GENERAL NOTES

GENERAL REQUIREMENTS:

A. DRAWINGS. THE DRAWINGS ARE INTENDED TO DESCRIBE THE OVERALL SCOPE OF WORK. CONTRACTORS SHALL FIELD VERIFY EXISTING CONDITIONS AND ALERT ARCHITECT TO ANY UNFORESEEN CONSTRUCTION DIFFICULTIES BEFORE BEGINNING WORK. IN-FIELD REVISIONS SHALL NOT OCCUR WITHOUT ARCHITECT'S APPROVAL.

B. PRE-CONSTRUCTION MEETING. PRIOR TO ANY CONSTRUCTION OR DEVELOPMENT ACTIVITY, THE CONTRACTOR SHALL SCHEDULE, WITH OWNERS APPROVAL, A PRE-CONSTRUCTION MEETING WITH THE LOCAL BUILDING DEPT. OR LOCAL PUBLIC WORKS DEPT. VERIFY WHICH AGENCY WOULD BE INVOLVED. THE CONTRACTOR SHALL PROVIDE LOCAL INSPECTOR WITH 24 HOURS NOTICE PRIOR TO INSPECTION

C. TYPICAL WALL SECTIONS, FINISHES, AND DETAILS ARE NOT INDICATED EVERYWHERE THEY OCCUR ON PLANS, ELEVATIONS AND SECTIONS. REFER TO DETAILED DRAWINGS. CONTRACTOR TO PROVIDE AS IF DRAWN IN FULL.

D. CODES / PERMITS / REGULATIONS. ALL EXTERIOR SIGNAGE MUST BE SUBMITTED AND REVIEWED UNDER SEPARATE PERMIT APPLICATION.

CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS NECESSARY OTHER THAN THE BUILDING PERMIT. CONTRACTOR SHALL ALSO PAY FOR ALL OTHER CHARGES, FEES OR COSTS CHARGED BY THE BUILDING AND CONSTRUCTION DEPARTMENTS, UTILITY AGENCIES OR PRIVATE COMPANIES WHICH REQUIRE SUCH COSTS FOR OR PRIOR TO INSTALLATIONS.

NOTHING IN THE DRAWINGS SHALL BE CONSTRUCTED TO PERMIT AN INSTALLATION IN VIOLATION OF APPLICABLE CODES AND/OR RESTRICTIONS. SHOULD ANY CHANGE IN THE DRAWINGS BE NECESSARY IN ORDER TO COMPLY WITH APPLICABLE CODES AND/OR REQUIREMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AT ONCE AND CEASE WORK. ALL PARTS PERFORMED UNDER THIS CONTRACT SHALL BE IN FULL ACCORDANCE WITH THE LATEST RULES, REGULATIONS, RESTRICTIONS, REQUIREMENTS AND CODES.

AMENDED BY GOVERNING CITY & ALL JURISDICTION RULES AND REGULATIONS.

E. DIMENSIONS ARE SHOWN TO FACE OF MASONRY OR CENTERLINE OF OPENING, UNLESS DETAILED OTHERWISE ON DRAWINGS.

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL USE DIMENSIONS SHOWN ON THE DRAWINGS AND ACTUAL FIELD MEASUREMENTS. NOTIFY THE ARCHITECT IF ANY DISCREPANCIES ARE FOUND.

THE CONTRACTOR SHALL VERIFY ALL ROUGH-IN DIMENSIONS FOR THE EQUIPMENT FURNISHED AND INSTALLED BY HIMSELF/HERSELF OR OTHERS.

THE CONTRACTOR SHALL CONSULT THE PLANS OF ALL TRADES FOR OPENINGS THROUGH SLABS, WALLS, CEILINGS AND ROOFS.

F. SHOP DRAWINGS REVIEW. PROVIDE SHOP DRAWINGS FOR THE ARCHITECTS/OWNERS AND AS REQUIRED BY THE CITY PRIOR TO CONSTRUCTION.

G. CONTRACTOR TO FRAME OPENINGS IN WALLS, CEILINGS AND FLOORS FOR H.V.A.C. AND OTHER MECHANICAL OR ELECTRICAL WORK WHERE REQUIRED AND NOT OTHERWISE SHOWN ON THE PLANS.

H. COMPLY WITH APPLICABLE REGULATIONS FOR BARRIER-FREE FACILITIES INCLUDING:

1). MAXIMUM THRESHOLD HEIGHT TO BE ONE HALF INCH (1/2") ALONG ACCESSIBLE ROUTE OF TRAVEL.
2). STAIR NOSINGS TO BE FLUSH, SLIP RESISTANT AND ROUNDED TO RADIUS OF ONE HALF INCH (1/2")MAXIMUM.

DOORS/WINDOWS:

A. GLAZING. PROVIDE GLAZING PER CITY CODES:
INSULATED UNITS SHALL BE CLASS 40 GLAZING WITH LOW ARGON GAS.

GLAZING IN LOCATIONS SUBJECT TO HUMAN IMPACT SUCH AS PANES IN DOORS, GLAZING WITHIN A 24" ARC OF A DOOR OPENING, GLAZING WITHIN 18" OF THE FLOOR (AND IS OVER 9 SQ. FT. PER PANEL) SHALL BE TEMPERED GLASS OR LAMINATED SAFETY GLASS PER CODE.

GLAZING U-VALUE (AMMA TESTED) U-40 MAXIMUM.

FIRE PROTECTION:

~~A. GC TO EXTEND THE EXISTING AUTOMATIC FIRE SPRINKLER SYSTEM AS REQUIRED. GET SYSTEM DESIGN APPROVED BY GOVERNING CITY'S BUILDING DEPARTMENT AND FIRE DEPARTMENT PRIOR TO INSTALLATION (IF APPLICABLE).~~
~~NOTE: GC TO PROVIDE LIFE SAFETY MANAGEMENT IN THEIR BIDDING PROCESS~~

B. PROVIDE FIRE EXTINGUISHERS AS REQUIRED BY INTERNATIONAL BUILDING CODE AND LOCATE PER FIRE MARSHAL'S DIRECTION. 1 FIRE EXTINGUISHER PER 3,000 S.F. OF BUILDING AREA WITHIN 75'-0" TRAVEL DISTANCE BETWEEN EXTINGUISHERS.

C. MAINTAIN STRUCTURAL AND FIRE RESISTIVE INTEGRITY AT EXTERIOR AND RATED INTERIOR WALL PENETRATIONS FOR ELECTRICAL, MECHANICAL, PLUMBING AND COMMUNICATIONS CONDUITS, PIPED AND SIMILAR SYSTEMS PER CITY'S CODE.

THERMAL/MOISTURE PROTECTION:

A. OPENINGS. ALL OPENINGS TO BE CAULKED, SEALED OR WEATHER-STRIPPED.

ALL FLASHING AND ARCHITECTURAL SHEET METAL TO BE 24 GAUGE GALVANIZED STEEL, FACTORY PRIMED AND FIELD PAINTED. 10'-0" LENGTHS, PER SMACNA MANUAL UNLESS OTHERWISE NOTED.

B. CAULKING AND SEALANTS. USE PRIMERS AS REQUIRED BY MANUFACTURER. BACKING RODS OR TAPE AS RECOMMENDED BY MANUFACTURER. USE POLYURETHANE SEALANTS AT CONCRETE FLOOR AND SIDEWALK JOINTS. ALL OTHER LOCATIONS USE POLYSULFIDE OR SILICONE.

C. VAPOR BARRIERS. CONTINUOUS APPROVED VAPOR BARRIERS SHALL BE INSTALLED ON THE HEATED SIDE OF ALL THERMAL INSULATION INSTALLED.

D. INSULATION. PROVIDE INSULATION PER LOCAL CODE, COMPONENT PERFORMANCE APPROACH.

GENERAL CONTRACTOR NOTE:
THE GC MUST SUBMIT SEPARATE DRAWINGS FOR SPRINKLER AND FIRE ALARM WORK AND SHALL BE UNDER SEPARATE PERMIT - WHEN APPLICABLE.

GENERAL NOTES:

1. PRIOR TO DEMOLITION, VERIFY IN FIELD EXISTING WALLS AND IF ANY STRUCTURAL COLUMNS EXIST. IF SO, CONTACT ARCHITECT IMMEDIATELY.
2. CONTRACTOR TO MAINTAIN PROPER LIGHTING, SANITATION AND VENTILATION AT ALL TIMES.
3. ALL WORK MUST BE APPROVED BY BUILDING INSPECTOR PRIOR TO COVERING WORK.
4. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN A WATER AND WEATHER TIGHT BUILDING.
5. ALL WORK TO BE PERFORMED TO CODE BY LICENSE CONTRACTORS PERFORMING WORK IN THEIR SPECIFIC TRADE ONLY.
6. ALL DESIGN, DRAWINGS, AND DETAILS REPRESENT COMPLETE WORK IN PLACE. ARCHITECT SHALL HAVE NO CONTROL OR CHANGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION.
7. INTERIOR PARTITIONS NOTED ON PLANS MAY BE SHOWN AS NOMINAL DIMENSIONS, SUCH AS 5" INTERIOR WALL REFERS TO GYPSUM BOARD EACH OVER 3-5/8" STUDS. STUD SPACING IS 24" O.C.
8. ALL DEBRIS GENERATED FROM CONSTRUCTION MUST BE KEPT ON THE SITE IN EITHER AN ENCLOSED AREA OR HAULED AWAY DAILY, AND DISPOSED OF LEGALLY OFF-SITE.
9. EXTERIOR SIGNAGE IS NOT PART OF THIS CONTRACT OR PERMIT EXCEPT ELECTRICAL ROUGH-IN AND BLOCKING. SIGN CONTRACTOR SHALL MAKE SEPARATE SUBMITTAL TO THE CITY FOR REVIEW AND PERMIT.
10. KEEP ALL PIPING AND CONDUIT AS CLOSE TO WALLS AND ROOF DECK AS POSSIBLE AND ALL DUCTWORK AS CLOSE TO ROOF AS POSSIBLE. WHERE EXPOSED, ALL PIPING CONDUIT AND DUCTWORK SHALL BE PAINTED UNLESS NOTED. ALL PIPING CONDUIT SHALL BE ORGANIZED IN A NEAT MANNER RUNNING PARALLEL OR PERPENDICULAR TO ROOF FRAMING MEMBERS.
11. MAXIMUM FLAME SPREAD CLASSIFICATION OF FINISH MATERIALS USED ON INTERIOR WALLS AND CEILING SHALL NOT EXCEED THAT SET FORTH IN FLAME SPREAD TABLE OF THE BUILDING CODE.
12. VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO CONSTRUCTION AND COORDINATE WITH ARCHITECT ANY CONFLICTS WITH THE PLANS.
13. PERFORM THE REMOVAL, CUTTING, AND DRILLING WITH THE CARE USE OF THE SMALLEST TOOLS SO AS TO NOT DAMAGE THE STRUCTURAL INTEGRITY OF THE BUILDING.
14. TO SAW CUT AT EXISTING RESTROOM LOCATION, USE SAWS AND COREDRILLS. DO NOT USE JACKHAMMER UNDER ANY CIRCUMSTANCES.
15. GC TO COORDINATE FIRE ALARM INSTALL WITH LANDLORD, IF REQUIRED BY CITY.

SCOPE OF WORK:
INTERIOR TENANT IMPROVEMENT OF A REMODELED VACANT SPACE TO A NEW TROPICAL SMOOTHIE CAFE LOCATED WITHIN A RETAIL CENTER'S SHELL BUILDING. THE TRASH DUMPSTER SHALL BE PROVIDED BY THE LANDLORD.
CONSTRUCTION DUMPSTER PROVIDED BY TENANT'S GC

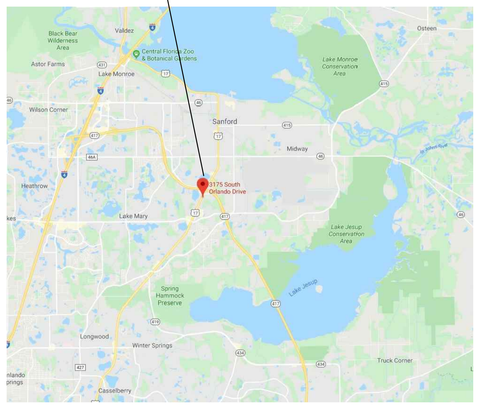
BUILDING CODES ADOPTED:
2017 FLORIDA BUILDING CODE (6th EDITION)
FLORIDA BUILDING CODE EXISTING BUILDING (6th EDITION)
FLORIDA BUILDING CODE ACCESSIBILITY (6th EDITION)
FLORIDA BUILDING CODE ENERGY CONSERVATION (6th EDITION)
FLORIDA BUILDING CODE FUEL GAS (6th EDITION)
FLORIDA BUILDING CODE MECHANICAL (6th EDITION)
FLORIDA BUILDING CODE PLUMBING (6th EDITION)
FLORIDA FIRE PREVENTION CODE (6th EDITION)
NATIONAL ELECTRICAL CODE (2014)
FLORIDA FIRE PREVENTION CODE (5TH EDITION)

NOTE: THIS IS A LEVEL 2 ALTERATION PER THE FLORIDA BUILDING CODE 6TH EDITION (2017 EXISTING)

ARCHITECT'S STATEMENT: TO THE BEST OF MY KNOWLEDGE THIS PROJECT COMPLIES WITH THE 2017 FLORIDA FIRE PREVENTION CODE 6TH EDITION AS STATED WITHIN CODE SUMMARY.

SITE MAP

PROJECT LOCATION



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STORE (FL-278)

REFERENCE SYMBOLS

DOOR TAG — 1
ROOM TAG — 100
DETAIL REFERENCE — I / A4
REVISION — 1
REFERENCE — X / A4
WALL SECTION REFERENCE — X / A4
EQUIPMENT REFERENCE — 1

ABBREVIATIONS

ACP	ACOUSTICAL CLG. PANEL	FLASH	FLASHING	PLAM	PLASTIC LAMINATE
ACT	ACOUSTICAL CLG. TILE	FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR	PLYWD	PLYWOOD
AL	ALUMINUM			R	RISER, RADIUS
ALUM	ALUMINUM	FO	FINISH OPENING	REBAR	REINFORCING BAR
ARCH	ARCHITECTURAL	FRP	FIBERGLASS REINFORCED PANELS	REF	REFERENCE
AVG	AVERAGE			REV	REVISION
BLDG	BUILDING	FRT	FIRE RETARDANT TREATED	RM, RMS	ROOM, ROOMS
BLKG	BLOCKING	GA	GAUGE	RO	ROUGH OPENING
BR	BRICK	GALV	GALVANIZED	S & V	SATIN AND VARNISH
CMU	CONCRETE BLOCK	GL	GLASS	SC	SOLID CORE
CT	CERAMIC TILE	GWB	GYPSUM WALLBOARD	SCHED	SCHEDULE
CFM	CUBIC FEET PER MINUTE	HDWE	HARDWARE	SEC	SECTION
CL	CENTER LINE	HM	HOLLOW METAL	SHT	SHEET
CLG	CEILING	HOR	HORIZONTAL	SPECS	SPECIFICATIONS
CONC	CONCRETE	HT	HEIGHT	SF	SQUARE FEET
CONT	CONTINUOUS	HW	HOT WATER	ST	STEEL
CW	COLD WATER	HWH	HOT WATER HEATER	STOR	STORAGE
DTL	DETAIL	HWT	HOT WATER TANK	STRUCT	STRUCTURAL
DF	DRINKING FOUNTAIN	LAV	LAVATORY	SUSP	SUSPENDED
DIA	DIAMETER	LT	LIGHT	SV	SHEET VINYL
DIM	DIMENSION	MAT'L	MATERIAL	SS	STAINLESS STEEL
DN	DOWN	MAX	MAXIMUM	TB	TELEPHONE MOUNTING BOARD
DR	DOOR	MTL	METAL	TD	TRENCH DRAIN
DS	DOWNSPOUT	MIN	MINIMUM	THRESH	THRESHOLD
DWG	DRAWING	MO	MASONRY OPENING	TYP	TYPICAL
EA	EACH	MUL	MULLION	UNFIN	UNFINISHED
ELEV	ELEVATION	N/A	NOT APPLICABLE	UR	URINAL
EXIST	EXISTING	NIC	NOT IN THIS CONTRACT	VCT	VINYL COMPOSITION TILE
OR EX		NO	NUMBER	VERT	VERTICAL
EXT	EXTERIOR	NOM	NOMINAL	VST	VINYL SAFETY TILE
FDN	FOUNDATION	NTS	NOT TO SCALE	W	WIDTH
FIN	FINISH	OC	ON CENTER	WC	WATER CLOSET
FD	FLOOR DRAIN	OD	OUTSIDE DIMENSION	WD	WOOD
FL	FLOOR	PT	PAINT	WDW	WINDOW
				WP	WATERPROOF

CONTACT INFORMATION

TENANT INFORMATION:
R&R TROPICS NO. 2 LLC
RICHARD PETTINGILL
710 W CRANES CIRLCE
ALTAMONTE SPRINGS, FL 32701
410-430-9732

PROJECT MANAGER:
ATTN: CHRIS NEAL
6501 E. Greenway Pkwy #103-707
SCOTTSDALE, AZ 85254
P: 480.297.5577
cneal@neptunedg.com

CORPORATE INFORMATION:
TROPICAL SMOOTHIE CAFE
1117 Perimeter Center W W200,
Atlanta, GA 30338

LANDLORD:
RB SEMINOLE LLC
C/O RD MANAGEMENT LLC
810 SEVENTH AVE - 10TH FLOOR
NEW YORK NY 10019
212-265-6600

BUILDING DEPARTMENT:
CITY OF SANFORD
300 N. PARK AVE
SANFORD, FL 32771
407-688-5000
ONLINE SUBMITTAL REQUIRED

HEALTH DEPARTMENT:
FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES
3125 CORNER BLVD., STE D
TALLAHASSEE, FL 92399
850-245-5595

GRAND RESTAURANT / HOCKENBERGS FOODSERVICE EQUIPMENT & SUPPLY
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MARK COX, CFSP
(763) 746-3410
markc@hockenbergs.com

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Fort Smith, AR 72908

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Email
contactus@qualservcorp.com

MICROS/ORACLE
(POS PROVIDER)

GARRETT STOM
(561) 248-9040
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RETAIL TECHNOLOGY GROUP
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636-680-8226

MUZAK, MOOD MEDIA CO.

Clint Hatmaker
clint.hatmaker@moodmedia.com
727-253- 0807

PROJECT DATA

PROJECT NAME: TROPICAL SMOOTHIE CAFE
PROJECT ADDRESS: 3175 SOUTH ORLANDO DRIVE #400
SANFORD, FL 32773

LOCAL JURISDICTION: BUILDING & SAFETY - CITY OF SANFORD
HEALTH: FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES DIVISION OF FOOD SAFETY

CODES UTILIZED: 2017 FLORIDA BUILDING CODES (6TH EDITION)

PROPOSED USE: RESTAURANT

CONSTRUCTION TYPE: IIB- NOT SPRINKLERED

OCCUPANCY GROUP: M
(OCCUPANT LOAD UNDER 50 PERSONS SHALL BE CLASSIFIED AS A GROUP M)

TOTAL S.F.: 1,268 S.F. PER LEASE

DINING AREA 320 S.F. / 15 = 22
KITCHEN/SERVICE AREA 320 S.F. / 200 = 2
HALLWAY/ RESTROOM 140 S.F. / 0 = 0

ACTUAL INTERIOR SEATING: 19 SEATS
TOTAL OCCUPANT LOAD: 24- SEE SHEET A1.1

1 EXIT(S) REQUIRED, 1 EXIT(S) PROVIDED (OCCUPANT LOAD < 50)
2 RESTROOMS REQUIRED, 2 RESTROOMS PROVIDED

NO STRUCTURAL WORK IS TO BE PERFORMED UNDER THIS PERMIT.
NO SITE WORK IS TO BE PERFORMED UNDER THIS PERMIT.

(3) EMPLOYEES MAXIMUM

EXTERIOR SIGN UNDER SEPARATE PERMIT BY SIGN COMPANY - INSTALLED BY SIGN COMPANY

NOTE: NO COOKING ON PREMISES WITH THE EXCEPTION OF ITEMS 25, 27 & 57 SHOWN ON A5.0 - PER MFG HOODS ARE NOT REQUIRED

INDEX OF SHEETS

SET DATED: 1.3.2020

ND ENTERPRISES, LLC
6501 E. GREENWAY PKWY #103-707 SCOTTSDALE, AZ 85254
P 480-297-5577 www.ndentlaz.com

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TSC: FL-278

REVISION
LANDLORD
1 1.3.2020
2
3

DATE: 12.26.2019

REVIEW SET NOT FOR PERMIT

COVER SHEET

A1.0

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.
10. THESE DRAWINGS ARE NOT MEANT TO REPLACE ARCHITECTURAL OR ENGINEERING PLANS. IF DISCREPANCIES EXIST, REFER TO THE ARCHITECTS CONSTRUCTION DOCUMENTS.
11. 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.
12. REFER TO THE EQUIPMENT VENDOR WITH ANY CONCERNS OR QUESTIONS REGARDING DELIVERY AND STORAGE OF EQUIPMENT.
13. FOLLOWING FINAL FIXTURES INSTALLATION THE GENERAL CONTRACTOR SHALL CLEAN-UP AND DISPOSE OF ALL TRASH, CARTONS, CREATES, DEBRIS, ETC.
14. GENERAL CONTRACTOR TO REPLACE ALL HVAC FILTERS ONCE CONSTRUCTION IS COMPLETE
15. GC MUST LOCATE THE EXISTING MAIN SEWER WASTE LINE PRIOR TO ISSUANCE OF PERMIT. GC TO INCLUDE CAMERA / X-RAY OF SLAB FOR LOCATION OF WASTE LINE WITHIN BID. GC MUST PROVIDE SKETCH TO PLUMBING ENGINEER PRIOR TO PERMIT ISSUANCE. IF RECEIVED AFTER PERMIT ISSUANCE ANY COST TO REVISE PLANS WILL BE BILLED TO THE GENERAL CONTRACTOR.

ABBREVIATION KEY

ABBR.	ABBREVIATION DESCRIPTION
F	FRANCHISEE
EV	EQUIPMENT VENDOR
GC	GENERAL CONTRACTOR
EC	ELECTRICAL CONTRACTOR
PC	PLUMBING CONTRACTOR
CC	CONTRACTOR'S CHOICE
LJ	LOCAL JURISDICTION
SC	SIGN COMPANY
VLL	VERIFY WITH LANDLORD
V	VENDOR
M	MICROS
RTG	RETAIL TECHNOLOGY GROUP
UMI	ULTERIOR MOTIVES INTERNATIONAL
HL	HERMITAGE LIGHTING
MMM	MUZAK (MOOD MEDIA)
C	CINTAS
UC	UTILITY COMPANY
SFS	SEE FINISH SCHEDULE
SPS	SEE PLUMBING SCHEDULE

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)			
		NEW PATIO POUR AT EXISTING SIDEWALK	GC	CC	GC
		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
		RAILINGS, SUPPORTS, BRACKETS	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	F	EV	EV
		RESTROOM ACCESSORIES	GC	GC	GC
**		FIRE EXTINGUISHERS	GC	GC	GC
		EQUIPMENT (DIVISION 11)			
		ALL KITCHEN EQUIPMENT (UNLESS NOTED)	F	EV	EV
		POS SYSTEMS AND MONITORS	F	M	RTG
		FURNISHINGS (DIVISION 12)			
		FURNISHINGS (TABLES, CHAIRS, STOOLS)	F	EV	EV
		MARKET PLACE CABINET	F	EV	EV
		MENU BOARDS	F	EV	EV
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
***		WARE WASHING DETERGENT	F	C	C
		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	F	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	RTG

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

CONSTRUCTION NOTES

ARCHITECT'S DESIGN WITHOUT CONSTRUCTION PHASE SERVICES

SINCE DIRECT CONSTRUCTION OBSERVATIONS AND REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INCLUDED AS PART OF THE ARCHITECT'S BASIC SERVICES, IT IS UNDERSTOOD THAT SUCH RESPONSIBILITIES WILL BE ASSUMED BY OTHERS. FM GROUP INC AVAILS ITSELF TO THE CLIENT, THE CONTRACTOR, AND ANY OTHER PARTIES AS NECESSARY (VIA TELEPHONE, FAX, AND EMAIL) IN ORDER TO ASSIST IN PROVIDING CLARIFICATIONS OR RESOLVING ISSUES AND PROBLEMS THAT MAY ARISE. ALTHOUGH MANY ISSUES CAN BE EASILY ADDRESSED WITHOUT THE ARCHITECTS INVOLVEMENT, THERE ARE TIMES WHEN PARTICIPATION IS ADVISABLE. DETERMINATION OF WHEN INVOLVEMENT IS APPROPRIATE IS LEFT TO THE PROFESSIONAL DISCRETION OF THE CONTRACTOR. IT IS UNDERSTOOD THAT THE CLIENT AND/OR THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR INTERPRETATION OF THE DRAWINGS, AND ANY OTHER SUPPLEMENTAL INFORMATION, AND WHEN THE ARCHITECT IS DENIED THE OPPORTUNITY TO PROVIDE CLARIFICATIONS OR PARTICIPATE IN CHANGES TO THE DESIGN OR THE RESOLUTION OF ISSUES OR PROBLEMS, ALL PARTIES WAIVE ANY CLAIMS AGAINST THE ARCHITECT THAT MAY BE IN ANY WAY CONNECTED THERETO. FM GROUP INC IS HELD HARMLESS FROM LOSS, CLAIM, OR COSTS ARISING OR RESULTING FROM MODIFICATIONS OR CHANGES MADE TO THE DESIGN (WITHOUT THE KNOWLEDGE OF THE ARCHITECT) DUE TO CONDITIONS OR CIRCUMSTANCES (ANTICIPATED OR NOT) BEYOND THE ARCHITECT'S CONTROL.

MECHANICAL, PLUMBING AND ELECTRICAL NOTES

1. THE RELATIONSHIP BETWEEN FLOOR SINKS AND NEW WALLS IS CRITICAL TO THE FINAL FIXTURE / EQUIPMENT LAYOUT. FLOOR SINKS AS SHOWN ON THE PLUMBING PLANS ARE DIMENSIONALLY LOCATED OFF OF NEW PARTITIONS, AND THEREFORE THE CONTRACTOR MUST COMPLETE PLAN LAYOUT ON SLAB PRIOR TO FINAL LOCATION OF FLOOR SINKS FOR ACCURATE FINAL PLACEMENT.

G.C. COMPLIANCE:
OWNER'S GENERAL CONTRACTOR SHALL VISIT THE PREMISES AND VERIFY ALL EXISTING CONDITIONS PRIOR TO START OF CONSTRUCTION AND SHALL REPORT ALL DISCREPANCIES TO TENANT'S ARCHITECT. TENANT'S GENERAL CONTRACTOR SHALL CONFORM TO ALL REQUIREMENTS REGARDING CONSTRUCTION PROCEDURES, INSURANCE, ETC., AS SEAT FORTH BY THE LANDLORD.

G.C. COMPLIANCE:
OWNER'S SIGNAGE CONTRACTOR SHALL PREPARE SIGNAGE SHOP DRAWINGS AND SUBMIT TO BUILDING DEPT. & LANDLORD FOR APPROVAL. ALL SIGNAGE IS UNDER SEPARATE PERMIT.

KITCHEN/ SERVICE AREA
TOTAL SF: 320 SF / 200 =
2 OCCUPANTS

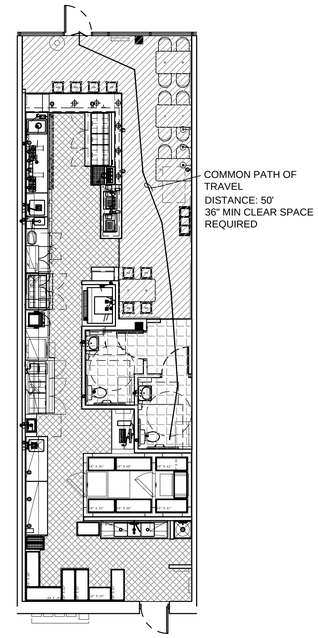
RESTROOM / HALLWAY AREAS
TOTAL SF: 140 SF / 0 =
0 OCCUPANTS

DINING AREAS
TOTAL SF: 320 SF / 15 = 22

TOTAL OCCUPANT LOAD:
24 OCCUPANTS

LESS THAN 50 = 1 EXIT REQUIRED.

ACTUAL SEATING: 19
NOTE: ALL NON FIXED SEATS SHOWN



EGRESS / OCCUPANCY PLAN

SCALE: 1/8" = 1'-0"

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6501 E. GREENWAY PKWY #103-707 SCOTTSDALE, AZ 85254
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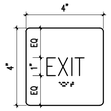
A1.1

INTERNATIONAL ACCESSIBILITY SYMBOL

RAISED

UNISEX RESTROOM

PROPORTIONS
INTERNATIONAL SIGN OF ACCESSIBILITY



LETTERS AND NUMBERS:

1. LETTERS AND NUMBERS ON SIGNS SHALL BE RAISED 1/32" MINIMUM AND SHALL BE SANS-SERIF UPPERCASE CHARACTERS ACCOMPANIED BY GRADE 2 BRAILLE.
2. RAISED CHARACTERS OR SYMBOLS SHALL BE A MINIMUM OF 5/8" HIGH.
3. PICTORIAL SYMBOL SIGNS (PICTOGRAMS) SHALL BE ACCOMPANIED BY THE EQUIVALENT VERBAL DESCRIPTION PLACED DIRECLY BELOW THE PICTOGRAM. THE BORDER DIMENSION OF THE PICTOGRAM SHALL BE A MINIMUM OF 6" IN HEIGHT.
4. CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND, EITHER LIGHT CHARACTERS ON A DARK BACKGROUND OR DARK CHARACTERS ON A LIGHT BACKGROUND.
5. CHARACTER HEIGHT MEASURED VERTICALLY FROM THE BASELINE OF THE CHARACTER SHALL BE ⅜" MINIMUM AND 2" MAXIMUM BASED ON THE HEIGHT OF UPPERCASE "I"
6. CONTRACTED GRADE 2 BRAILLE SHALL BE USED WHEREVER BRAILLE SYMBOLS ARE SPECIFICALLY REQUIRED IN OTHER PORTIONS OF THESE REGULATIONS. DOTS SHALL BE 1/10" ON CENTERS IN EACH CELL WITH 2/10" SPACE BETWEEN CELLS. DOTS SHALL BE RAISED A MINIMUM OF 1/40" ABOVE THE BACKGROUND.

SIGN LOCATIONS:

7. ALL BUILDING ENTRANCES THAT ARE ACCESSIBLE TO AND USABLE BY PERSONS WITH DISABILITIES AND AT EVERY MAJOR JUNCTION ALONG OR LEADING TO AN ACCESSIBLE ROUTE OF TRAVEL SHALL BE IDENTIFIED WITH A SIGN DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND WITH ADDITIONAL DIRECTIONAL SIGNS, AS REQUIRED, TO BE VISIBLE TO PERSONS ALONG APPROACHING PEDESTRIAN WAYS.
8. WHEN PERMANENT IDENTIFICATION IS PROVIDED FOR ROOMS AND SPACES, RAISED LETTERS SHALL BE PROVIDED AND SHALL BE ACCOMPANIED BY BRAILLE IN CONFORMANCE WITH SECTION 1117B.5.6. SIGNS SHALL BE INSTALLED ON THE WALL ADJACENT TO THE LATCH OUTSIDE OF THE DOOR. WHERE THERE IS NO WALL SPACE ON THE LATCH SIDE, INCLUDING AT LEAF DOORS, SIGNS SHALL BE PLACE ON THE NEAREST ADJACENT WALL, PREFERABLY ON THE RIGHT. MOUNTING HEIGHT SHALL BE 60" ABOVE THE FINISH FLOOR TO THE CENTERLINE OF THE SIGN. MOUNTING LOCATION SHALL BE DETERMINED SO THAT THE PERSON MAY APPROACH WITHIN 3" OF THE SIGNAGE WITHOUT ENCOUNTERING PROTRUDING OBJECTS OR STANDING WITHIN THE SWING OF A DOOR.
9. ADDITIONAL DIRECTIONAL SIGNS ALONG ACCESSIBLE PATH OF TRAVEL ARE REQUIRED.
10. BUILDINGS REMODELED TO PROVIDE ACCESSIBLE SANITARY FACILITIES FOR PUBLIC USE SHALL HAVE INFORMATION POSTED IN THE LOBBY AS PART OF THE BUILDING DIRECTORY.

