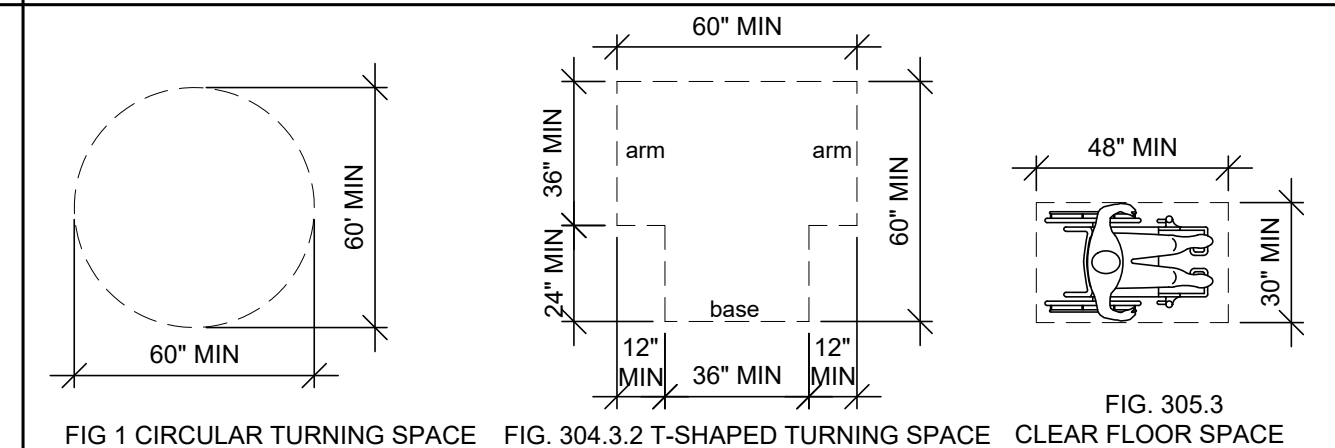
CARPET PILE THICKNESS & ACCESSIBLE ROUTE



304 TURNING SPACE

304.2 Floor or Ground Surfaces. Floor or ground surfaces of a turning space shall comply with 302. Changes in level are not permitted.
EXCEPTION: Slopes not steeper than 1:48 shall be permitted.
304.3.1 Circular Space. The turning space shall be a space of 60" diameter min. The space shall be permitted to include knee and toe clearance complying with 306.
304.3.2 T-Shaped Space. The turning space shall be a T-shaped space within a 60" square min with arms and base 36" wide min. Each arm of the T shall be clear of obstructions 12" min in each direction and the base shall be clear of obstructions 24" min. The space shall be permitted to include knee and toe clearance complying with 306 only at the end of either the base or 1 arm.

TURNING SPACE AND CLEAR FLOOR SPACE

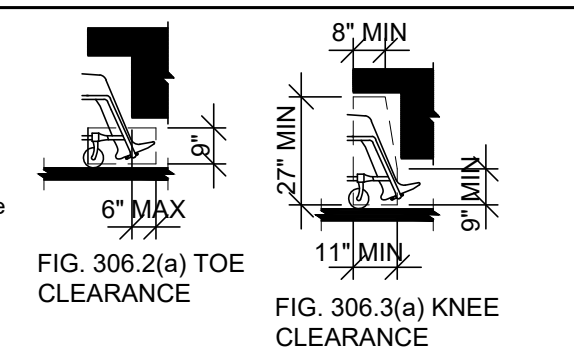


305 CLEAR FLOOR OR GROUND SPACE

305.2 Floor or Ground Surfaces. Floor or ground surfaces of a clear floor or ground space shall comply with 302. Changes in level are not permitted.
EXCEPTION: Slopes not steeper than 1:48 shall be permitted.
305.3 Size. The clear floor or ground space shall be 30" min by 48" min.
305.4 Knee and Toe Clearance. Unless otherwise specified, clear floor or ground space shall be permitted to include knee and toe clearance complying with 306.
305.5 Position. Unless otherwise specified, clear floor or ground space shall be positioned for either forward or parallel approach to an element.

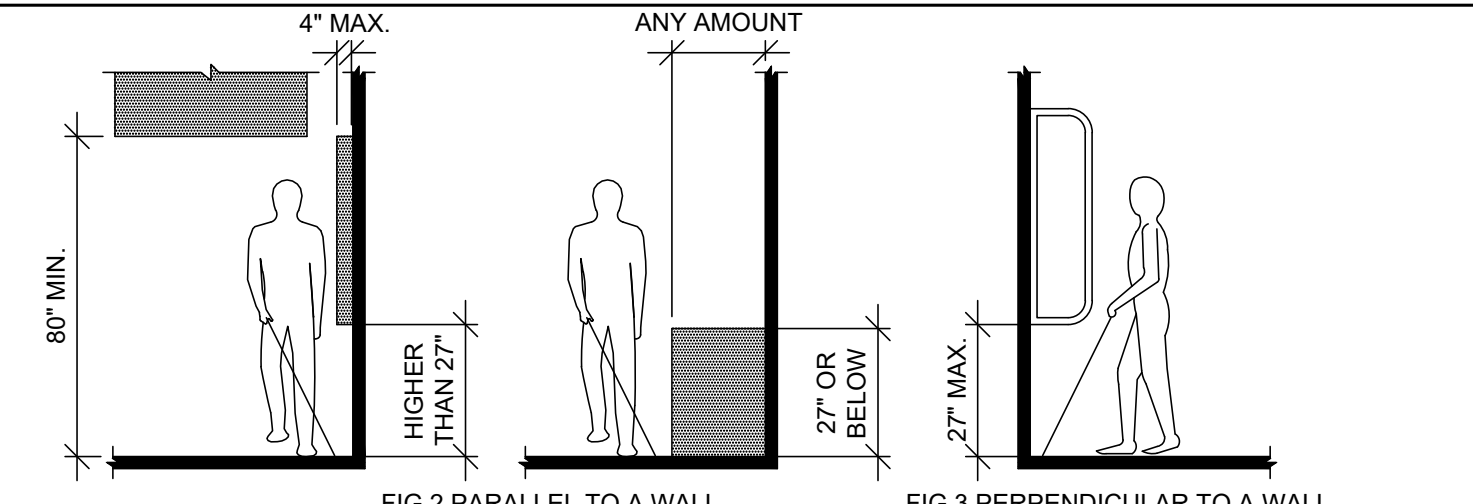
306 KNEE AND TOE CLEARANCE

306.2 Toe Clearance.
306.2.1 General. Space under an element between the finish floor or ground and 9" above the finish floor or ground shall be considered toe clearance and shall comply with 306.2.
306.2.2 Max Depth. Toe clearance shall extend 25" max under an element.
306.2.3 min Required Depth. Where toe clearance is required at an element as part of a clear floor space, the toe clearance shall extend 17" min under the element.
306.2.4 Additional Clearance. Space extending greater than 6" beyond the available knee clearance at 9" above the finish floor or ground shall not be considered toe clearance.
306.2.5 Width. Toe clearance shall be 30" wide min.
306.3 Knee Clearance.
306.3.1 General. Space under an element between 9" and 27" above the finish floor or ground shall be considered knee clearance and shall comply with 306.3.
306.3.2 Max Depth. Knee clearance shall extend 25" max under an element at 9" above the finish floor or ground.
306.3.3 min Required Depth. Where knee clearance is required under an element as part of a clear floor space, the knee clearance shall be 11" deep min at 9" above the finish floor or ground, and 8" deep min at 27" above the finish floor or ground.
306.3.4 Clearance Reduction. Between 9" and 27" above the finish floor or ground, the knee clearance shall be permitted to reduce at a rate of 1" in depth for each 6" in height.
306.3.5 Width. Knee clearance shall be 30" wide min.



307 PROTRUDING OBJECTS

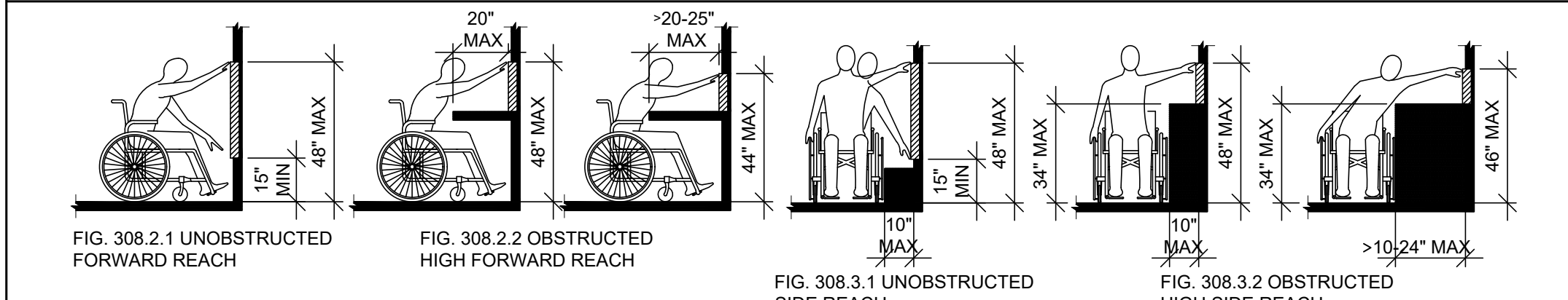
307.2 Protrusion Limits. Objects with leading edges more than 27" and not more than 80" above the finish floor or ground shall protrude 4" max horizontally into the circulation path.
307.4 Vertical Clearance. Vertical clearance shall be 80" high min. Guardsrails or other barriers shall be provided where the vertical clearance is less than 80" high. The leading edge of such guardrail or barrier shall be located 27" max above the finish floor or ground.
307.5 Required Clear Width. Protruding objects shall not reduce the clear width required for accessible routes.



308 REACH RANGES

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48" max and the low forward reach shall be 15" min above the finish floor or ground.
308.2.2 Obstructed High Reach. Where a high forward reach is over an obstruction, the clear floor space shall extend beyond the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48" max where the reach depth is 20" max. Where the reach depth exceeds 20", the high forward reach shall be 44" max and the reach depth shall be 25" max.
308.3.1 Unobstructed. Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48" max and the low side reach shall be 15" min above the finish floor or ground.
308.3.2 Obstructed High Reach. Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34" max and the depth of the obstruction shall be 24" max. The high side reach shall be 48" max for a reach depth of 10" max. Where the reach depth exceeds 10", the high side reach shall be 46" max for a reach depth of 24" max.

REACH RANGES



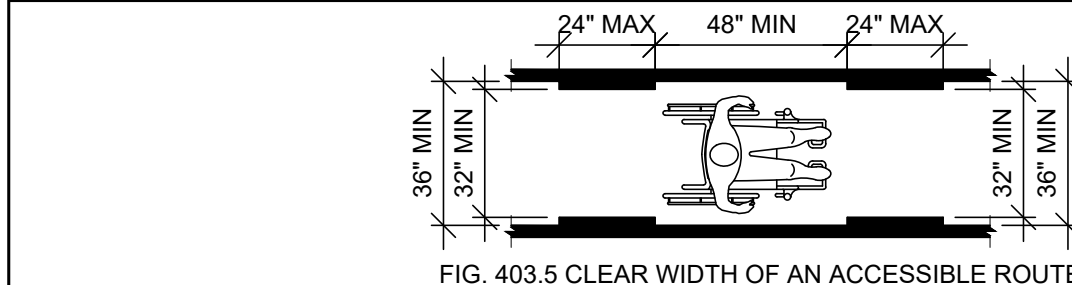
309 OPERABLE PARTS

309.2 Clear Floor Space. A clear floor or ground space complying with 305 shall be provided.
309.3 Height. Operable parts shall be placed within one or more of the reach ranges specified in 308.
309.4 Operation. 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 max.

403 WALKING SURFACES

403.2 Floor or Ground Surface. Floor or ground surfaces shall comply with 302.
403.3 Slope. The running slope of walking surfaces shall not be steeper than 1:20. The cross slope of walking surfaces shall not be steeper than 1:48.
403.4 Changes in Level. Changes in level shall comply with 303.
403.2 Floor or Ground Surface. Floor or ground surfaces shall comply with 302.
403.3 Slope. The running slope of walking surfaces shall not be steeper than 1:20. The cross slope of walking surfaces shall not be steeper than 1:48.
403.4 Changes in Level. Changes in level shall comply with 303.

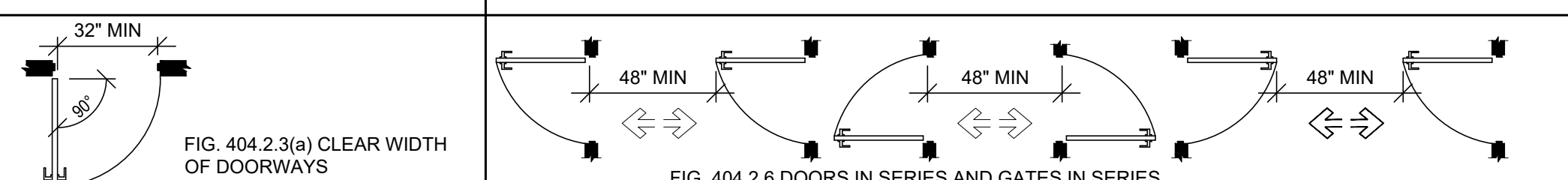
403.5 CLEAR WIDTH OF AN ACCESSIBLE ROUTE



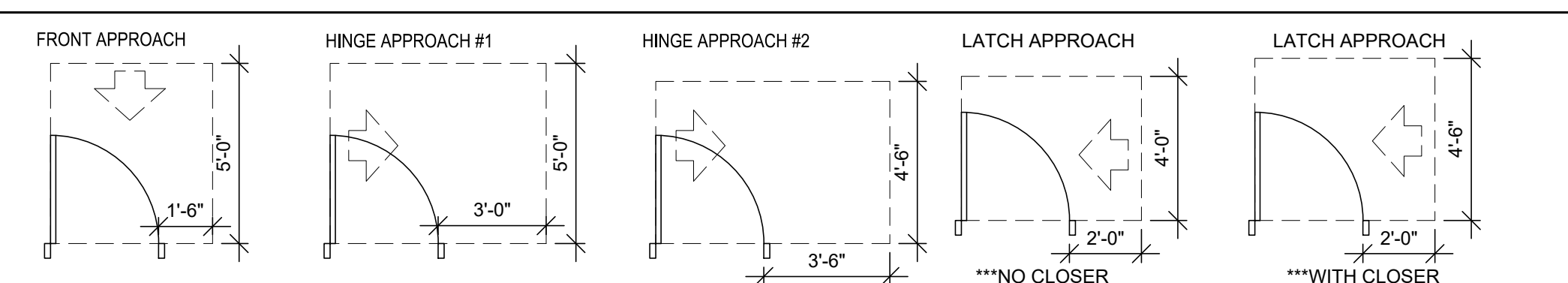
404 DOORS

404.2.2 Double-Leaf Doors and Gates. At least one of the active leaves of doorways with two leaves shall comply with 404.2.3 and 404.2.4.
404.2.3 Clear Width. Door openings shall provide a clear width of 32" min. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24" deep shall provide a clear opening of 36" min. There shall be no projections into the required clear opening width lower than 34" above the finish floor or ground. Projections into the clear opening width between 34" and 80" above the finish floor or ground shall not exceed 4".
404.2.4 Maneuvering Clearances. min maneuvering clearances at doors and gates shall comply with 404.2.4. Maneuvering clearances shall extend the full width of the doorway and the required latch side or hinge side clearance.
404.2.5 Thresholds. Thresholds, if provided at doorways, shall be $\frac{1}{2}$ " high max. Raised thresholds and changes in level at doorways shall comply with 302 and 303.
404.2.6 Doors in Series and Gates in Series. The distance between two hinged or pivoted doors in series and gates in series shall be 48" min plus the width of doors or gates swinging into the space.
404.2.7 Door and Gate Hardware. Handles, pulls, latches, locks, and other operable parts on doors and gates shall comply with 309.4. Operable parts of such hardware shall be 34" min and 48" max above the finish floor or ground. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides.
404.2.8.1 Door Closers and Gate Closers. Door closers and gate closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds min.
404.2.9 Door/Gate Opening Force. Fire doors shall have a min opening force allowable by the appropriate administrative authority. The force for pushing or pulling open a door/gate other than fire doors shall be as follows:
Interior hinged doors and gates: 5 pounds max. Sliding or folding doors: 5 pounds max.

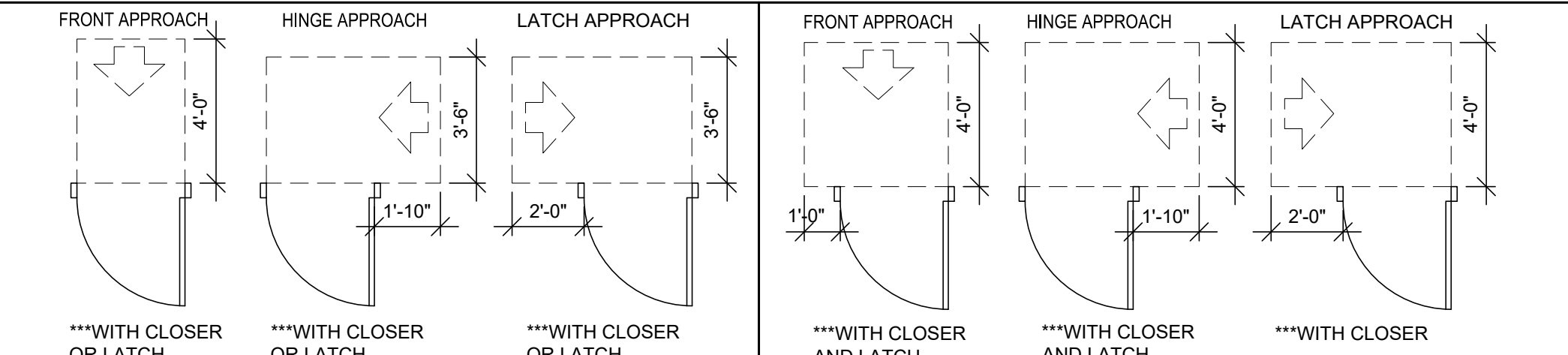
CLEAR DOOR WIDTH DOORS AND GATES IN SERIES



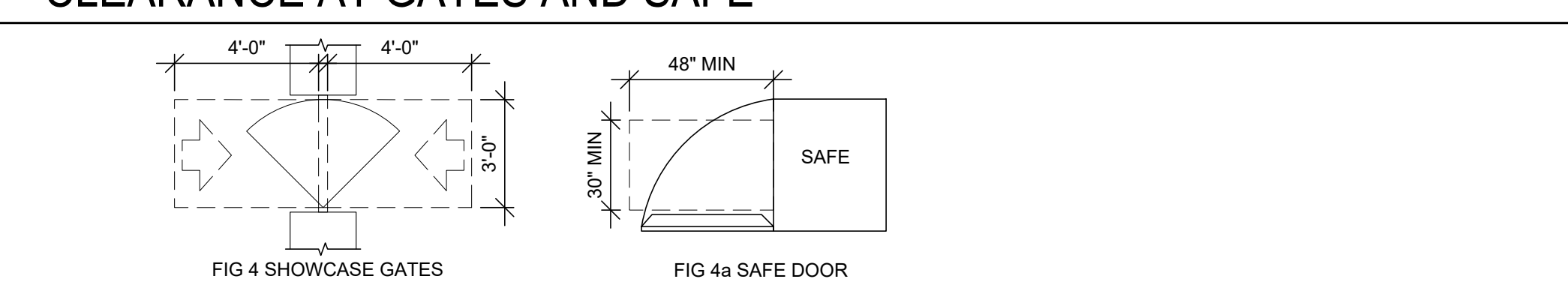
404.2.4 PULL SIDE MANEUVERING CLEARANCES AT DOOR



404.2.4 PUSH SIDE MANEUVERING CLEARANCES AT DOOR



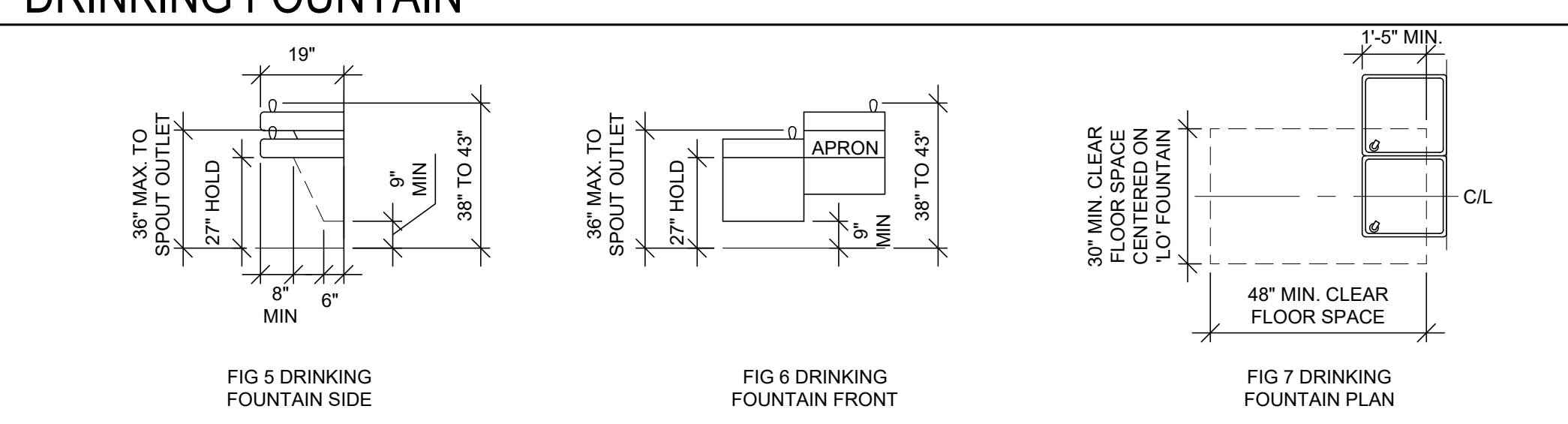
CLEARANCE AT GATES AND SAFE



602 DRINKING FOUNTAINS

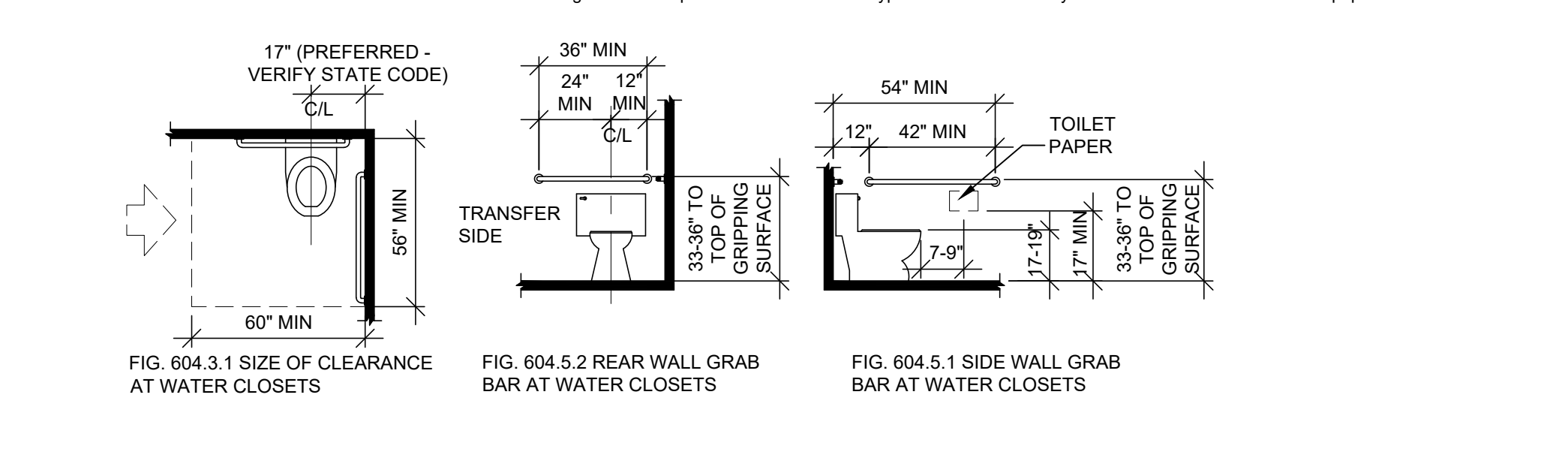
602.2 Clear Floor Space. Units shall have a clear floor or ground space complying with 305 positioned for a forward approach and centered on the unit. Knee and toe clearance complying with 306 shall be provided.
602.3 Operable Parts. Operable parts shall comply with 309.
602.4 Spout Height. Spout outlets shall be 38" max above the finish floor or ground.
602.5 Spout Location. The spout shall be located 15" min from the vertical support and 5" max from the front edge of the unit, including bumpers.
602.6 Water Flow. The spout shall provide a flow of water 4" high min and shall be located 5" max from the front of the unit. The angle of the water stream shall be measured horizontally relative to the front face of the unit. Where spouts are located less than 3" of the front of the unit, the angle of the water stream shall be 30 degrees max. Where spouts are located between 3" and 5" max from the front of the unit, the angle of the water stream shall be 15 degrees max.
602.7 Drinking Fountains for Standing Persons. Spout outlets of drinking fountains for standing persons shall be 38" min and 43" max above the finish floor or ground.

DRINKING FOUNTAIN



604 WATER CLOSETS

604.2 Location. The water closet shall be positioned with a wall or partition to the rear and to one side. The centerline of the water closet shall be 16" min to 18" max from the side wall. Water closets shall be arranged for a left-hand or right-hand approach.
604.3.1 Size. Clearance around a water closet shall be 60" min measured perpendicular from the side wall and 56" min measured perpendicular from the rear wall.
604.3.2 Overlap. The required clearance around the water closet shall be permitted to overlap the water closet, associated grab bars, dispensers, sanitary napkin disposal units, coat hooks, shelves, accessible routes, clear floor space and clearances required at other fixtures, and the turning space. No other fixtures or obstructions shall be located within the required water closet clearance.
604.4 Seats. The seat height of a water closet above the finish floor shall be 17" min and 19" max measured to the top of the seat. Seats shall not be sprung to return to a lifted position.
604.5.1 Side Wall. The side wall grab bar shall be 42" long min, located 12" max from the rear wall and extending 54" min from the rear wall.
604.5.2 Rear Wall. The rear wall grab bar shall be 36" long min and extend from the centerline of the water closet 12" min on one side and 24" min on the other side.
604.6 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309. Flush controls shall be located on the open side of the water closet
604.7 Dispensers. Toilet paper dispensers shall comply with 309.4 and shall be 7" min and 9" max in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 15" min and 48" max above the finish floor and shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

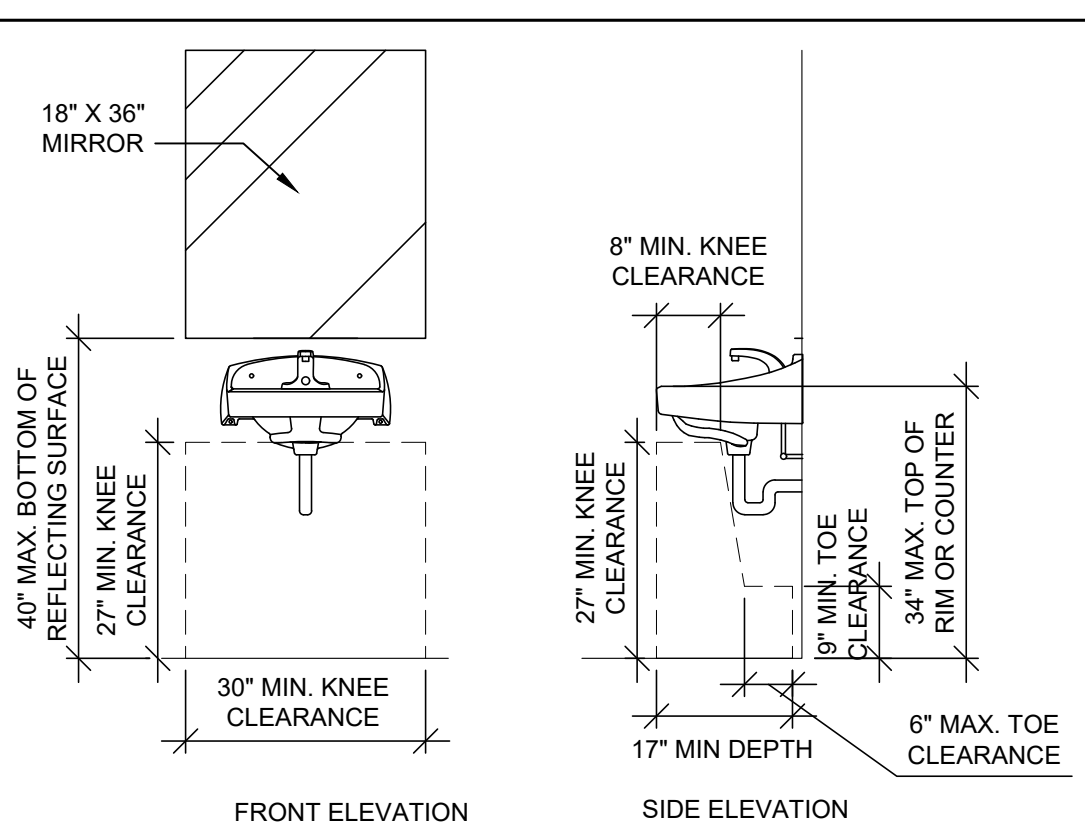


GENERAL NOTES

1. THE INTENTION OF THIS SHEET IS TO SHOW THE REQUIREMENTS OF THE 2009 ADA DESIGN STANDARDS. BASED ON PROJECT LOCATION, STATE OR LOCAL ACCESSIBILITY CODES MAY ALSO APPLY TO THE PROJECT. IF THERE IS A DISCREPANCY BETWEEN THE FEDERAL, STATE, OR LOCAL CODE THEN THE STRICTER OF THE CODES SHALL BE ENFORCED IN THAT SITUATION. THE COMPLETE FEDERAL AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES CAN BE FOUND AT: <http://www.access-board.gov/ada-aba/final.pdf>
2.
3.
4.
5.
6.

606 LAVATORIES AND MIRRORS

606.2 Clear Floor Space. A clear floor space complying with 305, positioned for a forward approach, and knee and toe clearance complying with 306 shall be provided.
606.3 Height. Lavatories and sinks shall be installed with the front of the higher of the rim or counter surface 34" max above the finish floor or ground.
606.4 Faucets. Controls for faucets shall comply with 309. Hand-operated metering faucets shall remain open for 10 seconds min.
606.5 Exposed Pipes and Surfaces. Water supply and drain pipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.
603.3 Mirrors. Mirrors located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 40" max above the finish floor or ground. Mirrors not located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 35" max above the finish floor or ground.



609 GRAB BARS

609.2.1 Circular Cross Section. Grab bars with circular cross sections shall have an outside diameter of $\frac{1}{2}$ " min and 2" max.
609.3 Spacing. The space between the wall and the grab bar shall be $\frac{1}{2}$ ". The space between the grab bar and projecting objects below and at the ends shall be $\frac{1}{2}$ " min. The space between the grab bar and projecting objects above shall be 12" min.
609.4 Position of Grab Bars. Grab bars shall be installed in a horizontal position, 33" min and 36" max above the finish floor measured to the top of the gripping surface.
609.5 Surface Hazards. Grab bars and any wall or other surfaces adjacent to grab bars shall be free of sharp or abrasive elements and shall have rounded edges.
609.6 Fittings. Grab bars shall not rotate within their fittings.
609.7 Installation. Grab bars shall be installed in any manner that provides a gripping surface at the specified locations and that does not obstruct the required clear floor space.
609.8 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds is applied at any point on the grab bar, fastener, mounting device, or supporting structure.

703 SIGNS

703.1 General. Signs shall comply with 703. Where both visual and tactile characters are required, either one sign with both visual and tactile characters, or two separate signs, one with visual, and one with tactile characters, shall be provided.
703.2 Raised Characters. Raised characters shall comply with 703.2 and shall be duplicated in braille complying with 703.3. Raised characters shall be installed in accordance with 703.4.
703.2.1 Depth. Raised characters shall be $\frac{1}{32}$ " min above their background.
703.2.2 Case. Characters shall be uppercase.
703.2.3 Style. Characters shall be sans serif. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.
703.2.4 Character Proportions. Characters shall be selected from fonts where the width of the uppercase letter "O" is 55 percent min and 110 percent max of the height of the uppercase letter "I".
703.2.5 Character Height. Character height measured vertically from the baseline of the character shall be $\frac{5}{8}$ " min and 2" max based on the height of the uppercase letter "I". EXCEPTION: Where separate raised and visual characters with the same information are provided, raised character height shall be permitted to be 1/2" min.
703.2.6 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 15 percent max of the height of the character.
703.2.7 Character Spacing. Character spacing shall be measured between the two closest points of adjacent raised characters within a message, excluding word spaces. Where characters have rectangular cross sections, spacing between individual raised characters shall be $\frac{1}{8}$ " min and 4 times the raised character stroke width max. Where characters have other cross sections, spacing between individual raised characters shall be $\frac{1}{16}$ inch min and 4 times the raised character stroke width max at the base of the cross sections, and $\frac{1}{8}$ " min and 4 times the raised character stroke width max at the top of the cross sections. Characters shall be separated from raised borders and decorative elements 3/8" min.
703.2.8 Line Spacing. Spacing between the baselines of separate lines of raised characters within a message shall be 135 percent min and 170 percent max of the raised character height.
703.3 Braille. Braille shall be contracted (Grade 2) and shall comply with 703.3 and 703.4.
703.3.1 Dimensions and Capitalization. Braille dots shall have a domed or rounded shape and shall comply with Table 703.3.1. The indication of an uppercase letter or letters shall only be used before the first word of sentences, proper nouns and names, individual letters of the alphabet, initials, and acronyms.
703.3.2 Position. Braille shall be positioned below the corresponding text. If text is multi-lined, braille shall be placed below the entire text. Braille shall be separated 3/8" min from any other tactile characters and 3/8" min from raised borders and decorative elements.
703.4 Installation Height and Location. Signs with tactile characters shall comply with 703.4.
703.4.1 Height Above Finish Floor or Ground. Tactile characters on signs shall be located 48" min above the finish floor or ground surface, measured from the baseline of the lowest tactile character and 60" max above the finish floor or ground surface, measured from the baseline of the highest tactile character.
703.4.2 Location. Where a tactile sign is provided at a door, the sign shall be located alongside the door at the latch side. Where a tactile sign is provided at double doors with one active leaf, the sign shall be located on the inactive leaf. Where a tactile sign is provided at double doors with two active leaves, the sign shall be located to the right of the right hand door. Where there is no wall space at the latch side of a single door or at the right side of double doors, signs shall be located on the nearest adjacent wall. Signs containing tactile characters shall be located so that a clear floor space of 18" min by 18" min, centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45 degree open position.
EXCEPTION: Signs with tactile characters shall be permitted on the push side of doors with closers and without hold-open devices.
703.5 Visual Characters. Visual characters shall comply with 703.5.
EXCEPTION: Where visual characters comply with 703.2 and are accompanied by braille complying with 703.3, they shall not be required to comply with 703.5.2 through 703.5.9.
703.5.1 Finish and Contrast. Characters and their background shall have a non-glare finish. Characters shall contrast with their background with either light characters on a dark background or dark characters on a light background.
703.5.2 Case. Characters shall be uppercase or lowercase or a combination of both.
703.5.3 Style. Characters shall be conventional in form. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.
703.5.4 Character Proportions. Characters shall be selected from fonts where the width of the uppercase letter "O" is 55 percent min and 110 percent max of the height of the uppercase letter "I".
703.5.5 Character Height. min character height shall comply with Table 703.5.5. Viewing distance shall be measured as the horizontal distance between the character and an obstruction preventing further approach towards the sign. Character height shall be based on the uppercase letter "I".
703.5.6 Height From Finish Floor or Ground. Visual characters shall be 40" min above the finish floor or ground.
703.5.7 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 10 percent min and 30 percent max of the height of the character.
703.5.8 Character Spacing. Character spacing shall be measured between the two closest points of adjacent characters, excluding word spaces. Spacing between individual characters shall be 10 percent min and 35 percent max of character height.
703.5.9 Line Spacing. Spacing between the baselines of separate lines of characters within a message shall be 135 percent min and 170 percent max of the character height.
703.6 Pictograms. Pictograms shall comply with 703.6.
703.6.1 Pictogram Field. Pictograms shall have a field height of 6" min. Characters and braille shall not be located in the pictogram field.
703.6.2 Finish and Contrast. Pictograms and their field shall have a non-glare finish. Pictograms shall contrast with their field with either a light pictogram on a dark field or a dark pictogram on a light field.
703.6.3 Text Descriptors. Pictograms shall have text descriptors located directly below the pictogram field. Text descriptors shall comply with 703.2, 703.3 and 703.4.
703.7 Symbols of Accessibility. Symbols of accessibility shall comply with 703.7.
703.7.1 Finish and Contrast. Symbols of accessibility and their background shall have a non-glare finish. Symbols of accessibility shall contrast with their background with either a light symbol on a dark background or a dark symbol on a light background.



STORE ADDRESS

6231 McKee Rd, Suite A
Fitchburg, WI 53719

STORE NUMBER

WI 021



REVISION

NO.	DESCRIPTION

DATE

02/02/2022

PROJECT

1674.010

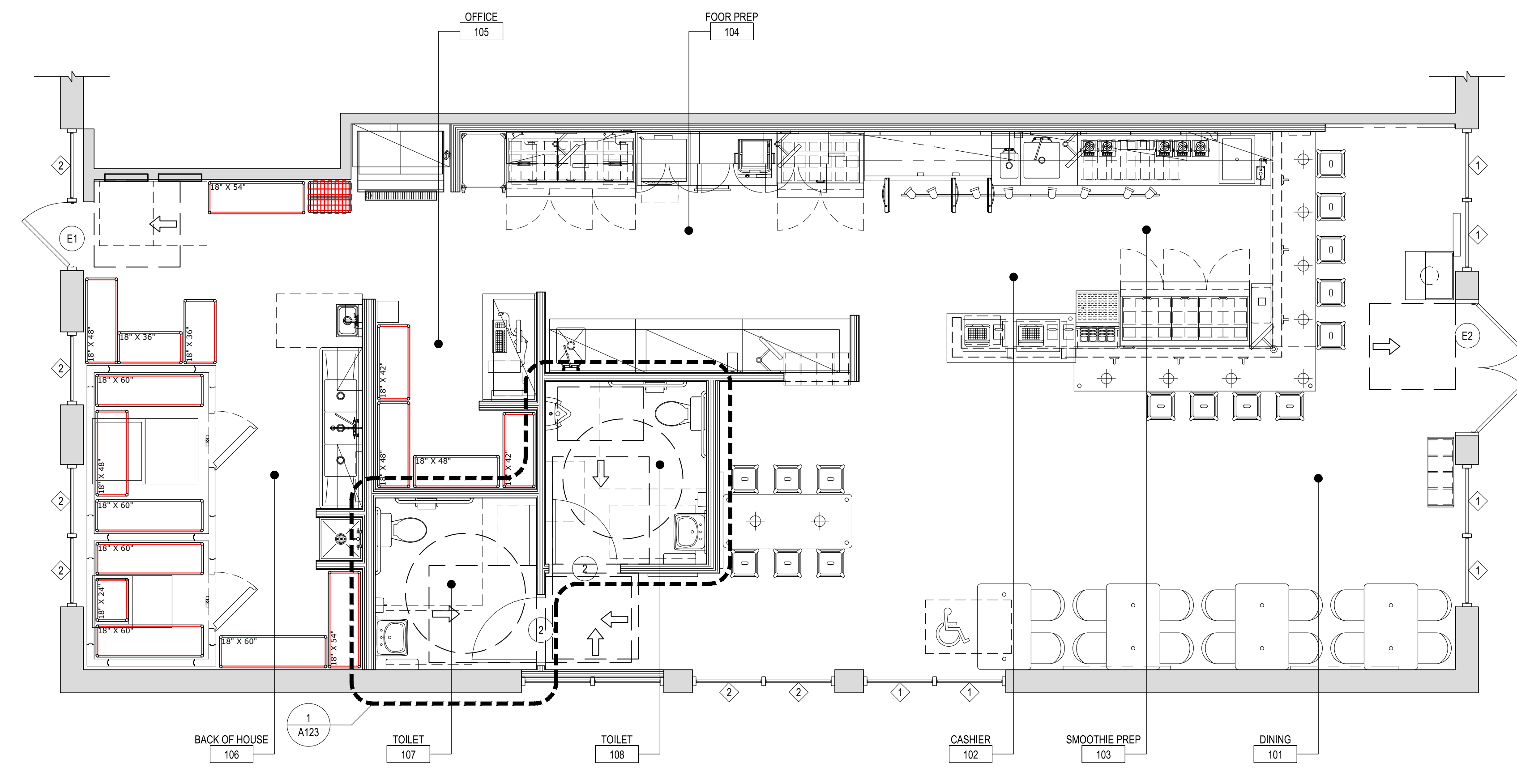
FOR INTERNAL USE ONLY
PROTOTYPE NUMBER

V2.0

SHEET NAME
**ACCESSIBILITY
DETAILS**

SHEET NUMBER

A001



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

KEY NOTES			
NO.	ITEM DESCRIPTION	NO.	ITEM DESCRIPTION
1	PROVIDE WINDOW BLINDS TO BE SWF CONTRACT S500 5% SMOKE WITH MANUAL R-SERIES BEAD CHAIN CONTROL, STAINLESS STEEL WITH 3" CLEAR ANODIZED ALUMINUM FASCIA AT STORE FRONT WINDOWS.		
2	BACK WINDOWS TO BE COVERED BY FILM.		

DOOR SCHEDULE							
NO.	SIZE	THK.	MATERIAL	FRAME	TYPE	REMARKS	HARDWARE
1	3'-0" X 6'-8"	1-3/4"	WOOD	METAL	FLUSH SOLID CORE	NEW INTERIOR DOOR	GROUP #1
2	3'-0" X 6'-8"	1-3/4"	WOOD	METAL	FLUSH SOLID CORE	NEW INTERIOR DOOR	GROUP #2
E1	3'-0" X 7'-0"	EXISTING	EXISTING	EXISTING	SERVICE	EXISTING EXTERIOR DOOR	GROUP #E1
E2	3'-0" X 7'-0" (x2)	EXISTING	EXISTING	EXISTING	STOREFRONT	EXISTING EXTERIOR DOOR	GROUP #E2

DOOR NOTES	
GENERAL NOTES	
<ol style="list-style-type: none"> ALL NEW INTERIOR WOOD DOORS ARE TO BE CLEANED AND TOUCHED UP TO RECEIVE NEW SCHEDULED FINISH. LOCKING DEVICES ON REQUIRED EXIT DOORS SHALL NOT REQUIRE THE USE OF A KEY, A TOOL OR SPECIAL KNOWLEDGE OR EFFORT FOR OPERATION FROM THE EGRESS SIDE OF THE DOOR, EXCEPT AS SPECIFICALLY PERMITTED BY SECTION 1008.1.9 (2010 FBC). ALL INTERIOR DOOR LOCKSETS/PASSAGE SETS ARE TO BE HANDICAP ACCESSIBLE WITH LEVER ACTION HANDLES AND MOUNTED AT 40" ABOVE THE FINISHED FLOOR. CONTRACTOR IS TO ADJUST ALL DOORS TO NORMAL WORKING OPERATION, WHICH INCLUDES THE REPAIR OR REPLACEMENT OF HARDWARE AND WEATHER STRIPPING AS REQUIRED. CONTRACTOR TO VERIFY THAT THE EXISTING RESTROOM DOORS HAVE CLOSERS. IF NOT, CONTRACTOR IS TO INSTALL NEW CLOSERS ON EACH RESTROOM DOOR. ALL DOORS SHALL HAVE AN OPENING FORCE OF FIVE POUNDS MAXIMUM. STAINLESS STEEL PLATE TO BE ADDED TO BOTH SIDES OF TOILET ROOM DOOR. 	
DOOR HARDWARE	
<u>GROUP #1 - NEW INTERIOR DOOR:</u>	
1.5	PAIR BUTTS, NEW
1.0	LOCKSET W / LEVER HANDLE
1.0	PEEPHOLE
<u>GROUP #E1 - EXISTING EXTERIOR DOOR HARDWARE:</u>	
1.5	PAIR BUTTS, EXISTING
1.0	LATCH SET WITH RETRACTABLE DEAD BOLT
1.0	DOOR CLOSURES, EXISTING
1.0	THRESHOLD, EXISTING
1.0	DOOR SWEEP, EXISTING
RECOMMEND DOOR TO HAVE VIDEO MONITORING SYSTEM & SHOULD ALWAYS REMAIN LOCKED WHEN CLOSED AND HAVE CONTROLLED ENTRY ACCESS.	
<u>GROUP #2 - NEW INTERIOR DOOR:</u>	
1.5	PAIR BUTTS, NEW
1.0	LOCKSET W / LEVER HANDLE
1.0	DOOR CLOSER, SURFACE MOUNTED
1.0	KICK PLATE, SEE NOTE 7
<u>GROUP #E2 - EXISTING ENTRANCE HARDWARE:</u>	
1.5	PAIR BUTTS, EXISTING
1.0	DEAD BOLT (IN OPEN POSITION DURING BUSINESS HRS)
1.0	DOOR CLOSER, EXISTING
1.0	THRESHOLD, EXISTING
1.0	DOOR SWEEP, EXISTING
1.0	DOOR PULLS, EXISTING
1.0	PUSH PLATE, EXISTING

STORE ADDRESS

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FOR INTERNAL USE ONLY
PROTOTYPE REVISION NUMBER

SHEET NAME
FLOOR PLAN

SHEET NUMBER

A110

GENERAL NOTES

- SEE A500 FOR FLOOR FINISH AND INTERIOR FINISH SPECIFICATIONS
- SEE SHEET A121 FOR WALL PARTITIONS.
- REFER TO 4/A120, 5/A120, & 6/A120 FOR ADDITIONAL FLOOR SLAB TRENCHING INFORMATION.
- ELEVATIONS ARE PROTOTYPICAL AND MAY NOT REFLECT ACTUAL DIMENSIONS OF NOTED CAFE. G.C. TO VERIFY ALL MEASUREMENTS AND ADJUST ACCORDINGLY.

FLOOR FINISH LEGEND

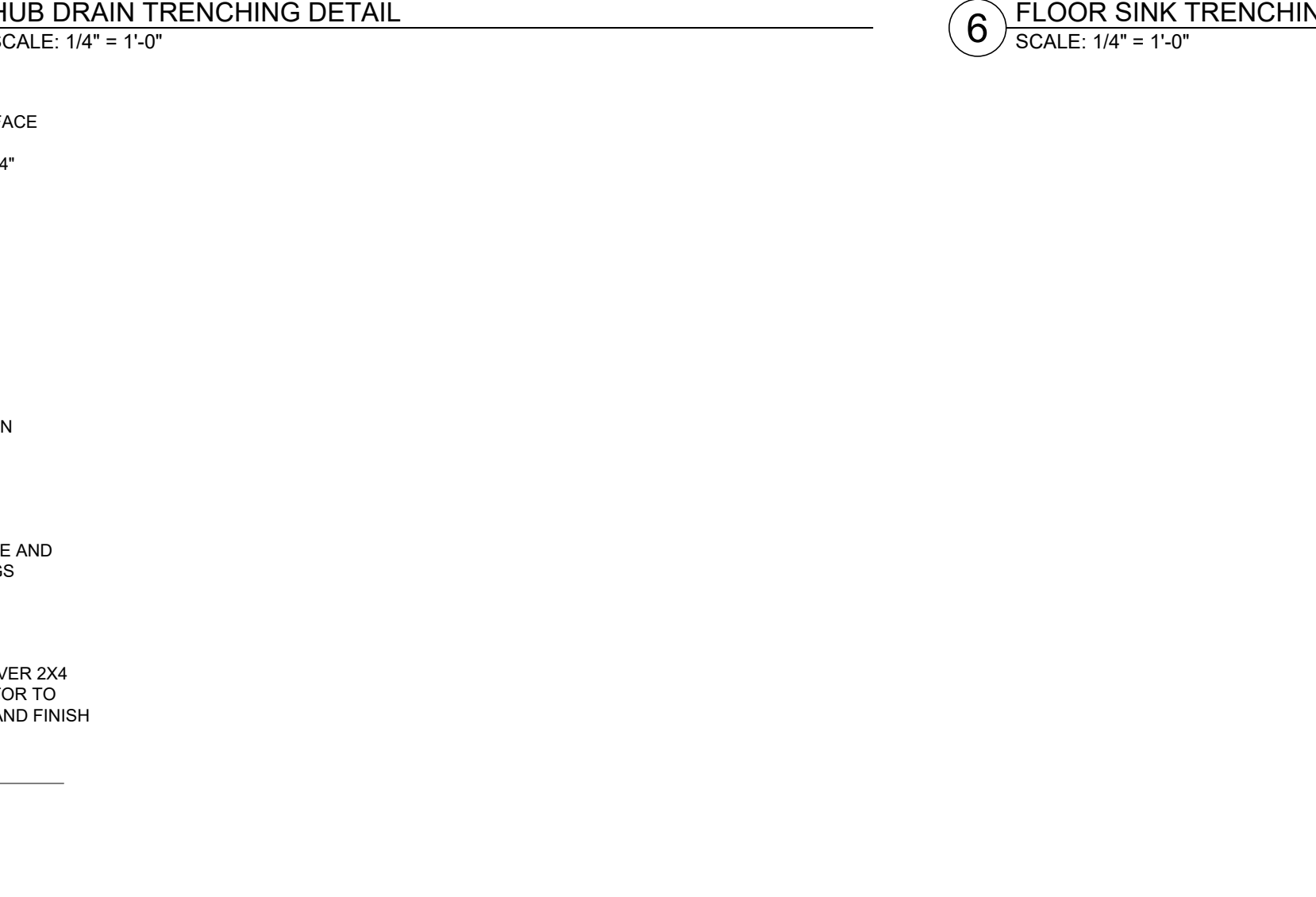
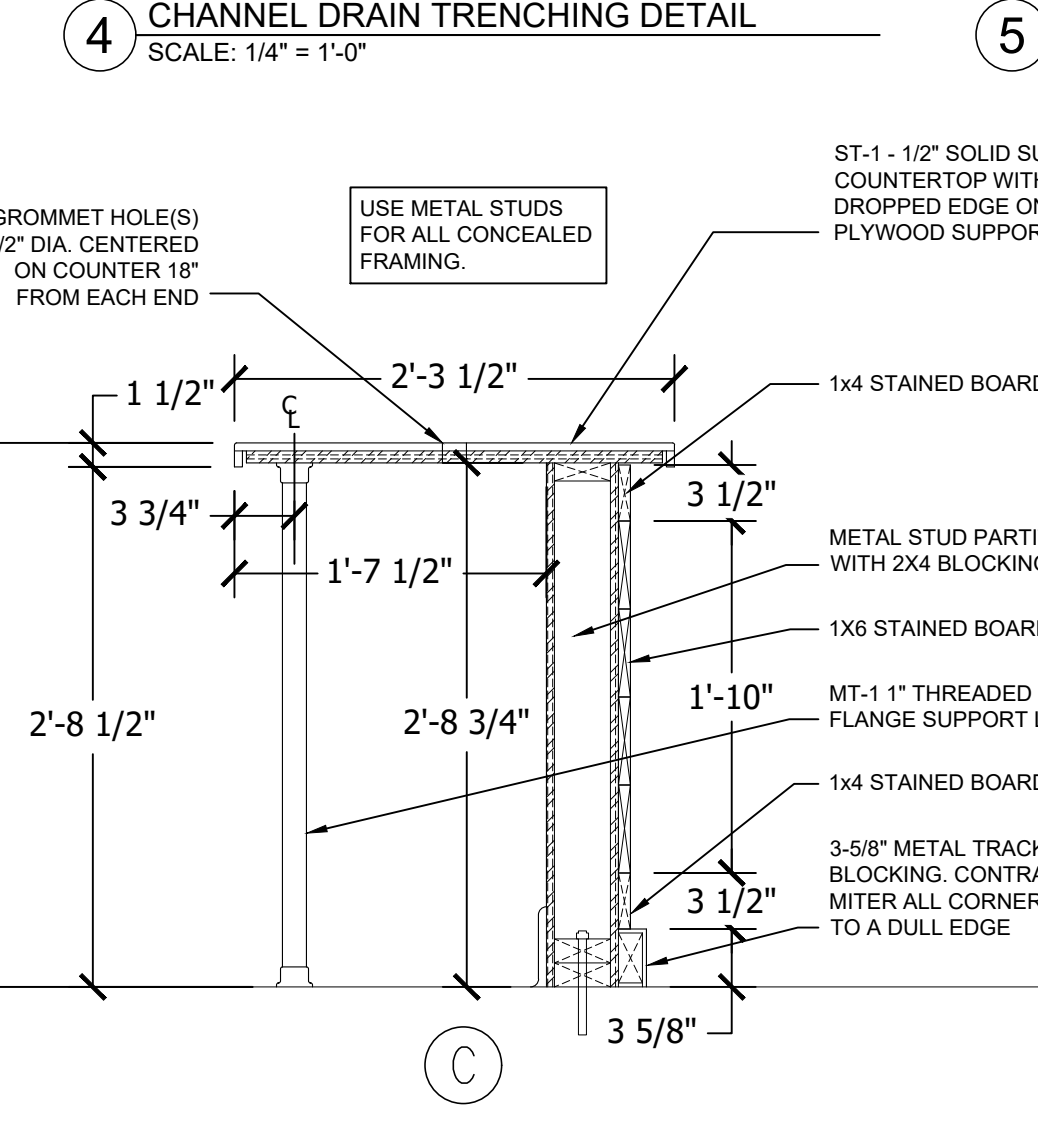
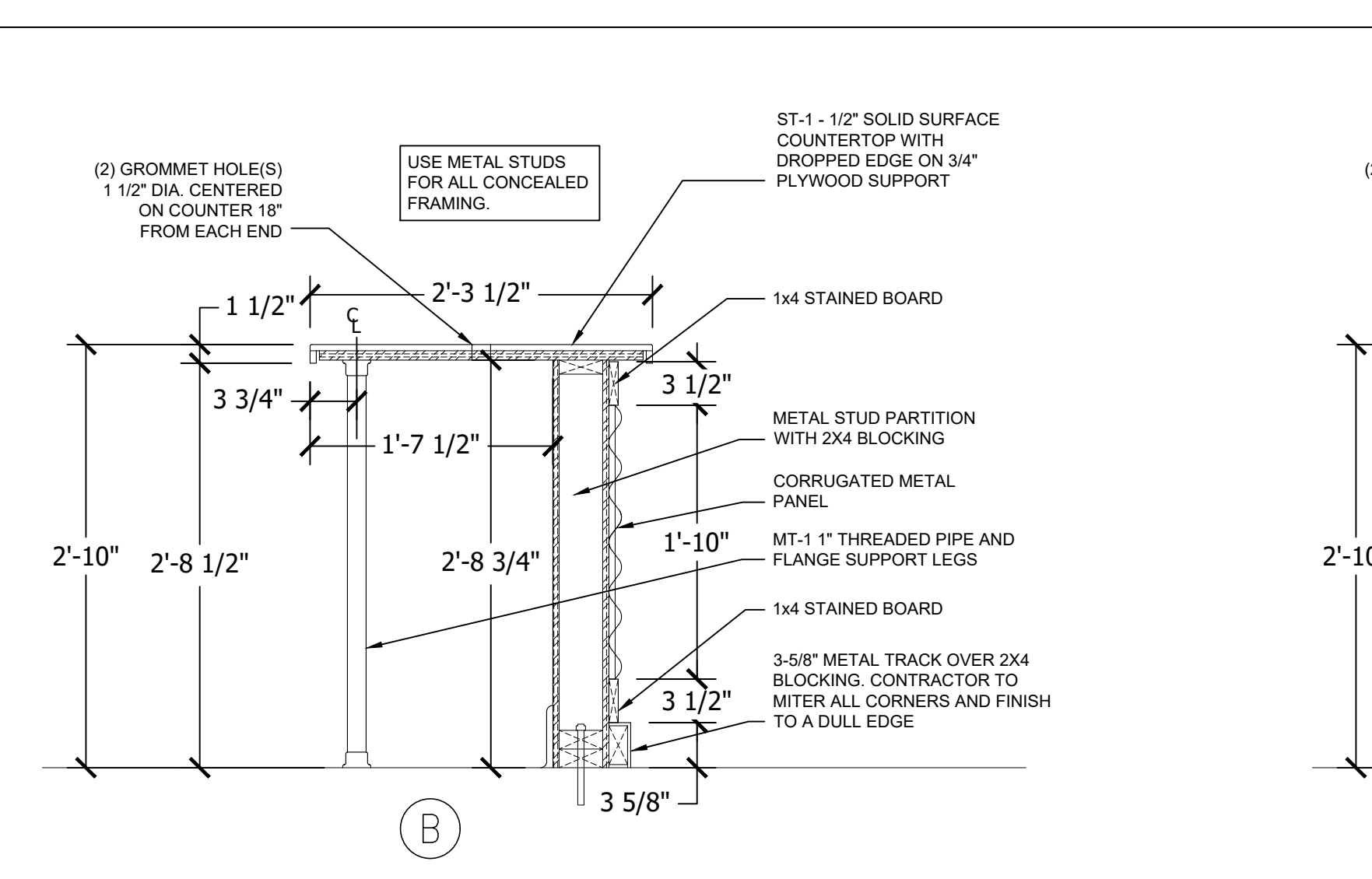
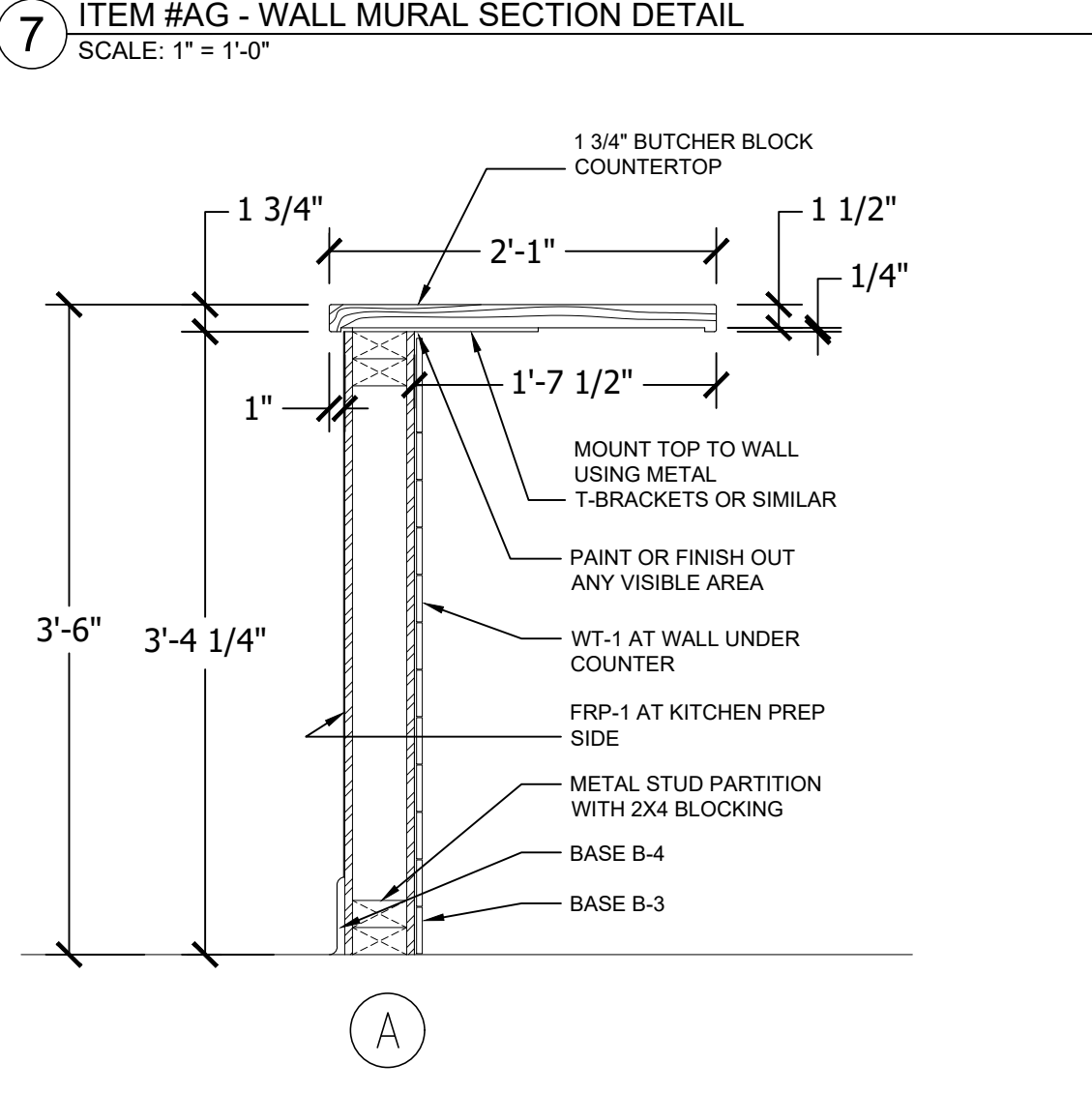
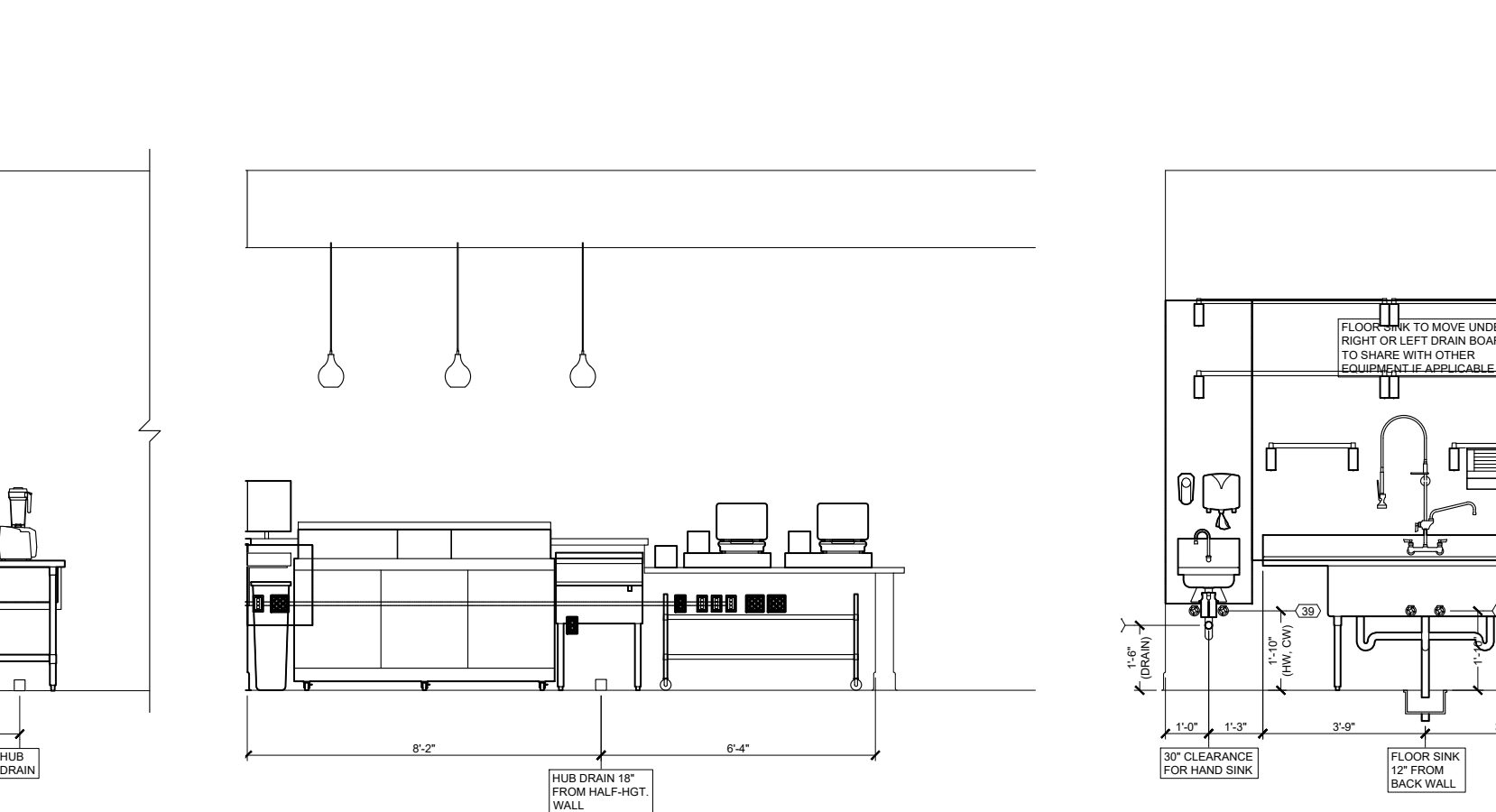
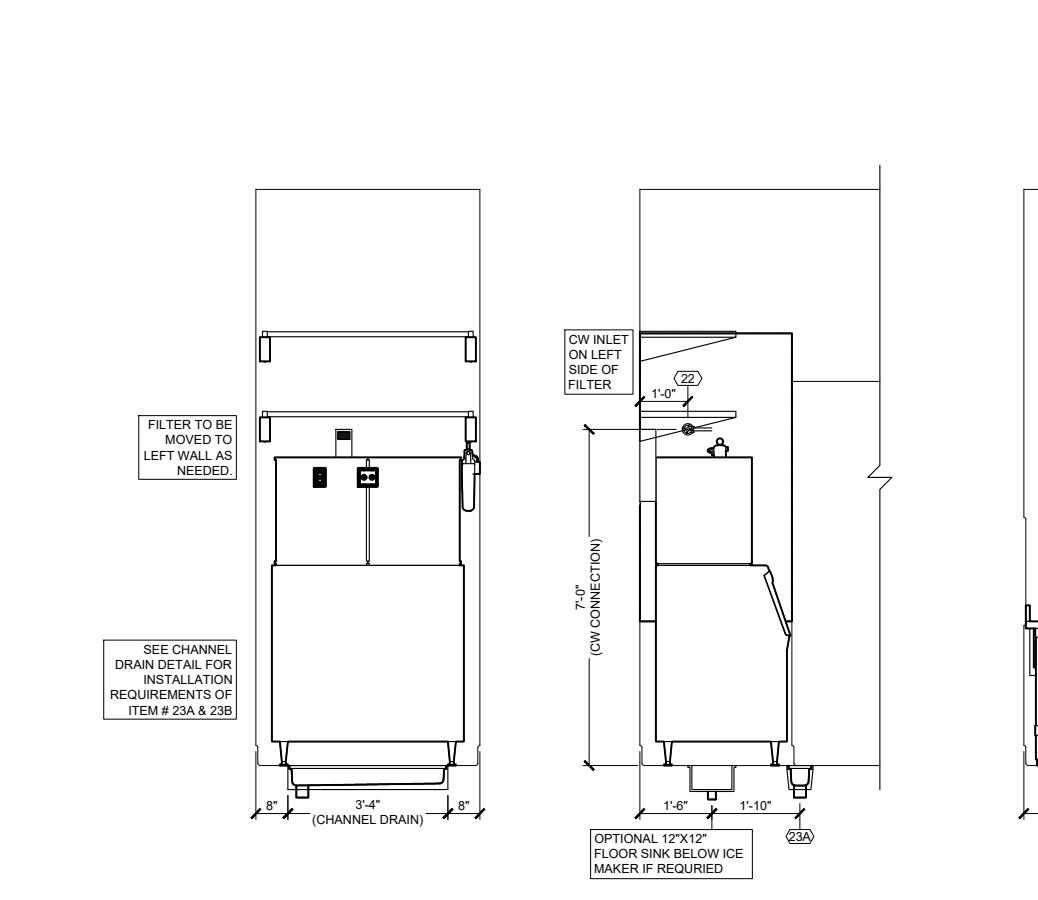
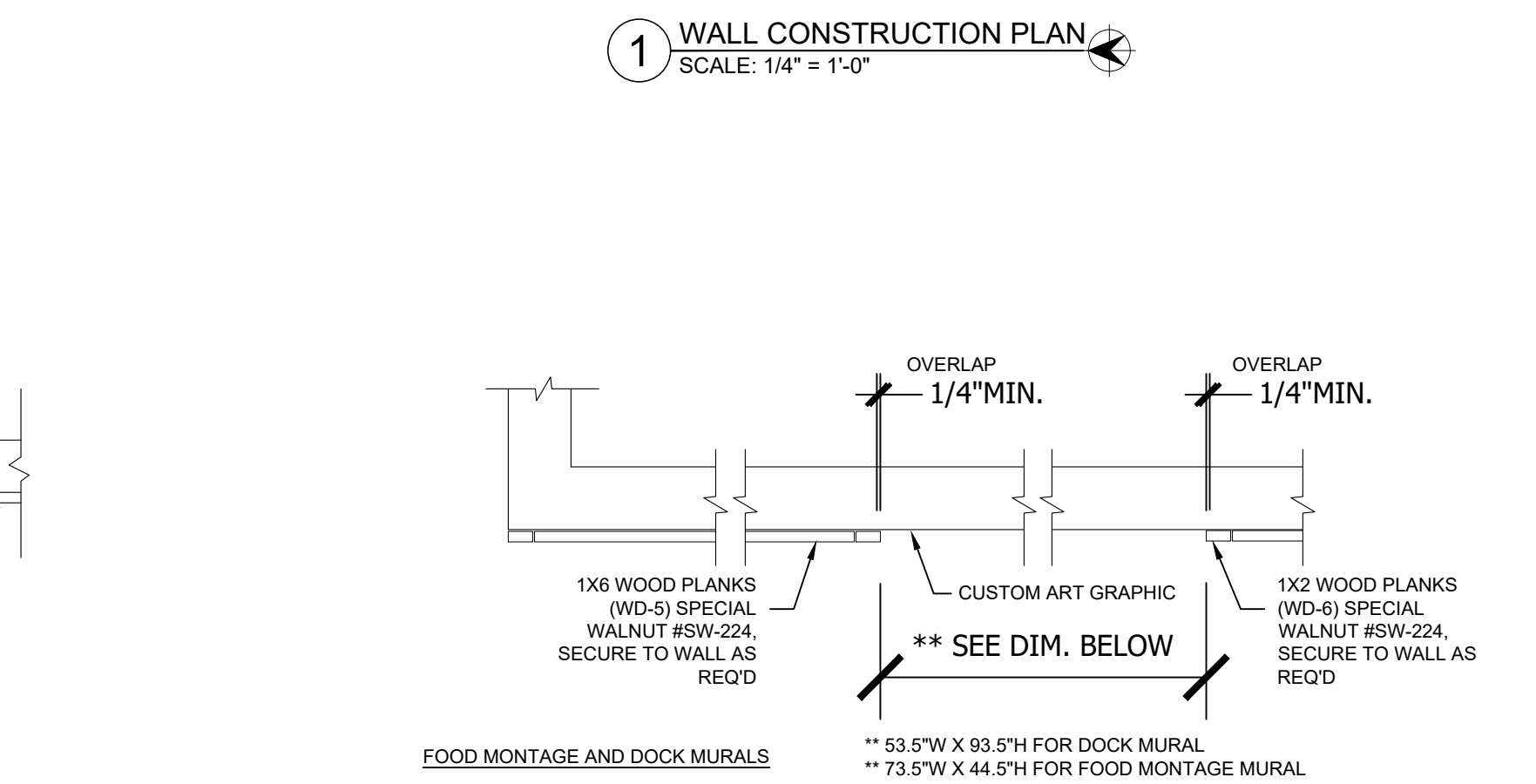
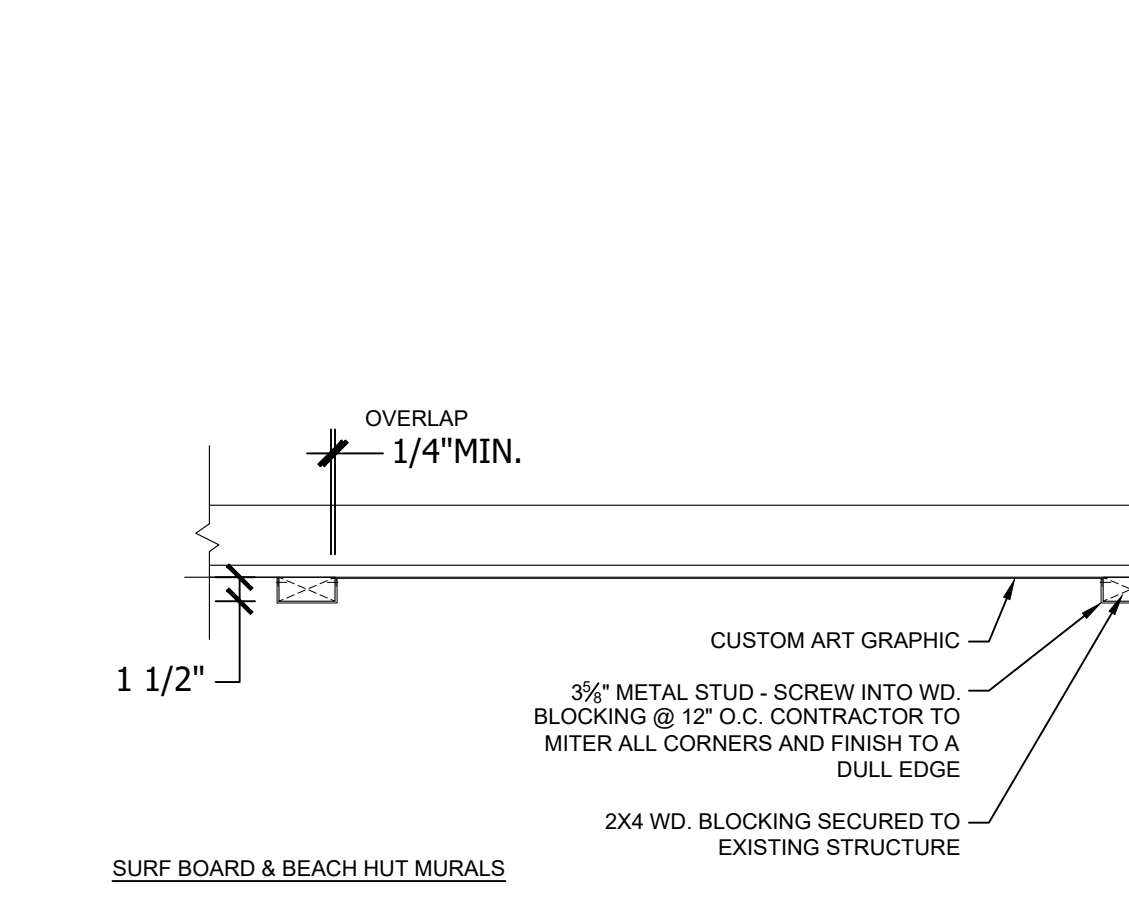
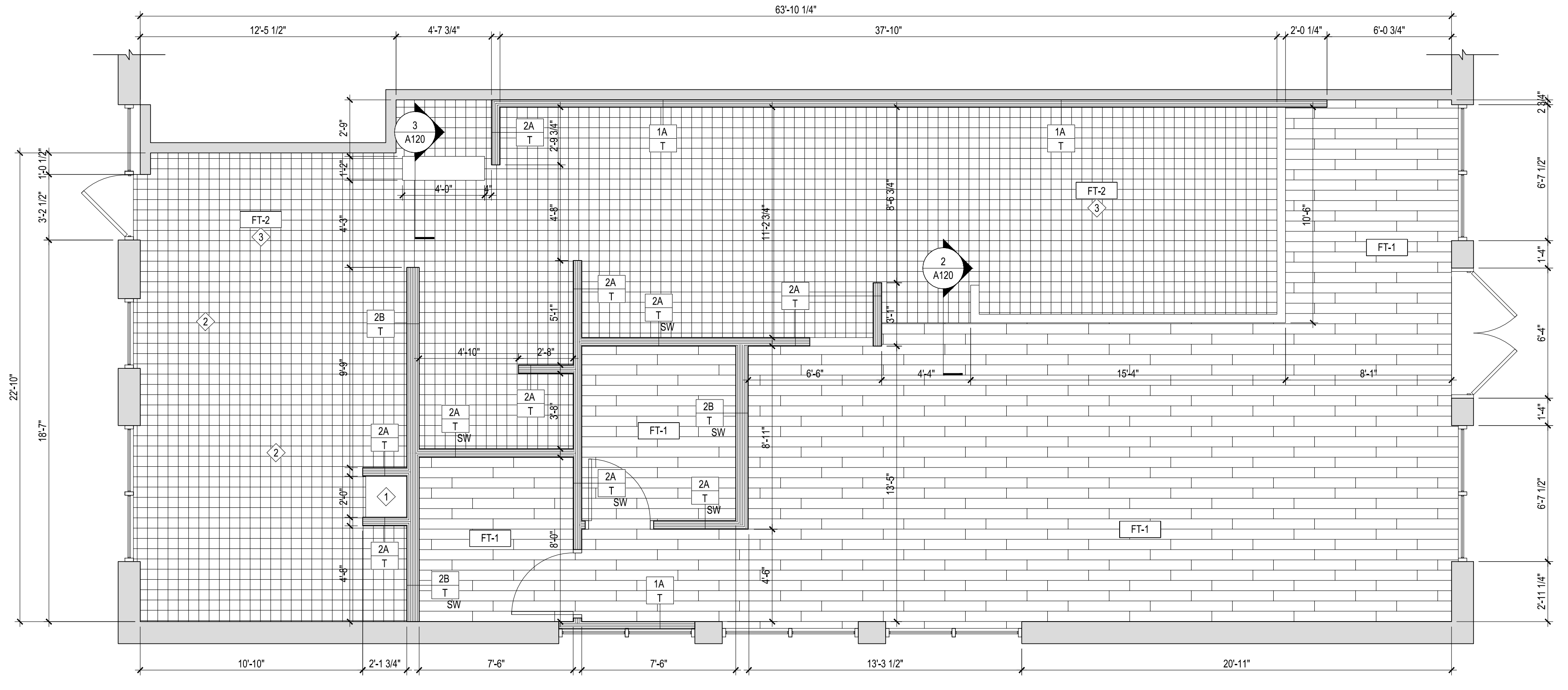
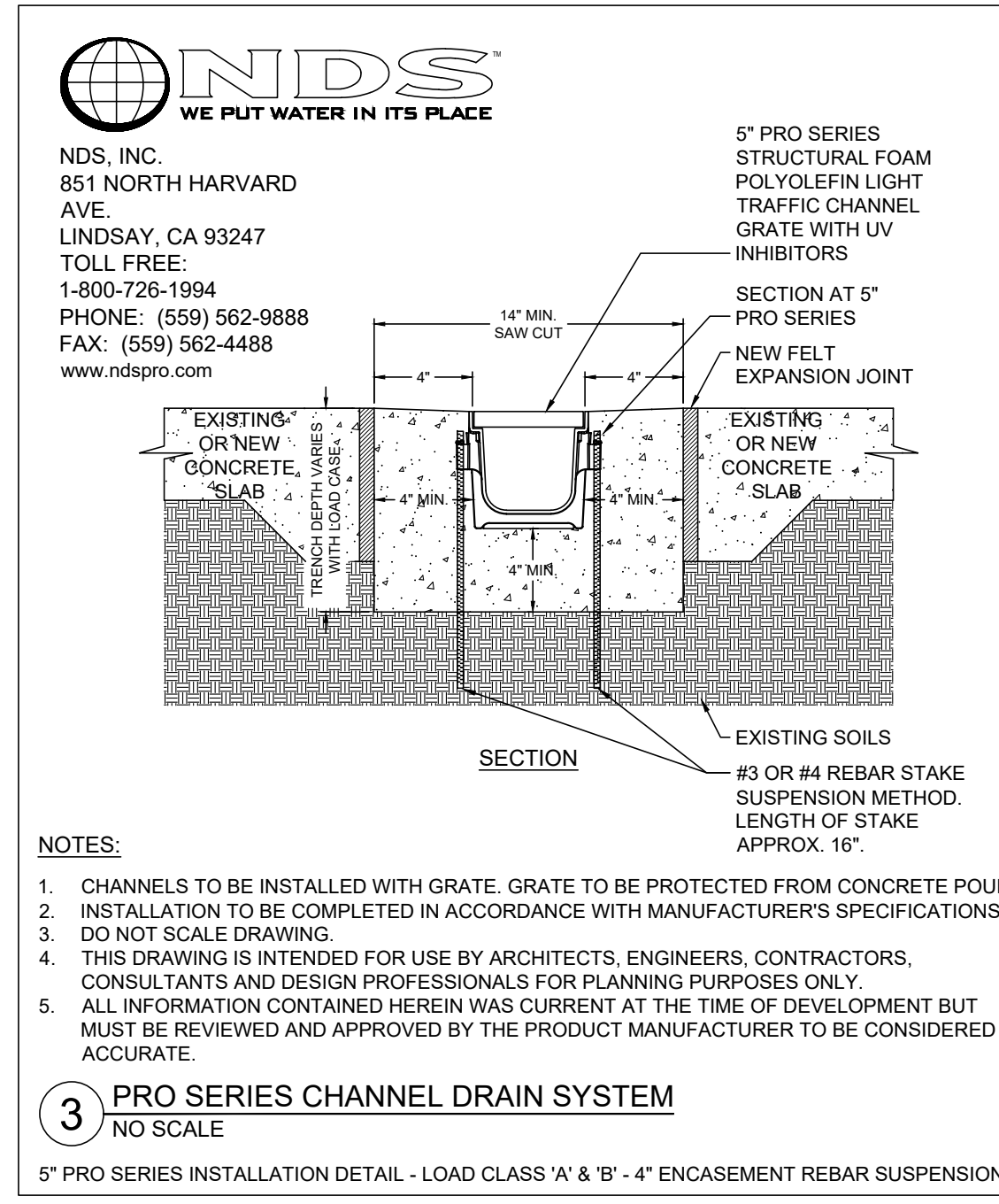
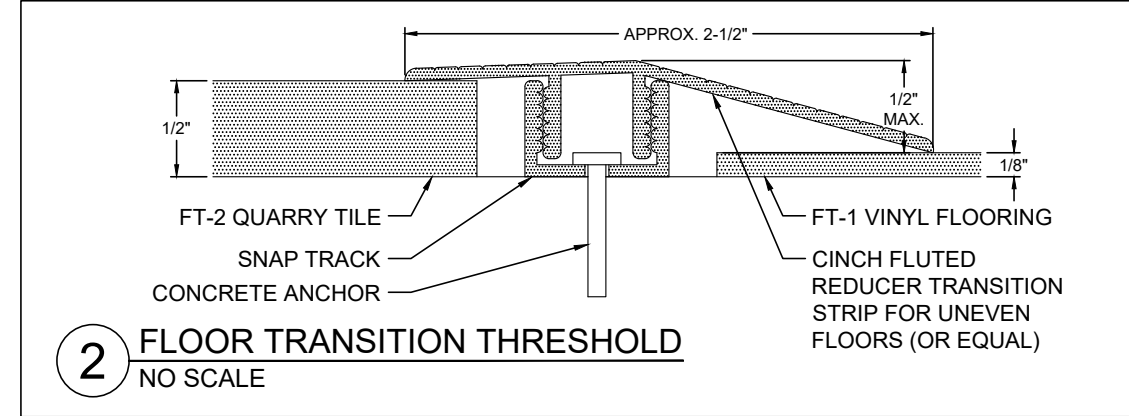
FT-#	DESCRIPTION
FT-1	VINYL FLOORING
FT-2	QUARRY TILE