INTERNATIONAL SYMBOL OF ACCESSIBILITY:

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

BRAILLE:

14. USE CONTRASTED GRADE 2 BRAILLE. DOTS TO BE 0.1 INCH ON CENTER IN EACH CELL.
15. 0.2 INCH SPACE BETWEEN CELLS.
16. DOTS RAISED MINIMUM 0.025 INCH ABOVE BACKGROUND.

1 SIGNS PICTOGRAMS — SCALE N.T.S.

TACTILE SIGNAGE

A. WHEN SIGNS IDENTIFY A PERMANENT ROOM OR SPACE OF A BUILDING OR SITE, OR WHEN SIGNS DIRECT OR GIVE INFORMATION ABOUT A PERMANENT ROOM OR SPACE OF A BUILDING OR SITE, CORRESPONDING TACTILE SIGNAGE SHALL BE INSTALLED.

B. WHEN SIGNS IDENTIFY, OR GIVE INFORMATION ABOUT ACCESSIBLE ELEMENTS AND FEATURE OF A BUILDING OR SITE, THEY SHALL INCLUDE THE APPROPRIATE SYMBOL OF ACCESSIBILITY OR PICTOGRAM, WITH THE EQUIVALENT VISUAL AND TACTILE DESCRIPTION PLACED DIRECTLY BELOW THE PICTOGRAM. THE OUTSIDE BORDER OF THE PICTOGRAM SHALL BE MINIMUM 6" IN HEIGHT.

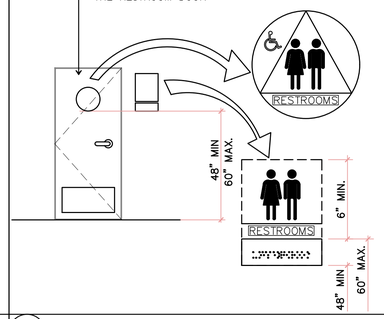
C. VISUAL CHARACTERS SHALL BE UPPERCASE, STANDARD SANS SERIF FONT. THE HEIGHT OF VISUAL CHARACTERS SHALL BE A MINIMUM 5/8" PLUS 1/8" PER FOOT OF VIEWING DISTANCE OVER SIX FEET. CHARACTER WIDTH SHALL BE 55% MINIMUM AND 110% MAXIMUM OF THE HEIGHT OF THE CHARACTER. CHARACTER STROKE WIDTH OF VISUAL ONLY CHARACTERS SHALL BE A MINIMUM OF 10% OF THE CHARACTER HEIGHT, AND A MAXIMUM OF 30%. TACTILE SIGNAGE DUPLICATING THE INFORMATION SHALL BE PROVIDED, EITHER AS PART OF THE VISUAL SIGN OR A SEPARATE TACTILE SIGN PROVIDED.

D. TACTILE CHARACTERS SHALL BE UPPERCASE, STANDARD SANS SERIF FONT, RAISED 1/32" OFF THE BACKGROUND. THE HEIGHT OF TACTILE CHARACTERS SHALL BE BETWEEN 5/8" AND 2". CHARACTER WIDTH SHALL BE 55% MINIMUM AND 110% MAXIMUM OF THE HEIGHT OF THE CHARACTER. CHARACTER STROKE WIDTH SHALL BE A MINIMUM OF 10% OF THE CHARACTER HEIGHT, AND A MAXIMUM OF 15%. CHARACTERS SHALL BE ACCOMPANIED BY GRADE 2 BRAILLE.

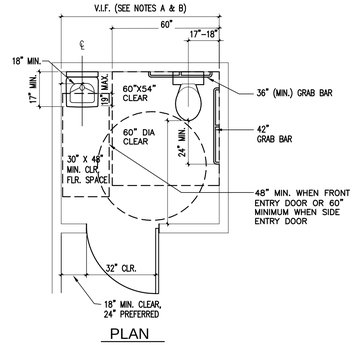
E. GRADE 2 BRAILLE SHALL HAVE DOMED OR ROUNDED DOTS RAISED 1/40" OFF THE BACKGROUND, WITH DOTS SPACED 1/10" WITH-IN CELLS, AND 1/4" BETWEEN CELLS. (OR SPACED PER ANSI TABLE 703.5)

F. TACTILE SIGNS SHALL BE MOUNTED 48" MINIMUM, AND 60" MAXIMUM ABOVE THE FLOOR TO THE CENTERLINE OF THE SIGN. AN 18" X 18" CLEAR SPACE IS REQUIRED IN FRONT OF THE TACTILE SIGN, BEYOND THE ARC OF ANY DOOR SWING. WHERE SIGNS ARE MOUNTED AT DOORS, THE SIGN SHALL BE ON THE LATCH SIDE OF THE DOOR. WHERE SIGNS ARE MOUNTED AT DOUBLE DOORS, OR WHERE THERE IS NO WALL SPACE, THE SIGN SHALL BE MOUNTED ON THE NEAREST ADJACENT WALL, PREFERABLY THE RIGHT SIDE.

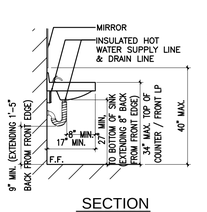
G. CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND. CHARACTERS, SYMBOLS AND BACKGROUNDS SHALL HAVE A NON-GLARE FINISH.



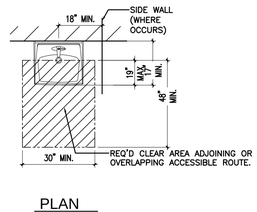
2 TACTILE SIGNAGE — SCALE N.T.S.



PLAN

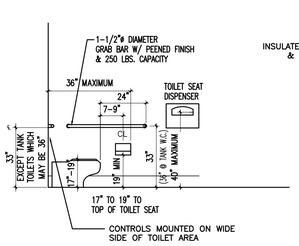


SECTION

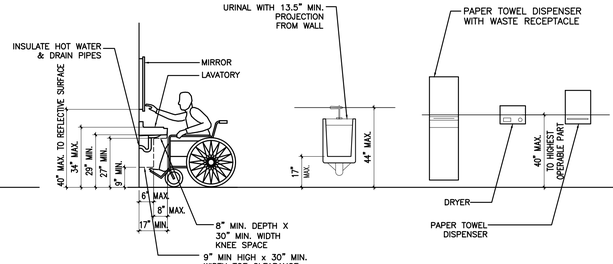


PLAN

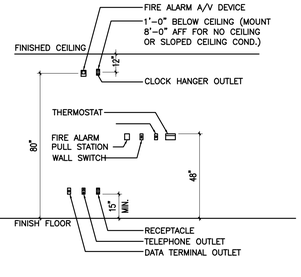
TYPICAL LAVATORY REQUIRED CLERANCES



ELEVATIONS



KNEE AND TOE CLERANCES



NOTE:
1. PROVIDE PRIVACY DOOR LOCK WHEN IT IS A PRIVATE TOILET OR FOR UNISEX USE.
2. GRAB BARS; SEE TYPICAL ACCESSIBILITY NOTES SHEET.
3. THERE SHALL BE NO SHARP ABRASIVE SURFACES UNDER LAVATORIES.
4. ALL HOT WATER AND ALL DRAIN PIPES MUST BE INSULATED OR OTHERWISE COVERED.

3 RESTROOM CLEARANCES — SCALE N.T.S.

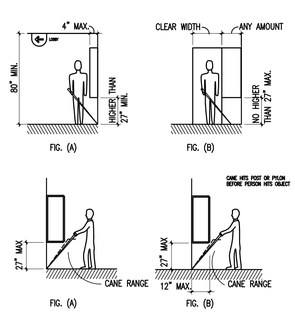
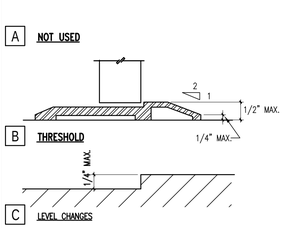


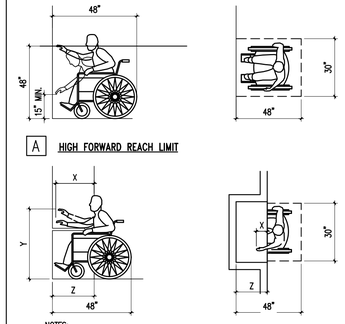
FIG. (A) FIG. (B)

4 PROTRUDING OBJECTS — SCALE N.T.S.



NOTES:
1. 1/2" MAXIMUM TOTAL HEIGHT WITH 1/4" MAXIMUM VERTICAL CHANGE AT EDGE.
2. 1 : 2 SLOPED BEVEL REQUIRED IF LEVEL CHANGE IS OVER 1/4" VERTICAL LEVEL CHANGE.
3. 1/4" MAXIMUM VERTICAL LEVEL CHANGE.

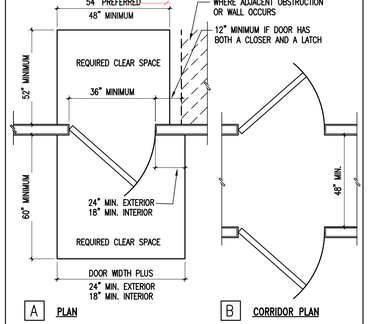
5 THRESHOLD LEVEL CHANGES — SCALE N.T.S.

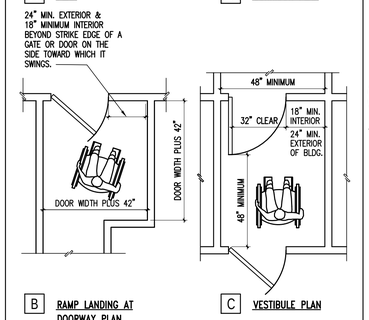


NOTES:
1. X SHALL BE ⩽ 25 INCHES; Z SHALL BE > X.
2. WHEN X < 20 INCHES, THEN Y SHALL BE 48 INCHES MAXIMUM.
3. WHEN X IS 20 TO 25 INCHES, THEN Y SHALL BE 44 INCHES MAXIMUM.

6 REACH REQUIREMENTS — SCALE N.T.S.

ICC A117.1 2017





NOTES:
1. CLEAR SPACES MUST BE LEVEL TO PREVENT WHEELCHAIRS FROM ROLLING WHEN THE OCCUPANT RELEASES THE WHEEL GRIPS TO REACH FOR THE DOOR. 1/4" PER FOOT IS ALLOWED FOR DRAINAGE.
2. WHERE DOORS OPEN ONTO, BUT NOT INTO A CORRIDOR, THE REQUIRED LEVEL AREA BEYOND THE DOORS MAY BE A MINIMUM OF 48". FOR ADDITIONAL INFORMATION, SEE APPLICABLE NOTES ON TYPICAL ACCESSIBILITY NOTES SHEET.

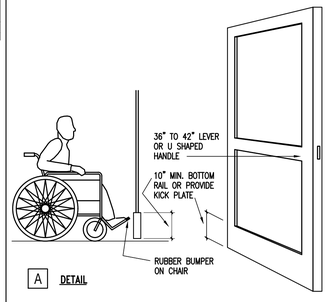
7 DOOR CLEAR SPACE — SCALE N.T.S.

DOOR TYPE:

1. MINIMUM 10" HIGH SMOOTH SURFACE AT DOOR BOTTOM, EITHER ATTACHED PANEL OR BOTTOM RAIL.

HARDWARE:

2. OPENABLE FROM INSIDE WITHOUT USE OF KEY OR SPECIAL KNOWLEDGE OR EFFORT.
3. OPENABLE BY SINGLE EFFORT LEVER-TYPE DEVICE (NOT REQUIRING GRASPING).
4. MOUNTED 34" TO 48".
5. MAXIMUM 5 LBS. EFFORT TO OPERATE EXTERIOR DOOR, 5 LBS. FOR INTERIOR.



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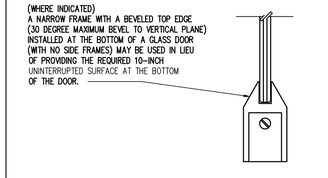


8 DOOR — SCALE N.T.S.

ACCESSIBLE RESTROOM REQUIREMENTS

a. A CLEAR FLOOR SPACE MEASURED FROM THE FLOOR TO A HEIGHT OF 27" ABOVE THE FLOOR, WITHIN THE SANITARY FACILITY ROOM, OF SUFFICIENT SIZE TO INSCRIBE A CIRCLE DIAMETER NOT LESS THAN 60" IN SIZE. OTHER THAN THE DOOR TO THE ACCESSIBLE WATER CLOSET COMPARTMENT, A DOOR IN ANY POSITION, MAY ENCROACH INTO THIS SPACE BY NOT MORE THAN 12".

b. DOORS SHALL NOT SWING INTO THE CLEAR FLOOR SPACE REQUIRED FOR ANY FIXTURE.

c. ACCESSIBLE WATER CLOSET COMPARTMENTS SHALL COMPLY WITH THE FOLLOWING:
i. THE COMPARTMENT SHALL BE A MINIMUM OF 60" WIDE.
ii. IF THE COMPARTMENT HAS A SIDE-OPENING DOOR, A MINIMUM 60" WIDE AND 60" DEEP CLEAR FLOOR SPACE SHALL BE PROVIDED IN FRONT OF THE WATER CLOSET.
iii. IF THE COMPARTMENT HAS AN END-OPENING DOOR (FACING THE WATER CLOSET) A MINIMUM 60" WIDE AND 48" DEEP CLEAR FLOOR SPACE SHALL BE PROVIDED IN FRONT OF THE WATER CLOSET. THE DOOR SHALL BE LOCATED IN FRONT OF THE CLEAR FLOOR SPACE AND DIAGONAL TO THE WATER CLOSET, WITH A MAXIMUM STILE WIDT OF 4".
iv. THE WATER CLOSET COMPARTMENT SHALL BE EQUIPPED WITH A DOOR THAT HAS AN AUTOMATIC CLOSING DEVISE AND SHALL HAVE A CLEAR UNOBSTRUCTED OPENIN WITH OF 32" WHEN LOCATED AT THE END AND A 34" WHEN LOCATED AT THE END AND A 34" WHEN LOCATED AT THE SIDE WITH THE DOOR POSITIONED AT AN ANGLE OF 90 DEGREES FROM ITS CLOSED POSITION.
v. MANEUVERING SPACE AT THE COMPARTMENT DOOR SHALL COMPLY WITH SECTIONS 1133B.2.4.2 AND 1133B.2.4.3 EXCEPT THAT THE SPACE IMMEDIATELY IN FRONT OF THE WATER CLOSET COMPARTMENT SHALL NOT BE LESS THAN 48"AS MEASURED AT RIGHT ANGLES TO THE COMPARTMENT DOOR IN ITS CLOSED POSITION.

d. IN OTHER THAN DWELLING UNITS, TOILET ROOM FLOORS SHALL HAVE A SMOOTH, HARD, NONABSORBENT SURFACE SUCH AS PORTLAND CEMENT, CONCRETE, CERAMIC TILE OR OTHER APPROVED MATERIAL WHICH EXTEND UPWARD ONTO WALLS AT LEAST 5". WALLS WITHIN WATER CLOSET COMPARTMENTS AND WALLS WITHIN 24" OF THE FRONT AND SIDES OF URINALS SHALL BE SIMILARLY FINISHED TO A HEIGHT OF 48" AND EXCEPT FOR STRUCTURAL ELEMENTS; THE MATERIALS USED IN SUCH WALLS SHALL BE A TYPE WHICH IS NOT ADVERSELY AFFECTED BY MOISTURE.

e. PROVIDE ONE ACCESSIBLE LAVATORY IN COMPLIANCE WITH SECTION 1115B.4.3.

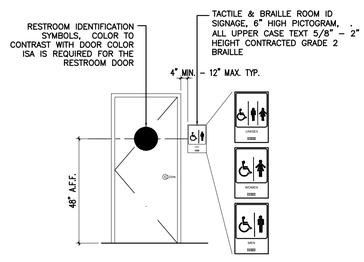
f. THE CENTERLINE OF THE WATER CLOSET FIXTURE SHALL BE 18" FROM THE SIDE WALL OR PARTITION. ON THE OTHER SIDE OF THE WATER CLOSET, PROVIDE A MINIMUM OF 28" WIDE CLEAR FLOOR SPACE IF THE WATER CLOSET IS ADJACENT TO A FIXTURE OR A MINIMUM OF 32" WIDE CLEAR FLOOR SPACE IF THE WATER CLOSET IS ADJACENT TO A WALL OR PARTITION. THIS CLEAR FLOOR SPACE SHALL EXTEND FROM THE REAR WALL TO THE FRONT OF THE WATER CLOSET.

g. A MINIMUM 60" WIDE AND 48" DEEP CLEAR FLOOR SPACE SHALL BE PROVIDED IN FRONT OF THE WATER CLOSET.

h. THE HEIGHT OF ACCESSIBLE WATER CLOSETS SHALL BE A MINIMUM OF 17" AND A MAXIMUM OF 19" MEASURES TO THE TOP OF A MAXIMUM 2" HIGH TOILET SEAT.

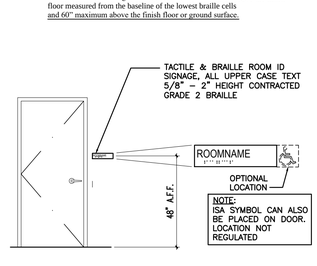
i. GRAB BARS SHALL EXTEND 24" IN FRONT OF WATER CLOSET.

Tactile characters on signs shall be located 48" minimum above the finish floor measured from the baseline of the lowest braille cells and 60" maximum above the finish floor or ground surface.



TYPICAL TOILET ROOM IDENTIFICATION SIGNAGE

Tactile characters on signs shall be located 48" minimum above the finish floor measured from the baseline of the lowest braille cells and 60" maximum above the finish floor or ground surface.



TYPICAL PERMANENT ROOM IDENTIFICATION SIGNAGE

9 ACCESSIBLE ENTRY SIGNAGE AND NOTES — SCALE N.T.S.

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A1.2

GENERAL DEMO NOTES NOTE: NOT ALL APPLY

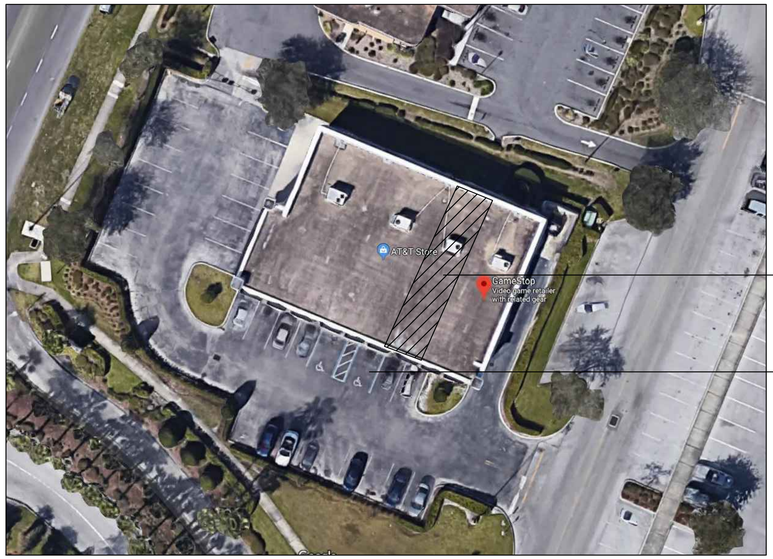
1. GENERAL CONTRACTOR SHALL FURNISH ALL LABOR MATERIALS, TOOLS, EQUIPMENT, TRANSPORTATION, INSURANCE, PROTECTION AND OTHER RELATED SERVICE REQUIRED TO COMPLETE ALL DEMOLITION WORK FOR THE TENANT IMPROVEMENTS.
2. GENERAL CONTRACTOR TO COORDINATE WITH TENANT, PHASING AND/OR TIMING OF COMMENCEMENT, CONTINUATION AND COMPLETION OF ALL DEMOLITION WORK.
3. GENERAL CONTRACTOR SHALL COORDINATE WITH LANDLORD, ANY WORK AFFECTING THE CONTINUITY OF UTILITIES SERVICING OTHER TENANTS ON THE PROPERTY. GENERAL CONTRACTOR SHALL PROTECT ALL UTILITIES SERVING OTHER TENANTS, PEOPLE AND EXISTING AND/OR ADJACENT CONSTRUCTION AND OTHER AREAS FROM DAMAGE INCIDENTAL TO CONSTRUCTION OPERATIONS WITH CONSTRUCTION BARRICADES IN ACCORDANCE WITH CODES AND ORDINANCES OF THE CITY OF WESTMINSTER, CA.
4. GENERAL CONTRACTOR SHALL REPAIR OR RESTORE TO EXISTING CONDITION ADJACENT CONSTRUCTION AND PUBLIC OR PRIVATE PROPERTY DAMAGED BY DEMOLITION WORK.
5. MATERIAL SHALL NOT BE DROPPED BY GRAVITY OR THROWN OUTSIDE THE CONTRACT AREA DURING DEMOLITION. ANY MATERIAL, WHICH IN ITS REMOVAL WILL CAUSE AN EXCESSIVE AMOUNT OF DUST, SHALL BE WETTED DOWN TO PREVENT THE CREATING OF A NUISANCE.
6. ALL PARTS OF THE CONTRACT AREA UNDER DEMOLITION SHALL BE ADEQUATELY LIGHTED WHILE PERSONS ARE ENGAGED AT WORK.
7. RUBBISH AND TRASH SHALL BE REMOVED AS OFTEN AS CONDITIONS WARRANT. COMBUSTIBLE RUBBISH, SHALL BE REMOVED DAILY, AND SHALL NOT BE DISPOSED OF BY BURNING ON THE PREMISES.
8. GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR HIDDEN CONDITIONS AFFECTING DEMOLITION OF PROPOSED WORK.
9. GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL SUB-TRADES WITH COMPLETE AND CURRENT DOCUMENTS.
10. UPON COMPLETION OF DEMOLITION, THE LEASED PREMISES AND ADJACENT PUBLIC AND PRIVATE PROPERTY SHALL BE LEFT CLEAN AND CLEAR OF DEBRIS.
11. VERIFY WITH ARCHITECTURAL DOCUMENTS ALL AREAS TO BE MODIFIED.
12. ALL AREAS OF MODIFICATION OR DEMOLITION, WHICH ARE INCORPORATED INTO THE NEW FACILITY, ARE TO BE PATCHED, REPAIRED, OR ADJUSTED TO AN ACCEPTABLE CONDITION.
13. CONTRACTOR SHALL PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2A OR 2A10BC WITHIN 75' TRAVEL DISTANCE OF ALL PORTIONS OF THE BUILDING DURING THE DEMOLITION AND CONSTRICTION.
14. GENERAL CONTRACTOR SHALL VERIFY ALL ON SITE CONDITIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR OMISSIONS PRIOR TO DEMOLITION AND CONSTRUCTION.
15. PATCH ALL CONCRETE SLABS AS REQUIRED DUE TO MODIFICATIONS.
16. PROVIDE SECURITY ENCLOSURE AT ALL REMOVED DOORS OR WALLS AS REQUIRED.
17. NOTIFY BUILDING MANAGEMENT AND FIRE ALARM COMPANY OF DEMOLITION OR CONSTRUCTION WORK. FIRE ALARM SYSTEM, (IE: EXITING) IS TO REMAIN ACTIVATED AT ALL TIMES.
18. COORDINATE REMOVAL OF ALL FINISHES OF WITH BUILDING OWNER PRIOR TO START OF DEMOLITION (IF APPLICABLE).
19. EXISTING FIRE SPRINKLER SYSTEM TO REMAIN.
20. EXISTING PLUMBING LINES FOR FLOORS ABOVE TO REMAIN (IF APPLICABLE).
21. ANY EXISTING SPRAY-APPLIED FIRE PROOFING FOUND FLOOR DECK ABOVE TO REMAIN (IF APPLICABLE)

ELECTRICAL DEMOLITION GENERAL NOTES.

22. ELECTRICAL CONTRACTOR SHALL VISIT AND EXAMINE THE SITE PRIOR TO CONSTRUCTION TO ASCERTAIN THE EXISTING CONDITIONS AND LIMITS OF DEMOLITION AND CONSTRUCTION.
23. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROTECT AND RETAIN POWER TO ALL EXISTING ACTIVE EQUIPMENT WHICH SHALL REMAIN.
24. ALL REMOVED EQUIPMENT SHALL BE DISPOSED OF BY THIS CONTRACTOR UNLESS DIRECTED TO DO OTHERWISE BY OWNER, TENANT OR ARCHITECT.
25. DISCONNECT, REMOVE, OR RELOCATE ALL EXISTING ELECTRICAL MATERIAL AND EQUIPMENT THAT INTERFERES WITH THE NEW INSTALLATION. THIS INCLUDES BUT IS NOT LIMITED TO LIGHTING FIXTURES, WIRING DEVICES, SIGNAL EQUIPMENT, EXHAUST FANS, ETC.
26. REMOVE ALL CONDUIT WIRE, BOXES, AND FASTENING DEVICES, AS REQUIRED TO AVOID ANY INTERFERENCE WITH THE NEW INSTALLATION. ABANDONED CONDUITS AND ALL WIRING ARE TO BE REMOVED.
27. ELECTRICAL CONTRACTOR SHALL RECONNECT ANY EQUIPMENT BEING DISTURBED BY THE RENOVATION YET REQUIRED FOR CONTINUED SERVICE TO SAME OR NEAREST AVAILABLE PANEL.
28. WHERE WORK BY THE GENERAL CONTRACTOR (WALL REMOVAL, NEW OR RELOCATED WALL OPENINGS, ETC.) RESULTS IN THE REMOVAL, RELOCATION OR RE-FEEDING OF ELECTRICAL DEVICES OR LIGHTING FIXTURES, THE ELECTRICAL CONTRACTOR SHALL DISCONNECT OR RECONNECT AS REQUIRED ALL ACTIVE DEVICES REMAINING ON THAT CIRCUIT SYSTEM.
29. ELECTRICAL CONTRACTOR SHALL REMOVE ALL LIGHT FIXTURES, RECEPTACLES, J-BOXES, SWITCHES, CONDUIT, WIRING, ETC. AS INDICATED IN CONSTRUCTION DOCUMENTS.

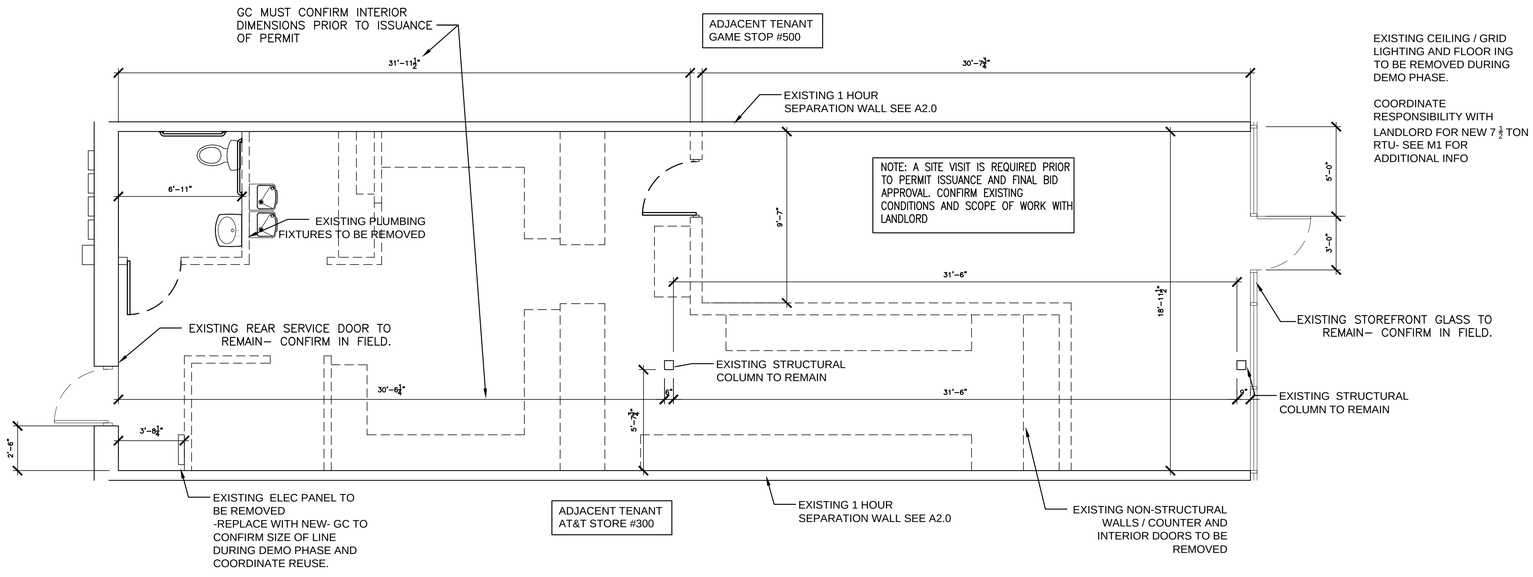
PLUMBING AND MECHANICAL GENERAL NOTES

30. MECHANICAL CONTRACTOR SHALL VISIT THE SITE DURING BIDDING PHASE TO VERIFY ALL EXISTING MECHANICAL EQUIPMENT AND COMPARE WITH MECHANICAL PLANS FOR THIS PROJECT
31. PLUMBING CONTRACTOR TO VERIFY EXACT LOCATION AND DEPTH OF WASTE LINE, EXACT LOCATION AND SIZE OF WATERLINE STUBBED TO SPACE AND COMPARE TO PLUMBING PLANS FOR THIS PROJECT.



NORTH

2 EXISTING SITE PLAN (NO NEW WORK)
SCALE: NTS



NORTH

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

NOTE:
A SITE VISIT IS REQUIRED BY THE GC. AFTER DEMO OF CEILING- GC MUST CONFIRM MAX HEIGHT OF NEW CEILING AT 12'-0" CONTACT ARCHITECT IMMEDIATELY. MUST BE COMPLETED BEFORE PERMIT ISSUANCE.

NOTE:
GC TO PROVIDE CAMERA TEST OR X-RAY OF SLAB TO LOCATE EXISTING WASTE LINES UNDER SLAB. NO SHELL PLANS PROVIDED. CONFIRM WITH P SHEETS AND CONTACT DESIGN TEAM IF MODIFICATIONS ARE NEEDED. CONFIRMATION REQUIRED PRIOR TO ISSUANCE OF PERMIT ISSUANCE.

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2
3

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REVIEW SET
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SITE PLAN
EXISTING PLAN

A1.3

GENERAL NOTES:

1. ALL DIMENSIONS ARE FROM FACE OF DRYWALL, UNLESS OTHERWISE NOTED.
2. ALL GYPSUM BOARD USED SHALL BE 5/8" TYPE 'X' FIRE TAPED. DEMISING PARTITIONS SHALL BE OF FIRECODE "X" SHEETROCK, TAPED AND SEALED TO DECK ABOVE.
3. ALL PLYWOOD, PLYWOOD BACKING, PARTICLE BOARD, WOOD BLOCKING, AND FRAMING USED SHALL BE FIRE RETARDANT & STAMPED NON-COMBUSTIBLE.
4. PLACE AND FINISH ALL NEW MATERIALS SO AS TO PROVIDE A SMOOTH & INTEGRAL TRANSITION TO EXISTING FINISHES & MATERIALS.
5. PROVIDE ADDITIONAL FRAMING/BRACING FOR ALL WALL MOUNTED EQUIPMENT. CHECK CUTSHEETS OF ALL EQUIPMENT PRIOR TO INSTALLATION.
6. GENERAL CONTRACTOR TO PROVIDE REQUIRED FIRE EXTINGUISHER(S) PER CODE.
7. FIRE SPRINKLERS: ADDITIONS & MODIFICATIONS AS REQUIRED BY CODE AND NFPA PAMPHLET #13. SPRINKLER HEADS CENTERED WITHIN CEILING BOARD. SPRINKLER HEADS AT GYPSUM BOARD CEILINGS MUST BE FULLY RECESSED AND COVERED WITH METAL PLATES FINISHED TO MATCH ADJACENT SURFACE. CENTER SPRINKLER HEADS IN CEILING-WHERE APPLICABLE. ANY MODIFICATIONS TO BE DONE BY LANDLORD'S SPECIFIED SPRINKLER CONTRACTOR. ALL COSTS FOR SPRINKLER RE-LOCATION TO CONFORM WITH FIT OUT DESIGN ARE PROVIDED BY TENANT. - WHEN APPLICABLE.
8. SEE MECHANICAL AND ELECTRICAL SHEETS FOR ALL FIXTURE SPECIFICATIONS, WIRING, AND POWER REQUIREMENTS. - VERIFY WITH EQ SHEETS.
9. NEWLY INSTALLED OR RELOCATED DOORS MUST HAVE LEVER TYPE HARDWARE OR OTHER SHAPE WHICH WILL PERMIT OPERATION BY WRIST OR ARM PRESSURE AND WHICH DOES NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING TO OPERATE, PER WAC 51.20.3103 (A) AND (C).
10. ALL DOORS TO PROVIDE 32" MIN. CLEAR OPENING WHEN OPENED TO 90 DEGREE POSITION.
11. FLOORS IN FOOD PREPARATION AREA, DISH WASHING AREA, SERVICE AREA, JANITORIAL AREA, STORAGE AREA, AND ANY AREA WHERE FOR EQUIPMENT IS PLACED SHALL BE SMOOTH, EASILY CLEANABLE, WASHABLE, DURABLE, AND OF COMMERCIAL GRADE MATERIAL AND SHALL HAVE A MINIMUM 3/8" RADIUS INTEGRAL COVE BASE EXTENDING AT LEAST 4" UP THE WALL. GROUT SPACING FOR TILE SHALL NOT EXCEED 1/4" AND SHALL BE SEALED.
12. NOT USED
13. TENANT'S GC TO COMPLETE SITE VISIT AND VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS - GC TO REVIEW TENANT'S LEASE DURING BID PROCESS TO DETERMINE RESPONSIBILITIES.
14. FLOOR SINKS SHALL BE INSTALLED FLUSH WITH THE FLOOR SURFACE AND BE LOCATED SO AS TO BE READILY ACCESSIBLE FOR CLEANING AND REPAIR.
15. SUPPORT WIRING FOR LAY-IN CEILING SHALL NOT BE ATTACHED TO ANY OF THE LANDLORD'S MECH, ELEC, PLUMB, OR FIRE PROTECTION PIPING OR EQUIPMENT.
16. ALL EXITS SHALL BE OPERABLE FROM INTERIOR OF BUILDING WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.

WALL LEGEND:

EXISTING WALL TO REMAIN. VERIFY CONDITION PATCH AND REPAIR TO LIKE NEW CONDITION - GC TO VERIFY FIRE RATING IF APPLICABLE

EXISTING 1 HOUR RATED DEMISING WALL BY LANDLORD- PER LEASE- TO MATCH 17/A6.0

NEW WALL — 1 LAYER 5/8" GYPSUM BOARD EACH SIDE OVER 3 5/8" 20 GA METAL STUDS AT 16" O.C. TO CEILING. BRACE STUDS @ 4'-0" O.C. PROVIDE 5 5/8" MTL STUDS AT ALL 7" NOMINAL WALLS.

NOTE:
ALL EXPOSED CMU BLOCK MASONRY WALLS SHALL BE FURRED OUT WITH 1 1/2" METAL STUDS WITH GYP BOARD (TYP)

NOTE: DIMENSIONED TO FINISHED WALL.
NOTE: ALL EXTERIOR WALLS TO BE INSULATED.

KEYED NOTES:

1. EXISTING DEMISING WALL BY LANDLORD GC-SEE NOTES ON A1.3- TENANT'S GC TO CONFIRM IN FIELD A 1 HOUR RATED WALL PER 17/A6.0
2. METAL SHELVING RACK - 5 TIER IN HEIGHT NOT TO EXCEED 6 FEET
3. NEW WALK-IN COOLER/ FREEZER- SEE EQUIPMENT PLAN
4. RESTROOM HAND SINK
5. ELECTRICAL PANEL- SEE ELECTRICAL DRAWINGS- GC TO CONFIRM EXISTING
6. 3-COMPARTMENT SINK WITH (2) 18" INTEGRAL DRAIN BOARDS
7. SERVICE COUNTER - CABINET SUPPLIER TO FURNISH SHOP DRAWINGS
8. NEW FURR OUT W/ GYP BD AND FRP AT ALL EXISTING CMU WALLS- IF NEEDED
9. 24" JANITORIAL MOP SINK W/ WH ABOVE (SEE PLUMBING SHEETS)
10. EXISTING STRUCTURAL COLUMN TO REMAIN
11. WALL-MOUNTED HAND SINK
12. EXISTING STOREFRONT BY LANDLORD- SEE LEASE TO CONFIRM RESPONSIBILITY - CONFIRM MATCH TO THIS LAYOUT
13. QUARRY TILE FLOORING THROUGHOUT KITCHEN & SERVICE AREA
14. FIRE EXTINGUISHER
15. RESTROOM FIXTURES
16. NEW 3 5/8" METAL STUD WALL FURRING AND 5/8" GYP BD INSTALLED AT EXISTING DEMISING WALL.
17. HANDICAP GRAB BARS WITH BLOCKING
18. ELECTRICAL SERVICE ENTRANCE BY LL TO REMAIN
19. NEW FLOORING IN DINING ROOM SEE SHEET A2.1
20. NEW WALL - REFER TO WALL SCHEDULE
21. KITCHEN EQUIPMENT- SEE EQUIPMENT SHEET A5.0
22. PREP SINK W/ DRAIN BOARD
23. SEATING- SEE EQUIPMENT SCHEDULE
24. NEW MARKETPLACE CABINET PROVIDE BY TROPICAL SMOOTHIE CAFE AND INSTALLED BY GC. SEE 5/A6.2
25. NEW OFFICE COUNTERTOP AND WALL SHELVES BY GC- SEE DETAIL 5/A4.0
26. GC TO PROVIDE GYP BD AND INSULATION TO DECK IF NOT EXISTING-CONFIRM POST DEMO OF EXISTING CEILING.
27. NOT USED
28. HANDICAP ACCESSIBLE TABLE
29. DROP-IN HAND SINK IN SERVICE COUNTER.
30. EXISTING EXTERIOR DOOR AND HARDWARE BY LANDLORD. CONFIRM IN FIELD IF PROPER WORKING CONDITION PROVIDED.
31. EXISTING SINGLE STOREFRONT DOOR PROVIDED BY LANDLORD.

NOTE:
FLOOR OR LANDING SHALL NOT BE MORE THAN 1/2" LOWER THAN THE THRESHOLD OF THE DOORWAY. CHANGE IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED WITH A SLOPE NO GREATER THAN ONE UNIT VERTICAL TO 2 UNITS HORIZONTAL.

DOOR HARDWARE SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING OR TWISTING OF THE WRIST TO OPERATE.

SPECIALTIES:

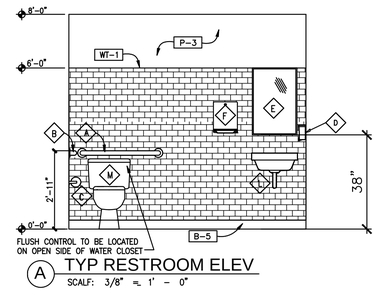
1. GENERAL CONTRACTOR TO PROVIDE BLOCKING IN WALLS AS NEEDED FOR ALL WALL MOUNTED FIXTURES, SIGNS, MENU BOARD, ETC. PER DRAWINGS.
2. USE FIRE TREATED WOOD FOR MISCELLANEOUS WOOD BLOCKING, ETC.
3. USE STAINLESS STEEL WALL PANELS, CORNER GUARDS AND ANGLE STRIPS TO SEAL GAP TO WALL AT COOLER/FREEZER. (SEE W-2 AT WALL FINISHES)
4. TABLE BASE HARDWARE
   1. TABLE TOP LAG BOLTS: 1/2"x2" (4 PER BASE)
   2. ANCHOR BOLTS: SIMPSON "WEDGEALL" MODEL # WA62500 (5/8"x5") COMES COMPLETE W/NUTS AND WASHERS (4 PER BASE)

NOTE:
DURING BID PROCESS - GC TO VISIT SITE & REVIEW TENANT'S LEASE TO CONFIRM RESPONSIBILITY AGREEMENT. GC RESPONSIBLE FOR ALL TI CONSTRUCTION IE. CONCRETE POUR, ELECTRIC, PLUMBING, ROOF PENETRATIONS AND MECHANICAL ETC. ACCORDING TO LEASE

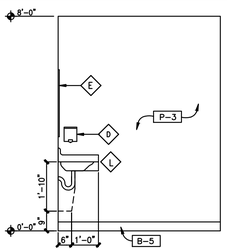
NOTE:
GC TO VERIFY ALL EXISTING DIMENSIONS AND COLUMNS DURING BID AND ALERT NEPTUNE IF DIFFERENT FROM PLAN.

NOTE:
ONLY SINGLE SERVICE UTENSILS WILL BE USED IN THIS SPACE

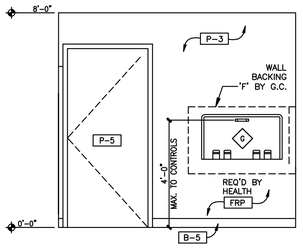
NOTE:
MAIN ENTRY/EXIT DOORS MAY BE KEY OPERATED FROM INTERIOR IF SIGNAGE WITH 1" LETTERING IS PROVIDED ON OR ADJACENT TO DOOR STATING "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED".



A TYP RESTROOM ELEV
SCALE: 3/8" = 1' - 0"



B TYP RESTROOM ELEV
SCALE: 3/8" = 1' - 0"



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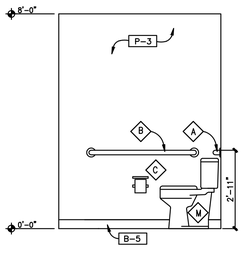


D TYP RESTROOM ELEV
SCALE: 3/8" = 1' - 0"

DOOR SCHEDULE

ITEM NO	SIZE	THK.	MATERIAL	FRAME	TYPE	REMARKS	HARDWARE
1	3' X6'-8"	1-3/4"	WOOD	METAL	FLUSH SOLID CORE	NEW INTERIOR DOOR	GROUP #2
2	3' X6'-8"	1-3/4"	WOOD	METAL	FLUSH SOLID CORE	NEW INTERIOR DOOR	GROUP #2
E1	3'X0'	EXISTING	ALUM/GLASS	EXISTING	STOREFRONT	EXISTING EXTERIOR DOOR	GROUP #E1
E2	3'X0'	EXISTING	HM	EXISTING	REAR SERVICE	EXISTING EXTERIOR DOOR	GROUP #E2

DOOR NOTES:

1. ALL NEW INTERIOR WOOD DOORS ARE TO BE CLEANED AND TOUCHED UP TO RECIEVE NEW SCHEDULED FINISH.
2. 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).
3. ALL INTERIOR DOOR LOCKSETS/PASSAGE SETS ARE TO BE HANDICAP ACCESSIBLE WITH LEVER ACTION HANDLES AND MOUNTED AT 40" ABOVE THE FINISHED FLOOR.
4. CONTRACTOR IS TO ADJUST ALL DOORS TO NORMAL WORKING OPERATION WHICH INCLUDES THE REPAIR OR REPLACEMENT OF HARDWARE AND WEATHER STRIPPING AS REQUIRED.
5. CONTRACTOR TO VERIFY THAT THE EXISTING RESTROOM DOORS HAVE CLOSERS. IF NOT, CONTRACTOR IS TO INSTALL NEW CLOSER ON EACH RESTROOM DOOR.
6. ALL DOORS SHALL HAVE AN OPENING FORCE OF FIVE POUNDS MAXIMUM.

DOOR HARDWARE:

GROUP #1 – NEW INTERIOR DOOR:
1.5 PAIR BUTTS: NEW
1.0 LOCKSET W/ LEVER HANDLE

GROUP #2 – NEW INTERIOR DOOR:
1.5 PAIR BUTTS: NEW
1.0 LOCKSET W/ LEVER HANDLE
1.0 DOOR CLOSER, SURFACE MOUNTED

GROUP #E1 – EXISTING EXTERIOR DOOR HARDWARE
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
PROVIDE PEEP HOLE IF NOT EXISTING

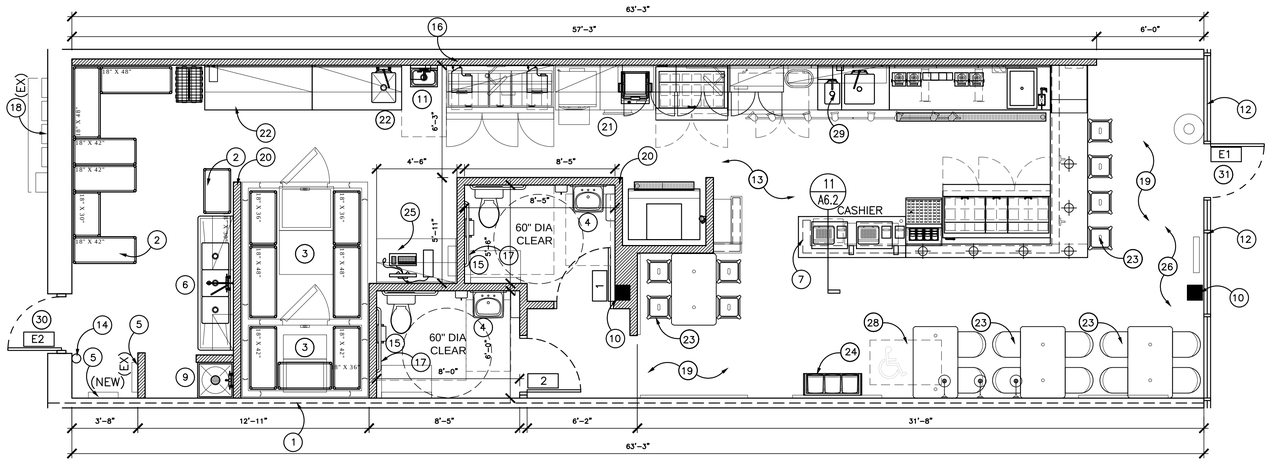
GROUP #E2 – EXISTING ENTRANCE HARDWARE:
1.5 PAIR BUTTS: EXISTING
1.0 DEAD BOLT (IN OPEN POSITION DURING BUSINESS HRS)
1.0 DOOR CLOSER: EXISTING
1.0 THRESHOLD: EXISTING
1.0 DOOR SWEEP: EXSITING
1.0 DOOR PULLS: EXISTING
1.0 PUSH PLATE: EXISTING

NOTE:
GC TO XRAY SLAB AT ALL PLUMBING FLOOR LOCATIONS TO ENSURE ADEQUATE CLEARANCE FROM STRUCTURAL BEAM. NOTIFY ARCHITECT IMMEDIATELY IF PLUMBING FIXTURES NEED TO BE RELOCATED.

NOTE:
GC TO CONFIRM WITH TENANT AND LANDLORD RESPONSIBILITY OF DOORS AND FIXTURES WITH FINAL LEASE

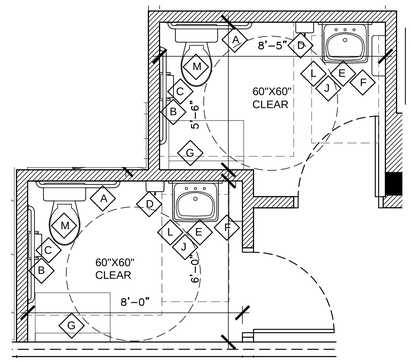
NOTE:
RESTROOM DOORS MUST BE EQUIPPED WITH SELF-CLOSING DEVICES.

LANDLORD REQUIREMENT:
A WATERPROOF MEMBRANE IS REQUIRED UNDER THE FLOOR TILE AT KITCHEN / SERVICE AND RESTROOMS AND UP 12" MIN AS DEMISING WALLS. ALL PLUMBING ALONG DEMISING WALLS SHALL BE FURRED OUT PER PLAN- NO PENETRATIONS ALLOWED.



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

NOTE:
GC TO PROVIDE CAMERA TEST OR X-RAY OF SLAB TO LOCATE EXISTING WASTE LINES UNDER SLAB. NO SHELL PLANS PROVIDED. CONFIRM WITH P SHEETS AND CONTACT DESIGN TEAM IF MODIFICATIONS ARE NEEDED. CONFIRMATION REQUIRED PRIOR TO ISSUANCE OF PERMIT ISSUANCE.



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

TOILET ACCESSORY SCHEDULE:

ITEM		MOUNTING HEIGHT
A.	NEW GRAB BAR, 36" L.	33"-36" AFF TO CL
B.	NEW GRAB BAR, 42" L.	33"-36" AFF TO CL
C.	NEW TISSUE DISPENSER	24" AFF TO OUTLET
D.	NEW SOAP DISPENSER	38"-48" TO OPERATOR & DISPENSER
E.	NEW FRAMED MIRROR. 18"x30"	40" AFF MAX. TO BOTTO OF REFLECTIVE SURFACE
F.	NEW PAPER TOWEL DISPENSER	38"-48" TO TOWEL DISPENSER
G.	BABY CHANGING STATION	34"-44" AFF
J.	30" X 48" MIN. CLR. FLR. SPACE TYP. ALL LAVS.	
L.	NEW HANDICAP ACCESSIBLE WALL MOUNTED SINK	
M.	NEW HANDICAP ACCESSIBLE WATER CLOSET.	

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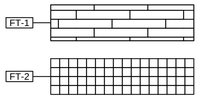
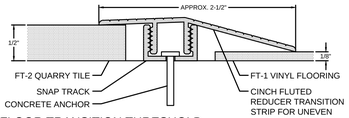
FLOOR PLAN

A2.0

FLOOR FINISH LEGEND





1 FLOOR TRANSITION THRESHOLD
NO SCALE

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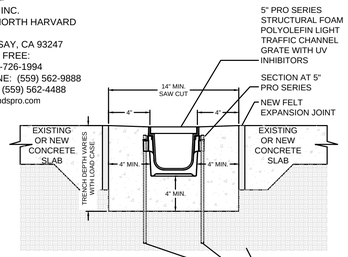


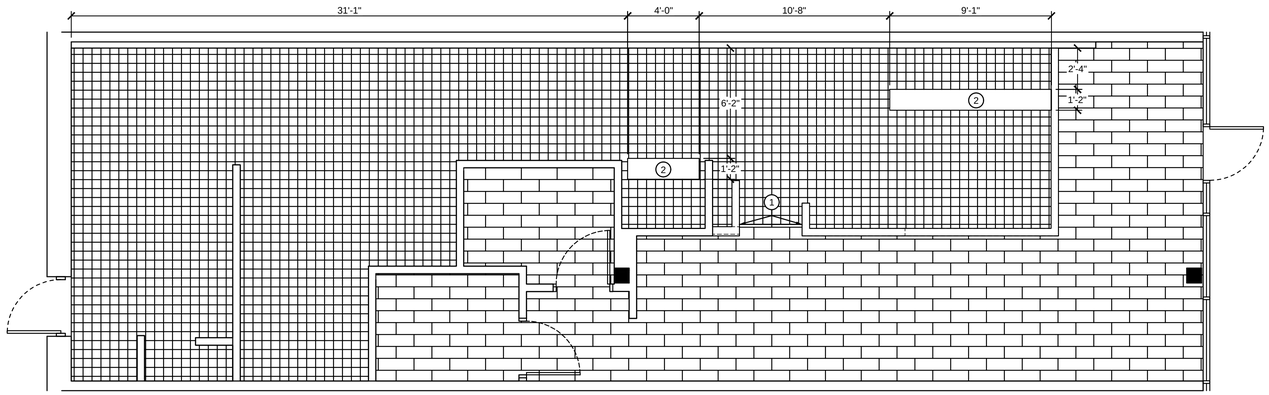
SECTION

NOTES:

1. CHANNELS TO BE INSTALLED WITH GRATE. GRATE TO BE PROTECTED FROM CONCRETE POUR
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. DO NOT SCALE DRAWING.
4. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY.
5. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.

PRO SERIES CHANNEL DRAIN SYSTEM

5" PRO SERIES INSTALLATION DETAIL - LOAD CLASS 'A' & 'B' - 4" ENCASEMENT REBAR SUSPENSION



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

INTERIOR FINISHES SCHEDULE

FLOOR TILE (DINING)

FT-1	MANUF:	CENTIVA
	TYPE:	VINYL FLOORING
	SERIES:	CONTOUR PLANK
	NUMBER:	CP-0303-C
	COLOR:	VINTAGE CHALET

CONTACT INFO:

LENNIE ROWAN, LEED GA
ACCOUNT EXECUTIVE
TANDUS / CENTIVA
A TARKETT COMPANY
(404) 428-5210

FLOOR TILE (KITCHEN)

FT-2	MANUF:	DALTILE OR EQUAL
	TYPE:	QUARRY TILE
	COLOR:	0T03 ASHEN GRAY
	SIZE:	6" X 6"
	GROUT MANUF:	POLYBLEND OR EQUAL
	GROUT TYPE:	SANDED
	GROUT COLOR:	DELOREAN GRAY #165

FLOOR TILE BASE

B-1	TYPE:	STAIN GRADE PINE
	SIZE:	1" X 4" STRIPS
	STAIN:	SHERWIN WILLIAMS
	NUMBER:	SW-224
	FINISH:	SPECIAL WALNUT
B-2	3-5/8" METAL STUD TRACK INSTALLED W/FLANGES FACING THE WALL. SHINY, NON-TEXTURED FINISH. 20 GAUGE.	
B-3	MANUF:	DALTILE OR EQUAL
	TYPE:	CERAMIC COVE BASE
	COLOR:	WHITE
	SIZE:	3" X 6"
	GROUT MANUF:	POLYBLEND OR EQUAL
	GROUT TYPE:	NON-SANDED
	GROUT COLOR:	NEW TAUPE #185
B-4	MANUF:	DALTILE OR EQUAL
	TYPE:	QUARRY TILE BASE
	COLOR:	0T03 ASHEN GRAY
	SIZE:	5" X 6"
	GROUT MANUF:	POLYBLEND OR EQUAL
	GROUT TYPE:	SANDED
	GROUT COLOR:	DELOREAN GRAY #165
B-5	MANUF:	JOHNSONITE
	TYPE:	VINYL WALL BASE
	COLOR:	SEAWEED #101
	SIZE:	4" HIGH

(FOR RESTROOMS & OPTIONAL KITCHEN BASE)

WALL TILE

WT-1	MANUF:	DALTILE OR EQUAL
	TYPE:	CERAMIC TILE
	COLOR:	WHITE
	SIZE:	3" X 6"
	GROUT MANUF:	POLYBLEND OR EQUAL
	GROUT TYPE:	NON-SANDED
	GROUT COLOR:	NEW TAUPE #185
	SCHLUTER:	JOLLY AE60 SATIN ANODIZED ALUMINUM

PAINT

P-1	MANUF:	SHERWIN WILLIAMS
	NUMBER:	SW-7103
	COLOR:	WHITETAIL
	FINISH:	SATIN
P-2	MANUF:	SHERWIN WILLIAMS
	NUMBER:	SW-6621
	COLOR:	EMOTIONAL
	FINISH:	SATIN
P-3	MANUF:	SHERWIN WILLIAMS
	NUMBER:	SW-6463
	COLOR:	BREAKTIME
	FINISH:	SATIN

COUNTER TOPS

ST-1	MANUF:	LG HAUSYS
	TYPE:	HI-MACS ACRYLIC
	COLOR:	TROPICAL TEAL
	FINISH:	POLISHED
	THICKNESS:	1/2"
ST-2	MANUF:	JOHN BOOS OR EQUAL
	TYPE:	BUTCHER BLOCK TOP LAMINATED CLEAR THROUGH, WARP RESISTANT AND ELECTRONICALLY THERMOBONDED.
	WOOD:	MAPLE - EDGE GRAINED
	THICKNESS:	1-1/2" - 1-3/4"
	FINISH:	VARNIQUE. IF VARNIQUE SURFACE IS CUT, IT WILL NEED TO BE RE-SEALED USING BOOS EZ-DO FINISH OR DURAKRYL 102
ST-3	MANUF:	HOME DEPOT
	TYPE:	PVC TRIM PLANK
	COLOR:	WHITE
	NUMBER:	VERANDA 7311 OR SIMILAR
	SIZE:	1" X 6"

FIBERGLASS PANEL

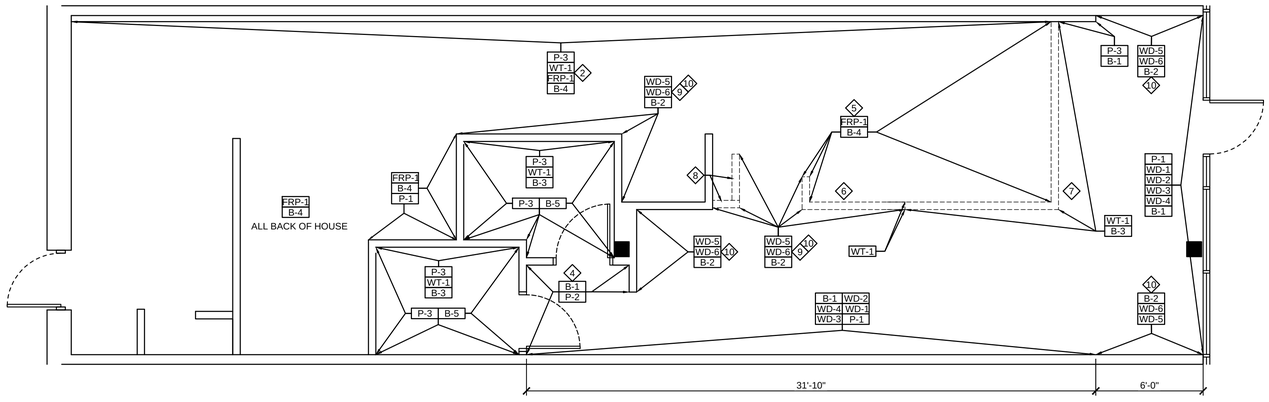
FRP-1	MANUF:	FRP
	TYPE:	X
	COLOR:	WHITE
	NOTE:	CAULK ALL JOINTS. EXISTING FRP TO REMAIN WHERE POSSIBLE

WOOD

WD-1	TYPE:	1" X 2" TRIM BOARD
	FINISH:	PAINTED: P-1
	NOTE:	PLACE BATTENS EVERY 24" O.C. TO PROVIDE A BOARD AND BATTEN APPEARANCE OR AS NOTED IN THE ELEVATIONS
WD-2	TYPE:	STAIN GRADE PINE
	FINISH:	PAINTED: P-1
	NOTE:	1" X 2" STRIPS
WD-3	TYPE:	4FT X 8FT BEAD BOARD PANEL
	FINISH:	PAINTED: P-1
WD-4	TYPE:	STAIN GRADE PINE
	FINISH:	PAINTED: P-1
	NOTE:	1" X 4" STRIPS
WD-5	TYPE:	FRAMING GRADE WOOD PLANKS
	FINISH:	SHERWIN WILLIAMS SW-224 SPECIAL WALNUT
	NOTE:	1" X 6" KNOTTY PINE
WD-6	TYPE:	FRAMING GRADE WOOD PLANKS
	FINISH:	SHERWIN WILLIAMS SW-224 SPECIAL WALNUT
	NOTE:	1" X 1" KNOTTY PINE
		SPECIAL WALNUT STAIN ON ALL SURFACES TO BE ONE COAT ONLY, RUBBED ON AND IMMEDIATELY WIPED FOR A LIGHT COLORED FINISH

SUSPENDED CEILING

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
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
AT-3	MANUF:	ARMSTRONG
	TYPE:	CLASS "A"
	NUMBER:	WASHABLE VINYL SURFACE
	COLOR:	WHITE
	SIZE:	24" X 24" X 5/8"
	GRID:	5/16" GRID. MATCH WHITE COLOR OF CEILING TILE



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

RESTROOM FINISHES

STOOL / VANITY WALL TO HAVE WT-1 WALL TILE FROM FLOOR TO 48" AFF (HORIZONTAL MOUNT). WALL ABOVE TILE TO BE PAINTED WITH P-3

ALL OTHER WALLS TO BE PAINTED P-3 FROM FLOOR TO CEILING

INTERIOR SIDE OF DOOR AND TRIM TO BE PAINTED WITH P-3

BASE TO BE B-5

KEY NOTES

NO.	ITEM DESCRIPTION
1	GYP. BOARD WALL OR FRP OPTION
2	FRP-1 FROM FLOOR TO 34" AFF. WT-1 FROM 35" AFF TO 62" AFF
3	DINING SIDE OF DOOR AND TRIM TO BE PAINTED P-2
4	PAINTED GYP. BOARD WALL
5	FRP-1 INSTALLED FROM FLOOR TO TOP OF HALF HEIGHT WALL
6	HORIZONTAL SURFACE TO BE ST-1
7	HORIZONTAL SURFACE TO BE ST-2
8	HORIZONTAL SURFACE TO BE ST-3
9	CORRUGATED METAL APPLIED TO WALL AS SHOWN ON ELEVATIONS
10	WALL PAINTED BLACK BEHIND WD-5 WOOD PLANKS

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FINISH PLAN

A2.1

OUTLET CONFIGURATION

POS OUTLET (A)	POS OUTLET (B)	SMOOTHIE (C)
POS TERMINAL RECEIPT PRINTER EMV CARD READER	POS TERMINAL RECEIPT PRINTER EMV CARD READER	SMOOTHIE PRINTER TELEPHONE LINE
KDS OUTLET (D)	**KDS OUTLET (E)**	**OFFICE OUTLET (F)**
KDS #1	KDS #2 DELI PRINTER	OFFICE PRINTER

DATA OUTLET LOCATION

NO.	QTY	ITEM DESCRIPTION	HGT
A	2	POS STATION OUTLET (CASHIER COUNTER)	24"
B	0	POS STATION OUTLET (DRIVE-THRU AREA)	46"
C	1	SMOOTHIE PRINTER OUTLET (CASHIER COUNTER)	24"
D	1	KDS OUTLET (TWO WHEN DRIVE-THRU WINDOW)	67"
E	1	KDS / DELI PRINTER OUTLET (AT FINISH STATION)	67"
F	1	OFFICE OUTLET (PRINTER)	46"

GENERAL NOTES

1	VERIFY ALL REQUIREMENTS WITH POS SUPPLIER
2	OWNER TO COORDINATE WITH MICROS & RTG FOR ALL KDS AND PRINTER LOCATIONS
3	ALL POS WIRING TO BE PROVIDED BY AND INSTALLED BY RTG
4	G.C. TO CONTACT RTG 4 WEEKS PRIOR TO INSTALL
5	G.C. RESPONSIBLE FOR CONDUITS WITH PULL STRING AND EMPTY ELECTRICAL BOXES TO ACCESSIBLE CEILING LOCATIONS

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

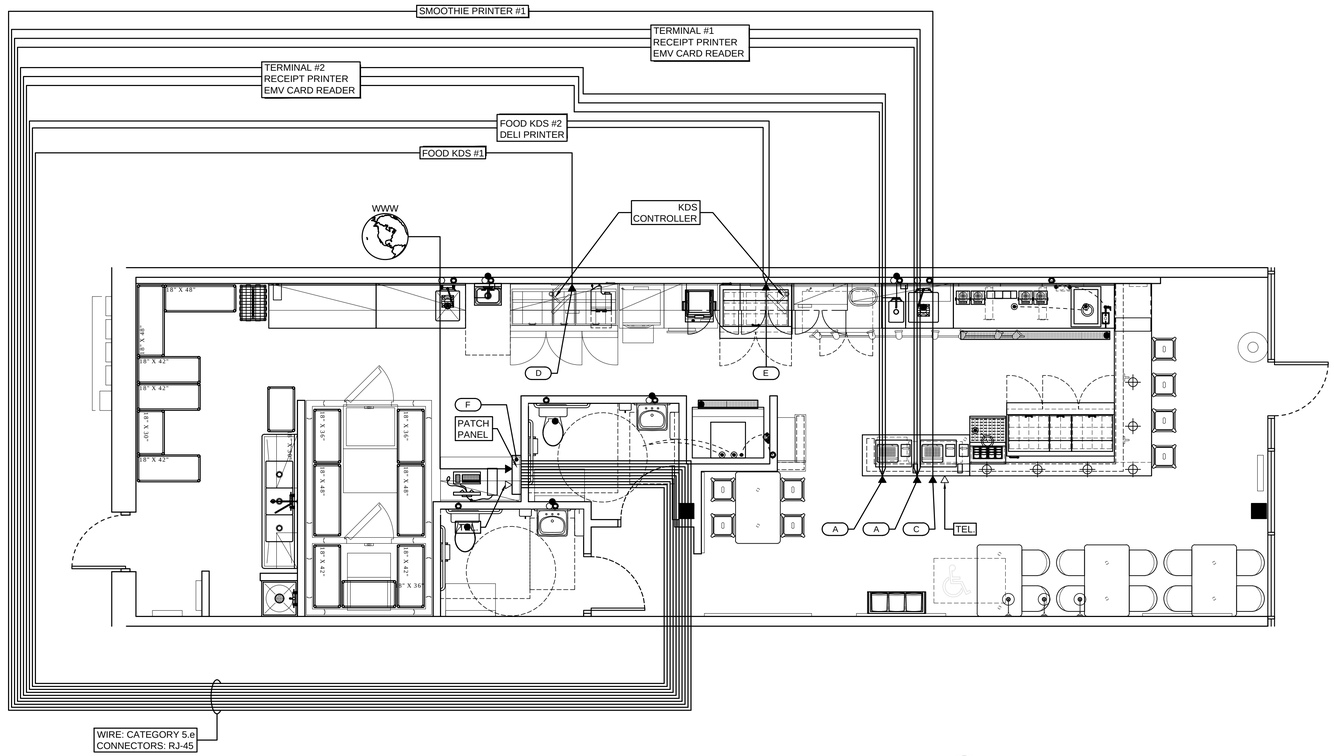
VIDEO SURVEILLANCE LOC'S

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

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
1	AT EACH COUNTER POS TERMINAL LOCATION, CAT 5 CABLES MUST BE TERMINATED WITH RJ45 CONNECTORS WITH 2X2 JUNCTION BOX WITH MOUNTED FACE PLATE.
2	DOUBLE RUN OF CAT 5 CABLE FOR EACH TERMINAL.
3	AT EACH COUNTER POS TERMINAL, DEDICATED AND ISOLATED GROUND (ORANGE) DUPLEX AC PLUG FOR TERMINAL AND PRINTER.
	PRINTERS AND KITCHEN DISPLAYS
1	AT EACH COUNTER POS TERMINAL LOCATION, CAT 5 CABLES MUST BE TERMINATED WITH RJ45 CONNECTORS WITH 2X2 JUNCTION BOX WITH MOUNTED FACE PLATE.
2	SINGLE RUN OF CAT 5 CABLE FOR EACH PRINTER AND KITCHEN DISPLAY.