KEY NOTES

- NO FLOOR TILE AT MOP SINK LOCATION.
- COOLER BASE TO RECEIVE B-4. ENSURE SMOOTH TRANSITION AT BASE AND FLOOR TILE.
- 1/4" SPACERS AT KITCHEN QUARRY TILE

WALL KEY

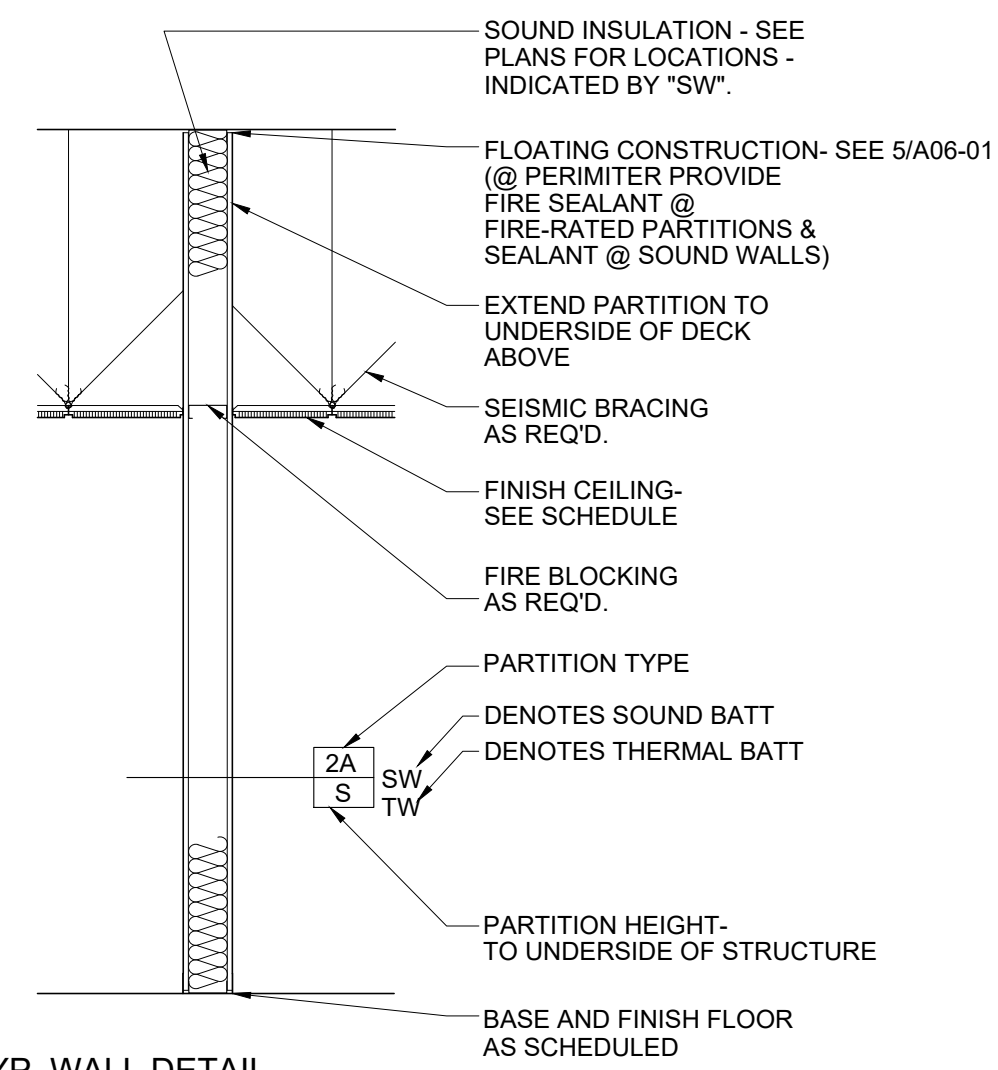
- EXISTING WALL
- WALL TO BE DEMOLISHED
- NEW WALL



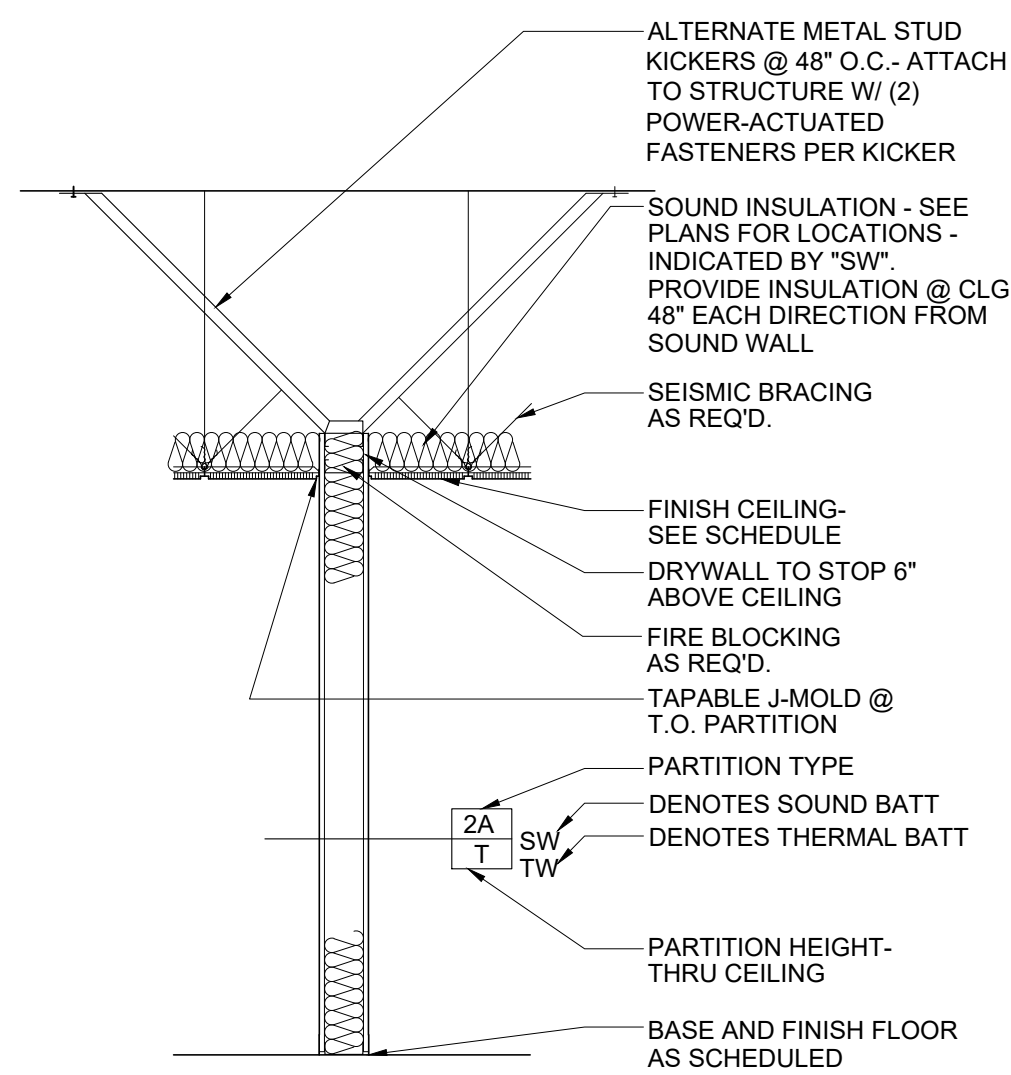
REVISION

NO.	DESCRIPTION

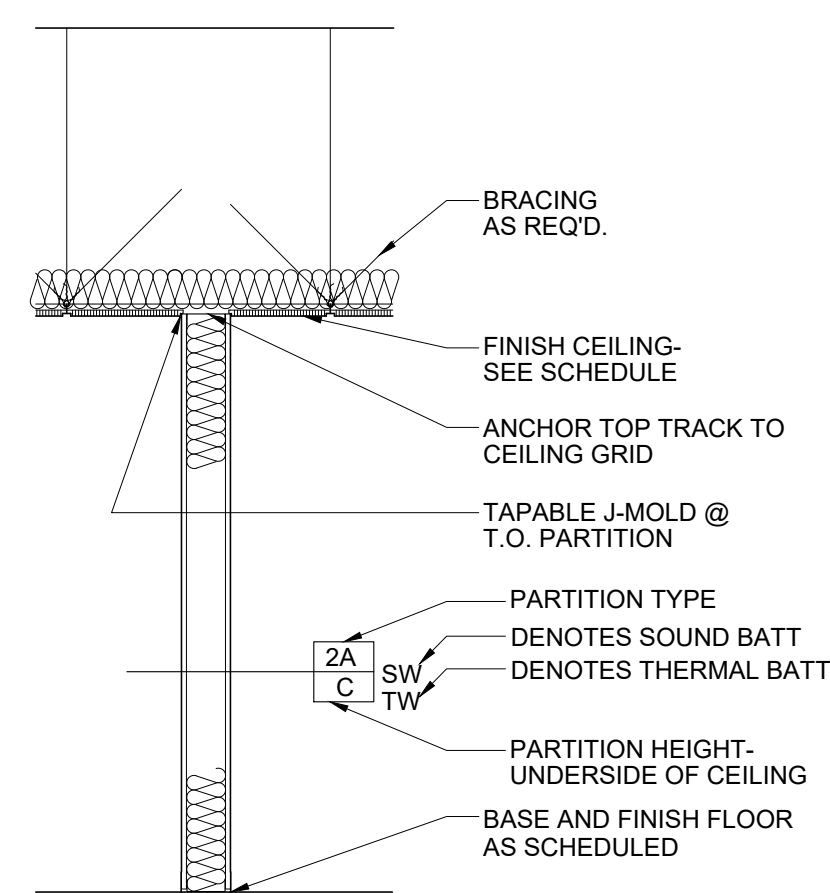
DATE 02/02/2022
PROJECT 1674.010



3 TYP. WALL DETAIL
SCALE: N.T.S.

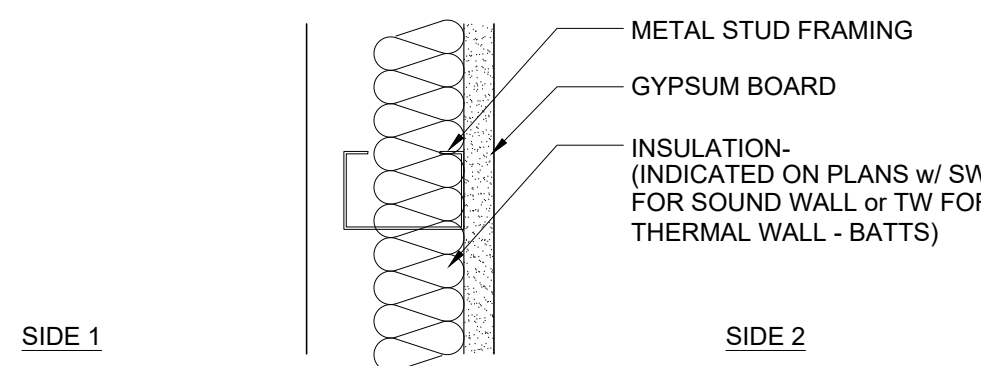


2 TYP. WALL DETAIL
SCALE: N.T.S.



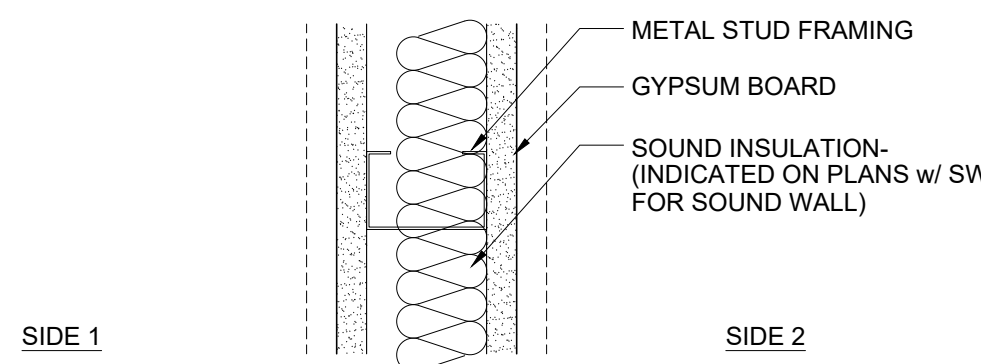
1 TYP. WALL DETAIL
SCALE: N.T.S.

PARTITION TYPE 1 (FURRED PARTITIONS)



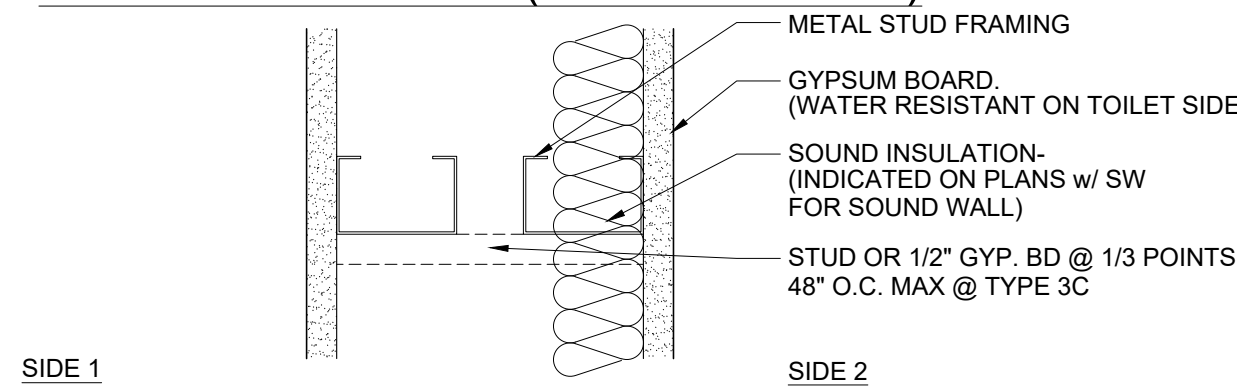
PARTITION TYPE	THK	FIRE RATING	TEST NUMBER	STC RATING	GYPSUM BOARD				FRAMING			NOTES
					SIDE 1		SIDE 2		SIZE	SPACING	GAUGE	
					TYPE	THK	TYPE	THK				
1A	4 1/4"	-	-	-	-	-	-	5/8"	3 5/8"	16" o.c.	MIN. 25ga	
1B	1 1/2"	-	-	-	-	-	-	5/8"	7/8"	16" O.C. VERTICAL	MIN. 25ga	
1C	3 1/8"	-	-	-	-	-	-	5/8"	2 1/2"	16" O.C.	MIN. 25ga	
1D	4 1/4"	-	-	-	-	-	WR	5/8"	3 5/8"	16" O.C.	MIN. 25ga	SEE NOTE B
1E	6 5/8"	-	-	-	-	-	WR	5/8"	6"	16" O.C.	MIN. 25ga	SEE NOTE B

PARTITION TYPE 2 (TYPICAL PARTITIONS)



PARTITION TYPE	THK	FIRE RATING	TEST NUMBER	STC RATING	GYPSUM BOARD				FRAMING			NOTES
					SIDE 1		SIDE 2		SIZE	SPACING	GAUGE	
					TYPE	THK	TYPE	THK				
2A	4 7/8"	-	-	-	-	5/8"	-	5/8"	3 5/8"	16" o.c.	MIN. 25ga	
2B	7 1/4"	-	-	-	-	5/8"	-	5/8"	6"	16" o.c.	MIN. 25ga	
2C	4 7/8"	1 HOUR	UL U465	-	X"	5/8"	X"	5/8"	3 5/8"	16" o.c.	MIN. 25ga	SEE NOTE A
2D	7 1/4"	1 HOUR	UL U465	-	X"	5/8"	X"	5/8"	6"	16" o.c.	MIN. 25ga	SEE NOTE A
2E	4 7/8"	-	-	-	-	WR	5/8"	WR	3 5/8"	16" o.c.	MIN. 25ga	SEE NOTE B
2F	7 1/4"	-	-	-	WR	5/8"	WR	5/8"	6"	16" o.c.	MIN. 25ga	SEE NOTE B
2G	4 7/8"	1 HOUR	UL U465	-	WRX	5/8"	WRX	5/8"	3 5/8"	16" o.c.	MIN. 25ga	SEE NOTE C
2H	7 1/4"	1 HOUR	UL U465	-	WRX	5/8"	WRX	5/8"	6"	16" o.c.	MIN. 25ga	SEE NOTE C
2J	4 7/8"	-	-	-	X"	5/8"	WRX	5/8"	3 5/8"	16" o.c.	MIN. 25ga	SEE NOTE E
2K	7 1/4"	-	-	-	X"	5/8"	WRX	5/8"	6"	16" o.c.	MIN. 25ga	SEE NOTE E

PARTITION TYPE 3 (CAVITY WALLS)



PARTITION TYPE	THK	FIRE RATING	TEST NUMBER	STC RATING	GYPSUM BOARD				FRAMING			NOTES
					SIDE 1		SIDE 2		SIZE	SPACING	GAUGE	
					TYPE	THK	TYPE	THK				
3A	varies	-	----	-	W.R.	5/8"	W.R.	5/8"	3 5/8"	16" o.c.	MIN. 25ga	SEE NOTE D

PARTITION TYPE NOTES

- A. PROVIDE HEAD OF WALL ASSEMBLY HW-D-0060
- B. WR = WATER RESISTANT GYPSUM BOARD
- C. WRX = WATER RESISTANT/FIRE RATED GYPSUM BOARD
- D. WHEN PVC PIPE IS USED, CHASE MUST EITHER BE CAPPED OR PARTITIONS MUST EXTEND TO DECK ABOVE
- E. SMOKE BARRIER PARTITION: - SEAL JOINTS/PENETRATIONS WITH 3M FIR BARRIER WATER TIGHT SEALANT 1003 SL(OR SIMILAR; ALTERNATES TO BE L-RATED)

PARTITION GENERAL NOTES

FRAMING

1. All load bearing partitions shall be constructed per structural drawings and specifications.
2. All non-bearing partitions shall be constructed to limit deflection per building code restrictions and mfr's, whichever is greater. Chase walls shall resist loads perpendicular to shaft.
3. Provide double framing at jambs of frames and cased openings.
4. Screw attach studs to runner track at both sides.
5. Isolate non-bearing framing from structural elements slip connections to prevent the transfer of loads to partition framing.
6. Control joints shall be installed at 30'-0" o.c. (maximum) and at major interruptions in the wall - ie doors, windows and equipment. See elevations and plans for locations and verify locations with Architect.
7. Provide fire retardant blocking for all wall mounted architectural woodwork, finish carpentry, toilet partitions and accessories, railings, shelving and similar mounted items. For mounting heights see interior elevations.
8. Cross bracing at all chase wall framing to be 12" high, 1/2" gyp. bd. or min. 2 1/2" metal studs at 1/3 pts.
9. Framing shall coordinate with all required mechanical, electrical, plumbing, fire protection, data and other related work.
10. Provide approved fire stopping materials at the ceiling plane in partitions which penetrate the ceiling.
11. Top of wall shall be constructed as follows:
S - to structural deck
T - thru ceiling
U - to underside of ceiling

VAPOR BARRIER

1. Provide 6 mil Poly Vapor Barrier over mt. studs & insulation at all exterior wall furring as shown on plan.

GYPSUM BOARD

1. Gypsum board shall be installed per ASTM C 840.
2. Install water resistant gypsum board at plumbing chase walls, within all toilet rooms, janitor closets and all wet areas- see plans.
3. Finish all corners and exposed edges of gypsum board with taped-in metal trim accessories. Use exposed trim only when specifically indicated.
4. Gypsum board partitions shall be taped and sanded smooth with no visible joints.
5. Recessed items shall be installed flush with partition (U.O.N.). Partition depth shall be adjusted to accommodate depth of recessed item.
6. All remaining existing walls and walls affected by demo to be patched and or skim coated for paint finish or laminated with 1/4" gypsum board for smooth paint finish, contractors option.

FIRE-RESISTANT RATED PARTITIONS

1. All partitions indicated to be fire rated shall be constructed in strict accordance with the referenced fire resistance test. If no test is referenced, an industry recognized fire resistance test shall be used.
2. Fire resistant rated partitions shall extend from floor to structural deck above.
3. Approved fire-resistive materials must be used at all penetrations through fire rated assemblies.

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REVISION

DATE 02/02/2022

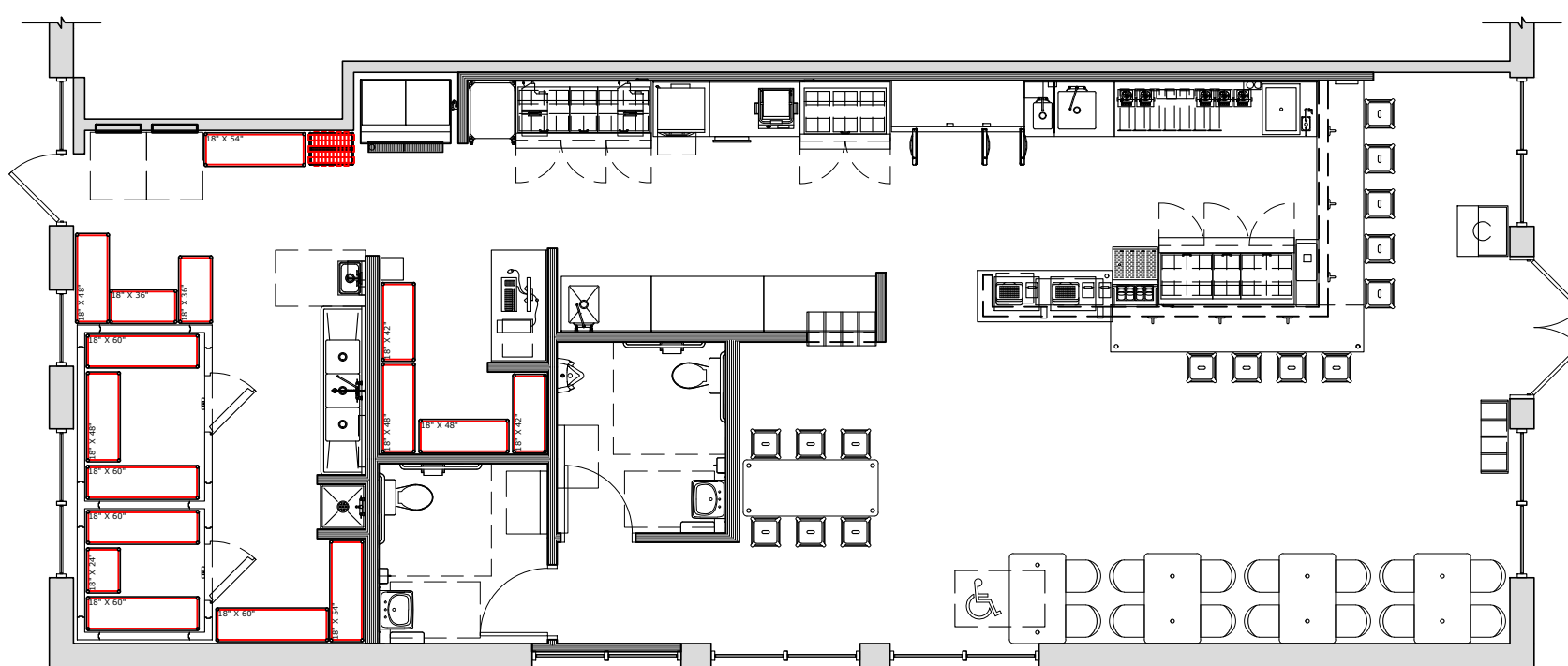
PROJECT 1674.010

FOR INTERNAL USE ONLY
PROTOTYPE REVISION NUMBER

SHEET NAME
WALL PARTITIONS

SHEET NUMBER

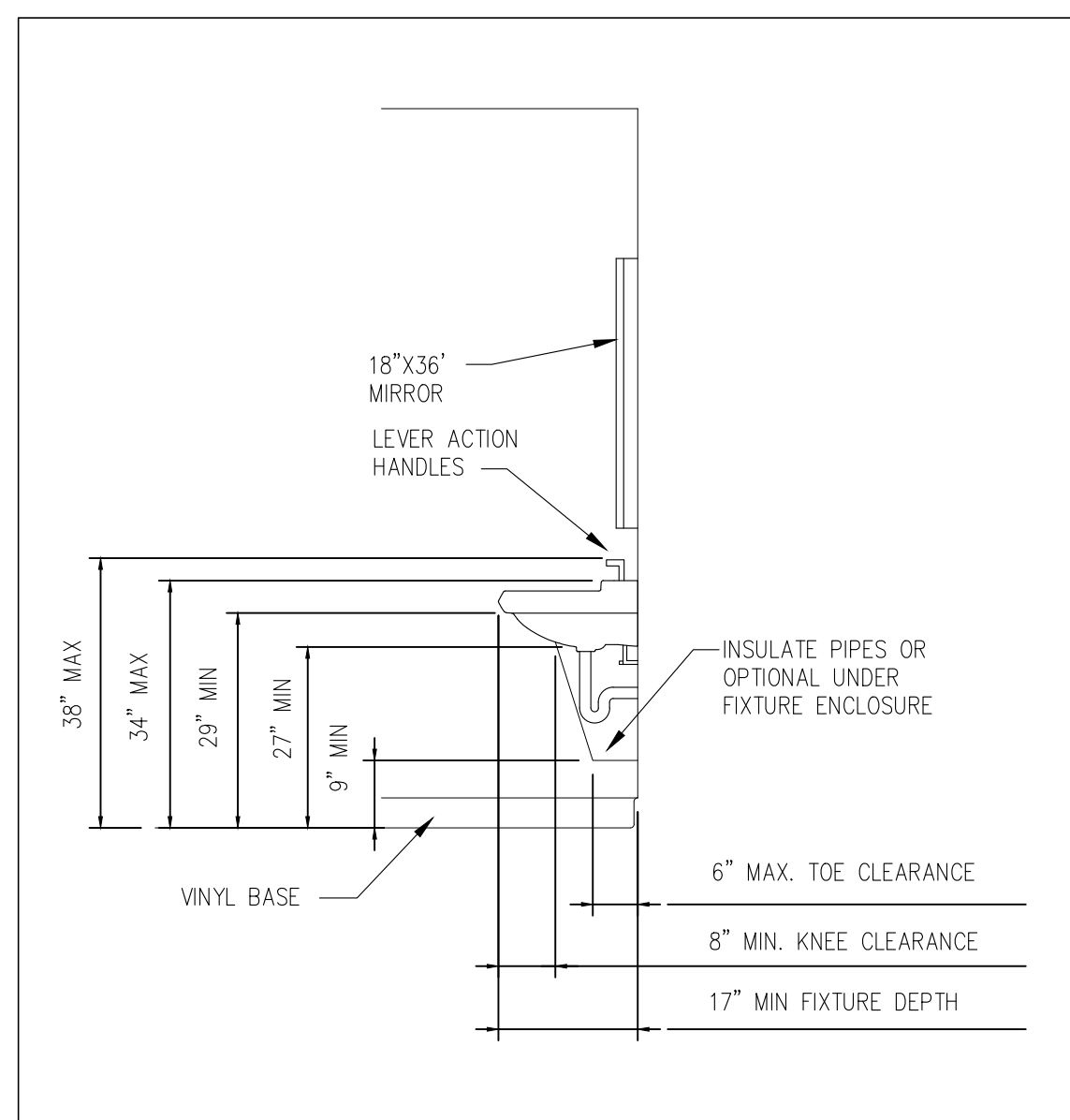
A121



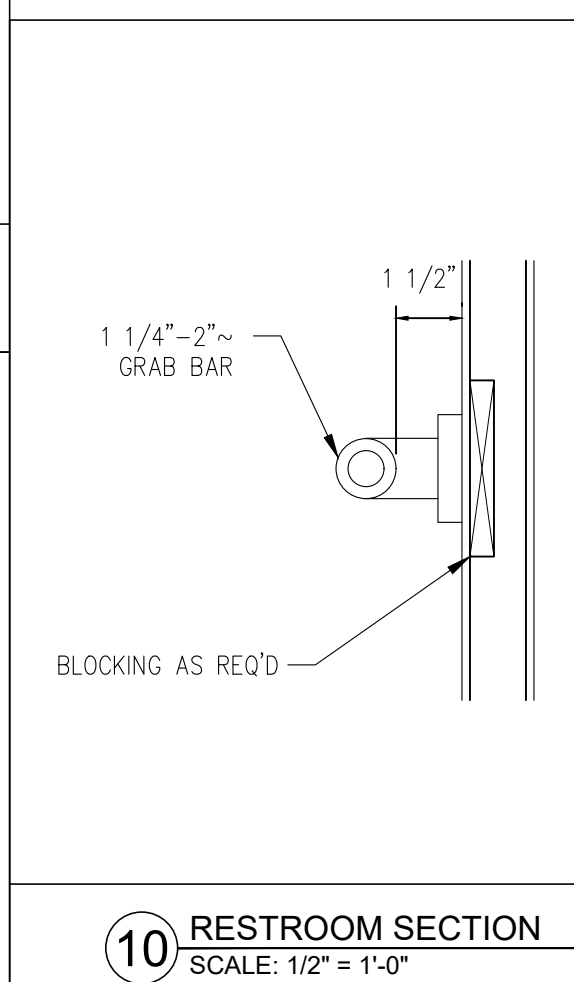
FLOOR PLAN LEGEND
SCALE: 1/8" = 1'-0"

#	TOILET ACCESSORIES SCHEDULE
1	TOILET PAPER DISPENSER
2	36" GRAB BAR. SEE 10/A123 FOR ADDITIONAL INFORMATION.
3	42" GRAB BAR. SEE 10/A123 FOR ADDITIONAL INFORMATION.
4	18" GRAB BAR. SEE 10/A123 FOR ADDITIONAL INFORMATION.
5	PAPER TOWEL DISPENSER
6	18" X 36" MIRROR
7	SOAP DISPENSER
8	30" X 48" CLEAR FLOOR SPACE @ LAVATORY
9	60" X 60" CLEAR FLOOR SPACE @ TOILET
10	60" TURNING DIAMETER
11	BABY CHANGING STATION
12	TRASH CAN
13	FEMININE PRODUCT DISPOSAL

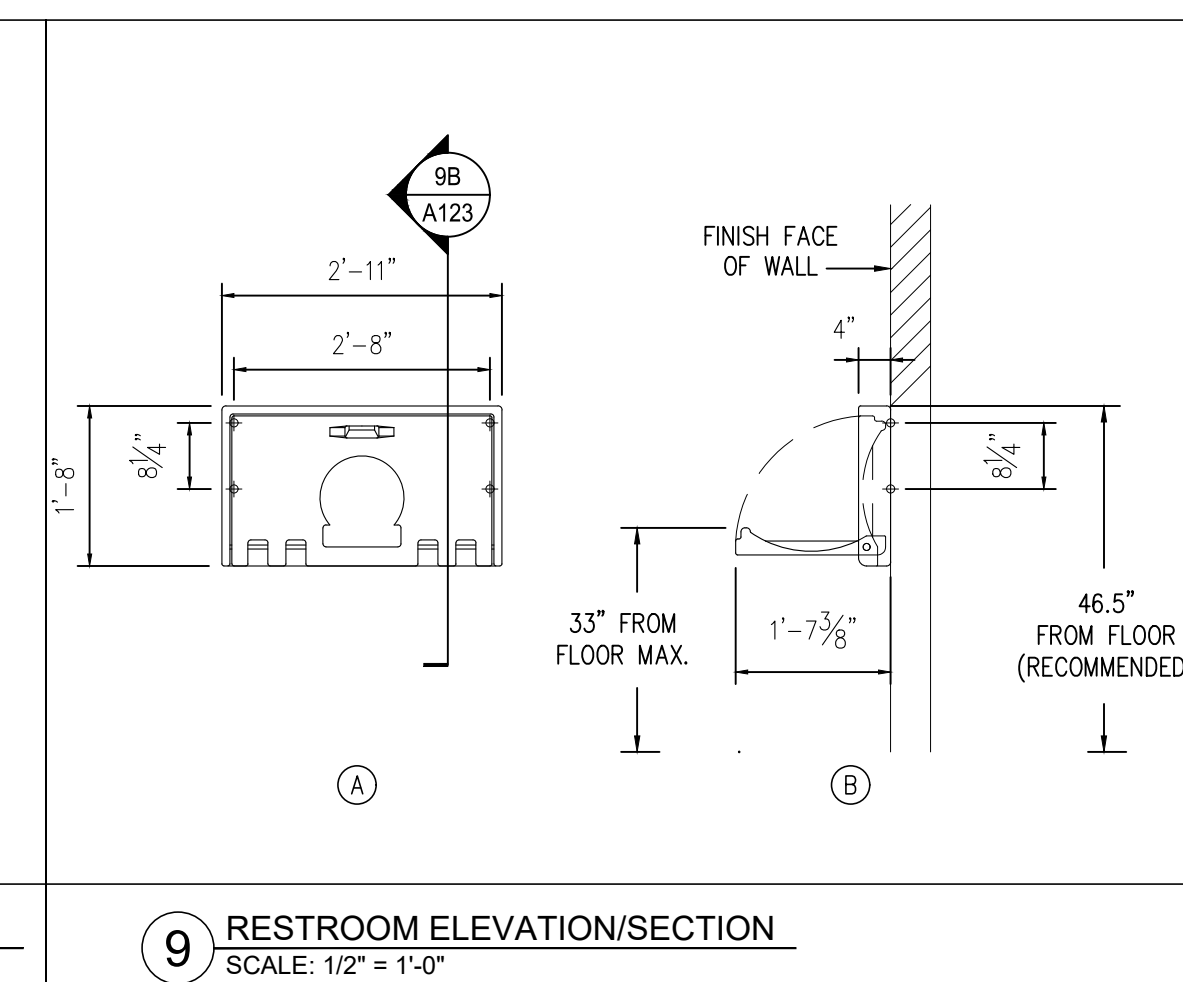
GENERAL NOTES	
1.	SEE A500 FOR FLOOR FINISH AND INTERIOR FINISH SPECIFICATIONS
2.	
3.	



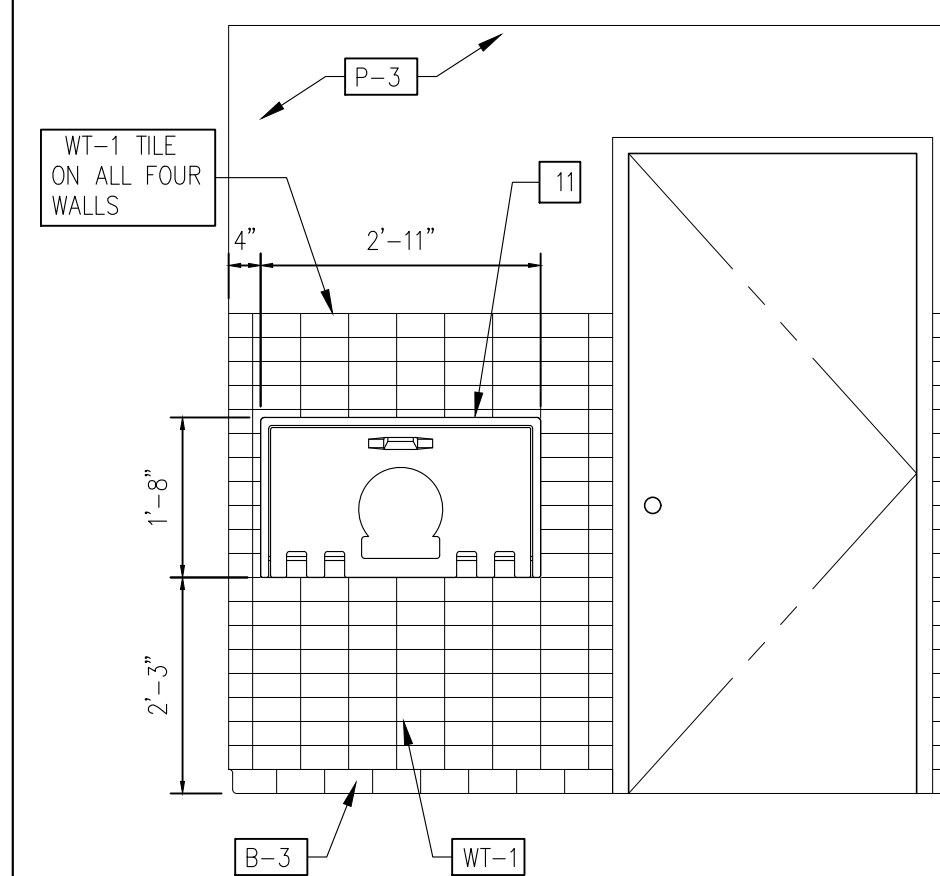
8 RESTROOM SECTION
SCALE: 1/2" = 1'-0"



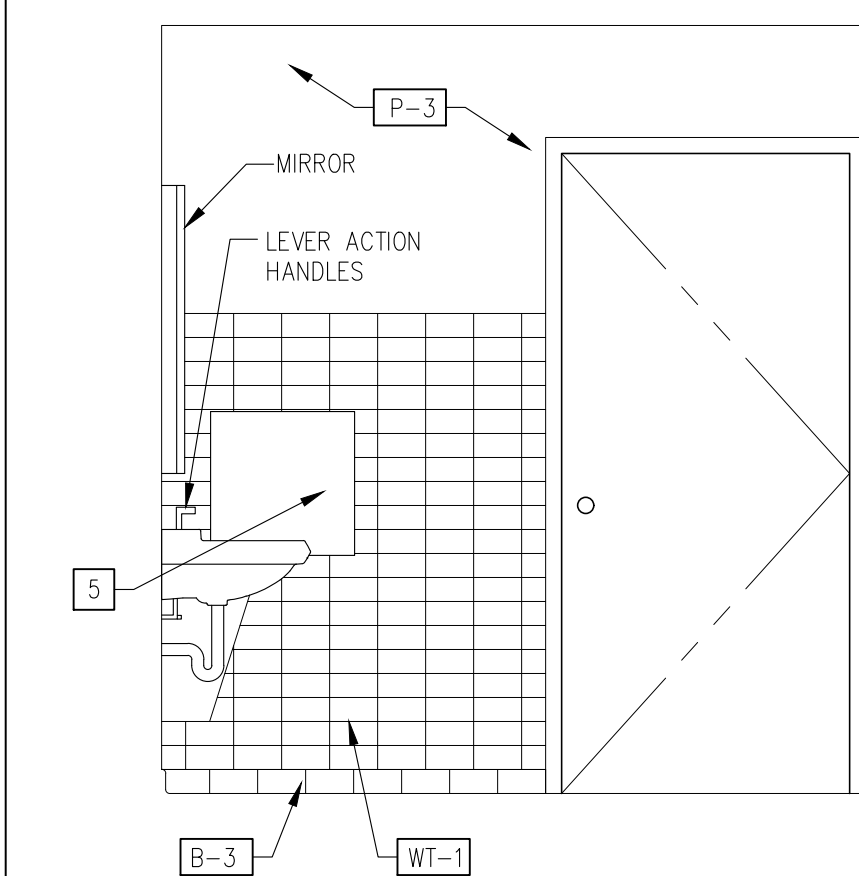
10 RESTROOM SECTION
SCALE: 1/2" = 1'-0"



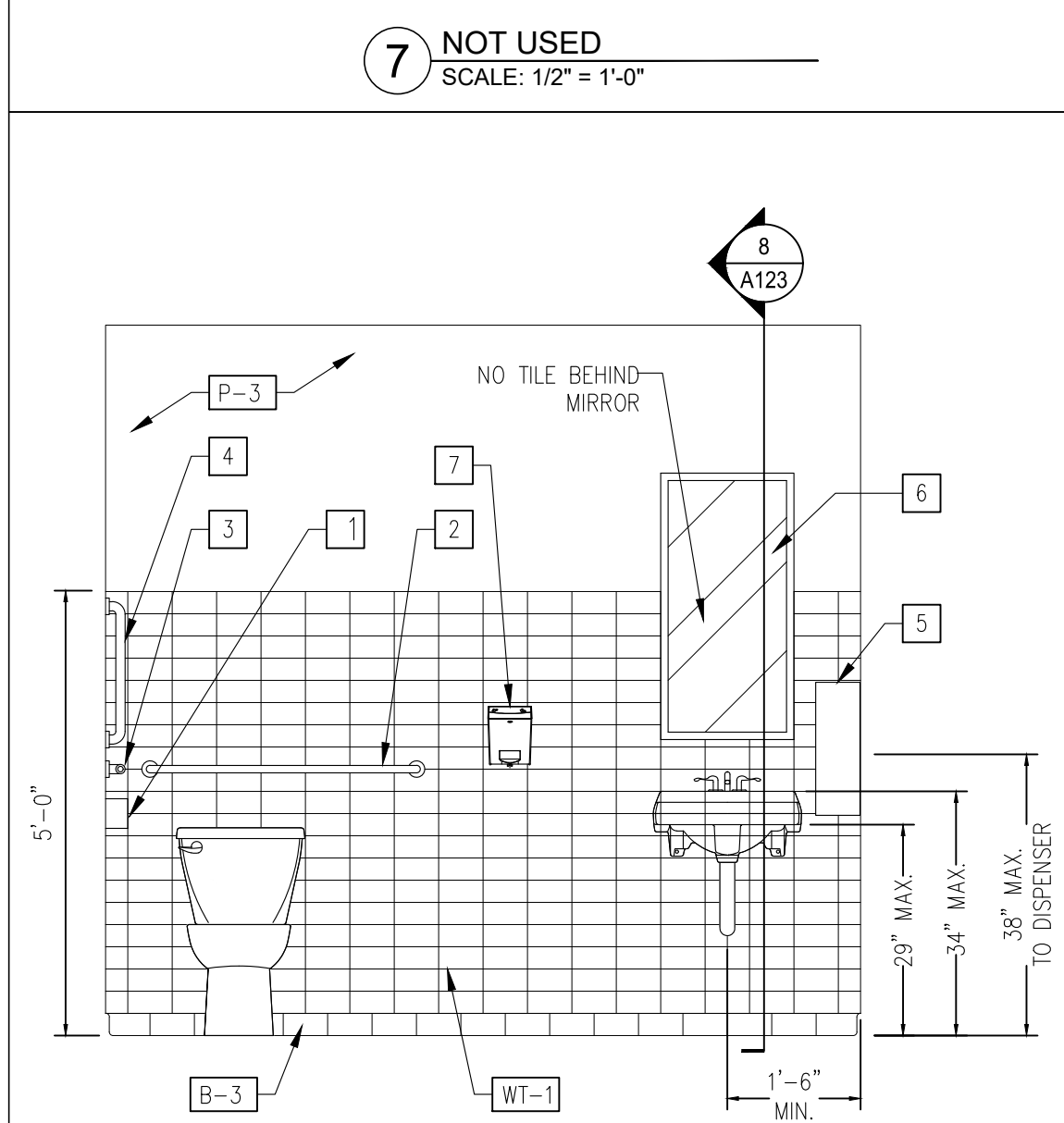
9 RESTROOM ELEVATION/SECTION
SCALE: 1/2" = 1'-0"



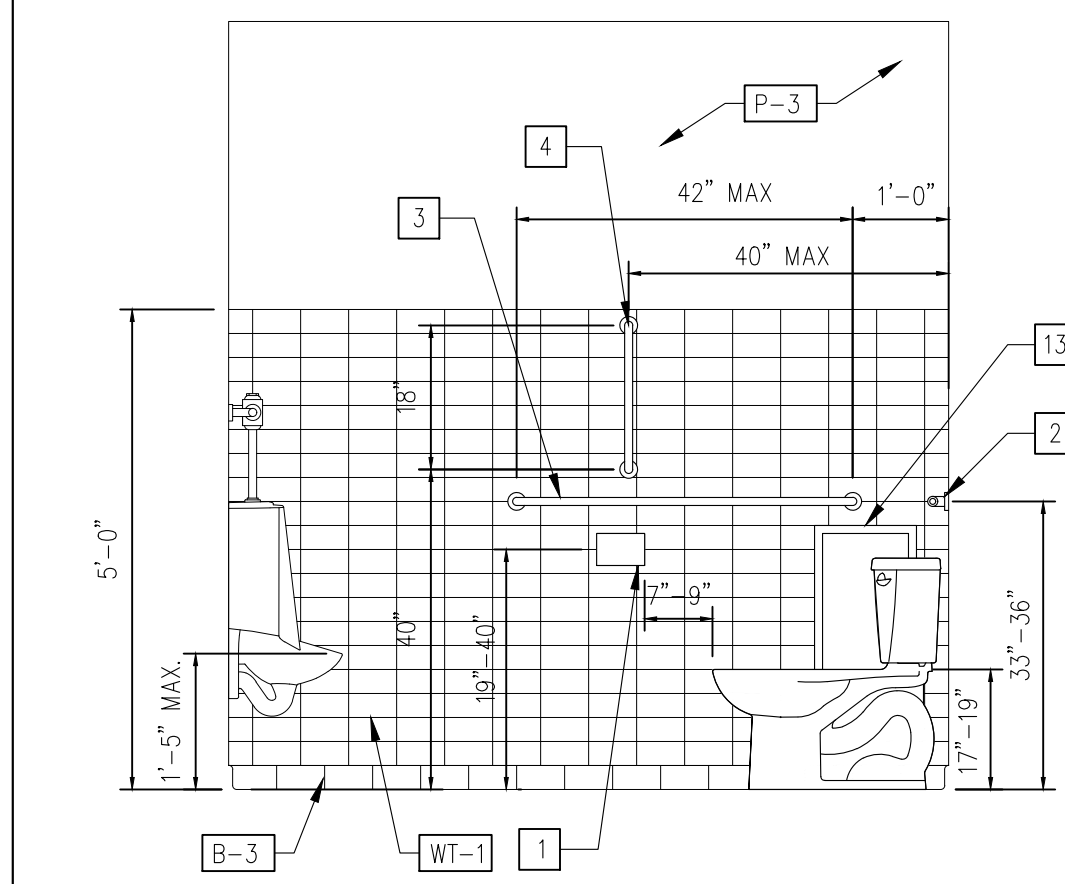
6 RESTROOM ELEVATION
SCALE: 1/2" = 1'-0"



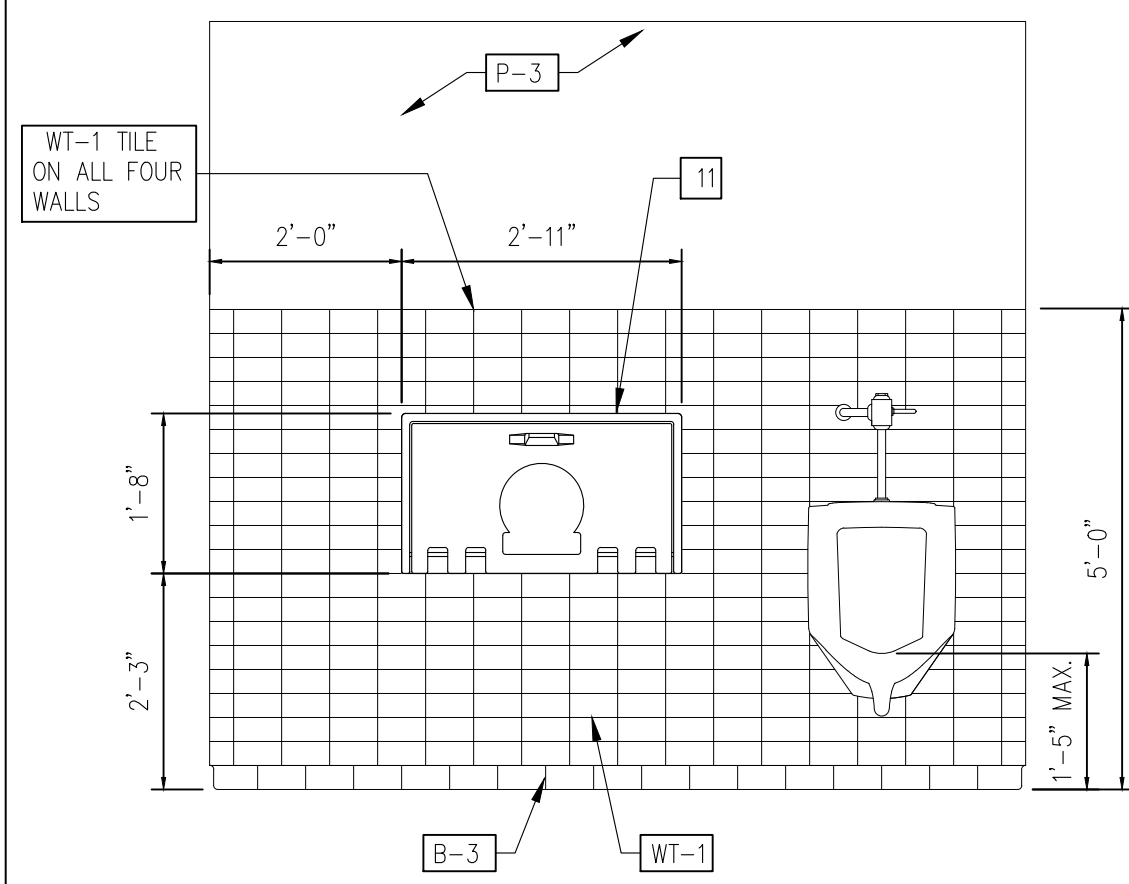
5 RESTROOM ELEVATION
SCALE: 1/2" = 1'-0"



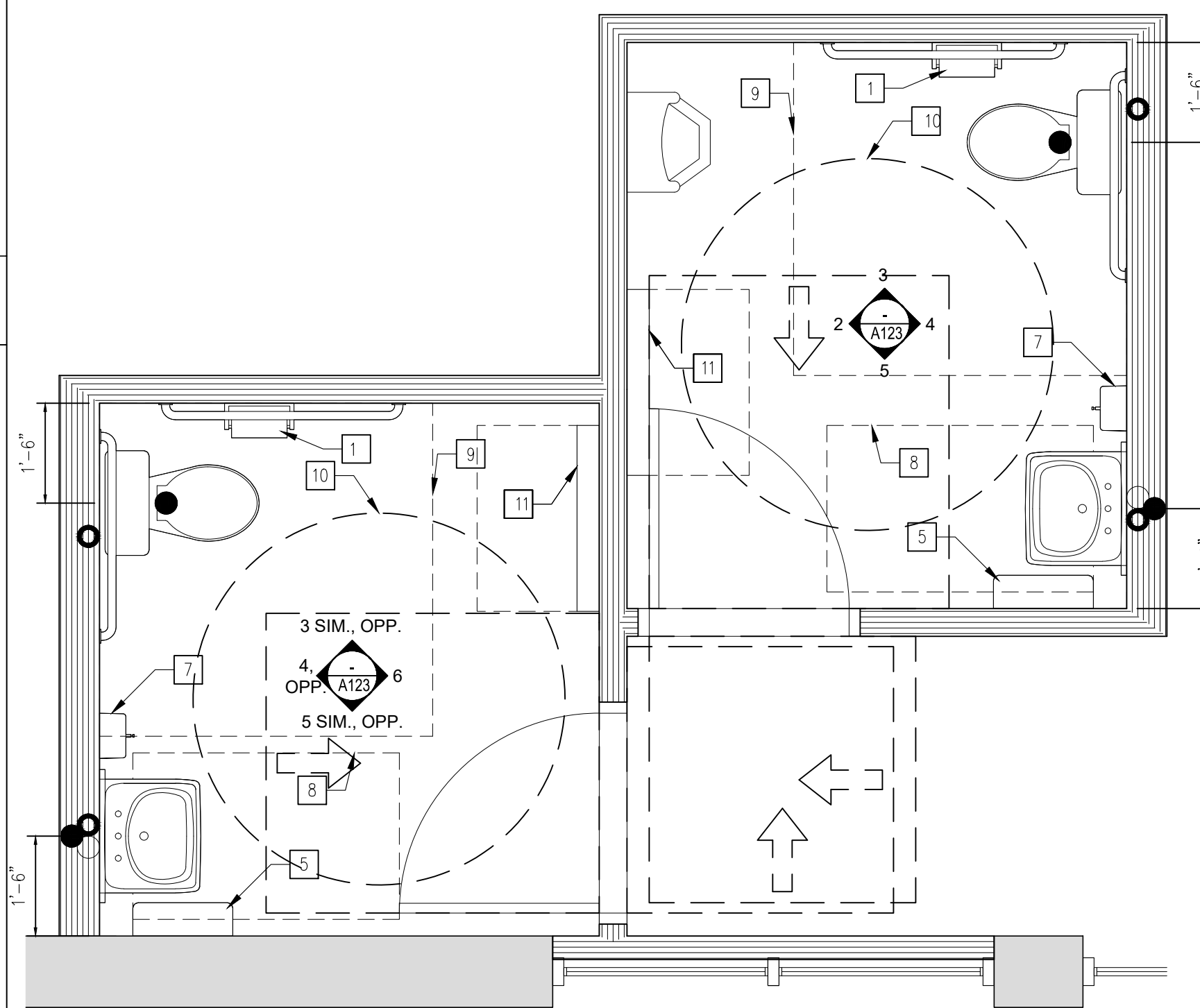
4 RESTROOM ELEVATION
SCALE: 1/2" = 1'-0"



3 RESTROOM ELEVATION
SCALE: 1/2" = 1'-0"



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



1 ENLARGED RESTROOM PLAN
SCALE: 1/2" = 1'-0"

STORE ADDRESS

6231 McKee Rd, Suite A
Fitchburg, WI 53719

STORE NUMBER

WI 021



REVISION	

DATE 02/02/2022

PROJECT 1674.010

FOR INTERNAL USE ONLY
PROTOTYPE REVISION NUMBER

SHEET NAME
ENLARGED RESTROOM PLAN AND ELEVATIONS

SHEET NUMBER

A123

STORE ADDRESS

6231 McKee Rd, Suite A
 Fitchburg, WI 53719

STORE NUMBER

WI 021



REVISION

NO.	DESCRIPTION

DATE 02/02/2022

PROJECT 1674.010

FOR INTERNAL USE ONLY
 PROTOTYPE REVISION NUMBER

SHEET NAME

**EQUIPMENT PLAN
 AND SCHEDULE**

SHEET NUMBER

A140

EQUIPMENT SCHEDULE

NO.	QTY	EQUIPMENT DESCRIPTION	PROVIDER	VENDOR	INSTALL	FIN. CON.
BACK OF HOUSE EQUIPMENT						
1A	1	WALK-IN COOLER / FREEZER COMBO UNIT	F	EV	GC	EC
1B	1	COOLER REFRIGERATION, SELF-CONTAINED	F	EV	GC	EC
1C	1	FREEZER REFRIGERATION, SELF-CONTAINED	F	EV	GC	EC
2A	1	WALK-IN COOLER / FREEZER SHELVING 18" X 24"	F	EV	GC	-
2B	1	WALK-IN COOLER / FREEZER SHELVING 18" X 48"	F	EV	GC	-
2C	4	WALK-IN COOLER / FREEZER SHELVING 18" X 60"	F	EV	GC	-
3A	2	DRY STOR. SHLVNG (EPOXY COATED) 18" X 36"	F	EV	EV	-
3B	2	DRY STOR. SHLVNG (EPOXY COATED) 18" X 42"	F	EV	EV	-
3C	3	DRY STOR. SHLVNG (EPOXY COATED) 18" X 48"	F	EV	EV	-
3D	2	DRY STOR. SHLVNG (EPOXY COATED) 18" X 54"	F	EV	EV	-
3E	1	DRY STOR. SHLVNG (EPOXY COATED) 18" X 60"	F	EV	EV	-
4	1	THREE COMPARTMENT SINK	F	EV	EV	PC
5	1	PRE-RINSE FAUCET	F	EV	EV	PC
6A	1	WALL SHELF, WIRE (EPOXY COATED), 18" X 24"	F	EV	EV	-
6B	1	WALL SHELF, WIRE (EPOXY COATED), 18" X 36"	F	EV	EV	-
6F	2	WALL SHELF, WIRE (EPOXY COATED), 18" X 54"	F	EV	EV	-
6G	12	WALL SHELF, WIRE (EPOXY COATED), 24" X 54"	F	EV	EV	-
7	1	MOP SINK	GC	SPS	GC	PC
8	1	SERVICE FAUCET	GC	SPS	GC	PC
9	1	WATER HEATER	GC	SPS	GC	EQ/PC
10	LOT	SURVEILLANCE SYSTEM	F	VLL	V	V
11	1	DUET DRAWER FILING CABINET	F	EV	EV	-
12	1	PRINTER WITH SHELF	F	JOLT	GC	V
13	1	POS PATCH PANEL	F	M	RTG	RTG
14	1	MANAGER'S DESK	F	EV	GC	-
15A	1	WALL SHELVES (EPOXY COATED) 18" X 54"	F	GC	GC	-
15B	3	WALL SHELVES (EPOXY COATED) 24" X 54"	F	GC	GC	-
16	LOT	WAREWASHING & SANITIZING PRODUCTS	F	C	C	-
17	1	18" X 24" DUNNAGE RACK	F	EV	EV	-
18	2	ON QUE	F	EV	EV	-
19	1	18" X 72", ON QUE SHELF	F	EV	EV	-
20	1	MOBILE CART	F	EV	EV	-
21	2	ICE MAKER W / BIN	F	EV	EV	EC/PC
22A	1	WATER FILTER, 3-STAGE	F	EV	EV	PC
22B	1	ICE MACHINE TREATMENT SYSTEM	F	EV	EV	PC
23	1	CHANNEL DRAIN, 5" (3'-4" LONG)	GC	SPS	PC	PC
24	1	PREP SINK, 30" X 48"	F	EV	EV	PC
25	1	LOCKER SET	F	EV	EV	-
26	1	EQUIP. STOR. SHLVNG (EPOXY COATED) 14" X 60"	F	EV	EV	-

SMOOTHIE LINE / FOOD LINE EQUIPMENT

27	2	MICROWAVE CONVECTION OVEN	F	EV	EV	-
28	1	REFRIGERATED PREP TABLE, 30 PAN	F	EV	EV	-
29	1	REFRIGERATED PREP TABLE, 30 PAN	F	EV	EV	-
30	1	REFRIGERATED PREP TABLE, 18 PAN	F	EV	EV	-
31	1	WORK TABLE WITH HAND SINK & DUMP SINK, 30" X 48"	F	EV	EV	PC
32	2	WORK TABLE, 30" X 48"	F	EV	EV	-
33	1	EQUIPMENT STAND, 30" X 30" (26" HGT.)	F	EV	EV	-
34	1	WORK TABLE, 30" X 48", WITH UTENSIL DRAWER	F	EV	EV	-
35	1	BLENDER TABLE, 30" X 108"	F	EV	EV	PC
36A	1	WATER SPIGOT	F	EV	EV	PC
36B	1	WATER CONTAINER, DROP-IN	F	EV	EV	-
36C	1	WATER FILTER, 2-STAGE	F	EV	EV	PC
36D	7	CUP DISPENSER	F	EV	EV	-
36E	1	LID DISPENSER	F	EV	EV	-
37	5	BLENDER, BAR TYPE	F	EV	EV	-
38	1	ICE BIN, DROP-IN	F	EV	EV	PC
39	1	HAND SINK, HANDS-FREE	F	EV	EV	PC
41	3	WALL CABINET, 36"	F	EV	EV	-
42	1	MOBILE STORAGE UNIT, 14" X 36"	F	EV	EV	-
43	2	SOAP / PAPER TOWEL DISPENSERS	F	C	C	-
44	1	S/S L-SHAPED WALL PANEL	F	EV	EV	-
45	1	PANINI PRESS	F	EV	EV	-

CASHIER AREA EQUIPMENT

49A	1	CASHIER COUNTER TOP & SUPPORT LEG	F	EV	EV	EC
49B	1	CASHIER COUNTER SUPPORT WALL	F	GC	GC	EC
50A	2	WALL SHELF, S/S, 16" X 96"	F	EV	EV	-
50B	1	WALL SHELF, S/S, 16" X 48"	F	EV	EV	-
51	1	MENU BOARD SYSTEM, WALL MOUNT, 9 PANELS	F	EV	EV	-
52	3	POS TERMINAL	F	M	RTG	RTG
53	1	POS SYSTEM - BACK OF HOUSE	F	M	RTG	RTG
54	4	POS PRINTER	F	M	RTG	RTG
55	5	KDS MONITOR	F	M	RTG	RTG
59	1	WALL MTD. WORK TOP, 36" X 12"	F	EV	EV	-
61	2	SUPPLEMENT HOLDER	F	EV	EV	-
62	1	DRAIN BOARD	F	EV	EV	PC
62A	1	CUSTOM SHELF	F	EV	EV	-
63	1	REFRIGERATOR, UNDERCOUNTER	EV	EV	EV	-
64	3	EMV CARD READER	F	M	RTG	RTG

DINING EQUIPMENT

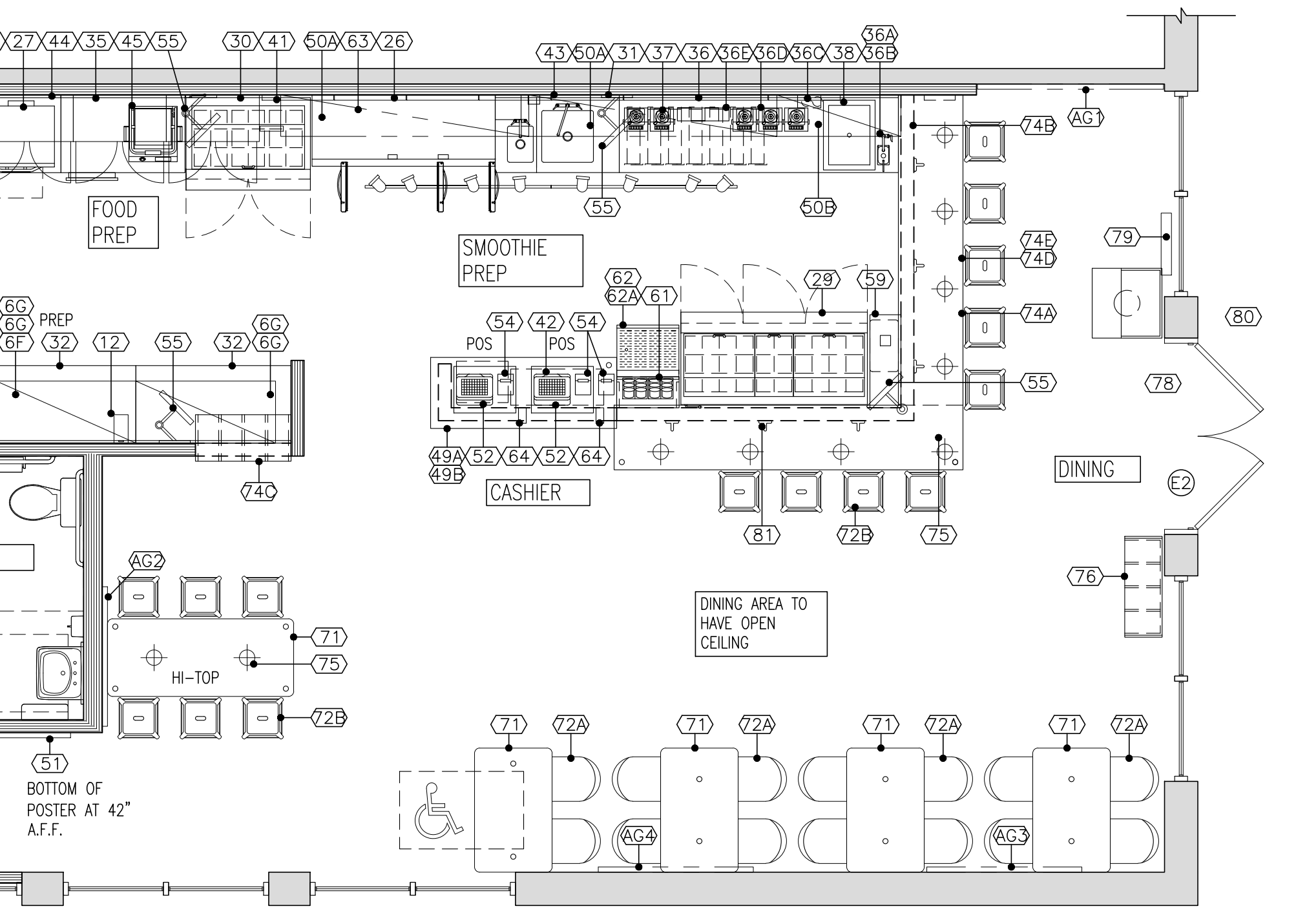
71	5	TABLE TOP & BASE	F	EV	EV	-
72A	16	DINING CHAIR	F	EV	EV	-
72B	15	DINING STOOL	F	EV	EV	-
73	1	HALF-HGT. WALL WITH TOP CAP	F	GC	GC	-
74A	1	SIT-DOWN COUNTER TOP & SUPPORT LEGS	F	EV	EV	-
74B	1	SIT-DOWN COUNTER SUPPORT WALL	F	GC	GC	-
74C	1	MILLWORK TO-GO CABINET	F	EV	EV	-
74D	1	MILLWORK SOFFIT	F	EV	EV	EC
74E	1	THREADED MOUNTING RODS FOR SOFFIT	GC	GC	GC	-
75	10	PENDANT LIGHT	F	HL	GC	EC
78	1	TRASH CAN	F	EV	EV	-
78A	1	TRAY SHELF	F	EV	EV	-
79	1	TROPICAL SMOOTHIE NEON SIGN	F	EV	EV	-
80	1	EXTERIOR SIGNAGE	F	SC	SC	EC
81	5	APPAREL HOOK	F	GC	GC	-
197	2	BABY CHANGING STATION	F	EV	EV	-

GENERAL NOTES

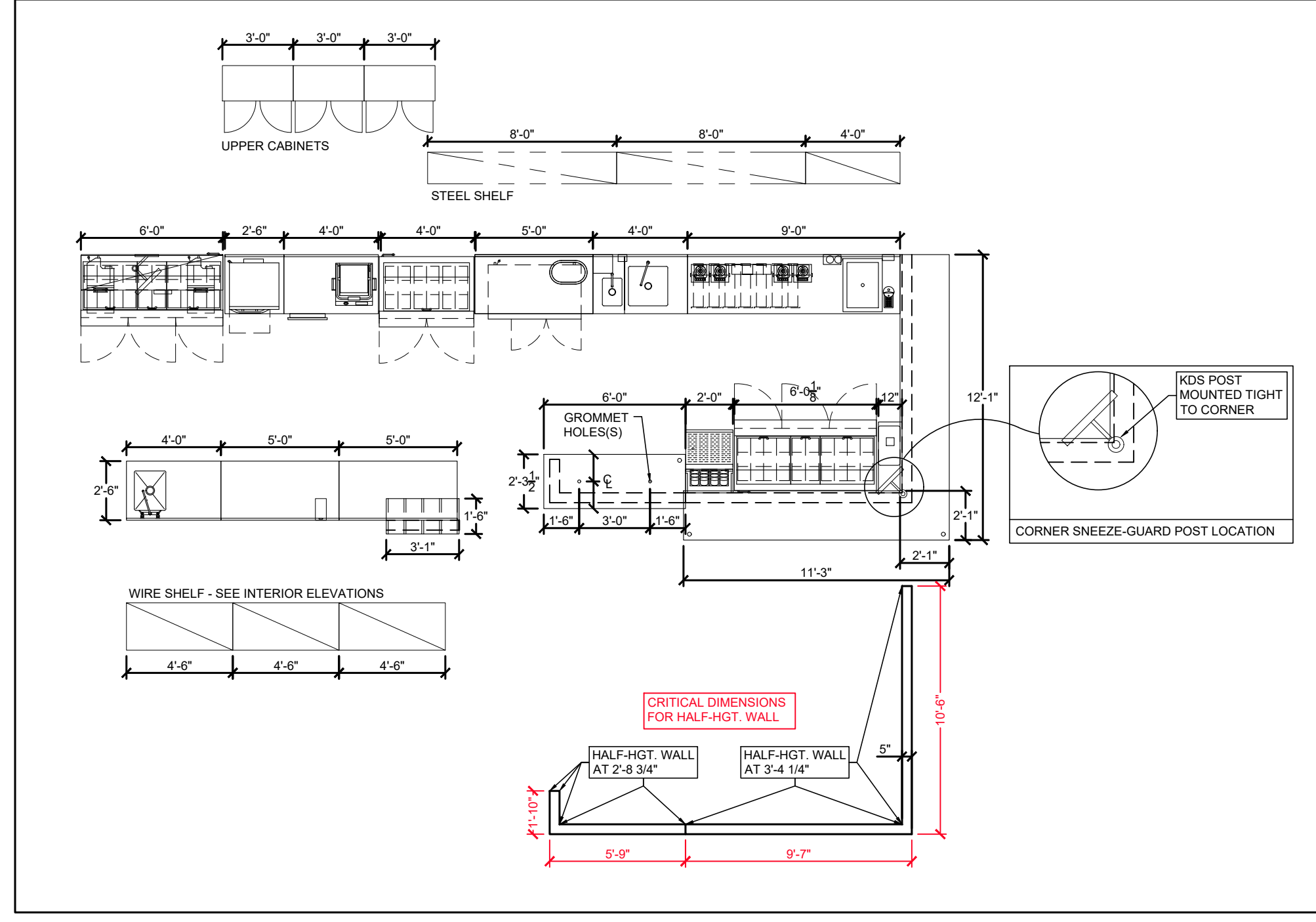
- EQUIP. SHELVING #26 TO HAVE 12" POSTS.
- MICROWAVE OVEN TABLE #33 TO BE ON CASTERS.
- TURBO AIR COOLER #63 TO BE ON 6" THREADED STEM CASTERS.
- WIRE SHELVING #3B, 3C, 3D & 3E TO HAVE 86" POSTS & TO BE ON CASTERS.

ABBREVIATION KEY

ABBR.	ABBREVIATION DESCRIPTION
F	FRANCHISEE
EV	EQUIPMENT VENDOR
GC	GENERAL CONTRACTOR
EC	ELECTRICAL CONTRACTOR
PC	PLUMBING CONTRACTOR
CC	CONTRACTOR'S CHOICE
OC	OWNER'S CHOICE
LJ	LOCAL JURISDICTION
SC	SIGN COMPANY
VLL	VERIFY WITH LANDLORD
V	VENDOR
M	MICROS
RTG	RETAIL TECHNOLOGY GROUP
UMI	ULTRIOR MOTIVES INTERNATIONAL
HL	HERMITAGE LIGHTING
MMM	MUZAK (MOOD MEDIA)
C	CINTAS
UC	UTILITY COMPANY
SFS	SEE FINISH SCHEDULE
SPS	SEE PLUMBING SCHEDULE
INSTALL	EQUIPMENT INSTALLER
FIN. CON.	FINAL CONNECTIONS
DT	DRIVE-THRU
DBL	DOUBLE SHELVES



SMOOTHIE LINE / FOOD LINE EQUIPMENT DIMENSIONS



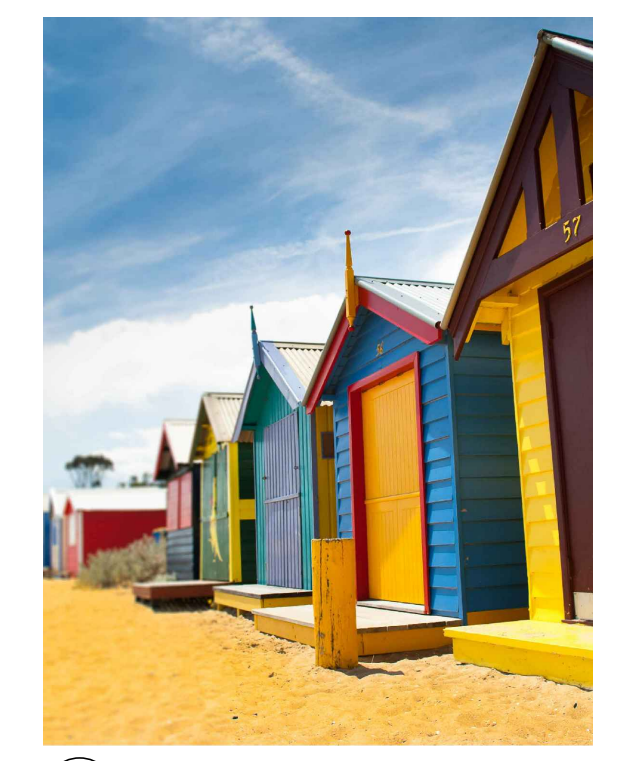
ARTWORK SCHEDULE

NO.	QTY.	DESCRIPTION	PROVIDER	VENDOR	INSTALL
AG-1	1	FOOD MONTAGE PHOTO	F	UMI	GC
AG-2	1	DOCK PHOTO	F	UMI	GC
AG-3	1	BEACH HUT PHOTO	F	UMI	GC
AG-4	1	SURF BOARD PHOTO	F	UMI	GC
AG-5	0	PALM TREE PHOTO	F	UMI	GC

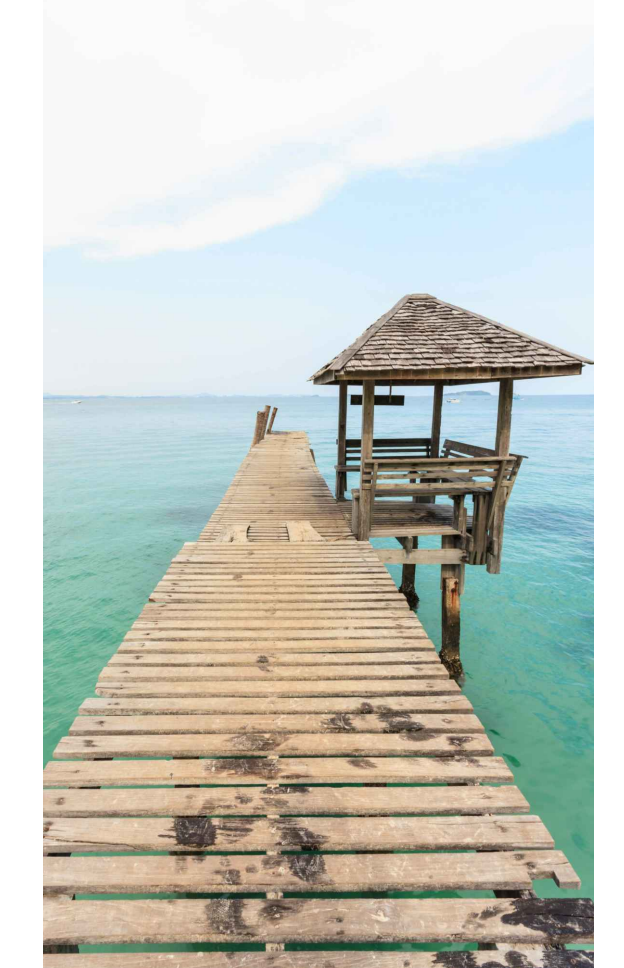
1 EQUIPMENT PLAN
 SCALE: 1/4" = 1'-0"



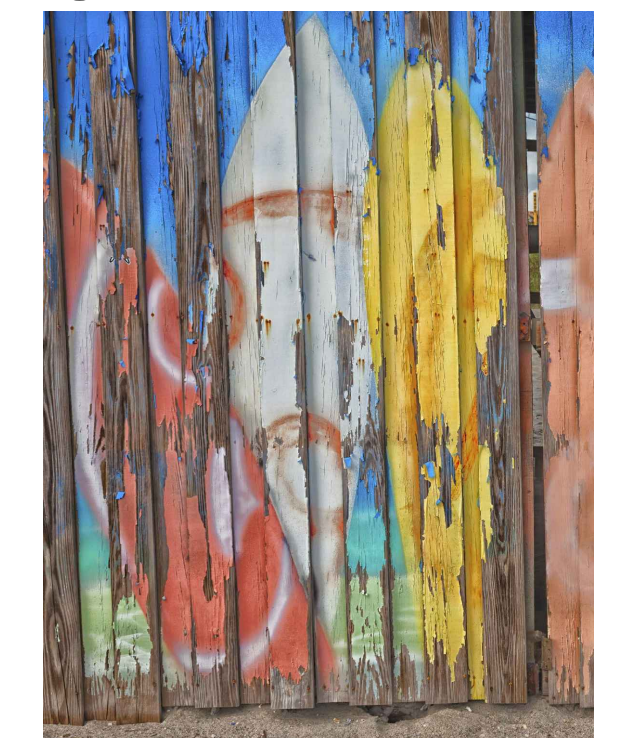
2 ARTWORK (AG-1)
 SCALE: NTS



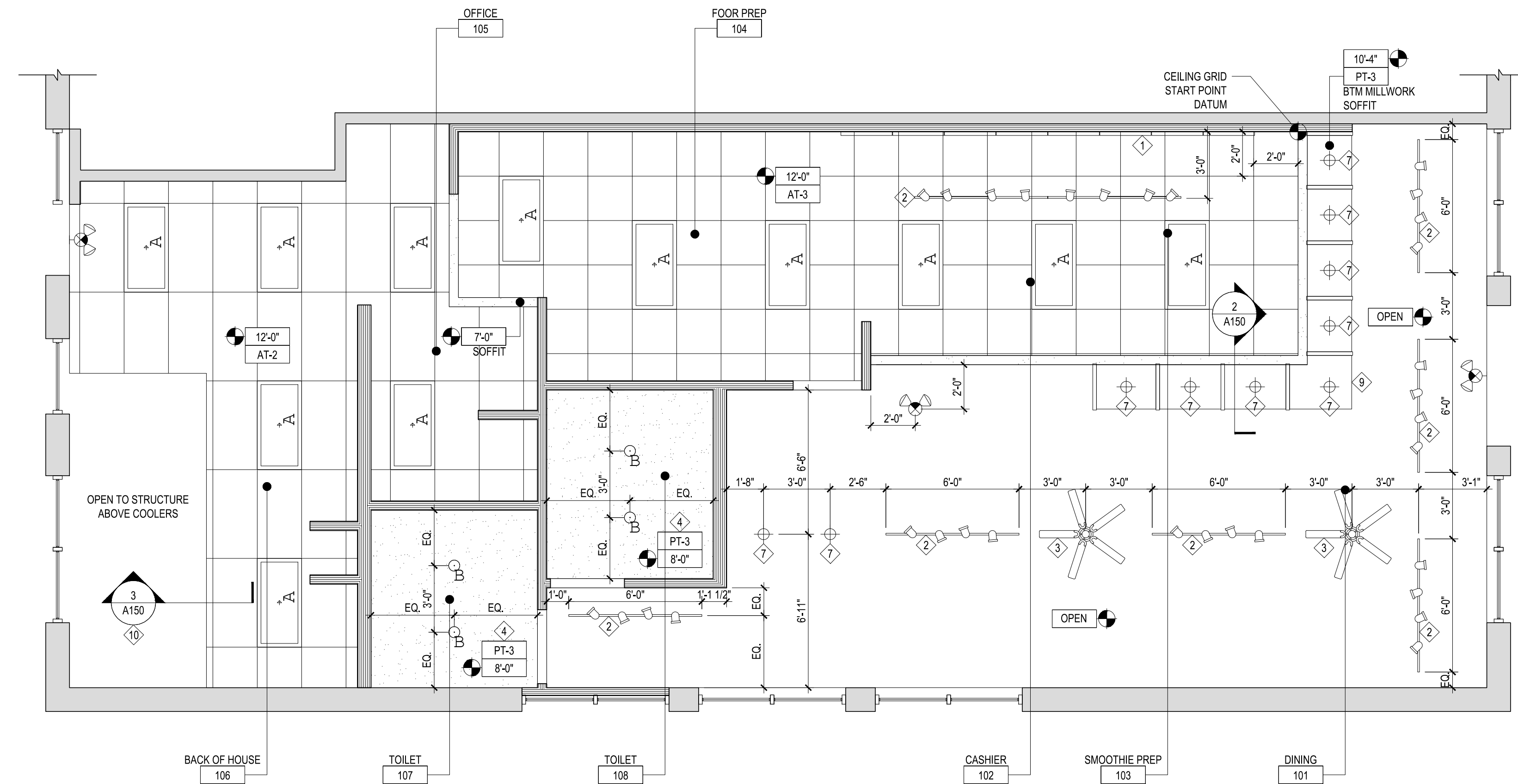
4 ARTWORK (AG-3)
 SCALE: NTS



3 ARTWORK (AG-2)
 SCALE: NTS



5 ARTWORK (AG-4)
 SCALE: NTS



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

STORE ADDRESS
6231 McKee Rd, Suite A
Fitchburg, WI 53719
STORE NUMBER
WI 021



REVISION

DATE 02/02/2022
PROJECT 1674.010

KEY NOTES

NO.	ITEM DESCRIPTION	NO.	ITEM DESCRIPTION
1	WALL MTD. MENU BOARD FROM 6'-3" AFF TO 9'-0" AFF	6	NOT USED
2	CEILING MOUNTED TRACK LIGHTING	7	PENDANT LIGHT AT 7'-0" TO BOTTOM OF PENDANT
3	CEILING FAN: 8'-6" A.F.F. TO BOTTOM OF FIXTURE	8	WALL SCONCE AT 8'-6" A.F.F. TO CENTER OF J-BOX
4	PAINTED GYP. BOARD CEILING	9	SUSPENDED MILLWORK SOFFIT BY G.C.
5	CEILING GRID INSTALLED @ 90° W/STORE FRONT	10	VERTICAL CEILING GRID INSTALLED ABOVE W.I.B

LIGHT FIXTURE SCHEDULE

SYMBOL	TYPE	CATALOG #	DESCRIPTION	SUPPLIER
A	20800844	2X4 LED FIXTURE	HERMITAGE LIGHTING	
AE	20800852	2X4 LED FIXTURE W / EM	HERMITAGE LIGHTING	
B	20801082	LED MODULE	HERMITAGE LIGHTING	
B	20800761	RECESSED NEW HOUSING	HERMITAGE LIGHTING	
B	20800977	REMODEL HOUSING	HERMITAGE LIGHTING	
CF	50069353	CEILING FAN	HERMITAGE LIGHTING	
CF	518730	FAN SPEED CONTROLLER	HERMITAGE LIGHTING	
CF	522608	CANOPY MODULE	HERMITAGE LIGHTING	
D	72002753	LED STRIP	HERMITAGE LIGHTING	
EF	136186	VENT FAN	HERMITAGE LIGHTING	
EM	90902323	EMERGENCY	HERMITAGE LIGHTING	
MS	527997	MOTION SENSOR	HERMITAGE LIGHTING	
P	86703397	BLUE SEEDED GLASS PENDANT	HERMITAGE LIGHTING	
P	43907403	LAMP	HERMITAGE LIGHTING	
S	6619813	BRONZE WALL SCONCE	HERMITAGE LIGHTING	
S	43907403	LAMP	HERMITAGE LIGHTING	
T	18644197	TRACK HEAD	HERMITAGE LIGHTING	
T	18622804	4' TRACK	HERMITAGE LIGHTING	
T	18622846	8' TRACK	HERMITAGE LIGHTING	
T	18622888	STRAIGHT CONNECTOR	HERMITAGE LIGHTING	
T	18642000	CURRENT LIMITER	HERMITAGE LIGHTING	
T	18641995	CURRENT LIMITER END FEED	HERMITAGE LIGHTING	
X	90900301	EXIT SIGN	HERMITAGE LIGHTING	
XC	90902167	EXIT EMERGENCY COMBO	HERMITAGE LIGHTING	
X2	90903363	MULTIVOLT EGRESS HEAD	HERMITAGE LIGHTING	

REFLECTED CEILING SCHEDULE

SUSPENDED CEILING		PAINT	
AT-1	MANUF: ARMSTRONG TYPE: CLASS "A" NUMBER: 1728A WH FINE FISSURED COLOR: WHITE SIZE: 24" X 24" X 5/8" GRID: 15/16" GRID, MATCH WHITE COLOR OF CEILING TILE	P-1	MANUF: SHERWIN WILLIAMS NUMBER: SW-7103 COLOR: WHITETAIL FINISH: SATIN
AT-2	MANUF: ARMSTRONG TYPE: CLASS "A" NUMBER: WASHABLE VINYL SURFACE COLOR: WHITE SIZE: 24" X 48" X 5/8" GRID: NEW WHITE 15/16" GRID	P-2	MANUF: SHERWIN WILLIAMS NUMBER: SW-6621 COLOR: EMOTIONAL FINISH: SATIN
AT-3	MANUF: ARMSTRONG TYPE: CLASS "A" NUMBER: WASHABLE VINYL SURFACE COLOR: WHITE SIZE: 24" X 24" X 5/8" GRID: 15/16" GRID, MATCH WHITE COLOR OF CEILING TILE	P-3	MANUF: SHERWIN WILLIAMS NUMBER: SW-6463 COLOR: BREAKTIME FINISH: SATIN

HERMITAGE LIGHTING NATIONAL ACCOUNTS
3640 TROUSDALE DR. NASHVILLE, TN 37204
WEBSITE: <http://nationalaccounts.hermitagelighting.com/#home>
CONTACT:
MIKE SMITH: (615) 843-3365 msmith@hlg.co
TODD HUMES: (615) 843-3380 toddh@hlg.co

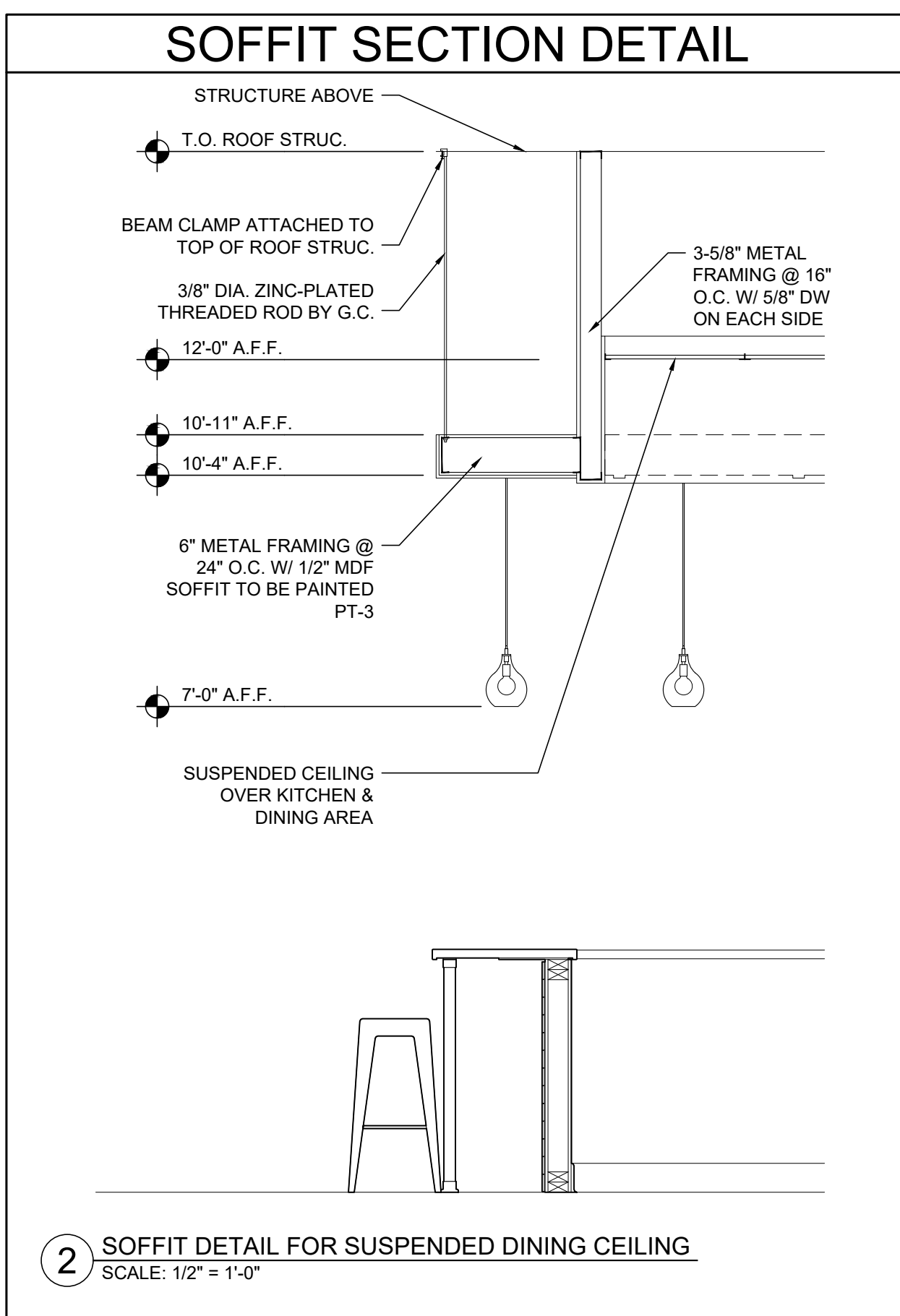
- GENERAL NOTES**
- RESTROOM LIGHTING TO BE ACTIVATED THRU MOTION SENSOR PROVIDED BY HERMITAGE LIGHTING AND INSTALLED BY G.C.
 - GENERAL CONTRACTOR TO REPLACE ALL HVAC FILTERS WHEN CONSTRUCTION IS COMPLETE.
 - GENERAL CONTRACTOR TO CONTACT HERMITAGE LIGHTING PRIOR TO INSTALLATION TO OBTAIN FINAL LIGHTING QUOTE BASED OFF APPROVED CONSTRUCTION DRAWINGS.