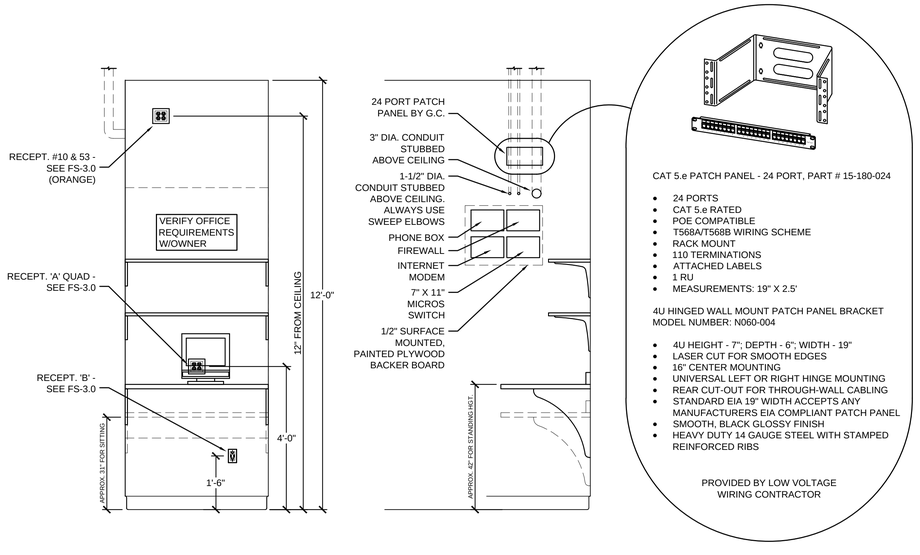
IMPORTANT - SINGLE POS TERMINAL LOCATIONS WITH 2 REMOTE PRINTERS MUST HAVE 2 CAT 5 CABLES RUNNING FROM EACH KITCHEN PRINTER TO THE PATCH PANEL IN THE OFFICE IN ORDER TO DRIVE BOTH PRINTERS.



1 **LOW VOLTAGE WIRING PLAN**

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

OFFICE WIRING DETAIL



CAT 5.e PATCH PANEL - 24 PORT, PART # 15-180-024

- 24 PORTS
- CAT 5.e RATED
- POE COMPATIBLE
- T568A/T568B WIRING SCHEME
- RACK MOUNT
- 110 TERMINATIONS
- ATTACHED LABELS
- 1 RU
- MEASUREMENTS: 19" X 2.5'

4U HINGED WALL MOUNT PATCH PANEL BRACKET
MODEL NUMBER: N060-004

- 4U HEIGHT - 7"; DEPTH - 6"; WIDTH - 19"
- LASER CUT FOR SMOOTH EDGES
- 16" CENTER MOUNTING
- UNIVERSAL LEFT OR RIGHT HINGE MOUNTING
- REAR CUT-OUT FOR THROUGH-WALL CABLING
- STANDARD EIA 19" WIDTH ACCEPTS ANY MANUFACTURERS EIA COMPLIANT PATCH PANEL
- SMOOTH, BLACK GLOSSY FINISH
- HEAVY DUTY 14 GAUGE STEEL WITH STAMPED REINFORCED RIBS

PROVIDED BY LOW VOLTAGE
WIRING CONTRACTOR

2 **OFFICE OUTLET AND LOW VOLTAGE EQUIPMENT LOCATIONS**

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

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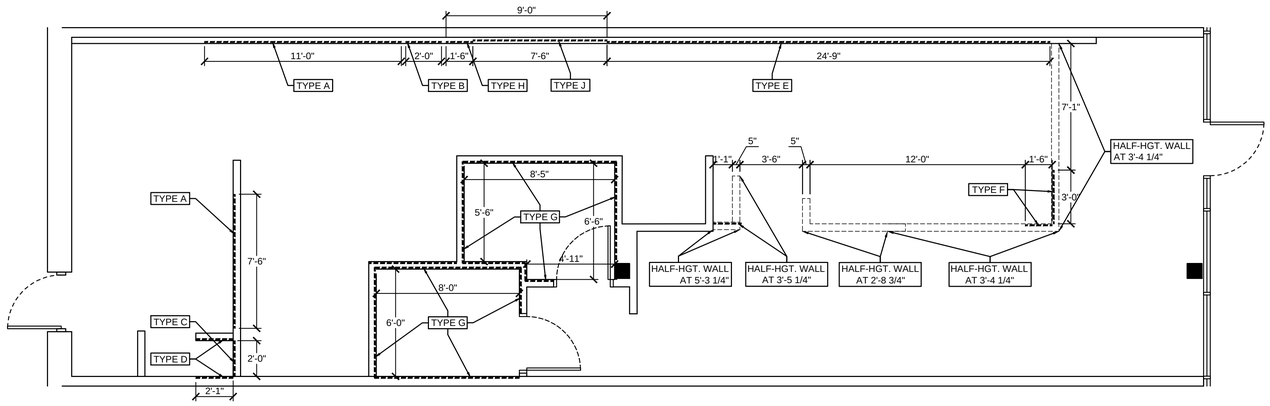
FLOOR PLAN
LOW VOLTAGE

A2.2



1 WALL BACKING PLAN

SCALE: 1/4" = 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

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WALL BACKING PLAN

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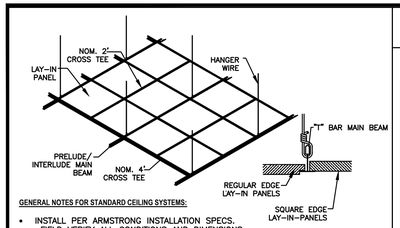


GENERAL NOTES FOR STANDARD CEILING SYSTEMS:

- INSTALL PER ARMSTRONG INSTALLATION SPECS.
- FIELD VERIFY ALL CONDITIONS AND DIMENSIONS.

A SUSPENDED GRID DETAIL

INDICATES AREA OF GYP BD CLG 5/8" TYPE WR GYP BD ON 20 GA MTL STUDS @ 24" OC AT (SEE PLAN)

INDICATES AREA OF WASHABLE CEILING TILES REQUIRED BY HEALTH - SEE PLAN FOR HEIGHT AFF

INDICATES AREA OF LAY-IN CEILING TILES - SEE FINISH SCHEDULE

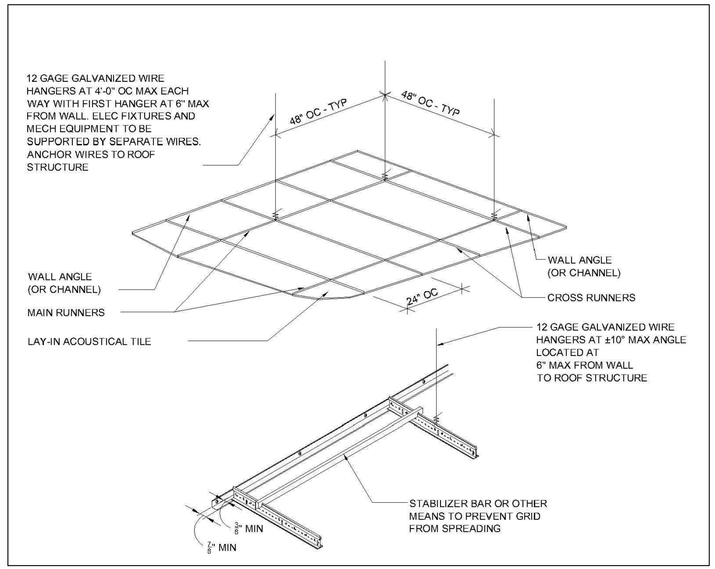
NOTE:
SEE MECHANICAL FOR EXACT LOCATION OF DIFFUSERS

NOTE:
SEE ELECTRICAL SHEETS FOR LIGHTING SPECIFICATIONS AND EMERGENCY LIGHT PACK LOCATIONS.

NOTE:
ALL GRILLES/DIFFUSERS TO MATCH CEILING TILES - SEE MECHANICAL SHEETS FOR EXACT LOCATIONS

EXTERIOR SIGN UNDER SEPARATE PERMIT PROVIDED BY SIGN COMPANY & INSTALLED BY SIGN COMPANY

SUSPENDED CEILING SUPPORT DETAIL



NOTE:
SIGN MANUFACTURER TO SUBMIT TO LANDLORD DETAILED CUT SHEETS FOR MAIN STOREFRONT SIGN. LANDLORD MUST APPROVE ALL SIGNS IN WRITING PRIOR TO FABRICATION.

NOTE:
ALL LIGHTS IN THE PREPARATION AREA, STORAGE AREA, DISHWASH AREA, WALK-IN REFRIGERATOR, AND FREEZER MUST HAVE SHATTERPROOF COVERS.

KEY NOTES

NO.	ITEM DESCRIPTION	NO.	ITEM DESCRIPTION
1	WALL MTD. MENU BOARD FROM 6'-3" AFF TO 9'-0" AFF	6	CEILING GRID INSTALLED @ 90° W/STORE FRONT
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		

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: 5/16" GRID. MATCH WHITE COLOR OF CEILING TILE	P-3	MANUF: SHERWIN WILLIAMS NUMBER: SW-6463 COLOR: BREAKTIME FINISH: SATIN
			JD RYAN – ACCOUNT MANAGER HERMITAGE LIGHTING NATIONAL ACCOUNTS 3640 TROUSDALE DR. NASHVILLE, TN 37204 EMAIL: jryan@hermitagelighting.com PHONE: (615) 843-3394 FAX: (615) 843-3351 WEBSITE: http://nationalaccounts.hermitagelighting.com/#home

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

FOR SPECIAL NATIONAL ACCOUNT PRICING CONTACT: HERMITAGE LIGHTING. ATTN: JD RYAN (615) 843-3394.

GENERAL CONTRACTOR TO CONTACT HERMITAGE LIGHTING PRIOR TO INSTALLATION TO OBTAIN FINAL LIGHTING QUOTE BASED OFF APPROVED CONSTRUCTION DRAWINGS.

STUD GAUGE SCHEDULE

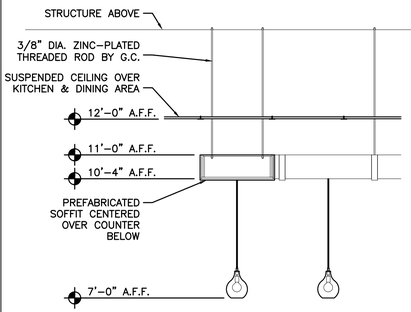
A. TABLE BELOW IS BASED ON UNIVERSAL INDUSTRIES, UNIMAST (USG) CORPORATION'S LIMITING HEIGHT TABLE FOR EMBRACED STUDS SPACED 16" AND 24" O.C. (SYSTEM FOLDER SA-923-1990 EDITION). REQUIREMENT FOR 5 PSF LATERAL PRESSURE AND 1/240 ALLOWABLE DEFLECTION FOR FLEXIBLE FINISHES, WITH 1 LAYER OF GYP. BD. PER SIDE OF STUD.

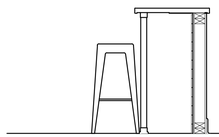
B. SCHEDULED HEIGHTS MAY BE INCREASED BY 50% WHERE THE STUDS ARE DIAGONALLY BRACED AT THE MAXIMUM HEIGHT POINT TO THE STRUCTURE ABOVE @ 4'-0" O.C.

C. CAUTION! WHEN USING STUDS MANUFACTURED BY A COMPANY OTHER THEN USG, VERIFY MANUFACTURERS STUD STRENGTH AND LIMITING HEIGHT. ADJUST GAUGE AND MAXIMUM HEIGHT RECOMMENDED BY MANUFACTURER'S CURRENT PRINTED SPECIFICATION.

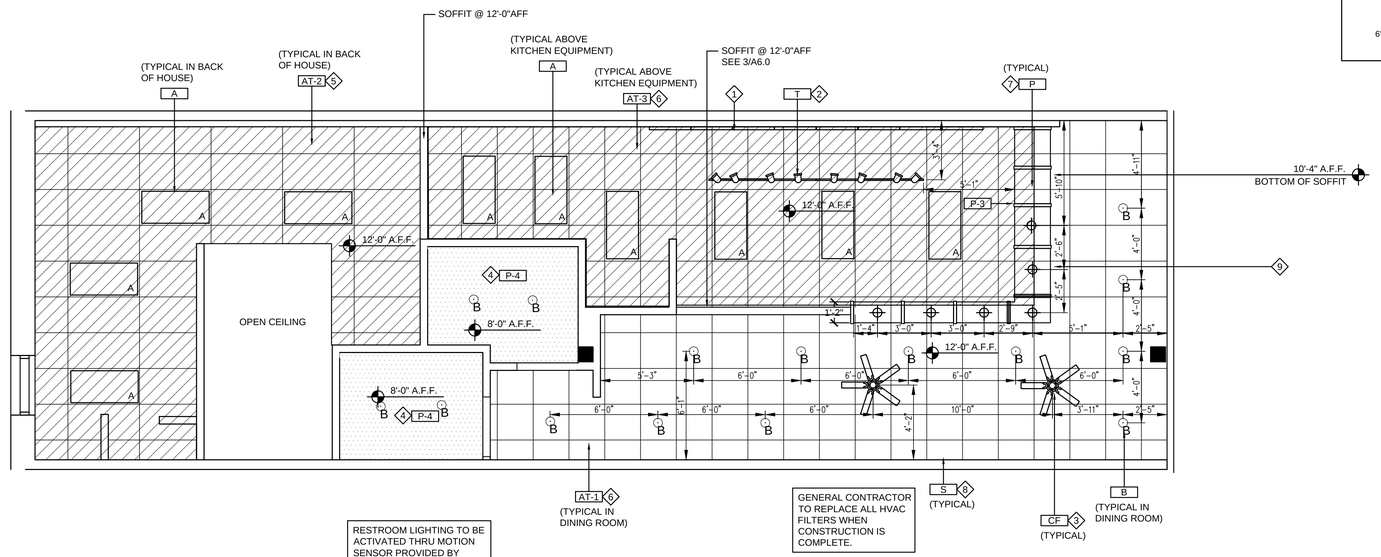
STUD WIDTH	STUD TYPE	STUD GAUGE	STUD SPACING	MAX. HEIGHT
1-5/8"	158ST25	25	16"	9'-6"
	158ST25	25	24"	7'-3"
2-1/2"	212ST25	25	16"	12'-6"
	212ST25	25	24"	10'-9"
	212ST22	22	16"	13'-0"
	212ST22	22	24"	11'-6"
	212ST20	20	16"	14'-0"
	212ST20	20	24"	12'-3"
3-5/8"	358ST25	25	16"	16'-0"
	358ST25	25	24"	13'-6"
	358ST22	22	16"	17'-3"
	358ST22	22	24"	15'-0"
	358ST20	20	16"	18'-3"
	358ST20	20	24"	16'-0"
6"	600ST25	25	16"	20'-0"
	600ST25	25	24"	15'-0"

SOFFIT SECTION DETAIL





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



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.

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

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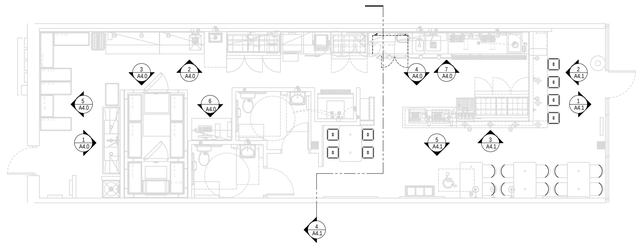
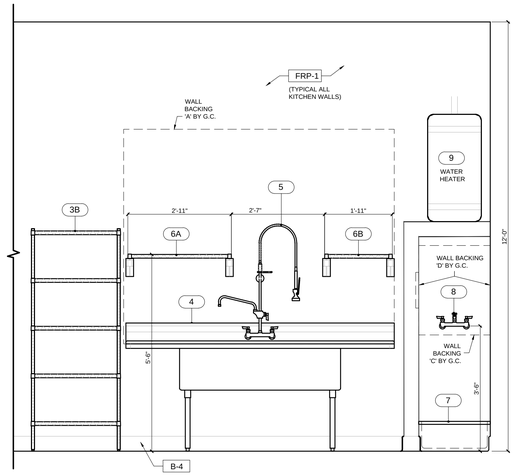
CEILING PLAN

A3.0

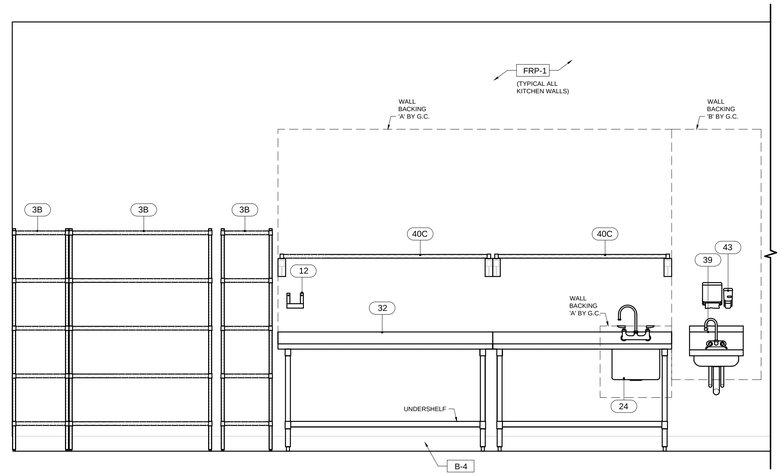


PROPOSED FLOOR PLAN

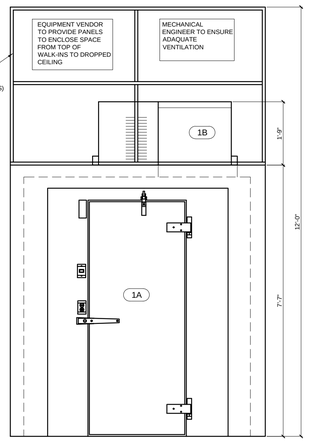
SCALE: 1/8" = 1'-0"



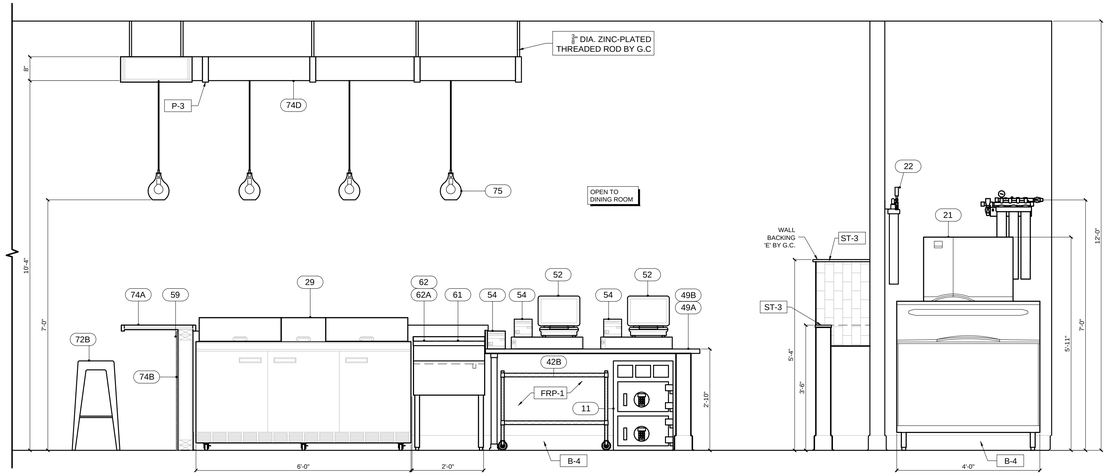
1 A4.0 MOP / SCULLERY ELEVATION



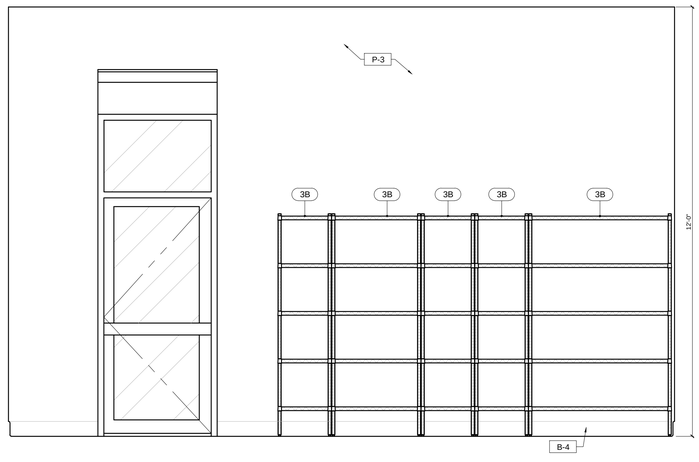
2 A4.0 PREP / ICE ELEVATION



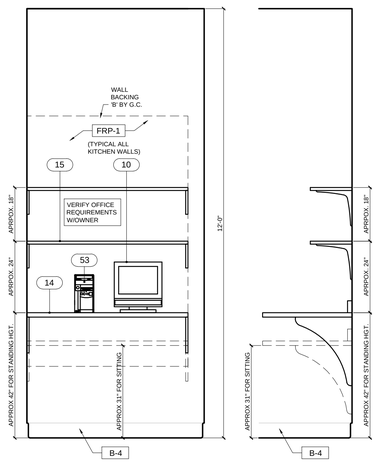
3 A4.0 REFRIGERATOR ELEVATION



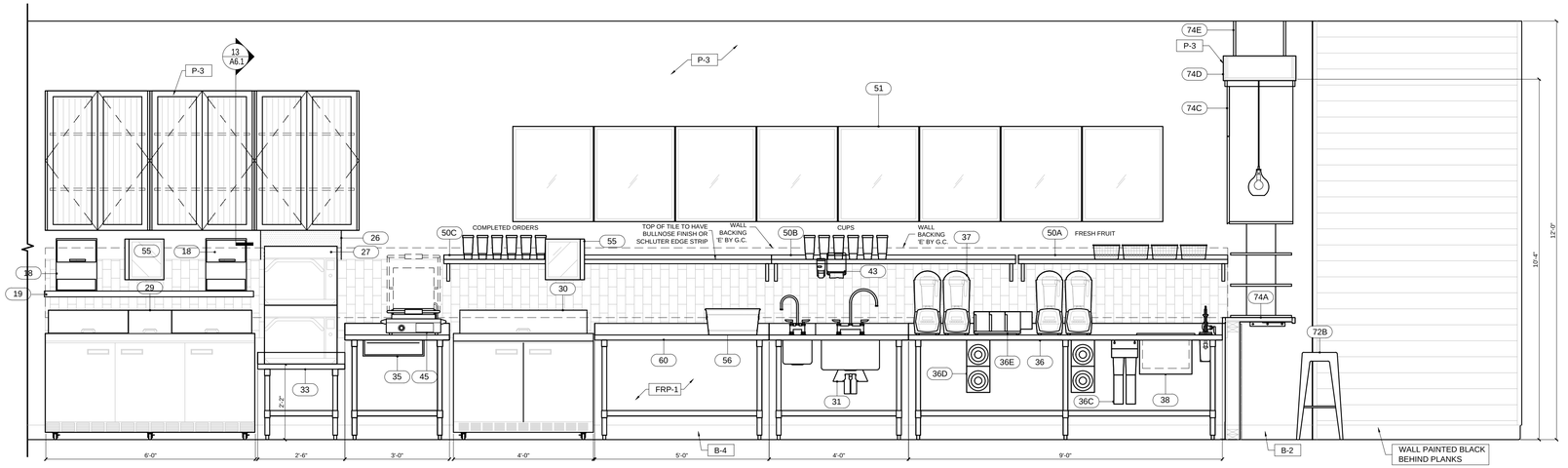
4 A4.0 FRONT LINE/BACK VIEW ELEVATION



5 A4.0 BACK WALL



6 A4.0 DESK ELEVATION & SECTION



7 A4.0 BACK LINE ELEVATION

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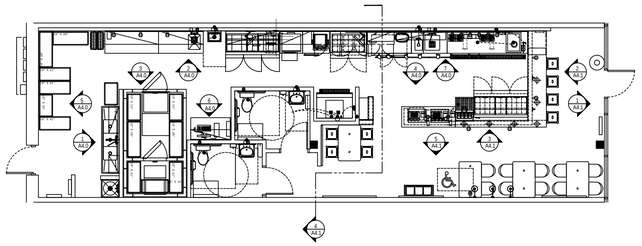
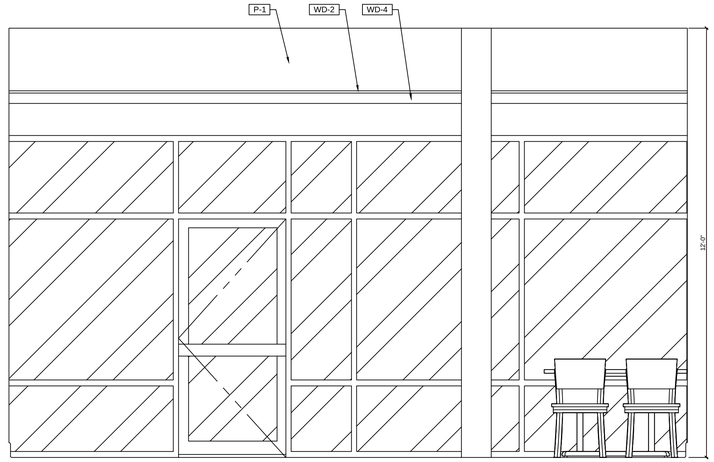
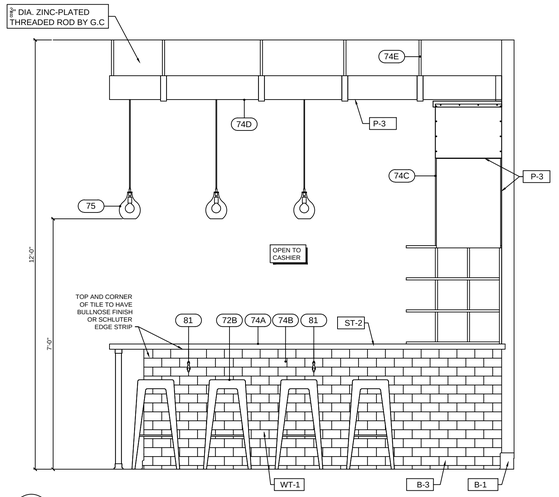


PROPOSED FLOOR PLAN

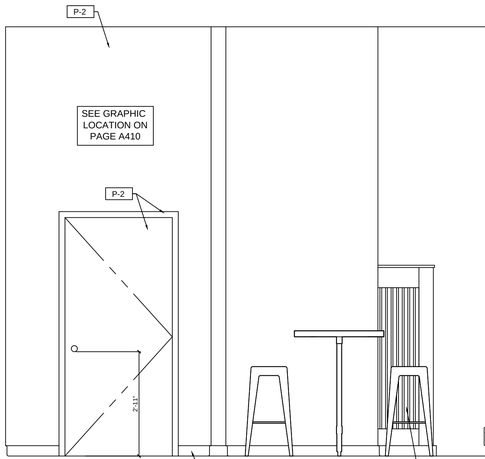
SCALE: 1/8" = 1'-0"

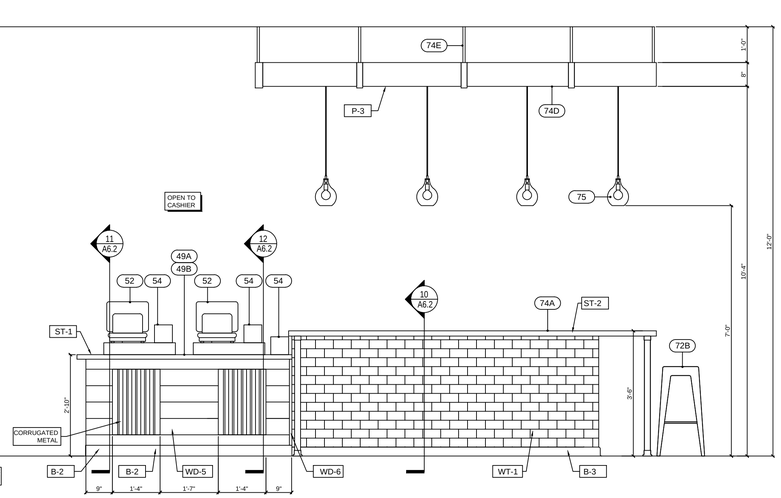


1 A4.1 ENTRY WALL

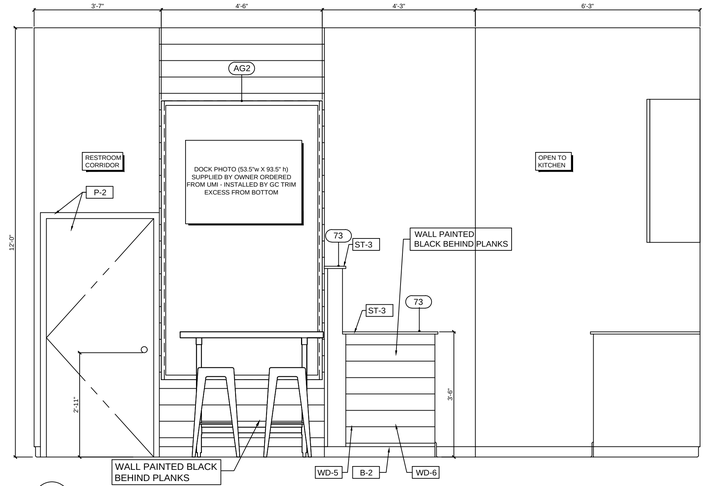


2 A4.1 SMOOTHIE DINING COUNTER ELEVATION

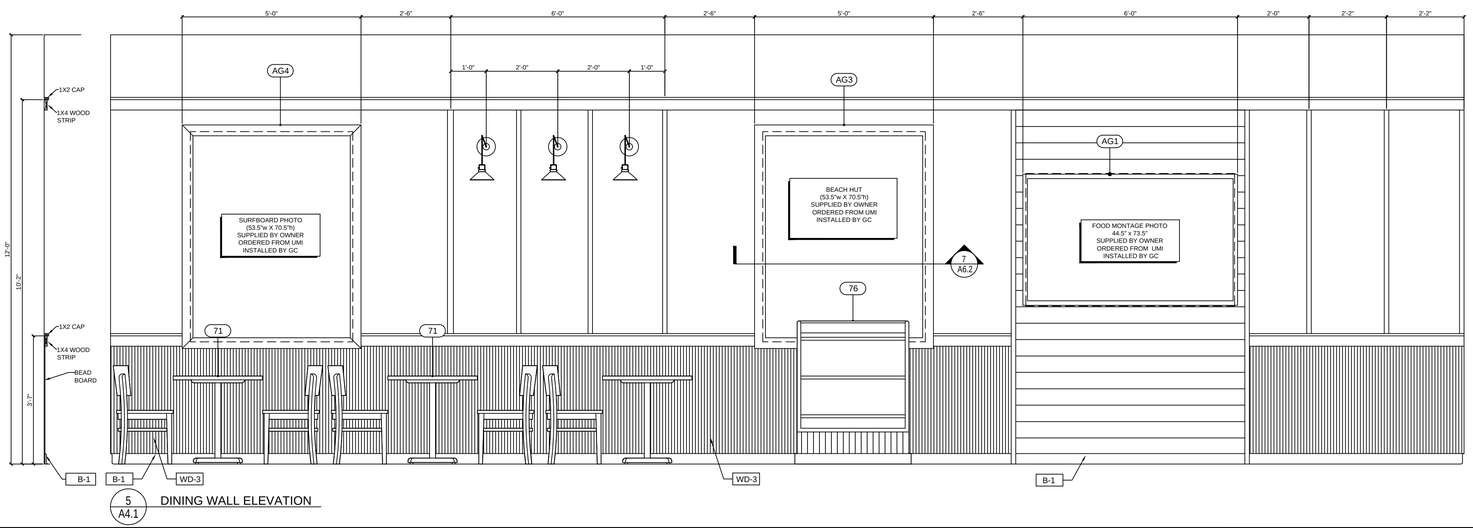




3 A4.1 FRONT LINE ELEVATION-FRONT VIEW



4 A4.1 RESTROOM WALL ELEVATION



5 A4.1 DINING WALL ELEVATION

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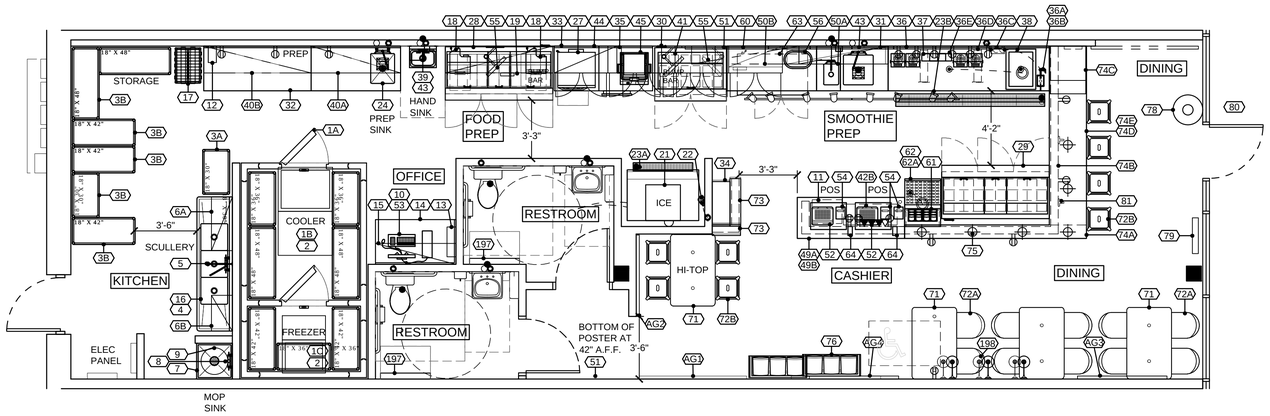


1 EQUIPMENT FLOOR PLAN

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

HEALTH DEPT NOTES:

1. TILE OR FRP ON ALL RESTROOM WALLS UP TO 6'–0" AFF– SEE ELEVATIONS ON A2.0,
2. NO OPERABLE WINDOWS WITHIN THIS PROJECT.
3. DOORS AND WINDOW FRAMES SHALL BE SMOOTH FINISHED.
4. HAND WASHING SIGNS ARE REQUIRED AT ALL SINKS FOR EMPLOYEES.
5. NO DIPPER WELL PROVIDED– #36 IS A WATER SPIGOT– SEE P SHEETS
6. WALK–IN COOLER IS SELF–CONTAINED– NO FLOOR SINK REQUIRED.
7. 3 COMPARTMENT SINK IS DESIGNED TO EQUIP LARGEST UTENSILS AND IS THE STANDARD SIZED 3 COMPARTMENT SINK USED FOR TROPICAL SMOOTHIE.
8. ALL COUNTER–MOUNTED EQUIPMENT MUST ME MOUNTED ON 4" LEGS, SEALED TO THE COUNTER OR EASILY MOVABLE.
9. ALL EQUIPMENT SEALED TO THE WALL OR TO ADJOINING EQUIPMENT OR SPACED TO FACILITATE CLEANING.
10. CORPORATE HAS DETERMINED THAT ADEQUATE FACILITIES FOR MAINTAINING FOOD AT HOT OR COLD TEMPS WITH ACCURATE THERMOMETERS. SITE CONFIRMATION WILL BE REQUIRED.
11. WALL CABINETS ARE MADE OF APPROVED / SUITABLE MATERIALS – SUBJECT TO INSPECTORS APPROVAL.
12. WALK–IN COOLERS SHALL BE PROPERLY INSTALLED.
13. ITEM #36 IS A WATER SPIGOT– NO DRAIN–SEE P SHEETS.
14. GAS LINES, WATER PIPES, ELECTRICAL LINES, PANEL BOXES AND CONDUITS SHALL BE LOCATED AND PROPERLY INSTALLED AS TO FACILIATE EASY CLEANING OF FLOORS, WALLS, CEILING AND EQUIPMENT.
15. DUMPSTER WILL BE REPLACED AS NEEDED AS CURRENT DESIGN DOES NOT HAVE WATER OR DRAIN.
16. A COVERED TRASH CAN WILL BE PROVIDED IN WOMEN'S RESTROOM.
17. GLOVES AND HAIR RESTRAINTS WILL BE PROVIDED BY MANAGER AND WORN AT ALL TIMES BY EMPLOYEES.
18. ONE EMPLOYEE MUST HAVE AN APPROVED FOOD SAFETY CERTIFICATE. ALL PLATES AND CUPS WILL BE REUSED– SINGLE SERVE ONLY.
19. A CONSUMER ADVISORY STATING THE COUNTRY OF ORIGIN FOR ALL SEAFOOD, HAZARDS OF UNDERCOOKED MEATS AND EGGS, AND LISTING FOOD ALLERGY INGREDIENTS WILL BE PLACED ON THE MENU OR A PLACARD IN PUBLIC VIEW.
20. THERMOSTATS WILL BE PROVIDED TO CHECK THE INTERNAL TEMP OF FOOD.

NOTE:
TENANT & GC TO LOCATE & APPROVE EXACT LOCATION & WIRING OF LOW VOLTAGE SPEAKERS & SECURITY CAMERA. PRIOR TO INSTALL – THESE DOCUMENTS ARE USED FOR REFERENCE ONLY & FINAL PLACEMENT OF CAMERAS & SPEAKERS MUST BE APPROVED BY TENANT & COORDINATED BY INSTALLING CONTRACTOR.
GC IS RESPONSIBLE FOR ALL LOW VOLTAGE EQUIPMENT WHICH INCLUDES BUT IS NOT LIMITED TO ALL AUDIO/VIDEO, MICROS, CAT 5, AND SPEAKERS.

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	ULTERIOR 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

NOTE:
EQ SUPPLIER MUST SEND FINAL ORDER LIST TO NEPTUNE FOR REVIEW AND APPROVAL PRIOR TO ORDERING.

NOTE:
REFERENCE SHOP DRAWINGS FROM NEPTUNE ARE AVAILABLE TO GC UPON REQUEST, TO BE USED AS A REFERENCE ONLY. ORIGINAL SHOP DRAWINGS SHOULD BE PRODUCED FOR THIS SPECIFIC LOCATION AND SENT TO NEPTUNE FOR REVIEW.

EQUIPMENT DELIVERY NOTES:
THE GC IS TO COORDINATE THE DELIVERY OF THE EQUIPMENT WITH EQUIP SUPPLIER. IT IS THE RESPONSIBILITY OF THE FRANCHISEE OR THEIR AGENT TO ACCEPT DELIVERY AND TO INSPECT FOR DAMAGE AND SHORTAGES. IN THE ABSENCE OF THE FRANCHISEE OR THEIR AGENT THE CONTRACTOR WILL ACCEPT DELIVERY. DAMAGE AND SHORTAGES MUST BE NOTATED ON THE RECEIVING DOCUMENT OR BILL OF LADING SUPPLIED BY THE FREIGHT CARRIER. THE PARTY RECEIVING DELIVERY IS LIABLE FOR DAMAGE AND MISSING ITEMS, UNLESS NOTED ON THE RECEIVING DOCUMENT OR BILL OF LADING. CONTACT EQ SUPPLIER WITH ANY ISSUES ABOUT DAMAGES, SHORTAGES, OR WHATEVER SHIPMENT SHOULD BE REFUSED. IF IN DOUBT, SIGN FOR THE DELIVERY AS DAMAGED, TAKE PHOTOS OF THE DAMAGED ITEMS IN ITS ORIGINAL PACKAGING AND RETAIN ALL ORIGINAL PACKING MATERIALS. ONCE A DELIVERY IS RECEIVED, INSPECT DELIVERABLES FOR CONCEALED DAMAGE, AND REPORT DAMAGES TO EQ SUPPLIER IMMEDIATELY SO A CONCEALED DAMAGE CLAIM CAN BE MADE. ALL CONCEALED DAMAGE MUST BE REPORTED BACK TO EQ SUPPLIER WITHIN 24 HOURS OF RECEIPT OF EQUIPMENT OR NO CONCEALED FREIGHT CLAIM WILL HAVE TIME TO PROCESS. ALL ORIGINAL DAMAGED PACKING PACKING MATERIALS MUST BE KEPT FOR INSPECTION.

SIGNATURE OF APPROVAL OF REVIEW

TROPICAL SMOOTHIE CAFE _____

EQUIPMENT SUPPLIER _____

NEPTUNE DESIGN GROUP _____

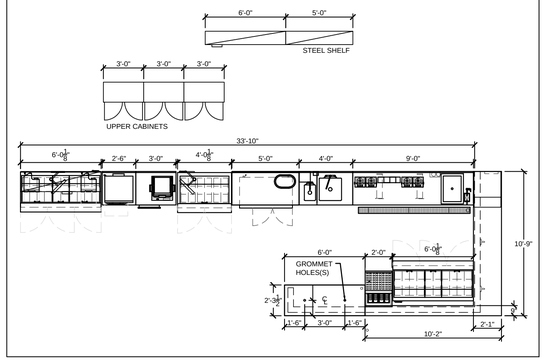
2 ARTWORK (AG-1)
SCALE: NTS

4 ARTWORK (AG-3)
SCALE: NTS

3 ARTWORK (AG-2)
SCALE: NTS

5 ARTWORK (AG-4)
SCALE: NTS

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

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
2	7	WALK-IN COOLER / FREEZER SHELVING	F	EV	GC	-
3A	1	75" TALL DRY STORAGE SHELVING (EPOXY COATED)	F	EV	EV	-
3B	6	75" TALL DRY STORAGE SHELVING (ZINC COATED)	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), 14" X 24"	F	EV	EV	-
6B	1	WALL SHELF, WIRE (EPOXY COATED), 14" X 36"	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	EC/PC
10	LOT	SURVEILLANCE SYSTEM	F	VLL	V	V
11	1	SAFE	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	-
15	1	WALL SHELVES	F	EV	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	-
		SMOOTHIE LINE / FOOD LINE EQUIPMENT				
21	1	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
23A	1	CHANNEL DRAIN, 5" (3'-4" LONG)	GC	SPS	PC	PC
23B	1	CHANNEL DRAIN, 5" (8'-4" LONG)	GC	SPS	PC	PC
24	1	PREP SINK, 30" x 60"	F	EV	EV	PC
25	-	SPARE NUMBER	-	-	-	-
26	-	SPARE NUMBER	-	-	-	-
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 W/HAND SINK & DUMP SINK, 30" X 48"	F	EV	EV	PC
32	1	WORK TABLE, 30" X 72"	F	EV	EV	-
33	1	EQUIPMENT STAND, 30" X 30" (26" HGT.)	F	EV	EV	-
34	1	WALL MTD. WORK TOP, 30" X 12"	F	EV	EV	-
35	1	WORK TABLE, 30" X 36", WITH UTENSIL DRAWER	F	EV	EV	-
36	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	4	CUP DISPENSER	F	EV	EV	-
36E	1	LID DISPENSER	F	EV	EV	-
37	4	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
40A	1	WALL SHELF, WIRE (ZINC COATED), 18" X 60"	F	EV	EV	-
40B	1	WALL SHELF,WIRE (ZINC COATED), 18" X 72"	F	EV	EV	-
41	3	WALL CABINET, 36"	F	EV	EV	-

EQUIPMENT SCHEDULE

NO.	QTY	EQUIPMENT DESCRIPTION	PROVIDER	VENDOR	INSTALL	FIN. CON.
		BACK OF HOUSE EQUIPMENT				
42A	-	SPARE NUMBER	-	-	-	-
42B	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	
49B	1	CASHIER COUNTER SUPPORT WALL	F	GC	GC	EC
50A	1	WALL SHELF, S/S, 12" X 60"	F	EV	EV	-
50B	1	WALL SHELF, S/S, 12" X 72"	F	EV	EV	-
51	1	MENU BOARD SYSTEM, WALL MOUNT, 9 PANELS	F	EV	EV	-
52	2	POS TERMINAL	F	M	RTG	RTG
53	1	POS SYSTEM - BACK OF HOUSE	F	M	RTG	RTG
54	3	POS PRINTER	F	M	RTG	RTG
55	2	KDS MONITOR	F	M	RTG	RTG
56	1	BEVERAGE ICE CHEST	F	EV	EV	-
57	-	SPARE NUMBER	-	-	-	-
57A	-	SPARE NUMBER	-	-	-	-
58	-	SPARE NUMBER	-	-	-	-
59	-	SPARE NUMBER	-	-	-0	-
60	1	WORK TABLE, 30" X 60"	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	UNDER COUNTER REFRIGERATOR	F	EV	EV	-
64	2	EMV CARD READER	F	M	RTG	RTG
		DINING EQUIPMENT				
71	4	TABLE TOP & BASE	F	EV	EV	-
72A	12	DINING CHAIR	F	EV	EV	-
72B	8	DINING STOOL	F	EV	EV	-
73	2	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	6	PENDANT LIGHT	F	HL	GC	EC
76	1	MARKET PLACE	F	EV	EV	-
77	-	SPARE NUMBER	-	-	-	-
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	2	APPAREL HOOK	F	GC	GC	-
100	-	SPARE NUMBER	-	-	-	-
197	2	BABY CHANGING STATION	F	EV	EV	-
198	3	WALL SCONCE LIGHTING	F	HL	GC	EC

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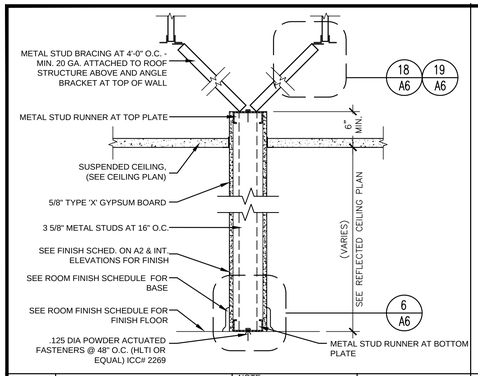
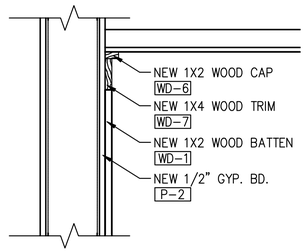
A5.0



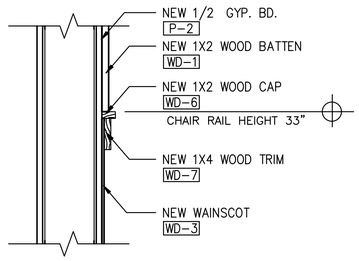
16 WALL PARTITION

NOTE: REFER TO 1/A3 FOR STUD GAUGE LIMITING HEIGHT SCHEDULE FOR ASSEMBLY

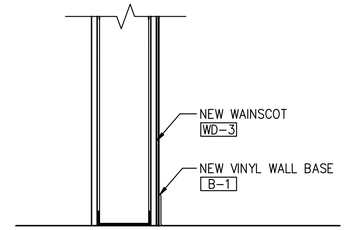
SCALE = N.T.S.



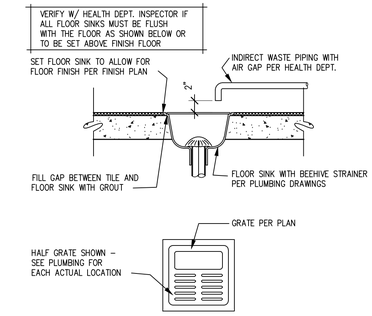
13 CEILING TRIM DETAIL



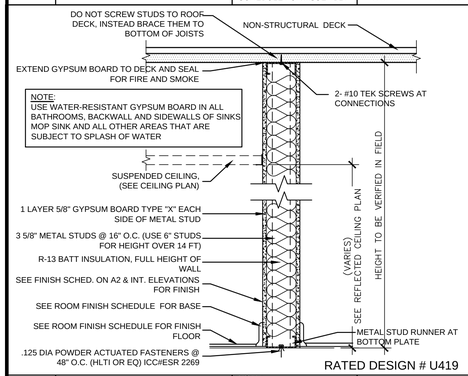
9 CHAIR RAIL DETAIL SCALE = N.T.S.



5 WALL BASE DETAIL SCALE = N.T.S.



1 FLOOR SINK DETAIL SCALE = NTS

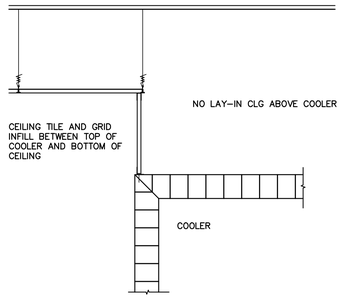


RATED DESIGN # U419

17 1 HR RATED WALL ASSEMBLY

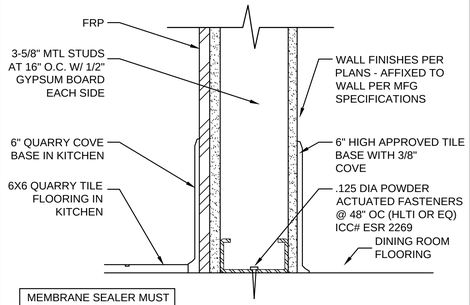
NOTE: REFER TO 1/A3 FOR STUD GAUGE LIMITING HEIGHT SCHEDULE FOR ASSEMBLY

SCALE = N.T.S.

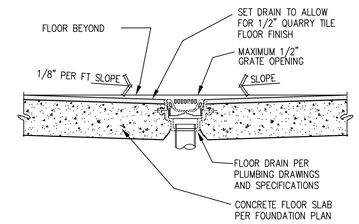


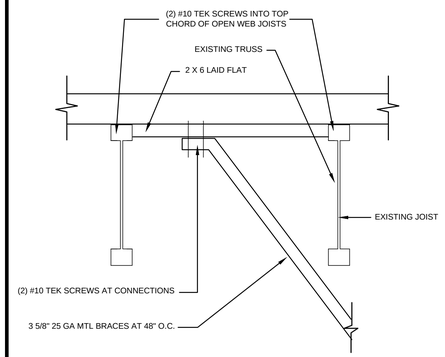
14 WALK IN COOLER SCALE = N.T.S.

10 NOT USED SCALE = N.T.S.

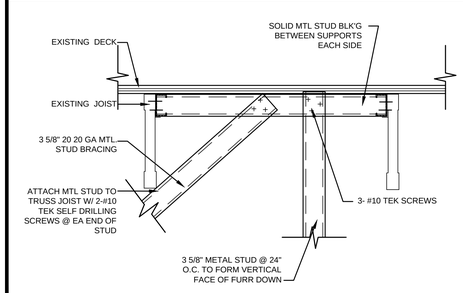


6 WALL SECTION AT FLOOR SCALE = NTS

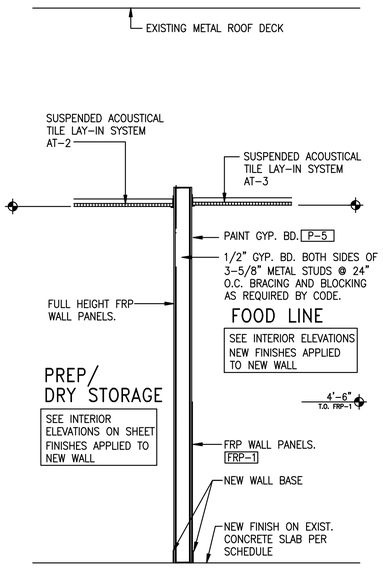




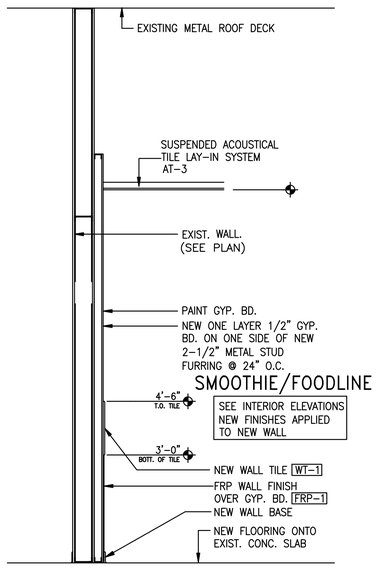
18 BRACE AT DECK BRACE-RF N.T.S.



19 BRACE AT ROOF FRAMING BRCE-RF1 N.T.S.



15 WALL SECTION N.T.S.



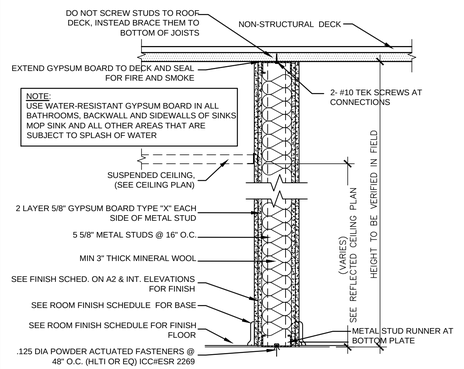
12 WALL SECTION N.T.S.

UL U404 - 2 HOUR PARTITION
INTERIOR PARTITIONS: STEEL STUD (NON-LOAD-BEARING)

FIRE RATING:	2 HOUR
STC:	N/A
SOUND TEST:	N/A
SYSTEM THICKNESS:	5-7/8"

ASSEMBLY OPTIONS:

GYPSUM BOARD:	TWO LAYERS OF 5/8 IN. THICK GYPSUM BOARD APPLIED HORIZONTALLY OR VERTICALLY.
STEEL STUDS:	3-1/2 IN. DEEP, 20 GA. SPACED 16 IN. O.C.
INSULATION:	MIN. 3 IN. THICK MINERAL WOOL.
GYPSUM BOARD:	5/8 IN. THICK GYPSUM BOARD APPLIED HORIZONTALLY OR VERTICALLY.
CEMENT BOARD:	1/2 IN. THICK CEMENT BOARD APPLIED HORIZONTALLY OR VERTICALLY.

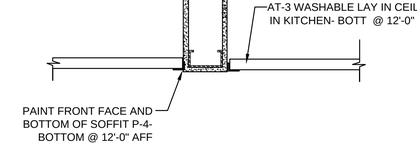


RATED DESIGN # U404

8 2 HR RATED WALL ASSEMBLY

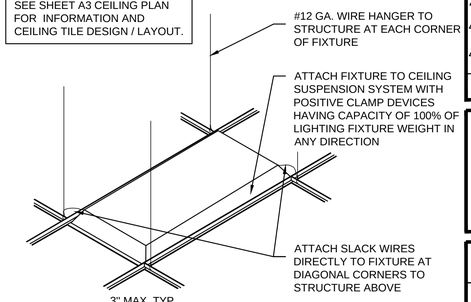
NOTE: REFER TO 1/A3 FOR STUD GAUGE LIMITING HEIGHT SCHEDULE FOR ASSEMBLY

SCALE = N.T.S.



3 SOFFIT AT FRONT COUNTER SCALE = NTS

NOTE: SEE SHEET A3 CEILING PLAN FOR INFORMATION AND CEILING TILE DESIGN / LAYOUT.



4 LIGHT FIXTURE BRACING SCALE: NONE

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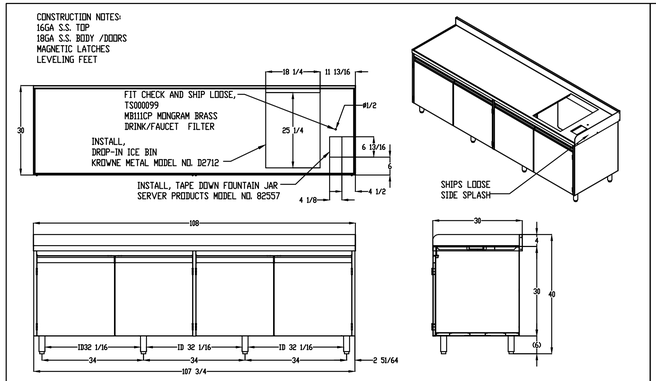
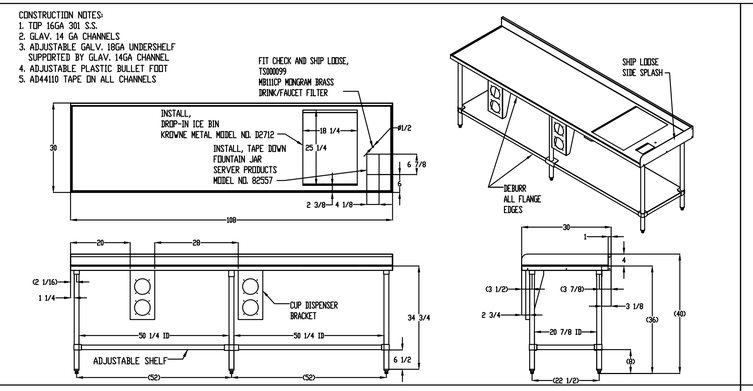
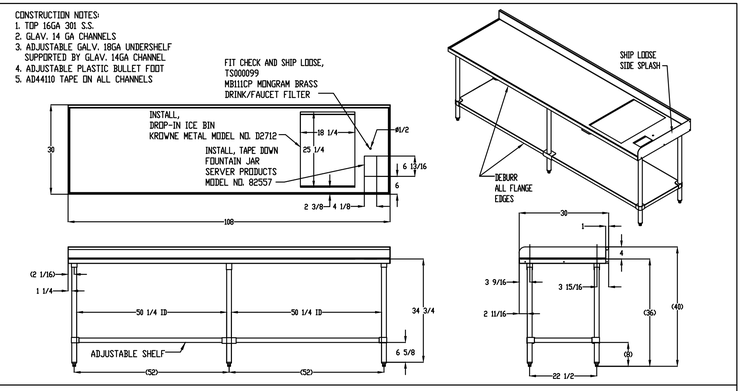


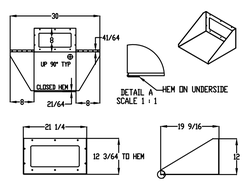
1 ITEM #36 - BLENDER TABLE WITH DOORS - (RIGHT-HAND)
1/2" = 1'-0"



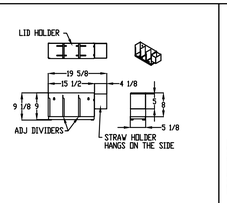
2 ITEM #36 - BLENDER TABLE OPEN BASE - (RIGHT-HAND)
1/2" = 1'-0"



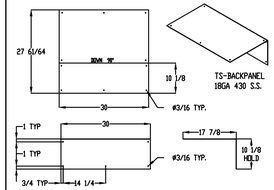
3 ITEM #36 - BLENDER TABLE OPEN BASE - (RIGHT-HAND)
1/2" = 1'-0"



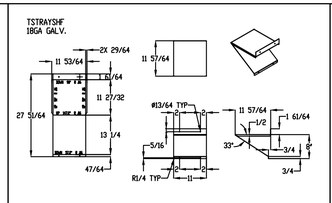
4 ITEM #26 - MICROWAVE SHELF
1/2" = 1'-0"



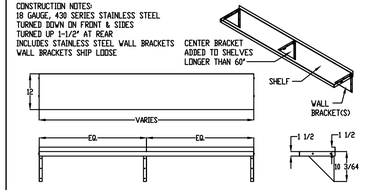
5 ITEM #36E - LID DISPENSER
1/2" = 1'-0"



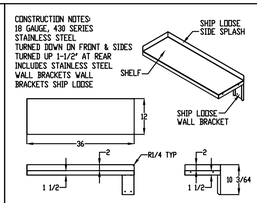
6 ITEM #44 - S/S BACK PANEL
1/2" = 1'-0"



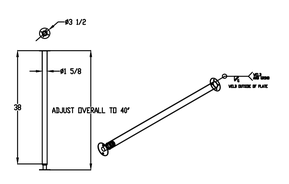
7 ITEM #78A - TRAY SHELF
1/2" = 1'-0"



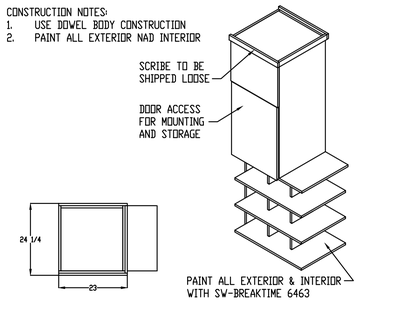
8 ITEM #50 - S/S WALL SHELF
1/2" = 1'-0"