Luminaire Schedule

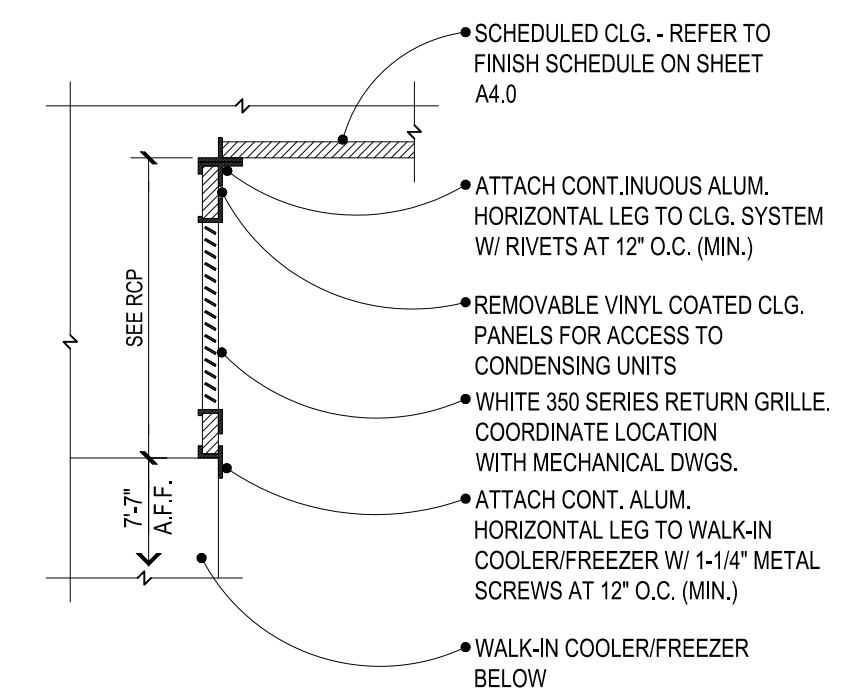
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
A	12	A	SINGLE	5589.1	0.900	20800844
B	10	B	SINGLE	950	0.950	20801082

Calculation Summary

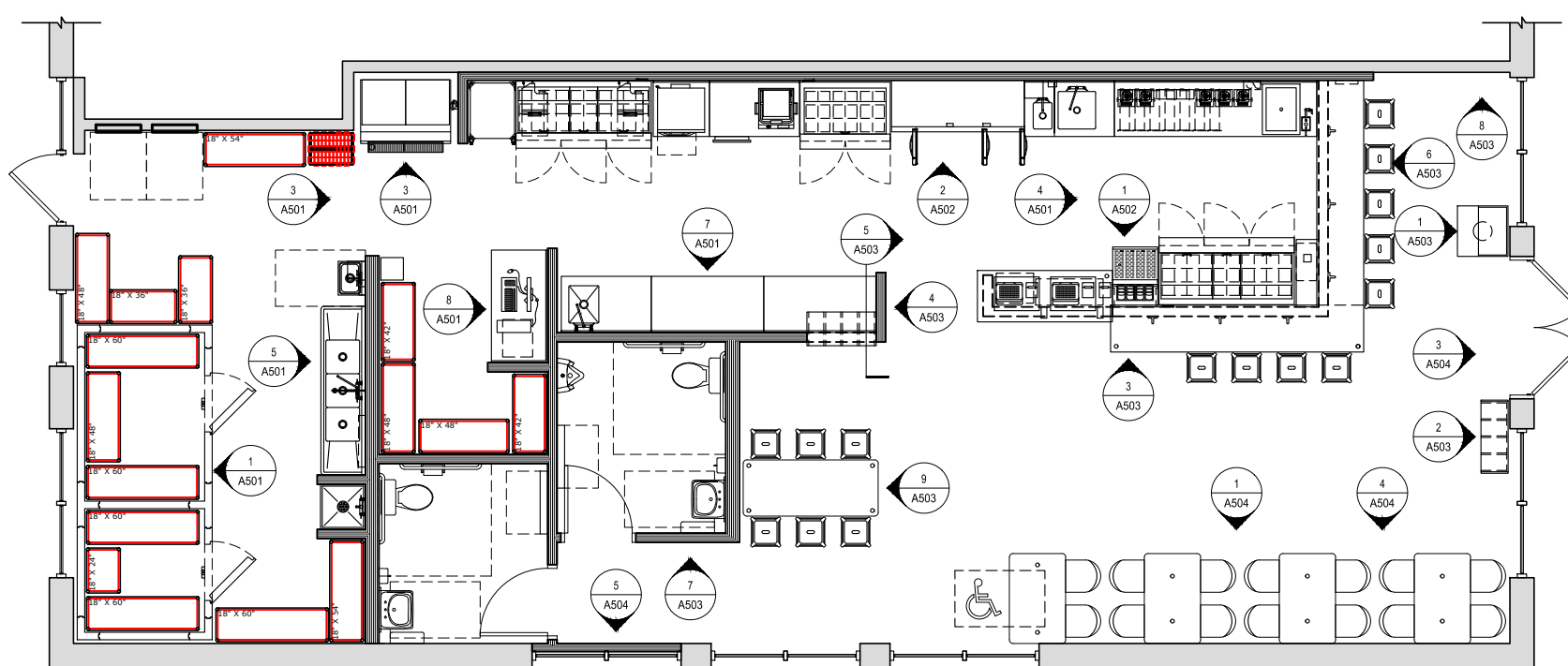
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
BOH Workplane	Illuminance	Fc	54.43	74.2	9.4	5.79	7.89
Dining Workplane	Illuminance	Fc	26.32	42.0	13.1	2.01	3.21
Restroom 1 Workplane	Illuminance	Fc	21.99	28.0	17.1	1.29	1.64
Restroom 2 Workplane	Illuminance	Fc	22.06	28.4	16.9	1.31	1.68
Serving	Illuminance	Fc	46.69	57.0	32.2	1.45	1.77



2 SOFFIT DETAIL FOR SUSPENDED DINING CEILING
SCALE: 1/2" = 1'-0"

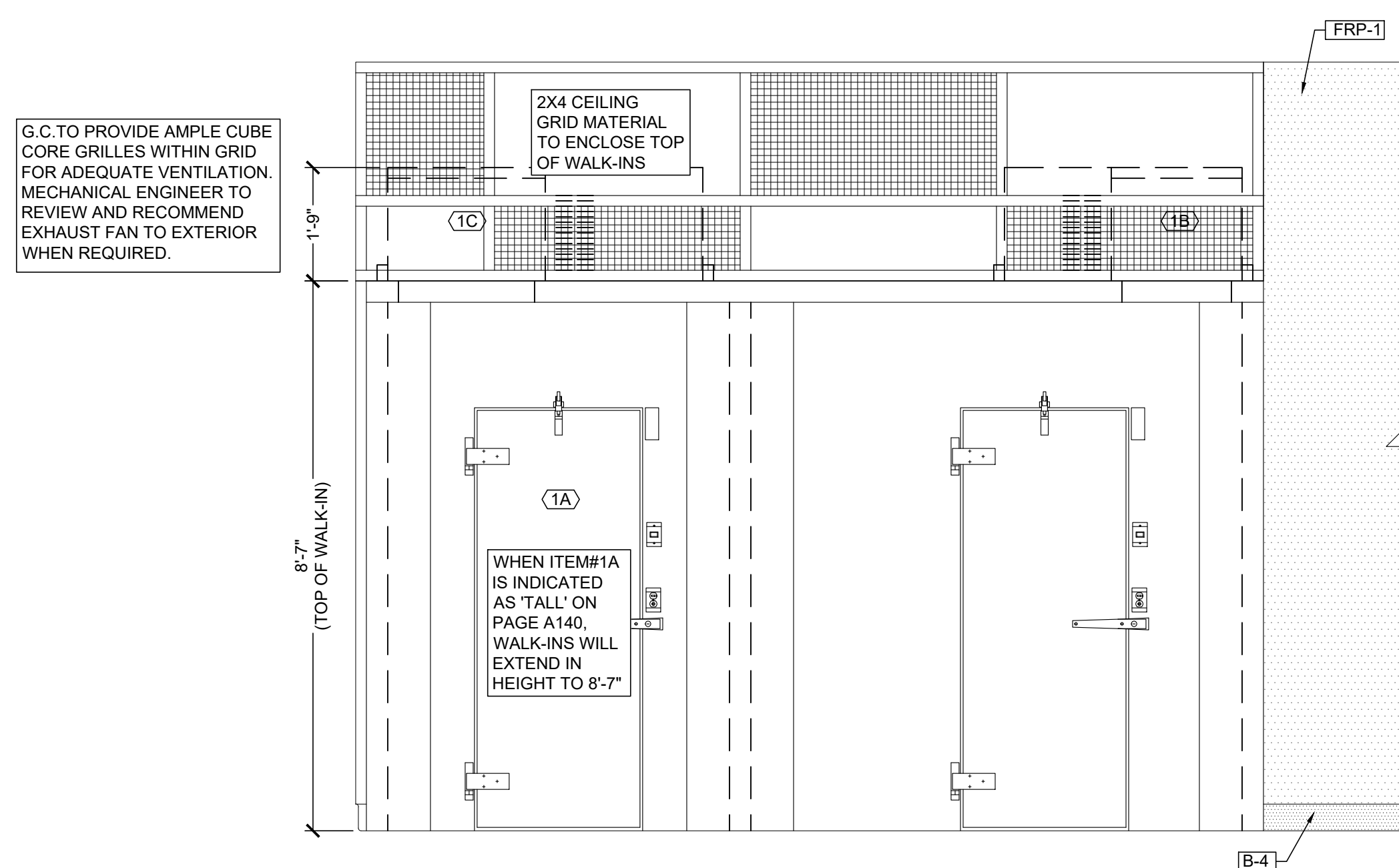


3 CEILING DETAIL @ W.I.B.
SCALE: 3/4" = 1'-0"



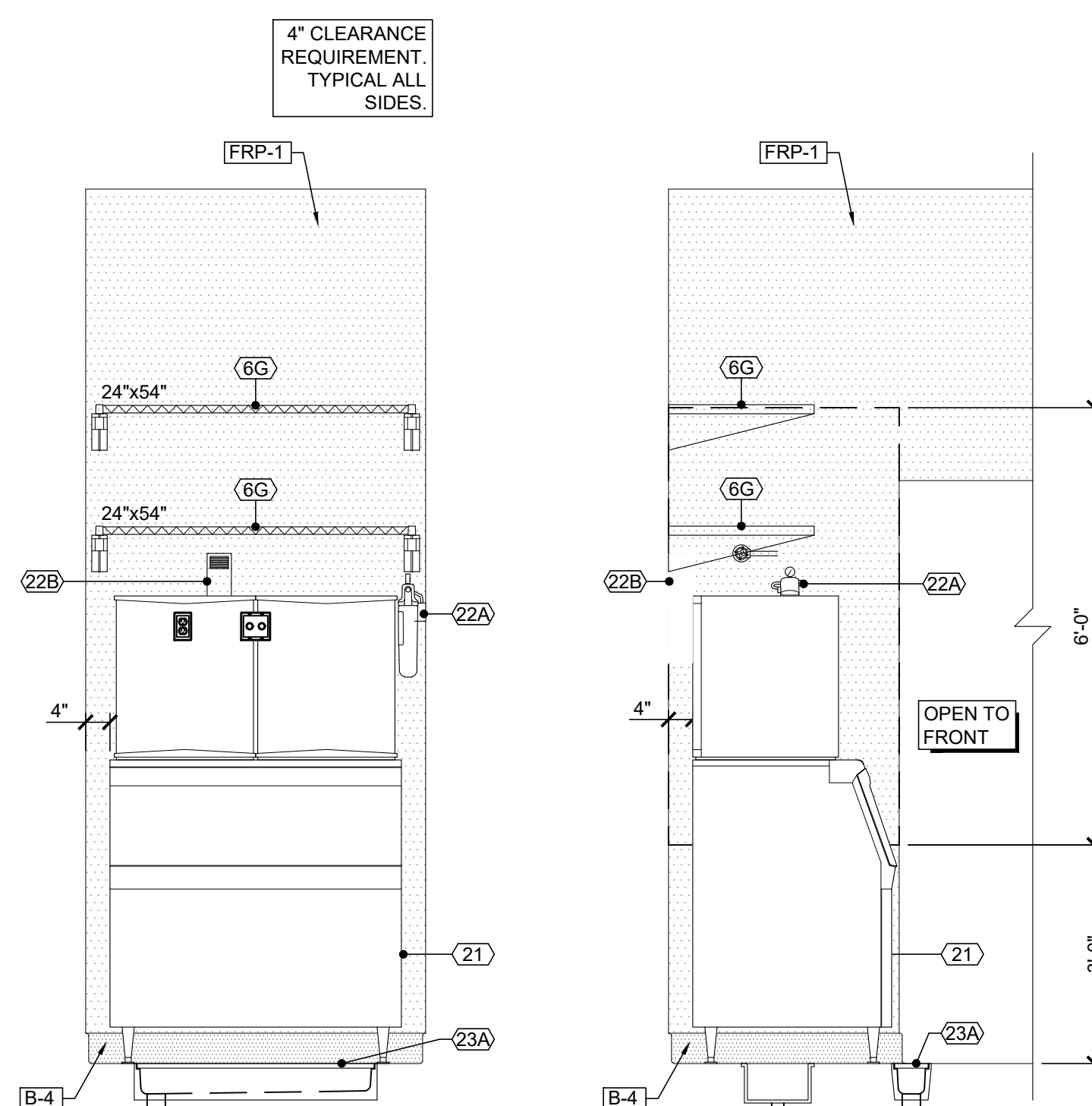
FLOOR PLAN LEGEND
SCALE: 1/8" = 1'-0"

WALL BACKING LEGEND			
TYPE	HGT.	LOCATION	REMARKS
A	72"	FROM 36" TO 108" A.F.F.	OVERSHELVES AND ICE FILTER
B	84"	FROM 24" TO 108" A.F.F.	HAND SINK AND OFFICE
C	30"	FROM 39" TO 69" A.F.F.	MOP SINK FAUCET BRACKET
D	12"	FROM 48" TO 60" A.F.F.	MOP RACK
E	24"	FROM 42" TO 66" A.F.F.	FRONT WALL SHELVES
F	VARIES	FROM 18" TO TOP OF HALF-HGT. WALL	WALL MOUNTED WORK TOP
G	30"	FROM 24" TO 54" A.F.F.	RESTROOM FIXTURES
H	24"	FROM 18" TO 42" A.F.F.	WALL MOUNTED WORK TOP
J	78"	FROM 42" TO 120" A.F.F.	FRONT WALL CABINETS

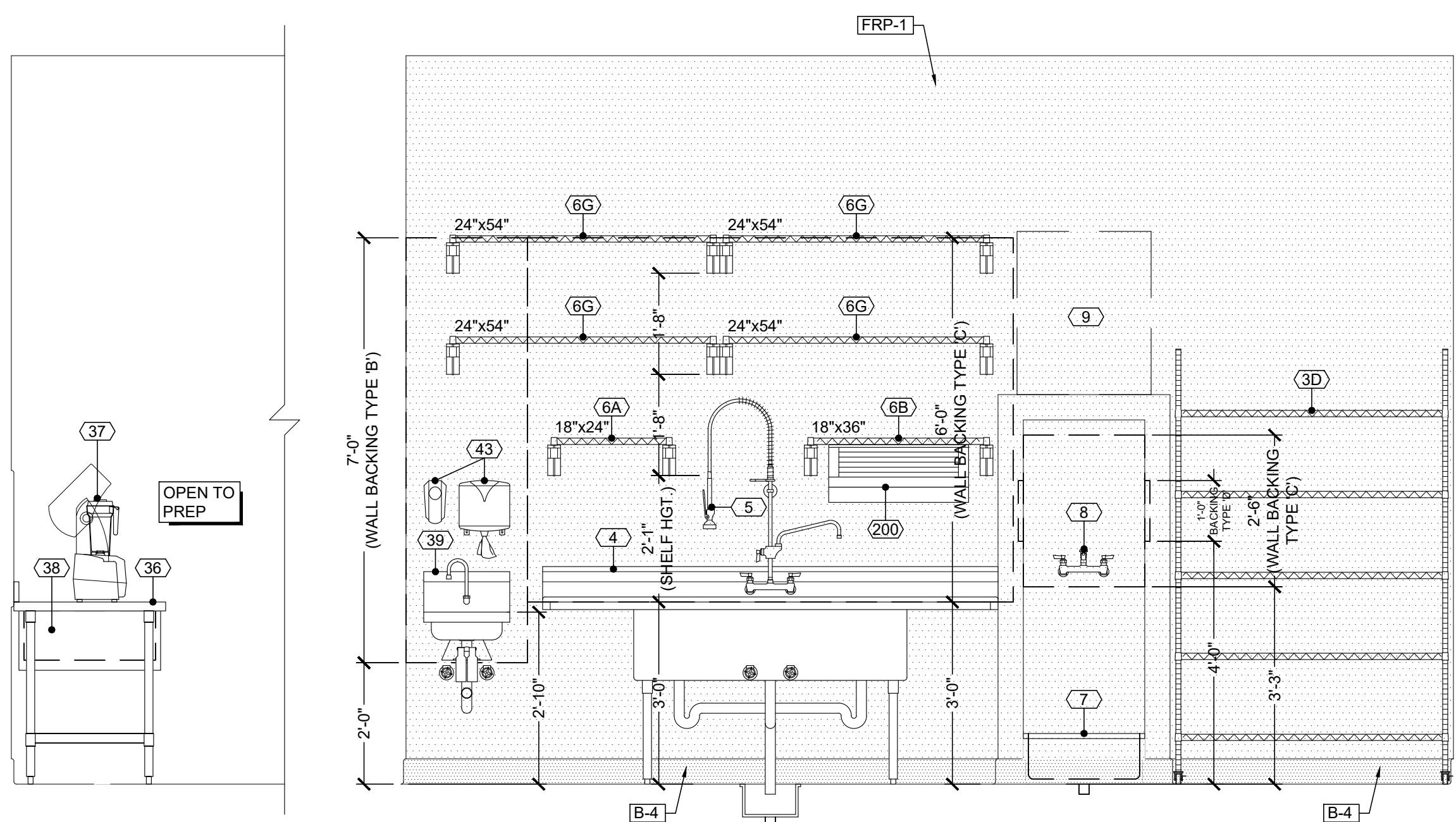


1 WALK-IN COOLER/FREEZER (FRONT VIEW)
SCALE: 1/2" = 1'-0"

2 NOT USED
SCALE: 1/2" = 1'-0"



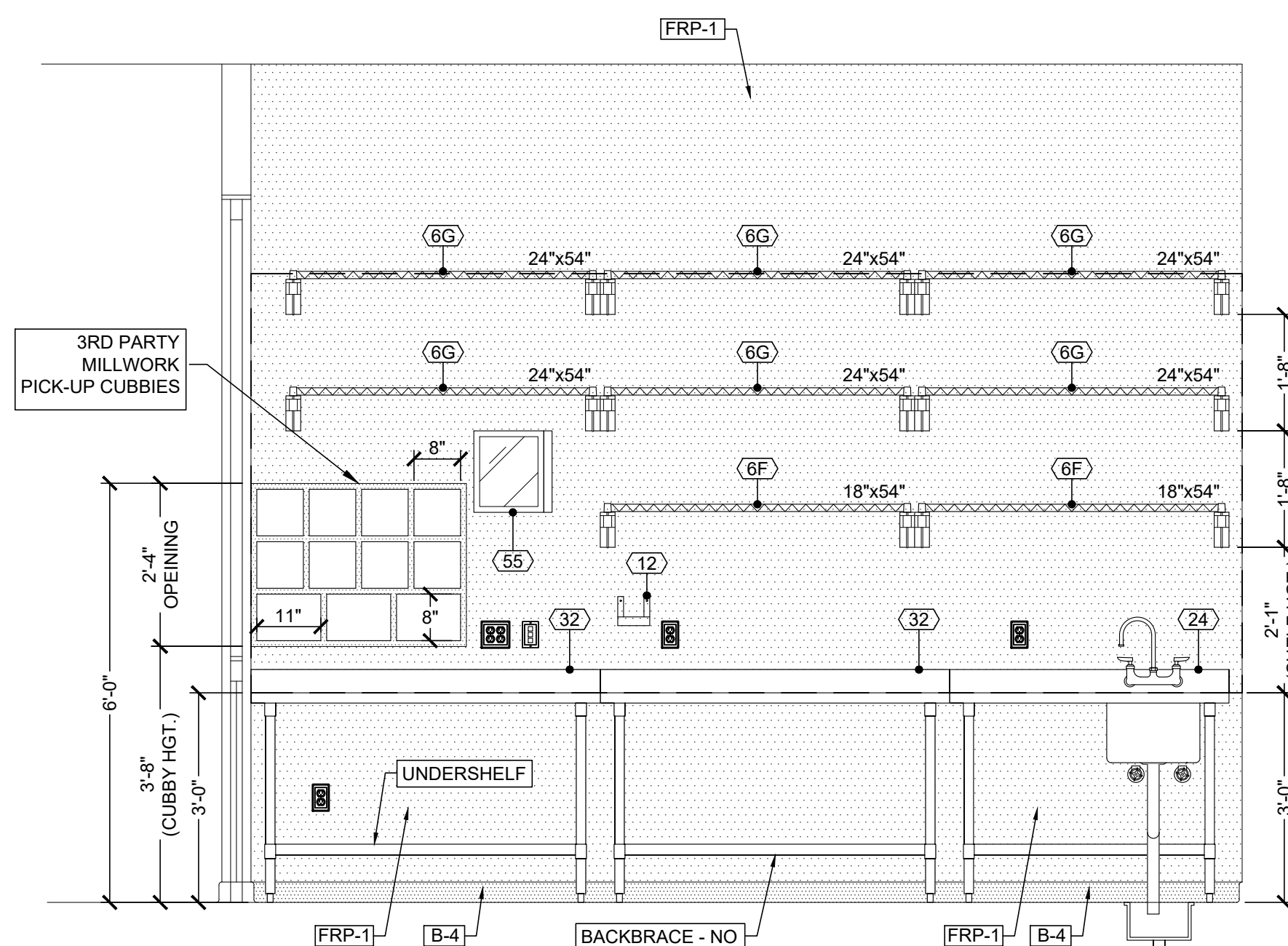
3 ICE MAKER (FRONT AND SIDE VIEW)
SCALE: 1/2" = 1'-0"



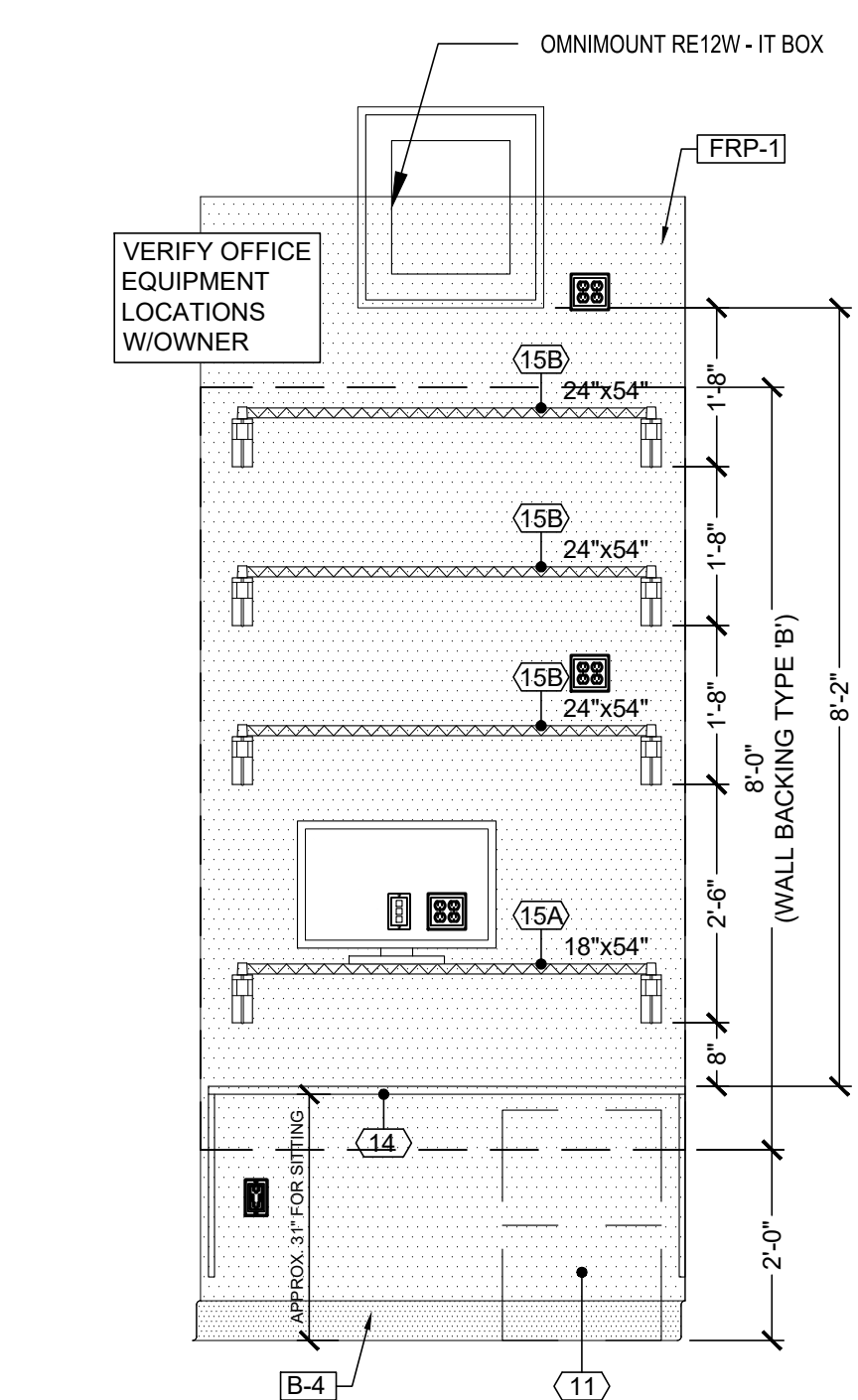
4 BLENDER TABLE (SIDE VIEW)
SCALE: 1/2" = 1'-0"

5 HAND SINK / 3-COMP SINK / MOP SINK
SCALE: 1/2" = 1'-0"

6 NOT USED
SCALE: 1/2" = 1'-0"



7 PREP TABLE(S)
SCALE: 1/2" = 1'-0"



8 OFFICE DESK (FRONT VIEW)
SCALE: 1/2" = 1'-0"

GENERAL NOTES	
1.	SEE A500 FOR FLOOR FINISH, INTERIOR FINISH SPECIFICATIONS, AND WALL BACKING LEGEND.
2.	ELEVATIONS ARE PROTOTYPICAL AND MAY NOT REFLECT ACTUAL DIMENSIONS OF NOTED CAFE. G.C. TO VERIFY ALL MEASUREMENTS AND ADJUST ACCORDINGLY.
3.	

STORE ADDRESS

6231 McKee Rd, Suite A
Fitchburg, WI 53719

STORE NUMBER

WI 021

tropical CAFE
SMOOTHIE
eat better. feel better.

REVISION

NO.	DESCRIPTION

DATE 02/02/2022

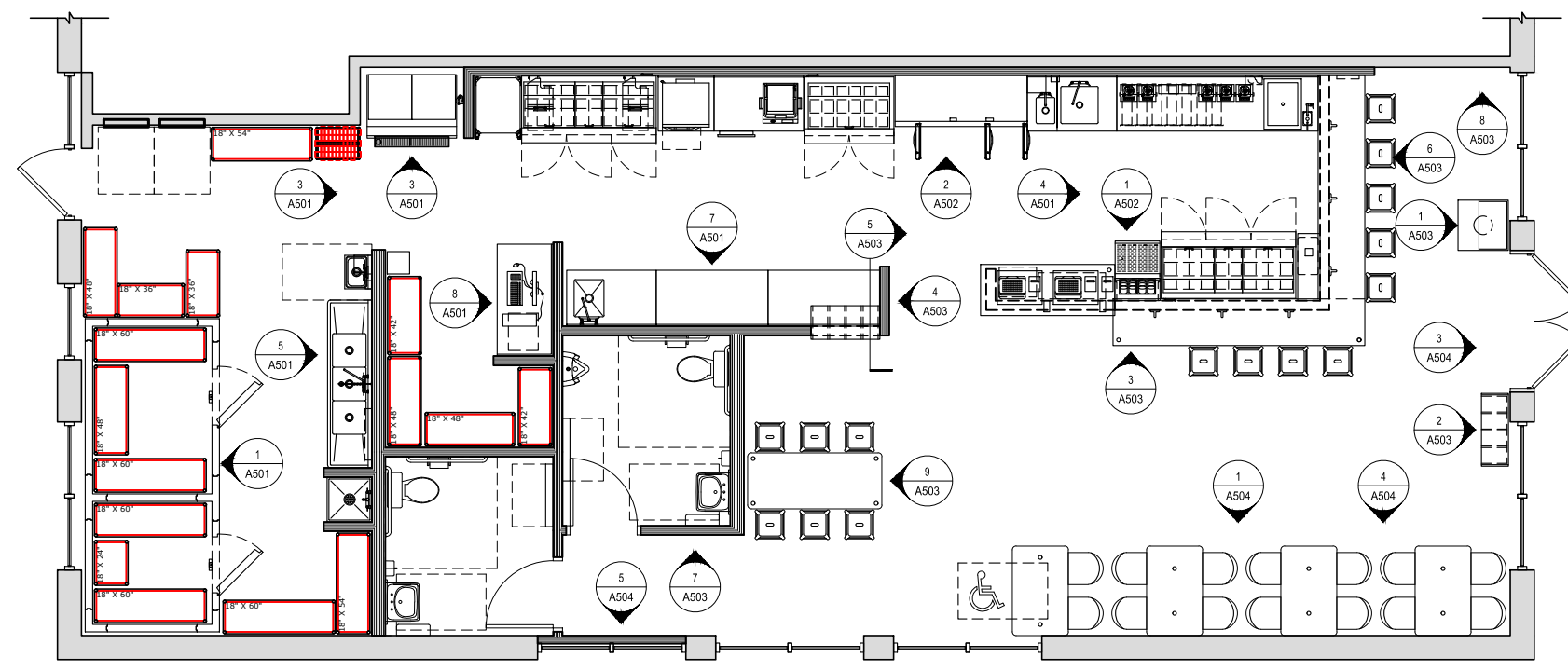
PROJECT 1674.010

FOR INTERNAL USE ONLY
PROTOTYPE REVISION NUMBER

SHEET NAME
INTERIOR
ELEVATIONS

SHEET NUMBER

A501



FLOOR PLAN LEGEND
SCALE: 1/8" = 1'-0"

GENERAL NOTES	
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STORE ADDRESS

6231 McKee Rd, Suite A
Fitchburg, WI 53719

STORE NUMBER

WI 021



REVISION

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DATE 02/02/2022

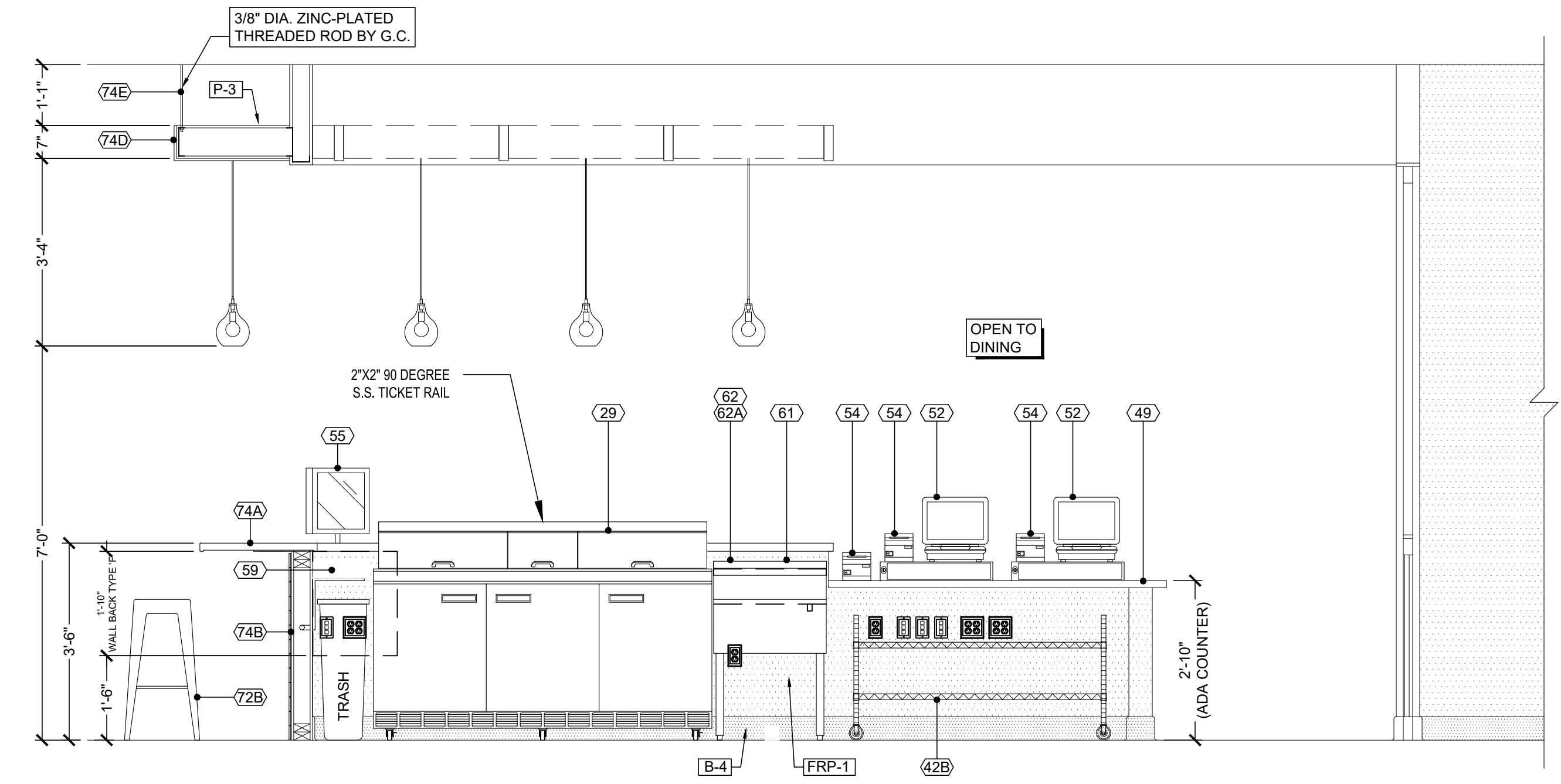
PROJECT 1674.010

FOR INTERNAL USE ONLY
PROTOTYPE REVISION NUMBER

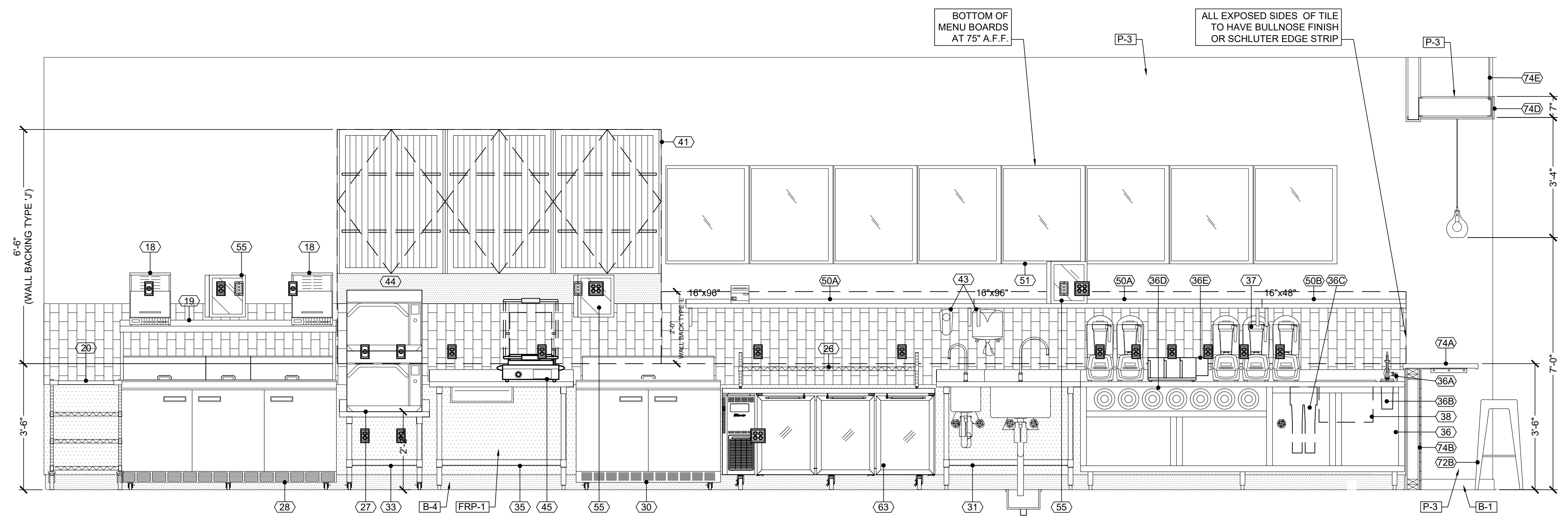
SHEET NAME
**INTERIOR
ELEVATIONS**

SHEET NUMBER

A502



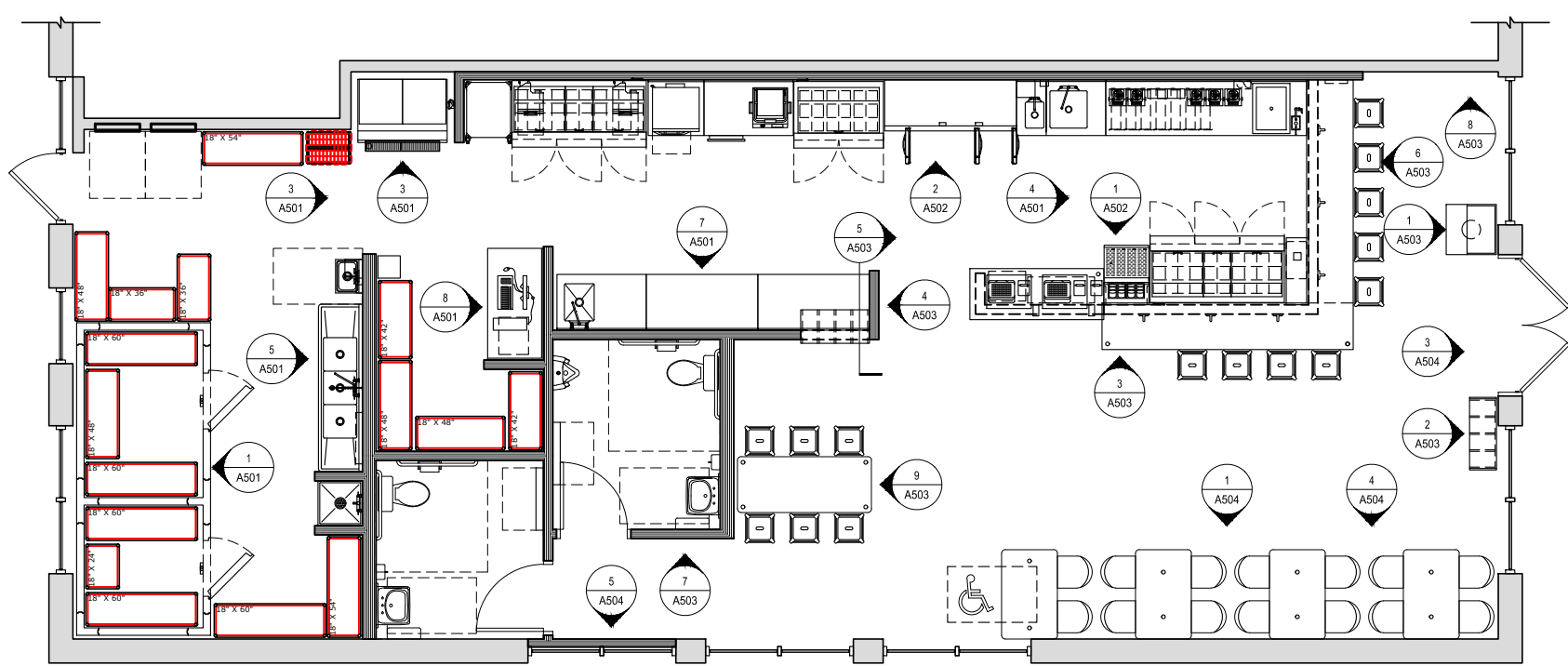
1 FRONT LINE (BACK VIEW)
SCALE: 1/2" = 1'-0"



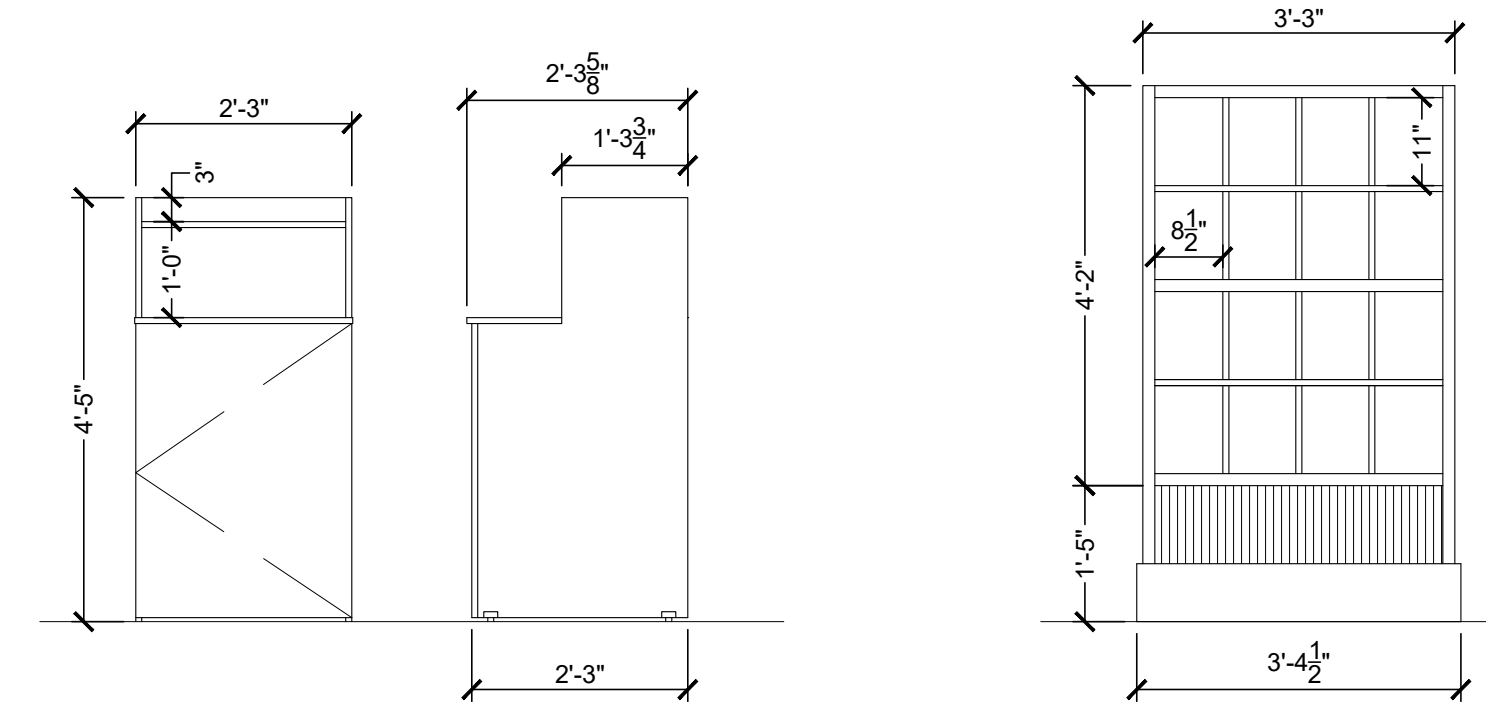
2 BACK LINE
SCALE: 1/2" = 1'-0"

GENERAL NOTES

- SEE A500 FOR FLOOR FINISH, INTERIOR FINISH SPECIFICATIONS, AND WALL BACKING LEGEND.
- ELEVATIONS ARE PROTOTYPICAL AND MAY NOT REFLECT ACTUAL DIMENSIONS OF NOTED CAFE. G.C. TO VERIFY ALL MEASUREMENTS AND ADJUST ACCORDINGLY.
-

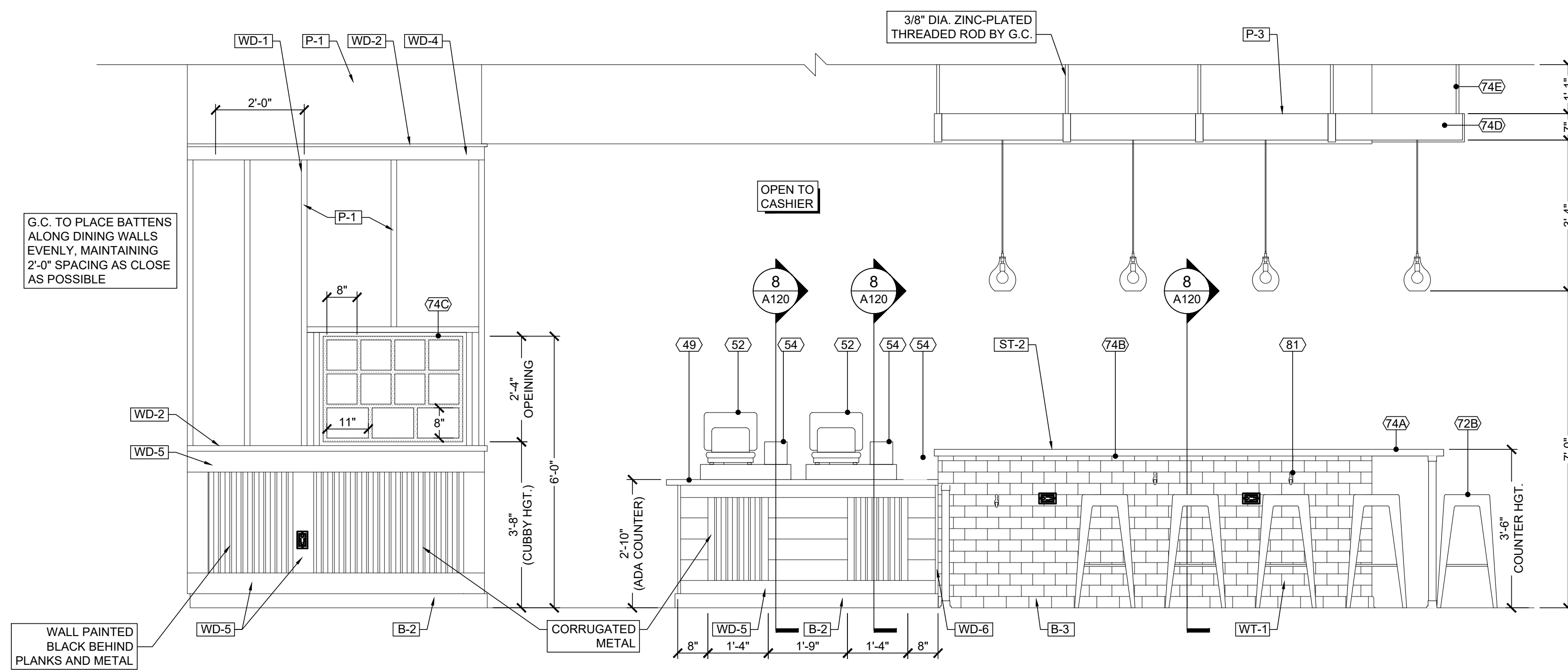


FLOOR PLAN LEGEND
SCALE: 1/8" = 1'-0"

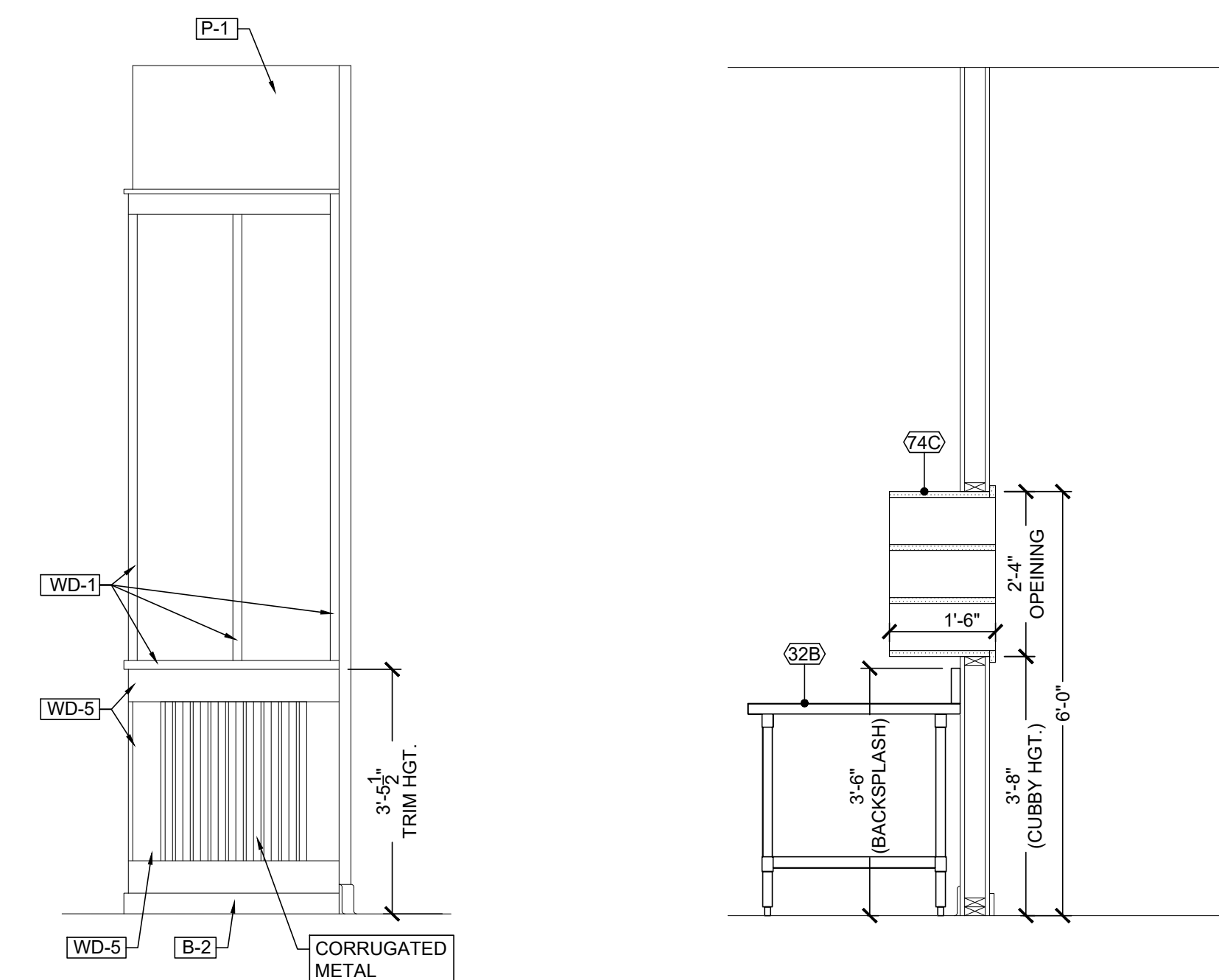


1 TRASH ENCLOSURE
SCALE: 1/2" = 1'-0"

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

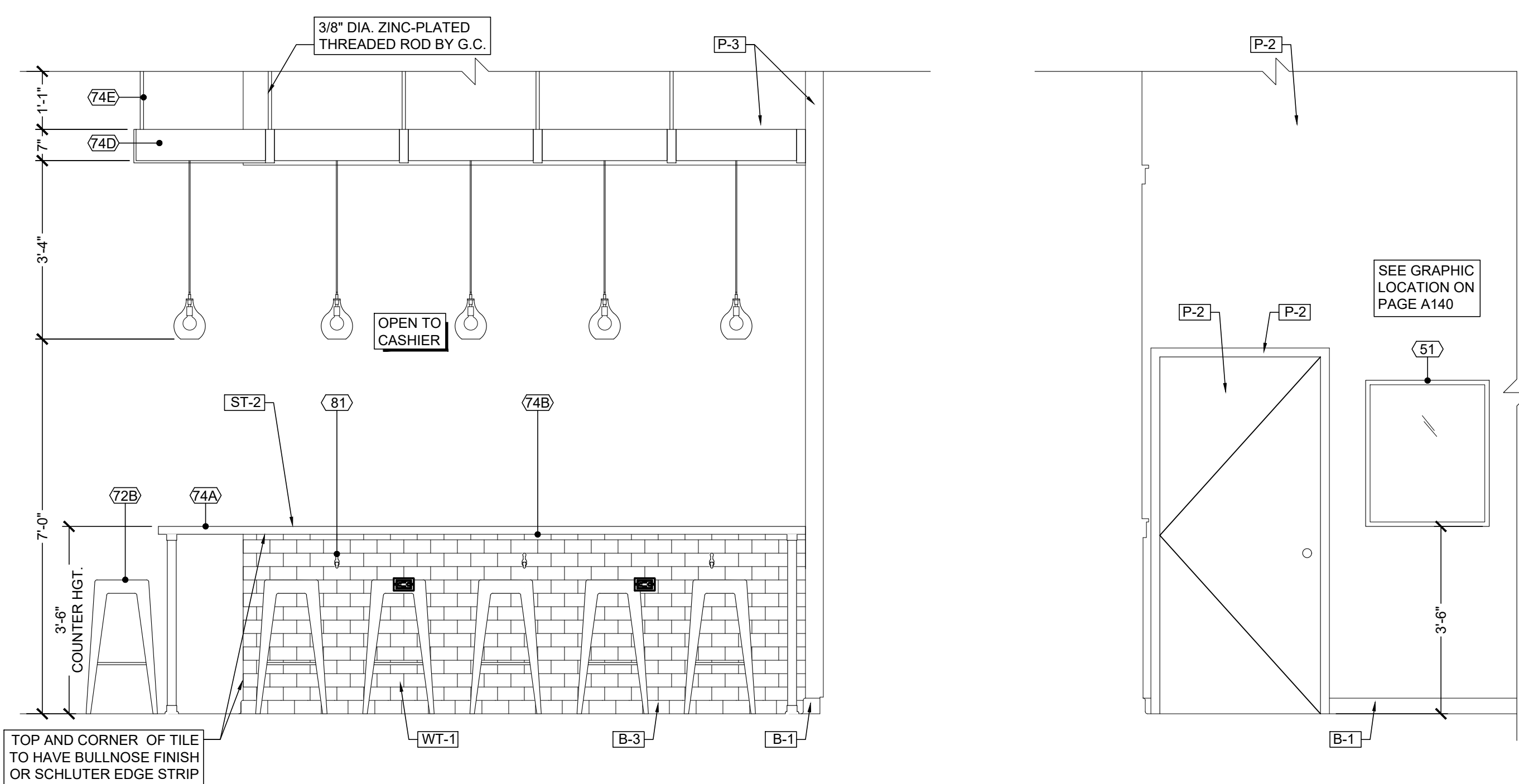


3 DINING WALL / CASHIER / SIT-DOWN COUNTER
SCALE: 1/2" = 1'-0"



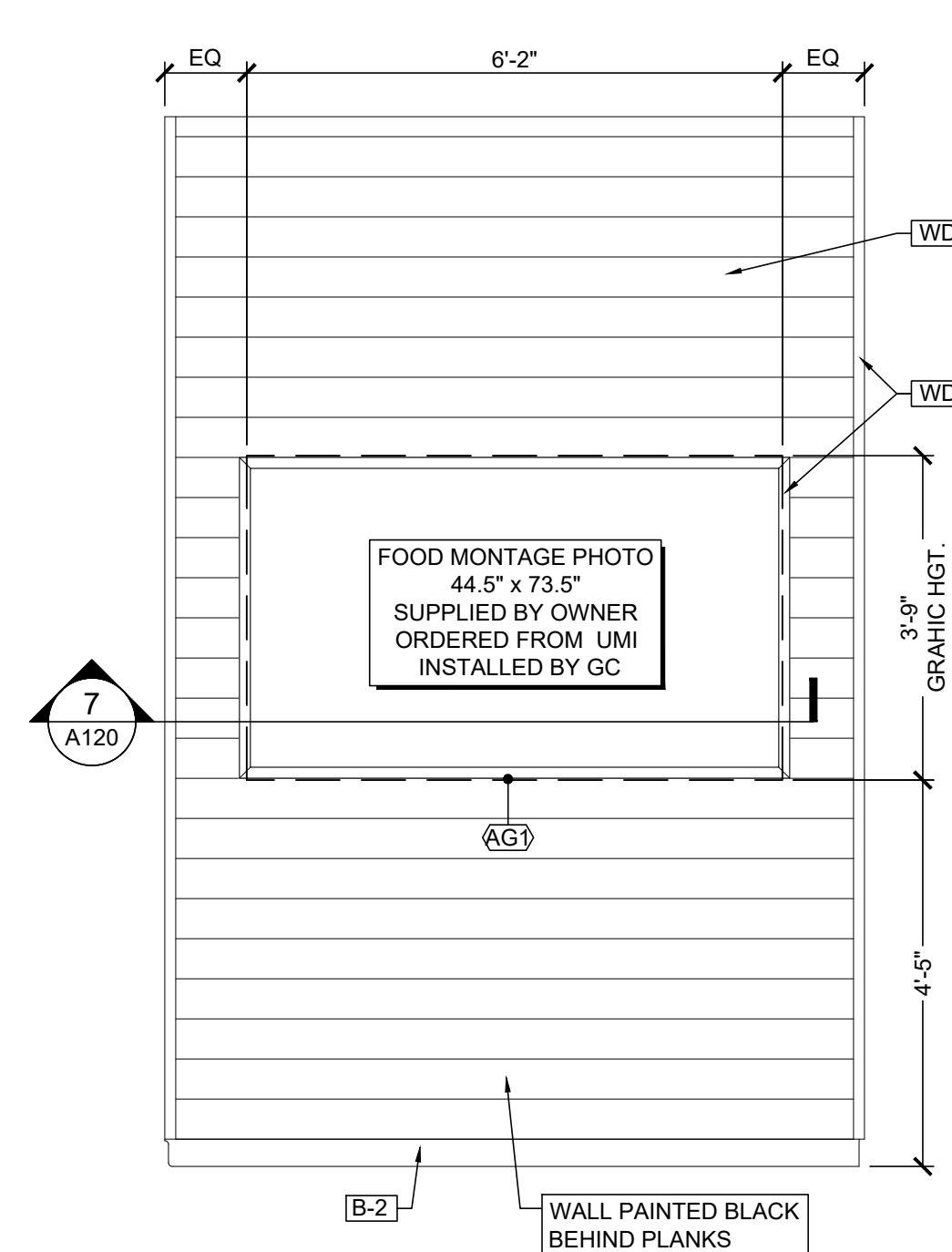
4 RETURN WALL
SCALE: 1/2" = 1'-0"

5 CUBBY SECTION VIEW
SCALE: 1/2" = 1'-0"

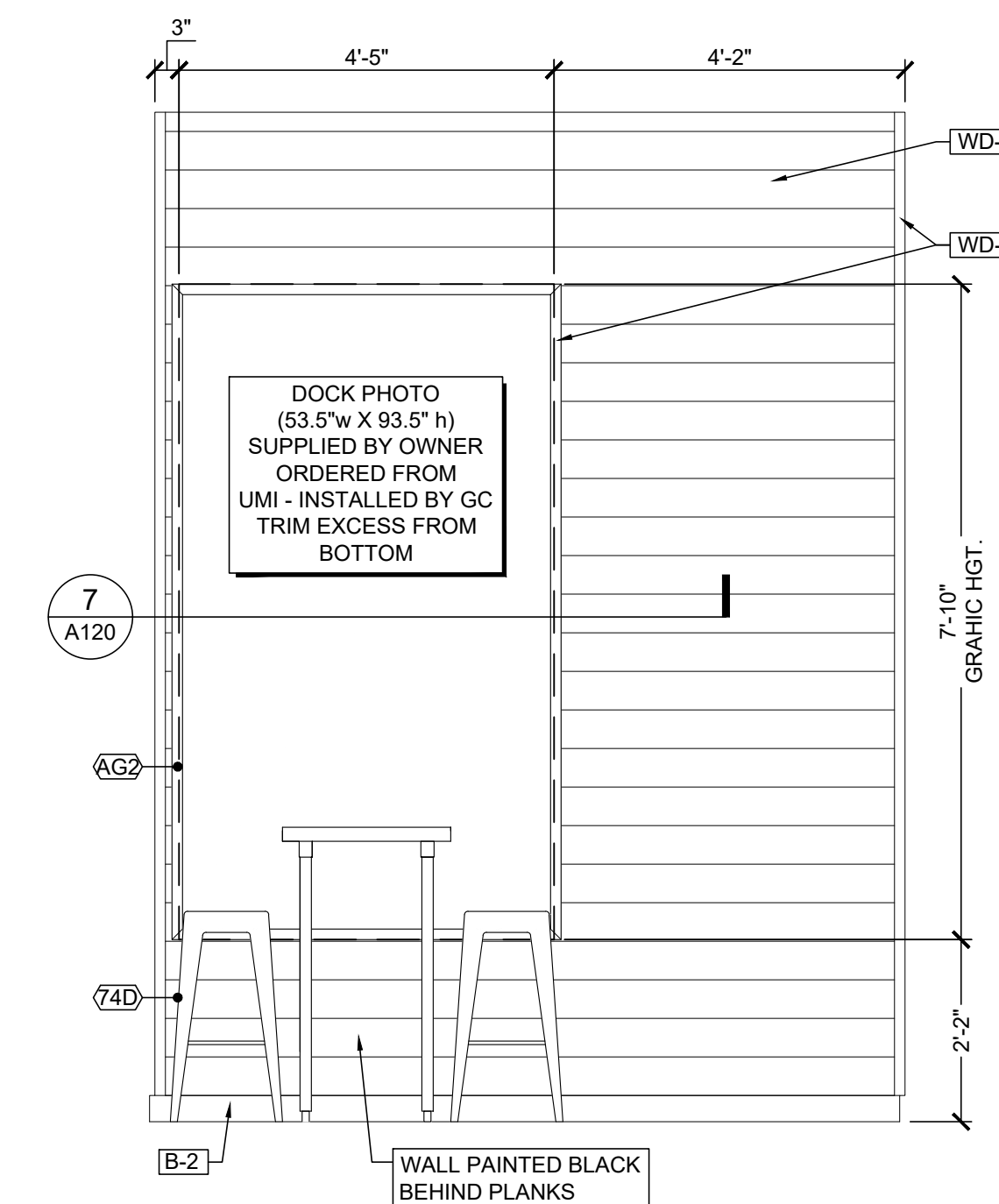


6 SMOOTHIE DINING COUNTER
SCALE: 1/2" = 1'-0"

7 RESTROOM CORRIDOR
SCALE: 1/2" = 1'-0"



8 FOOD MONTAGE GRAPHIC WALL
SCALE: 1/2" = 1'-0"



9 DOCK PHOTO GRAPHIC WALL
SCALE: 1/2" = 1'-0"

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WI 021

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SMOOTHIE
eat better. feel better.

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DATE 02/02/2022

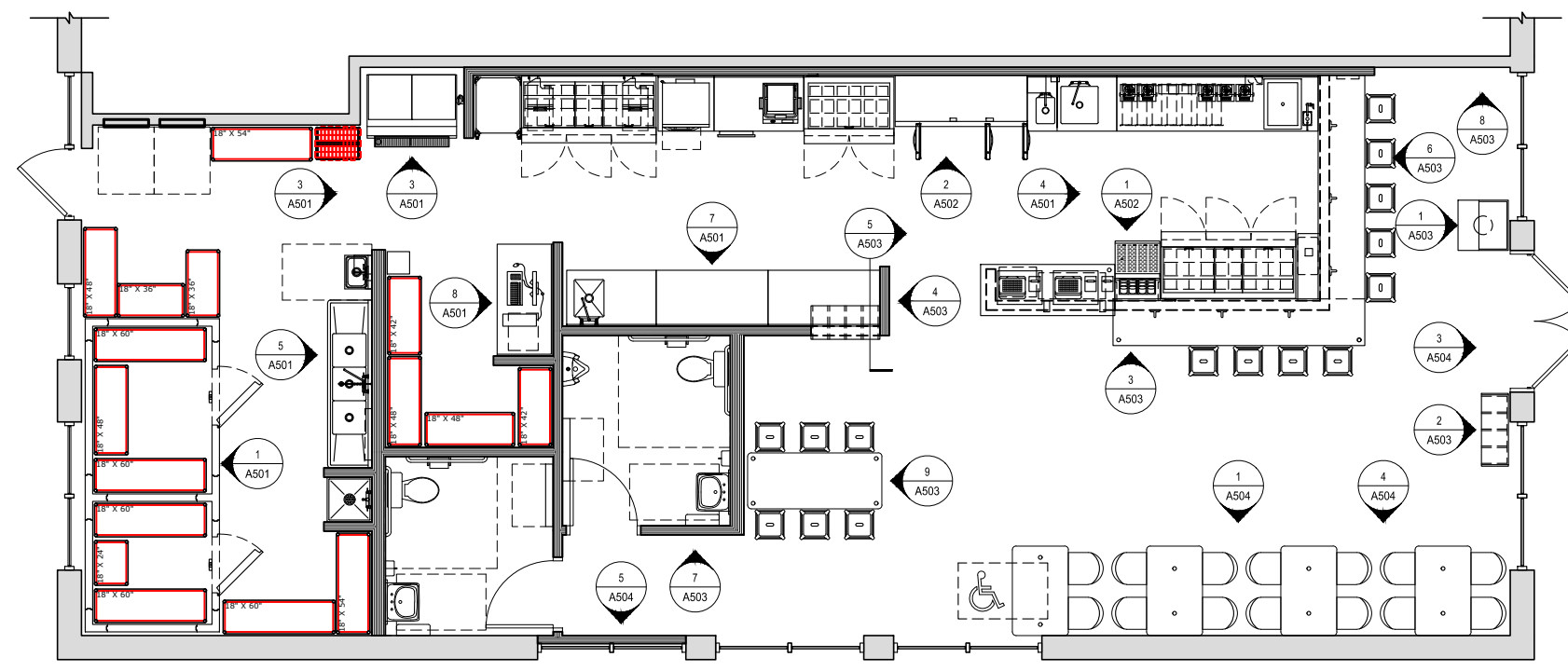
PROJECT 1674.010

FOR INTERNAL USE ONLY
PROTOTYPE REVISION NUMBER

SHEET NAME
INTERIOR ELEVATIONS

SHEET NUMBER

A503



FLOOR PLAN LEGEND
SCALE: 1/8" = 1'-0"

GENERAL NOTES	
1.	SEE A500 FOR FLOOR FINISH, INTERIOR FINISH SPECIFICATIONS, AND WALL BACKING LEGEND.
2.	ELEVATIONS ARE PROTOTYPICAL AND MAY NOT REFLECT ACTUAL DIMENSIONS OF NOTED CAFE. G.C. TO VERIFY ALL MEASUREMENTS AND ADJUST ACCORDINGLY.
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Fitchburg, WI 53719

STORE NUMBER

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REVISION

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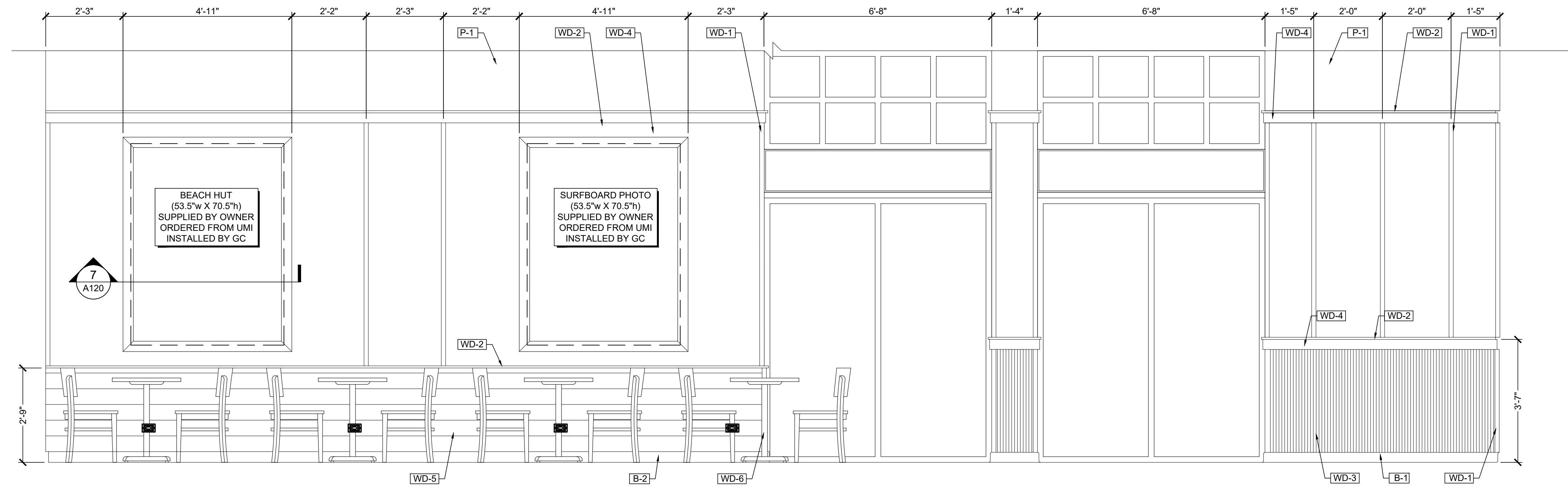
PROJECT 1674.010

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PROTOTYPE REVISION NUMBER

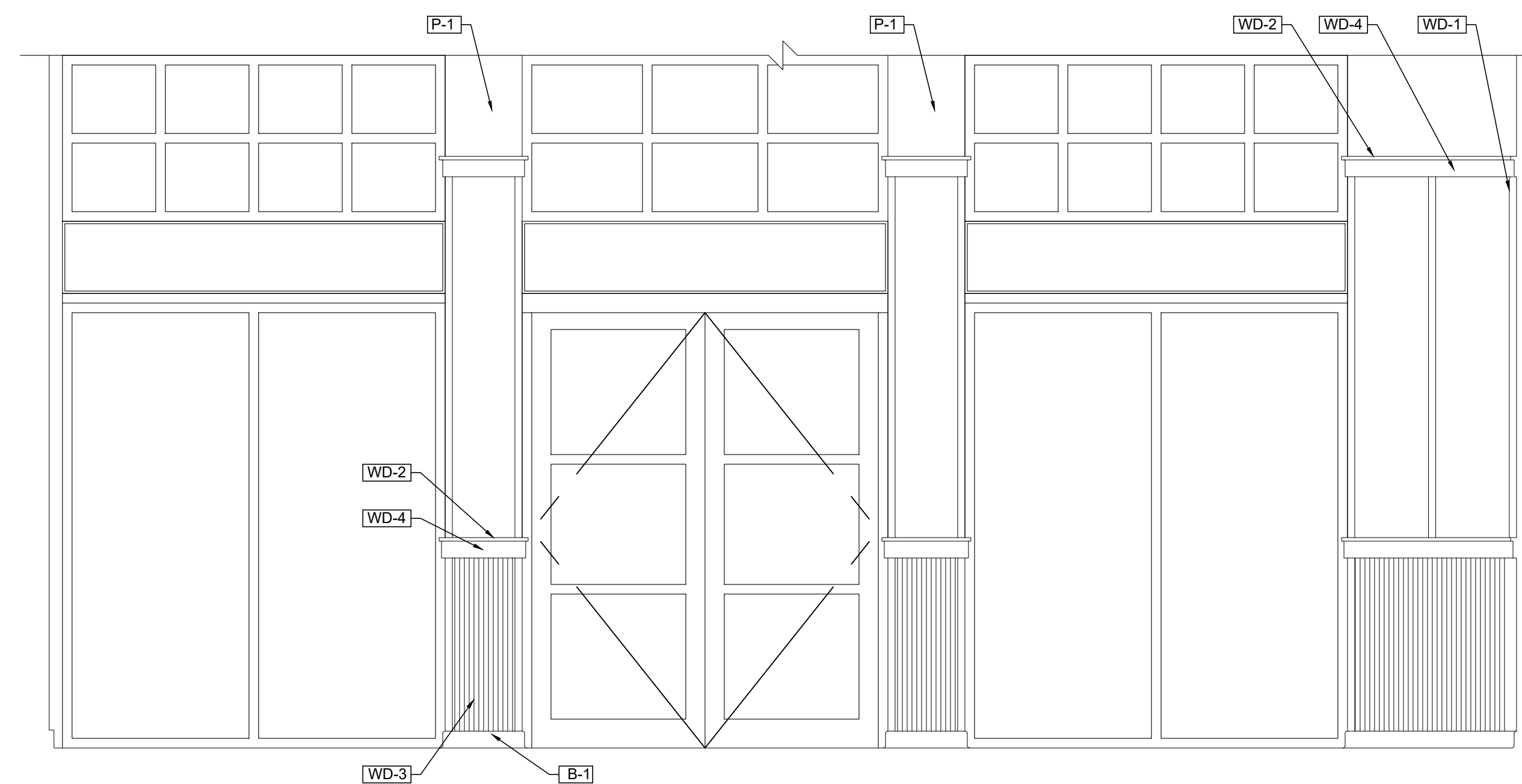
SHEET NAME
INTERIOR ELEVATIONS

SHEET NUMBER

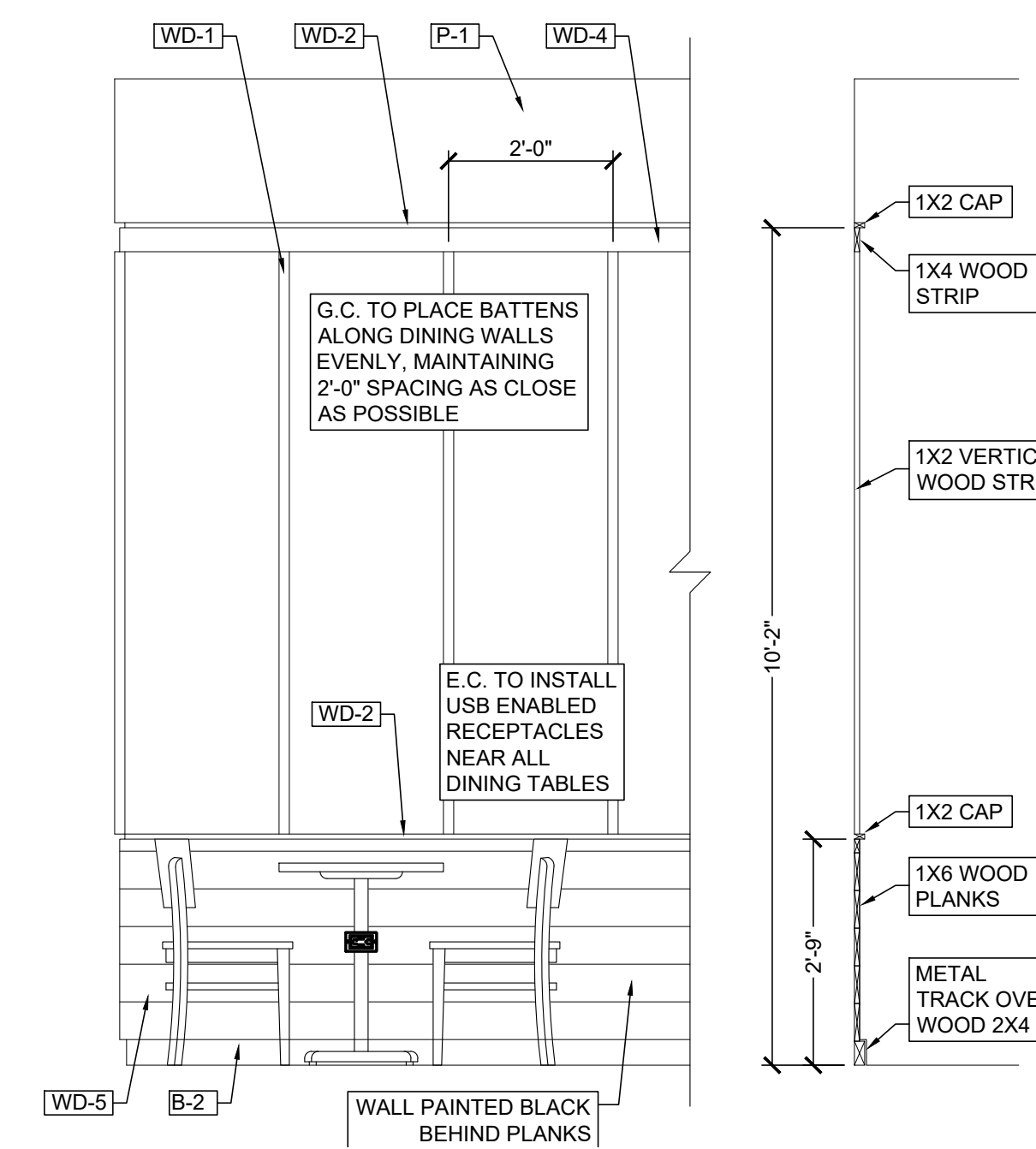
A504



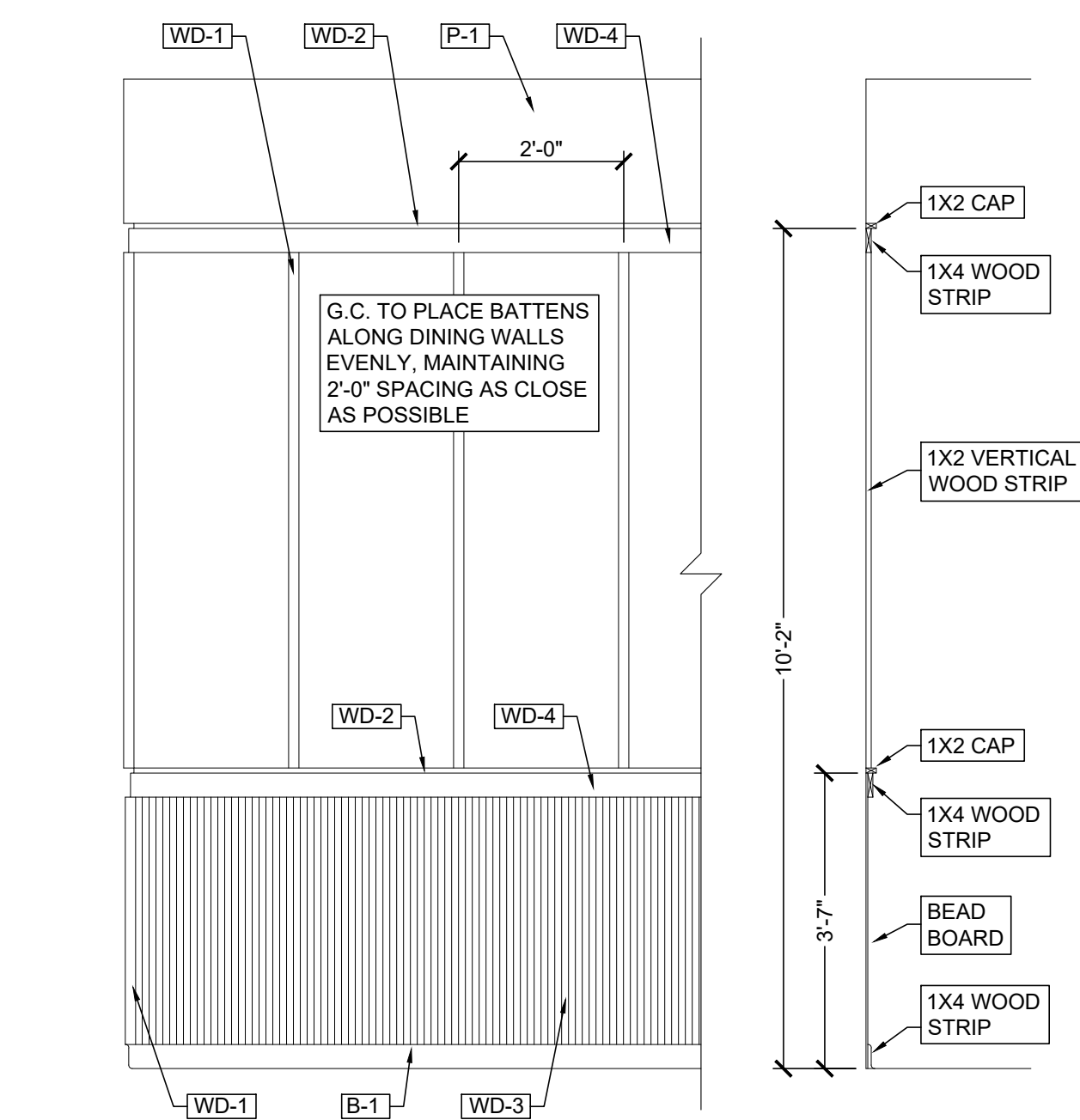
1 TYPICAL DINING BANQUET WALL
SCALE: 1/2" = 1'-0"



3 TYPICAL STOREFRONT WALL COVERING
SCALE: 1/2" = 1'-0"



4 WD-5 WOOD PLANK
SCALE: 1/2" = 1'-0"



5 WD-3 BEADBOARD
SCALE: 1/2" = 1'-0"

2 NOT USED
SCALE: 1/2" = 1'-0"

MECHANICAL SPECIFICATIONS

1. GENERAL PROVISIONS

- A. THE PROVISIONS OF THE INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, ALTERNATES, ADDENDAS', AND DIVISION 1 ARE A PART OF THIS SPECIFICATION. CONTRACTORS AND SUBCONTRACTORS SHALL EXAMINE SAME AS WELL AS OTHER DIVISIONS OF THE SPECIFICATIONS WHICH AFFECT WORK UNDER THIS DIVISION.
- B. THIS CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, SUPPLIES, SERVICES, AND SHALL PERFORM ALL WORK COMPLETE AND IN STRICT ACCORDANCE WITH THIS SPECIFICATION AND APPLICABLE DRAWINGS. ANY DEVIATIONS SHALL BE CLEARLY DEFINED AND ITEMIZED IN ACCORDANCE WITH SECTION 10.F OF THIS SPECIFICATION.
- C. THIS CONTRACTOR IS INSTRUCTED TO READ CAREFULLY THE SPECIFICATIONS FOR ALL PARTS OF THE WORK, WHICH INCLUDE THE ARCHITECTURAL, ELECTRICAL, MECHANICAL, PLUMBING, FIRE PROTECTION, CIVIL STRUCTURAL AND ALL OTHER DRAWINGS AS WELL AS THE SPECIFICATIONS FOR ALL THE DIVISIONS THAT ARE PART OF THE CONTRACT DOCUMENTS.
- D. ALL ITEMS OF LABOR, MATERIAL, AND EQUIPMENT NOT SPECIFICALLY MENTIONED HEREIN OR SHOWN ON PLAN, BUT INCIDENTAL TO, OR REQUIRED FOR THE COMPLETE INSTALLATION AND PROPER OPERATION OF THE WORK, SHALL BE FURNISHED AS IF CALLED FOR IN DETAIL BY THE SPECIFICATIONS OR DRAWINGS.
- E. AS USED IN THIS SPECIFICATION, "PROVIDE" MEANS "FURNISH AND INSTALL". "FURNISH" MEANS TO PURCHASE AND DELIVER TO THE PROJECT SITE COMPLETE WITH EVERY NECESSARY APPURTENANCE AND SUPPORT; AND "INSTALL" MEANS TO UNLOAD AT THE DELIVERY POINT AT THE SITE AND PERFORM EVERY OPERATION NECESSARY FOR PROPER INSTALLATION PER CODES AND MANUFACTURERS REQUIREMENTS, TO ESTABLISH SECURE MOUNTING AND CORRECT OPERATION AT THE PROPER LOCATION IN THE PROJECT.