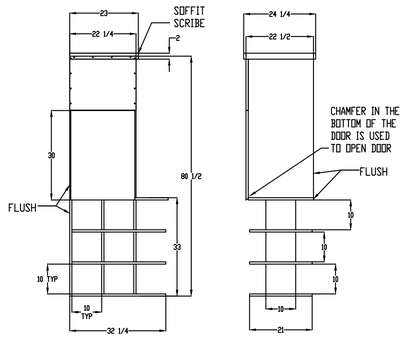


9 ITEM #59-WALL MTD. WORKTOP
1/2" = 1'-0"

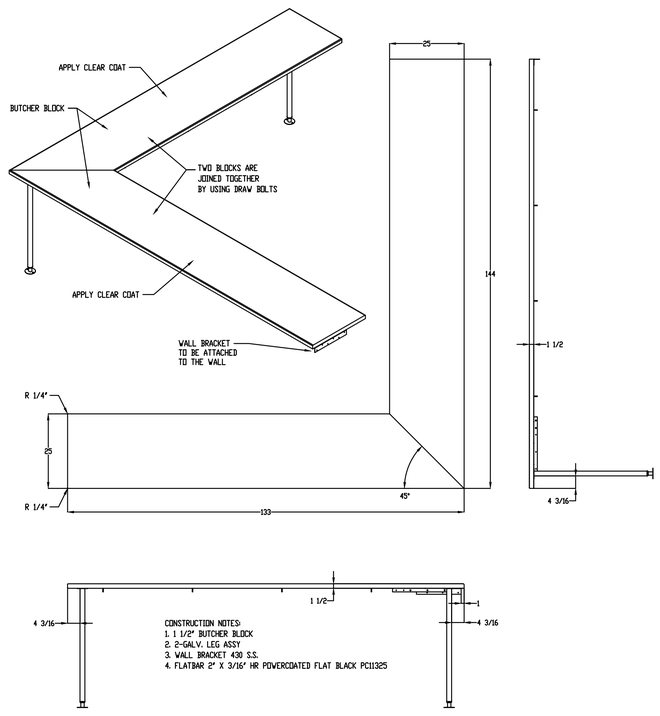


10 LEG FOR CASHIER / SIT-DOWN COUNTER
1/2" = 1'-0"

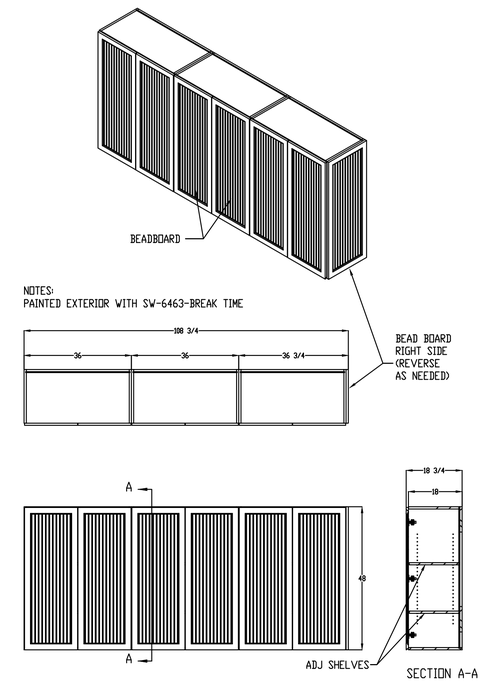




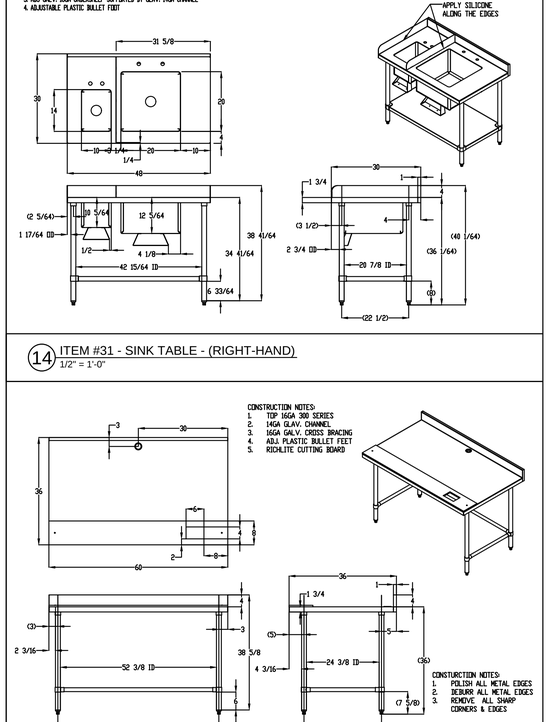
11 ITEM #74C - TO-GO CABINET
1/2" = 1'-0"



12 ITEM #74A - SIT-DOWN COUNTER - (RIGHT-HAND)
1/2" = 1'-0"



13 ITEM #41 - WALL CABINET - (RIGHT-HAND)
1/2" = 1'-0"



14 ITEM #31 - SINK TABLE - (RIGHT-HAND)
1/2" = 1'-0"

15 ITEM #58 - STEAMER TABLE - (RIGHT-HAND)
1/2" = 1'-0"

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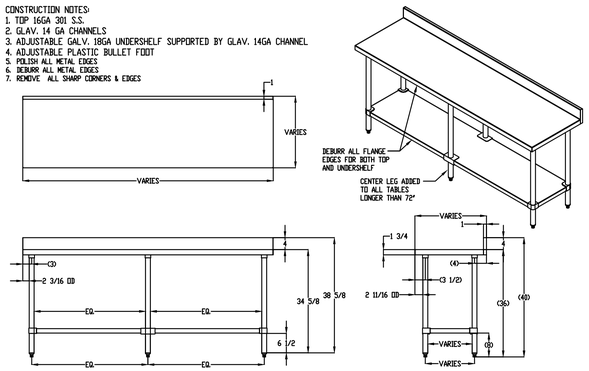
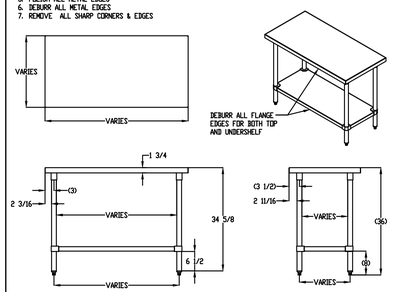
CONSTRUCTION NOTES:
1. TOP 16GA 301 S.S.
2. GLAV. 14 GA CHANNELS
3. ADJUSTABLE GALV. 18GA UNDERSHELF SUPPORTED BY GLAV. 14GA CHANNEL
4. ADJUSTABLE PLASTIC BULLET FOOT
5. POLISH ALL METAL EDGES
6. DEBURR ALL METAL EDGES
7. REMOVE ALL SHARP CORNERS & EDGES



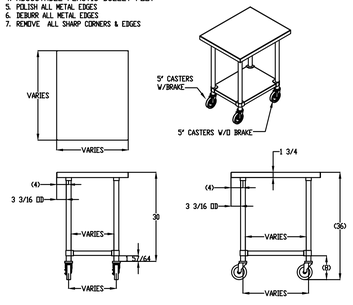
1 ITEM #32, 34, 35 & 60 - WORK TABLE WITH BACKSPLASH
1/2" = 1'-0"

CONSTRUCTION NOTES:
1. TOP 16GA 301 S.S.
2. GLAV. 14 GA CHANNELS
3. ADJUSTABLE GALV. 18GA UNDERSHELF SUPPORTED BY GLAV. 14GA CHANNEL
4. ADJUSTABLE PLASTIC BULLET FOOT
5. POLISH ALL METAL EDGES
6. DEBURR ALL METAL EDGES
7. REMOVE ALL SHARP CORNERS & EDGES

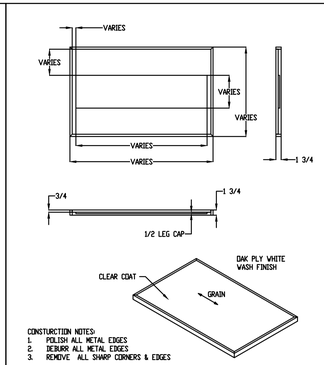


2 ITEM #32 & 60 - WORK TABLE WITHOUT BACKSPLASH
1/2" = 1'-0"

CONSTRUCTION NOTES:
1. TOP 16GA 301 S.S.
2. GLAV. 14 GA CHANNELS
3. ADJUSTABLE GALV. 18GA UNDERSHELF SUPPORTED BY GLAV. 14GA CHANNEL
4. ADJUSTABLE PLASTIC BULLET FOOT
5. POLISH ALL METAL EDGES
6. DEBURR ALL METAL EDGES
7. REMOVE ALL SHARP CORNERS & EDGES



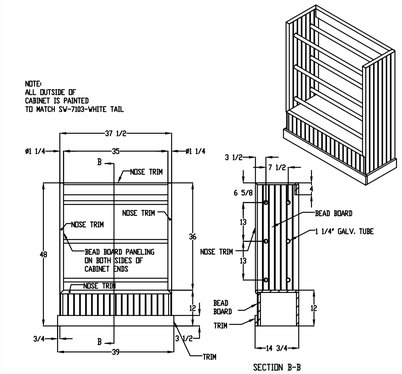
3 ITEM #32 & 60 - WORK TABLE WITH CASTERS
1/2" = 1'-0"



CONSTRUCTION NOTES:
1. POLISH ALL METAL EDGES
2. DEBURR ALL METAL EDGES
3. REMOVE ALL SHARP CORNERS & EDGES

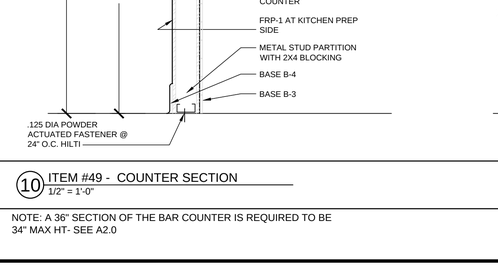
4 ITEM #71 - DINING TABLE TOP
1/2" = 1'-0"

NOTE:
ALL OUTSIDE OF CABINET IS PAINTED TO MATCH SW-7103-WHITE TAIL



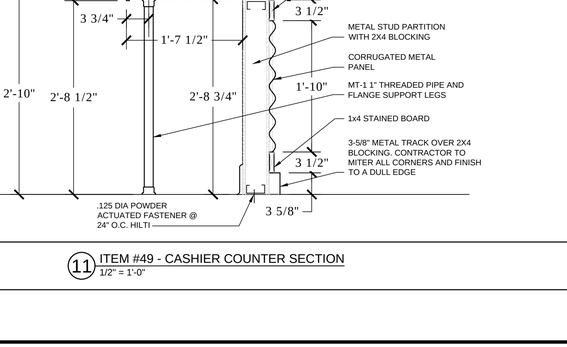
5 ITEM #76 - MARKET PLACE
1/2" = 1'-0"

CONSTRUCTION NOTES:
1 TOP SOLID SURFACE-TROPICAL TEAL
2 1 5/8" GALV. TUBE LEG ASSY

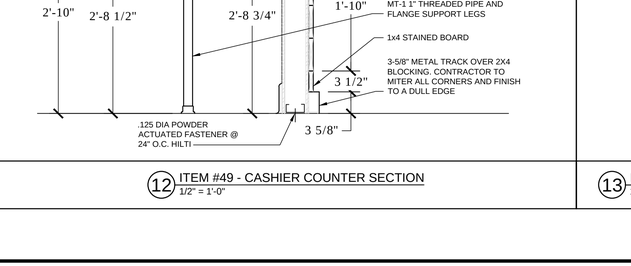


6 ITEM #49 - CASHIER COUNTER TOP
1/2" = 1'-0"

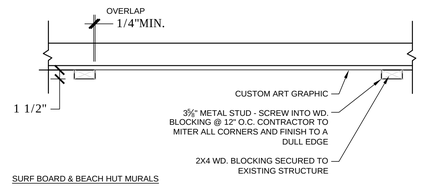
MINWAX STAIN #224
SPECIAL WALNUT.
STAIN APPLIED 2 COATS



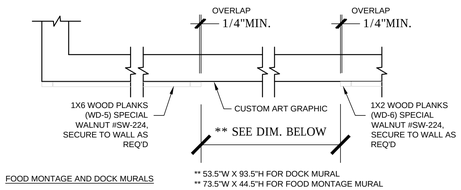
7 ITEM #77 - BANQUET SEATING
1/2" = 1'-0"



8 ITEM #74D - MILLWORK SOFFIT DETAIL
1/2" = 1'-0"



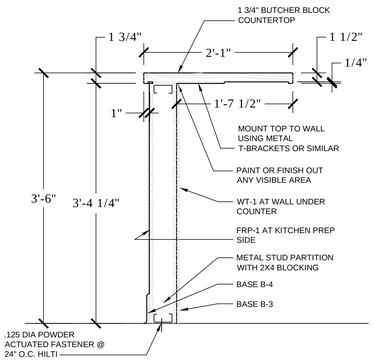
SURF BOARD & BEACH HUT MURALS



FOOD MONTAGE AND DOCK MURALS

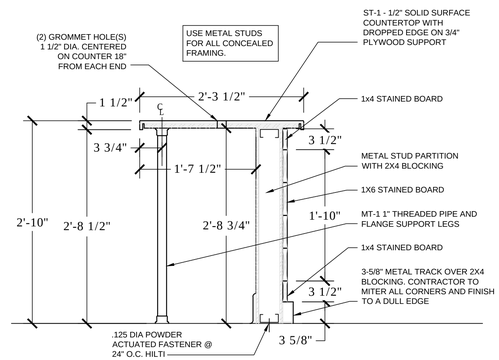
** 53.5"W X 93.5"H FOR DOCK MURAL
** 73.5"W X 44.5"H FOR FOOD MONTAGE MURAL

9 ITEM #AG - WALL MURAL SECTION DETAIL
1/2" = 1'-0"

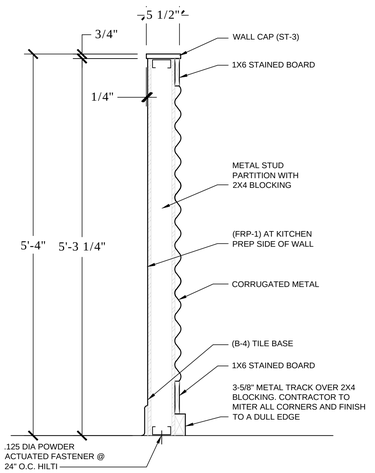


10 ITEM #49 - COUNTER SECTION
1/2" = 1'-0"

11 ITEM #49 - CASHIER COUNTER SECTION
1/2" = 1'-0"



12 ITEM #49 - CASHIER COUNTER SECTION
1/2" = 1'-0"



13 ITEM #73 - HALF-HGT WALL
1" = 1'-0"

NOTE: A 36" SECTION OF THE BAR COUNTER IS REQUIRED TO BE 34" MAX HT- SEE A2.0

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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 measurements 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 in reasonable diligence, that an activity involves 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 its 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 temporary or permanent 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 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 and will 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 reduce state taxes on the Project. If 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 surplus materials from and about 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 initiating, 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, walks, 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 usual 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 correcting such rejected Work, 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, at 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 Practice.

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

D. Floor 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 (Ff) of 15, floor levelness (Fl) of 13.
2. Subfloors under Materials Such As Vinyl Tile, Epoxy Toppings, Paint, and Carpet: ACI 302.1R and ASTM E 1155, floor flatness (Ff) of 20, floor levelness (Fl) of 17.

PART 2 PRODUCTS

2.1 MATERIALS

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 767
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. Chamfer exposed edges/corners to provide straight lines.

C. Tolerance: Plus 1/8" in 10" 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 or 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 flooring, carpet, or other thin finish material.
3. Broom: After trowel finishing, roughen surface by fine brooming perpendicular to traffic direction for exposed exterior walks, steps and ramps.
4. Exposed Aggregate: Use chemical retarder or tamp aggregate into wet concrete and expose by brushing with water. Use where indicated.
5. Hardener Finish: For exposed interior concrete floors. Follow manufacturer's directions.

I. Cure and protect work. Report defective work in writing.

SECTION 04800
MASONRY ASSEMBLIES

PART 1 GENERAL

1.1 QUALITY ASSURANCE

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

B. 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. Concrete Masonry Units:
1. Application: Concrete masonry non-bearing partitions.
2. Concrete Masonry Units: ASTM C 90, 1500 f'm compressive strength:
3. Prefaced Concrete Block: ASTM C 90, 1500 f'm compressive strength:
4. Size: Face dimension of 7-5/8 inches high by 15-5/8 inches long by width required for application.
5. Concrete Facing Brick: ASTM C 1634.
6. Special Shapes: As required by building configuration.
7. Bond Pattern: Running Bond.
8. Integral Water Repellent: Liquid polymeric admixture.

B. Mortar and Grout for Brick and Concrete Masonry Unit Assemblies:
1. Mortar Mix: ASTM C 270, Type S, for reinforced masonry, masonry below grade and masonry in contact with earth and ASTM C 270, Type N, for above-grade loadbearing and nonloadbearing walls and parapet walls and for interior loadbearing and nonloadbearing partitions.
2. Mortar Materials: Ready mixed, ASTM C 207, Type S.
3. Grout Aggregate: ASTM C 404.
4. Hydrated Lime: ASTM C 207, Type S.

C. Reinforcing Steel:
1. Reinforcing Bars: ASTM A 615, Grade 60.
2. Reinforcing Wire: ASTM A 496.
3. Welded Wire Fabric: ASTM A 185, plain.

D. Masonry Accessories:
1. Cavity Drainage Material
2. Rubberized-Asphalt or EPDM Flashing with stainless steel drip edge.
3. Loose-Granular Fill Insulation.
4. Nonmetallic expansion joint strips.
5. Preformed control joint gaskets.
6. Bond breaker strips.
7. Plastic tubing for weeps.
8. Cotton sash cord for weeps.
9. Open head-joint weeps.

PART 3 EXECUTION

3.1 INSTALLATION

A. Installation of Masonry Assemblies:
1. Comply with PCA Recommended Practices for Laying Concrete Block, Brick Institute of America BIA Tech Notes, and NCMA TEK Bulletins.
2. Comply with cold weather and warm weather protection procedures as recommended in BIA Tech Notes.
3. Provide fire-rated assemblies complying with ASTM E 119.
4. Sawcut units when required. Maintain uniform joint width. Provide full bed, head and collar joints except at weep holes.
5. Install lintels and accessories in masonry construction.
6. Coordinate installation of flashings.
7. Comply with applicable codes and regulations for spacing of ties and horizontal reinforcing.
8. Provide expansion and control joints in accordance with BIA and NCMA recommendations.
9. Remove and replace damaged units.
10. Clan brick using bucket and brush method,
11. Clean concrete masonry by dry brushing,

SECTION 05120
STRUCTURAL STEEL

PART 1 GENERAL

1.1 SUBMITTALS

A. Shop Drawings: Submit shop drawings indicating material characteristics, details of construction, connections, and relationship with adjacent construction.

1.3 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. Architecturally Exposed Structural Steel: Comply with fabrication requirements, including tolerance limits, and installation tolerances of AISC's "Code of Standard Practice for Steel Buildings and Bridges" for structural steel identified as architecturally exposed structural steel.

C. Erection Tolerances: AISC standards.

PART 2 PRODUCTS

2.1 MATERIALS

A. Structural Steel:
1. Structural Steel Shapes, Plates, and Bars: ASTM A 572.
2. Cold-Formed Steel Tubing: ASTM A 500, Grade B.
3. Hot-Formed Steel Tubing: ASTM A 501.
4. Steel Pipe: ASTM A 53, Type E or S, Grade B; or ASTM A 501.
5. Steel Castings: ASTM A 27, Grade 65-35.
6. Headed Stud-Type Shear Connectors: ASTM A 108, Grade 1015 or 1020.
7. Anchor Bolts: ASTM A 307, nonheaded type.
8. Unfinished Threaded Fasteners: ASTM A 307, Grade A.
9. High-Strength Threaded Fasteners: ASTM A 325 or ASTM A 490, asapplicable.
10. Structural Steel Primer Paint: SSPC - Paint 13, compatible with topcoats.
a. Cement Grout: Portland cement, sand.
b. Nonmetallic Shrinkage-Resistant Grout: Premixed nonmetallic grouting compound, ASTM C 1107.

PART 3 EXECUTION

3.1 INSTALLATION

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

B. Check elevations and plumb and level tolerances; certify that installed work is within AISC 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 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 Stamps: DOC PS 20, 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. Exterior Wall Framing: 2 inch by 4-inch nominal (38 mm by 89 mm actual) studs, 16 inches (40 cm) on center.
2. Interior Wall Framing: 2 inch by 4-inch (38 mm by 89 mm actual) studs, 16 inches (40 cm) on center.

E. Preservative Treatment: AWPA C2 for lumber and AWPA C9 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 C27 for plywood; noncorrosive 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. Exposed Framing: Appearance grade.
2. Boards:
a. Exposed Boards: 15 percent moisture content.
b. Concealed Boards: 19 percent moisture content.
3. Building Paper:
a. Material: Asphalt-saturated organic felt, ASTM D 226, Type I, No. 15 felt, unperforated.
4. Building Wrap:
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.
5. Sill Sealer Gaskets:
a. Material: Glass fiber strip resilient insulation.
6. Framing Anchors and Fasteners:
a. Material: 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 grounds where required. Set work plumb, level and accurately cut.

D. Install materials 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 06200
INTERIOR FINISH CARPENTRY

PART 1 GENERAL

1.1 SUBMITTALS

A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.

B. Shop Drawings: Submit shop drawings indicating material characteristics, details of construction, connections, and relationship with adjacent construction.

1.3 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: Architectural Woodwork Institute (AWI) 'Architectural Woodwork Standards.'

C. Preservative Treatment: Nonpressure method, exterior type, AWPA N1

D. Wood Products: Comply with the following:
1. Hardboard: AHA A135.4.
2. Medium-Density Fiberboard: ANSI A208.2, Grade MD-Exterior Glue.
3. Particleboard: ANSI A208.1, Grade M-2-Exterior Glue.
4. Softwood Plywood: DOC PS 1, Medium Density Overlay.
5. Hardwood Plywood and Face Veneers: HPVA HP-1.

E. Mock-Ups: Provide mock-up as required to demonstrate quality of workmanship of each type of finish carpentry.

PART 2 PRODUCTS

2.1 MATERIALS

A. Interior Standing and Running Trim and Rails:
1. Species for Opaque or painted Finish: White pine or sugar pine.
2. Species for stained finish: Knotty pine where shown on plans

PART 3 EXECUTION

3.1 INSTALLATION

A. Provide work to sizes, shapes, and profiles indicated. Install work to comply with quality standards referenced. Back prime work and install plumb, level and straight with tight joints; scribe work to fit.

B. Quality Standard: Install woodwork to comply with AWI standards for the same grade specified for type of woodwork involved.

C. Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction. Coordinate with work of other sections.

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

E. Repair minor damage, clean and protect.

SECTION 07210
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

2.1 MATERIALS

A. Blanket/Batt Insulation:
1. Application: Thermal insulation in studs in exterior walls.
a. Batt insulation R-19, R-13, R-11 as shown on plans. Kraft faced with stapling flange for wood wall construction.
2. Type: Foil-faced mineral fiber.
a. Standard: ASTM C 665, Type III (foil-scrim-kraft vapor-retarder membrane).
b. Foil 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 mineral fiberglass Batts with minimum 3 ½" thickness.

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. Coordinate with work of other sections. Provide full thickness in one layer over entire area, tightly fitting around penetrations.

B. Pour loose insulation into cavities indicated; provide uniform coverage at correct density and thickness.

C. Install vapor retarder over entire area of inside face of exterior walls and elsewhere as indicated. Seal all seams and around perimeter and penetrations with duct tape to form a continuous vapor retarder free of holes.

D. Protect installed insulation and vapor retarder.

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: Dryvit, Sto or Equal
a. Manufacturer requirements: Member in good standing of the EIFS industry members association and EIMA. System manufacturer for a minimum 20 years and manufacturing facilities is certified system.
2. Type: EIMA 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 polystyrene [with drainage channels]. Minimum insulation thickness 1"
7. Reinforcing Mesh: Standard weight with high-impact type at areas subject to damage.
8. Insulation Attachment: 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 manufacturers 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 soft joints at all changes of substrate and at intervals suggested by manufacturers and at approved locations. Install areas 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

2.1 MATERIALS

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.

PART 3 EXECUTION

3.1 INSTALLATION

A. Review extent of work with authorities having jurisdiction and obtain approval of installation thicknesses and methods.

B. Sequence work to avoid need for removal of firestopping by work of other trades.

C. Comply with manufacturers' instructions and recommendations. Securely anchor insulation with safing clips. Install firestopping without gaps or voids.

D. Protect, inspect and repair work until final acceptance.

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

C. Exterior Paving Joint Fillers, 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.

F. Glazing and kitchen applications
1. General Electric silicone construction 1200 sealant or equal.

PART 3 EXECUTION

A. Do not proceed with installation of joint sealants under following conditions:
1. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 4.4 C (40 F).
2. When joint substrates are wet.
3. Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.
4. Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

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

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 sections. Clean and prime joints, and install bond breakers, backer rods and sealant as recommended by manufacturers.

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 solidly with compound and finish compound smooth.

I. Cure and protect sealants as directed by manufacturers. Replace or restore damaged sealants. 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 08110
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: ANSI/SDI-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 C 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. Door 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, buckle, and exposed fasteners. Install doors and frames in compliance with SDI-100, NFPA 80, and requirements of authorities having jurisdiction.

B. Install frames plumb, level, rigid and in true alignment in accordance with ANSI A250.11, "Recommended Erection Instructions for Steel Frames" and ANSI A115.IG, "Installation Guide for Doors and Hardware". Hardware: Prepare doors and frames to receive hardware on final schedule. Provide for 3 silencers on single doorframes; 2 on double doorframes.

C. Shop Finish: Clean, treat and prime paint all work with rust-inhibiting primer comparable 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 meeting edges of pairs of doors 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)..

F. Adjust doors for free swing without binding.

SECTION 08210
FLUSH WOOD DOORS

PART 1 GENERAL

A. Warranty: Submit manufacturers 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: [NWWDA I.S.1-A, 'Architectural Wood Flush Doors.'] [AWI's 'Architectural Woodwork Standards.'].

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

PART 2 PRODUCTS

2.1 MATERIALS

A. Interior Flush Wood Doors:
1. Type: Hollow core.
2. Thickness: 1-3/8 inches thick.
3. Grade: Economy.
4. Frames: Metal knowckdown.
5. Finish Application: Site finished.

PART 3 EXECUTION

3.1 INSTALLATION

A. Comply with NWMA I.S. 1A and specified quality standard.

B. Prefit doors to frames. Premachine doors for hardware listed on final schedules. Factory bevel doors.

C. Correct any deficiency that prohibits the door from swinging or operating freely. Do not remove hinge screws after initial insertion. Shims 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 at bottom. Comply with NFPA 80 for rated assemblies.

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.

PART 2 PRODUCTS

2.1 MATERIALS

A. Aluminum Entrances and Storefront:
1. Aluminum Members: ASTM B 209, ASTM B 221, ASTM B 429.
2. Steel Reinforcement: ASTM A 36, ASTM A 1008, and ASTM A 1011.
3. Door Style: Narrow stile and rail doors.
4. Storefront Style: Aluminum framed.
5. Glass and Glazing: Insulating glazing, tempered.
6. Glazing Color: Clear glass. WINDOW TINTING IS NOT ALLOWED.
7. Closers: Surface mounted.
8. Closer Operation: Double acting closers.
9. Aluminum Finish: Clear anodized.
10. Aluminum Finish: Baked enamel.
11. Auxiliary Materials:
a. Push/pulls, doorstops, overhead holders, and deadlocks.
b. Weatherstripping and thresholds.
c. Exit devices.

PART 3 EXECUTION

3.1 INSTALLATION

A. Take field measurements before fabrication where possible; do not delay job progress.

B. 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.

C. Anchor securely in place; install plumb, level and in true alignment. Isolate dissimilar materials to prevent corrosion.

D. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within the system to exterior.

E. Adjust operating entrance door hardware to function smoothly as recommended by manufacturer.
1. For entrance doors accessible to people with disabilities, adjust closers to provide a 3-second closer sweep period for doors to move from a 70-degree open position to 3 inches (75 mm) from the latch, measured to the leading door edge

F. Coordinate with glass and glazing work; install hardware and adjust for smooth, proper operation.

G. Aluminum-framed assemblies will be considered defective if they do not pass tests and inspections

H. Clean and protect completed system; repair damage.

SECTION 09110
NON-STRUCTURAL METAL FRAMING

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. Tolerances: Not more than 1/8 inch in 10 feet deviation from true plane, plumb, level and proper relation to adjacent surfaces in finished work.

C. Fire Resistance for Fire-Rated Assemblies: ASTM E 119.

D. Performance: Fire, structural, and seismic performance meeting requirements of building code and local authorities.

PART 2 PRODUCTS

2.1 MATERIALS

A. Steel Framing for Walls and Partitions:
1. Material Standard: ASTM C645.
2. Stud Thickness: 20 gauge (.0329 inch).
3. Stud Thickness: 25 gauge (.0179 inch).
4. Stud Depth, Typical: 2-1/2 inches.
5. Stud Depth, Typical: 3-5/8 inches.
6. Furring Channel Thickness: 25 gauge (.0179 inch).

B. Steel Framing for Suspended and Furred Ceilings:
1. Material Standard: ASTM C645.
2. Attachment: Standard.
3. Stud Thickness: 20 gauge (.0329 inch).
4. Accessories: Furring channels, hangers and inserts.

C. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.16 inch (4.064 mm) in diameter.

D. Non-Structural Track: Cold-Formed galvanized steel runner tracks in conformance with ASTM C 645 for conditions indicated below:

E. Grid Suspension System for Gypsum Board Ceilings: ASTM C 645, direct-hung system composed of main beams and cross-furring members that interlock.

PART 3 EXECUTION

3.1 INSTALLATION

A. Provide fire-rated systems where indicated and where required by authorities having jurisdiction.

B. Where new partitions meet existing construction, remove existing corner beads to provide a smooth transition.

C. Provide acoustical sealant at both faces at top and bottom runner tracks, wall perimeters, openings, expansion and control joints.

D. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.

E. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.

F. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.

G. Suspend hangers from building structure as follows
1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.
2. Where width of ducts and other construction within ceiling plenum produces hanger spacing that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.
3. Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail
4. Grid Suspension Systems: Attach perimeter wall track or angle where grid suspension systems meet vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track

SECTION 09300
TILE

PART 1 GENERAL

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

C. Tile: ANSI A 137.1.

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

E. Tile Installation: ANSI 108 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 firmly in place with finish surfaces in true planes. Align tile flush with adjacent tile unless shown otherwise on construction documents.

G. Form intersections and returns accurately.

H. Cut and drill tile neatly without marring 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. Joints:
1. Keep all joints in line, straight, level, perpendicular 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 type; maximum 3 mm (1/8 inch) wide.

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REVISION

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DATE: 12.26.2019

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SPECIFICATIONS

A7.0

SECTION 09510
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. 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. Removal and reinstallation at existing ceilings: 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. Provide additional materials to complete the work and to 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 border widths at opposite edges of each ceiling. Avoid use of less-than-half width units at borders

E. Grid layout 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 cut acoustical panels as required, in accordance with manufacturers recommended procedures and equipment.

I. Adjust, clean, and touch-up all system components.

SECTION 09910
PAINTS

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. Regulations: Compliance with VOC and environmental regulations.

PART 2 PRODUCTS

2.1 MATERIALS

A. Painting:
1. Manufacturers: Sherwin-Williams, ProMar 200
2. Application: Interior unfinished surfaces.
3. Primary Coating Type: Latex based paints.
4. Primary Paint Systems: Primer plus two finish coats.

PART 3 EXECUTION

3.1 INSTALLATION

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

B. Comply with manufacturer's instructions and recommendations for preparation, priming and coating work. Coordinate with work of other sections.
1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

C. At existing areas to be repainted, remove blistered or peeling paint to sound substrates. Remove chalk deposits and mildew and wash all surfaces with mild detergent. Perform related minor preparation including caulk and glazing compounds. Spot prime bare areas before priming and painting as specified.

D. Match approved mock-ups for color, texture, and pattern. Re-coat or remove and replace work which does not match or shows loss of adhesion. Clean up, touch up and protect work.

E. PREPARATION - GENERAL
1. Do not start work until surfaces to be finished are in proper condition to produce finished surfaces of uniform, satisfactory appearance.
2. Stains and Marks: Remove completely, if possible, using materials and methods recommended by coating manufacturer; cover stains and marks which cannot be completely removed with isolating primer or sealer recommended by coating manufacturer to prevent bleed-through.
3. Remove Mildew, Algae, and Fungus using materials and methods recommended by coating manufacturer.
4. Remove or protect adjacent hardware, electrical equipment plates, mechanical grilles and louvers, lighting fixture trim, and other items not indicated to receive coatings.
5. Move or protect equipment and fixtures adjacent to surfaces indicated to receive coatings to allow application of coatings.
6. Protect adjacent surfaces not indicated to receive coatings.
7. Prepare surfaces in accordance with manufacturer's instructions for specified coatings and indicated materials, using only methods and materials recommended by coating manufacturer.

F. SURFACE PREPARATION
1. Concrete and Concrete Masonry: Clean surfaces free of loose particles, sand, efflorescence, laitance, form oil, curing compounds, and other substances which could impair coating performance or appearance.
2. Existing Coatings:
a. Remove surface irregularities by scraping or sanding to produce uniform substrate for coating application; apply one coat primer of type recommended by coating manufacturer for maximum coating adhesion.
b. If presence of lead in existing coatings is suspected, cease surface preparation and notify Architect immediately.
3. Gypsum Board: Repair cracks, holes and other surface defects with joint compound to produce surface flush with adjacent surfaces.
4. Masonry Surfaces - Restored: Remove loose particles, sand, efflorescence, cleaning compounds and other substances that could impair coating performance or appearance.
5. Metals - Aluminum, Mill-Finish: Clean and etch surfaces with a phosphoric acid water solution or water based industrial cleaner. Flush with clean water and allow to dry, before applying primer coat.
6. Metals - Copper: Clean surfaces with pressurized steam, pressurized water, or solvent washing.
7. Metals - Ferrous, Remove rust or scale, if present, by wire brush cleaning, power tool cleaning, or sandblast cleaning; remove grease, oil, and other contaminants which could impair coating performance or appearance by solvent cleaning, with phosphoric-acid solution cleaning of welds, bolts and nuts; spot-prime repaired welds with specified primer.

G. APPLICATION - GENERAL
1. Apply each coat to uniform coating thickness in accordance with manufacturer's instructions, not exceeding manufacturer's specified maximum spread rate for indicated surface; thins, brush marks, roller marks, orange-peel, or other application imperfections are not permitted.
2. Allow manufacturer's specified drying time, and ensure correct coating adhesion, for each coat before applying next coat.
3. Inspect each coat before applying next coat; touch-up surface imperfections with coating material, feathering, and sanding if required; touch-up areas to achieve flat, uniform surface without surface defects visible from 5 feet (1.5 m).
4. Remove dust and other foreign materials from substrate immediately prior to applying each coat.
5. Where paint application abuts other materials or other coating color, terminate coating with a clean sharp termination line without coating overlap.
6. Where color changes occur between adjoining spaces, through framed openings that are of same color as adjoining surfaces, change color at outside stop corner nearest to face of closed door.
7. Re-prepare and re-coat unsatisfactory finishes; refinish entire area to corners or other natural terminations.

H. CLEANING
1. Clean excess coating materials, and coating materials deposited on surfaces not indicated to receive coatings, as construction activities of this section progress; do not allow to dry.
2. Re-install hardware, electrical equipment plates, mechanical grilles and louvers, lighting fixture trim, and other items that have been removed to protect from contact with coatings.
3. Reconnect equipment adjacent to surfaces indicated to receive coatings.
4. Relocate to original position equipment and fixtures that have been moved to allow application of coatings.
5. Remove protective materials.

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: ADAAG.

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. McKinney/Parker.

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, G60.
5. Chromium Plating: Nickel and chromium electro-deposited on base metal, ASTM B456, Type
6. Baked Enamel Finish: Factory-applied, gloss white, baked acrylic enamel coating.
7. Mirror Glass: ASTM C 1036, Type 1, Quality q2, 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 353-12) minimum quantity of twelve per each unit.

E. TOILET TISSUE DISPENSER:
1. Surface mounted double roll toilet tissue holder of satin finish stainless steel, 1/8 inch wall thickness, at 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 vandal resistant anchorages.
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 vdal-resistant with unbreakable refill window.
2. Valve operates with less than 5 lbs. of force.

H. WALL MIRRORS:
1. Stainless Steel Channel Frame Mirror: One piece type 304 channel frame 3/4 inch x 3/4 inch, Satin finish with mitered corners, welded, ground and polished smooth.
2. Float/plate 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 tumbler lockset. Provide pierced slots at sides as refill indicators.
2. Capacity: Not less than either 300 C-fold or 400 multifold paper towels without special adapters.
3. Surface mount stainless shelf: 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.

SECTION 15100
PLUMBING

PART 1 GENERAL

1.1 SUMMARY

A. Work shall include but not be limited to the following: Provide all labor, materials, services, equipment and appliances required for the fabrication and installation of the plumbing system, as indicated on the design drawings and as outlined in these specifications.

B. Equipment and design of systems indicated on the design drawings and within these specifications shall be considered as "specified standard" quality. Substitutions shall be equal quality.

C. 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.

D. All equipment, etc., shall be new unless otherwise noted, and as specified free of defects as shown on the drawings and as indicated in these specifications. All electrical powered equipment shall be U.L. or E.T.L. Listed.

E. All materials shall be fabricated and installed in a neat and professional manner with the coordination of all involved trades to avoid interferences and delay due to lack of coordination. No allowances will be made for rework due to coordination difficulties or interferences between involved trades.

F. Obtain all permits and inspections required by law for the completions of the work. 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. 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, Florida Building Code Plumbing- 2004, National Electric Code (NEC) and the National Fire Protection Association (NFPA).

1.2 QUALITY ASSURANCE

A. Materials and Workmanship:

a.Products and materials shall meet or exceed the quality or requirements specified or shown on the drawings.

b.Provide products and materials, which the manufacturer has certified as appropriate to the applications shown on the drawings and specifications.

c.Provide products and materials, which are supported by convenient, parts availability and servicing.

d.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.

b.

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.

C. 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.

PART 2 PRODUCTS

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 reapplied 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.

D. Water Supply Systems:

a.Extend water service as indicated on design drawings. Provide shock absorbers and vacuum breakers where required.

b.Pipe and fittings:

I. Above ground - Schedule 40 CPVC.

II. Below ground - Schedule 80 CPVC.

c.Chlorination: Before being placed in service all water distribution. Systems shall be sterilized with chlorine in accordance with FPC 610.1 standard procedure for disinfecting potable water piping.

d.Insulation: Insulate all hot water lines with 1" of insulation having a conductivity not exceeding 0.27 BTU per inch.

IJ. 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 escutcheon 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.

F. Drainage System:

a.Pipe slope:

I. 2-1/2 inch diameter and less shall be installed with a fall of not less than 1/4 inch per foot.

II. 3 inch diameter or larger shall be installed with a fall not less 2. Than 1/8 inch per foot.

G. 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 base of down spouts and at base of soil and waste stacks.

PART 3 EXECUTION

3.1 INSTALLATION

A. All locations of equipment, piping, etc. indicated on the drawings are diagrammatic and shall be followed as closely as possible to the plans, subject to building construction and interferences with other trades. All work shall be installed to ensure maximum headroom, balanced operation and suitable aesthetic appearance. Contractor is responsible for any field measurements required to provide an approved and functional installation.

B. Not all components required for a complete installation are shown on these drawings. Refer to equipment installation instructions, schedules and applicable codes for additional information, including required connection locations, types and sizes.

C. Provide isolation valves and unions at all equipment and as indicated on drawings.

D. Contractor shall be responsible for furnishing and installing adequate and proper insulation and moisture-seal in a manner that will permanently prevent the accumulation of any objectionable moisture on the exterior of condensate drain piping, or other parts of the system. The contractor shall correct the cause of any condensation and fully repair, without cost the owner, any damages to building surfaces, furnishings or equipment caused by condensation from this system, for the full period of the guarantee.

E. Perform all work necessary to prepare the structure for the installation of the work.

F. All holes, openings and damaged materials created during construction shall be repaired and finished by experienced workmen. Provide all roof, wall and floor penetrations required to complete installation or work (maintain fire rating of existing structure). All penetrations shall be patched and finished to match surrounding surfaces and finishes. All equipment or pipe penetrations through wall, roof and floors shall be sleeved and sealed so as to be water and air tight.

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, ATC, and plumbing requirements with those subcontractors.

B. 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).

C. Provide all 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.

D. Equipment and design of systems indicated on the design drawings and within these specifications shall be considered as "specified standard" of quality. Substitutions shall be of equal quality.

E. 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.

F. All equipment, etc. Shall be new unless otherwise specified, free of defects as shown on the drawings, and as indicated in these specifications.

G. All materials shall be fabricated and installed in a neat and professional manner with the coordination of all involve trades to avoid interferences and delay due to lack of coordination. No allowances will be made for rework due to coordination difficulties or interferences between involved trades.

1.2 QUALITY ASSURANCE

A. Provide to the owner with the following prior to final acceptance
1. Parts list for each piece of equipment.
2. One bound set of approved shop drawings.
3. One bound set of operating instructions and maintenance schedules for each piece of equipment.
4. Copies of all warranties for each piece of equipment.

B. Guarantees and Warranties
1. 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.
2. 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 preventative 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 disconnect. 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 for equipment name and 3/8 inch for equipment information.

2.1 MATERIALS

A. Hangers and Supports
1. Provide all necessary ductwork, pipe supports, hanger rods, clamps and attachments to properly support ductwork, piping and equipment from the building structure, Provide any angle iron or unistrut and suspension rods required to install equipment, piping and ductwork
2. All supports exposed to outdoors shall be cleaned, primed and painted to prevent rusting. Finish color to be selected by the owner.
3. The use of bailing wire or perforated metal strapping is not acceptable for supports.

B. Air-Conditioning Equipment (if any new equipment is shown)
1. New units shall be air-to-air electric air as scheduled on the design drawings. Units with integral electric resistance heaters shall have a single-point electric connection. Total cooling capacity of the units shall be as scheduled on drawings. Unit cabinets shall be constructed of galvanized steel, bonderized and coated with baked enamel. Cabinet insulation shall comply with local energy code.
2. The units shall contain hermetic compressors with service valves and vibration isolation. Units shall have dual compressors and dual refrigeration circuits or capacity reduction steps where indicated on equipment schedule.
3. The indoor air fans shall be of the forward-curved centrifugal class 1 type. The outdoor air fans shall be of the propeller type, each directly driven by an inherently protected motor. Motor and drive to provide higher fan output when job requirements exceed standard fan capacity shall be provided.
4. Cooling system shall be protected by: loss of charge protection, high and low pressure stat, compressor motor overloads, and a timing device which will prohibit the compressor motor form being subjected to a starting current more than once every five minutes. Three phase units shall have phase-loss protection. The unit will have an ambient air compressor lockout set at 55 degrees. Controls - provide wall mounted, heat/cool on-off-auto thermostat. Smoke detectors shall be provided by division 16, installed by division 15 and wired by division 1 60do. Locations for smoke detectors are indicated on HVAC plans.
5. Provide air conditioning unit with sub cooling coil and gas reheat option.

C. Air Distribution Equipment
1. Furnish supply air diffusers and return air grills as scheduled on the design drawings.
i. Metal-aire or Prince may be substituted as an equal.
2. Grills registers and diffusers shall be furnished as scheduled on the design drawings.

D. DUCTWORK
1. Glass fiber duct board with anti-microbial treated inner lining, equal to 'tough-duct". Inner lining shall be sealed in accordance with the manufacturer's recommendations. Duct board shall be 1-1/2" thick, r-6. All field joints shall be sealed with glass fabric and mastic.
2. Adjustable splitters and dampers shall be installed in every split and branch duct and shall be provided with locking quadrants on exposed or in accessible areas of the duct for ease of operation. Elbows or changes in duct direction greater than 45 degrees shall be fitted with air turns consisting of curved airfoil blades or vanes, which will permit the air to make abrupt turns without appreciable turbulence.
3. Flexible ductwork shall be acoustical low-pressure type with interior liner, metal helix, fiberglass insulation with an R-value of 6.0 or greater, and copolymer seamless outside sleeve. The entire flexible duct assembly shall be listed in accordance with ul-181 class i air duct material. Flexible ductwork shall meet the energy efficiency code.
4. All exhaust ductwork shall be galvanized steel.

E. FIRE SAFETY CONTROLS
1. Install smoke detector furnished by division 16 in supply and return air ducts. Detector shall shut unit off when activated.

F. VIBRATION ISOLATION
1. All blower units and vibrating type equipment shall be properly fitted with mason industries vibration isolation equipment sized in accordance with equipment weight and duty.
2. Provide flexible connectors at all supply and return connections to air conditioning equipment consisting of heavy canvas or neoprene fabric with airtight seams and connections to the equipment.

G. AIR FILTERS
1. Filters shall be 2" fiberglass media 303 throwaway type in a rigid frame with a supporting maze across both entering and leaving surfaces. Supply one complete set of filters after owner's final acceptance. Farr 30/30 or equal.

H. ACCESS DOORS
1. Furnish in ductwork as indicated and wherever necessary for proper access to all instruments, controls, fire dampers motorized dampers and equipment and for convenient inspection, maintenance and replacement of same. Size to be ample for usage. Openings to be reinforced on all sides with material or ductwork in which doors are installed.
2. Hardware - use vent lock hardware throughout. All doors to be hinged with brass pin hinges and with quick opening latches as follows:
i. Reach-in doors to be 18" high.
ii. Two (2) #150 hinges w/ one #90 latch.
3. Access doors (hard surfaces) contractor shall provide hinged access doors (min. 12''x12") for dampers, valves, etc. Where floors, walls, and ceilings must be penetrated to access mechanical systems. Finish shall be coordinated through the architect or owner's representative to match surrounding finishes. Fire rated access doors in fire rated walls or ceilings shall bear a U.L. Label for fire rating requirement.

I. UTILITY FANS
1. Contractor shall furnish and install centrifugal fans of size and type called for on drawings.
2. Fans shall be rated and constructed to be capable of operating at static pressures of 0.5" above

J. DOOR AIR CURTAIN (if new equipment is show on drawings)
1. Units shall be furnished in single increments of sufficient structural strength to be supported from both ends without intermediate support. Multiple units shall not be permitted. Unit casing shall be a minimum of 18 gauge 304 stainless steel in a number three finish.
2. Galvanized fans shall be forward curved centrifugal type, double inlet design, with zinc plated hubs. Tangential type blowers and coupling connection shall not be permitted. Inlet screen shall be perforated stainless steel powder coated black.
3. Discharge nozzle shall be high efficiency discharge plenum, designed so that the air leaves on a 6 degree plane. Air curtain creates a positive air seal with directional air foil vane. The vane shall facilitate deflection of air stream ±20 degrees. Unit shall have multiple speed motor(s) to control air column down from maximum speed.
4. All air curtains shall consist of a stainless steel casing, centrifugal fan, raised stainless steel inlet screen, discharge nozzle, motor(s) and an optional 1/2 inch re cleanable filter.
5. Motors at 1/2 HP 1075 rpm each shall be heavy duty type equipped with permanently lubricated, shielded sleeve bearings of equal size at each end and double extended shafts requiring no outboard bearings.

K. INSULATION
1. Shall be as manufactured by Owen-Corning, Manville, Pittsburgh corning, Armstrong, or approved equal insulation sundries and adhesives shall be manufactured by Benjamin Foster, Childers, Vimasco, or approved equal.
2. Insulate all sheet metal ductwork except exhaust ductwork externally with 2" thick (r-6 minimum) Manville R series Microlite type-100 insulation or approved equal. Insulation to have FSK facing and UL fire hazard classification of: flames spread 25, smoke developed 50, and fuel contributed 5d. Install per energy efficiency code and manufacturer's recommendations.
3. Contractor shall be responsible for furnishing and installing adequate and proper insulation and

L. TESTING
1. 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.
2. Adjust the air-conditioning systems, ventilating systems, fans, etc. To deliver not less than the required air quantity with quantities in excess to be subject to the approval of the engineer if found not have objectionable effects such as noise, drafts, or motor overloads.

3.1 INSTALLATION

A. All locations of equipment, ductwork, piping, etc. Indicated on the drawings are diagrammatic and shall be followed as closely as possible to the plans subject to building construction and interferences with other trades. All work shall be installed to ensure maximum headroom, balanced operation and suitable aesthetic appearance. Contractor is responsible for any field measurements required to provide an approved and functional installation.

B. Not all components required for a complete installation are shown on these drawings. Refer to equipment installation instructions, schedules and applicable codes for additional information, including required connection locations, types and sizes.

C. Contractor shall be responsible for furnishing and installing adequate and proper insulation and moisture-seal in a manner that will permanently prevent the accumulation of any objectionable moisture on the exterior of air-conditioning units, refrigerant piping, condensate drain piping, air ducts or other parts of the system. Contractor shall correct the cause of any condensation and fully repair, without cost to the owner, any damages to building surfaces, furnishings or equipment caused by condensation from this system for the full period of the guarantee.

D. All penetrations shall be patched and finished to match surrounding surfaces and finishes. All equipment or pipe penetrations through walls, roofs and floors shall be sleeved and sealed so as to be water and airtight.

E. Cleaning testing and adjusting: the contractor, at his expense, shall clean, repair, adjust, check, balance, and place in service the various systems herein specified with their respective equipment, accessories and piping. He shall furnish all labor, materials, equipment, and tools required to perform tests required by these specifications and by the governing authorities.

F. No work shall be concealed until properly inspected and tested.

SECTION 16000
ELECTRICAL

PART 1 GENERAL

1.1 SUMMARY

A. SERVICE INTERRUPTIONS AND UTILITY:
Coordinate with the owner the interruption of utility services necessary to accomplish the work.

B. IDENTIFICATION:
Properly label all panel boards, distribution panel boards, signal distribution systems including feeder circuits. Provide two copies of typed panel board schedules.

C. PERFORMANCE VERIFICATION:
Prior to the final inspection test feeder and branch circuit conductors #6 AWG and larger for shorts, open, intentional and unintentional grounds by means of an approved type of constant "Megger".

D. LAYOUT OF WORK:
Correlate final equipment locations with governing architectural drawings. Provide coordination of all trades required for installation in a neat and workmanlike manner.

E. SITE INVESTIGATION:
Survey existing site conditions thoroughly before bid. Advise architect prior to bid of any discrepancies between existing site conditions and contract documents.

F. SUPERVISION OF WORK:
Provide a field superintendent who has a minimum of four years' experience on projects of a similar nature and size. The superintendent shall be present at all times that work under this division is being installed or affected.

G. COORDINATION:
Provide all coordination and supervision where work connects to or is affected by other trades. Locate all openings required for work performed under this section.

H. BASIS OF WIRING DESIGN:
The construction document design is based on specific sizes of equipment. Wherever equipment provided differs from the documents, the associated wiring and circuit components shall be changed to the proper size for the equipment being installed with no additional cost to the owner.

1.2 QUALITY ASSURANCE

A. MATERIALS AND WORKMANSHIP
a. Products and materials shall meet or exceed the quality or requirements specified or shown on the drawings.
b. Provide products and materials, which the manufacturer has certified as appropriate to the applications shown on the drawings and specifications.
c. Provide products and materials, which are supported by convenient, parts availability and servicing.
d. 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.
e. Provide all labor, materials, equipment, fees, electrical permits and all necessary items for a complete electrical system.
f. Provide complete systems, regardless of whether each individual component is indicated or not.
g. The work shall comply with the latest applicable editions of the following listed codes and ordinances:
i. NFPA no. 70 "national electric code".
ii. NECA "standard of installation."
iii. Electric utility company service standards.
iv. Telephone utility company service standards.
v. Cable TV utility company service standards.
vi. Underwriter's laboratory standards.
vii. Other local codes, ordinances and laws applicable to the place of work.
h. Related work specified elsewhere:
i. Refer to the architectural, structural and mechanical divisions of the work for electrical work to be done in conjunction with these divisions.
ii. Verify locations and electrical requirements of all equipment furnished by the owner or other trades prior to installation of conduit and wire.

B. SUBSTITUTIONS:
Equipment and design of systems indicated on the design drawings and within the specifications are considered as "specified standards" of quality and, with dimensions of the specified materials from the basis of design.

C. PRODUCTS:
All materials shall be new and of the best quality, free of defects. Where applicable, all materials shall be U.L. Listed or be listed with an approved testing agency.

D. WORKMANSHIP:
All materials shall be fabricated and installed in a neat and workmanlike manner with the coordination of all trades to avoid interference and delay due to lack of coordination.

E. CLEANING, TESTING AND ADJUSTING:
Clean, repair, adjust, check and place in service the various systems shown on the construction documents.

F. GUARANTEE AND WARRANTY:
Provide written guarantee to the owner stating that all work has been performed in accordance with the construction documents and warranty all work against defects due to faulty workmanship or materials for a period of one year from beneficial occupancy.

PART 1 PRODUCTS

2.1 MATERIALS

A. MATERIALS AND WORKMANSHIP
a. Assume full responsibility for the timely placement of all conduit, outlet boxes, cabinets, and other wiring devices in walls, ceilings, etc. As the construction progresses.
b. Raceway and conduit systems:
i. Surface mounted equipment and raceways will be painted under division 9. Color as selected by the architect.
ii. Size raceway as required by the national electrical code with oversized conduits as indicated. Provide complete raceway systems including conduit, supports, boxes and enclosures and all connections to electrical equipment. Conceal raceway in finished areas unless indicated otherwise. Install exposed raceway parallel or perpendicular to walls, ceiling or structural members.
iii. Conduit systems shall be suspended from or affixed to the building superstructure only.
iv. All raceways shall be run in a neat and workmanlike manner and shall be properly supported in accordance with the NEC with approved conduit straps, clamps, hanger rods and structural fasteners. Non-bolted conduit clamps supporting of the conduit system from suspended ceilings is not be permitted.
v. Raceways for branch circuits and feeders shall have an insulated copper system ground conductor throughout the entire length of the circuit in accordance with the NEC. Grounding conductors shall be included in the total conduit fill when determining conduit size.
vi. An approved nylon pull-cord shall be installed in all empty conduits. Pull cords shall be fastened to prevent accidental removal.
vii. Circuit numbers and system identification shall be printed on junction box covers using ink markers and be plainly visible.
viii. Conduit shall be EMT for branch circuit wiring with set screw connectors. Unless otherwise indicated, PVC (schedule 40) shall be used below and above grade. Flexible conduit shall be used to make final connection to electrical equipment where required, liquid tight shall be used for exterior applications. MC Cable is allowed.

B. WIRE AND CABLE:
a. Branch circuit and feeder conductors shall be copper 600 volt type THHN/THWN. Conductors
b. #12 AWG and smaller shall be solid. The minimum wire size shall be #12 AWG unless noted otherwise.
c. No aluminum wire will be permitted.
d. All copper taps and splices #8 AWG or smaller shall be fastened with wire nut connectors. All taps and splices larger than #8 AWG shall be made with color keyed high compression type connectors. An approved shrink sleeve to equal insulation rating of the wire shall be used to insulate splices.
e. All power feeders and branch circuits #8 AWG and smaller shall be wired with color -coded wire as herein specified. Power feeders #8 AWG and larger shall either be color -coded with tape or paint inside all panels, junction boxes, etc.
i. 120/208 volt: 3 phase, 4 wire
ii. Phase wires black, red, blue
iii. Neutral - white
iv. Ground - green or green with yellow stripes
v. Switch legs - colors other than those utilized above.
f. Where permitted by code approved cable assemblies may be used for concealed branch circuit wiring only.

C. OUTLET BOXES:
a. Fixtures to be used, and number and size of conductors. Minimum 4"x4" square with required rings. Welded boxes are allowed. Provide outlet boxes for all power and communication devices.
b. Ceiling boxes shall be 4" square by 1-1/2" deep or larger as required for number and size of conductors.
c. Flush outlet boxes shall be one piece steel outlet boxes. Boxes shall be mounted so that covers and plates will finish flush with finished surfaces without the use of shims, mats, or other devices. Plates shall not support wiring devices. Gang switches with common cover plates where two or more are indicated in the same location. Outlets on each side of the wall shall have separate boxes, through-wall type boxes or back-to-back mounting shall not be permitted. Trim rings shall be extended to within 1/4" of finish wall surface.
d. Support outlet boxes mounted in stud walls with two screws inside of outlet box to a horizontal stud brace between vertical studs.
e. Outlet boxes that do not receive wiring devices shall be provided with blank plates to match installed wiring device plates.
f. Outlet boxes/conduit bodies exposed to the weather, not contained inside building walls, shall be type malleable iron. Covers shall be of the type and of the same manufacturer as the conduit bodies and shall be suitable for the use in the area served. Cast aluminum boxes will not be approved.
g. Locate special purpose outlets as indicated on the drawings for the equipment served.
h. Location and type of outlets shall be coordinated with the appropriate trades involved. The securing of complete information for proper electrical rough-in shall be included as work required under this division of the contract.

D. WIRING DEVICES:
a. Duplex convenience outlets - NEMA 5-20r Hubbell #5362.
b. Duplex convenience outlets - GFI type NEMA 5-20r, Hubbell # gf5362.
c. Switches - 20a
i. Single poll - Hubbell #1221
ii. Double pole - Hubbell #1222
iii. Three pole - Hubbell #1223
iv. Four pole - Hubbell #1224
d. Equal devices by cooper or P&S may be provided.
e. Motor starting switch
i. Square d class 2510 type FGIP surface mounted or equal by cutler hammer or GE.
f. Color of wiring devices shall be ivory unless otherwise indicated or directed.
g. Other devices, specification grade, type and NEMA configuration as indicated.
h. Communications outlets - as indicated.
i. Provide panel boards as scheduled on the drawings or equals as manufactured by Cutler Hammer, Square D or Siemens. Short circuit rating shall be as listed on the panel schedules

E. Ground the electrical system as indicated and, as a minimum, in accordance with article 250 of the national electrical code and all local requirements.

F. Make final connections to all electrical equipment furnished and/or set in place by others.

G. Furnish and install equipment disconnects as indicated or required. Switches shall be sized to suit the actual equipment being served.

H. Connect motor starters, relays, switches, and related items furnished under other divisions.

I. Ductwork takes precedence over electrical conduit. Coordinate conduit runs to allow ductwork to be installed as drawn. Light fixtures take precedence over ductwork.

J. All interior lights shall be controlled from wall switches. Lights shall not be switched from panels unless otherwise indicated.

K. All enclosures shall be of the NEMA type which is suitable for the application.

L. All work shall have proper labeling. All circuits shall be labeled at panels and boxes indicated. All panels and disconnects are to be permanently marked with name or equipment served utilizing engraved nameplates, laminated phenolic black with white letters, 3/8" high minimum. All panels are to be provided with type written panel schedules.

M. All circuit breakers serving air conditioning and refrigeration equipment shall be HACR rated.

N. Provide and install conduit and junction boxes for interior lighting as indicated and/or required.

O. Disconnect switches shall be rated normal duty, fully enclosed with dual cover locks,

P. Quick -make/ quick -break mechanisms and dual horsepower rated. Provide NEMA-3r enclosures in exterior or damp locations and nema-4x enclosures in wet locations.

Q. Lighting fixtures, lamps, mounting hardware.
a. Provide lighting fixtures, lamps, mounting hardware, etc. as required for complete installation.
b. Provide all necessary mounting hardware and install fixtures as shown on the drawings and per the manufacturer's recommended installation instructions. Fixtures shall be firmly mounted using standard supports for outlets and fixtures.
c. Lamps shall have a 30 day guarantee

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REVISION
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DATE: 12.26.2019

REVIEW SET
NOT FOR
PERMIT

SPECIFICATIONS

A7.1

GENERAL NEW NOTES:

1. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
2. COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. INSTALL DUCTWORK AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF DUCTWORK TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. ANY MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
3. NEW MECHANICAL EQUIPMENT AND DUCTWORK ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
4. REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. VERIFY CHASES AND PENETRATIONS SHOWN ON ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR DUCTWORK AND PIPING MEET REQUIREMENTS.
5. COORDINATE LOCATION OF ROOF MOUNTED HVAC EQUIPMENT AND ROOF PENETRATIONS WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
6. INDOOR AIR QUALITY MEASURES: PROTECT INSIDE OF (INSTALLED AND DELIVERED) DUCTWORK AND HVAC UNITS FROM EXPOSURE TO DUST, DIRT, PAINT AND MOISTURE. REPLACE INSULATION THAT HAS GOTTEN WET AT ANY TIME DURING CONSTRUCTION, DRYING THE INSULATION IS NOT ACCEPTABLE. SEAL ANY TEARS OR JOINTS OF INTERNAL FIBERGLASS INSULATION. REMOVE DEBRIS FROM CEILING/RETURN AIR PLENUM INCLUDING DUST. AN INDEPENDENT, PROFESSIONAL DUCT CLEANING COMPANY SHALL VACUUM CLEAN ANY DUCTWORK CONNECTED TO HVAC UNITS THAT WERE OPERATED DURING THE CONSTRUCTION PERIOD AFTER NEW FILTERS, MINIMUM MERV-8, ARE INSTALLED AND PRIOR TO TURNING SYSTEM OVER TO THE OWNER.
7. INSTALL DUCTWORK PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.
8. OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF EXCEPT WHERE CONCRETE INSERTS IN CONCRETE SLABS ARE ALLOWED BY THE SPECIFICATIONS.
9. COORDINATE LOCATION OF EQUIPMENT SUPPORTS WITH LOCATION OF EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT AND/OR FILTER REPLACEMENT.
10. SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
11. COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL AND DUCT INSTALLATION REQUIREMENTS.
12. ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID AND LIGHTING LOCATIONS.
13. LOCATE AND SET THERMOSTATS AND TEMPERATURE SENSORS AT LOCATIONS SHOWN ON PLANS. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. INSTALL THERMOSTATS WITH TOP OF DEVICE AT MAXIMUM 48" AFF TO MEET ADA REQUIREMENTS AND TEMPERATURE SENSORS AT 72" AFF, UNLESS NOTED OTHERWISE ON PLANS. INSTALL WIRING IN CONDUIT PROVIDED BY DIVISION 16.
14. PROVIDE A MANUAL BALANCING DAMPER IN EACH BRANCH DUCT TAKEOFF FROM MAIN SUPPLY, RETURN, OUTDOOR AND EXHAUST AIR DUCTS.
15. PROVIDE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY, RECTANGULAR/ROUND BRANCH DUCT TAKEOFF FITTING WITH MANUAL BALANCING DAMPER AND LOCKING QUADRANT FOR BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS AND GRILLES.
16. BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE NOTED.
17. RIGID DUCTWORK INSULATION: PROVIDE 3/4 LB DENSITY, 2" (R-6) THICK, INSULATION WRAP ON RIGID ROUND, CONCEALED, SUPPLY AND RETURN AIR DUCTS. PROVIDE 1-1/2" (R-6) THICK 1-1/2 LB DENSITY INTERNAL DUCT LINER ON RECTANGULAR SUPPLY AND RETURN AIR DUCTS. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE AIRFLOW DIMENSIONS, INCREASE SHEET METAL SIZES ACCORDINGLY.
18. PROVIDE THERMAFLEX TYPE M-KE, FLEXMASTER TYPE 8, OR APPROVED EQUAL FLEXIBLE DUCTWORK. FLEXIBLE DUCTWORK SHALL BE LISTED UNDER UL 181 AS CLASS 1 AIR DUCT AND BE PROVIDED WITH INTEGRAL R-6, 3/4 LB DENSITY FIBERGLASS INSULATION. FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORTED TO AVOID SHARP BENDS AND SAGGING.