2. PERMITS, CODES, INSPECTIONS AND TESTS.

- A. THE HVAC CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED FOR THE PROSECUTION OF HVAC WORK. ALL PERMITS AND CERTIFICATES OF INSPECTION AND APPROVAL SIGNED BY THE CONTROLLING BUILDING DEPARTMENT SHALL BECOME PROPERTY OF THE OWNER.
- B. DRAWINGS INDICATE THE MINIMUM DESIGN REQUIREMENTS. NATIONAL, STATE, AND LOCAL CODES SHALL BE FOLLOWED, COMPLY WITH THE LATEST EDITIONS OF THE STATE MECHANICAL CODE, NFPA, SMACNA, AND ASHRAE STANDARDS. THE CONTRACTOR SHALL INCLUDE THE COST OF SATISFYING SUCH CODES AND STANDARDS IN THE BID.
- C. FOLLOWING COMPLETION OF THE HVAC WORK, FURNISH TO THE OWNER, IN DUPLICATE, CERTIFICATES OF INSPECTION AND APPROVAL BY REGULATORY AGENCIES HAVING JURISDICTION.
 - (1) DEMONSTRATE TO THE OWNER'S SATISFACTION THE PROPER OPERATION OF EACH OF THE SYSTEMS COMPRISING THIS CONTRACT BEFORE FINAL PAYMENT.
 - (2) IMMEDIATELY CORRECT ANY WORK FOUND AT VARIANCE WITH THESE SPECIFICATIONS, THE NATIONAL, STATE, AND LOCAL CODES, AND REQUIREMENTS OF GOVERNING REGULATORY AGENCIES.
 - (3) TEST PIPING FOR LEAKS: REPAIR LEAKS IN COPPER TUBING BY SWEATING OUT JOINT; THOROUGHLY CLEANING BOTH TUBE AND FITTING, AND RESOLDERING. CORRECT LEAKS IN SCREWED JOINT BY REPLACING THREAD OR FITTING OR BOTH.
 - (4) PROVIDE SERVICES OF A CERTIFIED A.A.B.C. OR N.E.E.B. TEST AGENCY. CONDUCT ALL TESTS IN ACCORDANCE WITH ASSOCIATED AIR BALANCE COUNCIL STANDARDS. TEST AND ADJUST AIR HANDLING SYSTEM TO WITHIN 5% OF DESIGN REQUIREMENTS.

3. VISIT TO THE SITE

- A. THE CONTRACTOR SHALL VISIT THE SITE OF THE WORK AND BECOME FAMILIAR WITH ALL CONDITIONS AFFECTING THE WORK. THE SUBMISSION OF A PROPOSAL SHALL PRESUPPOSE KNOWLEDGE OF ALL SUCH CONDITIONS AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED WHERE EXTRA LABOR OR MATERIALS ARE REQUIRED BECAUSE OF IGNORANCE OF THESE CONDITIONS.

4. PROTECTION

- A. THE HVAC CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTION FROM DIRT AND WATER DURING CONSTRUCTION NECESSITATED BY HVAC WORK. PROTECTION METHODS ARE SUBJECT TO APPROVAL BY THE ARCHITECT.

5. EQUIPMENT AND MATERIALS

- A. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND SHALL CONFORM TO UNDERWRITERS' LABORATORIES STANDARDS, WHERE APPLICABLE. WHERE SPECIFICATIONS DESCRIBE, OR PLANS SHOW, MATERIALS OR EQUIPMENT OF HIGHER QUALITY THAN REQUIRED BY CODE AND LOCAL RULING, THE DRAWINGS AND SPECIFICATIONS SHALL GOVERN THE QUALITY OF THE MATERIAL OR EQUIPMENT. USED EQUIPMENT OR MATERIALS ARE PROHIBITED UNLESS NOTED OTHERWISE.
- B. NEW OR EXISTING TO REMAIN EQUIPMENT SHALL NOT BE OPERATED DURING CONSTRUCTION. HVAC CONTRACTOR SHALL COORDINATE WITH OTHER TRADES AND PROVIDE TEMPORARY SPACE CONDITIONING IN ORDER TO MAINTAIN TEMPERATURES AND HUMIDITY LEVELS AS REQUIRED FOR GENERAL CONSTRUCTION.
- C. THE CONTRACTOR SHALL SUBMIT PROOF, IF REQUESTED BY THE OWNER, THAT THE MATERIALS, APPLIANCES, EQUIPMENT OR DEVICES FURNISHED AND INSTALLED UNDER THIS CONTRACT MEET THE REQUIREMENTS OF THE UNDERWRITERS' LABORATORIES, INC. IN REGARDS TO FIRE AND CASUALTY HAZARDS. THE LABEL OF OR LISTING BY THE UNDERWRITERS' LABORATORIES, INC. WILL BE ACCEPTED AS CONFORMING TO THIS REQUIREMENT. IN LIEU OF THE LABEL OR LISTING, THE CONTRACTOR MAY SUBMIT INDEPENDENT PROOF SATISFACTORY TO THE ARCHITECT THAT THE MATERIAL, APPLIANCES OR DEVICES CONFORM TO THE PUBLISHED STANDARDS, INCLUDING METHODS OF TEST FOR THE UNDERWRITERS' LABORATORIES INCORPORATED. UNDERWRITERS LABORATORIES, INC. AND ITS PUBLICATIONS WILL BE REFERRED TO HEREINAFTER BY THE ABBREVIATION UL WITH OR WITHOUT ADDITIONAL IDENTIFYING SYMBOLS.

6. GUARANTEE

- A. THE HVAC CONTRACTOR SHALL GUARANTEE FOR A PERIOD OF ONE YEAR THAT ALL WORK AND EQUIPMENT WILL REMAIN FREE FROM ALL DEFECTS IN WORKMANSHIP AND MATERIALS, AND THAT IT WILL COMPLY WITH ALL THE SPECIFIC REQUIREMENTS OF THE SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS GOVERNING THE WORK.
- B. ALL WORK FOUND BY THE ENGINEER TO BE DEFECTIVE WILL BE REPLACED WITH NEW WORK MEETING ALL THE REQUIREMENTS OF THE CONTRACT. THE HVAC CONTRACTOR WILL BEAR ALL COSTS OF SUPPLYING SUCH NEW, AND INSTALLING AND FINISHING SAME, AND WILL ASSUME ALL COSTS FOR REPLACING OTHER WORK, DAMAGED BY THE REMOVAL AND REPLACEMENT OF ANY OF THE WORK. THE HVAC CONTRACTOR WILL BEAR ALL COSTS FOR FREIGHT, DRAYAGE AND DEMURRAGE, AND ALL LABOR IN CONNECTION THEREWITH.

7. CUTTING, PATCHING, FIRESTOPPING AND PAINTING

- A. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING ALL HOLES REQUIRED FOR INSTALLATION OF HVAC WORK. HOLES SHALL BE CUT IN A NEAT MANNER SATISFACTORY TO THE ARCHITECT.
- B. CONTRACTOR SHALL EMPLOY AN BUILDING OWNER APPROVED ROOFING CONTRACTOR FOR ALL ROOF PENETRATIONS. ROOF SHALL BE REPAIRED SO AS NOT TO VOID ROOF WARRANTY.
- C. UNLESS NOTED OTHERWISE, ALL HOLES OR DAMAGE CAUSED BY THE REMOVAL OF EXISTING WORK OR THE INSTALLATION OF NEW WORK SHALL BE PROPERLY PATCHED BY THIS CONTRACTOR. HOLES SHALL BE NEATLY PATCHED AND PAINTED WITH SUITABLE MATERIAL TO MATCH EXISTING SURFACES. HOLES THROUGH FLOORS OR FIRE WALLS SHALL BE SEALED WITH THE APPROPRIATE INTUMESCENT CALK, PUTTY, STRIP OR SHEET FIRE BARRIER PRODUCT.
- D. FIRESTOP SYSTEM (REQUIRED FIRESTOPPING MATERIALS) SHALL BE DETERMINED BY THE WALL OR FLOOR/CEILING ASSEMBLY AND PENETRATION TYPE AND SHALL BE UL LISTED AND TESTED IN ACCORDANCE WITH ASTM E814. FIRE RATING OF THE FIRESTOP SYSTEM SHALL BE EQUIVALENT TO THE ASSEMBLY WHICH IS PENETRATED.
- E. ACCEPTABLE FIRE BARRIER PRODUCTS: HILTI "FS-ONE" NELSON FLAMESEAL OR APPROVED EQUAL AS MANUFACTURED BY 3M.

8. CLEANING AND PAINTING

- A. CLEAN NEW PIPING AFTER WORK IS COMPLETE TO REMOVE PIPE DOPE. LOOSE MILL SCALE, AND OTHER EXTRANEOUS MATERIALS.
- B. TOUCH UP AND REPAIR ANY DAMAGED FACTORY FINISHES ON EQUIPMENT AND MATERIALS FURNISHED. OTHER PAINTING WILL BE DONE UNDER THE PAINTING DIVISION OF THE SPECIFICATIONS.

9. COORDINATION AND CONDUIT OF WORK

- A. HVAC DRAWINGS ARE DIAGRAMMATIC, INDICATING GENERAL ARRANGEMENT, APPROXIMATE SIZES, GENERAL LOCATIONS OF EQUIPMENT AND PIPING. VERIFY DIMENSIONS IN FIELD; ADJUST TO MANUFACTURER'S SHOP DRAWINGS. DO NOT SCALE DRAWINGS.
- B. ALL REQUESTS FOR INFORMATION SUPPLEMENTAL TO THE CONSTRUCTION DOCUMENTS SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT FOR DISTRIBUTION TO THE APPROPRIATE PARTY(S).
- C. DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED AS SUPPLEMENTING EACH OTHER. WORK SPECIFIED BUT NOT SHOWN, OR SHOWN BUT NOT SPECIFIED, SHALL BE PERFORMED OR FURNISHED AS THOUGH MENTIONED IN BOTH SPECIFICATIONS AND DRAWINGS.
- D. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE

ATTENTION OF THE ARCHITECT AND ENGINEER.

- E. ARCHITECTURAL AND STRUCTURAL DRAWINGS SUPERSEDE HVAC DRAWINGS. DETERMINE THAT WORK OF THIS DIVISION CAN BE ACCOMMODATED WITHIN SPACES PROVIDED. NOTIFY ARCHITECT OF ANY INTERFERENCE BEFORE STARTING INSTALLATION.
- F. DETERMINE SIZES, LOCATIONS FOR CHASES AND OPENINGS NECESSARY FOR INSTALLATION OF HVAC WORK, COOPERATE WITH OTHER TRADES IN PROVIDING SLEEVES, INSERTS AND HANGERS.
- G. COORDINATE THIS WORK WITH ALL TRADES. ARRANGE OPERATIONS SO AS NOT TO DELAY COMPLETION OF INSTALLATION OF ANY PARTS OF INTERRELATED WORK SO THAT CONSTRUCTION MAY PROCEED ON SCHEDULE.
- H. COOPERATE WITH ALL TRADES IN PREPARING INTERFERENCE DRAWINGS FOR AREAS WHERE THERE IS POSSIBLE CONFLICT BETWEEN TRADES. EXACT LOCATION OF PIPES, DUCTS AND EQUIPMENT SHALL BE BASED ON FIELD MEASUREMENT WITH FINAL ARRANGEMENT DETERMINED BY INTRA-TRADE AGREEMENTS SUBJECT TO ARCHITECT'S APPROVAL.
- I. ARCHITECT RESERVES THE RIGHT TO MAKE REASONABLE CHANGES IN INDICATED LOCATIONS WITHOUT EXTRA COST TO THE OWNER.
- J. ALL WORK SHALL BE INSTALLED IN NEAT AND WORKMANLIKE MANNER BY FIRST-CLASS MECHANICS. THE CONTRACTOR SHALL PROVIDE ADEQUATE AND COMPETENT SUPERVISION OF THE JOB AS REQUIRED.
- K. DUCTWORK, PIPING AND EQUIPMENT SHALL BE ARRANGED SUBSTANTIALLY AS INDICATED. ANY CHANGE RESULTING IN A SAVINGS IN LABOR OR MATERIAL SHALL BE MADE ONLY IN ACCORDANCE WITH A CONTRACT CHANGE ORDER. DEVIATIONS SHALL BE MADE ONLY WHERE NECESSARY TO AVOID INTERFERENCES AND ONLY AFTER DRAWINGS SHOWING THE PROPOSED DEVIATIONS HAVE BEEN SUBMITTED TO AND APPROVED BY THE ARCHITECT.
- L. COORDINATE ALL SHUTDOWNS OF ANY HVAC SYSTEM IN ADVANCE WITH THE OWNER.

10. SUBMITTALS

- A. PROVIDE A MINIMUM OF SIX (6) SETS OF SHOP DRAWINGS/SUBMITTALS FOR ALL SCHEDULED AND/OR SPECIFIED EQUIPMENT FOR APPROVAL BY THE ARCHITECT AND ENGINEER. INFORMATION SHALL INCLUDE, BUT IS NOT LIMITED TO: CFM, HP, GPM, MBH, EER, COP, HEFT, VOLTAGE/PHASE, MCA, CONNECTION SIZES, WEIGHT, DIMENSIONS, SCHEDULED EQUIPMENT, DIFFUSERS, DAMPERS, LISTED ACCESSORIES, ETC. AND OTHER COMPONENTS REQUIRED FOR A COMPLETE INSTALLATION.
- B. WHERE ONLY ONE MAKE OF EQUIPMENT IS NAMED, IT SHALL BE PROVIDED AS SPECIFIED.
- C. VERBAL REQUESTS OF APPROVALS FOR ANY SUBSTITUTION WILL NOT BE BINDING ON THE ARCHITECT, ENGINEER AND OWNER.
- D. THIS CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR ALL COSTS FOR REDESIGN AND CHANGES NECESSARY BY ALL TRADES TO ACCOMMODATE THE USE OF EQUIPMENT NOT SPECIFIED ON PROJECT DOCUMENTS.
- E. BIDS SHALL BE BASED UPON THE SPECIFIED PRODUCTS OR LISTED ALTERNATIVES. DRAWINGS AND SPECIFICATIONS ARE BASED ON THE PRODUCTS SPECIFIED BY TYPE, MODEL, AND SIZE, AND THUS ESTABLISH MINIMUM QUALITIES, WHICH SUBSTITUTES MUST MEET TO QUALIFY FOR REVIEW.
- F. SHOULD THE CONTRACTOR PROPOSE TO FURNISH MATERIALS, EQUIPMENT, AND DEVICES, OTHER THAN THOSE SPECIFIED AND LISTED, THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST FOR SUBSTITUTIONS TO THE ENGINEER AT LEAST FOURTEEN (14) CALENDAR DAYS PRIOR TO BID OPENING. THE REQUEST SHALL BE AN ALTERNATE TO THE ORIGINAL BID AND SHALL INCLUDE AND BE ACCOMPANIED WITH COMPLETE SPECIFICATION CUT SHEET SUBMITTALS AS OUTLINED IN SECTION 10.A OF THIS SPECIFICATION SECTION, COMPLETE WITH DESCRIPTIVE (MANUFACTURER, BRAND NAME, CATALOG NUMBER, ETC) AND TECHNICAL DATA FOR ALL ITEMS. INDICATE ANY ADDITIONS OR DEDUCTIONS TO THE CONTRACT PRICE ON BOTH THE SUBSTITUTION SUBMITTAL AND THE BID FORM. FAILURE TO PERFORM THESE ACTIONS EQUATES TO ACKNOWLEDGEMENT THAT THE PROJECT HAS BEEN BID WITH STRICT ACCORDANCE TO THIS SPECIFICATION AND APPLICABLE DRAWINGS.
- G. ACCEPTANCE OR REJECTION OF THE PROPOSED SUBSTITUTIONS SHALL BE SUBJECT TO APPROVAL OF THE ARCHITECT AND ENGINEER. IF REQUESTED, THE CONTRACTOR SHALL SUBMIT INSPECTION SAMPLES OF BOTH THE SPECIFIED AND THE PROPOSED SUBSTITUTE ITEMS.
- H. IF ANY SUBSTITUTIONS ARE APPROVED, AN ADDENDUM LISTING THE APPROVED ITEM(S) WILL BE ISSUED TO ALL BIDDING CONTRACTORS PRIOR TO THE BID DATE.
- I. IN ALL CASES WHERE SUBSTITUTIONS ARE PERMITTED, THE CONTRACTOR SHALL BEAR AN EXTRA COST OF EVALUATING THE EQUALITY OF THE MATERIAL AND EQUIPMENT TO BE INSTALLED.

11. EQUIPMENT IDENTIFICATION

- A. THE CONTRACTOR SHALL FURNISH AND INSTALL A SYSTEM OF NAMEPLATES DESIGNED TO IDENTIFY EACH PIECE OF EQUIPMENT.
 - (1) NAMEPLATE LETTERS AND NUMBERS SHALL MATCH EQUIPMENT DESIGNATION AS INDICATED ON THE DRAWINGS.
 - (2) NAMEPLATES SHALL BE LAMINATED PHENOLIC WITH BLACK SURFACE AND WHITE CORE. USE 1/16" THICK MATERIAL FOR PLATES UP TO 2" BY 4". FOR LARGER SIZES USE 1/8" THICK. LETTERS AND NUMBERS SHALL BE A MINIMUM OF 1/8" HIGH.
 - (3) FASTEN NAMEPLATES TO ALL EQUIPMENT BY THE USE OF STAINLESS STEEL SHEET METAL SCREWS.

12. AS-BUILT DRAWINGS

- A. AS WORK PROGRESSES, RECORD ON A SET OF "AS-BUILT PRINTS ANY DEVIATIONS FROM DESIGN DRAWINGS. DELIVER THIS SET TO THE OWNER BEFORE SUBMITTING REQUEST FOR FINAL PAYMENT. THE "AS-BUILT PRINTS SHALL BE AN ACCURATE DEPICTION OF THE PROJECT AS COMPLETED.

13. OPERATING AND MAINTENANCE MANUALS

- A. PROVIDE TO OWNER AT PROJECT TURNOVER, THREE (3) HARDBOUND COPIES OF OPERATING AND MAINTENANCE MANUALS FOR ALL EQUIPMENT AND SYSTEMS INSTALLED.
- B. MANUALS SHALL INCLUDE ALL RELEVANT INFORMATION NEEDED FOR DAY-TO-DAY OPERATION AND MANAGEMENT OF EACH SYSTEM AND EQUIPMENT MAINTENANCE INFORMATION REQUIRED TO SUPPORT THE MAINTENANCE PROGRAM.
- C. MANUALS SHALL INCLUDE THE SEQUENCE OF OPERATION FOR EACH SYSTEM WHICH DESCRIBES THE CONTROL COMPONENTS AND HOW THE SYSTEM WILL START, STOP AND OPERATE.

14. INSULATION

- A. PROVIDE ALL INSULATION MATERIALS (INSULATION, JACKETS, FITTING COVERS, ADHESIVES, CEMENTS, MASTICS, SEALERS AND FINISHES) WITH A FLAME-SPREAD INDEX OF 25 OR LESS AND SMOKE DEVELOPED INDEX OF 50 OR LESS, AS TESTED UNDER PROCEDURE ASTM E-84 (NFPA 255)
- B. ALL INSULATION SHALL BE INSTALLED OVER CLEAN, DRY SURFACES. INSULATION MUST BE DRY AND IN GOOD CONDITION. WET OR DAMAGED INSULATION IS NOT ACCEPTABLE. NO INSULATION SHALL BE APPLIED PRIOR TO PRESSURE TEST COMPLETION OF THE RESPECTIVE SYSTEM.
- C. ALL INSULATION SHALL BE CONTINUOUS (INCLUDING VAPOR BARRIER) THROUGH WALL AND CEILING OPENINGS AND SLEEVES. OVERLAP AT SEAMS PER MANUFACTURER'S RECOMMENDATIONS.
- D. ALL INSULATION PRODUCTS SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATION. THE WORKMANSHIP SHALL BE FIRST CLASS AND ALL JOINTS SHALL BE MADE TIGHT.
- E. INSULATION MUST MEET ADOPTED ASHRAE 90.1 STANDARDS.
- F. INSULATE CONCEALED SUPPLY AIR DUCTWORK WITH 2" THICK OWENS-CORNING FIBERGLASS DUCTWRAP WITH FOIL FACED ALL-SERVICE JACKET.
- G. INSULATE OUTDOOR AIR DUCTWORK WITH 1-1/2" THICK OWENS-CORNING FIBERGLASS DUCTWRAP WITH FOIL FACED ALL-SERVICE JACKET.
- H. INTERNAL DUCT INSULATION SHALL BE USED ON EXPOSED DUCTWORK.
- I. REPAIR EXISTING INSULATION WHERE REMOVED FOR NEW CONNECTIONS OR INSULATION DAMAGED DURING CONSTRUCTION. INSULATION SHALL BE THE SAME AS SPECIFIED FOR NEW SERVICE.
- J. ALL INSULATION USED AS PLENUM WRAP COVERING FOR COMBUSTIBLE MATERIALS IN A PLENUM SPACE SHALL BE 3M PLENUM PROTECTION SYSTEM (PP-100-P). ONE LAYER OF 3M FIRE BARRIER DUCT WRAP SA, IN ACCORDANCE WITH UL910 & UL1887.
- K. ACOUSTICAL DUCT LINING:
 - (1) INTERNALLY LINE FIRST TEN FEET OF DUCTWORK FROM AIR HANDLERS AND TERMINAL UNITS AND WHERE INDICATED ON PLANS.
 - (2) FIBROUS GLASS, COMPLYING WITH THERMAL INSULATION MANUFACTURERS ASSOCIATION (TIMA) AHC-1071.
 - (3) ASTM C 1071, TYPE II, WITH COATED SURFACE EXPOSED TO AIRSTREAM TO PREVENT EROSION OF GLASS FIBERS 1" THICK, 1 - 1/2 LB. DENSITY. COATING MATERIAL SHALL BE ANTI-MICROBIAL AND COMPLY WITH NFPA 80A AND 80B.
 - (4) K-FACTOR= EQUAL TO 0.28 OR BETTER, AT MEAN TEMPERATURE OF 75 DEG. F.

- (5) FLAME SPREAD INDEX SHALL BE 25 OR LESS AND SMOKE DEVELOPED INDEX SHALL BE 50 OR LESS, AS TESTED IN ACCORDANCE WITH ASTM C 411.
- (6) DUCT LINING ADHESIVE SHALL COMPLY WITH ASTM C 916 SPECIFICATIONS FOR ADHESIVES FOR "DUCT THERMAL INSULATION". DUCT LINING FASTENERS ALL COMPLY WITH SMACNA DUCT CONSTRUCTION STANDARDS, ARTICLE 52.11
- (7) ALTERNATE DUCT LINING MATERIAL - ARMACELL AP ARMAFLEX SA BLACK DUCT LINER, 3/4" THICK, MICROBIAL ANTI-MICROBIAL PROTECTION.

15. METAL DUCTWORK

- A. HVAC CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO FABRICATION OF DUCTWORK. ANY CONFLICTS OR INTERFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- B. GALVANIZED DUCTWORK SHALL BE FABRICATED OF NO.1 PRIME GALVANIZED SHEET METAL OF LOCK FORMING QUALITY.
- C. SEALING MATERIALS SHALL BE SUITABLE FOR USE WITH AIR DISTRIBUTION DUCTWORK. ACCEPTABLE MANUFACTURERS ARE MONOCO INDUSTRIES, 3M, OR UNITED SHEET METAL.
- D. PROVIDE ALL DUCTWORK AS INDICATED ON THE DRAWINGS, MAKING ALL NECESSARY OFFSETS (WHETHER OR NOT SPECIFICALLY INDICED) AS REQUIRED TO MEET THE VARIOUS BUILDING CONDITIONS. DUCTWORK INSTALLATION SHALL NOT CONFLICT WITH EQUIPMENT OR PIPING.
- E. EXPOSED DUCTWORK SHALL BE PRIMED AND PAINTED, COORDINATE WITH ARCHITECTURAL PLANS FOR COLOR SELECTION.
- F. ALL CHANGES IN CROSS SECTION SHALL BE MADE WITHOUT REDUCING THE DESIGN AREA OF THE DUCT OR RAISING THE PRESSURE DROP PER 100 FEET OF DUCT SHOWN ON DOCUMENTS.
- G. NO PIPE OR OTHER OBSTRUCTIONS SHALL PASS THROUGH AIR DUCTS, UNLESS SPECIFICALLY SHOWN ON PLANS.
- H. CAP ALL OPEN ENDS TO DUCTWORK DURING CONSTRUCTION TO PREVENT ENTRANCE OF DUST, DEBRIS, MOISTURE ETC.
- I. INSTALL DUCTWORK RUN ABOVE CEILING AS HIGH AS POSSIBLE SO AS TO MAINTAIN DESIGN CEILING HEIGHTS. EXPOSED DUCTWORK SHALL BE INSTALLED TO PROVIDE MAXIMUM HEADROOM OR AT HEIGHT SPECIFIED ON PLANS.
- J. DUCTWORK SHALL NOT BE HUNG FROM EQUIPMENT, PIPING, CONDUIT, ROOF DECKING OR OTHER DUCTWORK.
- K. ALL DUCTWORK JOINTS AND SEAMS SHALL BE AIR-TIGHT PER SMACNA TABLE 1.1. POORLY MADE JOINTS, SPLITS, VISIBLE HOLES AT CORNERS, ETC SHALL BE REWORKED AND REPAIRED WHERE EXCESSIVE PULSATING OF DUCTWORK IS FOUND. ADDITIONAL STIFFENERS SHALL BE ADDED. ANY CRACKING IN THE SEALANT THAT IS APPARENT UPON INSPECTION SHALL BE SUFFICIENT TO WARRANT REJECTION.
- L. IF THE INTERIOR OF SHEET METAL IS EXPOSED TO VIEW THROUGH AIR DISTRIBUTION DEVICES IN FINISHED AREAS OF THE BUILDING, IT SHALL BE COATED WITH PRIMER AND A FLAT BLACK FINISH COAT.
- M. ALL DUCTWORK SHALL BE SUPPORTED PER SMACNA REQUIREMENTS.
- N. RECTANGULAR DUCTWORK FITTINGS:
 - (1) BRANCH CONNECTIONS SHALL BE 45 DEGREE ENTRY. STRAIGHT TAPS ARE NOT PERMITTED.
 - (2) CHANGES IN DIRECTION SHALL BE MADE WITH FULL RADIUS ELBOWS WITH RADIUS EQUAL TO 1-1/2 TIMES THE HORIZONTAL WIDTH OF THE DUCT OR WITH SQUARE ELBOWS WITH TURNING VANES. TURNING VANES SHALL BE DOUBLE THICKNESS TYPE CONSTRUCTED OF THE SAME MATERIAL AS THE SURROUNDING DUCTWORK, PER SMACNA REQUIREMENTS.

O. ROUND DUCTWORK FITTINGS:

- (1) BRANCH CONNECTIONS SHALL BE MADE WITH 45 DEGREE ENTRY TEES.
- (2) CHANGE IN DIRECTION SHALL BE MADE WITH FULL RADIUS ELBOWS WITH RADIUS EQUAL TO 1-1/2 TIMES THE DIAMETER OF THE DUCT.
- P. LOW PRESSURE DUCTWORK SHALL BE CONSTRUCTED PER SMACNA "HVAC DUCT CONSTRUCTION STANDARDS" FOR 2 INCH STATIC PRESSURE, SEAL CLASS "B".
- Q. HANGERS AND SUPPORTS
 - (1) PROVIDE GALVANIZED STEEL STRAPS, ALL-THREAD ROD AND HORIZONTAL ANGLE SUPPORTS SIZED PER SMACNA REQUIREMENTS.
 - (2) DUCT ATTACHMENTS SHALL BE MADE USING SHEET METAL SCREWS COMPATIBLE WITH DUCT MATERIALS.
 - (3) BUILDING ATTACHMENTS SHALL BE CONCRETE INSERTS OR STRUCTURAL STEEL FASTENERS APPROPRIATE FOR THE BUILDING MATERIALS. DO NOT USE POWER ACTIVATE CONCRETE FASTENERS. C-TYPE MALLEABLE IRON BEAM CLAMPS ARE ACCEPTABLE ONLY IF USED WITH CARBON STEEL RETAINER STRAP.

16. NOT USED

17. FLEXIBLE DUCTWORK

- A. TESTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES, INC. AS CLASS 1 AIR DUCT AND LABELED IN ACCORDANCE WITH U.L. 181, STANDARD FOR AIR DUCTS". THE FLAME SPREAD RATING SHALL BE 25 OR LESS AND THE SMOKE DEVELOPED RATING SHALL BE 50 OR LESS.
- B. LINER SHALL BE CONSTRUCTED OF ALUMINUM FOIL, FIBERGLASS AND ALUMINIZED POLYESTER, MECHANICALLY LOCKED WITH-OUT ADHESIVES, HELIX SHALL BE GALVANIZED STEEL, FORMED AND MECHANICALLY LOCKED TO FABRIC.
- C. WHERE DUCTWORK IS TO BE INSULATED, FLEXIBLE DUCTWORK LINER SHALL BE COVERED BY A FACTORY WRAPPED, 1-1/2" THICK, 3/4 POUND DENSITY FIBERGLASS INSULATION BLANKET WITH A FIRE RETARDANT REINFORCED ALUMINUM OUTER JACKET.
- D. INSTALL FLEXIBLE DUCTWORK FULLY EXTENDED, FREE OF SAGS AND KINKS. MAXIMUM LENGTH OF FLEXIBLE DUCTWORK SHALL BE 3'-0". FASTEN FLEXIBLE DUCTWORK TO RIGID DUCTWORK AND DEVICES WITH SELF-LOCKING 100 PERCENT NYLON, ADJUSTABLE DIAMETER CLAMPS.
- E. ACCEPTABLE MANUFACTURERS ARE THERMAFLEX, FLEXWASTER U.S.A. INC. AND CLEVAFLX.

18. BALANCING DAMPERS

- A. PROVIDE BALANCING DAMPERS FOR ALL AIR TERMINAL DEVICES (SUCH AS BUT NOT LIMITED TO, DIFFUSERS, REGISTERS, GRILLES, ETC.) AND BRANCH DUCTWORK REQUIRED FOR PROPER BALANCING OF SYSTEM.
- B. ROUND DAMPERS SHALL BE SINGLE BLADE TYPE CONSTRUCTION, MINIMUM 18 GAUGE GALVANIZED STEEL. PIVOT ROD SHAFT SHALL BE CONTINUOUS.
- C. RECTANGULAR DAMPERS SHALL BE SINGLE BLADE OR MULTIPLE (OPPOSED BLADE) TYPE CONSTRUCTION. MAXIMUM BLADE WIDTH IS 8 INCHES.
- D. ALL BALANCING DAMPERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS"
- E. FURNISH ALL BALANCING DAMPERS WITH YOUNG REGULATOR COMPANY VALCALOX REGULATORS WITH HANDLE PERMANENTLY ATTACHED. DAMPER HANDLE POSITION SHALL BE SECURELY LOCKED IN PLACE BY TIGHTENING OF A LOCK NUT. WHERE DUCTWORK IS EXTERNALLY INSULATED, REGULATOR BASE HEIGHT SHALL ACCOMMODATE INSULATION THICKNESS.
- F. PROVIDE ALL MANUAL BALANCING DAMPERS WHERE INDICATED ON THE DRAWINGS AND WHERE NECESSARY TO PROPERLY DISTRIBUTE AND BALANCE THE AIR.

19. REGISTERS, GRILLES AND DIFFUSERS

- A. PROVIDE REGISTERS, GRILLES AND DIFFUSERS WHERE SHOWN ON THE DRAWINGS, OF SIZE TYPE, AND MATERIAL AS INDICATED AND AS REQUIRED FOR A COMPLETE INSTALLATION.
- B. BORDER TYPES SHALL BE COMPATIBLE WITH THE CEILINGS WHERE THE GRILLES AND DIFFUSERS ARE TO BE INSTALLED.
- C. ALL GRILLES AND DIFFUSERS SHALL BE FINISHED WITH A FACTORY APPLIED OFF-WHITE FINISH UNLESS NOTED OTHERWISE.
- D. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF GRILLES AND DIFFUSERS.

20. VIBRATION ISOLATION

- A. PROVIDE ADEQUATE VIBRATION ISOLATION FOR EACH PIECE OF EQUIPMENT.
- B. PROVIDE FLEXIBLE CONNECTIONS WITH 1" SLACK BETWEEN DUCTS AND FANS AS MANUFACTURED BY DURO-DYNE, OR EQUIVALENT.
- C. PROVIDE FLEXIBLE FITTING ON PIPING CONNECTIONS TO EQUIPMENT.

21. REFRIGERATION AND AIR CONDITIONING CONDENSATE PIPING SYSTEMS

- A. USE TYPE DWV COPPER PIPING WITH BRAZED DRAINAGE FITTINGS FOR CONDENSATE PIPING.

- B. USE TYPE ADR COPPER PIPING WITH BRAZED WROUGHT COPPER FITTINGS FOR ALL REFRIGERATION PIPING.

- C. PITCH PUMPED AND GRAVITY CONDENSATE PIPING AT 1/8 INCH PER FOOT IN DIRECTION OF FLOW.
- D. INSULATE ALL INTERIOR CONDENSATE PIPING AND REFRIGERATION SUCTION PIPING WITH 3/4 INCH ARMACELL CLOSED CELL SELF SEALING ARMAFLEX INSULATION.

22. EXHAUST FANS

- A. CEILING MOUNTED DIRECT DRIVE CENTRIFUGAL EXHAUST VENTILATOR. FANS SHALL BE UL LISTED AND BEAR THE AMCA CERTIFIED RATING SEAL FOR SOUND AND AIR PERFORMANCE.
- B. ALL FASTENERS SHALL BE CORROSION RESISTANT. ALUMINUM BASE SHALL HAVE CONTINUOUSLY WELDED CURB GAP CORNERS. MOTOR, BEARINGS AND DRIVE SHALL BE MOUNTED ON A STEEL ASSEMBLY, ISOLATED FROM THE FAN STRUCTURE WITH RUBBER VIBRATION ISOLATORS.
- C. WHEEL SHALL BE CENTRIFUGAL BACKWARD INCLINED TYPE, CONSTRUCTED OF ALUMINUM, WITH A MACHINED CAST ALUMINUM HUB.
- D. MOTOR SHALL BE HEAVY DUTY TYPE WITH PERMANENTLY LUBRICATED SEALED BALL BEARINGS.
- E. FAN BEARINGS SHALL BE HEAVY DUTY REGREASABLE BALL TYPE WITH A CAST IRON HOUSING, RATED IN EXCESS OF 200,000 HOURS AT MAXIMUM CATALOGED OPERATING SPEED.
- F. BELTS SHALL BE OIL AND HEAT RESISTANT, NON-STATIC TYPE. DRIVES SHALL BE MACHINED CAST IRON, KEYS AND SECURELY ATTACHED TO WHEEL AND MOTOR SHAFTS AND SIZED FOR 150 PERCENT OF THE INSTALLED MOTOR HORSEPOWER.
- G. ACCEPTABLE MANUFACTURERS: BROWN, PENN VENTILATOR, COOK GREENHECK AND ACME.

23. NOT USED

24. NOT USED

25. TEMPERATURE CONTROLS

- A. ALL TEMPERATURE CONTROL COMPONENTS, WIRING AND CONDUIT SHALL BE THE RESPONSIBILITY OF THE HVAC CONTRACTOR.
- B. WIRING AND CONDUIT
 - (1) ALL 24 VOLT WIRING SHALL BE INSTALLED IN CONDUIT, IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE.
 - (2) ALL OUTDOOR 24 VOLT WIRING SHALL BE INSTALLED IN CONDUIT, IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE.

26. PROJECT COMPLETION:

- A. UPON COMPLETION OF PROJECT THIS CONTRACTOR SHALL PROVIDE NEW FILTERS WITHIN ALL FAN POWERED EQUIPMENT.
- B. ALL FAN POWERED EQUIPMENT SHALL HAVE THEIR EXTERIOR CLEANED WITH A MILD SOAP AND WATER SOLUTION AND THOROUGHLY DRIED.
- C. PROVIDE 3 COPIES OF FINAL TEST AND BALANCE REPORT TO OWNER/ARCHITECT.

FIELD VERIFY ALL CONDITIONS

- DESIGN DRAWINGS ARE SCHEMATIC. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.

- THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

- BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS AND SPECIFICATIONS NOT WITHSTANDING, THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

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REVISION

NO.	DESCRIPTION	DATE

DATE 02/02/2022

PROJECT 1674.010

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PROJECT/REVISION NUMBER 128

SHEET NAME
MECHANICAL SPECIFICATIONS

SHEET NUMBER

M001

ROOFTOP UNIT SCHEDULE															
TAG	TONNAGE	CFM	MIN OUTSIDE AIR	ESP	SUPPLY FAN B.H.P.	VOLTAGE	MCA/MOCP	COOLING CAPACITY		HEATING CAPACITY		MANUFACTURER & MODEL NO.	SEER / EER / IEER	WEIGHT	REMARKS
								TOTAL	SENSIBLE	MBH INPUT	MBH OUTPUT				
EXST. RTU-1	7.5	3000	500	0.8	--	208V/3Ø	40/50	--	--	180/120	147/98	CARRIER 48TCED08	--	--	--

VENTILATION CALCULATION FOR RTU-1													
Room Number	Room Name	Designation	Floor Area (Az)	Zone Population (Pz)	Occupant Density	Area Outdoor Air Rate (Ra)	People Outdoor Air Rate (Rp)	Area Exhaust Air Rate (Re)	Breathing Zone Outdoor Airflow (Vbz)	Zone Outdoor Airflow (Voz)	Min. Exhaust (Rez)	Zone Primary Airflow (Vpz)	Primary Outdoor Air Fraction (Zpz)
101	DINING	DINING	591	41.37	70	0.18	7.5		417	521	0	1600	0.33
102, 103, 104	CASHIER, SMOOTHIE PREP, FOOD PREP	SALES	389	5.835	15	0.12	7.5		90	113	0	750	0.15
105	OFFICE	OFFICES	28	0.14	5	0.06	5		2	3	0	150	0.02
106	BACK OF HOUSE	STORAGE ROOMS	369			0.12			44	55	0	300	0.18
107	TOILET	TOILET ROOMS - PUBLIC	60					70 / Fixture	0	0	70	50	0
108	TOILET	TOILET ROOMS - PUBLIC	64					70 / Fixture	0	0	70	50	0
	CORRIDOR	CORRIDORS	37					0.06	2	3	0	100	0.03
TOTAL									555	695	140	3000	

Maximum Primary Outdoor Air Fraction (Zpz)	0.33
System Ventilation Efficiency (Ev)	0.91
Breathing Zone Outdoor Airflow (Vbz)	555
Outdoor Air Intake Flow (Vot)	610

EXHAUST FAN SCHEDULE							
TAG	SERVICE	CFM	S.P.	RPM/HP	ELECT.	MANUF. & MODEL NO.	REMARKS
EF-1	RESTROOM	70	0.1	750/29W	120V/1Ø	COOK GC-128	1-2
EF-2	RESTROOM	70	0.1	750/29W	120V/1Ø	COOK GC-128	1-2

REMARKS:
 1. DISCONNECT SWITCH, GRAVITY BACKDRAFT DAMPER, FLEXIBLE DUCT COLLAR CONNECTION.
 2. ELECTRICAL CONTRACTOR SHALL INTERLOCK WITH ROOM LIGHT CONTROLLED VIA OCCUPANCY SENSOR.

GRILLE & DIFFUSER SCHEDULE								
TAG	MANUFACTURER & MODEL NO.	DAMPER NUMBER	FRAME/BORDER	CFM	MODULE SIZE	PATTERN	FINISH	REMARKS
A	TITUS TMS	OBD	LAY-IN	AS NOTED	24"x24"	4-WAY	WHITE	SUPPLY
B	TITUS TMS	OBD	SURFACE	AS NOTED	12"x12"	4-WAY	WHITE	SUPPLY
C	TITUS PAS	OBD	LAY-IN	AS NOTED	24"x24"	4-WAY	WHITE	SUPPLY
D	TITUS 50F	---	SURFACE	AS NOTED	AS NOTED	4-WAY	WHITE	RETURN

MECHANICAL LEGEND		GENERAL MECHANICAL NOTES	
SYMBOL	DESCRIPTION		
	TURNING VANE	1. PROVIDE ALL LOW PRESSURE DUCTWORK SIZED EQUAL TO OR LESS THAN 0.1" W.G./100' (TYP.) UNLESS SCHEDULED OTHERWISE. INDICATE ALL DUCT SIZES ON SHOP DRAWINGS. 2. PROVIDE MINIMUM DUCT RADIUS ON ELBOWS AT 1-1/2 TIMES DUCT SIZE. 3. PROVIDE 5'-0" MAX. FLEX DUCT CONNECTION TO DIFFUSERS, TYPICAL. 4. ALL CONCEALED SUPPLY DUCTWORK NOT LOCATED IN RETURN AIR PLENUM SHALL BE INSULATED. 5. ALL DUCTS SHALL BE FREE FROM CONTACT WITH ALL: PIPING, WALLS, ELECTRICAL CONDUITS, CEILING SUSPENSION SYSTEMS, ETC. 6. PROVIDE THROAT WITH PROPORTIONAL SPLIT AND TURNING VANES ON TEE TRANSITIONS. (BULLHEAD TEE'S WILL NOT BE PERMITTED). 7. CEILING DIFFUSER CORES AND BACK-PANS SHALL HAVE A FLAT BLACK ENAMEL FINISH. FACE TO BE OFF-WHITE BAKED ENAMEL ON PERFORATED PLATE AND MARGIN UNLESS SPECIFIED OTHERWISE BY ARCHITECT AND APPROVED BY MECHANICAL ENGINEER. NECK VELOCITIES NOT TO EXCEED 500 FPM MAXIMUM. 8. PROVIDE GALVANIZED SHEET METAL DUCTWORK. ALUMINUM OR ALUMINUM FLEX IS NOT PERMITTED. 9. ALL PIPING AND DUCTWORK SHALL FREELY PASS THROUGH ALL WALLS AND FLOORS WITHOUT RIGID CONNECTIONS. PENETRATION POINTS SHALL BE SLEEVED TO ALLOW PASSAGE OF PIPING OR DUCTWORK AND MAINTAIN 3/4" TO 1-1/4" CLEARANCE AROUND THE OUTSIDE SURFACES. THIS CLEARANCE SHALL BE TIGHTLY PACKED WITH ONE POUND DENSITY GLASS FIBER, AND CAULKED AIR TIGHT WITH NON-HARDENING SEALANT AFTER INSTALLATION OF PIPING OR DUCTWORK. 10. PROVIDE FIRE DAMPERS WITH ACCESS IN ALL RATED WALLS IN ACCORDANCE WITH LOCAL CODES. 11. FABRICATE, INSTALL, SEAL, AND INSULATE ALL DUCTWORK IN STRICT CONFORMANCE WITH THE REQUIREMENTS OF THE INTERNATIONAL MECHANICAL CODE AND THE STATE HAVING JURISDICTION BUILDING CODE. 12. ALL EQUIPMENT, MATERIALS AND WORK SHALL CONFORM TO THE APPLICABLE CODES OF THE INTERNATIONAL BUILDING, FIRE, MECHANICAL, AND ELECTRICAL CODES AS ADOPTED BY THE CITY HAVING JURISDICTION AND ALL OTHER CODES, SAFETY ORDERS AND REGULATIONS AS ENFORCED BY THE STATE AND CITY FIRE MARSHALL'S PERTAINING TO THIS PROJECT. 13. PROTECTIVE BARRIERS SHALL BE INSTALLED IN FRONT OF EQUIPMENT WHERE EQUIPMENT IS SUBJECT TO MECHANICAL DAMAGE. 14. SUITABLE OPENINGS WITH TIGHTLY FITTED COVERS SHALL BE PROVIDED TO MAKE FIRE DAMPERS ACCESSIBLE FOR INSPECTION. 15. CONDENSATE DRAIN LINES SHALL BE PROVIDED FOR ALL MECHANICAL EQUIPMENT WHICH PRODUCES CONDENSATE.	
	AIR EXTRACTOR		
	OPPOSED BLADE VOLUME DAMPER		
	SUPPLY DUCT		
	RETURN DUCT		
	EXHAUST DUCT		
	FLEXIBLE DUCT CONNECTION		
	LINED DUCTWORK		
	THERMOSTAT		
	SMOKE DETECTOR TEST STATION		
	DUCT SMOKE DETECTOR TO SHUT DOWN UNIT UNDER ALARM		
	UNDERCUT DOOR (BY G.C.)		
	CONNECT TO EXISTING		

ABBREVIATIONS	
SR SUPPLY REGISTER	G.C. GENERAL CONTRACTOR
RG RETURN GRILLE	M.C. MECHANICAL CONTRACTOR
SA SUPPLY AIR	P.C. PLUMBING CONTRACTOR
RA RETURN AIR	E.C. ELECTRICAL CONTRACTOR
VD VOLUME DAMPER	CLG.CEIL. CEILING
FD FIRE DAMPER	A.F.F. ABOVE FINISHED FLOOR
UCD UNDERCUT DOOR	ETR EXISTING TO REMAIN

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tropical CAFE
 SMOOTHIE
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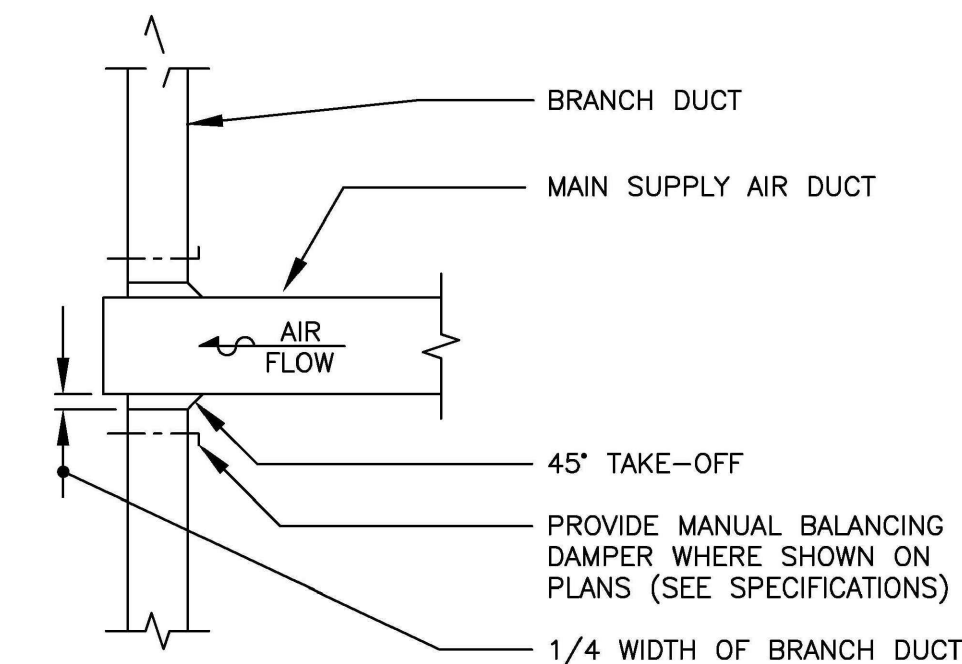
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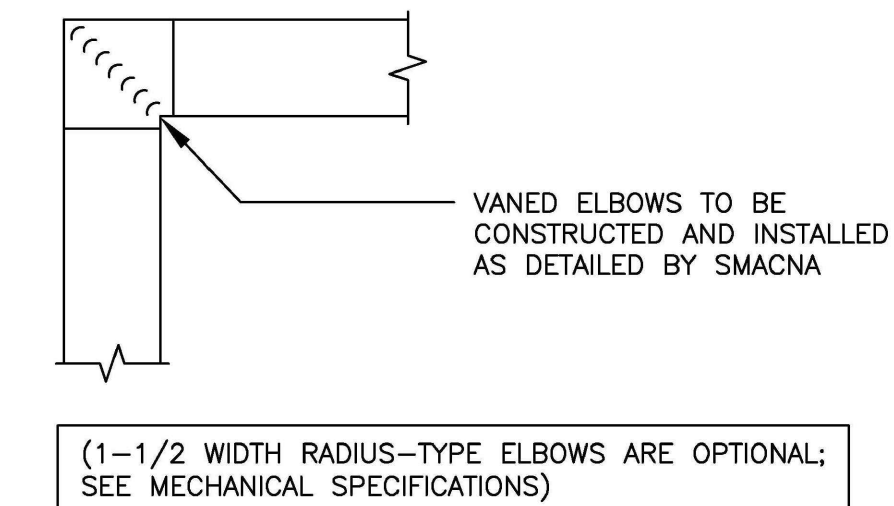
SHEET NAME
MECHANICAL SCHEDULES & DETAILS

SHEET NUMBER

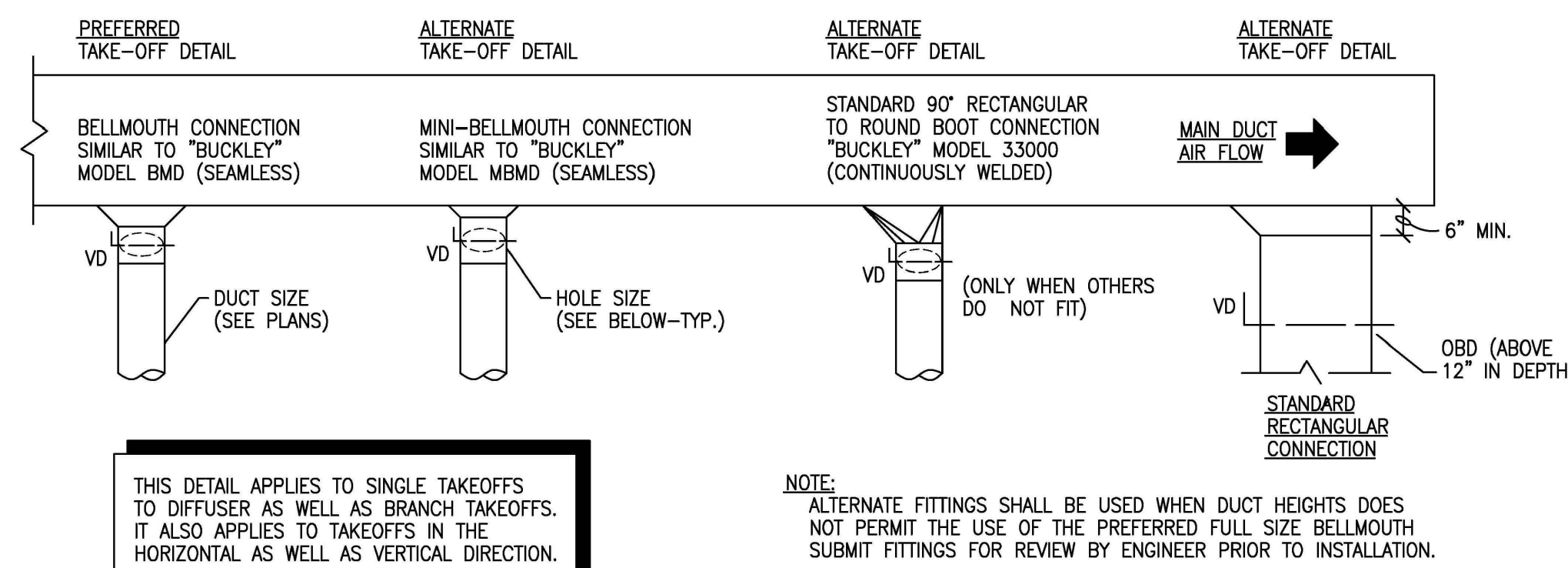
M002



LOW PRESSURE END OF SUPPLY AIR DUCT DETAIL
 N.T.S.



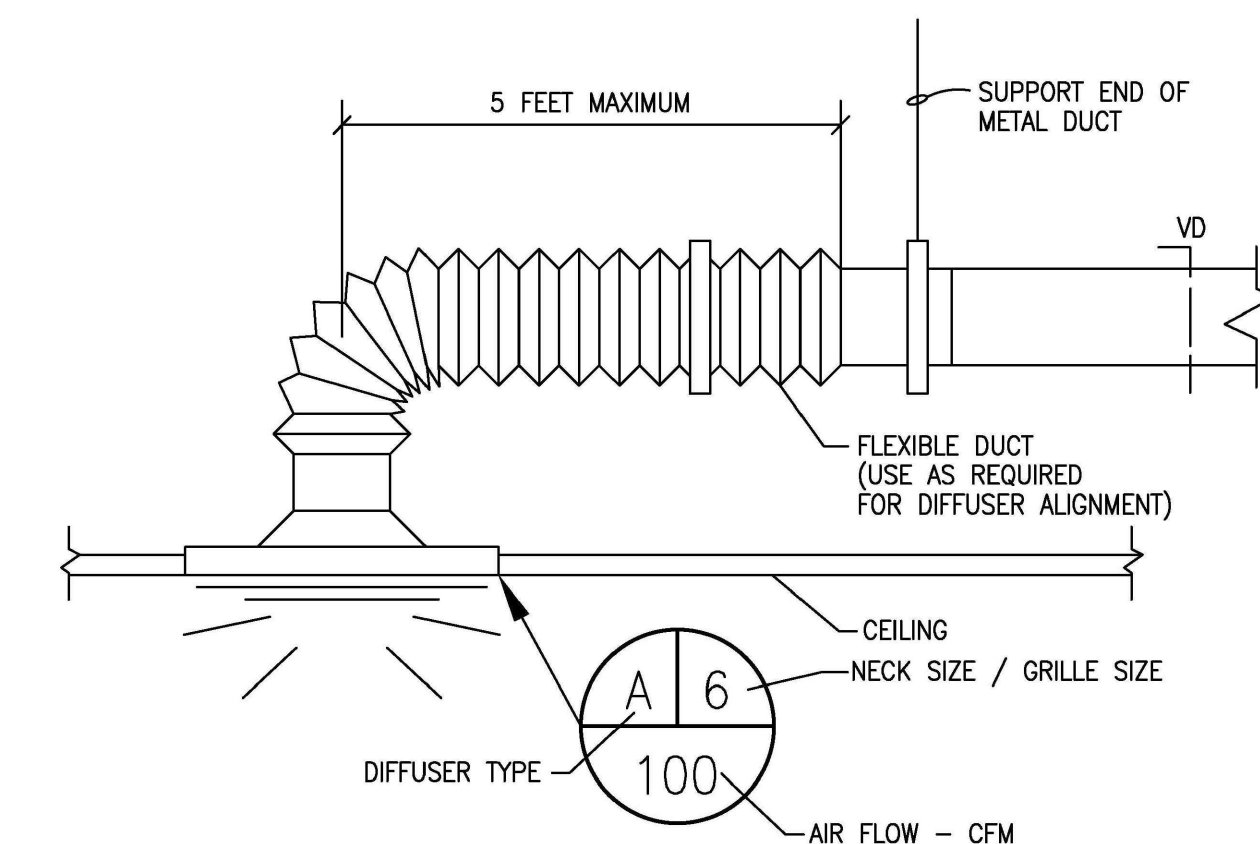
LOW PRESSURE DUCT ELBOW DETAIL
 N.T.S.



THIS DETAIL APPLIES TO SINGLE TAKEOFFS TO DIFFUSER AS WELL AS BRANCH TAKEOFFS. IT ALSO APPLIES TO TAKEOFFS IN THE HORIZONTAL AS WELL AS VERTICAL DIRECTION.

NOTE: ALTERNATE FITTINGS SHALL BE USED WHEN DUCT HEIGHTS DOES NOT PERMIT THE USE OF THE PREFERRED FULL SIZE BELLMOUTH. SUBMIT FITTINGS FOR REVIEW BY ENGINEER PRIOR TO INSTALLATION.

DUCT TAKEOFFS
 NO SCALE



CEILING DIFFUSER BRANCH DUCTS W/ FLEX CONNECTION
 NO SCALE

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SHEET NAME
**MECHANICAL
SPECIFICATIONS**

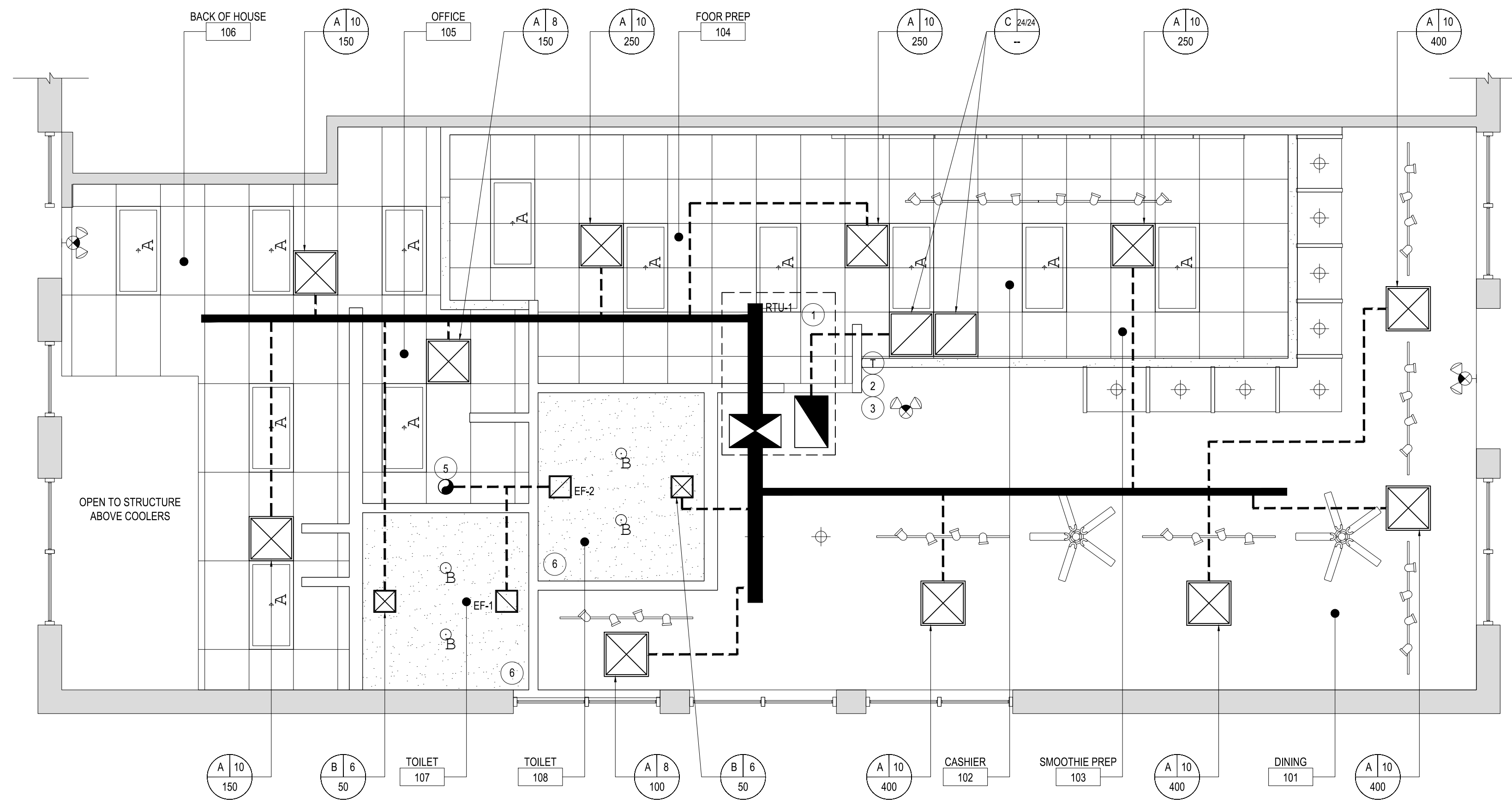
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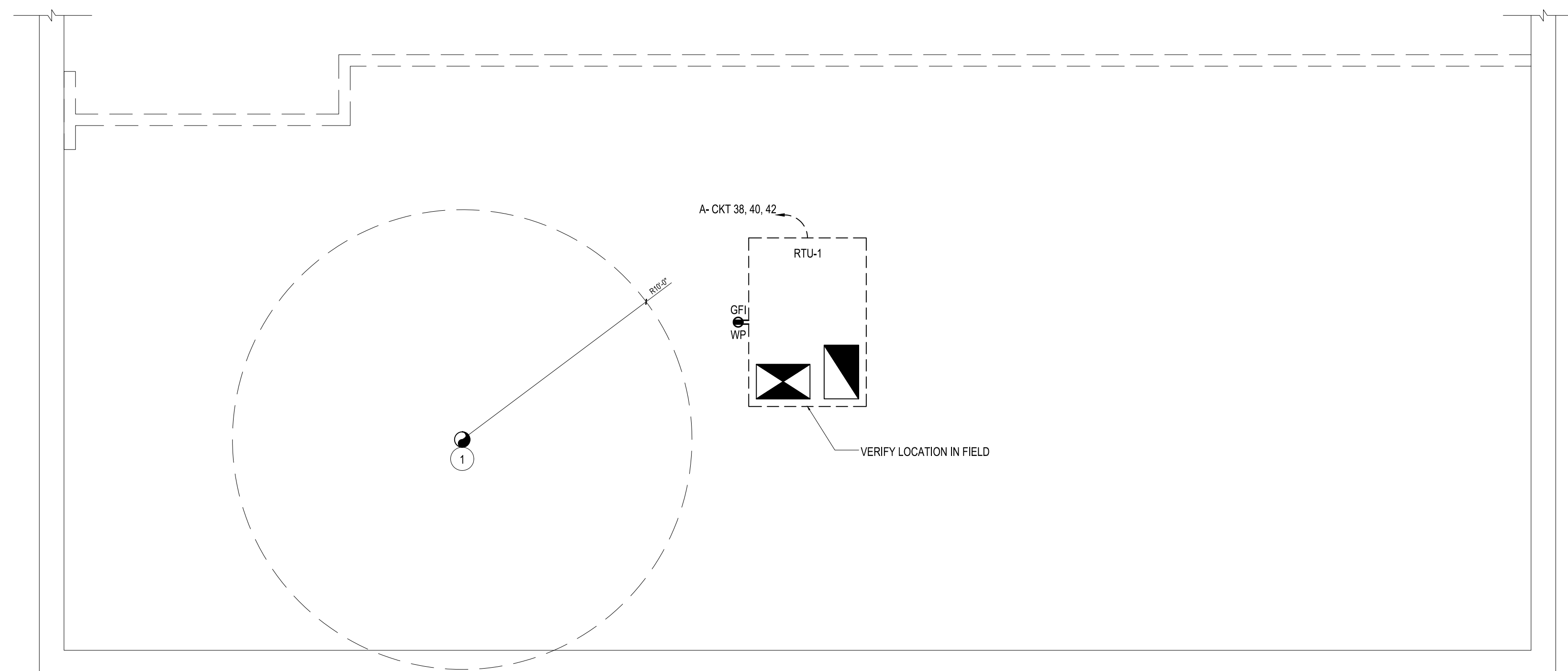
CODED NOTES

- CONNECT NEW SUPPLY / RETURN DUCT MAINS TO EXISTING DUCT DROP DOWNS FROM ROOFTOP UNIT. ACOUSTICALLY LINE THE FIRST 10'-0" OF BOTH SUPPLY AND RETURN MAIN DUCTS. SET UNIT OUTSIDE AIR QUANTITY AS LISTED ON ROOFTOP UNIT SCHEDULE. FANS TO RUN CONTINUOUS DURING OCCUPIED HOURS.
- INSTALL AND WIRE NEW 7-DAY PROGRAMMABLE THERMOSTAT. COORDINATE EXACT LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN. THERMOSTAT TO BE EMERSON SENSITOUCH ST75W.
- MECHANICAL CONTRACTOR TO MOUNT SMOKE DETECTOR REMOTE KEY STATUS AND TEST STATIONS (WITH AUDIO AND VISUAL ALARM) NEXT TO UNIT THERMOSTAT. M.C. TO INDICATE DETECTOR SERVING AIR CONDITIONING UNIT. COORDINATE EXACT LOCATION WITH FIRE MARSHAL PRIOR TO ROUGH-IN. ALL WIRING SHALL BE BY ELECTRICAL CONTRACTOR IN CONDUIT PER N.E.C. REMOTE STATION SHALL BE A SYSTEM SESOR MODEL SSK451 OR EQUAL.
- NOT USED
- ROUTE 8" Ø EXHAUST DUCT UP THROUGH ROOF.
- DOORS TO BE UNDERCUT FOR RECIRCULATION AIR.

BRANCH DUCTWORK	
CFM	DUCT SIZE
0-100	6" Ø
101-250	8" Ø
251-400	10" Ø
401-650	12" Ø



2 MECHANICAL PLAN
SCALE: 3/8" = 1'-0"



1 MECHANICAL ROOF PLAN
SCALE: 3/8" = 1'-0"

CODED NOTES

- 8" Ø EXHAUST DUCT UP THROUGH ROOF WITH TALL CONE FLASHING, WEATHER SKIRT, AND CAP. MAINTAIN A MINIMUM OF 10'-0" FROM ALL OUTSIDE AIR INTAKES AND TERMINATES 36' ABOVE ROOF.

PLUMBING SPECIFICATIONS

1. GENERAL PROVISIONS

- A. THE PROVISIONS OF THE INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, ALTERNATES, ADDENDAS', AND DIVISION 1 ARE A PART OF THIS SPECIFICATION. CONTRACTORS AND SUBCONTRACTORS SHALL EXAMINE SAME AS WELL AS OTHER DIVISIONS OF THE SPECIFICATIONS WHICH AFFECT WORK UNDER THIS DIVISION.
- B. THIS CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, SUPPLIES, SERVICES, AND SHALL PERFORM ALL WORK COMPLETE AND IN STRICT ACCORDANCE WITH THIS SPECIFICATION AND APPLICABLE DRAWINGS. ANY DEVIATIONS SHALL BE CLEARLY DEFINED AND ITEMIZED IN ACCORDANCE WITH SECTION 10.F OF THIS SPECIFICATION.
- C. THIS CONTRACTOR IS INSTRUCTED TO READ CAREFULLY THE SPECIFICATIONS FOR ALL PARTS OF THE WORK, WHICH INCLUDE THE ARCHITECTURAL, ELECTRICAL, MECHANICAL, PLUMBING, FIRE PROTECTION, CIVIL, STRUCTURAL AND ALL OTHER DRAWINGS AS WELL AS THE SPECIFICATIONS FOR ALL THE DIVISIONS THAT ARE PART OF THE CONTRACT DOCUMENTS.
- D. ALL ITEMS OF LABOR, MATERIAL AND EQUIPMENT NOT SPECIFICALLY MENTIONED HEREIN OR SHOWN ON PLANS, BUT INCIDENTAL TO, OR REQUIRED FOR THE COMPLETE INSTALLATION AND PROPER OPERATION OF THE WORK, SHALL BE FURNISHED AS IF CALLED FOR IN DETAIL BY THE SPECIFICATIONS OR DRAWINGS.
- E. AS USED IN THIS SPECIFICATION, "PROVIDE" MEANS "FURNISH AND INSTALL." "FURNISH" MEANS "TO PURCHASE AND DELIVER TO THE PROJECT SITE COMPLETE WITH EVERY NECESSARY APPURTENANCE AND SUPPORT," AND "INSTALL" MEANS "TO UNLOAD AT THE DELIVERY POINT AT THE SITE AND PERFORM EVERY OPERATION NECESSARY FOR PROPER INSTALLATION PER CODES AND MANUFACTURERS' REQUIREMENTS, TO ESTABLISH SECURE MOUNTING AND CORRECT OPERATION AT THE PROPER LOCATION IN THE PROJECT.

- F. PERMITS, CODES, INSPECTIONS, AND TESTS
 - A. THE PLUMBING CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED FOR THE PROSECUTION OF PLUMBING WORK. ALL PERMITS AND CERTIFICATES OF INSPECTION AND APPROVAL SIGNED BY THE CONTROLLING BUILDING DEPARTMENT SHALL BECOME PROPERTY OF THE OWNER.
 - B. DRAWINGS INDICATE THE MINIMUM DESIGN REQUIREMENTS, NATIONAL, STATE, AND LOCAL CODES SHALL BE FOLLOWED. COMPLY WITH THE LATEST EDITIONS OF THE LOCAL GOVERNING PLUMBING CODE, LOCAL GOVERNING MECHANICAL CODE, AND NFPA STANDARDS. THE CONTRACTOR SHALL INCLUDE THE COST OF SATISFYING SUCH CODES AND STANDARDS IN HIS BID. FOLLOWING COMPLETION OF THE PLUMBING WORK, FURNISH TO THE OWNER, IN DUPLICATE, CERTIFICATES OF INSPECTION AND APPROVAL BY REGULATORY AGENCIES HAVING JURISDICTION.

- (1) DEMONSTRATE TO THE OWNER'S SATISFACTION THE PROPER OPERATION OF EACH OF THE SYSTEMS COMPRISING THIS CONTRACT BEFORE FINAL PAYMENT.
- (2) IMMEDIATELY CORRECT ANY WORK FOUND AT VARIANCE WITH THESE SPECIFICATIONS, THE NATIONAL, STATE, AND LOCAL CODES, AND REQUIREMENTS OF GOVERNING REGULATORY AGENCIES.
- (3) TEST PIPING FOR LEAKS; REPAIR LEAKS IN COPPER TUBING BY SWEATING OUT JOINTS, THOROUGHLY CLEANING BOTH TUBE AND FITTING, AND RE-SOLDERING OR RE-BRAZING; CORRECT LEAKS IN SCREWED JOINTS BY REPLACING THREAD OR FITTING OR BOTH.
 - a. DOMESTIC WATER SHALL BE TESTED WITH WATER AT A PRESSURE OF 125 PSI FOR 6 HOURS.
 - b. NATURAL GAS SHALL BE TESTED WITH COMPRESSED AIR AT A PRESSURE OF 1-1/2 TIMES THE PROPOSED MAXIMUM WORKING PRESSURE (BUT NOT LESS THAN 3 PSI) FOR 24 HOURS. TESTING PROCEDURE SHALL CONFORM TO NFPA 54 "NATIONAL FUEL GAS CODE" AND ICC FUEL GAS CODE REQUIREMENTS.
 - c. SANITARY DRAIN AND VENT AND STORM PIPING SHALL BE TESTED WITH WATER PER GOVERNING PLUMBING CODE AND THE LOCAL AUTHORITY.

- 3. VISIT TO THE SITE
 - A. THE CONTRACTOR SHALL VISIT THE SITE OF THE WORK AND BECOME FAMILIAR WITH ALL CONDITIONS AFFECTING THE WORK. THE SUBMISSION OF A PROPOSAL SHALL PRESUPPOSE KNOWLEDGE OF ALL SUCH CONDITIONS AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED WHERE EXTRA LABOR OR MATERIALS ARE REQUIRED BECAUSE OF IGNORANCE OF THESE CONDITIONS.

- 4. PROTECTION
 - A. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTION FROM DIRT AND WATER DURING CONSTRUCTION NECESSITATED BY PLUMBING WORK. PROTECTION METHODS ARE SUBJECT TO APPROVAL BY THE ARCHITECT.

- 5. EQUIPMENT AND MATERIALS
 - A. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND SHALL CONFORM TO UNDERWRITERS' LABORATORIES' STANDARDS, WHERE APPLICABLE. WHERE SPECIFICATIONS DESCRIBE OR PLANS SHOW MATERIALS OR EQUIPMENT OF HIGHER QUALITY THAN REQUIRED BY CODE AND LOCAL RULING, THE DRAWINGS AND SPECIFICATIONS SHALL GOVERN THE QUALITY OF THE MATERIAL OR EQUIPMENT.
 - B. THE CONTRACTOR SHALL SUBMIT PROOF, IF REQUESTED BY THE OWNER THAT THE MATERIALS, APPLANCES, EQUIPMENT OR DEVICES FURNISHED AND INSTALLED UNDER THIS CONTRACT, MEET THE REQUIREMENTS OF THE UNDERWRITERS' LABORATORIES, INC., AS REGARDS FIRE AND CASUALTY HAZARDS. THE LABEL OF OR LISTING BY THE UNDERWRITERS' LABORATORIES, INC. WILL BE ACCEPTED AS CONFORMING WITH THIS REQUIREMENT. IN LIEU OF THE LABEL OR LISTING, THE CONTRACTOR MAY SUBMIT INDEPENDENT PROOF SATISFACTORY TO THE ARCHITECT THAT THE MATERIALS, APPLANCES OR DEVICES CONFORM TO THE PUBLISHED STANDARDS, INCLUDING METHODS OF TEST OF THE UNDERWRITERS' LABORATORIES, INC. UNDERWRITERS' LABORATORIES, INC. AND ITS PUBLICATIONS WILL BE REFERRED TO HEREINAFTER BY THE ABBREVIATION UL, WITH OR WITHOUT ADDITIONAL IDENTIFYING SYMBOLS.

- 6. GUARANTEE
 - A. THE PLUMBING CONTRACTOR SHALL GUARANTEE FOR A PERIOD OF ONE YEAR THAT ALL WORK AND EQUIPMENT WILL REMAIN FREE FROM ALL DEFECTS IN WORKMANSHIP AND MATERIALS, AND THAT IT WILL COMPLY WITH ALL THE SPECIFIC REQUIREMENTS OF THE SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS GOVERNING THE WORK.
 - B. ALL WORK FOUND BY THE ENGINEER TO BE DEFECTIVE WILL BE REPLACED WITH NEW WORK MEETING ALL THE REQUIREMENTS OF THE CONTRACT. THE PLUMBING CONTRACTOR WILL BEAR ALL COSTS OF SUPPLYING SUCH NEW WORK, AND INSTALLING AND FINISHING SAME, AND WILL ASSUME ALL COSTS FOR REPLACING OTHER WORK DAMAGED BY THE REMOVAL AND REPLACEMENT OF ANY OF THE WORK. THE PLUMBING CONTRACTOR WILL BEAR ALL COSTS FOR FREIGHT, DRYAGE AND DEMURRAGE, AND ALL LABOR IN CONNECTION THEREWITH.

- 7. CUTTING, PATCHING, FIRESTOPPING AND PAINTING
 - A. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING ALL HOLES REQUIRED FOR INSTALLATION OF PLUMBING WORK. HOLES SHALL BE CUT IN A NEAT MANNER SATISFACTORY TO THE ARCHITECT.
 - B. CONTRACTOR SHALL EMPLOY AN BUILDING OWNER APPROVED ROOFING

- C. UNLESS NOTED OTHERWISE, ALL HOLES OR DAMAGE CAUSED BY THE REMOVAL OF EXISTING WORK OR THE INSTALLATION OF NEW WORK SHALL BE PROPERLY PATCHED BY THIS CONTRACTOR. HOLES SHALL BE NEATLY PATCHED AND PAINTED WITH SUITABLE MATERIAL TO MATCH EXISTING SURFACES. HOLES THROUGH FLOORS OR FIRE WALLS SHALL BE SEALED WITH THE APPROPRIATE INTUMESCENT CAULK, PUTTY, STRIP OR SHEET TYPE FIRE BARRIER PRODUCT.
- D. FIRESTOP SYSTEM (REQUIRED FIRESTOPPING MATERIALS) SHALL BE DETERMINED BY THE WALL OR FLOOR/CEILING ASSEMBLY AND PENETRATION TYPE AND SHALL BE UL LISTED AND TESTED IN ACCORDANCE WITH ASTM E814. FIRE RATING OF THE FIRESTOP SYSTEM SHALL BE EQUIVALENT TO THE ASSEMBLY WHICH IS PENETRATED.
- E. ACCEPTABLE FIRE BARRIER PRODUCTS: HILTI "FS-ONE", NELSON "FLAMESEAL" OR APPROVED EQUAL AS MANUFACTURED BY 3M.
- 8. EXCAVATING, TRENCHING, AND BACKFILLING:
 - A. FURNISH MATERIALS, TOOLS, LABOR AND SUPERVISION NECESSARY TO PROVIDE ALL EXCAVATING, TRENCHING AND BACKFILLING REQUIRED FOR THE PROPER INSTALLATION OF EQUIPMENT AND PIPING.
 - B. EXACT ROUTING OF TRENCHING SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED, IN ADVANCE, BY THE OWNER.
 - C. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE GOVERNING AUTHORITIES.
 - D. WHERE TRENCHES ARE EXCAVATED SUCH THAT THE BOTTOM OF THE TRENCH FORMS THE BED FOR THE PIPE, SOLID AND CONTINUOUS LOAD-BEARING SUPPORT SHALL BE PROVIDED BETWEEN JOINTS. BELL HOLES, HUB HOLES AND COUPLED HOLES SHALL BE PROVIDED AT POINTS WHERE THE PIPE IS JOINED. SUCH PIPE SHALL NOT BE SUPPORTED ON BLOCKS TO GRADE.

- 9. CLEANING AND PAINTING
 - A. CLEAN NEW PIPING AFTER WORK IS COMPLETE TO REMOVE PIPE DOPE, LOOSE MILL SCALE AND OTHER EXTRANEIOUS MATERIALS.
 - B. TOUCH UP AND REPAIR ANY DAMAGED FACTORY FINISHES ON EQUIPMENT AND MATERIALS FURNISHED. OTHER PAINTING WILL BE DONE UNDER THE PAINTING DIVISION OF THE SPECIFICATIONS.

- 10. COORDINATION AND CONDUCT OF WORK
 - A. PLUMBING CONTRACTOR SHALL COORDINATE ALL NEW (GAS, DOMESTIC WATER, SANITARY) UTILITY CONNECTIONS AND METERING REQUIREMENTS WITH LOCAL UTILITY COMPANY.
 - B. PLUMBING DRAWINGS ARE DIAGRAMMATIC, INDICATING GENERAL ARRANGEMENT, APPROXIMATE SIZES, GENERAL LOCATIONS OF EQUIPMENT, AND PIPING. VERIFY DIMENSIONS IN FIELD; ADJUST TO MANUFACTURER'S SHOP DRAWINGS. DO NOT SCALE DRAWINGS.
 - C. ALL REQUESTS FOR INFORMATION SUPPLEMENTAL TO THE CONSTRUCTION DOCUMENTS SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT FOR DISTRIBUTION TO THE APPROPRIATE PARTY(S).
 - D. DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED AS SUPPLEMENTING EACH OTHER WORK SPECIFIED BUT NOT SHOWN, OR SHOWN BUT NOT SPECIFIED, SHALL BE PERFORMED OR FURNISHED AS THOUGH MENTIONED IN BOTH SPECIFICATIONS AND DRAWINGS.
 - E. ARCHITECTURAL AND STRUCTURAL DRAWINGS SUPERSEDE PLUMBING DRAWINGS. DETERMINE THAT WORK OF THIS DIVISION CAN BE ACCOMMODATED WITHIN SPACES PROVIDED. NOTIFY ARCHITECT OF ANY INTERFERENCES BEFORE STARTING INSTALLATION.
 - F. DETERMINE SIZES, LOCATIONS FOR CHASES AND OPENINGS NECESSARY FOR INSTALLATION OF PLUMBING WORK. COOPERATE WITH OTHER TRADES IN SETTING SLEEVES, INSERTS AND HANGERS.
 - G. COORDINATE THIS WORK WITH ALL TRADES. ARRANGE OPERATIONS SO AS NOT TO DELAY INSTALLATION OR COMPLETION OF ANY PARTS OF INTERRELATED WORK SO THAT CONSTRUCTION MAY PROCEED ON SCHEDULE.
 - H. COOPERATE WITH ALL TRADES IN PREPARING INTERFERENCE DRAWINGS FOR AREAS WHERE THERE IS POSSIBLE CONFLICT BETWEEN TRADES. EXACT LOCATION OF PIPES, AND EQUIPMENT SHALL BE BASED ON FIELD MEASUREMENTS WITH FINAL ARRANGEMENT DETERMINED BY INTRA-TRADE AGREEMENTS SUBJECT TO ARCHITECT'S APPROVAL.
 - I. ARCHITECT RESERVES THE RIGHT TO MAKE REASONABLE CHANGES IN INDICATED LOCATIONS WITHOUT EXTRA COST TO THE OWNER.
 - J. ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER BY FIRST-CLASS MECHANICS. THE CONTRACTOR SHALL PROVIDE ADEQUATE AND COMPETENT SUPERVISION OF THE JOB AS REQUIRED.
 - K. PIPING AND EQUIPMENT SHALL BE ARRANGED SUBSTANTIALLY AS INDICATED. ANY CHANGE RESULTING IN A SAVINGS IN LABOR OR MATERIAL SHALL BE MADE ONLY IN ACCORDANCE WITH A CONTRACT CHANGE ORDER. DEVIATIONS SHALL BE MADE ONLY WHERE NECESSARY TO AVOID INTERFERENCES AND ONLY AFTER DRAWINGS SHOWING THE PROPOSED DEVIATIONS HAVE BEEN SUBMITTED TO AND APPROVED BY THE ARCHITECT.
 - L. COORDINATE ALL SHUTDOWNS OF THE PLUMBING SYSTEM IN ADVANCE WITH THE OWNER.

- 11. SUBMITTALS
 - A. PROVIDE A MINIMUM OF SIX (6) SUBMITTAL DRAWINGS FOR PLUMBING FIXTURES, EQUIPMENT, AND ALL OTHER SPECIFIED COMPONENTS FOR APPROVAL BY THE ARCHITECT AND ENGINEER.
 - B. WHERE ONLY ONE MAKE OF EQUIPMENT IS NAMED, IT SHALL BE PROVIDED AS SPECIFIED.
 - C. VERBAL REQUESTS OF APPROVALS FOR ANY SUBSTITUTION WILL NOT BE BINDING ON THE ARCHITECT AND OWNER.
 - D. THIS CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR ALL COSTS FOR REDESIGN CHANGES NECESSARY BY ALL TRADES TO ACCOMMODATE THE USE OF EQUIPMENT NOT SPECIFIED ON PROJECT DOCUMENTS.
 - E. BIDS SHALL BE BASED UPON THE SPECIFIED PRODUCTS OR LISTED ALTERNATIVES. DRAWINGS AND SPECIFICATIONS ARE BASED ON THE PRODUCTS SPECIFIED BY TYPE, MODEL, AND SIZE AND THUS ESTABLISH MINIMUM QUALITIES, WHICH SUBSTITUTES MUST MEET TO QUALIFY FOR REVIEW.
 - F. SHOULD THE CONTRACTOR PROPOSE TO FURNISH MATERIALS, EQUIPMENT, AND DEVICES, OTHER THAN THOSE SPECIFIED AND LISTED, THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST FOR SUBSTITUTIONS, TO THE ENGINEER, AT LEAST FOURTEEN (14) CALENDAR DAYS PRIOR TO BID OPENING. THE REQUEST SHALL BE AN ALTERNATE TO THE ORIGINAL BID AND SHALL INCLUDE, AND BE ACCOMPANIED WITH COMPLETE SPECIFICATIONS CUT SHEET SUBMITTAL AS OUTLINED IN SECTION 11.A OF THIS SPECIFICATION SECTION, COMPLETE WITH DESCRIPTIVE (MANUFACTURER, BRAND NAME, CATALOG NUMBER, ETC.) AND TECHNICAL DATA FOR ALL ITEMS. INDICATE ANY ADDITIONS OR DEDUCTIONS TO THE CONTRACT PRICE WITH THE SUBSTITUTION SUBMITTAL AND ON THE BID FORM. FAILURE TO PERFORM THESE ACTIONS EQUATES TO ACKNOWLEDGEMENT THAT THE PROJECT HAS BEEN BID WITH STRICT ACCORDANCE TO THIS SPECIFICATION AND APPLICABLE DRAWINGS.
 - G. ACCEPTANCE OR REJECTION OF THE PROPOSED SUBSTITUTIONS SHALL BE SUBJECT TO APPROVAL OF THE ARCHITECT AND ENGINEER. IF REQUESTED, THE CONTRACTOR SHALL SUBMIT INSPECTION SAMPLES OF BOTH THE SPECIFIED AND THE PROPOSED SUBSTITUTE ITEMS.
 - H. IF ANY SUBSTITUTIONS ARE APPROVED, AN ADDENDUM LISTING THE APPROVED ITEM(S) WILL BE ISSUED TO ALL BIDDING CONTRACTORS

- PRIOR TO THE BID DATE.
 - I. IN ALL CASES WHERE SUBSTITUTIONS ARE PERMITTED, THE CONTRACTOR SHALL BEAR ANY EXTRA COST OF EVALUATING THE EQUALITY OF THE MATERIAL AND EQUIPMENT TO BE INSTALLED.
 - J. WHERE ONLY ONE MAKE IS NAMED IN THE SPECIFICATIONS OR ON THE DRAWINGS, IT SHALL BE PROVIDED.
 - K. VERBAL REQUESTS OR APPROVALS SHALL NOT BE BINDING ON THE ENGINEER OR OWNER.
- 12. EQUIPMENT AND PIPING IDENTIFICATION
 - A. LABEL ALL PIPING SYSTEMS WITH PIPE MARKERS INSTALLED ADJACENT TO VALVES, WHERE PIPES PASS THROUGH WALLS OR FLOORS, NEAR ALL BRANCHES AND CHANGES OF DIRECTION, AT 20 FEET INTERVALS ON STRAIGHT RUNS OF PIPE, AND AT ACCESS DOOR LOCATIONS. ALL PIPE MARKERS SHALL CONFORM TO ANSI A13.1 "SCHEME FOR THE IDENTIFICATION OF PIPING SYSTEMS".
 - B. THE CONTRACTOR SHALL FURNISH AND INSTALL A SYSTEM OF NAMEPLATES DESIGNED TO IDENTIFY EACH PIECE OF EQUIPMENT.
 - (1) NAMEPLATE LETTER AND NUMBERS SHALL MATCH EQUIPMENT DESIGNATION AS INDICATED ON THE DRAWINGS.
 - (2) NAMEPLATES SHALL BE LAMINATED PHENOLIC WITH BLACK SURFACE AND WHITE CORE. USE 1/16" THICK MATERIAL FOR PLATES UP TO 2" BY 4". FOR LARGER SIZES USE 1/8" THICK. LETTERS AND NUMBERS SHALL BE A MINIMUM OF 1/2" HIGH.
 - (3) FASTEN NAMEPLATES TO ALL EQUIPMENT BY THE USE OF STAINLESS STEEL SHEET METAL SCREWS.
- 13. AS-BUILT DRAWINGS
 - A. AS WORK PROGRESSES, RECORD ON A SET OF "AS-BUILT" PRINTS ANY DEVIATIONS FROM DESIGN DRAWINGS. DELIVER TO THE OWNER BEFORE SUBMITTING REQUEST FOR FINAL PAYMENT. THE "AS-BUILT" PRINTS SHALL BE AN ACCURATE DEPICTION OF THE PROJECT AS COMPLETED.

- 14. OPERATING AND MAINTENANCE MANUALS
 - A. PROVIDE TO OWNER, AT PROJECT TURNOVER, THREE (3) HARDBOUND COPIES OF OPERATING AND MAINTENANCE MANUALS FOR ALL EQUIPMENT AND SYSTEMS INSTALLED. MANUALS SHALL INCLUDE ALL RELEVANT INFORMATION NEEDED FOR DAY-TO-DAY OPERATION AND MANAGEMENT OF EACH SYSTEM, AS WELL AS EQUIPMENT MAINTENANCE INFORMATION REQUIRED TO SUPPORT THE MAINTENANCE PROGRAM.
- 15. OPERATING INSTRUCTIONS
 - A. PROVIDE TO OWNER AFTER ALL EQUIPMENT IS IN OPERATION AND AT AN AGREEABLE TIME, INSTRUCTIONS FOR THE PURPOSE OF TRAINING OWNER'S PERSONNEL IN ALL PHASES OF OPERATION AND MAINTENANCE OF EQUIPMENT AND SYSTEMS. SCHEDULE TRAINING WITH OWNER, PROVIDE AT LEAST SEVEN DAYS PRIOR NOTICE. PROVIDE THIS TRAINING TO ALL PERSONNEL AND ON ALL SHIFTS.

- 16. INSULATION
 - A. PROVIDE ALL INSULATION MATERIALS (INSULATION, JACKETS, FITTING COVERS, ADHESIVES, CEMENTS, MASTICS, SEALERS AND FINISHES) WITH A FLAME-SPREAD INDEX OF 25 OR LESS AND SMOKE DEVELOPED INDEX OF 50 OR LESS, AS TESTED UNDER PROCEDURE ASTM E-84 (NFPA 255).
 - B. ALL INSULATION SHALL BE INSTALLED OVER CLEAN, DRY SURFACES. INSULATION MUST BE DRY AND IN GOOD CONDITION. WET OR DAMAGED INSULATION IS NOT ACCEPTABLE. NO INSULATION SHALL BE APPLIED PRIOR TO PRESSURE TEST COMPLETION OF THE RESPECTIVE PIPING SYSTEM.
 - C. ALL INSULATION SHALL BE CONTINUOUS (INCLUDING VAPOR BARRIER) THROUGH WALL AND CEILING OPENINGS, SLEEVES, AND PIPE HANGER LOCATIONS.
 - D. ALL INSULATION PRODUCTS SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS. THE WORKMANSHIP SHALL BE FIRST CLASS AND ALL JOINTS SHALL BE MADE TIGHT.
 - E. INSULATE VALVE BONNETS AND UNIONS ON DOMESTIC WATER PIPING WITH INSULATION MATCHING PIPE INSULATION.
 - F. INSULATE DOMESTIC COLD WATER PIPING AND FITTINGS WITH FLEXIBLE POLYSTYRENE PIPE INSULATION, 1/2" THICKNESS FOR PIPING LESS THAN OR EQUAL TO 1.5". 1" THICKNESS FOR PIPES LARGER THAN 1.5". INSULATE DOMESTIC HOT WATER PIPING AND FITTINGS WITH THE SAME INSULATION, 1" THICKNESS FOR PIPING LESS THAN OR EQUAL TO 1.5". 2" THICKNESS FOR PIPING LARGER THAN 1.5". INSULATE DOMESTIC HOT WATER RETURN PIPING AND FITTINGS WITH MINIMUM 1" THICKNESS.
 - G. INSULATE HORIZONTAL STORM PIPING AND ROOF DRAIN SUMPS WITH OWENS-CORNING ONE PIECE FIBERGLASS PIPE INSULATION WITH ALL SERVICE JACKET, 1/2" THICKNESS.
 - H. INSULATE ELECTRIC WATER COOLER TRAP AND WASTE PIPING WITHIN CABINET WITH 1/2" THICK ARMAFLEX AP PIPING INSULATION.

- I. REPAIR EXISTING INSULATION WHERE REMOVED FOR NEW CONNECTION. INSULATION SHALL BE THE SAME AS SPECIFIED FOR NEW SERVICE.
- K. ALL INSULATION USED AS PLENUM WRAP COVERING FOR COMBUSTIBLE MATERIALS IN A PLENUM SPACE SHALL BE 3M PLENUM PROTECTION SYSTEM (PP-100-P), ONE LAYER OF 3M FIRE BARRIER DUCT WRAP 5A, IN ACCORDANCE WITH UL910 & UL1887.

- 17. MATERIALS
 - ** SANITARY **
 - A. PIPE AND FITTINGS
 - (1) DOMESTIC WATER SHALL BE TYPE "L" COPPER.
 - (2) DOMESTIC WATER BELOW FLOOR SHALL BE TYPE "K" SOFT COPPER.
 - (3) NATURAL GAS SHALL BE SCHEDULE 40 BLACK STEEL.

- (4) SANITARY DRAIN SHALL BE SCHEDULE 40 PVC PLASTIC PIPE (TYPE DWV) WHERE POSSIBLE.
- (5) SANITARY DRAIN AND VENT PIPING LOCATED IN PLENUM RETURN OR RATED WALLS SHALL BE SERVICE WEIGHT NO HUB CAST IRON PIPE. ALL CAST IRON PIPE AND FITTINGS SHALL COMPLY WITH ASTM A 888 (OR A 74) AND BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY THE NSF INTERNATIONAL.
- (6) FITTINGS FOR COPPER PIPE SHALL BE WROUGHT COPPER SOLDER JOINT TYPE. ONLY LEAD FREE SOLDER IS ACCEPTABLE.
- (7) FITTINGS FOR BLACK STEEL PIPE 2" AND SMALLER SHALL BE 150 PSIG SWP MALLEABLE IRON SCREWED FITTINGS. FOR 2-1/2" AND LARGER, FITTINGS SHALL BE FACTORY FORMED WELDING FITTINGS.
- (8) FITTINGS FOR STORM DRAIN, SANITARY DRAIN AND VENT PIPING SHALL BE SCHEDULE 40 PVC PLASTIC PIPE (TYPE DWV) WITH SOLVENT CEMENT PVC (DWV) FACTORY FORMED FITTINGS.
- (9) FITTINGS FOR STORM DRAIN, SANITARY DRAIN AND VENT PIPING LOCATED IN PLENUM RETURN OR RATED WALLS SHALL BE SERVICE WEIGHT NO HUB CAST IRON PIPE WITH STAINLESS STEEL MECHANICAL JOINT COUPLINGS. COUPLINGS SHALL COMPLY WITH "DISPI 310". THE ELASTOMERIC SEALING SLEEVE SHALL CONFORM TO "ASTM C 564" AND SHALL BE PROVIDED WITH A CENTER STOP. MECHANICAL JOINT COUPLINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

- B. DOMESTIC WATER VALVES
 - (1) DOMESTIC WATER SHUT-OFF VALVES SHALL BE BRONZE BODY, TWO PIECE, FULL PORT, LEVER HANDLE BALL VALVES WITH TEFLON SEATS; CHROME PLATED BRASS BALL BRASS STEM AND SOLDER ENDS. 600 PSI WOG. ACCEPTABLE MANUFACTURERS: MILWAUKEE, HAMMOND, APOLLO
 - (2) HORIZONTAL CHECK VALVES SHALL BE BRONZE BODY, SWING TYPE DESIGN, BRONZE DISC, STAINLESS STEEL LEVER WITH SOLDER ENDS. 200 PSI WOG. ACCEPTABLE MANUFACTURERS: MILWAUKEE, HAMMOND, APOLLO
 - (3) MANUAL BALANCING VALVES SHALL BE BRONZE BODY, COMBINATION VENTURI AND BALL VALVE WITH TWO PRESSURE/TEMPERATURE TEST PORTS, MEMORY STOP, INLET UNION CONNECTION AND THREADED ENDS. 400 PSI AT 250°F. ACCEPTABLE MANUFACTURERS: FLOW DESIGN INC. "FLOWSET".

- C. NATURAL GAS VALVES
 - (1) 2" AND SMALLER - WRENCH-OPERATED, RECTANGULAR PORT, CYLINDRICAL LUBRICATED PLUG VALVES WITH CAST IRON BODY, PLUG AND BASEPLATE, TFE GASKET, STAINLESS STEEL BASEPLATE SPRING, STEEL SEALANT SCREW AND THREADED ENDS. 200 PSI WOG. U.L. LISTED.
 - (2) 2-1/2" AND LARGER - WRENCH-OPERATED, RECTANGULAR PORT, CYLINDRICAL LUBRICATED PLUG VALVES WITH CAST IRON BODY, PLUG AND BASEPLATE, TFE GASKET, STAINLESS STEEL BASEPLATE SPRING, STEEL SEALANT SCREW AND FLANGED ENDS. 200 PSI WOG. U.L. LISTED.
 - (3) PROVIDE ALL VALVES WITH A REMOVABLE WRENCH TO MATCH OPERATOR SQUARE HEAD SIZE. WRENCHES SHALL BE LOCKED IN PLACE WITH A SET SCREW.

- 18. PIPING INSTALLATION
 - A. PROVIDE MACHINE CUT STEEL PIPE SLEEVE 1" LARGER THAN OUTSIDE DIAMETER OF PIPE, WHERE FLOORS ARE CORE DRILLED. STEEL SLEEVES ARE NOT REQUIRED. SEAL OPENINGS TO MAINTAIN THE INTEGRITY OF THE FIRE RATING.
 - B. PROVIDE ALL INSERTS, FASTENERS AND SUPPORTS TO PROPERLY SUPPORT AND RETAIN PIPING; TO CONTROL EXPANSION, CONTRACTION, ANCHORAGE, DRAINAGE, AND PREVENT SWAY AND VIBRATION. PIPING SHALL BE SO SUPPORTED AS NOT TO PLACE A STRAIN ON VALVES, FITTURES OR EQUIPMENT.
 - C. THE DRAWINGS INDICATE THE GENERAL LOCATION AND ARRANGEMENT OF THE PIPING SYSTEMS. SO FAR AS PRACTICAL, INSTALL PIPING AS INDICATED MAKING CONNECTIONS TO ALL EQUIPMENT AND FITTURES. INSTALL PIPING AS DIRECT AS POSSIBLE AVOIDING UNNECESSARY OFFSETS. HOWEVER, IF OFFSETS ARE REQUIRED IN ORDER TO OBTAIN MAXIMUM HEADROOM OR TO AVOID CONFLICT WITH OTHER WORK, THEY SHALL BE MADE AS REQUIRED OR AS REQUESTED BY THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER. THE ARCHITECT RESERVES THE RIGHT TO MAKE MINOR CHANGES IN THE LOCATION OF PIPING AND EQUIPMENT DURING THE ROUGHING-IN, WITHOUT ADDITIONAL COST TO THE OWNER. ALL CHANGES PROPOSED BY OTHERS SHALL BE APPROVED BY THE ARCHITECT.
 - D. INSTALL PIPING FREE OF SAGS OR BENDS

- E. ALL PIPING SYSTEMS MUST BE INSTALLED SO THEY CAN BE COMPLETELY DRAINED. PROVIDE TEE FITTING, BALL VALVE WITH HOSE THREAT FITTING AND CAP AT ALL LOW POINTS, TRAPPED SECTIONS, BASES OF RISERS, AND ON EQUIPMENT SIDE OF SHUT OFF VALVES TO PERMIT DRAINING. PROVIDE BALL VALVES AT ALL HIGH POINTS TO ALLOW VENTING. ALL DRAIN VALVES AND VENTS SHALL BE ACCESSIBLE.
- F. TERMINATE PLUMBING VENT PIPES AT LEAST 12 INCHES ABOVE ROOF.
- G. BUILDING DRAINS SHALL BE PITCHED A MINIMUM SLOPE OF 1/4" INCH PER FOOT FOR PIPES UP TO 2-1/2" INCH AND 1/8" INCH PER FOOT FOR PIPES GREATER THAN 2-1/2" INCHES.
- H. PROVIDE WATER HAMMER ARRESTERS WHERE QUICK-CLOSING VALVES ARE UTILIZED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
- J. PROVIDE CHECK VALVES WHERE BACKFLOW PROTECTION IS REQUIRED, AND INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S

SPECIFICATIONS. PROVIDE AT FIXTURES SUCH AS, BUT NOT LIMITED TO; DISHWASHERS, COFFEE MAKERS, ICE MACHINES, BEVERAGE DISPENSERS, REFRIGERATORS. PROVIDE WATTS 007 OR EQUIVALENT.

- K. PROVIDE DIELECTRIC UNIONS AT COUPLING OF DISSIMILAR METALS

- 19. DISINFECTION
 - A. CHLORINATE ALL DOMESTIC WATER SYSTEMS AS FOLLOWS. FIRST FLUSH SYSTEM WITH CLEAN POTABLE WATER UNTIL DIRTY WATER DOES NOT APPEAR AT OUTLETS. THEN FILL WITH A WATER/CHLORINE SOLUTION (50PPM CHLORINE) AND ALLOW TO STAND FOR 24 HOURS. FOLLOWING STANDING TIME, FLUSH THE SYSTEM WITH CLEAN POTABLE WATER UNTIL CHLORINE IS PURGED FROM THE SYSTEM. REPEAT CHLORINATION, IF NECESSARY, UNTIL NO BACTERIOLOGICAL CONTAMINATION IS PRESENT IN THE SYSTEM. PROCEDURE SHALL CONFORM TO ANWA C651 AND BE ACCEPTED BY THE LOCAL HEALTH DEPARTMENT.

- 20. PLUMBING FIXTURES AND EQUIPMENT
 - A. GENERAL
 - (1) PROVIDE FIXTURES OF TYPE, STYLE AND MATERIAL AS SCHEDULED ON THE DRAWINGS. INCLUDE ALL TRIM, CARRIERS, SEATS, ETC. AS INDICATED OR RECOMMENDED BY MANUFACTURER AS REQUIRED FOR A COMPLETE INSTALLATION.
 - (2) PROVIDE VACUUM BREAKERS AS PART OF THE FIXTURE OR EQUIPMENT TRIM WHEREVER THERE IS A POSSIBILITY OF BACK SIPHONING.
 - (3) PROVIDE DOUBLE CHECK VALVES FOR PLUMBING FIXTURE OR SPECIAL EQUIPMENT WHERE BACKFLOW PROTECTION IS REQUIRED, AND INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS, USE WATTS SERIES 7 BRONZE DUAL CHECK VALVE.
 - (4) PROVIDE FIXTURES CONSTRUCTED OF VITREOUS CHINA WITH ALL VISIBLE SURFACES GLAZED. FURNISH ENAMELED CAST IRON FIXTURES CONSTRUCTED WITH NON-STAINING, ACID RESISTANT, PORCELAIN ENAMELED COAT THOROUGHLY FUSED ON THE SURFACES. FURNISH STAINLESS STEEL SINKS WITH SATIN FINISH, UNLESS NOTED OTHERWISE.
 - (5) PROVIDE ALL STOPS, SUPPLIES, TRAPS AND ESCUTCHEONS NECESSARY FOR A COMPLETE INSTALLATION. ALL COMPONENTS SHALL BE CHROME PLATED BRASS.
 - (6) STOPS SHALL BE STRAIGHT OR ANGLE TYPE AS REQUIRED BY THE INSTALLATION, WITH LOOSE KEY, METAL STEM AND WASHER CUP WITH SET SCREW WASHER RETAINER.
 - (7) SUPPLIES SHALL BE FLEXIBLE CHROME PLATED COPPER.

- (8) TRAPS SHALL BE 17 GAUGE CHROME PLATED BRASS WITH CLEAN-OUT PLUG. FURNISH WITH SLIP NUTS, WALL BEND AND ESCUTCHEON.
- (9) PROVIDE CARRIERS AND SUPPORTS AS REQUIRED FOR PROPER FIXTURE INSTALLATION. TYPE SHALL PERMIT FIELD ADJUSTMENT TO FIT VARIATIONS IN CONSTRUCTION. UNLESS NOTED OTHERWISE, SUPPORT ALL WALL MOUNTED PLUMBING FIXTURES ON CONCEALED CHAIR CARRIERS WITH FOOT SUPPORT.
- (10) PROVIDE FAUCET AERATORS AND OUTLETS OF TYPES APPROVED BY THE LOCAL HEALTH DEPARTMENT AND LOCAL PLUMBING CODE, REFER TO IPC TABLE 604.4.
- (11) INSULATE ALL EXPOSED WATER SUPPLIES AND TRAPS WHERE FIXTURES ARE INDICATED TO COMPLY WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT. INSULATION KITS SHALL BE 3/16" THICK MOLDED CLOSED CELL VINYL CONSTRUCTION WITH PVC SATIN WHITE COVER.

- E. VALVES
 - 1. Install all valves required by NFPA which are UL listed and FM approved.
 - 2. All shut-off valves shall be fitted with tamper switches by fire protection contractor and wired by electrical contractor.

- END OF SECTION

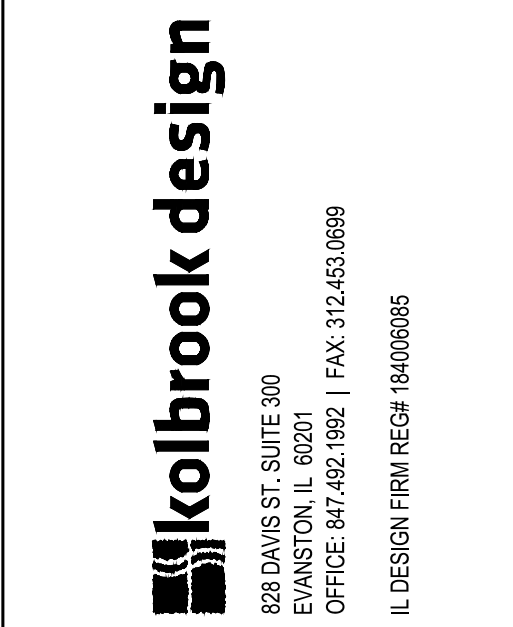
- END OF SECTION

FIELD VERIFY ALL CONDITIONS

- DESIGN DRAWINGS ARE SCHEMATIC. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.
- THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.
- BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ASSESSING AND INSTALLING IN STRICT ACCORDANCE WITH GOVERNING CODES THE PLANS AND SPECIFICATIONS NOT WITHSTANDING. THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

FIRE PROTECTION SPRINKLER SYSTEM

- A. SCOPE
 - 1. Furnish all labor, materials and equipment as required to install a complete fire protection system for project.
 - 2. Sprinkler work for project essentially consists of the following:
 - a. Modify existing fire protection system to provide a system serving tenant space. Fire protection system shall be isolated by sprinkler control valve with flow and tamper switches connected to the fire alarm monitoring system. The balance of the building fire protection system shall remain active and with current monitoring in place.
 - b. Each flow switch shall be connected to an alarm bell outside the building as directed by Fire Marshal.
 - c. Prepare submittal drawings and hydraulic calculations in accordance with owner's insurance company, building department, and local fire authority's requirements and submit for approval.
 - d. Flush and conduct pressure test of completed system in accordance with NFPA and authorities having jurisdiction.
 - e. Other items indicated on drawings or required for complete installation.
- B. DESIGN BASIS
 - 1. Design basis for system shall be per all applicable NFPA standards, including but not limited to, Bulletins 13 and 30, Building Code, insurance underwriter, and fire marshal requirements. System shall be a hydraulically designed system.
 - 2. Sprinkler heads to be recessed head w/ cover plate per latest OSH design guidelines.
- C. DRAWINGS AND CALCULATIONS
 - 1. Contractor shall prepare submittal drawing and hydraulic calculations for space in accordance with owner's insurance company and building department requirements.
 - 2. Contractor shall obtain flow test data on city water main and submit data with calculations. Perform flow test if accurate recent data is not available.
 - 3. Contractor and designer shall be state certified.
 - 4. Contractor shall install all sprinkler piping as high as possible, tight to underside of structure, and through joists or trusses where possible with drains and offsets below beams. Sprinkler Contractor shall coordinate sprinkler system with ductwork and lights. All costs associated with raising sprinkler piping where the architectural design cannot be accomplished shall be the responsibility of the sprinkler contractor.
- D. PIPING
 - 1. All piping shall be installed in accordance with NFPA requirements and FM approved.
 - 2. Fire protection piping shall be as follows:
 - a. Inside Building - pipe and tubing shall be steel or copper in accordance with the latest accepted edition of NFPA-13.
 - b. Piping shall match existing building standards.
 - c. Contractor shall arrange for shutdown of existing system with landlord, owner and insurance underwriter.
 - d. Flush all piping upon completion of project and test per NFPA 13.
 - e. No wet sprinkler piping shall be installed at locations subject to freezing. Provide Glycol loop or dry system for areas subject to freezing.
 - f. Plastic piping is not approved.



STORE ADDRESS

6231 McKee Rd, Suite A
Fitchburg, WI 53719

STORE NUMBER

WI 021



REVISION	

DATE 02/02/2022

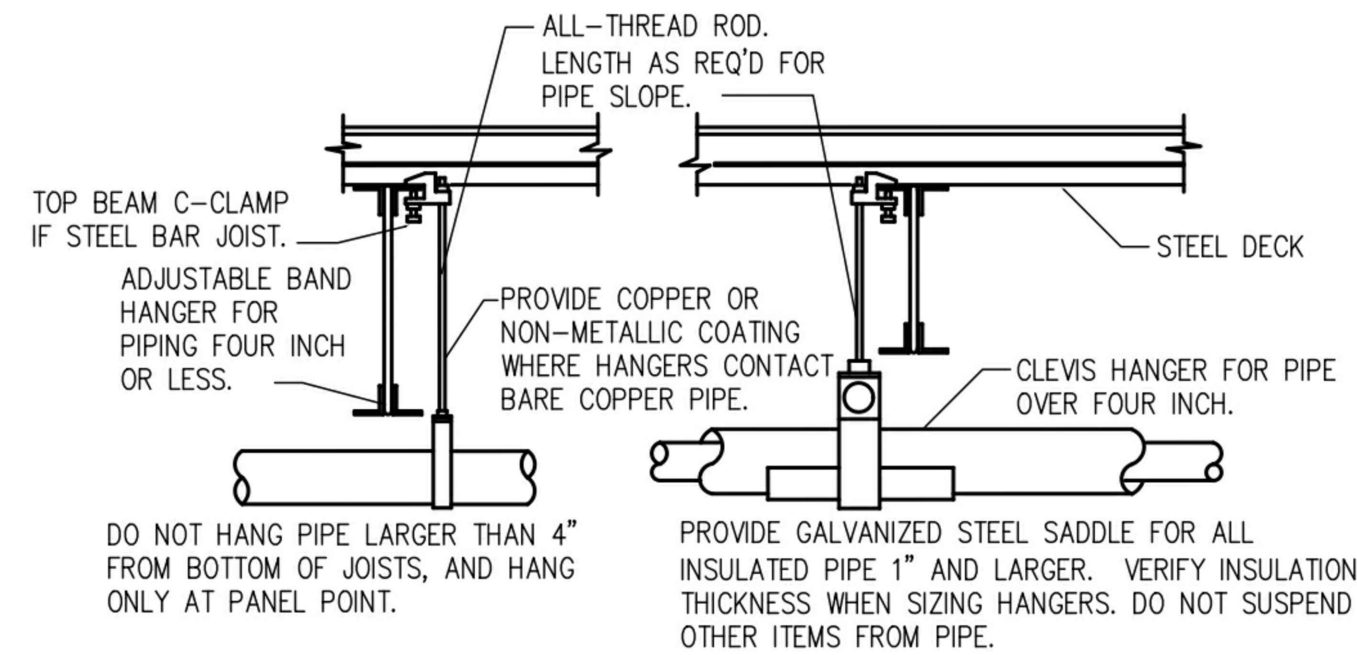
PROJECT 1674.010

FOR INTERNAL USE ONLY
PROJECT TYPE REVISION NUMBER 129

**SHEET NAME
PLUMBING
SPECIFICATIONS**

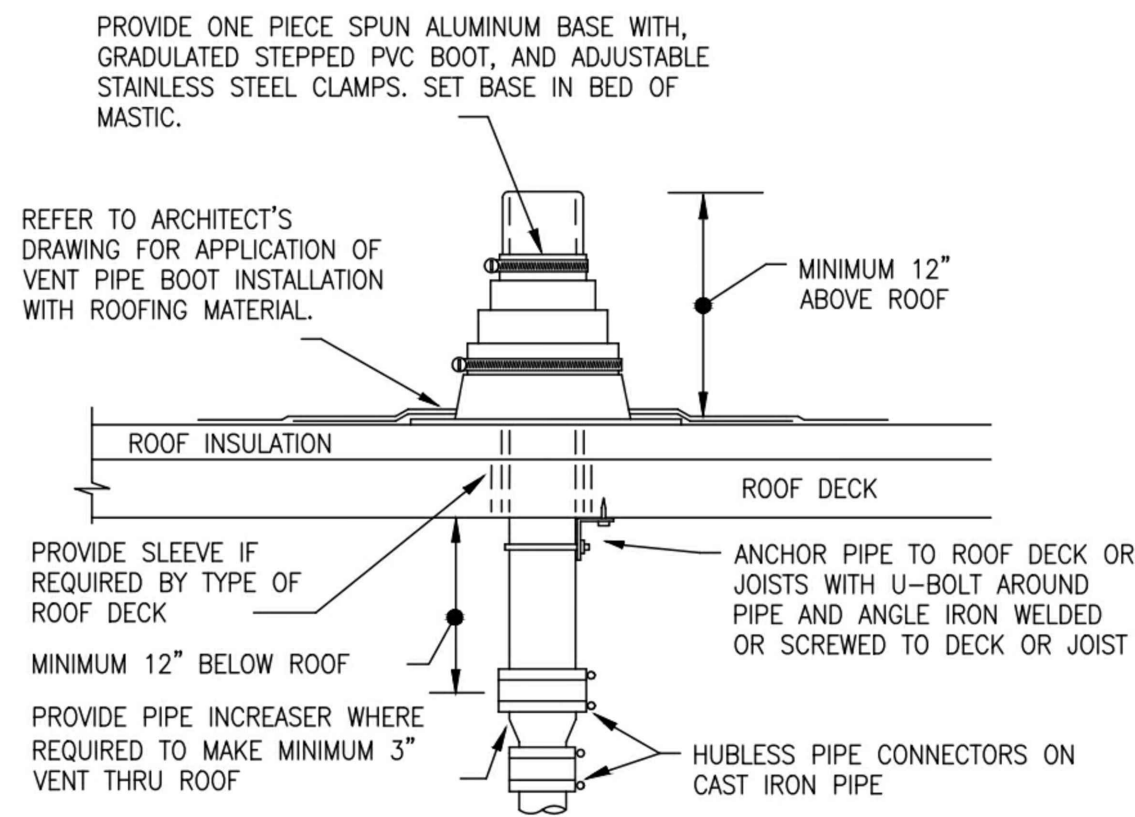
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P001



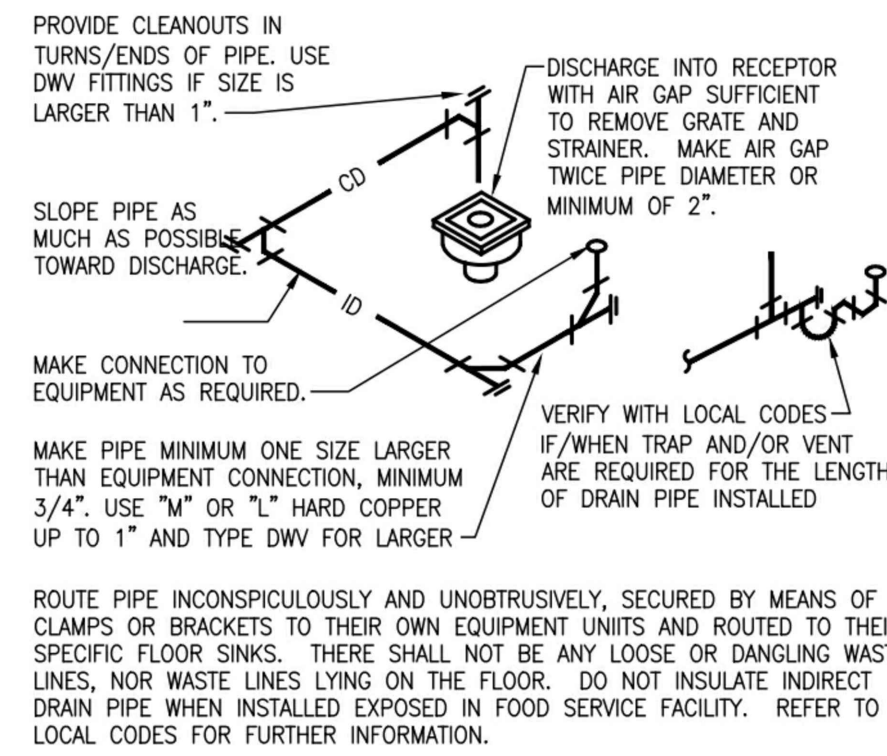
PIPING HANGING DETAIL

NOT TO SCALE



VENT THRU ROOF DETAIL

NO SCALE



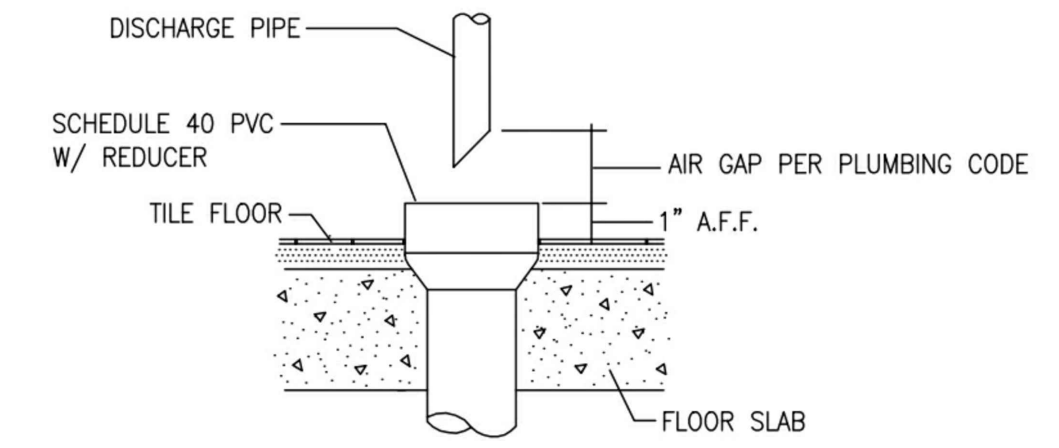
INDIRECT/CONDENSATE DRAIN

NO SCALE

COMMENTS:
1. PROVIDE UPPER ATTACHMENT AS REQUIRED FOR VAPOR BARRIER. DO NOT INSTALL HANGER INSIDE INSULATION OR OTHERWISE PENETRATE VAPOR BARRIER. DO NOT HANG ONE PIPE FROM ANOTHER EXCEPT IN CHASES. TRAPEZE HANGERS MAY BE USED FOR MULTIPLE PARALLEL PIPES. SLOPE ALL WATER PIPING SLIGHTLY TOWARD DRAINABLE LOCATIONS. HANGER SPACING FOR PIPE SIZE: COPPER: 2"=9' 1/2"=8' 1/4"=7' 1"=6' 3/4"=6' 3/4"=5'. CAST IRON: 10' AND ONE NEAR ALL JOINTS. STEEL: 3"=12' 2 1/2"=11' 2"=10' 1 1/2"=9' 1"=7' 3/4"=6' 1/2"=5'. LOCATE HANGERS AS CLOSE AS POSSIBLE TO TURNS AND TEES OF PIPE. PROVIDE SUPPLEMENTARY STEEL STRUTS BETWEEN JOISTS IF REQUIRED. LOCATE HANGERS TO TAKE LOAD OFF OF EQUIPMENT CONNECTIONS. ANCHOR WATER PIPE AGAINST SWAYING DUE TO CHANGES IN WATER VELOCITY. PROVIDE SEISMIC BRACING AS REQUIRED BY LOCAL AUTHORITIES. CHAINS OR PERFORATED STRAP IRON OR STEEL IS NOT ACCEPTABLE. DO NOT SUSPEND PIPE FROM JOIST BRACING MEMBERS. REFER TO CODES AND SPECIFICATIONS FOR FURTHER INFORMATION.

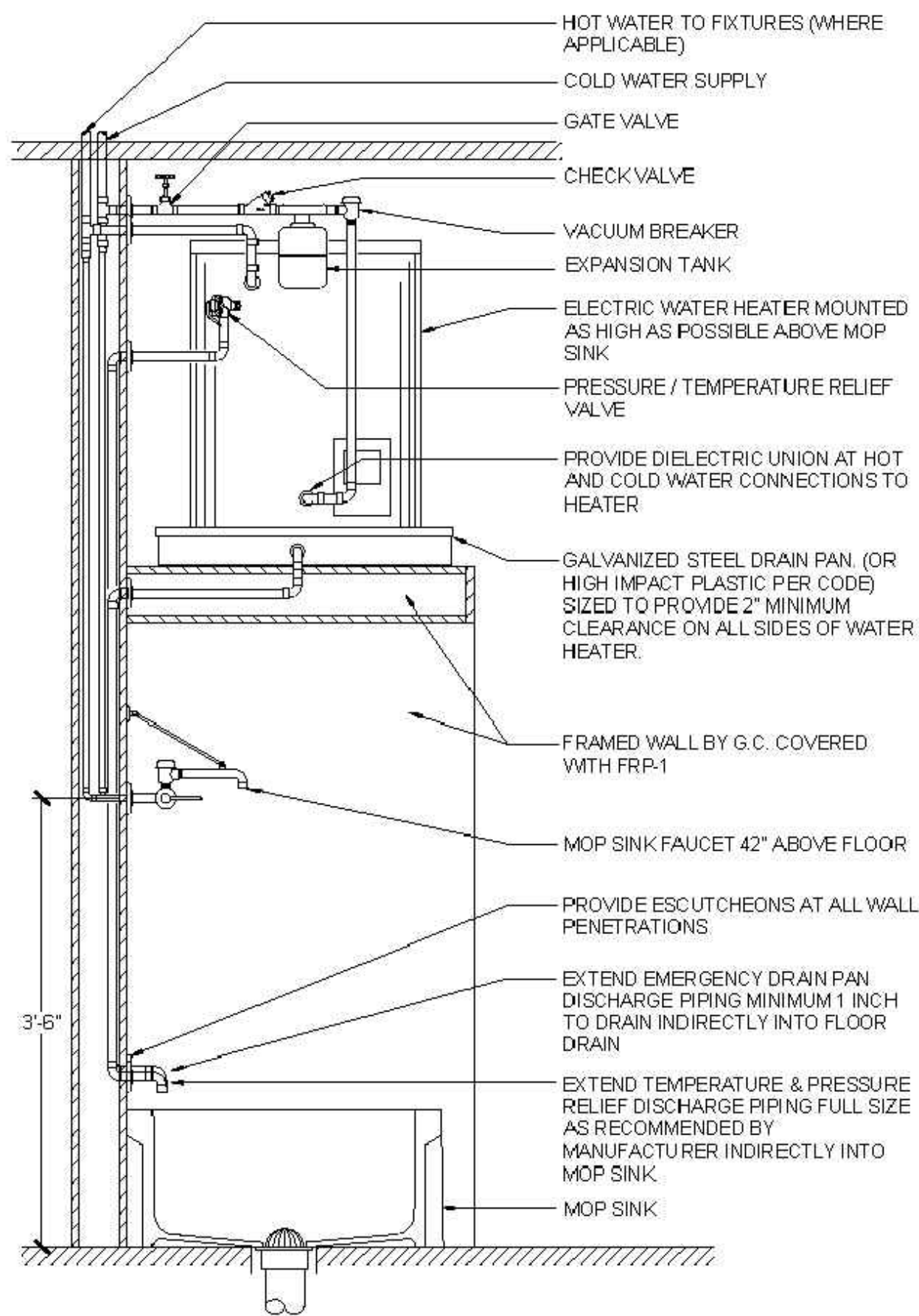
REFER TO ARCHITECT'S DRAWING FOR APPLICATION OF VENT PIPE BOOT INSTALLATION WITH ROOFING MATERIAL.
MINIMUM 12" ABOVE ROOF
ANCHOR PIPE TO ROOF DECK OR JOISTS WITH U-BOLT AROUND PIPE AND ANGLE IRON WELDED OR SCREWED TO DECK OR JOIST
HUBLESS PIPE CONNECTORS ON CAST IRON PIPE
REFER TO PLANS FOR VTR PIPE SIZES AND LOCATIONS. LOCATE VTR MINIMUM TEN FEET HORIZONTAL OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, AND ONE FOOT FROM ANY VERTICAL SURFACE. PROVIDE 1" FIBERGLASS INSULATION WITH ALL SERVICE JACKET ON VENT PIPE INSIDE BUILDING WITHIN SIX FEET OF VENT THRU ROOF LOCATION. VERIFY FLASHING AND COUNTERFLASHING WITH ROOFING CONTRACTOR.

PROVIDE CLEANOUTS IN TURNS/ENDS OF PIPE. USE DWV FITTINGS IF SIZE IS LARGER THAN 1".
DISCHARGE INTO RECEPTOR WITH AIR GAP SUFFICIENT TO REMOVE GRATE AND STRAINER. MAKE AIR GAP TWICE PIPE DIAMETER OR MINIMUM OF 2".
SLOPE PIPE AS MUCH AS POSSIBLE TOWARD DISCHARGE.
MAKE CONNECTION TO EQUIPMENT AS REQUIRED.
MAKE PIPE MINIMUM ONE SIZE LARGER THAN EQUIPMENT CONNECTION. MINIMUM 3/4". USE "M" OR "L" HARD COPPER UP TO 1" AND TYPE DWV FOR LARGER.
VERIFY WITH LOCAL CODES IF WHEN TRAP AND/OR VENT ARE REQUIRED FOR THE LENGTH OF DRAIN PIPE INSTALLED.
ROUTE PIPE INCONSPICUOUSLY AND UNOBRUSIVELY, SECURED BY MEANS OF CLAMPS OR BRACKETS TO THEIR OWN EQUIPMENT UNITS AND ROUTED TO THEIR SPECIFIC FLOOR SINKS. THERE SHALL NOT BE ANY LOOSE OR DANGLING WASTE LINES, NOR WASTE LINES LYING ON THE FLOOR. DO NOT INSULATE INDIRECT DRAIN PIPE WHEN INSTALLED EXPOSED IN FOOD SERVICE FACILITY. REFER TO LOCAL CODES FOR FURTHER INFORMATION.



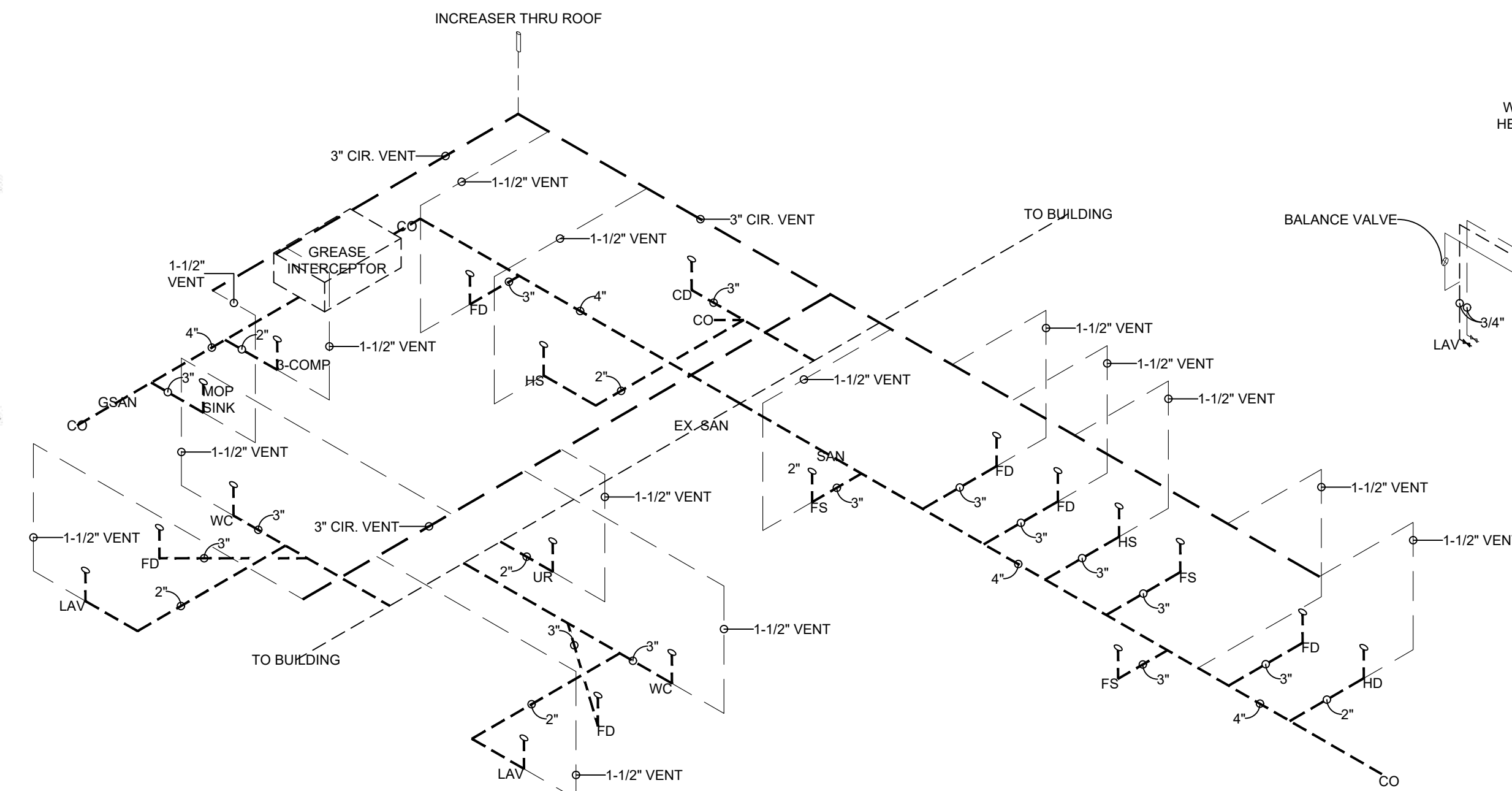
TYP. FLR. HUB DETAIL

NO SCALE



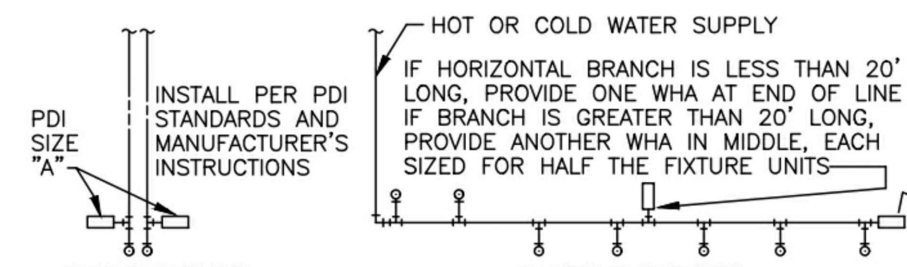
WATER HEATER DETAIL

NO SCALE



2 WATER SUPPLY ISOMETRIC

SCALE: N.T.S.



SINGLE FIXTURE				MULTIPLE FIXTURES			
PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD		FIXTURE	UNIT	COLD	HOT
A	1/2"	1-11		VALVE WATER CLOSET	10	--	--
B	3/4"	12-32		TANK WATER CLOSET	5	--	--
C	1"	33-60		URINAL	5	--	--
D	1-1/4"	61-113		LAVATORY/SINK	1.5	1.5	
E	1-1/2"	114-154		JANITOR'S SINK	3	3	
F	2"	154-330		SHOWER/BATHTUB	2	2	

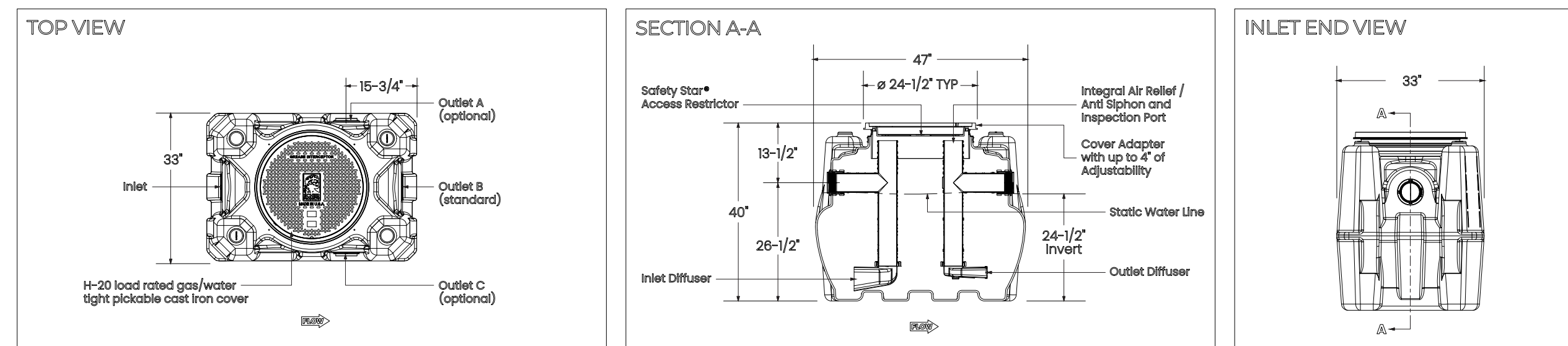
PC TO PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE #1010 AND ANSI #A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE.

WATER HAMMER ARRESTERS

NOT TO SCALE

1 GREASE INTERCEPTOR DETAIL

SCALE: N.T.S.



GREASE INTERCEPTOR CALCULATIONS

Project Name: Tropical Smoothie Cafe - Fitchburg, WI

Step 1: Flow rate to grease interceptor

Fixture flow rate: (cu in / 231) = gal. (Single Fixture)

Total Gallons / 2 = Liquid Capacity (gal.) Needed

NAME	TYPE	DIMENSIONS	QTY	CU IN	GALLONS
3 Comp	3 Compartment Sink	18" x 18" x 14" (3)	1	13,608	58.9
Mop Sink	Mop Basin	24" x 24" x 10"	1	5,760	24.9

Total 83.8 Gallons

83.8 Gallons / 2 = 41.9 Liquid Gallons needed

SCHIER MODEL	Description: Polyethylene Grease Interceptor
GB-75	Dimensions: Length: 47", Width: 33", Height: 40" Flow Rates/Grease Capacities: 75 GPM / 861 lbs Liquid Capacity: 125 gal

STORE ADDRESS

6231 McKee Rd, Suite A
Fitchburg, WI 53719

STORE NUMBER

WI 021

tropical CAFE
SMOOTHIE
eat better. feel better.

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NO.	DESCRIPTION

DATE 02/02/2022

PROJECT 1674.010

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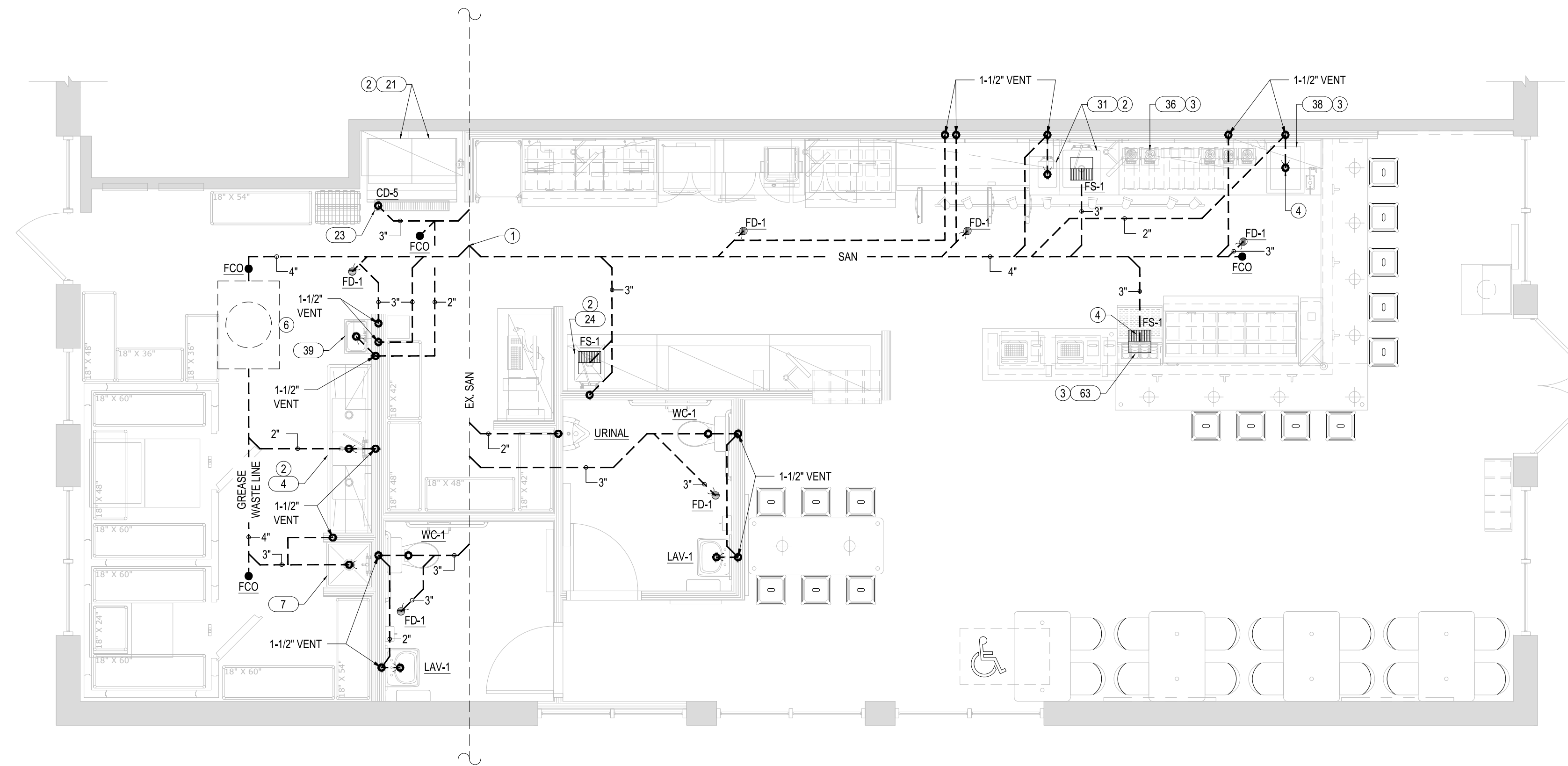
SHEET NAME
PLUMBING DETAILS & SAN ISOMETRIC

SHEET NUMBER

P003

CODED NOTES

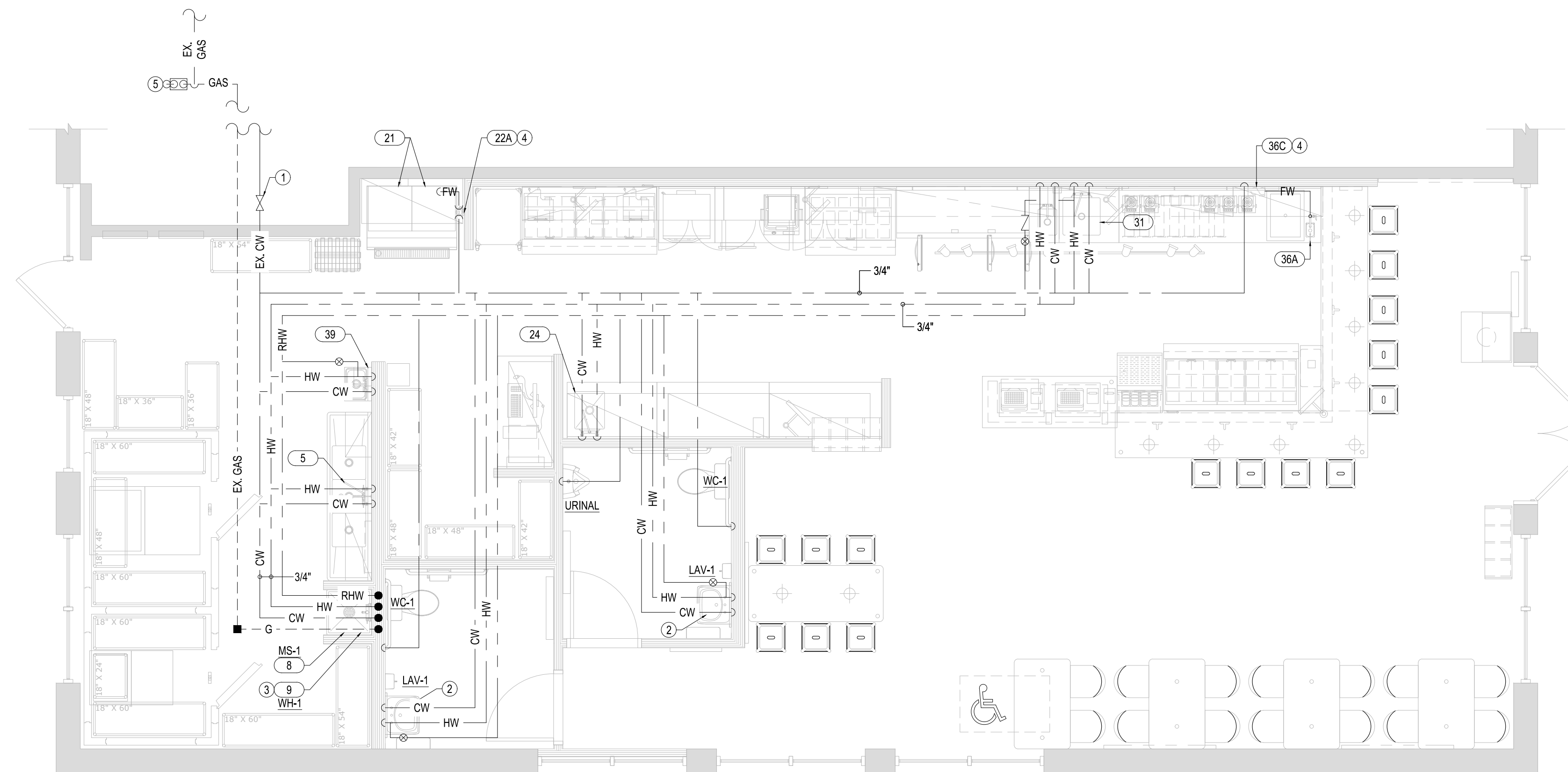
- 1 CONNECT NEW SAN/GSAN PIPING TO EXISTING MAIN IN THIS AREA. PLUMBING CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, AND INVERT OF EXISTING SANITARY MAIN. SAWCUT AND TRENCH FLOOR AS REQUIRED AND PATCH FLOOR TO MATCH EXISTING.
- 2 ROUTE INDIRECT KITCHEN EQUIPMENT WASTE TO FLOOR SINK IN AREA AND TERMINATE WITH AIR GAP PER LOCAL PLUMBING CODE.
- 3 ROUTE INDIRECT KITCHEN EQUIPMENT WASTE TO HUB DRAIN IN AREA AND TERMINATE WITH AIR GAP PER LOCAL PLUMBING CODE.
- 4 SEE TYPICAL FLOOR HUB DRAIN DETAIL ON SHEET P001 FOR HUB DRAIN CONSTRUCTION.
- 5 NOT USED.
- 6 NEW GREASE INTERCEPTOR, SEE DETAIL 1/P003.



2 SANITARY PIPING PLAN
SCALE: 1/4"=1'-0"

CODED NOTES

- 1 CONNECT TO EXISTING WATER LINE 1-1/4" STUB IN SPACE. CONTRACTOR TO FIELD VERIFY EXACT LOCATION IN FIELD. EXISTING BACKFLOW PREVENTER & WATER SUB-METER IN UTILITY ROOM TO REMAIN. COORDINATE ALL WORK WITH G.C. & UTILITY COMPANY.
- 2 PROVIDE A TEMPERING VALVE FOR LAVATORIES, POWER HYDROGUARD SERIES LM495, ASSE 1070 OR EQUAL. SET TEMPERATURE TO A MAXIMUM OF 110°F.
- 3 CW/HW TO ELECTRIC TANK TYPE WATER HEATER, MOUNTED ABOVE MOP SINK, PROVIDE WITH RECIRCULATION PUMP PER IECC REQUIREMENTS. SEE WATER HEATER DETAIL ON SHEET P003 FOR ADDITIONAL INFORMATION.
- 4 PROVIDED VENTED DOUBLE CHECK BACKFLOW DEVICE PRIOR TO WATER FILTER PER LOCAL PLUMBING CODE. ROUTE DISCHARGE TO NEAREST WASTE RECEPTACLE.
- 5 CONTRACTOR TO VERIFY IF EXISTING GAS METER'S CAPACITY IS EQUAL TO OR GREATER THAN 400 CFH. IF NOT, REPLACE EXISTING GAS METER WITH NEW. REMOVE AND REPLACE EXISTING 1-1/4" MAIN OUT METER WITH NEW 1-1/2" LINE. RECONNECT EXISTING LINE SERVING EXISTING TO REMAIN ROOFTOP HVAC UNIT. VERIFY EXACT LOCATION OF METER IN FIELD. EXTEND NEW 1-1/4", 7" W.C. GAS PIPE UP FROM NEW 1-1/2" MAIN TO ROOFTOP SHOW. COORDINATE ALL WORK WITH UTILITY COMPANY AND LANDLORD.
- 6 EXTEND GAS PIPING DOWN THROUGH ROOF TO ELECTRIC WATER HEATER IN SPACE.



1 WATER & GAS PIPING PLAN
SCALE: 1/4"=1'-0"

STORE ADDRESS

6231 McKee Rd, Suite A
Fitchburg, WI 53719

STORE NUMBER

WI 021



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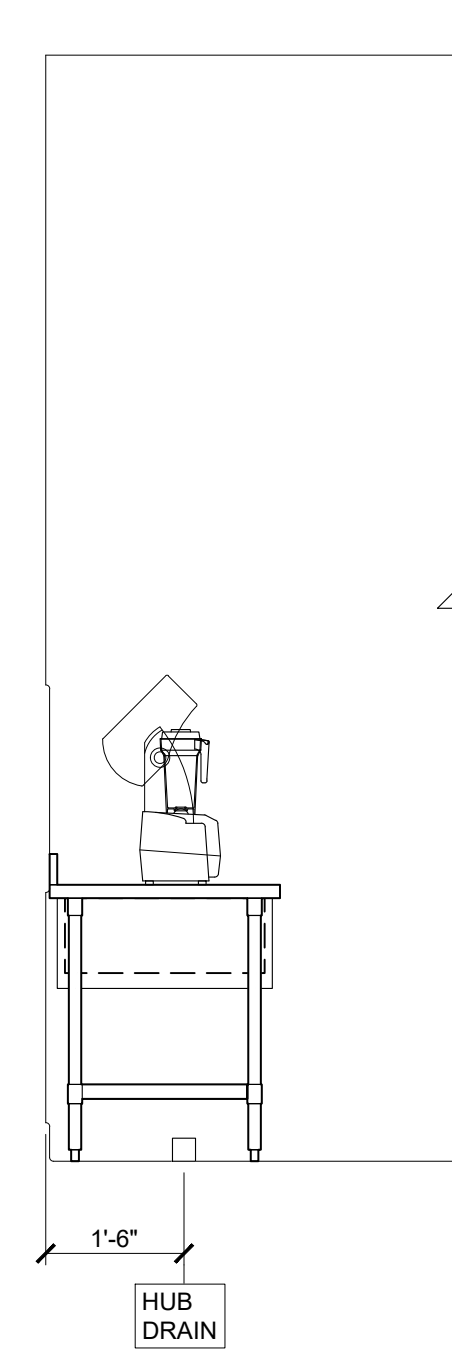
SHEET NAME
PLUMBING PLANS

SHEET NUMBER

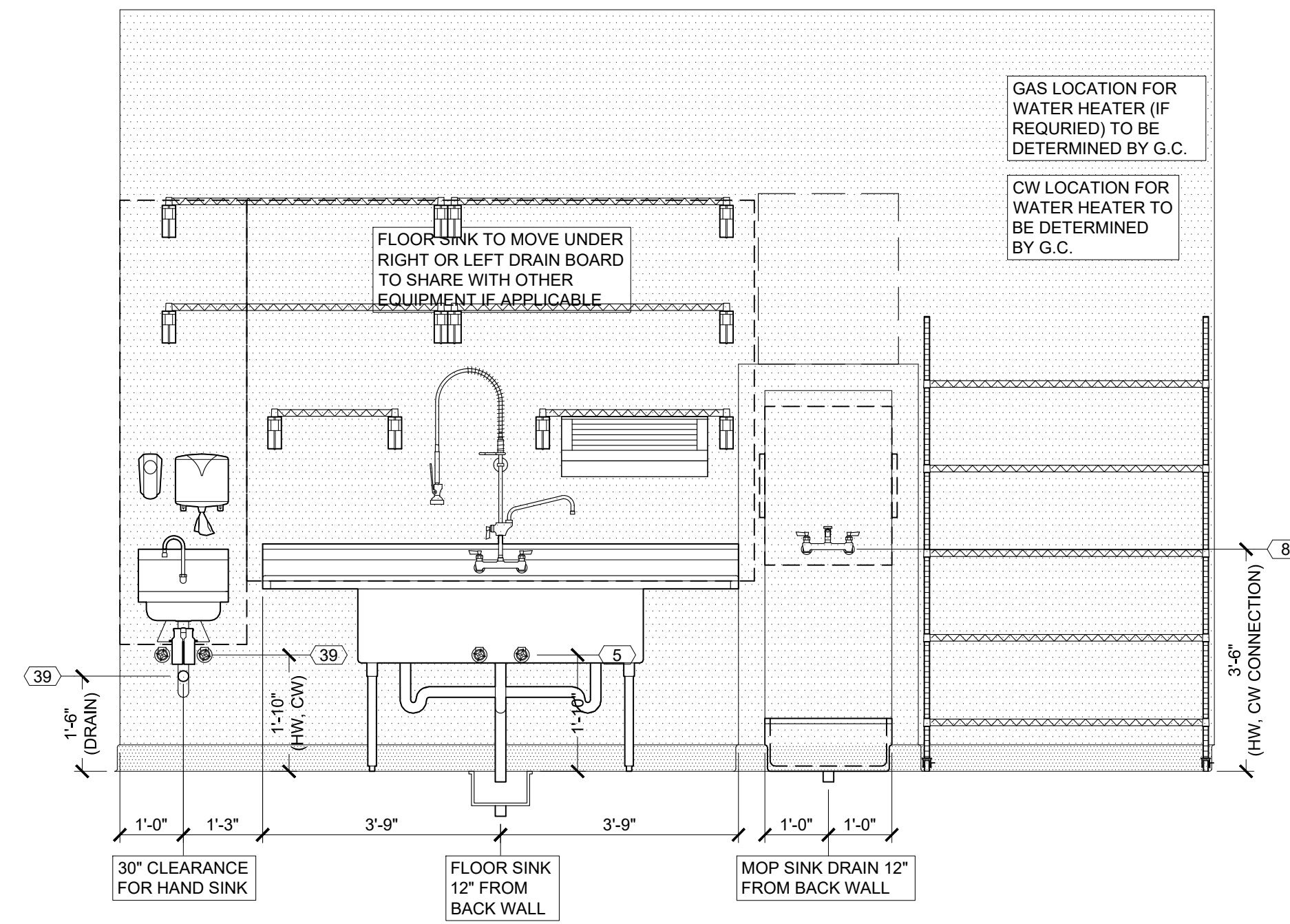
P101

PLUMBING GENERAL NOTES

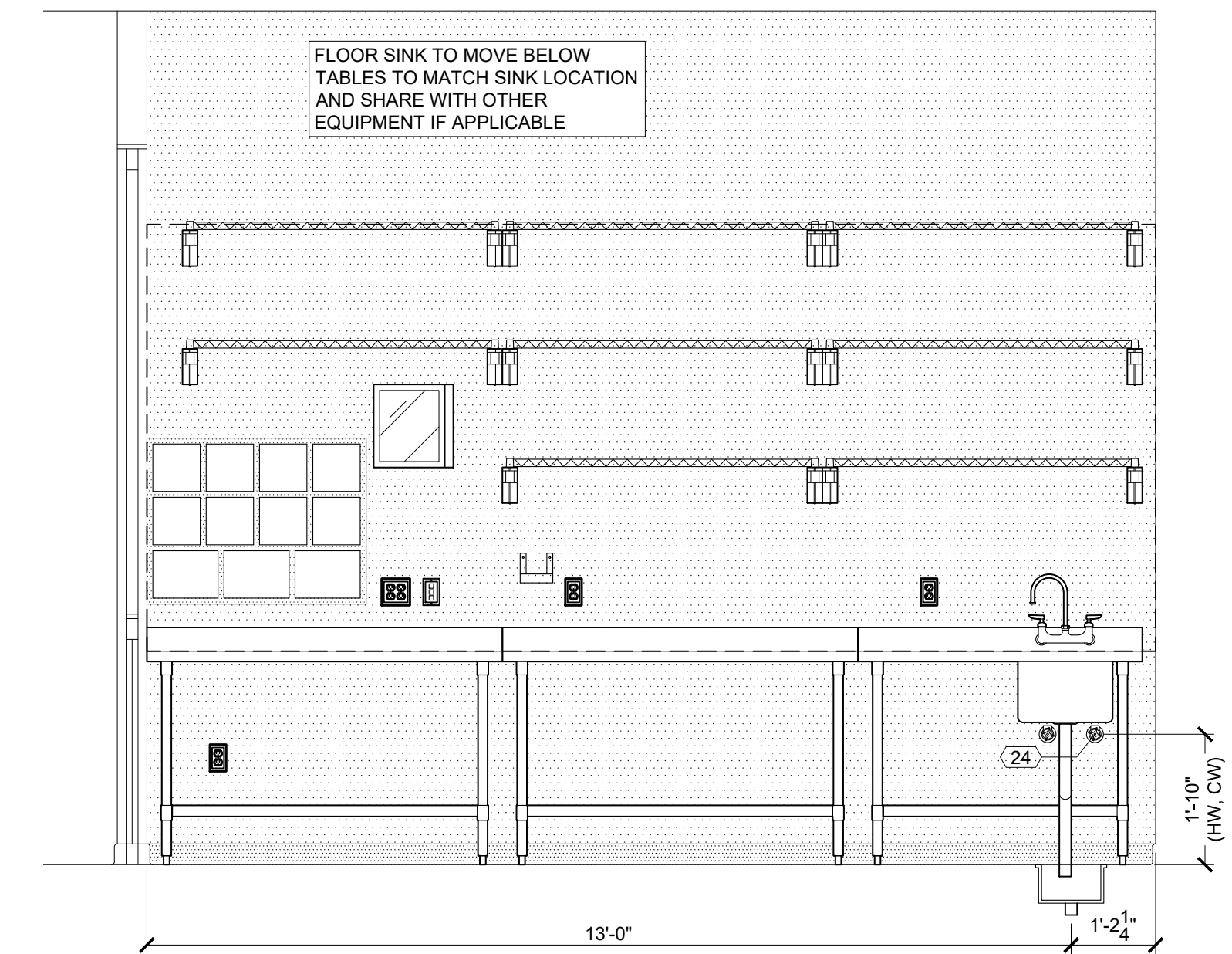
- ALL PLUMBING ROUGH-INS AND CONNECTIONS SHOWN ON THESE PLANS ARE FOR FOOD SERVICE FIXTURES AND EQUIPMENT PROVIDED BY THE EQUIPMENT VENDOR OR BY OUTSIDE PARTIES LISTED AS 'VENDOR' OR 'BY OTHERS'. ALL INFORMATION PROVIDED ON THESE PLANS ARE TO BE VERIFIED BY THE PLUMBING CONTRACTOR THRU THE SPECIFICATIONS MANUAL PROVIDED BY THE EQUIPMENT VENDOR OR BY CONSULTING THE APPROPRIATE OUTSIDE PARTIES.
- PLUMBING CONTRACTOR / FITTER IS RESPONSIBLE FOR SUPPLYING ALL CALKING, PIPING AND FITTINGS NECESSARY TO MAKE ALL FINAL PLUMBING AND GAS CONNECTIONS TO EQUIPMENT PER MANUFACTURERS SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO:
 - SECURING ALL SINK UNITS TO WALLS AND INSTALLING FAUCETS AND DRAINS AS REQUIRED PER LOCAL CODES
 - PROVIDING / INSTALLING PRESSURE REDUCING VALVES, SOLENOID VALVES, BACK FLOW PREVENTORS, WATER HAMMER ARRESTORS, ETC.
 - PROVIDING / ATTACHING ALL DIRECT AND INDIRECT DRAINS, TAIL PIECES, GATE VALVES, TRAPS
- PLUMBING CONTRACTOR IS TO VERIFY ALL LOCAL HEALTH AND PLUMBING CODES TO CONFIRM IF WASTE LINES NEED TO RUN AS DIRECT OR INDIRECT, OR TO BE RUN THROUGH A GREASE TRAP. DRAIN LINES TO BE NO SMALLER THAN STUB-OUT OF THE FIXTURE ITSELF AND TO BE RUN IN A MANNER AS TO NOT INTERFERE WITH EQUIPMENT. INDIRECT DRAINS AND CONDENSATE LINES TO RUN TO NEAREST FLOOR SINK / DRAIN AND HAVE AN AIR GAP IN ACCORDANCE WITH LOCAL CODES.
- PLUMBING CONTRACTOR TO SEAL ALL STUB-OUT'S AFTER FINAL CONNECTIONS PER LOCAL CODES.
- PLUMBING CONTRACTOR TO VERIFY IF CLEAN WATER WASTES ARE REQ'D TO EMPTY INTO STORM SEWERS.
- PLUMBING CONTRACTOR IS RESPONSIBLE FOR ENSURING PROPER WORKING CONDITION AND MEETING CURRENT LOCAL CODE REQUIREMENTS FOR ANY / ALL EQUIPMENT LISTED ON THESE PLANS AS 'EXISTING'.
- PLUMBING CONTRACTOR TO PROVIDE / INSTALL ALL WATER ROUGH-INS, WALL DRAIN CONNECTIONS, FLOOR DRAINS, FLOOR SINKS, HUB DRAINS, ETC. AS REQUIRED BY LOCAL CODES.
- REFER TO ARCHITECTURAL PLANS AND / OR CONSTRUCTION DOCUMENTS FOR ANY ADDITIONAL WATER CONNECTIONS / DRAINS REQUIRED TO MEET LOCAL CODES.



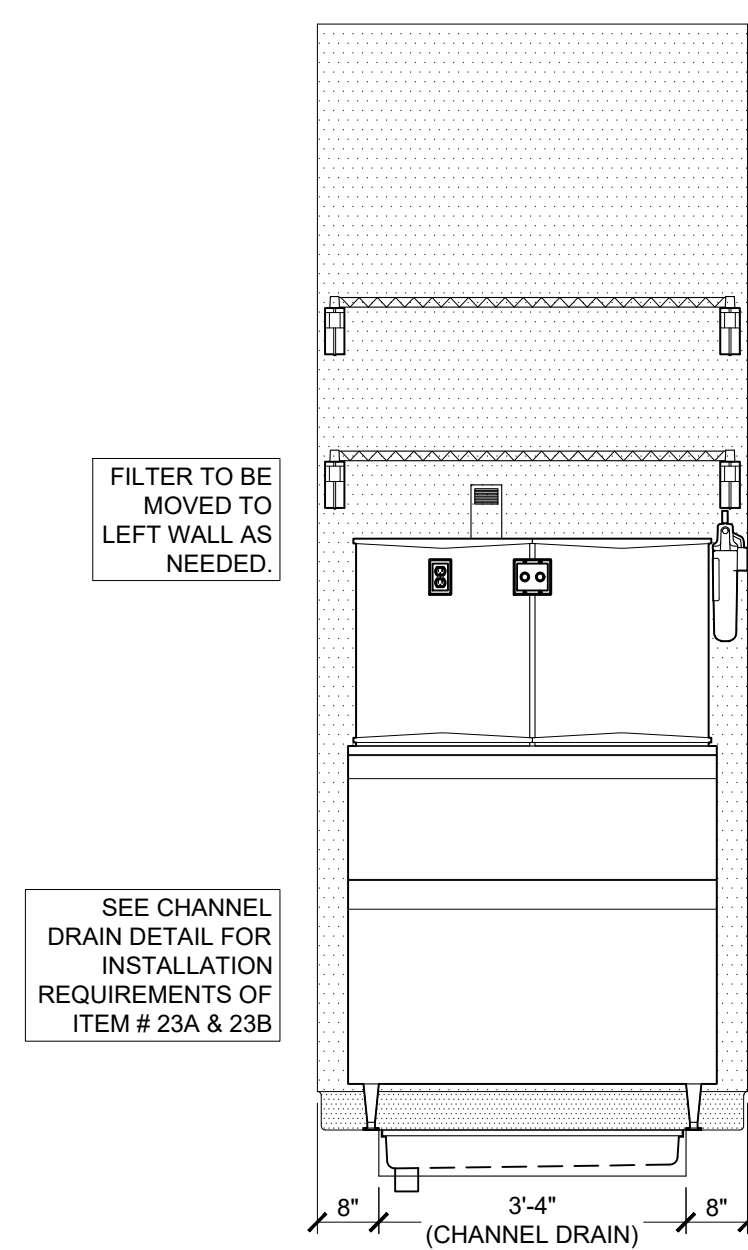
7 HUB DRAIN DETAIL
SCALE: 1/2" = 1'-0"



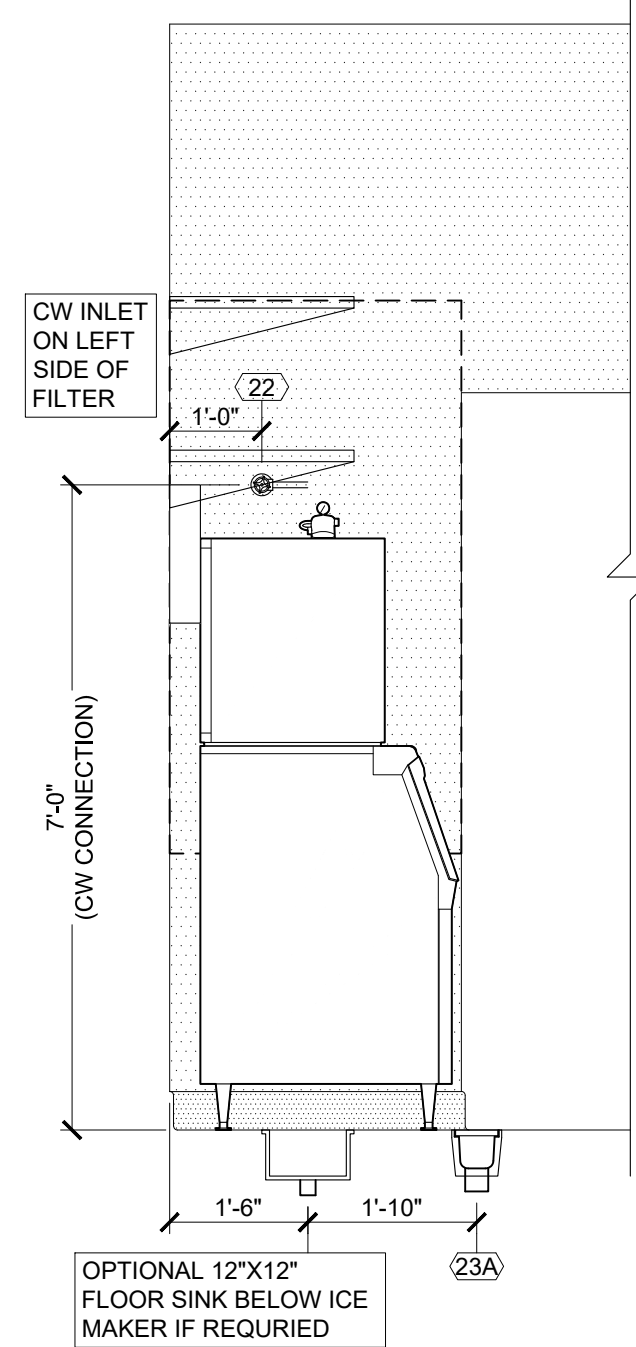
6 HAND SINK / 3-COMP / MOP SINK
SCALE: 1/2" = 1'-0"



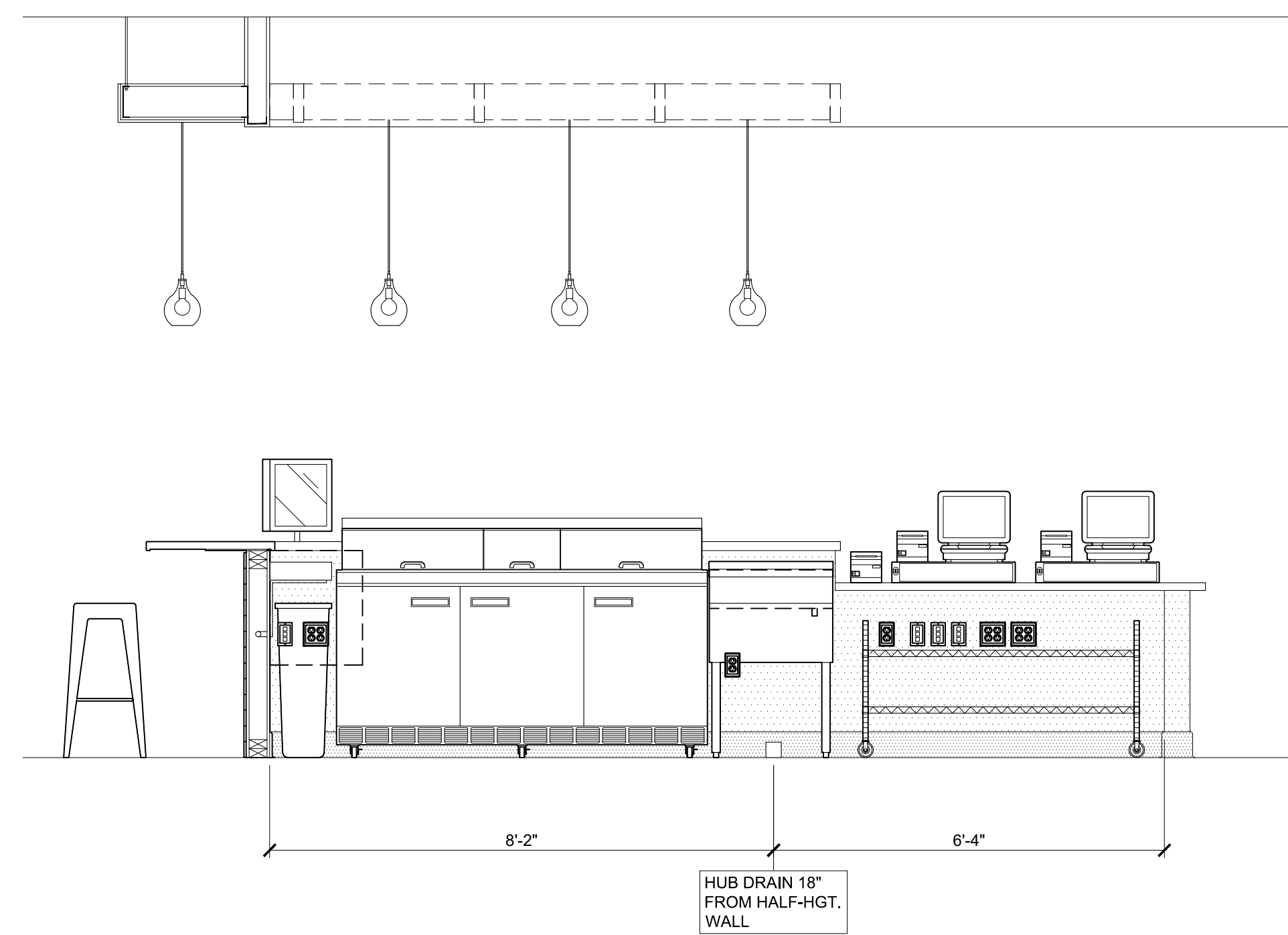
5 PREP TABLE(S)
SCALE: 1/2" = 1'-0"



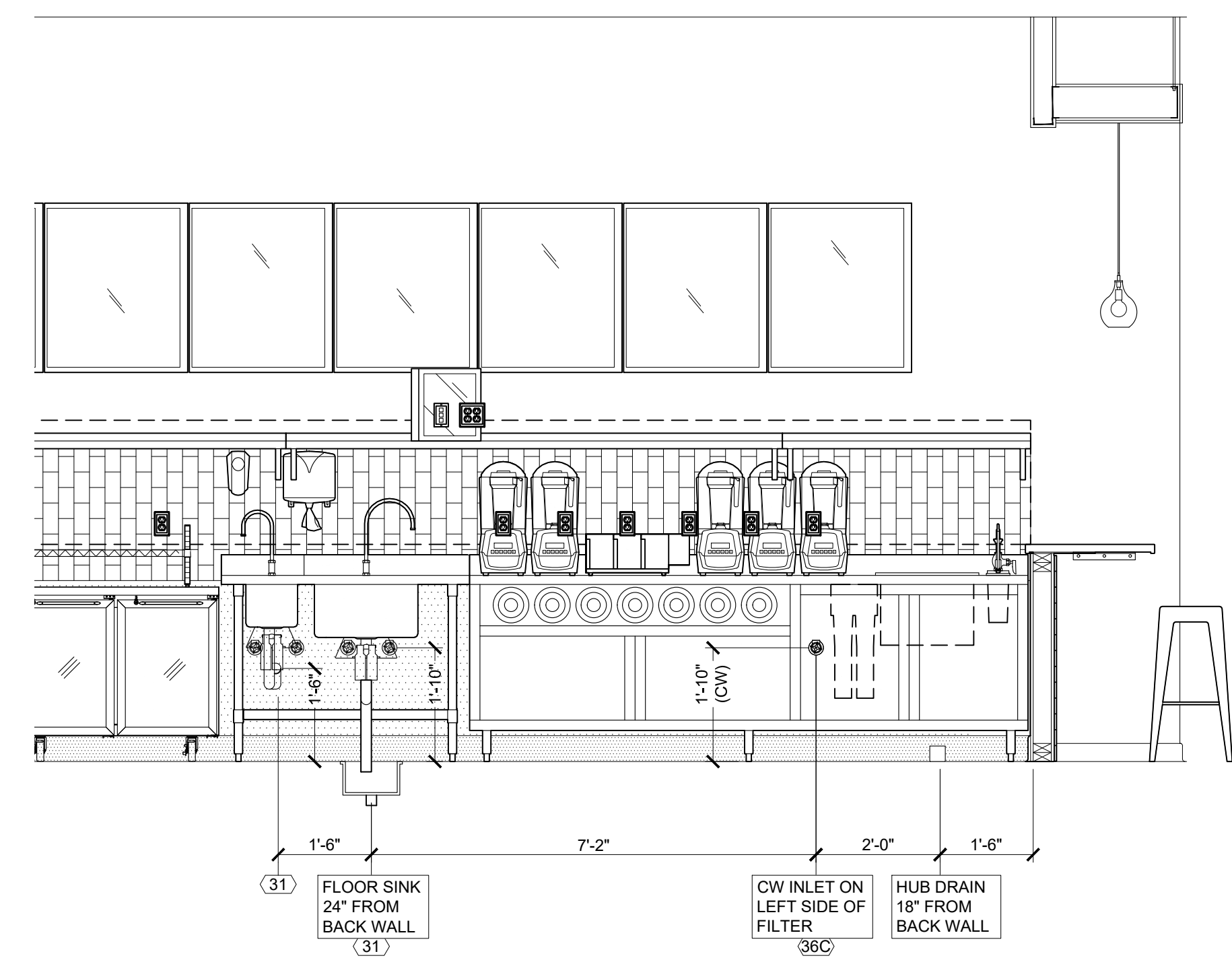
4 ICE MACHINE (FRONT VIEW)
SCALE: 1/2" = 1'-0"



3 ICE MACHINE (SIDE VIEW)
SCALE: 1/2" = 1'-0"



2 FRONT LINE (BACK VIEW)
SCALE: 1/2" = 1'-0"



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

STORE ADDRESS

6231 McKee Rd, Suite A
Fitchburg, WI 53719

STORE NUMBER

WI 021

tropical CAFE
SMOOTHIE
eat better. feel better.

REVISION

NO.	DESCRIPTION

DATE 02/02/2022

PROJECT 1674.010

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SHEET NAME
**KITCHEN
EQUIPMENT
ELEVATION VIEWS**

SHEET NUMBER

P102

STORE ADDRESS

6231 McKee Rd, Suite A
 Fitchburg, WI 53719

STORE NUMBER

WI 021



REVISION	

DATE 02/02/2022

PROJECT 1674.010

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 PROTOTYPE REVISION NUMBER 12/8

SHEET NAME
ELECTRICAL SCHEDULES, NOTES AND LEGENDS

SHEET NUMBER

E001

GENERAL ELECTRICAL NOTES

- ANY AND ALL "BUILDING STANDARDS" AND/OR "BUILDING SPECIFICATIONS" SHALL BE CONSIDERED AN INTEGRAL PART OF THESE DOCUMENTS AND THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN A COPY OF THESE REQUIREMENTS/THIS DOCUMENT AND COMPLY WITH ALL REQUIREMENTS AND STANDARDS CONTAINED WITHIN.
- THESE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE INTENDED TO CONVEY THE SCOPE OF WORK AND INDICATE GENERAL ARRANGEMENT OF LIGHTING FIXTURES, DEVICES, CONTROLS, ELECTRICAL FIXTURES, MOTORS, PANELBOARDS, EQUIPMENT, ETC. THE LOCATIONS OF ALL ITEMS SHOWN ON THESE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED AT THE PROJECT. ALL LOCATIONS OF WORK EXPOSED TO VIEW ARE SUBJECT TO APPROVAL OF THE ARCHITECT PRIOR TO INSTALLATION.
- THE ELECTRICAL CONTRACTOR SHALL VERIFY EXISTING CONDITIONS TO INSURE THAT ALL NEW WORK WILL FIT INTO THE EXISTING STRUCTURE IN THE MANNER INTENDED AND AS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/OWNERS REPRESENTATIVE PRIOR TO ANY ROUGH-INS, FABRICATIONS, OR PERFORMING ANY WORK IN THE AREA INVOLVING DIFFERENCES. NOTIFICATION SHALL BE IN THE FORM OF A DRAWING OR SKETCH INDICATING FIELD MEASUREMENTS AND NOTES RELATED TO THE AREA.
- ANY DISCREPANCIES BETWEEN DRAWINGS AND SPECIFICATIONS SHALL BE PROMPTLY BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION DURING THE BIDDING PERIOD. NO ALLOWANCE SHALL SUBSEQUENTLY BE MADE TO THE CONTRACTOR BY REASON OF HIS FAILURE TO HAVE BROUGHT SAID DISCREPANCIES TO THE ATTENTION OF THE ENGINEER DURING THE BIDDING PERIOD OR OF ANY ERROR ON THE CONTRACTOR'S PART.
- ALL EQUIPMENT SHALL BE INSTALLED IN A NEAT, PROFESSIONAL AND WORKMANLIKE MANNER, RECTILINEAR TO BUILDING STRUCTURE.
- ALL COMPONENTS SHOWN ON THE RISER/ONE-LINE DIAGRAMS, BUT NOT ON THE PLAN OR VICE VERSA, SHALL BE INCLUDED AS IF SHOWN ON BOTH.
- REVIEW ALL TRADES' CONTRACT DOCUMENTS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR ELECTRICAL EQUIPMENT. COORDINATE EXACT MOUNTING LOCATIONS WITH THE ARCHITECT.
- REFER TO ARCHITECTURAL ELEVATIONS TO DERIVE EXACT LOCATIONS OF ALL RECEPTACLES, OUTLETS/JACKS, SWITCHES, ETC. LUMINAIRES AND CEILING MOUNTED EQUIPMENT SHALL BE COORDINATED WITH THE ARCHITECTURAL REFLECTED CEILING PLANS.
- EXACT LOCATION OF MECHANICAL EQUIPMENT THAT REQUIRE ELECTRICAL CONNECTION ARE SHOWN ON THE MECHANICAL DRAWINGS. FIELD VERIFY EXACT LOCATIONS WITH MECHANICAL CONTRACTOR PRIOR TO ANY ROUGH-INS.
- ALL CIRCUITING SHALL BE RUN CONCEALED UNLESS SPECIFIED OTHERWISE.
- ALL RACEWAYS RUNNING THROUGH BUILDING EXPANSION JOINTS SHALL BE EQUIPPED WITH EXPANSION FITTINGS.
- CONDUIT HOME RUNS SHOWN ON THE DRAWING WITH MORE THAN (3) CURRENT CARRYING CONDUCTORS ARE SHOWN DIAGRAMMATICALLY. THIS CONTRACTOR SHALL NOT INSTALL MORE THAN (3) CURRENT CARRYING CONDUCTORS IN A RACEWAY UNLESS CHICAGO ELECTRIC CODE (C.E.C.), DERATING FACTORS ARE APPLIED.
- ALL LIGHTING AND GENERAL POWER BRANCH CIRCUITS SHALL INCLUDE A SEPARATE NEUTRAL CONDUCTOR, UNLESS SPECIFICALLY NOTED OTHERWISE.
- MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12 AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 100 LINEAR FEET, A MINIMUM WIRE SIZE OF #10 AWG SHALL BE PROVIDED FROM FIRST OUTLET BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8 AWG SHALL BE PROVIDED FROM FIRST OUTLET BOX TO BRANCH CIRCUIT PANELBOARD.
- THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ELECTRICAL SPECIFICATIONS FOR ACCEPTABLE CONDUIT TYPES/LOCATIONS. ALL CONDUIT SIZES ON THE DRAWINGS ARE BASED ON THE LATEST EDITION OF THE CEC CONDUIT FILL TABLES FOR ELECTRICAL METALLIC TUBING (E.M.T.). CONDUIT SIZES SHALL BE REVISED TO THE SIZE REQUIRED, RELATIVE TO THE ACTUAL CONDUIT TYPE TO BE INSTALLED.
- IT IS NOT INTENDED THAT THE PLANS INDICATE ALL THE NECESSARY BENDS, OFFSETS, PULL BOXES AND OBSTRUCTIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL HIS WORK TO CONFORM TO THE STRUCTURE, MAINTAIN HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR. REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS AS REQUIRED.
- IT IS NOT INTENDED THAT THE PLANS INDICATE ALL CONDUIT ROUTES, PULL BOXES, ETC. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ACTUAL CONDUIT ROUTING, QUANTITY AND LOCATION OF PULL BOXES WITHIN ACCESSIBLE LOCATIONS.
- PROVIDE SCREW-COVER PULL BOXES IN CONDUIT RUNS AS REQUIRED TO LIMIT THE NUMBER OF BENDS TO NO MORE THAN THREE (3) OR 270 DEGREES TOTAL. SIZE PULL BOXES IN ACCORDANCE WITH NEC, ARTICLE 314.28. DOCUMENT ON RECORD DRAWINGS, SIZE AND LOCATION OF PULL BOXES USED IN FEEDER CONDUIT RUNS.
- ALL OUTLET BOXES IN WALLS SHALL HAVE A MINIMUM OF ONE (1) DEDICATED VERTICAL CONDUIT ENTERING AT THE TOP OF THE BOX. HORIZONTAL CONDUIT CONNECTIONS SHALL ONLY BE PERMITTED UNDER WINDOWS OR UNLESS OTHERWISE NOTED ON DRAWINGS.
- WHERE MULTIPLE DEVICES ARE INDICATED IN A COMMON LOCATION, GANG INTO A SINGLE COVER PLATE.
- ALL EXISTING PANELS SHALL BE PROVIDED WITH ENGRAVED NAMEPLATES AS DESIGNATED ON PANEL SCHEDULES SECURED TO PANEL FACE AND NEW ENGRAVED NAMEPLATES DENOTING ORIGIN OF FEEDER FROM WHICH PANEL IS SERVED.
- ELECTRICAL CONTRACTOR TO PROVIDE CONDUIT, JUNCTION BOXES AND ROUGH-INS FOR ALL DATA LINES TO AND FROM COMPUTERS, P.O.S. SYSTEMS AND PRINTERS. VERIFY ELECTRICAL REQUIREMENTS FROM P.O.S. PROVIDER.
- ELECTRICAL CONTRACTOR TO CONTACT P.O.S. PROVIDER 4 WEEKS PRIOR TO INSTALLATION.
- ELECTRICAL CONTRACTOR TO PROVIDE EXIT SIGNAGE AND LIGHTING.

WALL PLATE SCHEDULE	
COLOR	LOCATION
S/S	KITCHEN
BROWN	STAINED DINING WALLS
WHITE	UNDER SMOOTHIE BAR & WHITE PAINTED WALLS

ABBREVIATIONS

A,AMP	AMPERES	KVA	KILOVOLT AMPERES
ADA	ABOVE COUNTER	KW	KILOWATTS
AFF	AMERICANS WITH DISABILITIES ACT	LL	LANDLORD
AFG	ABOVE FINISH FLOOR	LTG	LIGHTING
AHJ	ABOVE FINISH GRADE	LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
AHU	AUTHORITY HAVING JURISDICTION	MC	METAL CLAD CABLE
AIC	AIR HANDLING UNIT	MCCB	MAIN CIRCUIT BREAKER
AL	AMPERE INTERRUPTING CAPACITY	MCC	MOLDED CASE CIRCUIT BREAKER
ANSI	ALUMINUM	MCCP	MOTOR CONTROL CENTER
ARCH	AMERICAN NATIONAL STANDARDS	MCP	MOTOR CIRCUIT PROTECTOR
ATO	INSTITUTE	MISC	MISCELLANEOUS
ATS	ARCHITECT	MLO	MAIN LUGS ONLY
ATC	AUTOMATIC THROW OVER	NC	NORMALLY CLOSED
AWG	AUTOMATIC TRANSFER SWITCH	NEC	NATIONAL ELECTRIC CODE
BFG	AUTOMATIC TEMPERATURE CONTROL	NEMA	NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION
BLDG	AMERICAN WIRE GAUGE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
C	BELOW FINISH GRADE	NIC	NOT IN CONTRACT
CAT	BUILDING	NO	NORMALLY OPEN OR NUMBER
CBM	CONDUIT	NTS	NOT TO SCALE
CEC	CATALOG	P	POLE
CKT	CIRCUIT BREAKER	PB	PUSH-BUTTON
CL	CERTIFIED BALLASTS MANUFACTURERS	PNL	PANEL
CLF	CHICAGO ELECTRICAL CODE	POS	PROVIDED UNDER OTHER SECTIONS
COL	CIRCUIT	PT	POTENTIAL TRANSFORMER
CPT	CENTERLINE	PVC	POLYVINYL CHLORIDE
CT	CURRENT LIMITING FUSE	PWR	POWER
CU	COLUMN	QTY	QUANTITY
DWG	CONTROL POWER TRANSFORMER	REQ'D	REQUIRED
EF	CURRENT TRANSFORMER	REL	RELOCATED EXISTING EQUIPMENT
EM	COPPER	RMC	RIGID METAL CONDUIT
EPO	DRAWING	RMS	ROOT MEAN SQUARED
ETR	ELECTRICAL CONTRACTOR	RNMC	RIGID NONMETALLIC CONDUIT
EWC	EXHAUST FAN	RTU	ROOF TOP UNIT
EX	EMERGENCY	SP	SPARE
F	ELECTRICAL METALLIC TUBING	SW	SWITCH
FA	EMERGENCY POWER OFF	SYM	SYMMETRICAL
FLA	EXISTING TO REMAIN	TEL	TELEPHONE
FMC	ELECTRIC WATER COOLER	TMCB	THERMAL MAGNETIC CIRCUIT BREAKER
FT	EXISTING	UG	UNDERGROUND OR UNDER GRADE
GND,G	EXISTING FUSE	UL	UNDERWRITERS LABORATORIES
GRMC	FIRE ALARM	UNO	UNLESS NOTED OTHERWISE
HWA	FULL LOAD AMPERES	V	VOLT
IEE	FLEXIBLE METAL CONDUIT	W	WIRE
IMC	FEET	WH	WATER HEATER
INT	GROUND OR GROUNDING	WP	WEATHER PROOF
KCMIL	GALVANIZED RIGID METALLIC CONDUIT	XFMR	TRANSFORMER
	HAND, OFF, AUTOMATIC SWITCH	Δ	DELTA
	INSTITUTE OF ELECTRICAL & ELECTRONIC ENGINEERS	Υ	WYE
	INTERMEDIATE METAL CONDUIT	∅	PHASE
	INTERLOCK		
	THOUSAND CIRCULAR MILS		

SYMBOL LEGEND

SYMBOL	DESCRIPTION
	LUMINAIRE. "A" INDICATES TYPE; "o" INDICATES SWITCH CONTROL.
	LUMINAIRE WIRED FOR 24 HOUR OPERATION.
	LUMINAIRE WITH INTEGRAL EMERGENCY BATTERY DRIVER.
	SELF CONTAINED LED UNIVERSAL MOUNTED "EXIT" SIGN. PROVIDE QUANTITY OF FACES AND DIRECTIONAL ARROWS AS INDICATED ON FLOOR PLANS. REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION.
	EMERGENCY LIGHTING BATTERY UNIT WITH HEADS AS INDICATED. REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION.
	LIGHT SWITCH. SINGLE POLE, 20 AMPERE, 120/277 VOLT, 1HP.
	LIGHT SWITCH. "x" INDICATES THE FOLLOWING: "o" CONTROL OF SPECIFIED LUMINAIRES "3" 3-WAY TYPE "OS" LINE VOLTAGE MULTI-TECHNOLOGY WALL SWITCH OCCUPANCY SENSOR WITH MANUAL ON/OFF SWITCH. "VS" LINE VOLTAGE MULTI-TECHNOLOGY WALL SWITCH VACANCY SENSOR WITH MANUAL ON/OFF SWITCH. "LV" LOW VOLTAGE ON/OFF SWITCH. "P" SWITCH WITH PILOT LIGHT. PROVIDED WITH COOLER/FREEZER.
	UNDER GROUND CONDUIT/RACEWAY AND/OR CIRCUITING
	HOME RUN. "X-XX" INDICATES PANEL AND CIRCUIT NUMBER SERVING EQUIPMENT. EC TO EXTEND CIRCUIT TO PANEL AS INDICATED AND DERATE HOME RUNS AS REQUIRED FOR VOLTAGE DROP. ALL HOMERUNS TO CONTAIN 2-12 AWG & 1-12 AWG GND IN 3/4" CONDUIT MINIMUM, UNLESS NOTED OTHERWISE.
	INDICATES CIRCUIT HOMERUN CONNECTED TO OTHER DEVICES ELSEWHERE ON PLANS.
	EXISTING OR NEW BRANCH CIRCUIT PANELBOARD
	DISCONNECT SWITCH. "F" INDICATES SWITCH SIZE. "WP" INDICATES WEATHERPROOF (NEMA 3R) ENCLOSURE
	FUSED DISCONNECT SWITCH "AS" INDICATES AMPERE SWITCH SIZE "AF" INDICATES AMPERE FUSE SIZE "WP" INDICATES WEATHERPROOF (NEMA 3R) ENCLOSURE
	DUPLEX RECEPTACLE - 125 VOLT, 20 AMPERE, 2 POLE, 3 WIRE, GROUNDING TYPE MOUNTED AT 18" AFF UNLESS NOTED OTHERWISE
	DOUBLE DUPLEX RECEPTACLE - 125 VOLT, 20 AMPERE, 2 POLE, 3 WIRE, GROUNDING TYPE MOUNTED AT 18" AFF UNLESS NOTED OTHERWISE
	GFCI GROUND TYPE DUPLEX RECEPTACLE - 125 VOLT, 20 AMPERE, 2 POLE, 3 WIRE, GROUNDING TYPE MOUNTED AT 18" AFF UNLESS NOTED OTHERWISE
	RECEPTACLE SYMBOL WITH ADDITIONAL SUBSCRIPT DESIGNATES TYPE OR SPECIFIC REQUIREMENTS AS FOLLOWS: "AC" INDICATES MOUNTED 8" ABOVE COUNTER UNLESS NOTED OTHERWISE ON ARCHITECTURAL ELEVATIONS "C" FLUSH CEILING MOUNTED OR 12" ABOVE WINDOW "+48" RECEPTACLE MOUNTED AT HEIGHT INDICATED "VF" VERIFY MOUNTING HEIGHT IN FIELD "WP" WEATHERPROOF "WHILE-IN-USE" (HUBBELL #WP26M) COVER "CR" CONTROLLED RECEPTACLE WITH "CONTROLLED" IMPRINTED ON THE FACE OF DEVICE "U" DUPLEX RECEPTACLE WITH USB PORTS, LEVITON T5832 OR EQUAL "T" TAMPER RESISTANT "G" RECEPTACLE PROTECTED BY UPSTREAM GFCI OR GFCI BREAKER WITH "GFCI PROTECTED" LABEL ON THE FACE OF DEVICE
	SPECIAL PURPOSE RECEPTACLE. * COORDINATE EXACT NEMA CONFIGURATION WITH EQUIPMENT PRIOR TO ROUGH-IN.
	JUNCTION BOX - SIZE PER C.E.C. REQUIREMENTS
	COMBINATION VOICE/DATA OUTLET (4" x 2-1/8" DEEP JUNCTION BOX) COMPLETE WITH SINGLE GANG MUD RING (VERIFY DRYWALL THICKNESS) AND COVER PLATE (COLOR SELECTION BY ARCHITECT) MOUNTED AT 18" A.F.F. PROVIDE 1-0" CONDUIT WITH INSULATING BUSHING AND PULLSTRING STUBBED UP 12" INTO ACCESSIBLE CEILING SPACE.
	VOICE AND/OR DATA SYMBOL WITH ADDITIONAL SUBSCRIPT DESIGNATES TYPE OR SPECIFIC REQUIREMENTS AS FOLLOWS: "AC" INDICATES MOUNTED 8" ABOVE COUNTER UNLESS NOTED OTHERWISE ON ARCHITECTURAL ELEVATIONS "C" FLUSH CEILING MOUNTED OR 12" ABOVE WINDOW "+48" RECEPTACLE MOUNTED AT HEIGHT INDICATED "VF" VERIFY MOUNTING HEIGHT IN FIELD "W" DENOTES WALL PHONE "TV" DENOTES TELEVISION OUTLET
	EXHAUST FAN MOTOR
	(3) ZONE DIGITAL ROOM CONTROLLER / ASTRONOMICAL TIMECLOCK. STEINEL #69196 DCS CONTROLLER OR EQUAL.
	EXISTING DUCT SMOKE DETECTOR
	EXISTING DUCT SMOKE DETECTOR KEY SWITCH
	EXISTING MANUAL PULL STATION
	EXISTING COMBINATION AUDIBLE/VISUAL (HORN/STROBE) SIGNALING DEVICE

1.1 RELATED DOCUMENTS

A. THE PROVISIONS OF THE INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, ALTERNATES, ADDENDAS, AND DIVISION 1 ARE A PART OF THIS SPECIFICATION. CONTRACTORS AND SUBCONTRACTORS SHALL EXAMINE SAME AS WELL AS OTHER DIVISIONS OF THE SPECIFICATIONS WHICH AFFECT WORK UNDER THIS DIVISION.

1.2 SUMMARY

A. THIS SECTION INCLUDES GENERAL ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS FOR ELECTRICAL INSTALLATIONS COMMON TO ALL SECTIONS OF DIVISION 16. THE ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS IN THIS SECTION EXPAND AND SUPPLEMENT THE REQUIREMENTS SPECIFIED IN DIVISION 1.

1.3 DESCRIPTION OF WORK

A. ELECTRICAL, ARCHITECTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, STRUCTURAL, ETC., AND ALL OTHER DRAWINGS AS WELL AS THE SPECIFICATIONS FOR ALL THE DIVISIONS ARE A PART OF THE CONTRACT DOCUMENTS.

B. DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED AS SUPPLEMENTING EACH OTHER. WORK SPECIFIED BUT NOT SHOWN, OR SHOWN BUT NOT SPECIFIED, SHALL BE PERFORMED OR FURNISHED AS THOUGH MENTIONED IN BOTH SPECIFICATIONS AND DRAWINGS.

C. VISIT THE SITE OF THE WORK AND BECOME FAMILIAR WITH CONDITIONS AFFECTING THE INSTALLATION. SUBMISSION OF A PROPOSAL SHALL PRESUPPOSE KNOWLEDGE OF SUCH CONDITIONS AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED WHERE EXTRA LABOR OR MATERIALS ARE REQUIRED BECAUSE OF IGNORANCE OF THESE CONDITIONS.

1.4 WORK INCLUDES

A. INCLUDE ALL LABOR, MATERIAL, EQUIPMENT, SERVICES, AND PERMITS NECESSARY FOR THE PROPER COMPLETION OF ALL ELECTRICAL WORK SHOWN. ITEMS OMITTED, BUT NECESSARY TO MAKE THE ELECTRICAL SYSTEM COMPLETE AND WORKABLE, SHALL BE UNDERSTOOD TO FORM PART OF THE WORK.

B. IT IS THE PURPOSE OF THE ELECTRICAL DRAWINGS TO INDICATE THE APPROXIMATE LOCATION OF ALL EQUIPMENT, OUTLETS, ETC. ASCERTAIN EXACT LOCATIONS AND ARRANGE WORK ACCORDINGLY. THE RIGHT IS RESERVED TO EFFECT REASONABLE CHANGES IN THE LOCATION OF OUTLETS UP TO THE TIME OF ROUGH-IN, WITHOUT ADDITIONAL COST TO THE OWNER. CHANGES IN LOCATION OF OUTLETS OR EQUIPMENT NECESSITATED BY INTERFERENCE WITH THE WORK OF OTHER TRADES SHALL BE MADE ONLY WITH THE CONSENT OF THE ARCHITECT AND ENGINEER OR OWNER'S REPRESENTATIVE, AND AT NO ADDITIONAL COST.

C. AS USED IN THIS SPECIFICATION, "PROVIDE" MEANS "FURNISH AND INSTALL" AND "HVAC" MEANS "HEATING, VENTILATING AND AIR CONDITIONING" AND "POS" MEANS "PROVIDED UNDER OTHER SECTIONS". "FURNISH" MEANS "TO PURCHASE AND DELIVER TO THE PROJECT SITE COMPLETE WITH EVERY NECESSARY APPURTENANCE AND SUPPORT" AND "INSTALL" MEANS "TO INCLUDE AT THE DELIVERY POINT AT THE SITE AND PERFORM EVERY OPERATION NECESSARY FOR PROPER INSTALLATION PER CODES AND MANUFACTURERS REQUIREMENTS, TO ESTABLISH SECURE MOUNTING AND CORRECT OPERATION AT THE PROPER LOCATION IN THE PROJECT."

D. WORK INCLUDES, BUT IS NOT LIMITED TO:

1. RE-USE OF AND NEW PANELBOARDS AND CIRCUIT BREAKERS
2. FEEDERS AND BRANCH CIRCUIT WIRING
3. HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS
4. ELECTRICAL IDENTIFICATION
5. CONDUCTORS AND CABLES
6. GROUNDING AND BONDING
7. RACEWAYS AND BOXES
8. WIRING DEVICES
9. LIGHTING CONTROL DEVICES
10. LUMINAIRES, INCLUDING LAMPS AND DRIVERS
11. FIRE ALARM SYSTEM EXTENSION
12. FIRE STOPPING
13. ELECTRICAL CONNECTIONS TO MECHANICAL HVAC AND PLUMBING EQUIPMENT
14. MANIPULATE LABELS AND TAGS
15. COORDINATION DRAWINGS
16. SHOP DRAWINGS
17. OPERATION AND MAINTENANCE INSTRUCTIONS AND MANUALS
18. TESTING, LIGHTING SYSTEM FUNCTIONAL PERFORMANCE REPORT

E. THE ELECTRICAL DESIGN IS BASED ON THE CURRENT ADOPTED EDITION NFPA 70 — "THE NATIONAL ELECTRICAL CODE". THE CONTRACTOR SHALL INCLUDE IN THEIR BID THE COST OF INSTALLING MATERIALS AND EQUIPMENT NECESSARY TO SATISFY ALL LOCAL AND/OR STATE CODES.

1.5 WORK OR MATERIALS NOT INCLUDED

A. THE EXACT WIRING REQUIREMENTS SHALL BE AS RECOMMENDED BY THE MANUFACTURER OF THE EQUIPMENT AND SHALL BE VERIFIED BY THE ELECTRICAL CONTRACTOR WITH THE EQUIPMENT MANUFACTURER BEFORE SUBMITTING THE BID.

B. STARTERS SUPPLIED AS AN INTEGRAL PART OF THE EQUIPMENT SHALL BE DISCONNECTED UNDER DIVISION 16. PROVIDING THE EQUIPMENT POWER WIRING DISCONNECT SHALL BE UNDER DIVISION 16. ALL OTHER STARTERS AND AUXILIARY CONTROL EQUIPMENT SHALL BE SUPPLIED AND WIRED UNDER DIVISION 16, UNLESS OTHERWISE SHOWN.

1.6 RELATED WORK SPECIFIED ELSEWHERE

A. DIVISION 13 — SPECIAL CONSTRUCTION
B. DIVISION 15 — MECHANICAL

1.7 CODES, PERMITS, AND FEES

A. INSTALL WORK IN FULL ACCORDANCE WITH RULES AND REGULATIONS OF STATE, COUNTY, AND CITY AUTHORITIES HAVING JURISDICTION (PAV) OVER PREMISES. THIS SHALL INCLUDE SAFETY REQUIREMENTS OF THE STATE OF ILLINOIS DEPARTMENTS OF COMMERCE AND NATURAL RESOURCES. DO NOT CONSTITUTE THIS AS RELIEVING CONTRACTOR FROM COMPLIANCE WITH ANY REQUIREMENTS OF SPECIFICATION WHICH ARE IN EXCESS OF CODE REQUIREMENTS AND NOT IN CONFLICT THEREWITH. WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS OF THE NATIONAL ELECTRICAL CODE, AS INTERPRETED BY THE LOCAL AUTHORITY HAVING JURISDICTION AS WELL AS ANY FURTHER MODIFICATIONS OR REGULATIONS PUBLISHED BY LOCAL OR STATE AUTHORITIES.

B. GIVE PROPER AUTHORITIES NOTICE AS REQUIRED BY LAW RELATIVE TO THE WORK IN THEIR CHARGE. COMPLY WITH THE REGULATIONS REGARDING TEMPORARY ENCLOSURES, OBSTRUCTIONS, OR EXCAVATIONS AND PAY ALL LEGAL FEES INVOLVED.

C. SECURE AND PAY FOR PERMITS AND CERTIFICATES OF INSPECTIONS INCIDENTAL TO THIS WORK, AS REQUIRED BY ALL FOREGOING AUTHORITIES. BE RESPONSIBLE FOR PAYMENTS TO ALL PUBLIC UTILITIES FOR WORK PERFORMED BY THEM IN CONNECTION WITH PROVISION OF SERVICE CONNECTIONS REQUIRED UNDER THIS DIVISION OF SPECIFICATIONS. TURN OVER CERTIFICATES OF APPROVAL TO THE CONSTRUCTION MANAGER AND/OR OWNER PROMPTLY WHEN RECEIVED, AND BEFORE PAYMENT IS MADE FOR THE WORK. DELIVER ALL CERTIFICATES TO ARCHITECT IN DUPLICATE.

D. PROVISIONS OF THE LATEST REVISIONS TO THE FOLLOWING CODES AND STANDARDS SHALL BE FOLLOWED WHERE APPLICABLE:

1. CURRENT ILLINOIS STATE PLUMBING CODE W/ LOCAL AMENDMENTS
2. 2015 INTERNATIONAL BUILDING CODE
3. 2015 INTERNATIONAL FIRE PREVENTION CODE
4. 2015 INTERNATIONAL MECHANICAL CODE
5. 2015 INTERNATIONAL FUEL GAS CODE
6. 2018 INTERNATIONAL ENERGY CODE
7. 2014 NATIONAL ELECTRIC CODE

1.8 COORDINATION WITH OTHER TRADES

A. CONSULT THE DRAWINGS, PRODUCT DATA, AND SHOP DRAWINGS COVERING THE WORK FOR VARIOUS OTHER TRADES, THE FIELD LAYOUTS OF THE CONTRACTORS FOR THE TRADE AND MAKE ADJUSTMENTS ACCORDINGLY IN LAYING OUT THE ELECTRICAL WORK.

B. KEEP FULLY INFORMED OF THE PROGRESS OF THE GENERAL CONSTRUCTION. INSTALL WORK THAT IS TO BE CONCEALED WITHIN THE BUILDING CONSTRUCTION IN SUFFICIENT TIME TO SECURE PROPER LOCATION WITHOUT DELAY TO THE WORK OF OTHER TRADES. ALL CONDUIT AND OUTLET BOXES CONCEALED IN MASONRY CONSTRUCTION SHALL BE INSTALLED DURING WALL CONSTRUCTION. ATTEND TO ELECTRICAL WORK DURING THE PROGRESS OF BUILDING-IN TO PREVENT MISALIGNMENTS AND DAMAGES TO THE ELECTRICAL WORK.

C. EXAMINE THE WORK OF OTHER TRADES WHEN IT COMES IN CONTACT WITH, OR IS COVERED BY WORK IN THIS DIVISION. DO NOT ATTACH TO, COVER UP, OR FINISH AGAINST ANY DEFECTIVE WORK OR INSTALL WORK IN A MANNER WHICH WILL PREVENT PROPER INSTALLATION OF THE WORK OF OTHER TRADES.

D. ALL OUTLETS, SWITCHES, AND RECEPTACLES SHALL BE CENTERED WITH REGARD TO PANELING, WALL COVERINGS, TRIM, EQUIPMENT, ETC., AND SHALL LINE UP WITH EITHER BOTTOM OR TOP OF MASONRY COURSES. CHANGES TO THE SPECIFIED MOUNTING HEIGHTS OF ANY DEVICE SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE ROUGH-IN.

E. TAKE ALL FIELD MEASUREMENTS NECESSARY AND ASSUME RESPONSIBILITY FOR THEIR ACCURACY.

F. BEFORE BEGINNING CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL PROVIDE TO THE MECHANICAL CONTRACTOR, MARKED-UP PRINTS INDICATING ALL ELECTRICAL ITEMS WHICH AFFECT THE LOCATION OF HEATING, VENTILATING, AIR CONDITIONING, PLUMBING, PIPING, AND DUCTWORK. THESE SHALL INCLUDE BUT NOT BE LIMITED TO PULL BOXES, CONDUIT, ETC.

1.9 EQUIPMENT AND MATERIALS

A. ALL EQUIPMENT, DEVICES, AND MATERIALS USED ON THIS PROJECT SHALL BE NEW AND U.L. LISTED AND LABELED FOR THE APPLICATION.

B. PROVIDE MATERIAL AND LABOR WHICH IS NEITHER DRAWN NOR SPECIFIED, BUT WHICH IS OBVIOUSLY A COMPONENT PART OF, AND NECESSARY TO COMPLETE WORK AND WHICH IS CUSTOMARILY A PART OF WORK OF SIMILAR CHARACTER.

C. EQUIPMENT AND MATERIALS FOR THE CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PROTECTED BY SAME UNTIL FORMALLY ACCEPTED BY THE OWNER.

D. ALL MANUFACTURERS OF ELECTRICAL EQUIPMENT SHALL VERIFY TO THE SATISFACTION OF THE CONTRACTOR AND ENGINEER THAT THEIR EQUIPMENT WILL FUNCTION PROPERLY UNDER THE CONDITIONS OF USE, AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN. DIMENSIONS, WEIGHTS, OPERATING CHARACTERISTICS AND ALL OTHER RELATED APPURTENANCES SHALL BE VERIFIED BEFORE SUBMITTAL OF SHOP DRAWINGS.

1.10 MATERIAL SUBSTITUTIONS

A. BIDS SHALL BE BASED UPON THE SPECIFIED PRODUCTS OR LISTED ALTERNATIVES. DRAWINGS AND SPECIFICATIONS ARE BASED ON THE PRODUCTS SPECIFIED BY TYPE, MODEL AND SIZE AND THIS ESTABLISH MINIMUM QUALITIES, WHICH SUBSTITUTES MUST MEET TO QUALIFY FOR REVIEW.

B. SHOULD THE CONTRACTOR PROPOSE TO FURNISH MATERIALS, EQUIPMENT, AND DEVICES, OTHER THAN THOSE SPECIFIED AND LISTED, THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST FOR SUBSTITUTIONS, TO THE ENGINEER AT LEAST TEN (10) BUSINESS DAYS PRIOR TO BID OPENING. THE REQUEST SHALL BE AN ALTERNATE TO THE ORIGINAL BID AND SHALL INCLUDE, AND BE ACCOMPANIED WITH COMPLETE SPECIFICATIONS BUT SHEET SUBMITTAL AS OUTLINED IN THIS SPECIFICATION SECTION COMPLETE WITH DESCRIPTIVE MANUFACTURER, BRAND NAME, CATALOG NUMBER, ETC.) AND TECHNICAL DATA FOR ALL ITEMS. INDICATE ANY ADDITIONS OR DEDUCTIONS TO THE CONTRACT PRICE WITH THE SUBSTITUTION SUBMITTAL AND ON THE BID FORM.

C. ACCEPTANCE OR REJECTION OF THE PROPOSED SUBSTITUTIONS SHALL BE SUBJECT TO APPROVAL OF THE ARCHITECT AND ENGINEER. IF REQUESTED, THE CONTRACTOR SHALL SUBMIT INSPECTION SAMPLES OF BOTH THE SPECIFIED AND THE PROPOSED SUBSTITUTE ITEMS.

D. IF ANY SUBSTITUTIONS ARE APPROVED, AN ADDENDUM LISTING THE APPROVED ITEM(S) WILL BE ISSUED TO ALL BIDDING CONTRACTORS PRIOR TO THE BID DATE.

E. IN ALL CASES WHERE SUBSTITUTIONS ARE PERMITTED, THE CONTRACTOR SHALL BEAR ANY EXTRA COST OF EVALUATING THE EQUALITY OF THE MATERIAL AND EQUIPMENT TO BE INSTALLED.

F. WHERE ONLY ONE MAKE IS NAMED IN THE SPECIFICATIONS OR ON THE DRAWINGS, IT SHALL BE PROVIDED.

G. VERBAL REQUESTS OR APPROVALS SHALL NOT BE BINDING ON THE ENGINEER OR OWNER.

1.11 QUALITY ASSURANCE

A. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: UNDERWRITER LABORATORIES, INC. (UL) LISTED AND LABELED AS DERIVED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE.

1.12 SUBMITTALS

A. SHOP DRAWINGS AND PRODUCT DATA

1. PREPARE SHOP DRAWINGS AND PRODUCT DATA FOR ELECTRICAL EQUIPMENT WITH ACCURATE SCALES AS NECESSARY TO CLEARLY SHOW CONSTRUCTION. INDICATE OPERATING CHARACTERISTICS FOR EACH REQUIRED ITEM AND DESIGN CONDITIONS FOR EACH. CLEARLY IDENTIFY EACH ITEM ON THE DRAWINGS AS TO MARK, LOCATION, AND USE.
2. THIS CONTRACTOR SHALL REVIEW, STAMP WITH APPROVAL AND SUBMIT, WITH REASONABLE PROMPTNESS AND IN ORDERLY SEQUENCE SO AS TO CAUSE NO DELAY IN WORK OR IN THE WORK OF ANY OTHER CONTRACTOR, ALL SHOP DRAWINGS AND SAMPLES REQUIRED BY THE CONTRACT DOCUMENTS. SHOP DRAWINGS NOT STAMPED WITH CONTRACTOR APPROVAL WILL BE RETURNED FOR REPROCESSING. THE SUBMITTALS WILL BE REVIEWED ONLY FOR GENERAL COMPLIANCE AND NOT FOR DIMENSIONS, QUANTITIES, ETC.
3. IF THE SUBMITTAL SHOWS VARIATIONS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS FOR ANY REASON, THE CONTRACTOR SHALL MAKE MENTION OF SUCH VARIATION IN A LETTER OF TRANSMITTAL. THE CONTRACTOR SHALL NOTE IN RED ON THE SUBMITTAL ANY CHANGE IN DESIGN OR DIMENSION ON THE ITEMS SUBMITTED INCLUDING CHANGES MADE BY THE MANUFACTURER WHICH MAY DIFFER FROM CATALOG INFORMATION.
4. CONTRACTOR FURTHER AGREES THAT IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWING SUBMITTALS AND THE CONTRACT DOCUMENTS IN THE FORM OF DESIGN DRAWING AND SPECIFICATIONS ARE DISCOVERED, EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWINGS, AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED.
5. THE SUBMITTALS THAT ARE RETURNED SHALL BE USED FOR PROCUREMENT. THE RESPONSIBILITY OF CORRECT PROCUREMENT REMAINS SOLELY WITH THE CONTRACTOR. THE SUBMITTAL REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ERRORS OR OMISSIONS AND DEVIATIONS FROM THE CONTRACT REQUIREMENTS.
6. IN CHECKING SHOP DRAWINGS, THE ARCHITECT AND ENGINEER WILL MAKE EVERY EFFORT TO DETECT AND CORRECT ERRORS, OMISSIONS, AND INACCURACIES IN SUCH DRAWINGS. HOWEVER, FAILURE TO DETECT ERRORS, OMISSIONS, AND INACCURACIES SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR THE PROPER AND COMPLETE INSTALLATION IN ACCORDANCE WITH THE INTENT OF THE CONTRACT DOCUMENTS.

7. CONTRACTOR AGREES THAT SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THAT THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ARCHITECT AND ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN, THAT THEY DEMONSTRATE THEIR UNDERSTANDING BY INDICATING WHICH EQUIPMENT AND MATERIAL THEY INTEND TO FURNISH AND INSTALL, AND BY DETAILING THE FABRICATION AND INSTALLATION METHODS THEY INTEND TO USE.

8. SHOP DRAWINGS SHALL CLEARLY INDICATE ALL DIMENSIONAL DATA FOR ALL PARTS OF THE ITEM, TYPES AND MATERIALS FOR ALL CONNECTIONS, FINISHES, THE EXACT RELATION OF THE ITEM TO ADJACENT MATERIALS AND EQUIPMENT IN THE COMPLETED STRUCTURE INCLUDING CLEARANCE, ANY NECESSARY ISOLATION AND FASTENING METHODS AND DEVICES AND MECHANICAL AND ELECTRICAL CONNECTIONS.

9. SUBMIT NEWLY PREPARED INFORMATION, DRAWN TO ACCURATE SCALE. HIGHLIGHT, ENIRCLE, OR OTHERWISE INDICATE DEVIATIONS FROM THE CONTRACT DOCUMENTS. DO NOT REPRODUCE CONTRACT DOCUMENTS OR COPY STANDARD INFORMATION AS THE BASIS OF SHOP DRAWINGS. STANDARD INFORMATION PREPARED WITHOUT SPECIFIC REFERENCE TO THE PROJECT IS NOT CONSIDERED SHOP DRAWINGS AND WILL BE CAUSE FOR REJECTION.

10. SHOP DRAWINGS AND PRODUCT DATA SHALL BE SUBMITTED AS FOLLOWS:

a. CONFORM TO SUBMITTAL REQUIREMENTS OUTLINED IN DIVISION 1 OF THESE SPECIFICATIONS.

b. WHERE CONTENTS OF SUBMITTAL LITERATURE INCLUDE DATA NOT PERTINENT TO THE SUBMITTAL, CLEARLY INDICATE WHICH PORTION OF CONTENT IS BEING SUBMITTED FOR REVIEW.

11. SHOP DRAWINGS SHALL INCLUDE FABRICATION AND INSTALLATION DRAWINGS, SETTING DIAGRAMS, SCHEDULES, PATTERNS, TEMPLATES AND SIMILAR DRAWINGS. ALSO, INCLUDE THE FOLLOWING INFORMATION:

a. DIMENSIONS.

b. IDENTIFICATION OF PRODUCTS AND MATERIALS INCLUDED.

c. COMPLIANCE WITH SPECIFIED STANDARDS.

d. NOTATION OF COORDINATION REQUIREMENTS.

e. NOTATION OF DIMENSIONS ESTABLISHED BY FIELD MEASUREMENT.

12. WHERE ADDITIONAL INSTALLATION DRAWINGS, WIRING DIAGRAMS OR OTHER DRAWINGS ARE SPECIFIED AS A PART OF THE SUBMITTAL, THEY SHALL BE SUBMITTED AT THE SAME TIME WITH SHOP DRAWINGS AND PRODUCT DATA. PARTIAL SUBMITTALS ARE NOT ACCEPTABLE.

13. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL MATERIAL ITEMS AS OUTLINED IN THESE SPECIFICATIONS. ANY DEVIATIONS FROM CONTRACT REQUIREMENTS MUST BE CLEARLY INDICATED ON SHOP DRAWINGS AND JUSTIFICATION FOR THEIR CONSIDERATION MUST BE INCLUDED.

14. APPROVAL OF SUBMITTAL ITEMS SHALL NOT PRECLUDE REJECTION OF THOSE ITEMS UPON DISCOVERY OF DEFECTS IN THEM PRIOR TO FINAL ACCEPTANCE OF COMPLETE WORK.

15. WHEN TWO OR MORE ITEMS OF THE SAME EQUIPMENT ARE REQUIRED (I.E. — LUMINAIRES, WIRING DEVICES, ETC.), EQUIPMENT ITEMS SHALL BE OF THE SAME MANUFACTURER.

16. SUBMIT A MINIMUM OF SIX (6) COPIES OF SHOP DRAWINGS TO THE ARCHITECT. THE ARCHITECT AND ENGINEER SHALL EACH RETAIN ONE (1) COPY AND RETURN THE REMAINDER TO THE CONTRACTOR WHO SHALL DISTRIBUTE COPIES AS REQUIRED TO PROPERLY CONDUCT THE WORK, INCLUDING REQUIREMENTS OF THE OPERATING MANUAL.

17. SHOP DRAWINGS AND PRODUCT DATA INCLUDES:

a. POWER DISTRIBUTION EQUIPMENT
b. WIRING DEVICES
c. LIGHTING CONTROL DEVICES
d. LUMINAIRES, LAMPS, AND DRIVERS
e. FIRE ALARM EXTENSION

B. DESIGN DRAWINGS

1. THE DESIGN DRAWINGS, AS SUBMITTED, ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW EXACT LOCATION OF EQUIPMENT, CONDUITS, ETC. UNLESS DIMENSIONS ARE GIVEN. DRAWINGS ARE NOT TO BE SCALED. EQUIPMENT, CONDUIT, ETC. TO BE INSTALLED ALONG THE GENERAL PLANS SHOWN ON THE DRAWINGS, BUT KEEPING IN MIND ACTUAL BUILDING CONDITIONS WHICH MUST BE CONFORMED WITHIN THE ACTUAL WORK.
2. IF THIS CONTRACTOR PROPOSES TO INSTALL EQUIPMENT REQUIRING SPACE CONDITIONS OTHER THAN THOSE AS SPECIFIED AND/OR SHOWN ON THE DESIGN DRAWINGS, OR TO REARRANGE THE EQUIPMENT, HE SHALL ASSUME A FULL RESPONSIBILITY FOR THE REARRANGEMENT OF THE SPACE AND SHALL OBTAIN THE FULL APPROVAL OF THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.

C. COORDINATION DRAWINGS

1. BEFORE BEGINNING CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL PROVIDE TO THE MECHANICAL CONTRACTOR MARKED UP PRINTS INDICATING ALL ELECTRICAL WORK WHICH AFFECTS LOCATION OF HEATING, VENTILATING, AIR CONDITIONING, PLUMBING PIPING, FIRE PROTECTION, AND DUCTWORK. REFER TO DIVISION 1 AND DIVISION 15 FOR RELATED WORK.
2. COORDINATION DRAWINGS: REFLECTED CEILING PLANS DRAWN TO SCALE AND COORDINATING PENETRATIONS AND CEILING-MOUNTED ITEMS. SHOW THE FOLLOWING:

a. CEILING SUSPENSION ASSEMBLY MEMBERS.
b. METHOD OF ATTACHING HANGERS TO BUILDING STRUCTURE.
c. CEILING-MOUNTED ITEMS INCLUDING LIGHTING FIXTURES, EXIT SIGNAGE, FIRE ALARM DEVICES, CCTV, SPEAKERS, ACCESS PANELS, ETC.

D. RECORD DRAWINGS

1. EACH CONTRACTOR OR SUBCONTRACTOR FOR ELECTRICAL WORK SHALL KEEP ONE COMPLETE SET OF THE CONTRACT WORKING DRAWINGS ON THE PROJECT SITE ON WHICH THEY SHALL RECORD ANY DEVIATIONS OR CHANGES FROM SUCH CONTRACT DRAWINGS MADE DURING CONSTRUCTION. THESE CHANGES SHALL BE ACCURATELY RECORDED IN RED INK ON THE PRINTS. RECORD DRAWINGS SHALL SHOW CHANGES IN:

a. SIZE, TYPE, CAPACITY, ETC. OF ANY MATERIAL, DEVICE, OR PIECE OF EQUIPMENT.
b. LOCATION OF ANY DEVICE OR PIECE OF EQUIPMENT.
c. LOCATION OF ANY OUTLET OR DEVICE AND ASSOCIATED WIRING.
d. ROUTING OF FEEDER CONDUITS.
e. BRANCH CIRCUIT NUMBER ASSIGNMENTS.

2. RECORD DRAWINGS SHALL BE KEPT CLEAN AND UNDAMAGED, AND SHALL NOT BE USED FOR ANY PURPOSE OTHER THAN RECORDING DEVIATIONS FROM WORKING DRAWINGS.
3. AFTER THE PROJECT IS COMPLETED, RECORD SETS OF DRAWINGS SHALL BE DELIVERED TO THE TENANT AND BUILDING MANAGEMENT IN GOOD CONDITION, AS A PERMANENT RECORD OF THE INSTALLATION AS CONSTRUCTED. ALL COSTS FOR PRODUCTION, FRONTING, ETC. SHALL BE BORNE BY THE CONTRACTOR AND SHALL BE INCLUDED IN THE BID.
4. REFER TO DIVISION 1 SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS RELATED TO RECORD DRAWINGS.
5. THIS CONTRACTOR SHALL RECORD ALL CHANGES FROM ORIGINAL DESIGN DRAWINGS WHICH WERE THE INSTALLATION OF THE WORK. THESE CHANGES SHALL BE RECORDED IN RED INK ON THE PRINTS. CHANGES SHALL BE ACCURATELY DIMENSIONED.
6. THIS CONTRACTOR SHALL KEEP AN UPDATED SET OF PRINTS, INCLUDING CHANGES, ON THE JOB SITE AT ALL TIMES AND SHALL SUBMIT ONE (1) SET OF UPDATED AND LEGIBLE "AS-BUILT" PRINTS TO THE ARCHITECT WHEN THE WORK IS COMPLETE.

7. PREPARE RECORD DOCUMENTS IN ACCORDANCE WITH THE REQUIREMENTS IN DIVISION 1 SECTION "PROJECT CLOSEOUT."

8. IN ADDITION TO THE REQUIREMENTS SPECIFIED IN DIVISION 1, INDICATE THE FOLLOWING INSTALLED CONDITIONS (ACCURATELY DIMENSIONED):

a. CONCEALED EQUIPMENT, UNITS, DEVICES, ETC., REQUIRING PERIODIC MAINTENANCE OR REPAIR.

9. APPROVED SUBSTITUTIONS, CONTRACT MODIFICATIONS AND ACTUAL EQUIPMENT AND MATERIALS INSTALLED. EQUIPMENT LOCATIONS (EXPOSED AND CONCEALED), DIMENSIONED FROM PROMINENT BUILDING LINES.

1.13 OPERATING/MAINTENANCE MANUALS

A. PREPARE FOUR (4) COMPLETE BOUND SETS OF OPERATING/MAINTENANCE MANUALS IN ACCORDANCE WITH DIVISION 1 SECTION "PROJECT CLOSEOUT". CONTAINING OPERATING AND MAINTENANCE INSTRUCTIONS, AND MANUFACTURER START-UP REPORTS FOR ALL ELECTRICAL EQUIPMENT AND CONTROLS.

B. SERVICE MANUALS SHALL BE ASSEMBLED INTO ONE VINYL COVERED THREE RING "D" TYPE BINDER WITH HARD COVER AND WITH WRITTEN INSTRUCTIONS FOR EACH SYSTEM LISTED IN THE SPECIFICATIONS.

C. WRITTEN OPERATING INSTRUCTIONS, SUBMITTAL DRAWINGS, WIRING DIAGRAMS, EQUIPMENT CATALOG DATA SHEETS AND MANUFACTURER'S INSTRUCTIONS SHALL BE ACCOMMODATED INTO 8-1/2" X 11" AND/OR 11" X 17" SIZE. EACH SECTION SHALL BE TABULATED AND INDEXED AS FOLLOWS:

1. FIRST PAGE ---- TITLE OF PROJECT, OWNER, ADDRESS, DATE OF SUBMITTAL, NAME OF CONTRACTOR, AND NAME OF ARCHITECT AND ENGINEER.
2. SECOND PAGE ---- INDEX
3. FIRST SECTION ---- WRITTEN DESCRIPTION OF SYSTEM CONTENTS WHERE ACTUALLY LOCATED IN BUILDING, HOW EACH PART FUNCTIONS INDIVIDUALLY, AND HOW SYSTEM WORKS AS A WHOLE. CONCLUDE WITH A LIST OF ITEMS REQUIRING SERVICE AND EITHER STATE THE SERVICE NEEDED OR REFER TO THE MANUFACTURER'S DATA IN THE BINDER THAT DESCRIBES THE PROPER SERVICE.
4. SECOND SECTION ---- A COPY OF EACH SUBMITTAL DRAWING WITH AN INDEX AT THE BEGINNING OF THE SECTION.
5. THIRD SECTION ---- A COPY OF EACH MANUFACTURER'S OPERATING INSTRUCTIONS WITH AN INDEX AT THE BEGINNING OF THE SECTION, AND A COPY OF EACH MANUFACTURER'S START UP REPORT FOR (FIRE ALARM, ETC.)
6. FOURTH SECTION ---- A COPY OF ALL TEST RESULTS, IN CHART FORM, PERFORMED BY THE CONTRACTOR
7. FIFTH SECTION ---- COPIES OF ALL WARRANTIES, APPROVALS, ETC.

D. SUBMIT ONE (1) COPY TO THE ENGINEER FOR APPROVAL. AFTER APPROVAL, SUBMIT THREE (3) COPIES TO THE ARCHITECT FOR DELIVERY TO THE OWNER.

1.14 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. DELIVER PRODUCTS TO THE PROJECT PROPERLY IDENTIFIED WITH NAMES, MODEL NUMBERS, TYPES, COMPLIANCE LABELS AND SIMILAR INFORMATION NEEDED FOR IDENTIFICATION. MATERIALS MUST BE ADEQUATELY PACKAGED OR PROTECTED TO PREVENT DETERIORATION DURING SHIPMENT, STORAGE AND HANDLING.

B. THE CONTRACTOR SHALL MAKE PROVISIONS FOR THE DELIVERY AND SAFE STORAGE OF HIS MATERIALS AND EQUIPMENT IN COORDINATION WITH THE WORK OF OTHERS. MATERIALS AND EQUIPMENT SHALL BE DELIVERED AT SUCH STAGES OF THE WORK AS WILL EXPEDITE THE WORK AS A WHOLE AND SHALL BE MARKED AND STORED IN SUCH A WAY AS TO BE EASILY CHECKED AND INSPECTED. THE ARRIVAL AND PLACING OF LARGE EQUIPMENT ITEMS SHALL BE SCHEDULED EARLY ENOUGH TO PERMIT ENTRY AND SETTING WHEN THERE IS NO RESTRICTION OR PROBLEM DUE TO SIZE AND WEIGHT.

C. MATERIALS SHALL BE STORED TO PROTECT THEM FROM INJURY PRIOR TO INSTALLATION. MATERIAL SHOULD NOT BE STORED DIRECTLY ON THE GROUND OR FLOOR AND SHALL BE KEPT AS CLEAN AND DRY AS POSSIBLE AND FREE FROM DAMAGE OR DETERIORATING ELEMENTS.

D. IN GENERAL, DO NOT DELIVER ITEMS OF ELECTRICAL EQUIPMENT TO THE PROJECT SUBSTANTIALLY BEFORE THE TIME OF INSTALLATION. LIMIT EACH SHIPMENT OF BULK AND MULTIPLE-USE MATERIALS TO THE QUANTITIES NEEDED FOR INSTALLATION WITHIN 3-WEEKS OF RECEIPT.

1.15 PROTECTION OF WORK AND PROPERTY

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFEGUARDING WORK, PROPERTY, AND FACILITIES AGAINST DAMAGE, BOTH HIS OWN AS WELL AS OTHERS, WITH WHICH HE MAY COME INTO CONTACT IN THE PERFORMANCE OF HIS WORK.

B. STORED MATERIALS SHALL BE PROTECTED AGAINST DAMAGE FROM WEATHER. PIPE AND DUCT OPENINGS SHALL BE CLOSED WITH CAPS OR PLUGS DURING INSTALLATION. ALL FIXTURES AND EQUIPMENT SHALL BE COVERED AND PROTECTED AGAINST DAMAGE. ANY MATERIALS OR EQUIPMENT DAMAGED AT ANY STAGE IN THE CONSTRUCTION SHALL BE REPLACED OR REPAIRED AND AT THE FINAL COMPLETION, ALL WORK SHALL BE IN A CLEAN, UNBLEMISHED CONDITION.

C. FURNISH INFORMATION TO GENERAL CONTRACTOR AS TO SIZE AND LOCATION OF ALL BUILT-IN OPENINGS REQUIRED. DO NOT CUT, REMOVE OR PERCE: GENERAL OR MECHANICAL INSULATION; FIRE RATED WALLS OR CEILINGS; OR STEEL WORK; WITHOUT PRIOR PERMISSION AND INSTRUCTION.

1.16 CUTTING AND PATCHING

A. GENERAL: ALL CUTTING AND PATCHING FOR THE INSTALLATION OF THIS BRANCH OF THE WORK SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR.

B. PERFORM CUTTING AND PATCHING IN ACCORDANCE WITH DIVISION 1 SECTION "PROCEDURES, SEPARATE PRIMES." IN ADDITION TO THE REQUIREMENTS SPECIFIED IN DIVISION 1, PERFORM CUTTING, FITTING AND PATCHING OF MECHANICAL EQUIPMENT AND MATERIALS REQUIRED TO:

1. INSTALL NEW WORK.
2. UNCOVER WORK TO PROVIDE FOR INSTALLATION OF ILL-TIMED WORK.
3. REMOVE AND REPLACE DEFECTIVE WORK.
4. REMOVE AND REPLACE WORK NOT CONFORMING TO REQUIREMENTS OF THE CONTRACT DOCUMENTS.
5. INSTALL EQUIPMENT AND MATERIALS IN EXISTING STRUCTURE.
6. UPON WRITTEN INSTRUCTIONS FROM THE ENGINEER, UNCOVER AND RESTORE WORK TO PROVIDE FOR ENGINEER OBSERVATION OF CONCEALED WORK.
7. CUT, REMOVE AND LEGALLY DISPOSE OF SELECTED ELECTRICAL EQUIPMENT, COMPONENTS AND MATERIALS AS INDICATED, INCLUDING BUT NOT LIMITED TO REMOVAL OF CONDUITS AND CONDUCTORS, JUNCTION BOXES, LUMINAIRES AND TRIM, AND OTHER ELECTRICAL ITEMS MADE OBSOLETE BY THE NEW WORK.

C. PROTECTION OF INSTALLED WORK: DURING CUTTING AND PATCHING OPERATIONS, PROTECT ADJACENT INSTALLATIONS.

D. PROVIDE AND MAINTAIN TEMPORARY PARTITIONS OR DUST BARRIERS ADEQUATE TO PREVENT THE SPREAD OF DUST AND DIRT TO ADJACENT AREAS.

E. ALL OPENINGS REQUIRED FOR THIS BRANCH OF WORK SHALL BE ACCOMPLISHED IN TIME TO BE INCORPORATED IN, AND BE COMPATIBLE WITH THE CONSTRUCTION PROGRAM. OTHERWISE THIS CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL CHANGES MADE NECESSARY FOR HIS FAILURE TO DO SO. PIPE HOLES IN FLOORS AND WALLS SHALL BE CORE DRILLED.

F. PATCH EXISTING FINISHED SURFACES AND BUILDING COMPONENTS USING NEW MATERIALS MATCHING EXISTING MATERIALS AND EXPERIENCED INSTALLERS. FOR INSTALLERS' IDENTIFICATIONS, REFER TO THE MATERIALS AND METHODS REQUIRED FOR THE SURFACE AND BUILDING COMPONENTS BEING PATCHED.

1.17 FIRE STOPPING

A. ANY CORE DRILLING OR CUTTING OF FIRE RATED FLOORS, SHAFTS AND WALLS SHALL BE FIRE STOPPED PRIOR TO FINISH PATCHING. ALL FIRE STOPPING MATERIALS SHALL BE U.L. "CLASSIFIED", INTUMESCENT COMPOUND, DEVICE, OR SHEET RATED BY THE MANUFACTURER FOR THIS PURPOSE. ACCORDING TO INSTRUCTIONS PROVIDED, ALL PENETRATIONS IN 1-HOUR, 2-HOUR, AND 3-HOUR FIRE RATED WALLS, FLOORS OR PARTITION ASSEMBLIES SHALL BE SEALED WITH 3M BRAND FIRE BARRIER CAULK, CP-25, OR COMPOSITE SHEET CS-195, OR EQUIVALENT. ALL PENETRATIONS SHALL BE SEALED IN ACCORDANCE WITH UL FIRE RESISTANCE VOLUME II.

1. CAULK P-25 FILL MATERIAL TO COMPLETELY FILL THE ANNULAR SPACE BETWEEN THE INDIVIDUAL CONDUIT AND GYPSUM WALLBOARD WITH A MINIMUM 3/4" DIAMETER BEAD OF CAULK APPLIED TO THE PERIMETER OF CONDUIT (UL SYSTEM WL1001).

2. MULTIPLE CONDUITS SHALL BE CONTAINED WITHIN A 28 GAUGE STEEL SLEEVE. CAULK CP-25 FILL MATERIAL TO A DEPTH OF 1" COMPLETELY AROUND THE STEEL SLEEVE. A NOMINAL 3/4" DIAMETER BEAD SHALL BE APPLIED ON BOTH SIDES OF WALL ASSEMBLY. A MINIMUM 1" THICKNESS OF MINERAL WOOL BATT INSULATION SHALL BE PACKED FIRMLY INTO THE STEEL SLEEVE ON BOTH SIDES OF WALL ASSEMBLY AS A PERMANENT FORM. PACKING MATERIAL SHALL BE RECESSED 5/8" FROM SURFACE OF WALL ON BOTH SIDES OF WALL ASSEMBLY. FILL RECESSED CAVITY WITH 1" OF CP-25 CAULK (UL SYSTEMS WL1016).

3. A MINIMUM 1" THICKNESS OF MINERAL WOOL BATT INSULATION SHALL BE PACKED FIRMLY INTO THE MAXIMUM 2" ANNULAR SPACE AS A PERMANENT FORM. A MINIMUM 1" OF CP-25 CAULK SHALL FILL THE RECESSED CAVITY (FOR WALLS, THIS SHALL BE APPLIED ON BOTH SIDES OF THE WALL) (UL SYSTEM CA1014).

4. COORDINATE WITH THE ARCHITECT FOR ALL EXACT MATERIAL AND RATINGS AND EXACT DETAILS FOR FIRE STOPPING MATERIALS AND INSTALLATIONS PER ALL NFPA AND UL REQUIREMENTS.

1.18 INTERFERENCES

A. BEFORE INSTALLING ANY WORK, THIS CONTRACTOR SHALL SEE THAT IT DOES NOT INTERFERE WITH CLEARANCE REQUIRED FOR LIGHTS, CONDUIT, AND CEILING AND FOR FINISH ON BEAMS, COLUMNS, PLASTERS, WALLS OR OTHER STRUCTURAL OR ARCHITECTURAL MEMBERS, AS SHOWN ON CONTRACT DRAWINGS. IF ANY WORK IS SO INSTALLED AND IT DEVELOPS THAT ORIGINAL DESIGN CANNOT BE FOLLOWED, THIS CONTRACTOR SHALL, AT HIS OWN EXPENSE, MAKE SUCH CHANGES IN HIS WORK AS ARCHITECT MAY DIRECT TO PERMIT COMPLETION OF WORK IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.

B. INSTALL ADDITIONAL OFFSETS ON PIPING OR DUCTWORK WHERE REQUIRED TO OBTAIN MAXIMUM HEADROOM OR TO AVOID CONFLICT WITH OTHER WORK WITHOUT ADDITIONAL COST TO OWNER.

1.19 INTERRUPTION OF SERVICE

A. WHEN WORK PROGRESS MAKES TEMPORARY SHUTDOWN OF SERVICES UNAVOIDABLE, SHUTDOWN SHALL BE COORDINATED WITH AND APPROVED BY OWNER SO AS TO CAUSE MINIMUM DISRUPTION TO ESTABLISHED OPERATING ROUTINE. ARRANGE TO WORK AS NECESSARY TO RE-ESTABLISH SERVICE WITHIN SHORTEST POSSIBLE DOWNTIME. IN THOSE INSTANCES WHERE THE LENGTH OF TIME REQUIRED FOR THE SERVICE INTERRUPTION IS NOT ACCEPTABLE TO THE OWNER, UNLESS OTHERWISE INDICATED, FURNISH AND INSTALL TEMPORARY CONNECTIONS AS REQUIRED TO REDUCE THE LENGTH OF TIME OF SERVICE INTERRUPTION TO AN ACCEPTABLE LEVEL.

B. REPORT ANY INTERFERENCE BETWEEN WORK UNDER THIS DIVISION AND THAT OF ANY OTHER CONTRACTORS TO ARCHITECT AS SOON AS THEY ARE DISCOVERED. ARCHITECT WILL DETERMINE WHICH EQUIPMENT SHALL BE RELOCATED, REGARDLESS OF WHICH WAS FIRST INSTALLED, AND HIS DECISION SHALL BE FINAL.

1.20 WORKMANSHIP

A. WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE BEST PRACTICES OF THE TRADE AND IN A WORK LIKE MANNER AND SHALL NEAT AND RECTILINEAR TO FINISHES.

B. ELECTRICAL WORK SHALL BE INSTALLED BY JOURNEYMEN ELECTRICIANS UNDER THE SUPERVISION OF A COMPETENT FOREMAN.

1.21 DEMONSTRATION OF COMPLETE ELECTRICAL SYSTEM

A. BEFORE FINAL PAYMENT, DEMONSTRATE TO THE OWNER'S SATISFACTION THE PROPER OPERATION OF EACH OF THE SYSTEMS COMPRISING THIS CONTRACT.

B. INSTRUCT THE OWNER'S MAINTENANCE PERSONNEL IN THE OPERATION AND MAINTENANCE OF ALL ELECTRICAL EQUIPMENT AND CONTROLS.

C. DELIVER TO THE OWNER ALL SPECIAL TOOLS AND APPURTENANCES FOR PROPER OPERATION AND MAINTENANCE OF THE EQUIPMENT PROVIDED AND REQUEST RECEIPT FOR SAME. ATTACH TO THE CONTRACTOR'S REQUEST FOR FINAL PAYMENT.

1.22 CLEANING AND FINISHING

A. GENERAL: FOLLOW THE REQUIREMENTS SPECIFIED IN DIVISION 1 SECTION "PROJECT CLOSEOUT."

B. IN SO FAR AS THIS DIVISION IS CONCERNED, AT ALL TIMES KEEP PREMISES AND BUILDING IN A NEAT AND ORDERLY CONDITION. FOLLOW EXPLICITLY ANY SPECIAL INSTRUCTIONS OF ARCHITECT AND OWNER IN REGARD TO STORING OF MATERIALS, PROTECTIVE MEASURES, CLEANING-UP OF DEBRIS, ETC.

C. UPON COMPLETION OF WORK, THIS CONTRACTOR SHALL THOROUGHLY CLEAN ALL EQUIPMENT LEAVING EVERYTHING IN WORKING ORDER AT THE COMPLETION OF THIS COMPLETED THEIR WORK. CLEAN LUMINAIRES, OUTLET BOX PLATES, PANEL AND CABINET INTERIORS AND EXTERIORS, ETC., OF DIRT, DUST, DEBRIS, PAINT, ETC.

1.23 GUARANTEE AND WARRANTIES

A. WARRANT THAT EQUIPMENT AND ALL WORK IS INSTALLED IN ACCORDANCE WITH GOOD ENGINEERING PRACTICE AND THAT ALL EQUIPMENT WILL MEET REQUIREMENTS SPECIFIED. ANY EQUIPMENT FAILING TO PERFORM OR FUNCTION AS SPECIFIED SHALL BE REPLACED WITH COMPLYING EQUIPMENT WITHOUT COST TO THE OWNER.

B. THIS CONTRACTOR SHALL GUARANTEE AGAINST DEFECTS OF ALL MATERIALS, WORKMANSHIP AND THE COMPLETE OPERATION OF ALL EQUIPMENT AND APPARATUS INSTALLED BY HIM FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE FINAL ACCEPTANCE OF THE ENTIRE WORK AND SHALL GUARANTEE TO REPAIR OR REPLACE AT HIS OWN EXPENSE ANY PART OF THE APPARATUS WHICH MAY SHOW DEFECT DURING THAT TIME PROVIDED SUCH DEFECT IS, IN THE OPINION OF THE ARCHITECT, DUE TO IMPERFECT MATERIAL OR WORKMANSHIP AND NOT TO CARELESSNESS OR IMPROPER USE.

PART 2 — PRODUCTS

2.1 RACEWAYS

STORE ADDRESS

6231 McKee Rd, Suite A
Fitchburg, WI 53719

STORE NUMBER

WI 021

tropical CAFE
SMOOTHIE
eat better. feel better.

REVISION	

DATE

02/02/2022

PROJECT

1674.010

B. COORDINATE INSTALLATION OF ALL LUMINAIRES WITH ALL TRADES AND THE INSTALLATION OF CEILING MATERIALS AND SUSPENSION SYSTEMS PRIOR TO ANY ROUGH-INS.
C. DO NOT INSTALL LUMINAIRES UNTIL WORK OF OTHER TRADES THAT MAY DAMAGE LUMINAIRES IS COMPLETED.
D. INVESTIGATE LUMINAIRE LOCATIONS AND SUPPORTS TO ENSURE THAT NO INTERFERENCE EXISTS WITH HANGERS, DUCTS, SPRINKLERS, PIPES AND ALL OTHER EQUIPMENT.
E. PROVIDE PROPER PLASTER FRAMES FOR LUMINAIRES RECESSED IN GYPSUM BOARD OR PLASTER CEILING.
F. DO NOT SUSPEND OR SUPPORT LUMINAIRES OR SAFETY CHAINS FROM HUNG CEILING, CONDUIT OR DUCT. SUPPORT LUMINAIRES FROM STRUCTURAL BUILDING MEMBERS ONLY.
G. FRAMING MEMBERS OF SUSPENDED CEILING SYSTEMS USED TO SUPPORT LUMINAIRES SHALL BE SECURELY FASTENED TO EACH OTHER AND SHALL BE SECURELY ATTACHED TO THE BUILDING STRUCTURE AT APPROPRIATE INTERVALS. LUMINAIRES SHALL BE SECURELY FASTENED TO THE CEILING FRAMING MEMBER BY MECHANICAL MEANS SUCH AS BOLTS, SCREWS, OR RIVETS. LISTED CLIPS IDENTIFIED FOR USE WITH THE TYPE OF CEILING FRAMING MEMBER(S) AND LUMINAIRE(S) SHALL ALSO BE PERMITTED PER CHICAGO ELECTRICAL CODE.
H. PROVIDE STRUT BELOW DUCTS WHERE LUMINAIRE LOCATIONS COINCIDE WITH DUCT RUNS. PROVIDE A COMPLETE THREE-DIMENSIONAL GRID SYSTEM TO SUPPORT STRUT.
I. PATCH ALL EXISTING SPRAY-ON FIREPROOFING DAMAGED DURING INSTALLATION.
J. SUPPORT SURFACE-MOUNTED LUMINAIRES AT LEAST TWO CONCEALED POINTS TO PREVENT ROTATION.
K. LOCATE CEILING AND WALL MOUNTED LUMINAIRES AS SHOWN ON ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS.

3.5 LIGHTING CONTROLS — SYSTEM FUNCTIONAL PERFORMANCE TESTING REQUIREMENTS
EC SHALL INCLUDE IN THEIR BID PROVISIONS FOR LIGHTING SYSTEMS FUNCTIONAL TESTING IN ACCORDANCE WITH **ECG 2015** CHOB3. TESTING SHALL BE PERFORMED IN THE PRESENCE OF OWNER REPRESENTATIVE AND/OR EQUIPMENT MANUFACTURER REPRESENTATIVE. **EC SHALL CONTACT ENGINEER FOR SITE SPECIFIC FUNCTIONAL TESTING FORMS 30 DAYS PRIOR TO INSPECTION.**
CA08.3 FUNCTIONAL TESTING OF LIGHTING CONTROLS AUTOMATIC LIGHTING CONTROLS PROVIDED BY THIS CODE SHALL COMPLY WITH THIS SECTION.

CA08.3.1 FUNCTIONAL TESTING PRIOR TO PASSING FINAL INSPECTION, THE EC SHALL PROVIDE A REPORT OF TEST RESULTS TO THE ARCHITECT/ENGINEER OF RECORD AS EVIDENCE THAT THE LIGHTING CONTROL SYSTEMS HAVE BEEN TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTRUCTIONS. FUNCTIONAL TESTING SHALL BE IN ACCORDANCE WITH SECTION 5.
CA08.3.1.1 THROUGH CA08.3.1.3 FOR THE APPLICABLE CONTROL TYPE.

CA08.3.1.1 OCCUPANT SENSOR CONTROLS WHERE OCCUPANT SENSOR CONTROLS ARE PROVIDED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:

1. CERTIFY THAT THE OCCUPANT SENSOR HAS BEEN LOCATED AND AIMED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
2. FOR PROJECTS WITH SEVEN OR FEWER OCCUPANT SENSORS, EACH SENSOR SHALL BE TESTED.
3. FOR PROJECTS WITH MORE THAN SEVEN OCCUPANT SENSORS, TESTING SHALL BE DONE FOR EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY. WHERE MULTIPLES OF EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY ARE PROVIDED, NOT LESS THAN 10 PERCENT AND IN NO CASE FEWER THAN ONE OF EACH COMBINATION SHALL BE TESTED UNLESS THE CODE, OFFICIAL OR DESIGN PROFESSIONAL REQUIRES A HIGHER PERCENTAGE TO BE TESTED. WHERE 30 PERCENT OR MORE OF THE TESTED CONTROLS FAIL, ALL REMAINING IDENTICAL COMBINATIONS SHALL BE TESTED. FOR OCCUPANT SENSOR CONTROLS TO BE TESTED, VERIFY THE FOLLOWING:
3.1. WHERE OCCUPANT SENSOR CONTROLS INCLUDE STATUS INDICATORS, VERIFY CORRECT OPERATION.
3.2. THE CONTROLLED LIGHTS TURN OFF OR DOWN TO THE PERMITTED LEVEL WITHIN THE REQUIRED TIME.
3.3. FOR AUTO-ON OCCUPANT SENSOR CONTROLS, THE LIGHTS TURN ON TO THE PERMITTED LEVEL WHEN AN OCCUPANT ENTERS THE SPACE.
3.4. FOR MANUAL-ON OCCUPANT SENSOR CONTROLS, THE LIGHTS TURN ON ONLY WHEN MANUALLY ACTIVATED.
3.5. THE LIGHTS ARE NOT INADEQUATELY TURNED ON BY MOVEMENT IN ADJACENT AREAS OR BY HVAC OPERATION.

CA08.3.1.2 TIME-SWITCH CONTROLS WHERE TIME-SWITCH CONTROLS ARE PROVIDED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:

1. CONFIRM THAT THE TIME-SWITCH CONTROL IS PROGRAMMED WITH ACCURATE WEEKDAY, WEEKEND AND HOLIDAY SCHEDULES.
2. PROVIDE DOCUMENTATION TO THE OWNER OF TIME-SWITCH CONTROLS PROGRAMMING INCLUDING WEEKDAY, WEEKEND AND HOLIDAY SCHEDULES, AND SET-UP AND PREFERENCE PROGRAM SETTINGS.
3. VERIFY THE CORRECT TIME AND DATE IN THE TIME SWITCH.
4. VERIFY THAT ANY BATTERY BACK-UP IS INSTALLED AND ENERGIZED.
5. VERIFY THAT THE OVERIDE TIME LIMIT IS SET TO NOT MORE THAN 2 HOURS.
6. SIMULATE OCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
6.1. ALL LIGHTS CAN BE TURNED ON AND OFF BY THEIR RESPECTIVE AREA CONTROL SWITCH.
6.2. THE SWITCH ONLY OPERATES LIGHTING IN THE ENCLOSED SPACE IN WHICH THE SWITCH IS LOCATED.
6.3. VERIFY UNOCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
6.4. UNOCCUPIED LIGHTING TURNS OFF.
6.5. MANUAL OVERIDE SWITCH ALLOWS ONLY THE LIGHTS IN THE ENCLOSED SPACE WHERE THE OVERIDE SWITCH IS LOCATED TO TURN ON OR REMAIN ON UNTIL THE NEXT SCHEDULED SHUTOFF OCCURS.
6.6. ADDITIONAL TESTING AS SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL.

CA08.3.2 DOCUMENTATION REQUIREMENTS THE DOCUMENTS DESCRIBED IN THIS SECTION SHALL BE PROVIDED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT WITHIN 90 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.
CA08.3.2.2 MANUALS EC SHALL PROVIDE AN OPERATING AND MAINTENANCE MANUAL AND INCLUDE THE FOLLOWING:

1. NAME AND ADDRESS OF NOT LESS THAN ONE SERVICE AGENCY FOR INSTALLED EQUIPMENT.
2. A NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING RECOMMENDED SETPOINTS.
3. SUBMITTAL DATA INDICATING ALL SELECTED OPTIONS FOR EACH PIECE OF LIGHTING EQUIPMENT AND LIGHTING FIXTURES.
4. OPERATION AND MAINTENANCE MANUALS FOR EACH PIECE OF LIGHTING EQUIPMENT. REQUIRED ROUTINE MAINTENANCE ACTIONS, CLEANING AND RECOMMENDED REPLACING SHALL BE CLEARLY IDENTIFIED.
5. A SCHEDULE FOR INSPECTING AND RECALIBRATING ALL LIGHTING CONTROLS.

CA08.3.2.3 REPORT EC SHALL PROVIDE A REPORT OF TEST RESULTS AND INCLUDE THE FOLLOWING:
1. RESULTS OF REQUIRED PERFORMANCE TESTS.
2. DISPOSITION OF DEFICIENCIES FOUND DURING TESTING, INCLUDING DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.

3.7 GROUNDING

- A. PROVIDE EQUIPMENT GROUNDING SYSTEM AS SHOWN ON DRAWINGS. EQUIPMENT GROUNDING SYSTEM SHALL BE DESIGNED SO METALLIC STRUCTURES, ENCLOSURES, RACEWAYS, JUNCTION BOXES, OUTLET BOXES, CABINETS, MACHINE FRAMES, PORTABLE EQUIPMENT AND OTHER CONDUCTIVE ITEMS IN CLOSE PROXIMITY WITH ELECTRICAL EQUIPMENT ARE CONTINUOUSLY AT GROUND POTENTIAL AND PROVIDE LOW IMPEDANCE PATH FOR POSSIBLE GROUND FAULT CURRENTS.
- B. SYSTEM SHALL MEET CHICAGO ELECTRICAL CODE REQUIREMENTS, MODIFIED AS SHOWN ON DRAWINGS AND AS SPECIFIED.
- C. PROVIDE SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR FOR EACH BRANCH CIRCUIT. INSTALL GROUNDING CONDUCTOR IN COMMON CONDUIT WITH RELATED PHASE OR NEUTRAL CONDUCTORS, OR BOTH. PARALLEL FEEDERS INSTALLED IN MORE THAN ONE RACEWAY SHALL HAVE INDIVIDUAL FULL SIZE GREEN INSULATED EQUIPMENT GROUND CONDUCTORS.
- D. DETERMINE NUMBERS AND SIZES OF SCREW TERMINALS FOR EQUIPMENT GROUNDING BARS IN PANELBOARDS AND OTHER ELECTRICAL EQUIPMENT. PROVIDE SCREW TERMINALS FOR ACTIVE CIRCUITS, SPARES AND SPACES.
- E. PROVIDE GREEN INSULATED GROUNDING CONDUCTOR IN NONMETALLIC CONDUITS OR DUCTS UNLESS SPECIFIED OTHERWISE.

3.8 TELECOMMUNICATIONS CONDUIT SYSTEM

- A. PROVIDE SYSTEM OF EMPTY CONDUIT, OUTLETS AND MOUNTING BOARDS, AS SPECIFIED AND AS SHOWN ON DRAWINGS.
- B. Nylon PULL-IN WIRE SHALL BE INSTALLED IN TELECOMMUNICATIONS CONDUITS FOR USE BY OWNER.

3.9 TEMPORARY ELECTRIC SERVICE

- A. FURNISH AND INSTALL (AND REMOVE AS REQUIRED) ALL TEMPORARY POWER AND LIGHTING IN ALL AREAS WHERE NEEDED BY ALL TRADES IN THE PERFORMANCE OF THEIR WORK. PROVIDE A MINIMUM OF 20 FOOT CANDLES OF ILLUMINATION FOR TEMPORARY LIGHTING. TEMPORARY ELECTRIC SERVICE(S) SHALL CONFORM TO ALL FEDERAL, OSHA, STATE, INCLUDING THE CHICAGO ELECTRIC CODE.

PART 3 — EXECUTION

3.1 TESTING, INSPECTION, AND CLEANING

- A. TEST WIRING AND CONNECTIONS FOR CONTINUITY AND GROUNDS BEFORE EQUIPMENT IS CONNECTED. DEMONSTRATE INSULATION RESISTANCE BY MEGGER TEST AS REQUIRED. INSULATION RESISTANCE BETWEEN CONDUCTORS AND GROUNDS FOR SECONDARY DISTRIBUTIONS SYSTEMS SHALL MEET NEC REQUIREMENTS.
- B. VERIFY AND CORRECT AS NECESSARY: VOLTAGES, TAP SETTINGS, TRIP SETTINGS AND PHASING ON EQUIPMENT FROM SECONDARY DISTRIBUTION SYSTEM TO POINTS OF USE. TEST SECONDARY VOLTAGES AT BUS IN MAIN SWITCHBOARD, AT PANELBOARDS, AND AT OTHER LOCATIONS ON DISTRIBUTION SYSTEMS AS NECESSARY. TEST SECONDARY VOLTAGES UNDER NO-LOAD AND FULL-LOAD CONDITIONS.
- C. TEST LUMINAIRES WITH SPECIFIED LAMPS IN PLACE FOR 10 HOURS. DO NOT OPERATE LAMPS OTHER THAN FOR TESTING BEFORE FINAL INSPECTION BY ARCHITECT. REPLACE LAMPS THAT FAIL WITHIN 90 DAYS AFTER ACCEPTANCE BY ARCHITECT.
- D. PROVIDE NECESSARY TESTING EQUIPMENT AND TESTING.
- E. FAILURE OR DEFECTS IN WORKMANSHIP OR MATERIALS REVEALED BY TESTS OR INSPECTION SHALL BE CORRECTED PROMPTLY AND RETESTED. REPLACE DEFECTIVE MATERIAL.
- F. CLEAN PANELS AND OTHER EQUIPMENT. PANELBOARD INTERIORS SHALL BE CLEANED AND VACUUMED. EQUIPMENT WITH DAMAGE TO PAINTED FINISH SHALL BE REPAIRED TO ARCHITECT'S SATISFACTION.

3.2 NAMEPLATES

- A. PROVIDE NAMEPLATES ON SWITCHBOARDS, PANELBOARDS, JUNCTION BOXES AND CABINETS, AND FOR SPECIAL PURPOSE SWITCHES, MOTOR DISCONNECT SWITCHES, REMOTE CONTROL STATIONS, STARTERS OR OTHER CONTROLS FURNISHED OR INSTALLED UNDER THIS SECTION. NAMEPLATES SHALL DESIGNATE EQUIPMENT CONTROLLED AND FUNCTION.

3.3 ACCESS AND ACCESS PANELS

- A. PROVIDE PROPER ACCESS TO MATERIAL OR EQUIPMENT THAT REQUIRE INSPECTION, REPLACEMENT, REPAIR OR SERVICE AND COORDINATE THEIR DELIVERY WITH THE INSTALLING TRADE. IF PROPER ACCESS CANNOT BE PROVIDED, CONFER WITH ARCHITECT AS TO BEST METHOD OF APPROACH TO MINIMIZE EFFECTS OF REDUCED ACCESS.
- B. ACCESS PANELS SHALL HAVE SAME FIRE RATING CLASSIFICATION AS SURFACE PENETRATED.
- C. PANELS SHALL BE AT LEAST 12" X 12"; ACCESS PANELS AT EQUIPMENT SHALL BE 18" X 18".

3.4 WIRING METHODS

- A. ALL RACEWAYS, CABLE ASSEMBLIES, BOXES, CABINETS, FITTINGS, ETC. SHALL BE SECURED AND SUPPORTED IN ALL ASSEMBLIES AS REQUIRED PER CHICAGO ELECTRICAL CODE ARTICLE 300.11.
- B. INSTALL WIRE AND CABLE AS SPECIFIED AND AS APPROVED BY AUTHORITIES HAVING JURISDICTION. ALL CONDUITS OR RACEWAYS SHALL BE CONCEALED WHERE POSSIBLE, EXCEPT FOR UNFINISHED AREAS, SUCH AS EQUIPMENT ROOMS. PROVIDE STAND-OFF CLIPS WHERE CONDUITS ARE INSTALLED ON MASONRY WALLS.
- C. RUN CONCEALED CONDUIT IN AS DIRECT LINES AS POSSIBLE WITH MINIMUM NUMBER OF BENDS OF LONGEST POSSIBLE RADIUS. RUN CONDUIT PARALLEL TO OR AT RIGHT ANGLES TO BUILDING LINES TIGHT TO BUILDING STRUCTURE.
- D. CONDUIT RUNS SHALL BE MECHANICALLY AND ELECTRICALLY CONTINUOUS FROM SERVICE ENTRANCE TO OUTLETS. CONDUIT SHALL ENTER AND BE SECURED TO CABINET, JUNCTION BOX, PULL BOX OR OUTLET BOX WITH LOCKWUT OUTSIDE AND BUSHING INSIDE.
- E. ALL RACEWAY SHALL BE 3/4" TRADE SIZE MINIMUM, AS INDICATED ON THE DRAWINGS OR AS REQUIRED BY THE NEC AND SHALL CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR. PROVIDE INSERTS, HANGERS, ANCHORS AND STEEL SUPPORTS AS NECESSARY.
- F. INSTALL CONDUIT SYSTEMS COMPLETE BEFORE DRAWING IN CONDUCTORS. BLOW THROUGH AND SWAB AFTER PLASTER IS FINISHED AND DRY, AND BEFORE CONDUCTORS ARE INSTALLED.
- G. WIRE FROM POINT OF SERVICE CONNECTION TO RECEPTACLES, LUMINAIRES, DEVICES, EQUIPMENT AND OTHER ELECTRICAL APPARATUS AS SHOWN ON DRAWINGS. SIGNAL SLOAK WIRE FOR CONNECTIONS.

- H. CONDUCTORS 10-AWG AND SMALLER IN BRANCH CIRCUIT PANELBOARDS, SIGNAL CABINETS, SIGNAL CONTROL BOARDS, SWITCHBOARDS AND MOTOR CONTROL CENTERS SHALL BE BUNDLED. CONDUCTORS LARGER THAN 10-AWG IN SWITCHBOARDS, MOTOR CONTROL CENTERS, AND PULL BOXES SHALL BE CABLED IN INDIVIDUAL CIRCUITS.

- I. FOLLOW HOMERUN CIRCUIT NUMBERS SHOWN ON DRAWINGS TO CONNECT CIRCUITS TO PANELBOARDS. CONNECT EACH BRANCH CIRCUIT HOWEVER WITH TWO OR MORE CIRCUITS AND COMMON NEUTRAL TO CIRCUIT BREAKER OR SWITCH IN THREE-WIRE OR FOUR-WIRE BRANCH CIRCUIT PANELBOARD SO THAT NO TWO CIRCUITS ARE FED FROM SAME BUS. WHERE PANELBOARD CABINETS ARE RECESSED, PROVIDE CONDUITS WITH SUFFICIENT CAPACITY FOR FUTURE CONDUCTORS FOR SPARE BRANCH CIRCUIT PROTECTIVE DEVICES AND SPACES IN PANELBOARD; STUB UP CONCEALED TO JUNCTION BOX. PROVIDE EXTENSIONS ABOVE CEILING.

- J. ELECTRICAL METALLIC TUBING (EMT) MAY BE USED FOR INTERIOR APPLICATIONS ABOVE GRADE, WHERE PERMITTED BY CODES, FOR LUMINAIRE AND RECEPTACLE CIRCUITS, TELEPHONE, INTER-COMMUNICATIONS, SIGNAL AND INSTRUMENTATION CIRCUITS, AND FOR CONTROL CIRCUITS. EMT MAY BE USED ABOVE HUNG CEILINGS, IN EQUIPMENT ROOMS, IN MECHANICAL AND ELECTRICAL CHASES AND CLOSETS, IN EXPOSED LOCATIONS ALONG CEILINGS OR WALLS ABOVE NORMAL TRAFFIC LEVEL AND WHERE NOT SUBJECT TO ACCIDENTAL DAMAGE OR ABUSE.

- K. INSTALL CONNECTORS AND COUPLINGS AS RECOMMENDED BY MANUFACTURERS. COMPRESSION FITTINGS SHALL BE USED IN AREAS SUBJECT TO MOISTURE.

- L. METAL CLAD CABLE (MC) AS APPROVED BY LOCAL CODE FOR RECEPTACLE CIRCUITS IN SUSPENDED CEILINGS AND STUD-WALL PARTITIONS.

- M. FLEXIBLE METAL CONDUIT (FMC) SHALL BE USED FOR CONNECTIONS TO ELECTRICAL EQUIPMENT AND TO EQUIPMENT FURNISHED UNDER DIVISIONS 14 AND 15 THAT ARE SUBJECT TO MOVEMENT AND VIBRATION. FMC SHALL BE LIMITED TO LENGTHS OF 6 FEET AND SHALL CONTAIN GROUNDING CONDUCTOR.

- O. ALL LOW VOLTAGE CABLE NOT IN CONDUIT AND INSTALLED IN RETURN AIR PLENUM SHALL BE UL LISTED FLENUM TYPE CABLE.

- P. OPENINGS AROUND ELECTRICAL PENETRATIONS THROUGH FIRE RESISTANT RATED WALLS, PARTITIONS, FLOORS, OR CEILINGS SHALL BE FIRESTOPPED USING UL APPROVED METHODS PER MANUFACTURERS GUIDELINES (HULT FIRE STOP SYSTEMS OR 3M FIRE PROTECTION PRODUCTS) TO MAINTAIN THE FIRE RESISTANCE RATING OF STRUCTURE. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATINGS REQUIREMENTS TO BE MAINTAINED.

3.5 INSTALLATION OF LUMINAIRES

- A. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL CEILING CONSTRUCTION TYPES, HEIGHTS, CEILING SPACE CLEARANCES, ETC WITH THE ARCHITECTURAL, MECHANICAL, PLUMBING, AND FIRE PROTECTION PLANS, ELEVATIONS, AND DETAILS. PROVIDE PROPER FRAMES, ROUGH-IN KITS, TRIM RINGS, MOUNTING HARDWARE, CHICAGO ELECTRICAL CODE REQUIRED ACCESS, ANCILLARY ACCESSORIES, ETC. FOR A COMPLETE CHICAGO ELECTRICAL CODE AND UL LISTED INSTALLATION PER ALL MANUFACTURER'S REQUIREMENTS.

C. WARNING LABEL

1. PROVIDE ARC-FLASH HAZARD WARNING LABEL FOR EACH SWITCH PER NATIONAL ELECTRIC CODE (CHICAGO ELECTRICAL CODE) ARTICLE 110.16.

2.11 PANELBOARDS

A. MANUFACTURERS

1. MATCH EXISTING MANUFACTURER.

THE LISTING OF SPECIFIC MANUFACTURERS ABOVE DOES NOT IMPLY ACCEPTANCE OF THOSE PRODUCTS THAT DO NOT MEET THE SPECIFIED RATINGS, FEATURES AND FUNCTIONS. MANUFACTURERS LISTED ABOVE ARE NOT RELIEVED FROM MEETING THESE SPECIFICATIONS IN THEIR ENTIRETY. PRODUCTS IN COMPLIANCE WITH THE SPECIFICATION AND MANUFACTURED BY OTHERS NOT NAMED WILL BE CONSIDERED ONLY IF PRE-APPROVED BY THE ENGINEER TEN (10) DAYS PRIOR TO BID DATE.

B. RATINGS

1. PANELBOARDS RATED 240V AC OR LESS SHALL HAVE SHORT-CIRCUIT RATINGS AS SHOWN ON THE DRAWINGS OR AS HEREIN SCHEDULED, BUT NOT LESS THAN 10,000 AMPERES RMS SYMMETRICAL.
2. PANELBOARDS RATED 480V AC OR LESS SHALL HAVE SHORT-CIRCUIT RATINGS AS SHOWN ON THE DRAWINGS OR AS HEREIN SCHEDULED, BUT NOT LESS THAN 14,000 AMPERES RMS SYMMETRICAL.
3. PANELBOARDS SHALL BE LABELED WITH A UL SHORT-CIRCUIT RATING. WHEN SERIES RATINGS ARE APPLIED WITH INTEGRAL OR REMOTE UPSTREAM DEVICES, A LABEL OR MANUAL SHALL BE PROVIDED. IT SHALL STATE THE CONDITIONS OF THE UL SERIES RATINGS INCLUDING:
a. SIZE AND TYPE OF UPSTREAM DEVICE
b. UL RECOGNIZED BRANCH DEVICES THAT CAN BE USED
c. UL SERIES SHORT-CIRCUIT RATING.

C. CONSTRUCTION

1. INTERIORS SHALL BE COMPLETELY FACTORY ASSEMBLED DEVICES. THEY SHALL BE DESIGNED SUCH THAT SWITCHING AND PROTECTIVE DEVICES CAN BE REPLACED WITHOUT DISTURBING ADJACENT UNITS AND WITHOUT REMOVING THE MAIN BUS CONNECTORS.

2. TRIMS FOR BRANCH CIRCUIT PANELBOARDS SHALL BE SUPPLIED WITH A HINGED DOOR OVER ALL CIRCUIT BREAKER HANDLES. DOORS IN PANELBOARD TRIMS SHALL NOT UNCOVER ANY LIVE PARTS. DOORS SHALL HAVE A SEMI FLUSH CYLINDER LOCK AND CATCH ASSEMBLY. DOORS OVER 48 INCHES IN HEIGHT SHALL HAVE AUXILIARY FASTENERS.

3. DISTRIBUTION PANELBOARD TRIMS SHALL COVER ALL LIVE PARTS. SWITCHING DEVICE HANDLES SHALL BE ACCESSIBLE.

4. SURFACE TRIMS SHALL BE SAME HEIGHT AND WIDTH AS BOX. FLUSH TRIMS SHALL OVERLAP THE BOX BY 3/4 OF AN INCH ON ALL SIDES.

5. A DIRECTORY CARD WITH A CLEAR PLASTIC COVER SHALL BE SUPPLIED AND MOUNTED ON THE INSIDE OF EACH DOOR.

6. ALL LOCKS SHALL BE KEYS ALIKE.

D. BUS

1. MAIN BUS BARS SHALL BE TIN-PLATED ALUMINUM SIZED IN ACCORDANCE WITH UL STANDARDS TO LIMIT TEMPERATURE RISE ON ANY CURRENT CARRYING PART TO A MAXIMUM OF 65 DEGREES C ABOVE AN AMBIENT OF 40 DEGREES C MAXIMUM.
2. A SYSTEM GROUND BUS SHALL BE INCLUDED IN ALL PANELS.

3. FULL-SIZE (100%-RATED) INSULATED NEUTRAL BARS SHALL BE INCLUDED FOR PANELBOARDS SHOWN WITH NEUTRAL BUS BAR TAPS FOR PANELS WITH SINGLE-POLE BRANCHES SHALL BE ARRANGED FOR SEQUENCE PHASING OF THE BRANCH CIRCUIT DEVICES. NEUTRAL BUSING SHALL HAVE A SUITABLE LUG FOR EACH OUTGOING FEEDER AND/OR BRANCH CIRCUIT REQUIRING A NEUTRAL CONNECTION.

E. BRANCH CIRCUIT PANELBOARDS

5. THE MINIMUM SHORT-CIRCUIT RATING FOR BRANCH CIRCUIT PANELBOARDS SHALL BE AS SPECIFIED HEREIN OR AS INDICATED ON THE DRAWINGS. PANELBOARDS SHALL BE FULLY RATED.
6. BOLT-ON TYPE HEAVY-DUTY, QUICK-MAKE, QUICK-BREAK, SINGLE AND MULTI-POLE CIRCUIT BREAKERS OF THE TYPES SPECIFIED HEREIN, SHALL BE PROVIDED FOR EACH CIRCUIT WITH TOGGLE HANDLES THAT INDICATE WHEN UNIT HAS TRIPPED.
7. CIRCUIT BREAKERS SHALL BE THERMAL-MAGNETIC TYPE WITH COMMON TYPE HANDLE FOR ALL MULTIPLE POLE CIRCUIT BREAKERS. CIRCUIT BREAKERS SHALL BE MINIMUM 100-AMPERE FRAME AND THROUGH 100-AMPERE TRIP SIZES SHALL TAKE UP THE SAME POLE SPACING. CIRCUIT BREAKERS SHALL BE UL LISTED AS TYPE 'SMO' FOR LIGHTING CIRCUITS, AND UL LISTED AS TYPE 'HCCR' FOR HEATING, AIR-CONDITIONING AND REFRIGERATING EQUIPMENT.

6. CIRCUIT BREAKER HANDLE LOCKS SHALL BE PROVIDED FOR ALL CIRCUITS THAT SUPPLY EXIT SIGNS, EMERGENCY LIGHTS, ENERGY MANAGEMENT, AND CONTROL SYSTEM (EMCS) PANELS AND FIRE ALARM PANELS.

H. ENCLOSURE

1. ENCLOSURES SHALL BE AT LEAST 24 INCHES WIDE X 10 INCHES DEEP, MADE FROM GALVANIZED STEEL. PROVIDE MINIMUM GUTTER SPACE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. WHERE FEEDER CABLES SURPLYING THE MAINS OF A PANEL ARE CARRIED THROUGH ITS BOX TO SUPPLY OTHER ELECTRICAL EQUIPMENT, THE BOX SHALL BE SIZED TO INCLUDE THE ADDITIONAL REQUIRED WIRING SPACE. AT LEAST FOUR INTERIOR MOUNTING STUDS WITH ADJUSTABLE NUTS SHALL BE PROVIDED.

2. ENCLOSURES SHALL BE PROVIDED WITH BLANK ENDS.
3. EXTERIOR MOUNTED PANELBOARD SHALL BE NEMA 3R AND RATED FOR EXTERIOR APPLICATIONS

I. SERVICE ENTRANCE LABEL

1. EQUIPMENT WITH MAIN SERVICE DISCONNECT SWITCH(ES) SHALL BE UL LABELED FOR USE AS SERVICE ENTRANCE EQUIPMENT.

J. FUTURE DEVICES

1. PANELBOARDS SHALL BE FULLY PROVIDED WITH ALL NECESSARY MOUNTING BRACKETS, BUS CONNECTIONS AND APPURTENANCES REQUIRED FOR INSTALLATION OF FUTURE DEVICES.

K. ACCESSORY COMPONENTS AND FEATURES

1. PROVIDE ACCESSORY SET INCLUDING TOOLS AND MISCELLANEOUS ITEMS REQUIRED FOR OVERCURRENT PROTECTIVE DEVICE TEST, INSPECTION, MAINTENANCE AND OPERATION.

L. NAMEPLATES

1. PROVIDE AN ENGRAVED NAMEPLATE FOR EACH PANEL SECTION.

M. WARNING LABEL

1. PROVIDE ARC-FLASH HAZARD WARNING LABEL FOR EACH PANEL SECTION PER CHICAGO ELECTRICAL CODE.

N. FINISH

1. SURFACES OF THE TRIM ASSEMBLY SHALL BE PROPERLY CLEANED, PRIMED, AND A FINISH COAT OF GRAY ANSI 61 PAINT APPLIED.

2.7 WIRING DEVICES

RECEPTACLES

A. CONVENIENCE RECEPTACLES

STRAIGHT BLADE CONVENIENCE RECEPTACLE DEVICES SHALL BE EXTRA HEAVY DUTY INDUSTRIAL SPECIFICATION GRADE AND SHALL AT A MINIMUM INCORPORATE THE FOLLOWING FEATURES AND BENEFITS. COLOR BY ARCHITECT.

1. RECEPTACLES, 20 A, 125V, 2-POLE, 3-WIRE, GROUNDING TYPE WITH SELF-GROUNDING FEATURE. COMPLY WITH NEMA WD 1, NEMA WD 6 CONFIGURATION 5-20R, AND UL 498.

B. GFCI RECEPTACLES:

STRAIGHT BLADE GFCI TYPE RECEPTACLE DEVICES SHALL BE, NON-FEED-THROUGH TYPE. COMPLY WITH NEMA WD 1, NEMA WD 6, UL 498, AND UL 843, CLASS A, GROUP 1 SOLID STATE SENSING AND SIGNALING WITH FIVE (5) MILLI-AMPERE FAULT TRIP LEVEL AND INCLUDE INDICATOR LIGHT THAT IS LIGHTED WHEN DEVICE IS TRIPPED.

1. DUPLEX GFCI RECEPTACLES, 20 A, 125V, 2-POLE, 3-WIRE, GROUNDING TYPE WITH SELF GROUNDING FEATURE.

SWITCHES

A. AC TOGGLE SWITCHES

AC TOGGLE SWITCHES SHALL BE EXTRA HEAVY DUTY INDUSTRIAL (COMMERCIAL) SPECIFICATION GRADE QUIET TYPE, AND SHALL AT A MINIMUM INCORPORATE THE FOLLOWING FEATURES AND BENEFITS AND COMPLY WITH NEMA WD1 AND UL. 20

ACCEPTABLE MANUFACTURERS/DEVICE NUMBERS FOR RECEPTACLES AND SWITCHES:

RECEPTACLES — INDUSTRIAL SPECIFICATION GRADE	HUBBELL	COOPER
CONVENIENCE HUBB5362	5362	5362
GFCI GFR5362	5362	5362

AC SWITCHES 201, 120/277 VAC

AC SWITCHES — INDUSTRIAL SPECIFICATION GRADE TOGGLE TYPE	HUBBELL	COOPER	LEVITON
SINGLE POLE H9L1201	2221	2221	1221-2
THREE-WAY H9L1203	2223	2223	1223-2
FOUR-WAY H9L1204	2224	2224	1224-2

OCCUPANCY/AVAILANCY SENSORS

- A. WALL-SWITCH SENSORS DESCRIPTION: MULTI-TECHNOLOGY (ULTRA SONIC AND INFRARED) ADAPTIVE TECHNOLOGY TYPE, 120/277 V, ADJUSTABLE TIME DELAY UP TO 30 MINUTES, 180-DEGREE FIELD OF VIEW, WITH A MINIMUM COVERAGE AREA OF 1200 SQ. FT. AND INTEGRAL BUNDLERS.
- B. CEILING MOUNTED SENSORS DESCRIPTION: MULTI-TECHNOLOGY (ULTRA SONIC AND INFRARED), ADJUSTABLE TIME DELAY UP TO 30 MINUTES, 360-DEGREE FIELD OF VIEW, WITH A MINIMUM COVERAGE AREA OF 2000 SQ. FT.

C. ADJUSTMENTS

1. ADJUST WALL MOUNTED SENSORS "TIME-OUT" SETTING TO "A" AUTO
2. ADJUST WALL MOUNTED SENSORS HORIZONTAL FILED BUNDLERS AS REQUIRED TO PREVENT FALSE TRIPPING.
3. ADJUST ALL SENSORS AMBIENT LIGHT LEVELS TO THEIR MAXIMUM LIGHT LEVEL SETTING.
4. ALL SETTINGS AND ADJUSTMENTS SHALL BE PER MANUFACTURES INSTALLATION DOCUMENTATION.

INSTALLATION

A. WIRING DEVICES AND WALL PLATES

1. SINGLE AND COMBINATION TYPES TO MATCH CORRESPONDING WIRING DEVICES.

- a. SMOOTH HIGH-IMPACT THERMOPLASTIC MATERIAL FOR FINISHED SPACES;
b. GALVANIZED STEEL MATERIAL FOR UNFINISHED SPACES;
c. VOICE/DATA JACKS SHALL UTILIZE THE SAME TYPE OF PLATE USED FOR RECEPTACLES
d. DEVICES PLATES SHALL BE BY THE SAME MANUFACTURER AS THE WIRING DEVICE.
e. DEVICE/PLATE COLOR SELECTED BY ARCHITECT.

B. RECEPTACLE ORIENTATION:

1. INSTALL GROUND PIN OF VERTICALLY MOUNTED RECEPTACLES UP AND ON HORIZONTALLY MOUNTED RECEPTACLES TO THE RIGHT.

- C. DO NOT USE OVERSIZED OR EXTRA-DEEP PLATES. REPAIR WALL FINISHES AND REMOVE OUTLET BOXES WHEN STANDARD DEVICE PLATES DO NOT FIT FLUSH OR DO NOT COVER ROUGH WALL OPENING.

- D. ARRANGEMENT OF DEVICES: UNLESS OTHERWISE INDICATED, MOUNT FLUSH WITH LONG DIMENSION VERTICAL GROUP. ADJACENT SWITCHES UNDER A SINGLE, MULTI-GANG WALL PLATE.

2.8 WIRING DEVICE PLATES

- A. PROVIDE TYPE AND COLOR AS DIRECTED BY ARCHITECT.
- B. VOICE/DATA OUTLET PLATES SHALL BE SAME AS USED FOR RECEPTACLES.
- C. DEVICE PLATES SHALL BE BY MANUFACTURER OF WIRING DEVICES.
- D. OUTLETS SHALL BE FLUSH TO SURFACE.

2.9 LUMINAIRES

- A. PROVIDE LUMINAIRES, EQUIPMENT, AND COMPONENTS WHERE SHOWN ON DRAWINGS, AS LISTED IN LUMINAIRE SCHEDULE, AND AS SPECIFIED, WIRED AND ASSEMBLED. PROVIDE APPROVED ALIGNERS, CANOPIES, HANGERS AND OTHER APPURTENANCES AS REQUIRED FOR A COMPLETE SYSTEM PER MANUFACTURER'S INSTRUCTIONS AND CHICAGO ELECTRICAL CODE REQUIREMENTS.
- B. REFER TO LUMINAIRE SCHEDULE FOR SPECIFIC LAMP AND BALLAST TYPE AND MANUFACTURER REQUIREMENTS.
- C. PROVIDE POLYESTER COVERS TO PROTECT FLUORESCENT LUMINAIRES WITH LOUVERS, BASKETS, OR LENSES DURING CONSTRUCTION.

2.10 FUSIBLE SWITCHES

A. MANUFACTURERS

1. CUTLER HAMMER
2. GENERAL ELECTRIC

B. QUICK-MAKE/QUICK-BREAK FUSIBLE SWITCHES

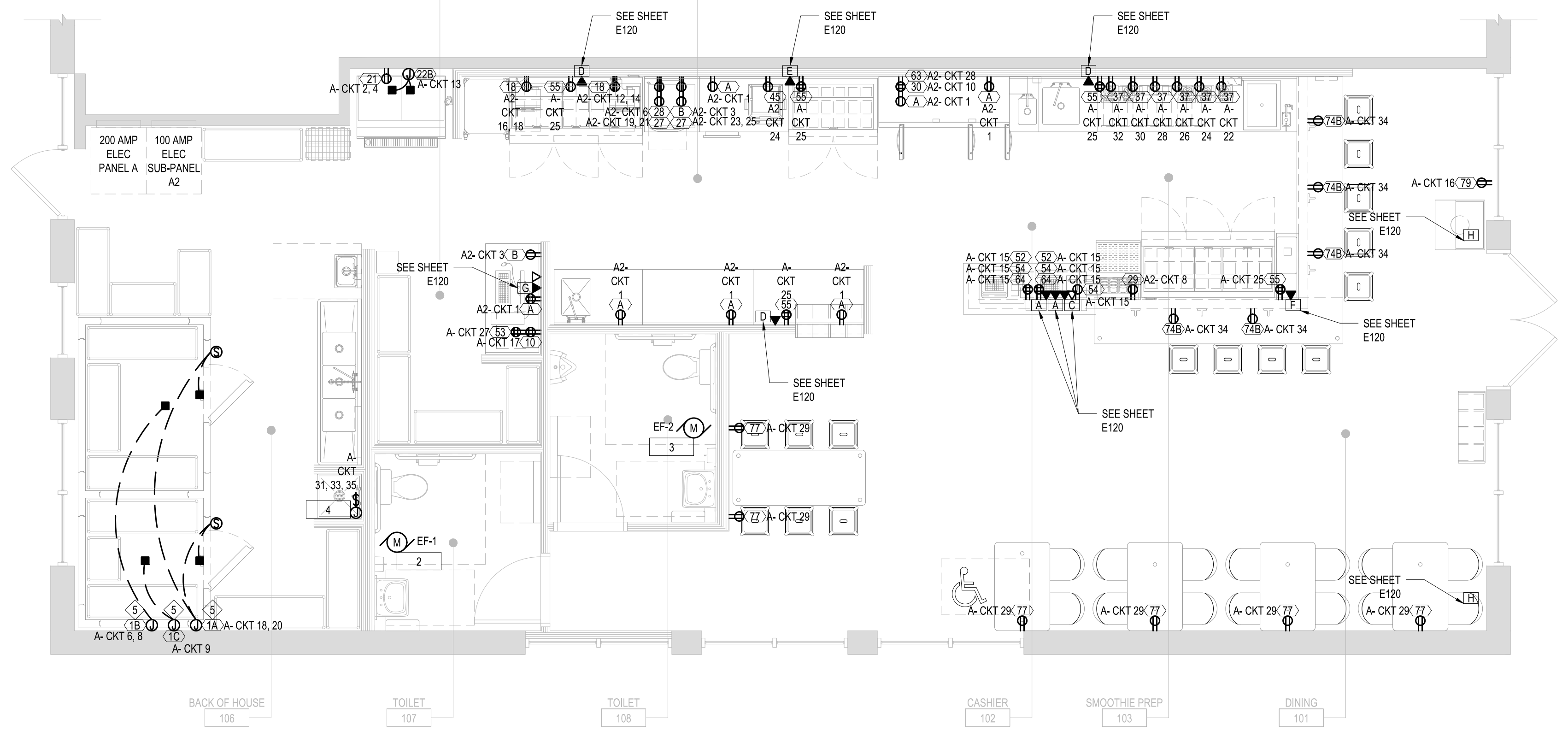
1. PROTECTIVE DEVICES SHALL BE QUICK-MAKE/QUICK-BREAK FUSIBLE SWITCHES AS MANUFACTURED BY CUTLER HAMMER TYPE FDP. FUSIBLE SWITCHES 30 AMPERES THROUGH 800 AMPERES FRAMES SHALL BE FURNISHED WITH REJECTION CLASS "RM" OR "1" TYPE FUSE CLIPS UNLESS OTHERWISE SCHEDULED. FUSIBLE SWITCHES 800 AMPERES THROUGH 1200 AMPERES SHALL BE FURNISHED WITH CLASS "L" FUSE CLIPS. SWITCHES SHALL INCORPORATE SAFETY COVER INTERLOCKS TO PREVENT OPENING THE COVER WITH THE SWITCH IN THE "ON" POSITION OR PREVENT PLACING THE SWITCH IN THE "ON" POSITION WITH THE COVER OPEN. PROVIDE DEFEATER FOR AUTHORIZED PERSONNEL. HANDLES SHALL HAVE PROVISIONS FOR PADLOCKING AND SHALL CLEARLY INDICATE THE "ON" OR "OFF" POSITION. FRONT COVER DOORS SHALL BE PADLOCKABLE IN THE CLOSED POSITION.

E. PROVIDE THREADED MALLEABLE IRON OR STEEL CONNECTORS AND COUPLINGS WITH INSULATED THROATS. MANUFACTURED ELBOWS, LOCKNUTS, AND PLAST

ELECTRICAL GENERAL NOTES

- ALL ELECTRICAL ROUGH-INS AND CONNECTIONS SHOWN ON THESE PLANS ARE FOR FOOD SERVICE FIXTURES AND EQUIPMENT PROVIDED BY THE EQUIPMENT VENDOR OR BY OUTSIDE PARTIES LISTED AS VENDORS OR BY OTHERS. ALL INFORMATION PROVIDED ON THESE PLANS ARE TO BE VERIFIED BY THE ELECTRICAL CONTRACTOR THRU THE SPECIFICATIONS MANUAL PROVIDED BY THE EQUIPMENT VENDOR OR BY CONSULTING THE APPROPRIATE OUTSIDE PARTIES.
- ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR SUPPLYING / INSTALLING ALL ELECTRICAL COMPONENTS NECESSARY TO PROVIDE POWER TO EQUIPMENT. ELECTRICAL CONTRACTOR SHALL ALSO COMPLETE ALL INTERNAL WIRING AND FINAL CONNECTIONS TO EQUIPMENT PER MANUFACTURERS SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO:
 - PROVIDING CAPS AND CORDS TO APPLICABLE EQUIPMENT
 - STAINLESS STEEL COVER PLATES WHERE REQUIRED
 - MAIN BREAKER PANELS, CONTROL PANELS, DISCONNECT SWITCHES, STARTERS, ETC.
- ALL ELECTRICAL CONDUIT IS TO BE RUN WITHIN WALL CAVITY AND BOXES AND RECEPTACLES ARE TO BE MOUNTED FLUSH WITH THE WALL SURFACE. SURFACE MOUNTED ELECTRICAL WORK IS NOT TO BE USED UNLESS OTHERWISE SPECIFIED.
- ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ENSURING PROPER WORKING CONDITION AND MEETING CURRENT LOCAL CODE REQUIREMENTS FOR ANY / ALL EQUIPMENT LISTED ON THESE PLANS AS 'EXISTING'.
- ALL ELECTRICAL WORK IS TO BE PERFORMED IN FULL ACCORDANCE WITH ALL LOCAL AND FEDERAL CODES AND REQUIREMENTS.
- ALL DIMENSIONS ARE TAKEN FROM FINISHED FLOORS AND FINISHED WALLS OR AS NOTED ON PLAN AND ARE TO CENTERLINE OF ROUGH-INS.
- REFER TO ARCHITECTURAL PLANS AND / OR CONSTRUCTION DOCUMENTS FOR ANY ADDITIONAL ELECTRICAL CONNECTIONS OR OUTLETS REQUIRED TO MEET LOCAL CODES.
- ELECTRICAL CONTRACTOR TO MAKE SINGLE POINT HARNESS CONNECTION FROM CONDENSING UNIT TO EVAPORATOR AS WELL AS CONNECTING EVAP. PAN
- RECOMMEND CONDENSING UNIT TO BE KEPT AT TEMPERATURE OF 90 DEGREES OR LESS.
- EXACT LOCATION OF MECHANICAL, PLUMBING, KITCHEN, FURNITURE SYSTEMS, OWNER FURNISHED EQUIPMENT, ETC. THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THE MECHANICAL, PLUMBING, AND/OR ARCHITECTURAL DRAWINGS. COORDINATE EXACT LOCATIONS WITH RESPECTIVE CONTRACTORS AND/OR VENDORS PRIOR TO ANY ROUGH-INS.
- AND COORDINATE WITH ALL TRADES' CONTRACT DOCUMENTS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR EQUIPMENT WITH ELECTRICAL CONNECTIONS. COORDINATE EXACT MOUNTING LOCATIONS WITH THE SPECIFIC TRADE AND ARCHITECT.
- CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE 12-AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 100 LINEAR FEET, A MINIMUM WIRE SIZE OF 10-AWG SHALL BE PROVIDED FROM FIRST JUNCTION/OUTLET BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF 8-AWG SHALL BE PROVIDED FROM FIRST JUNCTION/OUTLET BOX TO BRANCH CIRCUIT PANELBOARD.
- ALL WIRING SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGH, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
- A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
- WHERE ROUTED IN PLENUM SPACE OR INACCESSIBLE AREAS, ALL LOW VOLTAGE CABLING SHALL BE INSTALLED IN A METALLIC CONDUIT RACEWAY SYSTEM IN ACCORDANCE WITH CHICAGO ELECTRICAL CODE.

* ALL DEDICATED CIRCUITS TO HAVE ORANGE RECEPTACLES
 BOH POS SYSTEM TO HAVE ITS OWN DEDICATED CIRCUIT
 POS TERMINALS, PRINTERS AND KDS MONITORS MAY SHARE ONE DEDICATED CIRCUIT



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

MECHANICAL EQUIPMENT CONNECTION SCHEDULE										
#	DESCRIPTION	VOLTAGE / PHASE	AMPS	KW	CONNECTION TYPE	PANEL	CIRCUIT	BREAKER SIZE	WIRE & CONDUIT SIZE	NOTES
2	EF-1	120/1	0.3	0.036	JUNCTION BOX	A	1	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2
3	EF-2	120/1	0.3	0.036	JUNCTION BOX	A	1	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2
4	WH-1	208/3	30.6	11.024	60A-3P N.F.D.S.	A	31,33,35	40/3	3-8 AWG & 1-10 AWG G. 3/4" C.	1

LEGEND: N.F.D.S. - NON-FUSED DISCONNECT, F.D.S. - FUSED DISCONNECT

NOTES:
 1. THE ELECTRICAL CONTRACTOR SHALL COORDINATE AND CONFIRM ALL ELECTRICAL SPECIFICATIONS, CONNECTIONS, ROUGH-IN REQUIREMENTS, MOUNTING HEIGHTS, CORD TYPES/LENGTHS, ETC. WITH THE MECHANICAL CONTRACTOR (M.C.) PRIOR TO PLACING PURCHASE ORDER FOR ANY DEVICES, DISTRIBUTION EQUIPMENT AND ROUGH-IN. FIXTURE AND EQUIPMENT LOCATIONS SHOWN ARE SCHEMATIC IN NATURE. COORDINATE FINAL CONFIGURATION WITH M.C.
 2. UNIT POWERED AND CONTROLLED VIA RESTROOM OCCUPANCY WALL SWITCH.

EXISTING BUILDING FIRE ALARM SYSTEM NOTES

- PRIOR TO BID SUBMITTAL, THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE WITH BUILDING MANAGEMENT AND THE BUILDING APPROVED FIRE ALARM SYSTEM VENDOR TO VERIFY THE EXISTING SYSTEM, OPERATIONS, COMPONENTS, PANEL LOCATIONS, CABLING, AND ROUTING REQUIREMENTS, ETC.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH BUILDING MANAGEMENT AND THE FIRE ALARM SYSTEM VENDOR FOR ALL COMPONENTS AND/OR SYSTEM MODIFICATIONS AS REQUIRED TO ACCOMMODATE NEW FIRE ALARM DEVICE(S) AND CODE COMPLIANCE OPERATION.
 - FIRE ALARM DEVICE LOCATIONS ARE DIAGRAMMATIC ONLY. THE FIRE ALARM SYSTEM VENDOR SHALL BE RESPONSIBLE TO VERIFY ALL NEW AND EXISTING DEVICE SPECIFICATIONS AND CHARACTERISTICS, BASED ON THEIR SYSTEM DEVICE SPECIFICATIONS. PROVIDE FINAL LAYOUT DRAWINGS OF DEVICE LOCATIONS TO MEET ALL STATE AND LOCAL FIRE ALARM CODE REQUIREMENTS.
 - PROVIDE ALL NEW EQUIPMENT AND DEVICES AS REQUIRED FOR A COMPLETE AND CODE COMPLIANT SYSTEM. THE ELECTRICAL CONTRACTOR AND FIRE ALARM SYSTEM VENDOR SHALL BE RESPONSIBLE TO PROVIDE ALL SERVICES REQUIRED TO PROVIDE A "COMPLETE AND OPERATIONAL SYSTEM" PER ALL STATE AND LOCAL CODE REQUIREMENTS. THIS INCLUDES BUT IS NOT LIMITED TO: PRODUCING FIRE ALARM DRAWINGS AND SPECIFICATIONS FOR PERMITTING, SHOP DRAWINGS, AND CONSTRUCTION. INCLUDE ALL SIGNALING CIRCUIT LOADS, VOLTAGE DROPS, WIRING DIAGRAMS WIRE SIZE, BATTERY CALCULATIONS, ETC PER MUNICIPAL CODE OF THE CITY OF **Melrose Park, IL**.

KEY NOTES

#	ITEM DESCRIPTION
1	POWER JUNCTION BOX FOR DRIVE THRU MENU BOARD. PROVIDE 2#12 & 1 #12 G IN 1" UNDER GROUND PVC CONDUIT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER AND MENU BOARD VENDOR PRIOR TO ROUGH IN.
2	POWER JUNCTION BOX FOR DRIVE THRU MENU BOARD. PROVIDE 1" UNDER GROUND PVC CONDUIT WITH PULL STRING ROUTED TO INTERIOR. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER AND MENU BOARD VENDOR PRIOR TO ROUGH IN.
3	POWER JUNCTION BOX FOR PRE-SALE MENU BOARD. PROVIDE 2#12 & 1 #12 G IN 1" UNDER GROUND PVC CONDUIT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER AND MENU BOARD VENDOR PRIOR TO ROUGH IN.
4	LOW VOLTAGE JUNCTION BOX FOR DRIVE THRU SPEAKER CANOPY. PROVIDE 1" UNDER GROUND PVC CONDUIT WITH PULL STRING ROUTED TO INTERIOR. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER AND SPEAKER CANOPY VENDOR PRIOR TO ROUGH IN.
5	SEE DETAIL #7 ON SHEET E120 FOR MORE WIC / WIF INFORMATION.

FOOD SERVICE EQUIPMENT CONNECTION SCHEDULE										
#	DESCRIPTION	VOLTAGE / PHASE	AMPS	KW	CONNECTION TYPE	PANEL	CIRCUIT	BREAKER SIZE	WIRE & CONDUIT SIZE	NOTES
1C	WIC / WIF LTG & HEAT WIRE	120/1	10	1.200	JUNCTION BOX	A	12	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9,10
1A	WALK IN COOLER, SELF-CONTAINED	208/1	11.5	2.392	JUNCTION BOX	A	6,8	20/2	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9,10
1B	WALK IN FREEZER, SELF-CONTAINED	208/1	18.1	3.765	JUNCTION BOX	A	18,20	25/2	2-10 AWG & 1-10 AWG G. 3/4" C.	1,2,4,9,10
10	SURVEILLANCE SYSTEM	120/1	8	0.960	NEMA #5-15	A	17	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,5,9
18	ON CUE OVEN	208/1	22	4.576	NEMA #6-30	A2	12,14	30/2	2-10 AWG & 1-10 AWG G. 3/4" C.	1,2,5,9
18	ON CUE OVEN	208/1	22	4.576	NEMA #6-30	A2	16,18	30/2	2-10 AWG & 1-10 AWG G. 3/4" C.	1,2,4,9
11	ICE MAKER W/ BIN (FUTURE)	208/1	12.2	2.538	JUNCTION BOX	A	2,4	20/2	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
11	ICE MAKER W/ BIN (FUTURE)	208/1	12.2	2.538	JUNCTION BOX	A	19,21	20/2	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
11B	ICE MACHINE TREATMENT SYSTEM	120/1	1.2	0.144	NEMA #5-20	A	13	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
13	COMPUTER	120/1	1.2	0.144	NEMA #5-20	A2	1	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,3,8
31	MICROWAVE CONVECTION OVEN	208/1	11.5	2.392	NEMA #6-20	A2	19,21	20/2	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
31	MICROWAVE CONVECTION OVEN	208/1	11.5	2.392	NEMA #6-20	A2	23,25	20/2	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
34	REFRIGERATED PREP TABLE, 30 PAN	120/1	12	1.440	NEMA #5-15	A2	6	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
27	REFRIGERATED PREP TABLE, 30 PAN	120/1	12	1.440	NEMA #5-15	A2	8	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
19	REFRIGERATED PREP TABLE, 18 PAN	120/1	7.2	0.864	NEMA #5-15	A2	10	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
24	BLENDER, BAR TYPE	120/1	15	1.800	NEMA #5-15	A	22	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
24	BLENDER, BAR TYPE	120/1	15	1.800	NEMA #5-15	A	24	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
24	BLENDER, BAR TYPE	120/1	15	1.800	NEMA #5-15	A	26	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
24	BLENDER, BAR TYPE	120/1	15	1.800	NEMA #5-15	A	28	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
A	BLENDER, BAR TYPE	120/1	15	1.800	NEMA #5-15	A	30	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
A	BLENDER, BAR TYPE	120/1	15	1.800	NEMA #5-15	A	32	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
21	PANINI PRESS	120/1	15	1.800	NEMA #5-15	A2	24	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
52	POS TERMINAL	120/1	0.14	0.017	NEMA #5-15	A	15	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,6,9
52	POS TERMINAL	120/1	0.14	0.017	NEMA #5-15	A	15	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,6,9
52	POS TERMINAL	120/1	0.14	0.017	NEMA #5-15	A	15	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,6,9
53	POS SYSTEM - BACK OF HOUSE	120/1	3	0.360	NEMA #5-15	A	27	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,6,9
54	POS PRINTER	120/1	0.25	0.030	NEMA #5-15	A	15	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,6,9
54	POS PRINTER	120/1	0.25	0.030	NEMA #5-15	A	15	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,6,9
54	POS PRINTER	120/1	0.25	0.030	NEMA #5-15	A	15	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,6,9
54	POS PRINTER	120/1	0.25	0.030	NEMA #5-15	A	23	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,6,9
121	KDS MONITOR	120/1	0.5	0.060	NEMA #5-15	A	25	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,6,9
121	KDS MONITOR	120/1	0.5	0.060	NEMA #5-15	A	25	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,6,9
121	KDS MONITOR	120/1	0.5	0.060	NEMA #5-15	A	25	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,6,9
121	KDS MONITOR	120/1	0.5	0.060	NEMA #5-15	A	25	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,6,9
63	UNDERCOUNTER REFRIGERATOR (FUTURE)	120/1	4.5	0.540	NEMA #5-15	A2	28	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
64	EMV CARD READER	120/1	1	0.120	NEMA #5-15	A	15	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,6,9
64	EMV CARD READER	120/1	1	0.120	NEMA #5-15	A	15	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,6,9
64	EMV CARD READER	120/1	1	0.120	NEMA #5-15	A	23	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,6,9
74B	SIT-DOWN COUNTER USB REC x4	120/1	15	1.800	NEMA #5-15	A	34	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,3,8,9
77	BANQUET USB RECEPTACLE x6	120/1	15	1.800	NEMA #5-15	A	29	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,3,8,9
79	TROPICAL SMOOTHIE NEON SIGN	120/1	3	0.360	NEMA #5-15	A	16	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,4,9
80	EXTERIOR SIGNAGE	120/1	10	1.200	20A-1P N.F.D.S.	A	10	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,2,7
A	RECEPTACLES	120/1	7.5	0.900	NEMA #5-20	A2	11	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,3,8
B	RECEPTACLES	120/1	4.5	0.540	NEMA #5-20	A2	3	20/1	2-12 AWG & 1-12 AWG G. 3/4" C.	1,3,8

LEGEND: N.F.D.S. - NON-FUSED DISCONNECT, F.D.S. - FUSED DISCONNECT

NOTES:
 1. THE ELECTRICAL CONTRACTOR SHALL COORDINATE AND CONFIRM ALL ELECTRICAL SPECIFICATIONS, CONNECTIONS, ROUGH-IN REQUIREMENTS, MOUNTING HEIGHTS, CORD TYPES/LENGTHS, ETC. WITH THE FOOD SERVICE EQUIPMENT CONTRACTOR (F.S.E.C.) PRIOR TO PLACING PURCHASE ORDER FOR ANY DEVICES, DISTRIBUTION EQUIPMENT AND ROUGH-IN. FIXTURE AND EQUIPMENT LOCATIONS SHOWN ARE SCHEMATIC IN NATURE. COORDINATE FINAL CONFIGURATION & LOCATIONS WITH OWNER PRIOR TO BID SUBMISSION. ALL CABLING, CONDUIT, DISCONNECTS AND NEMA RECEPTABLES BY EC.
 2. FURNISHED BY OWNER.
 3. FURNISHED BY EC.
 4. EQUIPMENT INSTALLED BY EQUIPMENT VENDOR.
 5. EQUIPMENT INSTALLED BY GC.
 6. EQUIPMENT INSTALLED BY RETAIL TECHNOLOGY GROUP.
 7. EQUIPMENT INSTALLED BY SIGN COMPANY.
 8. EQUIPMENT INSTALLED BY EC.
 9. SEE ELECTRICAL ELEVATIONS ON SHEET E440 FOR MOUNTING HEIGHTS.
 10. FOR LIGHTING, ALARM CLOCKS, DOOR FRAME HEATERS, PORTS & SILLS. ELECTRICAL CONTRACTOR TO INSTALL & WIRE ALL LIGHT FIXTURES IN WALK-IN COOLER / FREEZER.

STORE ADDRESS

6231 McKee Rd, Suite A
 Fitchburg, WI 53719

STORE NUMBER

WI 021



REVISION

NO.	DESCRIPTION

DATE 02/02/2022

PROJECT 1674.010

FOR INTERNAL USE ONLY
 PROTOTYPE REVISION NUMBER 128

SHEET NAME
POWER PLAN

SHEET NUMBER

E110

STORE ADDRESS

6231 McKee Rd, Suite A
 Fitchburg, WI 53719

STORE NUMBER

WI 021

tropical CAFE
 SMOOTHIE
 eat better. feel better.

REVISION

DATE 02/02/2022

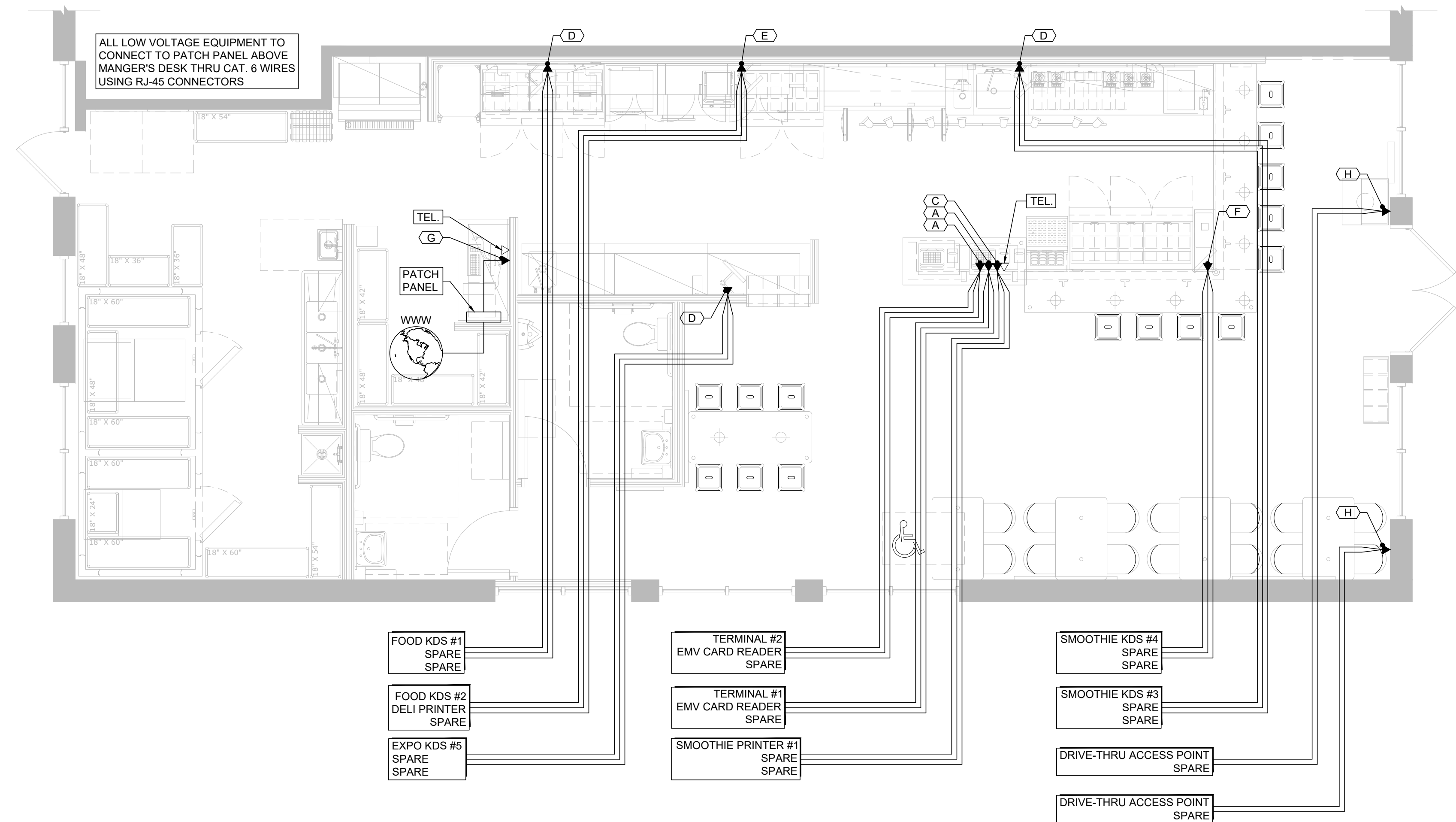
PROJECT 1674.010

FOR INTERNAL USE ONLY
 PROTOTYPE REVISION NUMBER 1/28

SHEET NAME
**LOW VOLTAGE
 WIRING PLAN**

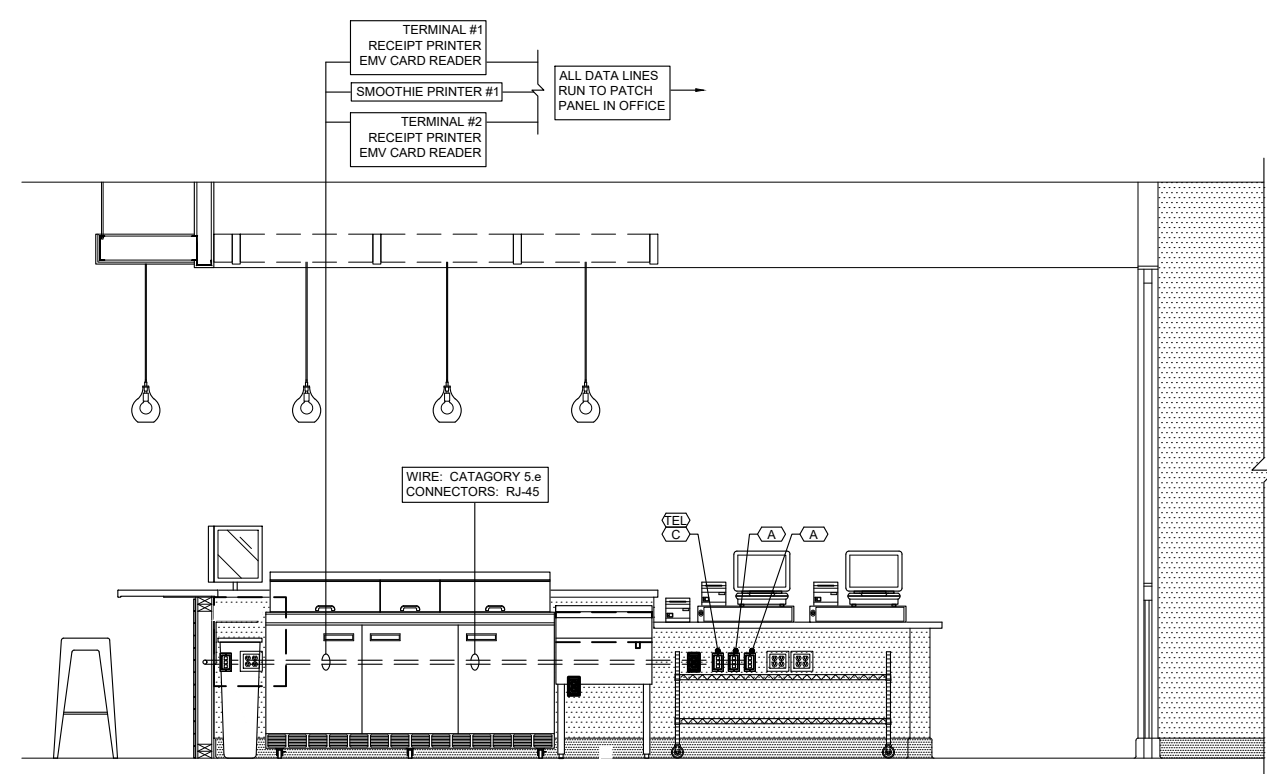
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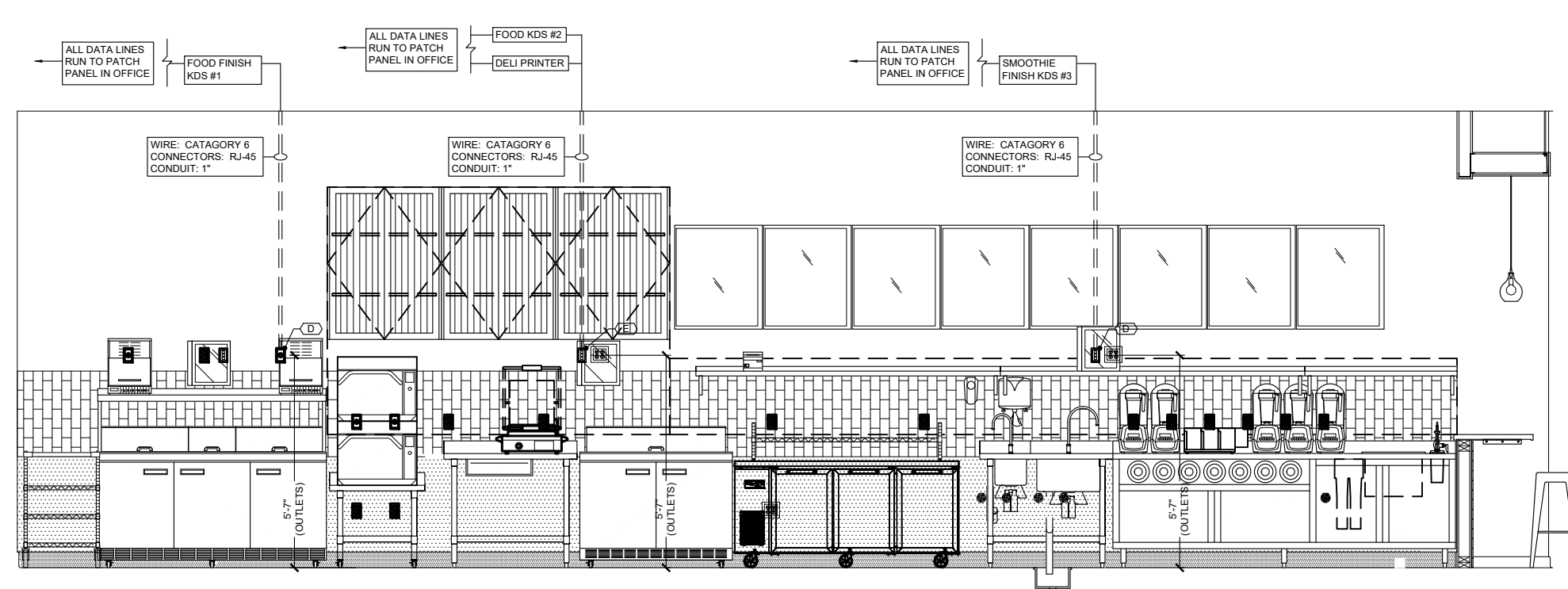


1 LOW VOLTAGE WIRING PLAN
 SCALE: 1/4" = 1'-0"

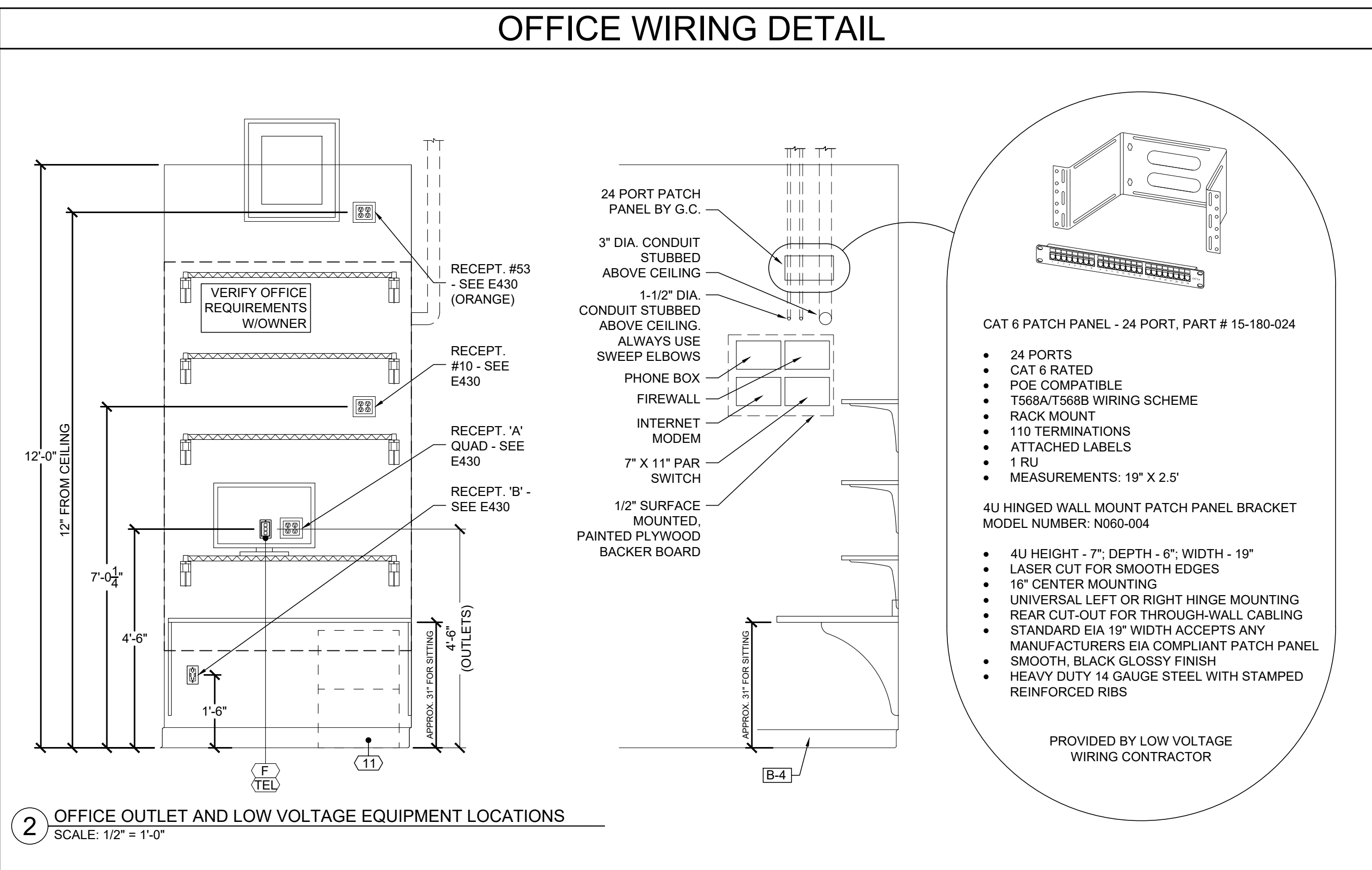
4 NOT USED
 SCALE: 1/4" = 1'-0"



3 FRONT LINE (BACK VIEW)
 SCALE: 1/4" = 1'-0"



5 KDS #1 / KDS #2 / KDS #3 / DELI PRINTER
 SCALE: 1/4" = 1'-0"



2 OFFICE OUTLET AND LOW VOLTAGE EQUIPMENT LOCATIONS
 SCALE: 1/2" = 1'-0"

OUTLET CONFIGURATION

POS OUTLET (A)	POS OUTLET (B)	SMOOTHIE (C)
POS TERMINAL EMV CARD READER	POS TERMINAL EMV CARD READER	SMOOTHIE PRINTER TELEPHONE LINE
KDS OUTLET (D)	KDS OUTLET (E)	KDS OUTLET (F)
KDS #1 KDS #3 DT-EXP	KDS #2 DELI PRINTER	KDS #4
OFFICE OUTLET (G)	ACCESS POINT (H)	
OFFICE PRINTER	ANTENNA INSTALLED ABOVE DROPPED CEILING	

DATA OUTLET LOCATION

NO.	QTY	ITEM DESCRIPTION	HGT
A	2	POS STATION OUTLET (CASHIER COUNTER)	24"
B	2	POS STATION OUTLET (DRIVE-THRU AREA)	46"
C	1	SMOOTHIE PRINTER OUTLET (CASHIER COUNTER)	24"
D	3	KDS OUTLET	67"
E	1	KDS / DELI PRINTER OUTLET (AT FINISH STATION)	67"
F	1	KDS OUTLET (SMOOTHIE MAKE STATION)	24"
G	1	OFFICE OUTLET (PRINTER)	46"
H	1	ACCESS POINT	CLNG

T-STAT LOCATIONS

NO.	ITEM DESCRIPTION
T-STAT PREFERRED LOCATIONS	
1	NEAR THE RESTROOM CORRIDOR
2	NEAR THE WATER HEATER / MOP SINK AREA

SPEAKER LOCATIONS

NO.	ITEM DESCRIPTION
MUZAK, MOOD MEDIA - PREFERRED VENDOR - 3 SPEAKERS	
1	NEAR THE SMOOTHIE BAR BETWEEN BAR AND FRONT WALL
2	NEAR THE COMMUNITY TABLE
3	NEAR THE BANQUETTE
SPEAKERS NOT LOCATED NEAR CEILING FANS & POS AREA	

VIDEO SURVEILLANCE LOC'S

NO.	ITEM DESCRIPTION
MIN. RECOMMENDED SURVEILLANCE (4 CAMERA SYSTEM)	
1	MANAGER'S STATION
2	POS AREA / SAFE
3	BACK DOOR
4	MAIN ENTRY
PREFERRED SURVEILLANCE (8 CAMERA SYSTEM)	
5	SMOOTHIE MAKE LINE
6	PREP AREA
7	DINING AREA
8	BACK OF HOUSE OR CAFE SPECIFIC UNMONITORED AREAS

GENERAL NOTES

- VERIFY ALL REQUIREMENTS WITH POS SUPPLIER
- OWNER TO COORDINATE WITH PAR FOR ALL KDS / PRINTER LOCATIONS
- ALL POS WIRING TO BE PROVIDED BY AND INSTALLED BY PAR
- G.C. TO CONTACT PAR 4 WEEKS PRIOR TO INSTALL
- G.C. RESPONSIBLE FOR CONDUITS WITH PULL STRING AND EMPTY ELECTRICAL BOXES TO ACCESSIBLE CEILING LOCATIONS
- ELEVATIONS ARE PROTOTYPICAL AND MAY NOT REFLECT ACTUAL DIMENSIONS OF NOTED CAFE. G.C. TO VERIFY ALL MEASUREMENTS AND ADJUST ACCORDINGLY.

POWER AND CABLING REQ'S

- | NO. | PATCH PANEL |
|-----|---|
| 1 | THE 24 PORT PATCH PANEL SHOULD BE MOUNTED ON THE WALL WITH EACH RJ45 TERMINATION LABELED TO THE CORRESPONDING LOCATION OF THE TERMINALS AND PRINTERS ON THE COUNTER AND PREP AREAS. |
| 2 | POWER SHOULD BE 1-QUAD OR 2-DUPLEX DEDICATED AND ISOLATED GROUND (ORANGE) AC PLUG(S). |
| 3 | THE INTERNET CONNECTION FOR CREDIT CARD PROCESSING SHOULD BE LOCATED CLOSE TO THE POS PC. THE INTERNET CONNECTION MUST BE A STATIC IP ADDRESS. (OFFICE AREA) |

COUNTER AREA

- AT EACH COUNTER POS TERMINAL LOCATION, CAT 6 CABLES MUST BE TERMINATED WITH RJ45 CONNECTORS WITH 2X2 JUNCTION BOX WITH MOUNTED FACE PLATE.
- DOUBLE RUN OF CAT 6 CABLE FOR EACH TERMINAL.
- AT EACH COUNTER POS TERMINAL, DEDICATED AND ISOLATED GROUND (ORANGE) DUPLEX AC PLUG FOR TERMINAL AND PRINTER.

PRINTERS AND KITCHEN DISPLAYS

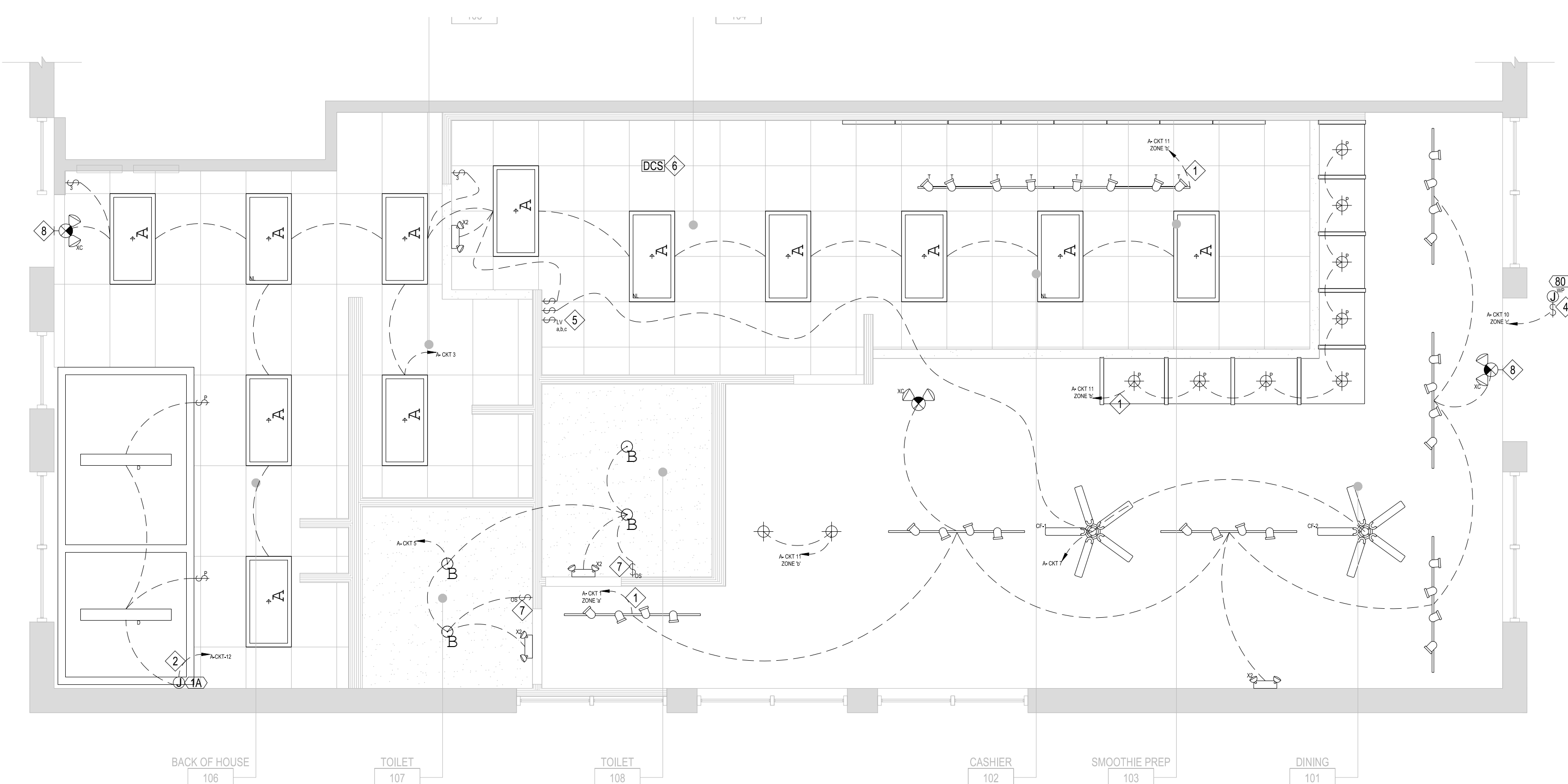
- AT EACH COUNTER POS TERMINAL LOCATION, CAT 6 CABLES MUST BE TERMINATED WITH RJ45 CONNECTORS WITH 2X2 JUNCTION BOX WITH MOUNTED FACE PLATE.
 - SINGLE RUN OF CAT 6 CABLE FOR EACH PRINTER AND KITCHEN DISPLAY.
- IMPORTANT - SINGLE POS TERMINAL LOCATIONS WITH 2 REMOTE PRINTERS MUST HAVE 2 CAT 6 CABLES RUNNING FROM EACH KITCHEN PRINTER TO THE PATCH PANEL IN THE OFFICE IN ORDER TO DRIVE BOTH PRINTERS.

STORE ADDRESS

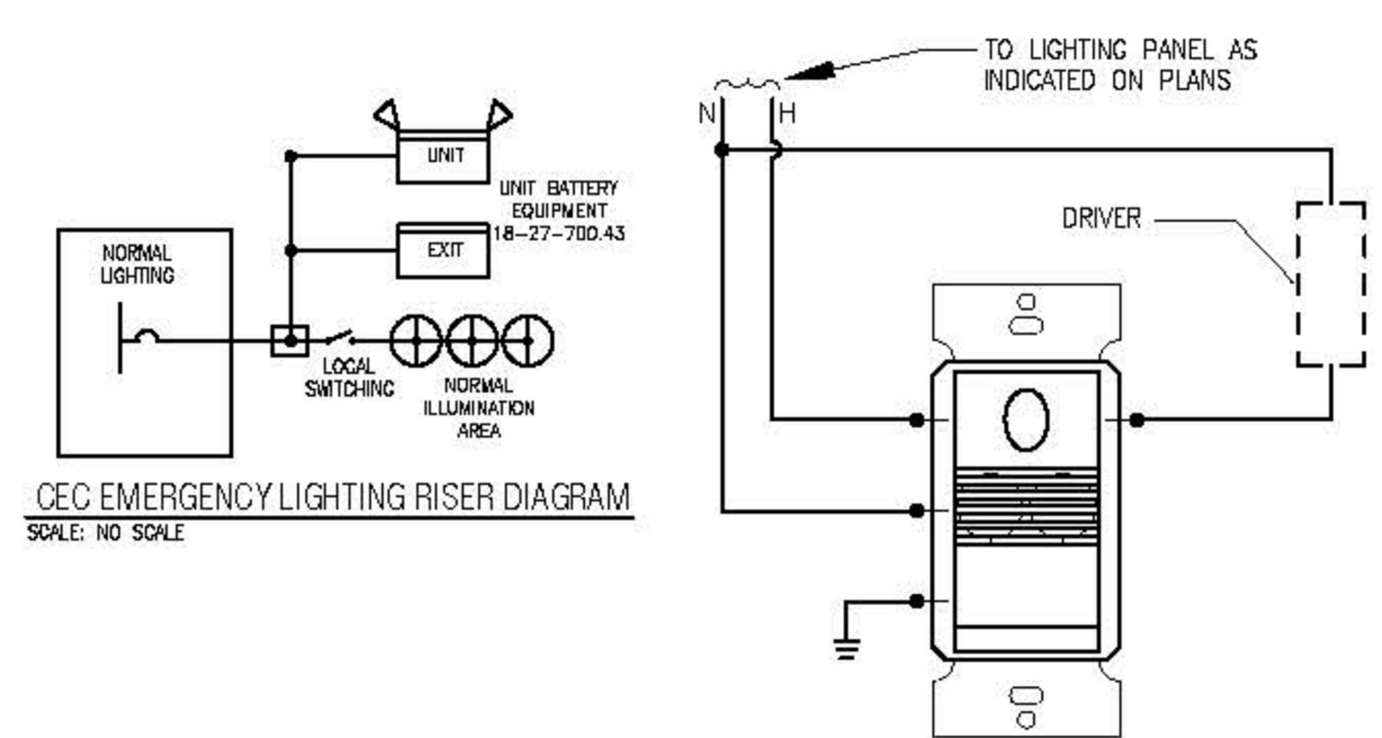
6231 McKee Rd, Suite A
 Fitchburg, WI 53719

STORE NUMBER

WI 021

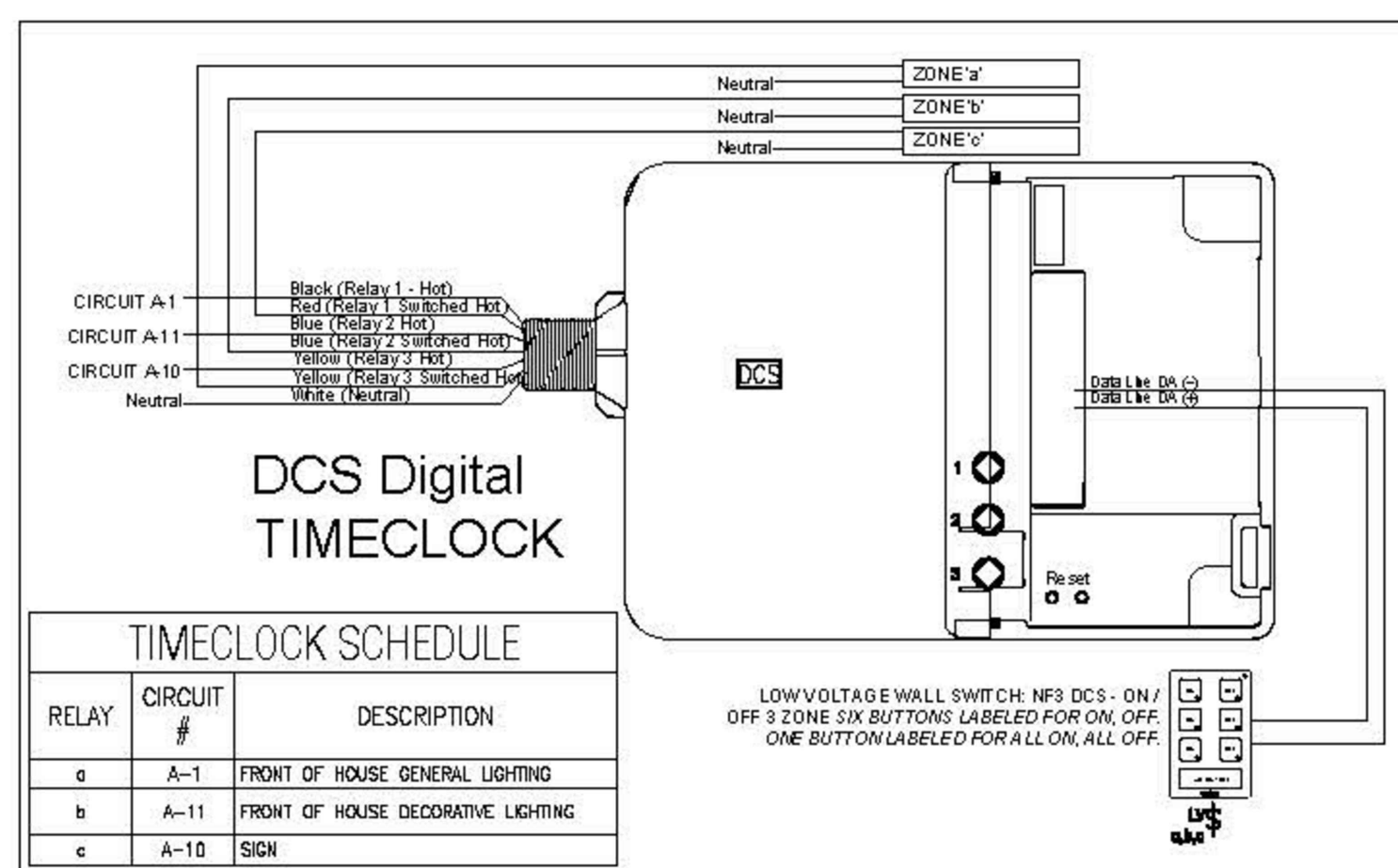


1 LIGHTING PLAN
 SCALE: 1/4" = 1'-0"



OCCUPANCY SENSOR SWITCH WIRING DIAGRAM
 SCALE: NOT TO SCALE
 NOTES:
 1. ALL LOW VOLTAGE WIRING AND TERMINATIONS TO BE BY ELECTRICAL CONTRACTOR.
 2. OCCUPANCY/VACANCY SENSOR SHALL BE "SENSOR SWITCH" WSY-PDT-SA-WH OR APPROVED EQUAL. ALL EXPOSED CONTROL WIRING SHALL BE IN CONDUIT.

LIGHT FIXTURE SCHEDULE										
SYMBOL	TYPE	CATALOG #	DESCRIPTION	MFG	VOLTAGE	LAMP	TEMP	CRI	WATTS	SUPPLIER
[Symbol]	A	20800844	2X4 LED FIXTURE	ELITE	120-277	LED	3,500	85	50	HERMITAGE LIGHTING
[Symbol]	AE	20800852	2X4 LED FIXTURE W/EM	ELITE	120-277	LED	3,500	85	50	HERMITAGE LIGHTING
[Symbol]	B	20801082	LED MODULE	ELITE	120	LED	3,500	90+	15	HERMITAGE LIGHTING
[Symbol]	B	20800761	RECESSED NEW HOUSING	ELITE	120	LED	N/A	N/A	N/A	HERMITAGE LIGHTING
[Symbol]	B	20800977	REMODEL HOUSING	ELITE	120	N/A	N/A	N/A	N/A	HERMITAGE LIGHTING
[Symbol]	CF-1,2,3	50069353	CEILING FAN	KICHLER	120	N/A	N/A	N/A	59-34-11	HERMITAGE LIGHTING
[Symbol]	CF-1	518730	FAN SPEED CONTROLLER	LUTRON	120	N/A	N/A	N/A	N/A	HERMITAGE LIGHTING
[Symbol]	CF-1	522608	CANOPY MODULE	LUTRON	120	N/A	N/A	N/A	N/A	HERMITAGE LIGHTING
[Symbol]	D	72002753	LED STRIP	CREE	120-277	LED	3,500	90+	44	HERMITAGE LIGHTING
[Symbol]	P	86703397	BLUE SEEDED GLASS PENDANT	HL IMPORTS	120	GU-24	N/A	N/A	N/A	HERMITAGE LIGHTING
[Symbol]	P	43907403	LAMP	SATCO	120	LED	3,500	80	9.8	HERMITAGE LIGHTING
[Symbol]	S	6619813	BRONZE WALL SCONCE	KICHLER	120	GU-24	N/A	N/A	N/A	HERMITAGE LIGHTING
[Symbol]	S	43907403	LAMP	JUNO	120	LED	3,500	80	9.8	HERMITAGE LIGHTING
[Symbol]	T	18644197	TRACKHEAD	JUNO	120	LED	3,500	80	9.5	HERMITAGE LIGHTING
[Symbol]	T	18622804	4" TRACK	JUNO	120	N/A	N/A	N/A	N/A	HERMITAGE LIGHTING
[Symbol]	T	18622846	8" TRACK	JUNO	120	N/A	N/A	N/A	N/A	HERMITAGE LIGHTING
[Symbol]	T	18622888	STRAIGHT CONNECTOR	JUNO	120	N/A	N/A	N/A	N/A	HERMITAGE LIGHTING
[Symbol]	T	18642000	CURRENT LIMITER END FEED	JUNO	120	N/A	N/A	N/A	N/A	HERMITAGE LIGHTING
[Symbol]	T	18641995	CURRENT LIMITER END FEED	JUNO	120	N/A	N/A	N/A	N/A	HERMITAGE LIGHTING
[Symbol]	U	65312896	UP/DOWN CYLINDER	HILITE	120	E-26	N/A	N/A	N/A	HERMITAGE LIGHTING
[Symbol]	U	43906356	UP/DOWN CYLINDER LAMP (2)	SATCO	120	LED	4,000	80	11	HERMITAGE LIGHTING
[Symbol]	XC	TBD	CHICAGO APPROVED EXIT EMERGENCY COMBO	EXITRONIX	120-277	LED	N/A	N/A	3.8	HERMITAGE LIGHTING
[Symbol]	X2	TBD	CHICAGO APPROVED MULTIVOLT EGRESS HEAD	EXITRONIX	120-277	LED	N/A	N/A	3.4	HERMITAGE LIGHTING



DCS Digital TIMECLOCK
 TIMECLOCK SCHEDULE
 RELAY # CIRCUIT # DESCRIPTION
 a A-1 FRONT OF HOUSE GENERAL LIGHTING
 b A-11 FRONT OF HOUSE DECORATIVE LIGHTING
 c A-10 SIGN
 NOTES:
 1. HEADEND SHALL CONTAIN ASTRONOMICAL TIME CLOCK.
 2. PROVIDE LIGHTING ZONES AS SHOWN. REFER TO DRAWINGS FOR BRANCH CIRCUITS WIRED VIA ROOM CONTROLLER/TIMECLOCK.
 3. PROGRAM LIGHTING SCHEDULE AND HOURS OF OPERATION WITH OWNER.
 4. PROVIDE TWO (2) HOUR TRAINING ON PROGRAMMING OF SYSTEM AND SYSTEM OPERATION.
 5. PROVIDE LOW-VOLTAGE OVERRIDE TIMER SWITCH CONTROL AS INDICATED ON DRAWINGS. STEINEL #NF3-DCS. LOW-VOLTAGE OVERRIDE SWITCH CONTROLS SHALL INITIATE AN OVERRIDE OF A MAXIMUM TIME OF NO MORE THAN TWO (2) HOURS.
 6. LIGHTING SYSTEMS SHALL BE TESTED TO ENSURE PROPER CALIBRATION, ADJUSTMENT, PROGRAMMING, AND OPERATION PER IECQ 2015 C408.3. SEE ELECTRICAL SPECIFICATION SECTION 3.6 LIGHTING CONTROLS - SYSTEM FUNCTIONAL PERFORMANCE TESTING ON SHEET E003 FOR MORE INFORMATION.
 7. SYSTEM SHOWN IS BASIS OF DESIGN BY STEINEL. PROVIDE POWER PACKS AS REQUIRED TO ACCOMMODATE ZONES AND LOAD TYPES SHOWN ON PLAN AND IN LUMINAIRE SCHEDULE. ALTERNATE SYSTEM(S) MAY BE SUBMITTED FOR REVIEW AND APPROVAL BY ARCHITECT AND ENGINEER PRIOR TO BID. ALTERNATE SYSTEM(S) SHALL BE PRICED AS ALTERNATE TO BASIS OF DESIGN SYSTEM AND LISTED AS SUCH IN SUBMITTED BID.

2 LIGHTING CONTROL DETAILS
 SCALE: NO SCALE

LIGHTING CONTROL ORDER OF OPERATIONS		LIGHTING CONTROL ORDER OF OPERATIONS:	
AREA TYPE:	CONTROL TYPE:	AREA TYPE:	CONTROL TYPE:
101 DINING	TIMECLOCK AND LOW VOLTAGE WALL SWITCH	101 DINING:	TIMECLOCK AND LOW VOLTAGE WALL SWITCH
102 CASHIER	LINE VOLTAGE WALL SWITCH	102 CASHIER:	LINE VOLTAGE WALL SWITCH
103 SMOOTHIE PREP	LINE VOLTAGE WALL SWITCH	103 SMOOTHIE PREP:	LINE VOLTAGE WALL SWITCH
105 OPEN OFFICE	THREE-WAY LINE VOLTAGE WALL SWITCH	104 FOOD PREP:	LINE VOLTAGE WALL SWITCH
106 BACK OF HOUSE	THREE-WAY LINE VOLTAGE WALL SWITCH	105 BACK OF HOUSE:	LINE VOLTAGE THREE WAY WALL SWITCH
107 TOILET	LINE VOLTAGE OCCUPANCY WALL SWITCH	106 TOILET:	LINE VOLTAGE WALL OCCUPANCY SENSOR SWITCH
108 TOILET	LINE VOLTAGE OCCUPANCY WALL SWITCH	107 TOILET:	LINE VOLTAGE WALL OCCUPANCY SENSOR SWITCH
EXTERIOR LIGHTING	POWERED AND CONTROLLED VIA LL	SIGN:	TIMECLOCK AND LOW VOLTAGE WALL SWITCH
		TRACK LIGHTING:	TIMECLOCK AND LOW VOLTAGE WALL SWITCH
		EXISTING EXTERIOR LITG:	POWERED AND CONTROLLED VIA LL

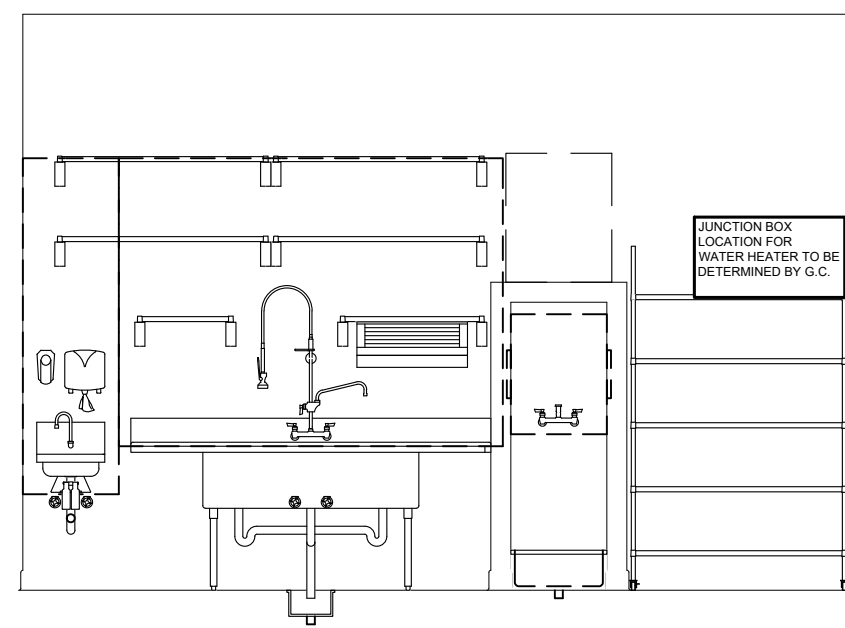
LIGHTING DEMOLITION NOTE
 1. REMOVE ALL EXISTING INTERIOR TEMPORARY LIGHTING AND CONTROLS UNDER LL SHELL.

KEY NOTES	
NO.	ITEM DESCRIPTION
1	CIRCUIT THROUGH TIMECLOCK. SEE TIMECLOCK SCHEDULE THIS SHEET.
2	COOLER / FREEZER LIGHTING AND CONTROL INTEGRAL TO UNIT. CIRCUIT HOMERUN THROUGH UNIT POWER FEED
3	EXTERIOR BUILDING MOUNTED LIGHTING IS EXISTING, POWERED AND CONTROLLED VIA LL. COORDINATE OPERATING HOURS WITH LL AND OWNER.
4	PROVIDE WEATHERPROOF JUNCTION BOX, AND 120V/1P REMOTE WEATHERABLE DISCONNECT FOR CONNECTION TO EXTERIOR SIGNS. COORDINATE LOCATIONS/MOUNTING PER ARCHITECTURAL PLANS. VERIFY LOCATIONS AND MOUNTING HEIGHTS PRIOR TO ROUGH-IN. WIRE THROUGH TIME CLOCK.
5	(3) ZONE LOW VOLTAGE LIGHT SWITCH. SEE LIGHTING CONTROL DIAGRAM SHEET XXXXX FOR MORE INFORMATION.
6	DIGITAL TIME CLOCK MOUNTED ABOVE CEILING IN ACCESSIBLE SPACE. SEE LIGHTING CONTROL DETAIL THIS SHEET FOR MORE INFORMATION.
7	LINE VOLTAGE OCCUPANCY WALL SWITCH. SEE OCCUPANCY SENSOR SWITCH WIRING DIAGRAM THIS SHEET FOR MORE INFORMATION.
8	EXTERIOR EGRESS DISCHARGE LIGHTING PROVIDED UNDER BASE BUILDING LIGHTING.

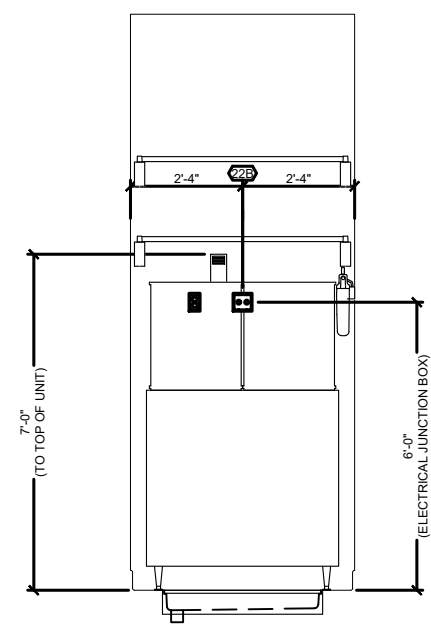
GENERAL NOTES
 1. ALL LIGHT SWITCHES & HVAC CONTROLS SHOULD BE PLACED IN BACK OF HOUSE AND NOT IN CUSTOMER SERVICE AREA.
 2. ALL EXIT SIGNS, EMERGENCY LIGHTING BATTERY PACKS, EMERGENCY LUMINAIRES (ON GENERATOR OR EMERGENCY LIGHTING BATTERY PACKS) INTEGRAL TO LUMINAIRE, AND NIGHT LIGHTS (DENOTED 'NL') SHALL BE CONNECTED TO THE LOCAL LIGHTING CIRCUIT AHEAD OF ANY CONTROLS SUCH AS SWITCHES (DEVICE), OCCUPANCY SENSORS AND/OR RELAY CONTROLS.
 3. EXACT LOCATION OF ALL LUMINAIRES, AND EXACT MOUNTING HEIGHT OF ALL PENDANT MOUNTED LUMINAIRES SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS PRIOR TO ANY ROUGH-INS.
 4. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE 12-AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 100 LINEAR FEET, A MINIMUM WIRE SIZE OF 10-AWG SHALL BE PROVIDED FROM FIRST JUNCTION/OUTLET BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF 8-AWG SHALL BE PROVIDED FROM FIRST JUNCTION/OUTLET BOX TO BRANCH CIRCUIT PANELBOARD.
 5. ALL WIRING SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
 6. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
 7. WHERE ROUTED IN PLENUM SPACE OR INACCESSIBLE AREAS, ALL LOW VOLTAGE CABLING SHALL BE INSTALLED IN A METALLIC CONDUIT RACEWAY SYSTEM IN ACCORDANCE WITH CHICAGO ELECTRICAL CODE.

REVISION	
NO.	DESCRIPTION

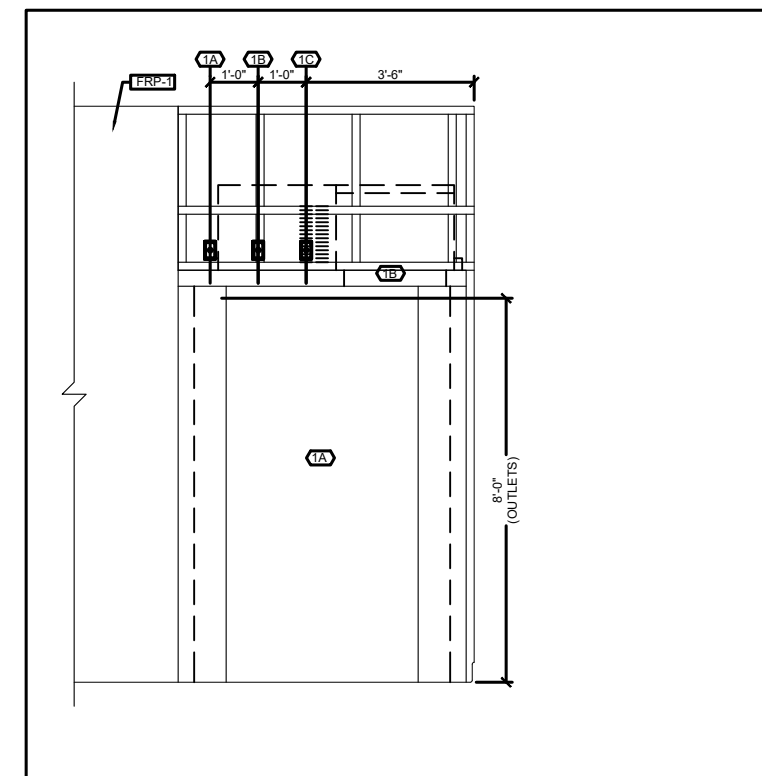
DATE: 02/02/2022
 PROJECT: 1674.010



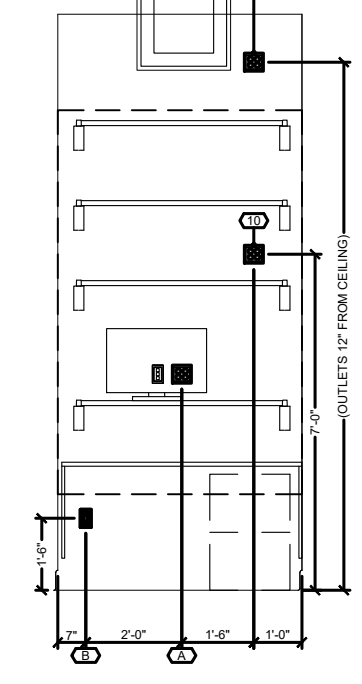
1 MOP SINK
SCALE: 1/4" = 1'-0"



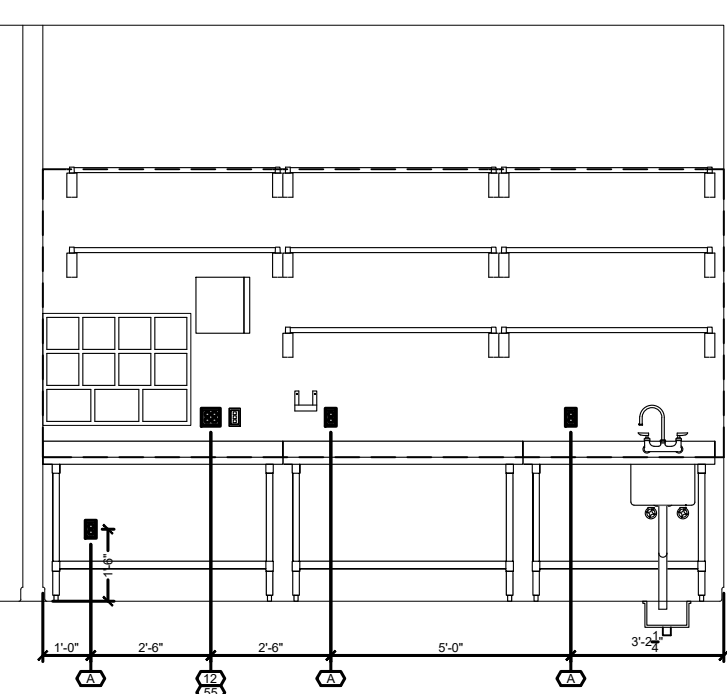
2 ICE MAKER (FRONT VIEW)
SCALE: 1/4" = 1'-0"



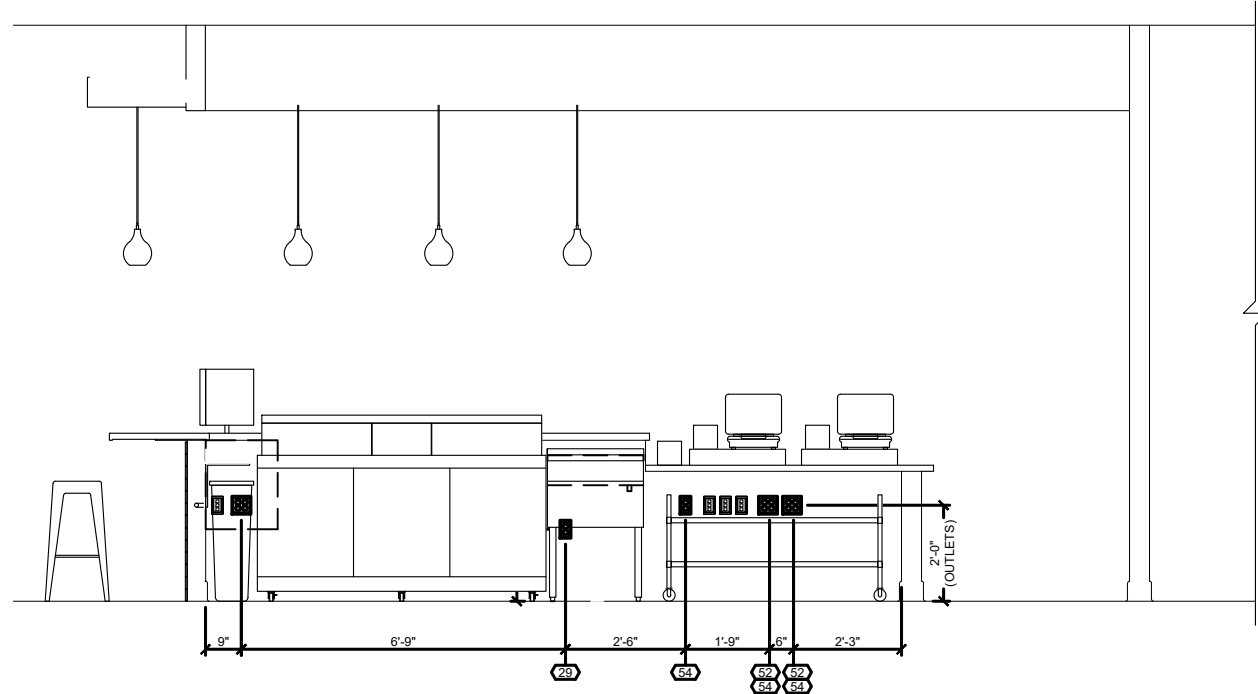
3 WALK-IN COOLER/FREEZER (SIDE VIEW)
SCALE: 1/4" = 1'-0"



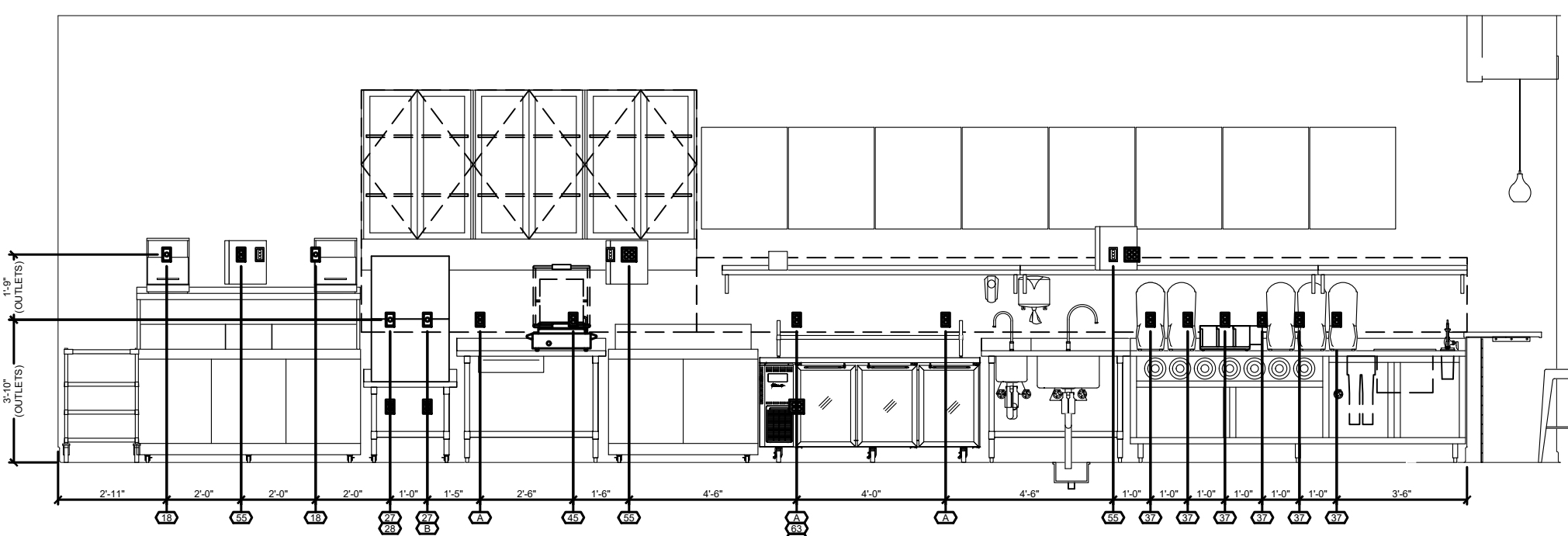
4 OFFICE
SCALE: 1/4" = 1'-0"



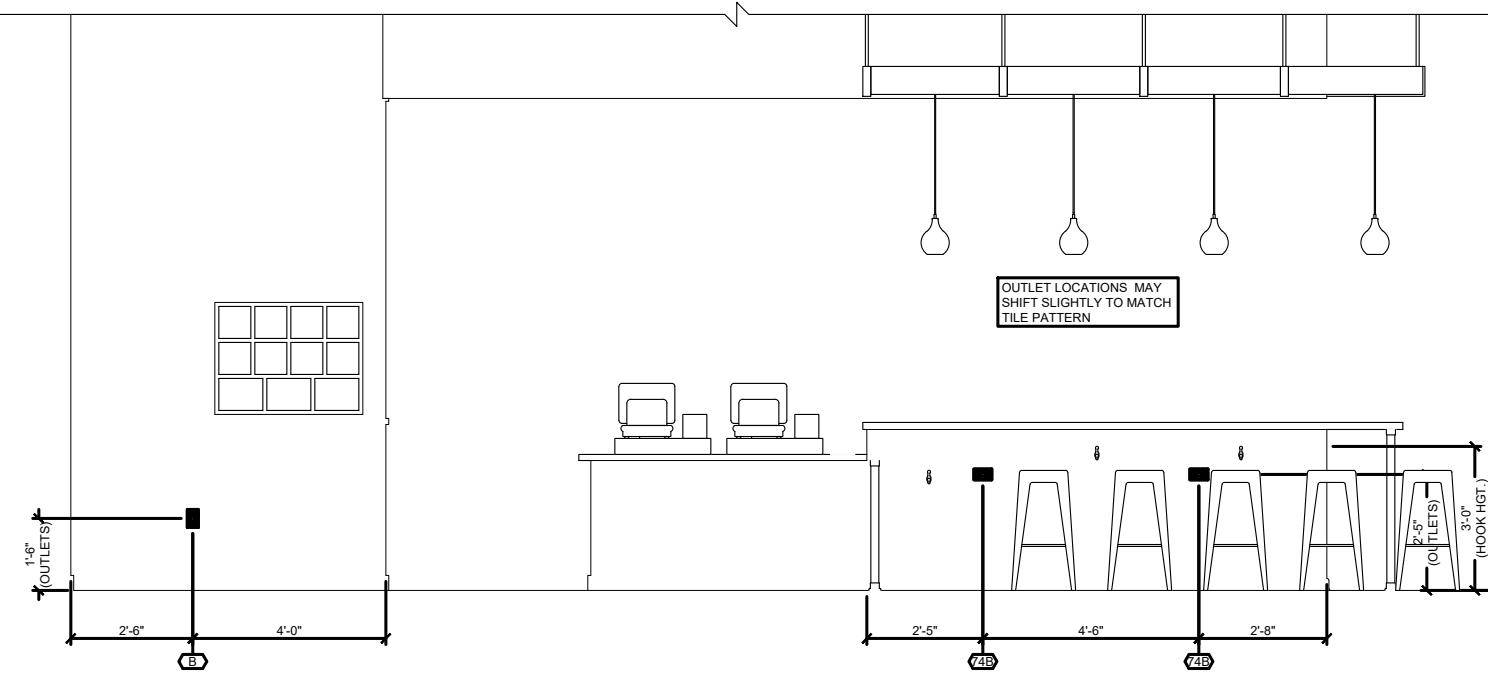
5 PREP TABLE(S)
SCALE: 1/4" = 1'-0"



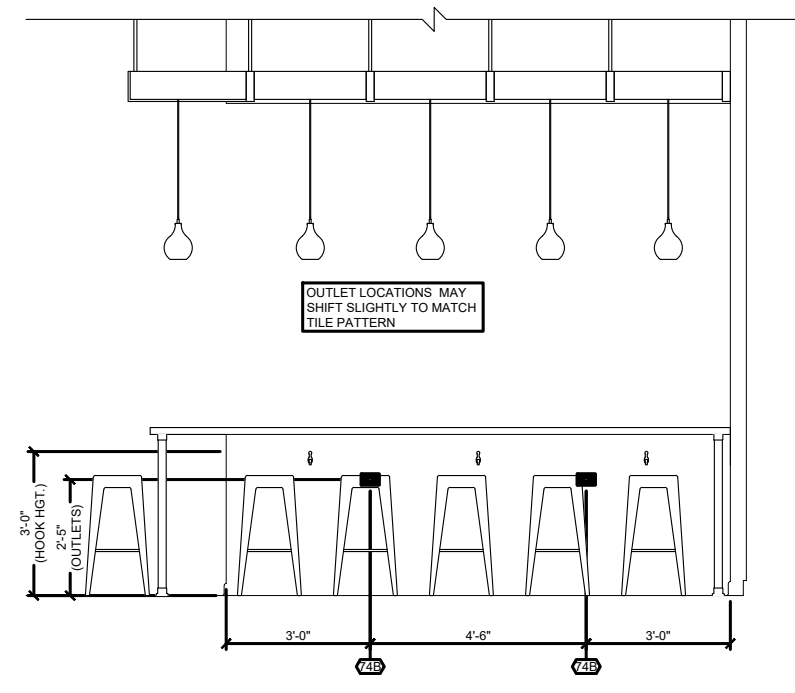
6 FRONT LINE (BACK VIEW)
SCALE: 1/4" = 1'-0"



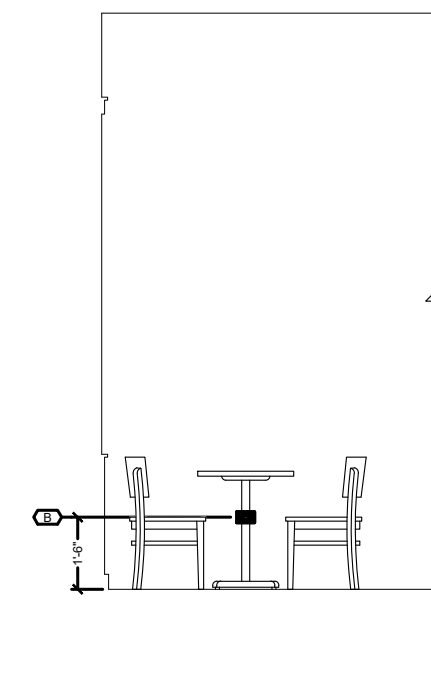
7 BACK LINE
SCALE: 1/4" = 1'-0"



8 FRONT LINE (FRONT VIEW)
SCALE: 1/4" = 1'-0"



9 SMOOTHIE DINING COUNTER
SCALE: 1/4" = 1'-0"



10 TYPICAL WOOD PLANK WAINSCOT WALL
SCALE: 1/4" = 1'-0"

NEW CIRCUIT BREAKER PANEL A SCHEDULE																		
NAME:		VOLTAGE:						BUSS:						INTERRUPTING RATING:				
A		208/120V-3PH-4W						200 AMP						10K AIC				
MOUNTING:		EXISTING UNDER SHELL						MOUNTING:						KWD:				
SURFACE								200/3						59.8				
NOTE	CKT	DESCRIPTION	LTG	REC	FSEQ	HVAC	MISC	C/B	PH	C/B	MISC	HVAC	FSEQ	REC	LTG	DESCRIPTION	CKT	NOTE
	1	FOH GENERAL LTG	0.17					20/1	A	20/2			1.25			ICE MAKER W/ BIN (21)	2	
	3	BOH LTG	0.55					20/1	B				1.25				4	
	5	RESTROOM LTG EF-1,2	0.03		0.07			20/1	C	20/2			1.20			WALK IN COOLER (18)	6	
	7	FANS	1.20					20/1	A				1.20				8	
	9	WALK IN FREEZER (1C)						20/1	B	15/1				1.20		SIGN (80)	10	
	11	DECORATIVE LTG	0.18					20/1	C	20/1						SPARE	12	
G	13	ICE TREATMENT (22B)			0.14			20/1	A	20/1				0.18		RTU RECEPTACLE	14	
	15	POS (54) x3 (52) x2 (64) x2			0.10			20/1	B	20/1				0.36		NEON WINDOW (79)	16	
	17	SURVEILLANCE SYSTEM (10)				0.77		15/1	C	25/2			1.85			WIC LTG AND HEAT STRIP (1A)	18	
	19	SPARE						20/1	A				1.85				20	
	21	SPARE						20/1	B	15/1			1.80			BLENDER (37)	22	
	23	SPARE			0.10			15/1	C	15/1			1.80			BLENDER (37)	24	
	25	KDS (55) x5			0.18			15/1	A	15/1			1.80			BLENDER (37)	26	
	27	POS BOH (53)			0.36			15/1	B	15/1			1.80			BLENDER (37)	28	
	29	BANQUET USB REC (77) x6			1.08			15/1	C	20/1			1.80			BLENDER (37)	30	
	31		3.36	1.08				40/3	A	20/1			1.80			BLENDER (37)	32	
	33	WATER HEATER, WH-1	3.36						B	15/1			0.72			SIT COUNTER USB REC (74B) x4	34	
	35		3.36						C	20/1						SPARE	36	
	37		1.20	1.26	10.09			100/3	A	50/3			4.80				38	
	39	SUB PNL 'A'		1.26	7.19				B				4.80			ROOFTOP UNIT, RTU-1	40	
	41			1.20	9.36				C				4.80				42	
TOTALS (KW)			14.61	2.52	29.68	0.07	0.77		PH		0.00	14.40	19.40	0.90	1.56	TOTALS (KW)		

LOAD SUMMARY			
LTG	REC	FSEQ	HVAC
16.17	1.25	8.20	
3.42	NEC	3.40	
49.08	0.65	33.60	
14.47	1.00	14.50	
0.77	1.00	0.08	
83.91		59.78	
213.6A		167.9A	

PANEL DATA	TOTAL	LTG	REC	FSEQ	HVAC	MISC
KW PHASE A:	31.56	5.93	1.44	19.39	4.80	0.00
KW PHASE B:	24.75	5.47	1.98	12.50	4.80	0.00
KW PHASE C:	27.6	4.77	0.00	17.19	4.87	0.77

NOTES: E - EXISTING BREAKER NEW LOAD, N - NEW CIRCUIT BREAKER, G - GFCI, S - SHUNT TRIP, SW - SWITCH RATED

NEW CIRCUIT BREAKER PANEL A2 SCHEDULE																		
NAME:		VOLTAGE:						BUSS:						INTERRUPTING RATING:				
A2		208/120V-3PH-4W						100 AMP						10K AIC				
MOUNTING:		EXISTING UNDER SHELL						MOUNTING:						KWD:				
SURFACE								MAIN LUG ONLY						22.9				
NOTE	CKT	DESCRIPTION	LTG	REC	FSEQ	HVAC	MISC	C/B	PH	C/B	MISC	HVAC	FSEQ	REC	LTG	DESCRIPTION	CKT	NOTE
	1	RECEPTACLES (A)	0.90					20/1	A	20/1			0.36			OUTLET WINDOW	2	
	3	RECEPTACLES (B)	0.54					20/1	B	20/1			0.36			OUTLET LOW WALL	4	
	5	SPARE						20/1	C	15/1			1.44			REFRIGERATED TABLE (28)	6	G
	7	SPARE						20/1	A	15/1			1.44			REFRIGERATED TABLE (29)	8	G
	9	BOH RECEPTACLES			0.36			20/1	B	15/1			0.86			REFRIGERATED TABLE (30)	10	G
	11	SPARE						20/1	C	20/2			1.55			ON-CUE OVER (18)	12	
	13	SPARE						20/1	A				1.55				14	
	15	SPARE						20/1	B	20/2			1.55			ON-CUE OVER (18)	16	
	17	SPARE						20/1	C				1.55				18	
	19				2.80			30/2	A	20/1						SPARE	20	
	21	MICROWAVE (27)			2.80				B	20/1						SPARE	22	
	23	MICROWAVE (27)			2.80			30/2	C	15/1			1.80			PANINI PRESS (45)	24	
	25				2.80				A	20/1						SPARE	26	
	27	SPARE						20/1	B	15/1			0.54			UNDERCOUNTER REFRIG. (63)	28	
	29	SPARE						20/1	C	20/1						SPARE	30	
TOTALS (KW)			0.00	1.80	11.20	0.00	0.00		PH		0.00	0.00	12.28	0.72	0.00	TOTALS (KW)		

LOAD SUMMARY			
LTG	REC	FSEQ	HVAC
0.00	1.25	3.00	
2.52	NEC	2.50	
23.48	0.55	17.30	
0.00	1.00	0.00	
0.00	1.00	0.00	
26.00		22.80	
87.7A		63.4A	

PANEL DATA	TOTAL	LTG	REC	FSEQ	HVAC	MISC
KW PHASE A:	9.85	0.00	1.26	8.59	0.00	0.00
KW PHASE B:	7.01	0.00	1.26	5.75	0.00	0.00
KW PHASE C:	9.14	0.00	0.00	9.14	0.00	0.00

NOTES: E - EXISTING BREAKER NEW LOAD, N - NEW CIRCUIT BREAKER, G - GFCI, S - SHUNT TRIP, SW - SWITCH RATED

GENERAL NOTES

- ELEVATIONS ARE PROTOTYPICAL AND MAY NOT REFLECT ACTUAL DIMENSIONS OF NOTED CAFE. G.C. TO VERIFY ALL MEASUREMENTS AND ADJUST ACCORDINGLY.
-

STORE ADDRESS

6231 McKee Rd, Suite A
Fitchburg, WI 53719

STORE NUMBER

WI 021



REVISION

NO.	DATE	DESCRIPTION

DATE 02/02/2022

PROJECT 1674.010

FOR INTERNAL USE ONLY
PROTOTYPE REVISION NUMBER 128

SHEET NAME
ELECTRICAL PANEL
SCHEDULES &
DETAILS

SHEET NUMBER

E430

GENERAL CONDITIONS

1. CONTRACTOR

a. The Contractor shall be lawfully licensed. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract.

b. The Contractor shall perform the Work in accordance with the Contract Documents.

c. Execution of the Contract by the Contractor is a representation that the Contractor has carefully examined the Contract Documents, has visited the site, become thoroughly familiar with the nature and location of the Work, the conditions of the site as they exist, and the character of the operations to be carried out under the Contract Documents, including all existing site conditions, access to the site, physical characteristics of the site and surrounding areas, and all matters that affect the Work, or its performance. Because of such examinations and investigations, the Contractor further represents that he thoroughly understands the Contract Documents. The Contractor further represents that he will abide by all applicable codes, ordinances, laws, regulations, and rules as they apply to the Work. Claims for additional time or additional compensation because of the Contractor's failure to familiarize himself with all local conditions and the Contract Documents will not be permitted.

d. Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner, shall take field measuring kits of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Owner any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

e. The accuracy of grades, elevations, dimensions, or locations of existing conditions is not guaranteed by the Architect or the Owner. The Contractor is responsible for verifying same. If the Contractor performs construction activity when the Contractor knows, or should know in exercise of reasonable diligence, that an existing condition is an error, inconsistency, or omission in the Contract Documents, the Contractor shall assume appropriate responsibility for such performance and shall bear an appropriate amount of the costs attributable for correction.

f. The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Owner any nonconformity discovered by or made known to the Contractor.

g. The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.

h. The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work, for or on behalf of, the Contractor or any of the Subcontractors, and for any damages, losses, costs, and expenses resulting from such acts or omissions.

i. Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether permanent or temporary and whether or not incorporated or to be incorporated in the Work.

j. Except in the case of minor changes in the Work, the Contractor may make substitutions only with the consent of the Owner, after evaluation and in accordance with a Change Order or Construction Change Directive.

k. The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit the employment of unfit persons or persons not properly skilled in tasks assigned to them.

l. The Contractor warrants to the Owner that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents, shall be free from defects, except for those inherent in the quality of the Work. The Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements will be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. The Contractor shall assign to the Owner all warranties and guarantees of manufacturers, Subcontractors, and others related to the Work.

m. The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. The Contractor shall cooperate with the Owner to pay the state taxes on the Project, as requested by the Owner, the Contractor shall assist the Owner in the preparation of purchase orders, processing of invoices and payments in order to direct purchase material to be furnished to the Contractor. All state tax savings shall be returned to the Owner.

n. The Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded. The Contractor shall secure and pay for the building, mechanical, electrical and plumbing permits, engineering, and inspection charges required by any governmental authority or other person or entity having jurisdiction over the work. Said permits shall include, without limitation, both temporary and permanent permits, building permits, certificates of occupancy, curb-breaking permits, highway entrance permits, water permits and all similar permits and certificates. The Owner shall be responsible for all capacity charges and impact fees.

o. The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work. If the Contractor fails to give such notices, it shall be liable for and shall indemnify and hold harmless the Owner and their respective employees, officers and agents, against any resulting fines, penalties, judgments or damages, imposed on or incurred by the parties indemnified hereunder.

p. If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs, damages, losses, and expenses attributable to correction.

q. The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

2. USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment. The Contractor acknowledges the ongoing operations of the Owner and agrees to coordinate the Work with the Owner and conduct the Work in a manner which minimizes or eliminates any adverse impact on the Owner.

3. CUTTING AND PATCHING

The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

4. CLEANING UP

a. The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and materials from the site and return the Project. If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

5. INDEMNIFICATION

To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Owner's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder.

6. CONTRACTOR'S QUALIFICATIONS

a. The Contractor is financially solvent, able to pay its debts as they mature and possessed of sufficient working capital to complete the Work and perform its obligations under the Contract Documents in an efficient and capable manner.

b. The Contractor can furnish the tools, materials, supplies, equipment and labor required to complete the Work and perform its obligations under the Contract Documents and has sufficient experience and competence to do so.

c. The Contractor is authorized to do business in the state where the Project is located and is properly licensed by all necessary governmental, public and other authorities having jurisdiction over the Project.

7. OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

a. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation.

b. The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules and performance requirements.

c. The Contractor shall afford the Owner and separate contractor's reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

8. CHANGES IN THE WORK

a. Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work.

b. Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

9. PROGRESS AND COMPLETION

a. Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

b. The Owner will schedule furniture and equipment deliveries based on the construction schedule. The Contractor shall be responsible for all costs to the Owner for storage, double handling, re-shipping, and extended general conditions costs of delayed furniture and equipment installations due to the Contractor's not meeting schedule completion dates.

10. SUBSTANTIAL COMPLETION

a. Substantial Completion is the stage in the progress of the Work when all required occupancy permits have been issued and the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

b. When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Owner a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

c. Upon receipt of the Contractor's list, the Owner will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such.

d. Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Owner will promptly make such inspection and, when the Work is acceptable under the Contract Documents and the Contract fully performed, the Owner will promptly issue a final payment.

11. PROTECTION OF PERSONS AND PROPERTY

a. The Contractor shall be responsible for insulating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

b. The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to employees on the Work and other persons who may be affected thereby; the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and other property at the site or adjacent thereto, such as trees, shrubs, lawns, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

12. INSURANCE

a. The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the appropriate jurisdiction such insurance as will protect the Contractor and the Owner from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

i. Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;

ii. Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;

iii. Claims for damages insured by personal injury liability coverage;

iv. Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property.

b. The policies and the certificates required herein shall name the Owner as additional insured and shall be subject to the approval of the Owner. The Contractor shall furnish the Owner copies of any endorsements that are subsequently issued amending coverage or limits.

c. The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

13. CORRECTION OF WORK

a. The Contractor shall promptly correct Work rejected by the Owner or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correction, including the cost of uncovering and replacement, and compensation shall be at the Contractor's expense. If, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor's expense, shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition.

b. If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable.

SECTION 03300
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

B. Standards:

- 1. ACI 301, Specifications for structural Concrete for Buildings.
- 2. ACI 318, Building Code Requirements for Reinforced Concrete, and CRSI Manual of Standard Practices for Concrete Construction.
- 3. Mock-Ups: Provide mock-up as required to demonstrate quality of workmanship.
- 4. Form Flatness and Levelness Tolerances:
- 1. Subfloors under Materials Such as Concrete Toppings, Ceramic Tile, and Sand Bed Terrazzo: ACI 302.1R and ASTM E 1155, floor flatness (F) of 15, floor levelness (FL) of 13.
- 2. Subfloors under Materials Such As Vinyl Tile, Epoxy Topcoats, Paint, and Carpet: ACI 302.1R and ASTM E 1155, floor flatness (F) of 20, floor levelness (FL) of 17.

PART 2 PRODUCTS

A. Cast-In-Place Concrete:

- 1. Cast-In-Place Concrete Reinforcing and Accessories:
- a. Concrete Design Mixes: ASTM C 94, suitable for project requirements and site conditions, but with a minimum of 3000 PSI 28 day compressive strength
- b. Maximum slump shall be 5 in.
- c. Reinforcing Bars: ASTM A 701
- d. Concrete Materials: ASTM C 150, Type I, Portland cement, potable water.
- e. Concrete Admixtures: Containing less than 0.1 percent chloride ions.
- f. Vapor Retarder: ASTM D 4397 polyethylene sheet, 6 mils.

PART 3 EXECUTION

3.1 INSTALLATION

A. Comply with ASTM C 94. Do not change mix design without approval. Calcium chloride admixtures are not permitted.

B. Chamber expose and edge conditions to provide straight lines.

C. Tolerance: Plus 1/8" 0" 1/2" for grade, alignment, and straightness.

D. Expansion Joints: For exterior work locate 30" o.c. at approved locations. Provide smooth dowels across joint which permit 1" horizontal movement and no vertical shear movement.

E. Isolation Joints: Provide between slabs and vertical elements such as columns and structural walls.

F. Control Joints: Provide sawn or tooled joints on removable insert strips; depth equal to 1/4 slab thickness. Spacing as required and approved.

G. Wall Finishes: As-cast and patched for concealed work; rubbed smooth, filled and cement paste coated for exposed work.

H. Slab Finishes: Obtain sample approval before beginning work.

- 1. Scratch: For surfaces to receive mortar setting beds or cementitious flooring materials.
- 2. Trowel: Hard, smooth, uniform surface for areas to receive resilient carpet, or other thin finish material.
- 3. Broom: After trowel finishing, rough surface by fire brooming perpendicular to traffic direction for exterior work.
- 4. Interior Wall Framing: 2 inch by 4-inch nominal (38 mm by 89 mm actual) studs, 16 inches (40 cm) on center.
- 5. Exterior Wall Framing: 2 inch by 4-inch (38 mm by 89 mm actual) studs, 16 inches (40 cm) on center.

E. Waterproofing Treatment: AWPA C2 for lumber and AWPA C3 for plywood; waterborne pressure treatment. Provide for wood in contact with soil, concrete, masonry, roofing, flashing, damp proofing and waterproofing.

F. Fire-Retardant Treatment: AWPA C20 for lumber and AWPA C21 for plywood; non-combustive type. Provide at building interior where required by code.

SECTION 06100
ROUGH CARPENTRY

PART 1 GENERAL

1.1 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

B. Lumber Standards and Grade Stamp: DOC P9, U.S. American Softwood Lumber Standard and inspection agency grade stamps.

C. Construction Panel Standards: DOC PS 1, U.S. Product Standard for Construction and Industrial Plywood; APA PRP-108.

D. Wood Framing Standards: NFPA House Framing Manual.

- 1. Interior Wall Framing: 2 inch by 4-inch nominal (38 mm by 89 mm actual) studs, 16 inches (40 cm) on center.
- 2. Exterior Wall Framing: 2 inch by 4-inch nominal (38 mm by 89 mm actual) studs, 16 inches (40 cm) on center.

E. Waterproofing Treatment: AWPA C2 for lumber and AWPA C3 for plywood; waterborne pressure treatment. Provide for wood in contact with soil, concrete, masonry, roofing, flashing, damp proofing and waterproofing.

F. Fire-Retardant Treatment: AWPA C20 for lumber and AWPA C21 for plywood; non-combustive type. Provide at building interior where required by code.

PART 2 PRODUCTS

2.1 MATERIALS

A. Rough Carpentry Applications:

- 1. Dimension Lumber:
- a. Light Framing: Stud, No. 2 or Standard grade.
- b. Structural Framing: No. 1 grade.
- c. Species: SPF
- d. Exposure Rating: Appearance grade.

2. Boards:

- a. Exposed Boards: 15 percent moisture content.
- b. Concealed Boards: 19 percent moisture content.

3. Building Paper:

- 1. Asphalt-saturated organic felt, ASTM D 226, Type I, No. 15 felt, uperfaced.
- 2. Building Paper:

 - a. Material: Air-retarder sheeting made from polyolefins; cross-laminated films, woven strands, or spun-bonded fibers; coated or uncoated; with or without perforations; ASTM E 1677, Type I.
 - b. Sill Sealer Gaskets:
 - a. Material: Glass fiber strip resilient insulation.
 - b. Framing Anchors and Fasteners:
 - 1. Hardware: Non-corrosive, suitable for load and exposure. Drywall screws are not acceptable.

PART 3 EXECUTION

3.1 INSTALLATION

A. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated.

B. Plywood: Comply with applicable recommendations contained in APA Form No. E30K, "APA Design/Construction Guide: Residential & Commercial"

C. Provide nailers, blocking and ground where required. Set work plumb, level and accurately cut.

D. Acceptable under the conditions and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction. Coordinate with other work.

E. Comply with manufacturer's requirements for cutting, handling, fastening and working treated materials.

F. Restore damaged components. Protect work from damage.

SECTION 07120
BUILDING INSULATION

PART 1 GENERAL

1.1 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

PART 2 PRODUCTS

A. Blanket/Batt Insulation:

- 1. Application: Thermal insulation in studs in exterior walls.
- a. Blanket Insulation: Clear or white fiberglass mat. Kraft facing with stapling flange for wood wall construction.
- 2. Type: Fiberglass mineral fiber.
- a. Standard ASTM C 665, Type III (full-crimp-kraft vapor-retarder membrane)
- b. Full reinforced Kraft facing (FRK) with stapling flange for wood stud application in attic areas (FS-25 with flame spread of 25) as manufactured by Owens Corning or Equal.

3. Sound Batt insulation with noncombustible fiberglass Batas with minimum 3 1/2" thickness.

PART 3 EXECUTION

3.1 INSTALLATION

A. Comply with ASIS codes and specifications, and with AWS "Structural Welding Code".

B. Check elevations and plumb and level tolerances; certify that installed work is within ASIS Standards. Owner may engage testing/inspection agency to inspect welded and bolted connections.

C. Architecturally exposed steel: Fabricate with special care using materials carefully selected for best appearance. Store materials off ground and keep clean. Cut, fit and assemble work with surfaces smooth, square and with complete contact at joints. Set all cambers up. Weld all work continuously; grind smooth and flush to make seams not visible after priming. Prepare surfaces to comply with SSPC-SP6; apply prime coat within 24 hours after cleaning.

D. Touch-up field welds and abraded areas with shop primer.

SECTION 07240
EXTERIOR INSULATION AND FINISH SYSTEMS

PART 1 GENERAL

1.1 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

B. Mock-Ups: Provide mock-up as required to demonstrate quality of workmanship.

C. Contractor shall be engaged in application of EIFS for a minimum of three years and employ individuals who are experienced and knowledgeable in EIFS application and demonstrate successful completion of several similar projects.

PART 2 PRODUCTS

2.1 MATERIALS

A. EIFS:

- 1. Manufacturers: Dyriv, Sto or Equal
- a. Manufacturer requirements: Member in good standing of the EIFS Industry members association and ENA. System manufacturer for a minimum of 20 years and manufacturing facilities is certified system.
- 2. Type: EMA Class PB.
- 3. Base Coat: Portland cement and polymer adhesive.
- 4. Finish Coat: Integrally colored polymer emulsion.
- 5. Drainage Layer: Manufacturer's standard drainage mat.
- 6. Thermal Insulation: Molded rigid cellular polyisocyanurate (with drainage channels). Minimum insulation thickness 1"
- 7. Reinforcing Mesh: Standard weight with high-impact type at areas subject to damage.
- 8. Insulation Adhesive: Adhesive.
- 9. Trim Accessories: PVC.

PART 3 EXECUTION

3.1 INSTALLATION

A. Inspect substrate and report unsatisfactory conditions in writing; beginning work means acceptance of substrate.

B. Comply with ASTM C 1397 and EIFS manufacturer's written instructions for installation of EIFS as applicable to each type of substrate indicated.

C. Comply with system manufacturer's instructions and recommendations; admixtures shall not be used.

D. Provide reinforced base and finish coats to provide a uniform appearance. Completely cover all insulation board including edges. Provide soil joints at all changes of substrate and at intervals suggested by manufacturers and at noted intervals on drawings of special patterns where indicated on drawings. Clean and protect work.

E. Do not install EIFS below grade.

F. Install diverter flashing wherever water can enter the wall assembly to direct water to the exterior.

G. Provide protection of installed materials from water infiltration into or behind them. Provided protection of installed materials from dust precipitation, freezing and continuous high humidity.

SECTION 07840
FIRESTOPPING

PART 1 GENERAL

1.1 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

B. Fire Performance: UL 2079, ASTM E 814, and local regulations.

PART 2 PRODUCTS

A. Firestopping Systems:

- 1. Manufacturer: 3M Fire Protection or equal
- 2. Applications as Applicable to Assembly: Through-penetrations, fire-resistive joints, perimeter fire containment, smoke seals.
- 3. Types as Applicable to Assembly: Endothermic and intumescent sealants, pillows, putty and wrap strips.

SECTION 07900
JOINT SEALERS

PART 1 GENERAL

1.1 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

B. Field-Constructed Mock-Ups: Each joint type.

PART 2 PRODUCTS

2.1 MATERIALS

A. Exterior Joints in Vertical Surfaces.

B. Exterior Joints in Horizontal Surfaces, Uprights:

- 1. Materials: Self-sealing urethane sealant, ASTM C 920.

C. Exterior Paving Joint Finishes, Bituminous:

- 1. Materials: Bituminous fiber.

D. Interior Joints, Limited Movement, Acrylic:

- 1. Materials: Acrylic-emulsion, ASTM C 834.

E. Interior Joints, Sanitary Silicone:

- 1. Materials: One-part mildew-resistant silicone sealant, ASTM C 920.
- 2. Glazing and kitchen applications:

 - 1. General Electric: silicone construction 1200 sealant or equal.

PART 3 EXECUTION

A. Do not proceed with installation of joint sealers under following conditions:

- 1. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 4 C (40 F).
- 2. When joint substrates are wet.
- 3. Do not proceed with installation of joint sealers where joints are less than those allowed by joint sealant manufacturer for application indicated.

PART 1 GENERAL

1.1 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

B. Examine substrate; report unsatisfactory conditions in writing. Beginning work means acceptance of substrate.

C. Provide sealants in colors as selected from manufacturer's standards.

D. Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction and with uniform appearance. Coordinate with work of other trades and installers. Clean and prime joints, and install bond breakers, backer rods and sealant as recommended by manufacturer.

E. Depth shall equal width up to 1/2 inch wide; depth shall equal 1/2 width for joints over 1/2 inch wide.

F. For application of sealants, follow requirements of ASTM C1193 unless specified otherwise.

G. Avoid dropping or smearing compound on adjacent surfaces.

H. Fill joints solely with compound and finish compound smooth.

I. Cut back sealant to expose and install bond breaker, backer rod or restore damage conditions. Clean adjacent surfaces to remove spillage.

J. After all equipment and wall materials have been installed, all joints to walls and bases shall be sealed with silicone sealant.

**SECTION 08100
STEEL DOORS AND FRAMES**

PART 1 GENERAL

1.1 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

B. Standards: ANSII/SD-100, Recommended Specifications for Standard Steel Doors and Frames.

C. Performance Standards:

- 1. Fire-Rated Assemblies: NFPA 80, and acceptable testing agency listing.
- 2. Thermal-Rated Assemblies at Exterior: ASTM E 236 or ASTM C 976.
- 3. Sound-Rated Assemblies at Mechanical Rooms: ASTM E 1408, and ASTM E 413.

PART 2 PRODUCTS

2.1 MATERIALS

A. Interior Steel Frames:

- 1. Material: Minimum 16 gauge steel sheet.
- 2. Corners: Mitered or coped.
- 3. Type: Knockdown.

B. Exterior Steel Frames:

- 1. Manufacturers: Material: Minimum 14 gauge galvanized steel sheet.
- 2. Corners: Mitered or coped.
- 3. Type: Knockdown.

C. Interior Preassembled Steel Doors and Frames:

- 1. Material: Minimum 22 gauge steel sheet.
- 2. Door Thickness: 1-3/4 inches.
- 3. Panel Faces: Flush.
- 4. Finish: Factory finished.

PART 3 EXECUTION

3.1 INSTALLATION

A. Fabricate work to be rigid, neat and free from seams, defects, dents, warp, buckles, and exposed fasteners. Install doors and frames in compliance with SDI-100, NFPA 80, and requirements of authorities having jurisdiction.

B. Interior frames plumb, level, rigid and in true alignment in accordance with ANSII A250.11, "Recommended Erection Instructions for Steel Frames" and ANSII A115.1G, "Installation Guide for Doors and Hardware". Hardware: Prepare doors and frames to receive hardware on final schedule. Provide for 3/16 inches on single doorframes; 2 on double doorframes.

C. Shop Finish: Clean, treat and prime paint all work with rust-inhibiting primer compatible with finish paint specified in Division 9 section. Provide asphalt emulsion sound deadening coating on concealed frame interiors.

D. Touch-up damaged coatings ready to receive finish painting.

E. CLEARANCES

- 1. Clearance between the door and frame head and jambs for both single swing and pairs of doors shall be 1/8 inch (3.2 mm).
- 2. Clearance between the door and frame side and bottom shall be 3/16 inch plus or minus 1/16 inch (5 mm plus or minus 1.6 mm). For fire rated applications, the clearance between the meeting edges of pairs of doors shall be 1/8 inch plus or minus 1/16 inch (3.2 mm plus or minus 1.6 mm).
- 3. Bottom clearance shall be 3/4 inch (19 mm). (Standard)
- 4. The clearance between the face of the door and door stop shall be 1/16 inch to 1/8 inch (1.6 mm plus or minus 3.2 mm).
- 5. Adjust doors for free swing without binding.

SECTION 08210
FLUSH WOOD DOORS

PART 1 GENERAL

1.1 QUALITY ASSURANCE

A. Warranty: Submit manufacturer's standard warranty. Include labor and materials to repair or replace defective materials.

- 1. Solid-Core Exterior Doors: 5 years.
- 2. Solid-Core Interior Doors: 2 years.
- 3. Hollow-Core Interior Doors: 2 years.

1.2 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

B. Quality Standards: [NWDMA IS 1.A., "Architectural Wood Flush Doors."] [AWS "Architectural Woodwork Standards,"]

C. Fire Rated Wood Doors: Meet NFPA 80 requirements.

PART 2 PRODUCTS

A. Interior Flush Wood Doors:

- 1. Type: Hollow core.
- 2. Thickness: 1-3/8 inches thick.
- 3. Grade: Economy.
- 4. Frames: Metal knockdown.
- 5. Finish Application: Site finished.

PART 3 EXECUTION

3.1 INSTALLATION

A. Comply with NMAA S. 1A and specified quality standard.

B. Prefit doors to frames. Preassemble doors for hardware listed on final specifications. Factory level doors.

C. Correct any deficiency that prohibits the door from swinging or operating freely. Do not remove hinge screws after initial installation. Shimms used for alignment purposes must be inserted between hinge and frame. Do not insert shims between hinge and door.

D. Insure that door closers are properly adjusted and do not limit the door opening swing. Limit door opening swing only with a properly located stop.

E. Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

F. Install doors with not more than 1/8 inch clearance at top and sides, 1/4 inch clearance at bottom.

G. Adjust, clean, and protect.

SECTION 08415
ENTRANCES AND STOREFRONTS

PART 1 GENERAL

1.1 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

B. Each type and color of tile to be provided from a single source.

C. Tile: ANSI A 137.1.

D. The Setting Materials: ANSI A 118 series standard specifications.

E. The Installation: ANSI 106 series standard specifications and Tile Council of America Handbook for Ceramic Tile Installation.

PART 2 PRODUCTS

2.1 MATERIALS

A. Manufacturers: Application: Interior wall tile over gypsum wallboard.

B. See interior finish schedule for manufacturers and color specifications.

PART 3 EXECUTION

3.1 INSTALLATION

A. Comply with Tile Council of America and ANSI Standard Specifications for installation for substrate and installation required. Comply with manufacturer's instructions and recommendations.

B. Install waterproof membrane in accordance with manufacturer's instructions and recommendations.

C. Lay tile in grid pattern with alignment grids. Layout tile to provide uniform joint widths and to minimize cutting; do not use less than 1/2 tile units.

D. Grout and cure, clean and protect.

E. Lay out tile work so that no tile less than one half full size is used. Make all cuts on the outer edge of the field.

F. Set tile firm place with fresh finish surfaces in true planes. Align the flush with adjacent tile unless shown otherwise on construction documents.

G. Form intersections and returns accurately.

H. Cut and drill tile neatly without marking surface.

I. Completed work is to be free from hollow sounding areas and loose, cracked or defective tile.

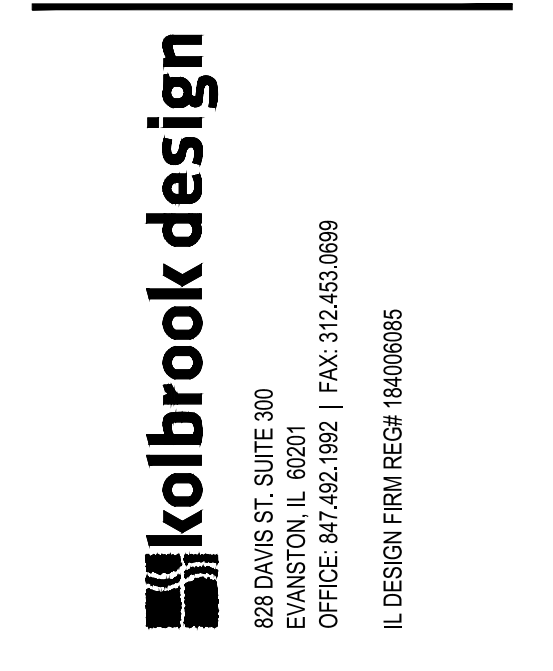
J. Remove and reset tiles that are out of plane or misaligned.

K. Floors:

- 1. Extend floor tile beneath casework and equipment, except those units mounted in wall recesses.
- 2. Align finish surface of new tile work flush with other and existing adjoining floor finish where indicated in construction documents.
- 3. In areas where floor drains occur, slope tile to drains.

L. Grouts:

- 1. Keep all joints in line, straight, level and of even width unless shown otherwise on construction documents.
- 2. Make joints 2 mm (1/16 inch) wide for glazed wall tile and mosaic tile work.
- 3. Make joints in quarry tile work not less than 6 mm (1/4 inch) nor more than 9 mm (3/8 inch) wide. Finish joints flush with surface of tile.
- 4. Make joints in paver tile, porcelain tile, maximum 3 mm (1/8 inch) wide.



STORE ADDRESS

6231 McKee Rd, Suite A
Fitchburg, WI 53719

STORE NUMBER

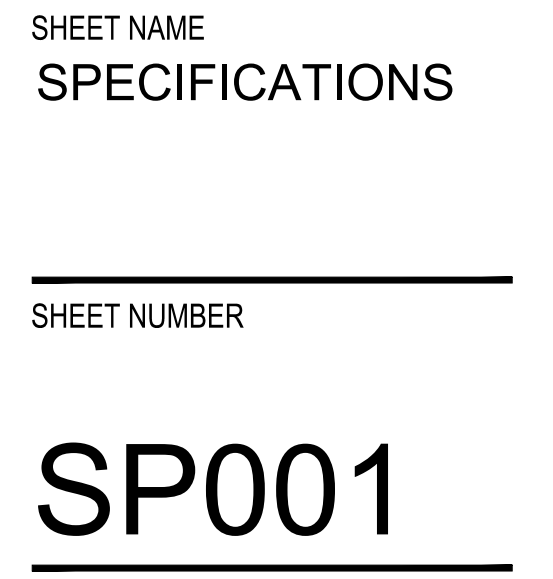
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REVISION	DATE	PROJECT
	02/02/2022	1674.010

SHEET NAME
SPECIFICATIONS

SHEET NUMBER



**SECTION 0910
 ACoustICAL CEILINGs**

PART 1 GENERAL
1.1 QUALITY ASSURANCE
 A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
 B. Standards: UL and FM listed products, NFPA 10.
 C. Regulations: ADAG.
B. Performance: Fire, structural, and seismic performance meeting requirements of building code and local authorities. Acoustical performance based on project requirements.

PART 2 PRODUCTS
2.1 MATERIALS
 A. Mineral Fiber Acoustical Ceilings: see finish schedule on architectural plans.
 1. Panel Size: 24 by 24 inches.
 2. Panel Size: 24 by 48 inches.
 3. Panel Edge: Square.
 4. Suspension System: Intermediate duty.
 5. Auxiliary Materials:
 a. Edge molding and trim.
 b. Hold-down clips and impact clips.
 c. Concealed acoustical sealant.
PART 3 EXECUTION
3.1 INSTALLATION
 A. Install materials and suspension systems in accordance with manufacturer's instructions and recommendations, and ASTM C 636. Coordinate installation with location of mechanical and electrical work to ensure proper locations and anchorage.
 B. Level ceiling to within 1/8 inch in 10 feet in both directions. Scribe and cut panels to fit accurately. Measure and layout to avoid less than half panel units.
 C. Remove and reinstall at existing ceiling: Remove and store materials for reuse when allowed. Handle with white gloves and avoid damaging corners and edges. Clean tiles and grid system, which have been removed, outside of building. Clean and store materials in accordance with manufacturer's instructions. Replace damaged existing materials. New materials shall match existing materials as approved.
 D. Ceiling areas shall be measured to establish layout of acoustical units to balance depth widths at opposite edges of each ceiling. Avoid use of less-than-half width units at borders.
 E. Grid system shall be symmetrically laid out in each space. Coordinate work with other trades so that lighting fixtures, grilles and other ceiling fixtures work with grid layout.
 F. Support for suspension system shall be from structure above, not from ductwork, metal deck, equipment or piping.
 G. Wall moldings shall be installed at the perimeter of each acoustical ceiling area and at locations where edge of units would otherwise be exposed.
 H. Field of acoustical panels as required, in accordance with manufacturer's recommended procedures and equipment.
 I. Adjust, clean, and touch-up all system components.

FIRE PROTECTION SPECIALTIES

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
 B. Standards: UL and FM listed products, NFPA 10.
 C. Regulations: ADAG.
PART 2 PRODUCTS
2.1 MATERIALS
 A. Fire Extinguishers:
 1. Type: Multipurpose dry chemical type.
PART 3 EXECUTION
3.1 INSTALLATION
 A. Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction and with uniform appearance. Coordinate with work of other sections.
 B. Install fire extinguishers in mechanical and service areas with wall-hung brackets at locations and heights indicated and acceptable to authorities having jurisdiction.
 C. Install fire extinguishers in cabinets in public areas plumb and level at heights acceptable to authorities having jurisdiction.
 D. Restore damaged finishes. Clean and protect work from damage.

**SECTION 10800
 TOILET ACCESSORIES**

PART 1 GENERAL
1.1 QUALITY ASSURANCE
 A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
PART 2 PRODUCTS
2.1 MATERIALS
 A. Toilet and Bath Accessories:
 1. Accessory: Paper towel dispensers.
 2. Accessory: Toilet tissue dispensers, single roll.
 3. Accessory: Waste receptacles.
 4. Accessory: Grab bars.
 5. Accessory: Wall Mirror.
 6. Accessory: Soap dispensers, wall mounted.
 7. Accessory: Mop and broom holders.
B. ACCEPTABLE MANUFACTURERS:
 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering toilet accessories that may be incorporated in the Work include, but are not limited to, the following:
 a. A. & J. Washroom Accessories.
 b. Bobrick Washroom Equip., Inc.
 c. Bradley Corporation.
 d. McKinneyParker.
C. MATERIALS, GENERAL:
 1. Stainless Steel: AISI Type 302/304, with polished No. 4 finish, 22 gage minimum, unless otherwise indicated.
 2. Brass: Leaded and unleaded, flat products, ASTM B19; Rods, shapes, forgings, and flat products with finished edges, ASTM B16; castings, ASTM B 30
 3. Sheet Steel: Cold-rolled, commercial quality, ASTM A 366, 20-gage minimum, unless otherwise indicated. Preparation and metal pretreatment as required for applied finish.
 4. Galvanized Steel Sheet: ASTM A 527, G90.
 5. Chromium Plating: Nickel and chromium electro-deposited on base metal, ASTM B456, Type 6.
 6. Baked Enamel Finish: Factory-applied, gloss white, baked acrylic enamel coating.
 7. Mirror Glass: ASTM C 1036, Type 1, Quality g2, 1/4" thick, (0.23 inch), with silvering, electro-plated copper coating, and protective organic coating.
 8. Galvanized Steel Mounting Devices: ASTM A 153, hot-dip galvanized after fabrication.
 9. Fasteners: Screws, bolts, and other devices of same material as accessory unit or of galvanized steel where concealed.
D. SANITARY NAPKIN DISPOSALS:
 1. Surface mounted satin stainless steel, with self-closing door and tumbler lock retention of the receptacle.
 a. Provide Disposable Liners (Bobrick 355-12) minimum quantity of twelve per each unit.
E. TOILET TISSUE DISPENSER:
 1. Surface mounted double roll toilet tissue holder of satin finish stainless steel, 18 inch wall thickness, and each water closet.
F. 2.06 GRAB BARS:
 1. Stainless Steel Type 304 satin finishes with wall thickness not less than 18 gage and as follows:
 a. Mounting: Exposed, manufacturer's standard 1/8 inch thick flanges and valence resistant anchorage.
 b. Clearance: 1-1/2" clearance between wall surface and inside face of bar.
 c. Gripping Surfaces: Smooth, satin finish.
 d. Medium-Duty Size: Outside diameter of 1-1/4"
 e. Lengths and shapes as indicated on the drawings, capable of supporting 250 lb. concentrated load in any direction, per ASTM F446.
G. LIQUID SOAP DISPENSER (public)
 1. Type-304, satin finish stainless steel, 40 fl. oz. capacity. Concealed wall fastening shall be stainless steel with unbreakable refill window.
 2. Valve operates with less than 5 lbs. of force.
H. WALL MIRRORS:
 1. Stainless Steel Chrome Frame Mirror: One piece Type 304 chrome frame 3/4 inch x 3/4 inch. Satin finish with mirrored corners, welded, ground and polished smooth.
 2. Flatplate glass mirror, 1/4 inch thick, plated, mirror.
 3. Mounting: Install on concealed wall hanger and lock in place with theft-resistant screws.
 4. Sizes as indicated.
I. PAPER TOWEL DISPENSER:
 1. Surface-Mounted Towel Dispensers: Fabricate of stainless steel with hinged front equipped with tamper lockout. Provide perforated slots at sides as indicated.
 2. Capacity: Not less than either 300 C-40d or 400 multi-ply paper towels without special adaptors.
 3. Surface-mount stainless steel; Satin finish S.S. with brackets.
PART 3 EXECUTION
3.1 INSTALLATION
 A. Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction and with uniform appearance. Coordinate with work of other sections.
 B. Restore damaged finishes and test for proper operation. Clean and protect work from damage.

B. Provide the owner with the following prior to final acceptance:
 a. Parts list for each piece of equipment.
 b. One bound set of approved shop drawings.
 c. One bound set of operating instructions and maintenance schedules for each piece of equipment.
 d. Copies of all warranties for each piece of equipment.
B. Guarantees and Warranties:
 a. Guarantee all labor and material furnished for a period of one year extending from the time of final acceptance of the building. The guarantee shall cover the repair or replacement without additional cost to the owner for any defective material or faulty workmanship.
 b. Provide warranties for each piece of major equipment. Warranties shall be included with the owner's final documents.
C. Training Services:
 1. Thoroughly instruct the owner's personnel during normal working hours on start-up and shut-down procedures, troubleshooting procedures, servicing and preventive maintenance schedules and procedures. Review with the owner's personnel the data contained in the operating and maintenance manuals. Schedule the training with the owner. Provide at least 7 days prior notice to architect/engineer.
D. System Identification:
 1. Provide identification labels on or near each piece of major equipment and each operational device and disconnent. The labels shall be constructed of engraved plastic laminate sign or plastic equipment marker permanently secured to equipment. The lettering shall be a minimum of 1/2 inch high and equipment name and 3/8 inch for equipment information.

2.1 MATERIALS
 A. Access Panel:
 a. Contractor shall provide hinged access doors (min. 12"x12") for valves, etc. where floors, walls and ceiling must be penetrated to access mechanical systems. Finish shall be coordinated through the architect to match surrounding finishes.
 b. Cleaning, Testing and Adjusting:
 a. The contractor, at his expense, shall clean, repair, adjust, check, A. balance, and place in service the various systems herein specified with their respective equipment, accessories and piping. The contractor shall furnish all labor, materials, equipment, and tools required to perform tests required by these specifications and by the governing authorities.
 b. No work shall be covered or concealed until properly inspected B. and tested.
 c. All domestic water piping systems shall be tested for absolute C. tightness by subjecting the system to a hydrostatic pressure of 150 PSI gauge or 50 PSI over working pressure, whichever is greater for a period of not less than eight (8) hours. All leaks shall be repaired and the hydrostatic test repeated until, for an eight (8) hour period, no leaks can be found while the system is subject to the test pressure. Soil pipe and condensate drains shall be tested by temporarily plugging all outlets and filling the system with water to the level of the highest vent stack. The system must be inspected and all leaks repaired and the test repeated until the water level does not decrease for a period of 24 hours.
C. Hangers and Supports:
 a. Provide all necessary, pipe supports, hangers, rods, clamps and attachments to properly install and support piping and equipment from the building structure.
 b. Provide any angle iron or unistrut and suspension rods required to install equipment and piping.
 c. Water Supply Systems:
 a. Extend water service as indicated on design drawings. Provide shock absorbers and vacuum breakers where required.
 b. Pipe and fittings:
 E. Above ground - Schedule 40 CPVC.
 F. Below ground - Schedule 80 CPVC.
 c. Chlorination: Before being placed in service all water distribution. Systems shall be sterilized with chlorine in accordance with FPG 610.1 standard procedure for disinfecting potable water piping.
 b. Insulation: Insulate all hot water lines with 1" of insulation having a conductivity not exceeding 0.27 BTU per inch.
G. Connections to Miscellaneous Equipment:
 a. Rough-in and connect water, waste, and vent to complete the installation of equipment listed on the drawings.
 b. Plumbing fixtures shall be provided complete as shown on the drawings with all required supply, waste, soil, and vent connections, together with all fittings, supports, fastening devices, cocks, valves, and traps.
 c. All fixtures shall have stop valves on all water connections. All exposed metal trim on all fixtures shall be polished chromium plated. All exposed pipes extending from wall shall have chromium plated brass escrowhead mounted against wall. Exposed PVC piping and p-traps are unacceptable.
 d. The plumbing fixtures shall be roughed-in accordance with manufacturer's "rough-in information". Provisions for mounting wall fixtures shall be made while the wall is being built.
H. Drainage System:
 a. Pipe slope:
 b. 2-1/2 inch diameter and less shall be installed with a fall of not less than 1/4 inch per foot.
 c. 3 inch diameter or larger shall be installed with a fall not less 2" Than 1/8 inch per foot.
I. Pipe and Fittings:
 a. Drain, waste and vent piping for this project shall be schedule 40 PVC type DWV.
 b. Provide cleanouts every 75 feet, at changes in direction, at all down points and at base of soil and waste stacks.

PART 1 GENERAL
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PART 3 EXECUTION
3.1 INSTALLATION
 A. Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction and with uniform appearance. Coordinate with work of other sections.
 B. Restore damaged finishes and test for proper operation. Clean and protect work from damage.

**SECTION 15000
 MECHANICAL**
PART 1 GENERAL
1.1 SUMMARY
 A. Materials and workmanship
 1. Products and materials shall meet or exceed the quality or requirements specified or shown on the drawings.
 2. Provide products and materials, which the manufacturer has certified as appropriate to the applications shown on the drawings and specifications.
 3. Provide products and materials, which are supported by convenient, parts availability and servicing.
 4. Workmanship shall be in all respects of the highest quality and all construction shall be done according to the best practice of the trade. All systems shall be made complete and operational in first class working order. Furnish all necessary labor and materials to construct a complete system.
 5. The HVAC contractor shall coordinate all electrical, ATEC, and plumbing requirements with those subcontractors.
 6. Obtain all permits and inspections required by law for the completion of the work
 1. Cost of the required permits and inspections shall be paid by the contractor. The contractor shall obtain and pay for all certificates of approval, which must be obtained prior to final acceptance of the job.
 2. All materials and labor furnished by the contractor shall be in strict accordance with the rules and regulations of the state and municipality, utility companies, building code - 2001, national electric code (NEC) and the national fire protection association (NFPA).
 3. Provide labor, materials, services, equipment, and appliances required for the fabrication and installation of mechanical systems including heating, ventilating, air-conditioning, and various systems as indicated on the design drawings and as outlined in these specifications.
 4. Equipment and design of systems indicated on the design drawings and within these specifications shall be considered as "specified standard" quality. Substitutions shall be of equal quality.
 5. The entire system and all components listed herein shall meet all state, county, and local codes and ordinances in every respect. The contractor shall obtain all required permits, inspections and pay all fees.
 6. Obtain all permits and inspections required by law for the completion of the work
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 4. Equipment and design of systems indicated on the design drawings and within these specifications shall be considered as "specified standard" quality. Substitutions shall be of equal quality.
 5. The entire system and all components listed herein shall meet all state, county, and local codes and ordinances in every respect. The contractor shall obtain all required permits, inspections and pay all fees.
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