MECHANICAL SYMBOLS

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

HVAC EQUIPMENT & DUCTWORK

NOTE: ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE DIMENSIONS. SEE SECTION 15250 OF THE SPECIFICATION FOR DUCTWORK TO RECEIVE INSULATION OR LINER.

- EXISTING DUCTWORK OR EQUIPMENT TO REMAIN
- EXISTING DUCTWORK OR EQUIPMENT TO BE REMOVED
- BRANCH DUCT WITH 45° RECTANGLE-ROUND BRANCH FITTING AND MANUAL VOLUME DAMPER
- ELBOW WITH TURNING VANES
- RETURN, EXHAUST, OR OUTSIDE AIR DUCT UP
- RETURN, EXHAUST, OR OUTSIDE AIR DUCT DOWN
- SUPPLY AIR DUCT UP
- SUPPLY AIR DUCT DOWN
- EQUIPMENT WITH FLEXIBLE DUCT CONNECTION
- 10" CSD-1 300 CFM — NECK SIZE, TYPE, CFM OF SUPPLY DIFFUSER OR REGISTER
- MANUAL VOLUME DAMPER
- SQUARE TO ROUND TRANSITION
- RD — DUCT MOUNTED SMOKE DETECTOR (SD=SUPPLY/RD=RETURN)

FD	FIRE DAMPER	HS	HUMIDITY SENSOR
FSD	FIRE SMOKE DAMPER	TS	TEMPERATURE SENSOR
SD	SMOKE DAMPER	H	HUMIDISTAT
VD	VOLUME DAMPER	T	THERMOSTAT
MD	MOTORIZED DAMPER	BD	BACKDRAFT DAMPER

ABBREVIATIONS

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

STANDARD MOUNTING HEIGHTS

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

ANNOTATION

- 1 — MECHANICAL PLAN CALLOUT
- CU 1 — MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
- CONNECTION POINT OF NEW WORK TO EXISTING
- 1 / M1 — DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
- 1 / M1 — SECTION CUT DESIGNATION

HEAT PUMP ROOFTOP UNIT SCHEDULE

MARK	MANUFACTURER	NOMINAL CAPACITY	MODEL	SUPPLY FAN				COOLING CAPACITY							HEAT PUMP HEATING PERFORMANCE				MIN. O/A CFM	MCA	MOCP	V/PH	WEIGHT LBS	NOTES
				FAN TYPE	CFM	MIN HP	ESP (IN)	REFR. TYPE	NET TH (MBH)	NET SH (MBH)	EAT DB	EAT WB	LAT DB	LAT WB	MIN. EFF.	HEAT PUMP (MBH)	AMBIENT (DB)	MIN. EFF. (AT 47°F)	MIN. LAT DB (°F)						
RTU-1	YORK (EXISTING)	6 TON	ZE072C00B2A	FC	2400	0.75	0.5	R-410A	91.0	70.2	80.0	67.0	58.7	57.6	11.2 EER	77.4	39	3.4 COP	85	350	33.2	45	208/3	950	A-H

NOTES:
A. PROVIDE WITH DRY-BULB ECONOMIZER AND 100% BAROMETRIC RELIEF.
B. PROVIDE LOW AMBIENT CONTROL TO 25°F.
C. EQUIPMENT SIZED FOR 95°F AMBIENT TEMPERATURE.
D. PROVIDE 2", MERV-8 EFFICIENT PLEATED THROWAWAY AIR FILTERS.
E. PROVIDE MANUFACTURER'S STANDARD INSULATED ROOF CURB WITH MINIMUM HEIGHT OF 14".
F. PROVIDE WITH 7-DAY PROGRAMMABLE THERMOSTAT WITH REMOTE SENSORS TO BE LOCATED IN COORDINATION WITH TENANT STAGED HEATING AND COOLING CAPABILITY AS REQUIRED FOR OPERATION OF HEATING AND COOLING CONTROLS.
G. ELECTRICAL CONTRACTOR TO PROVIDE DUCT SMOKE DETECTOR AND MECHANICAL CONTRACTOR TO INSTALL DETECTOR IN SUPPLY AIR DUCT.
H. DISCONNECT SWITCH FURNISHED BY DIVISION 16 CONTRACTOR.

AIR BALANCE SCHEDULE

EXHAUST EQUIPMENT	AREA/EQUIPMENT SERVED		EXHAUST (CFM)	TOTALS (CFM)
EF-1	RESTROOM		75	
EF-2	RESTROOM		75	
EF-3	WALK-IN		200	
				350

OUTDOOR AIR EQUIPMENT	AREA/EQUIPMENT SERVED	SUPPLY AIR (CFM)	DESIGN OA (CFM)	PERCENT OA/SA	
RTU-1	ALL ZONES	3,000	350	11.7%	
TOTAL AIRFLOW		0	350	10.3%	350
			TOTAL POSITIVE AIR FLOW		0
			PERCENT POSITIVE AIR FLOW		0.0%

GRILLE, REGISTER AND DIFFUSER SCHEDULE

MARK	MANUFACTURER	MODEL	FACE TYPE	MOUNTING LOCATION	FACE SIZE (IN)	MAX. NC	MAX. PRESS. DROP (IN. W.C.)	NOTES
CD-1	PRICE	AMD	LOUVERED	LAY-IN	24x24	25	0.05	A-E
CD-2	PRICE	AMD	LOUVERED	GYP.	12x12	25	0.05	A-E
RG-1	PRICE	80	EGG CRATE	LAY-IN	24x24	25	0.05	A,D,E
RG-2	PRICE	530	LOUVERED	WALL	NECK + 1-3/4	25	0.05	A,C,D

NOTES:
A. NECK SIZE SHOWN ON DRAWINGS. PROVIDE NECK FOR DUCT CONNECTION.
B. 4-WAY THROW PATTERN UNLESS OTHERWISE SHOWN ON DRAWINGS.
C. BRANCH DUCT SIZE SHALL BE SAME AS NECK SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS.
D. BAKED ENAMEL FINISH, WHITE TO MATCH CEILING COLOR.
E. FRAME TYPE TO MATCH CEILING CONSTRUCTION, COORDINATE WITH ARCHITECTURAL RCP.

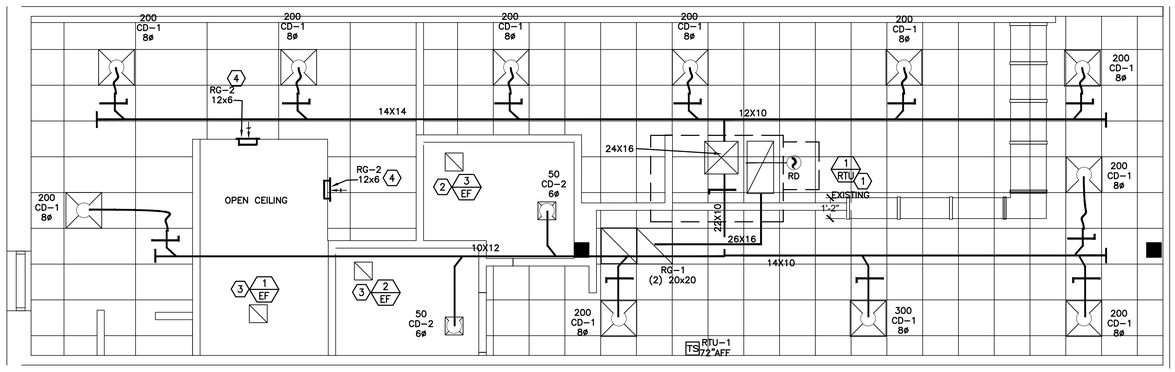
OUTSIDE AIR REQUIREMENTS

AREA PURPOSE	GROSS FLOOR AREA (SQ. FT)	CODE OUTSIDE AIR REQUIREMENTS: CFM PER SQ. FT	CFM REQD.	CFM PER PERSON	NO. OF PEOPLE	CFM REQD.
DINING	530	0.18	95	7.5	31	233
SERVICE	337	0.06	20	5.0	2	10
PREP	320	0.06	19	5.0	2	10
		TOTAL =	135			253

SYSTEM NUMBER	ACTUAL OUTSIDE AIR (CFM PER UNIT)
RTU-1	350
TOTAL =	350

MECHANICAL PLAN NOTES:

1. EXISTING 6 TON ROOF TOP UNIT TO REMAIN- PROVIDED BY LANDLORD. GC MUST CONFIRM EXISTING CONDITIONS AND MFG SPECS PRIOR TO START OF WORK.
2. EXHAUST FAN ABOVE CEILING HUNG STRUCTURE TO PROVIDE VENTILATION FOR THE WALK-IN COOLER / FREEZER CONDENSERS ABOVE CEILING. INTERLOCKED WITH WALL THERMOSTAT TO ENERGIZE FAN WHEN THE SPACE TEMPERATURE REACHES 90°F. ROUTE 8ø EXHAUST DUCT UP AND PENETRATE ROOF. TERMINATE ON ROOF WITH ROOF CAP. COORDINATE ALL ROOF PENETRATIONS WITH LANDLORD'S APPROVED ROOFER.
3. CEILING MOUNTED RESTROOM EXHAUST FAN, INTERLOCKED WITH RESTROOM LIGHT SWITCH. ROUTE 6"ø EXHAUST DUCT UP AND PENETRATE ROOF. TERMINATE ON ROOF WITH ROOF CAP. COORDINATE LOCATION OF ROOF CAP TO MAINTAIN 10' DISTANCE AWAY FROM AND BUILDING INTAKES.
4. WALL MOUNTED RETURN GRILLE ON WALK-IN ENCLOSURE WALL, OPEN TO THE SPACE ABOVE THE WALK-IN COOLER.



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

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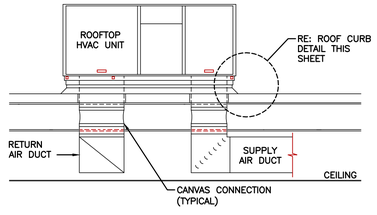
MECHANICAL FLOOR PLAN

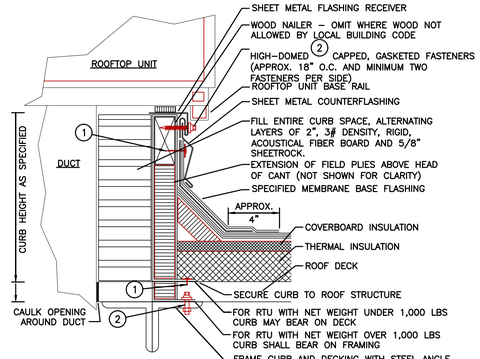
M1



NOTES:

1. PROVIDE OPENING THROUGH ROOF AND ROOF DECK INSULATION NO LARGER THAN REQUIRED TO ALLOW DUCTS TO PASS THROUGH. REFER TO PLANS FOR DUCT SIZES. TRANSITION AS REQUIRED IN ROOF CURB TO RTU SUPPLY AND RETURN OPENINGS.
2. PROVIDE SLOPED ROOF CURB TO INSTALL ROOFTOP UNIT LEVEL TO ENSURE PROPER DRAINAGE. COORDINATE ROOF SLOPE WITH ARCHITECTURAL. FLASH AND COUNTER FLASH ROOF PENETRATIONS, ETC. TO ENSURE WEATHER TIGHT INSTALLATION.

1 ROOFTOP UNIT WITH DUCTWORK DETAIL
NO SCALE

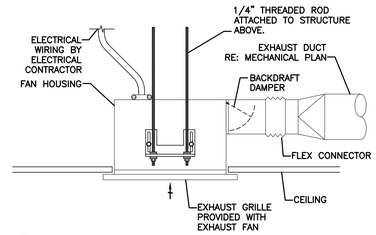


① #12x1" SELF DRILLING SCREWS AT 12"O.C.
② #14x1–1/2" SELF DRILLING SCREWS AT 18"O.C.

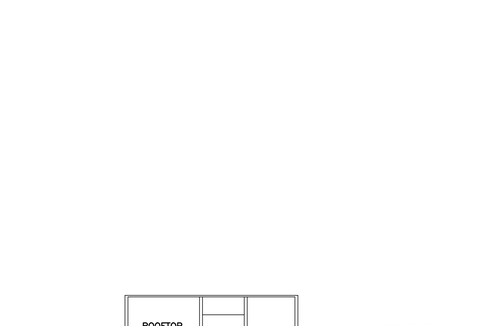
NOTES:

1. CUT METAL DECKING TO ALLOW CURB INSTALLATION ON STEEL FRAMING. AFTER CURB IS SET IN PLACE, TRIM REMAINING METAL DECKING AND INSTALL WITHIN CURB. TACK WELD DECKING TO SUPPORT STEEL. DO NOT WELD INTERIOR DECKING TO ROOF CURB. PROVIDE ADDITIONAL CROSS FRAMING TO SUPPORT INTERIOR DECKING AND FILL MATERIAL AS REQUIRED.

2 ROOF CURB DETAIL
NO SCALE



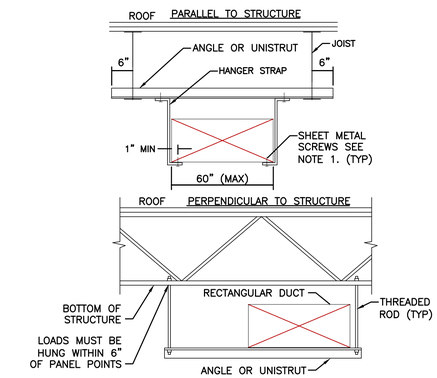
3 SUPPORT DETAIL FOR HUNG EQUIPMENT
NO SCALE



NOTES:

1. EXTEND RIGID METAL DUCT SO THAT MAXIMUM FLEXIBLE DUCT LENGTH DOES NOT EXCEED 5'–0". PROVIDE RIGID 90° ELBOW WHERE REQUIRED TO KEEP FLEXIBLE DUCT WITHIN 5'–0" LENGTH LIMITATION.

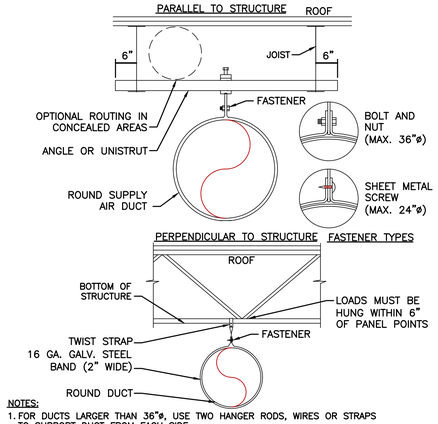
4 LAY–IN TYPE CEILING DIFFUSER DETAIL
NO SCALE



NOTES:

1. SHEET METAL SCREWS MAY BE OMITTED IF HANGER STRAP IS CONTINUOUS AND LOOPS UNDER ENTIRE DUCT.

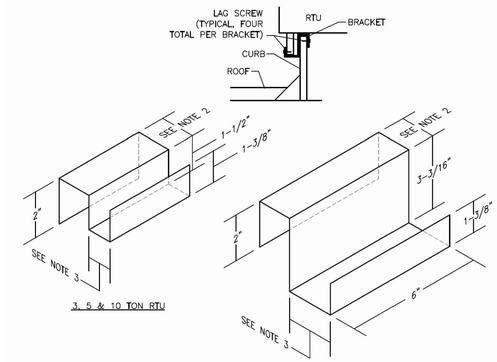
5 RECTANGULAR DUCT SUPPORT DETAIL
NO SCALE



NOTES:

1. FOR DUCTS LARGER THAN 36"ø, USE TWO HANGER RODS, WIRES OR STRAPS TO SUPPORT DUCT FROM EACH SIDE.

6 ROUND DUCT SUPPORT DETAIL
NO SCALE



NOTES:

1. CONSTRUCT BRACKET OF GALVANIZED STEEL OF THICKNESS AS REQUIRED TO WITHSTAND WIND SPEED OF 110 MPH. INSTALL ONE BRACKET PER SIDE OF UNIT AS RECOMMENDED BY RTU MANUFACTURER.
2. COORDINATE WIDTH WITH WIDTH OF ROOF CURB.
3. COORDINATE WIDTH AS REQUIRED TO FIT BELOW RTU SUPPORT BASE AS SHOWN.
4. VERTICAL DIMENSIONS SHOWN FOR BRACKETS ARE MINIMUM REQUIREMENTS. COORDINATE DIMENSIONS WITH EQUIPMENT PROVIDED AND AS REQUIRED TO MEET SPECIFIED WIND LOAD.

7 RTU HOLD DOWN BRACKET DETAIL
NO SCALE

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MECHANICAL DETAILS

M2

15: Heating, Ventilating, and Air Conditioning:

GENERAL INSTRUCTIONS

GENERAL REQUIREMENTS

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

DEFINITIONS

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

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

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

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

ENGINEER: WHERE REFERENCED IN THIS DIVISION, "ENGINEER" IS THE ENGINEER OF RECORD AND THE DESIGN PROFESSIONAL FOR THE WORK UNDER THIS DIVISION, AND IS A CONSULTANT TO, AND AN AUTHORIZED REPRESENTATIVE OF, THE ARCHITECT, AS DEFINED IN THE GENERAL AND/OR SUPPLEMENTARY CONDITIONS. WHEN USED IN THIS DIVISION, IT MEANS INCREASED INVOLVEMENT BY, AND OBLIGATIONS TO, THE ENGINEER, IN ADDITION TO INVOLVEMENT BY, AND OBLIGATIONS TO, THE "ARCHITECT".

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

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

PREBID SITE VISIT

PRIOR TO SUBMITTING BID, VISIT THE SITE OF THE PROPOSED WORK AND BECOME FULLY INFORMED AS TO THE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. FAILURE TO DO SO WILL NOT BE CONSIDERED SUFFICIENT JUSTIFICATION TO REQUEST OR OBTAIN EXTRA COMPENSATION OVER AND ABOVE THE CONTRACT PRICE.

MATERIAL AND WORKMANSHIP

PROVIDE NEW MATERIAL, EQUIPMENT, AND APPARATUS UNDER THIS CONTRACT UNLESS OTHERWISE STATED HEREIN, OF BEST QUALITY NORMALLY USED FOR THE PURPOSE IN GOOD COMMERCIAL PRACTICE, AND FREE FROM DEFECTS. MODEL NUMBERS LISTED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS ARE NOT NECESSARILY INTENDED TO DESIGNATE THE REQUIRED TRIM, WRITTEN DESCRIPTIONS OF THE TRIM GOVERN MODEL NUMBERS.

THE COMPLETE INSTALLATION SHALL FUNCTION AS DESIGNED AND INTENDED WITH RESPECT TO EFFICIENCY, CAPACITY, NOISE LEVEL, ETC. ABNORMAL NOISE CAUSED BY RATTLING EQUIPMENT, PIPING, DUCTS, AIR DEVICES, AND SQUEAKS IN ROTATING COMPONENTS WILL NOT BE ACCEPTABLE. IN GENERAL, MATERIALS AND EQUIPMENT SHALL BE OF COMMERCIAL SPECIFICATION GRADE IN QUALITY. LIGHT DUTY AND RESIDENTIAL TYPE EQUIPMENT WILL NOT BE ACCEPTED.

REPAIR OR REPLACE PUBLIC AND PRIVATE PROPERTY DAMAGED AS A RESULT OF WORK PERFORMED UNDER THIS CONTRACT TO THE SATISFACTION OF AUTHORITIES AND REGULATIONS HAVING JURISDICTION.

COORDINATION

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

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

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

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

ORDINANCES AND CODES

WORK PERFORMED UNDER THIS CONTRACT SHALL, AT A MINIMUM, BE IN CONFORMANCE WITH APPLICABLE NATIONAL, STATE AND LOCAL CODES HAVING JURISDICTION. EQUIPMENT FURNISHED AND ASSOCIATED INSTALLATION WORK PERFORMED UNDER THIS CONTRACT SHALL BE IN STRICT COMPLIANCE WITH CURRENT APPLICABLE CODES ADOPTED BY THE LOCAL AHJ INCLUDING ANY AMENDMENTS AND STANDARDS AS SET FORTH BY THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), UNDERWRITERS LABORATORIES (UL), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME), AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS (ASHRAE), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AMERICAN SOCIETY OF TESTING MATERIALS (ASTM) AND OTHER NATIONAL STANDARDS AND CODES WHERE APPLICABLE. WHERE THE CONTRACT DOCUMENTS EXCEED THE REQUIREMENTS OF THE REFERENCED CODES, STANDARDS, ETC., THE CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE.

PROTECTION OF EQUIPMENT AND MATERIALS

STORE AND PROTECT FROM DAMAGE EQUIPMENT AND MATERIALS DELIVERED TO JOB SITE. COVER WITH WATERPROOF, TEAR-RESISTANT, HEAVY TARP OR POLYETHYLENE PLASTIC AS REQUIRED TO PROTECT FROM PLASTER, DIRT, PAINT, WATER, OR PHYSICAL DAMAGE. EQUIPMENT AND MATERIAL THAT HAS BEEN DAMAGED BY CONSTRUCTION ACTIVITIES WILL BE REJECTED, AND CONTRACTOR IS OBLIGATED TO FURNISH NEW EQUIPMENT AND MATERIAL OF A LIKE KIND.

PLUG OR CAP OPEN ENDS OF DUCTWORK AND PIPING SYSTEMS WHILE STORED AND INSTALLED DURING CONSTRUCTION WHEN NOT IN USE TO PREVENT THE ENTRANCE OF DEBRIS INTO THE SYSTEMS.

SUBSTITUTIONS

THE BASE BID SHALL INCLUDE ONLY THE PRODUCTS FROM MANUFACTURERS SPECIFICALLY NAMED IN THE DRAWINGS AND SPECIFICATIONS. NO SUBSTITUTION WILL BE CONSIDERED PRIOR TO RECEIPT OF BIDS UNLESS WRITTEN REQUEST FOR APPROVAL TO BID HAS BEEN RECEIVED BY THE ENGINEER AT LEAST TEN CALENDAR DAYS PRIOR TO THE DATE FOR RECEIPT OF BIDS. EACH SUCH REQUEST SHALL INCLUDE THE NAME OF THE MATERIAL OR EQUIPMENT FOR WHICH IT IS TO BE SUBSTITUTED AND A COMPLETE DESCRIPTION OF THE PROPOSED SUBSTITUTE INCLUDING DRAWINGS, CUTS, PERFORMANCE AND TEST DATA AND OTHER INFORMATION NECESSARY FOR AN EVALUATION. A STATEMENT SETTING FORTH CHANGES IN OTHER MATERIALS, EQUIPMENT OR OTHER WORK THAT INCORPORATION OF THE SUBSTITUTE WOULD REQUIRE SHALL BE INCLUDED. THE BURDEN OF PROOF OF THE MERIT OF THE PROPOSED SUBSTITUTE IS UPON THE PROPOSER. THE ENGINEER'S DECISION OF APPROVAL OR DISAPPROVAL TO BID OF A PROPOSED SUBSTITUTION SHALL BE FINAL.

THE TERMS "APPROVED", "APPROVED EQUAL", AND "EQUAL" REFER TO APPROVAL BY THE ENGINEER AS AN ACCEPTABLE ALTERNATE BID. NO SUBSTITUTIONS WILL BE CONSIDERED THAT ARE NOT BID AS AN ALTERNATE. NO MATERIAL SUBSTITUTIONS SHALL BE CONSIDERED FOR APPROVAL PRIOR TO AWARD OF CONTRACT.

COORDINATE AND VERIFY WITH OTHER TRADES WHETHER OR NOT THE SUBSTITUTED EQUIPMENT CAN BE INSTALLED AS SHOWN ON THE CONSTRUCTION DRAWINGS WITHOUT MODIFICATION TO ASSOCIATED SYSTEMS OR ARCHITECTURAL OR ENGINEERING DESIGN. INCLUDE ADDITIONAL COSTS FOR ARCHITECTURAL AND ENGINEERING DESIGN FEES IN BID IF DRAWING MODIFICATIONS ARE REQUIRED BECAUSE OF SUBSTITUTED EQUIPMENT.

SHOP DRAWINGS

UPON BEING AWARDED A CONTRACT, SUBMIT TO THE ARCHITECT FOR APPROVAL, SIX (6) COPIES OF MANUFACTURER'S SHOP DRAWINGS FOR EQUIPMENT TO BE FURNISHED UNDER THIS CONTRACT, ITEMS REQUIRING COORDINATION BETWEEN CONTRACTORS AND SHEET METAL DUCTWORK FABRICATION DRAWINGS. BEFORE SUBMITTING SHOP DRAWINGS AND MATERIAL LISTS, VERIFY THAT EQUIPMENT SUBMITTED IS MUTUALLY COMPATIBLE AND SUITABLE FOR THE INTENDED USE, AND WILL FIT THE AVAILABLE SPACE AND ALLOW AMPLE ROOM FOR MAINTENANCE. HIGHLIGHT, MARK, LIST OR INDICATE THE MATERIALS, PERFORMANCE CRITERIA AND ACCESSORIES THAT ARE BEING PROPOSED. SUBMIT SHOP DRAWINGS AS EARLY AS REQUIRED TO SUPPORT THE PROJECT SCHEDULE. ALLOW FOR TWO WEEKS ENGINEER REVIEW TIME PLUS MAILING TIME PLUS A DUPLICATION OF THIS TIME FOR RESUBMITTAL IF REQUIRED.

THE ENGINEER'S CHECKING AND SUBSEQUENT APPROVAL OF SUCH SHOP DRAWINGS WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS IN DIMENSIONS, DETAILS, SIZE OF MEMBERS, QUANTITIES, OMISSIONS OF COMPONENTS OR FITTINGS; COORDINATION OF ELECTRICAL REQUIREMENTS; OR FOR COORDINATING ITEMS WITH ACTUAL BUILDING CONDITIONS. PROCEED WITH THE PROCUREMENT AND INSTALLATION OF EQUIPMENT ONLY AFTER RECEIVING APPROVED SHOP DRAWINGS RELATIVE TO EACH ITEM.

CATALOG DATA SHALL BE PROPERLY BOUND, IDENTIFIED, INDEXED AND TABBED IN A 3-RING BINDER. LABEL THE CATALOG DATA WITH THE EQUIPMENT IDENTIFICATION ACRONYM OR NUMBER AS USED ON THE DRAWINGS AND INCLUDE PERFORMANCE CURVES, CAPACITIES, SIZES, WEIGHTS, MATERIALS, FINISHES, WIRING DIAGRAMS, ELECTRICAL REQUIREMENTS AND DEVIATIONS FROM SPECIFIED EQUIPMENT OR MATERIALS. FOR EQUIPMENT WITH MOTOR STARTERS OR VFDS, INCLUDE SHORT CIRCUIT CURRENT RATINGS. MARK OUT INAPPLICABLE ITEMS. SHOP DRAWINGS WILL BE RETURNED WITHOUT REVIEW IF THE ABOVE MENTIONED REQUIREMENTS ARE NOT MET.

OPERATION AND MAINTENANCE INSTRUCTIONS

DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE A COMPLETE BROCHURE OF EQUIPMENT FURNISHED AND INSTALLED ON THIS PROJECT. INCLUDE OPERATIONAL AND MAINTENANCE INSTRUCTIONS, MANUFACTURER'S CATALOG SHEETS, WIRING DIAGRAMS, PARTS LISTS, APPROVED SHOP DRAWINGS, AND DESCRIPTIVE LITERATURE AS FURNISHED BY THE EQUIPMENT MANUFACTURER. INCLUDE AN INSIDE COVER SHEET THAT LISTS THE PROJECT NAME, DATE, OWNER, ARCHITECT, CONSULTING ENGINEER, GENERAL CONTRACTOR, SUB-CONTRACTOR, AND AN INDEX OF CONTENTS.

SUBMIT THREE COPIES OF LITERATURE BOUND IN APPROVED BINDERS WITH INDEX AND TABS SEPARATING EQUIPMENT TYPES TO THE ARCHITECT AT THE TERMINATION OF THE WORK. PAPER CLIPS, STAPLES, RUBBER BANDS, AND MAILING ENVELOPES ARE NOT CONSIDERED APPROVED BINDERS. FINAL APPROVAL OF MECHANICAL SYSTEMS INSTALLED UNDER THIS CONTRACT WILL BE WITHHELD UNTIL THIS EQUIPMENT BROCHURE IS RECEIVED AND DEEMED COMPLETE BY THE ARCHITECT AND ENGINEER. INSTRUCT WORKMEN TO SAVE REQUIRED LITERATURE SHIPPED WITH THE EQUIPMENT ITSELF, FOR INCLUSION IN THIS BROCHURE.

WARRANTIES

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

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

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

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

SPARE PARTS

FURNISH TO OWNER, WITH RECEIPT, THE FOLLOWING SPARE PARTS FOR THE EQUIPMENT FURNISHED FOR THIS PROJECT:

A. ONE SET OF SPARE FILTERS OF EACH TYPE REQUIRED FOR EACH UNIT. IN ADDITION TO THE SPARE SET OF FILTERS, INSTALL NEW FILTERS PRIOR TO TESTING, ADJUSTING, AND BALANCING WORK AND BEFORE TURNING SYSTEM OVER TO OWNER.

B. FURNISH ONE COMPLETE SET OF BELTS FOR EACH FAN.

C. FURNISH THREE OPERATING KEYS FOR EACH TYPE OF AIR OUTLET AND INLET THAT REQUIRE THEM.

CUTTING AND PATCHING

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

ACCESS DOORS

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

PENETRATIONS

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

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

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

AIR FILTERS

PROVIDE FARR 30/30, PLEATED, THROWAWAY TYPE FILTERS, OR SIMILAR AS MANUFACTURED BY AMERICAN AIR FILTER, FLANDERS OR APPROVED EQUAL, UNLESS OTHERWISE INDICATED. AIR UNITS SHALL HAVE NEW FILTERS INSTALLED WHEN THEY ARE OPERATED BEFORE FINAL ACCEPTANCE.

ELECTRICAL WIRING

LINE VOLTAGE WIRING SHALL BE PROVIDED BY DIVISION 16. LINE VOLTAGE CONTROL AND INTERLOCK WIRING FOR MECHANICAL SYSTEMS SHALL ALSO BE PROVIDED BY DIVISION 16 CONTRACTOR. LOW VOLTAGE CONTROL WIRING SHALL BE PROVIDED BY THE DIVISION 15 CONTRACTOR. FURNISH WIRING DIAGRAMS TO THE DIVISION 16 CONTRACTOR AS REQUIRED FOR PROPER EQUIPMENT HOOKUP. COORDINATE WITH THE DIVISION 16 CONTRACTOR THE ACTUAL WIRE SIZING AMPS FOR MECHANICAL EQUIPMENT (FROM THE EQUIPMENT NAMEPLATE) TO ENSURE PROPER INSTALLATION.

REFRIGERANT AND OIL

PROVIDE FULL REFRIGERANT AND OIL CHARGE IN NEW AIR CONDITIONING REFRIGERATION SYSTEMS, AND MAINTAIN IT FOR FULL TERM OF THE GUARANTEE.

FINAL TESTING AND ADJUSTMENTS

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

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

BUILDING OPERATION

COMPLY WITH THE SCHEDULE OF OPERATIONS AS OUTLINED IN THE ARCHITECTURAL PORTIONS OF THIS SPECIFICATION. BUILDING SHALL BE IN CONTINUOUS OPERATION. ACCOMPLISH WORK REQUIRING INTERRUPTION OF BUILDING OPERATION AT A TIME WHEN THE BUILDING IS NOT IN OPERATION, AND ONLY WITH WRITTEN APPROVAL OF BUILDING OWNER AND/OR TENANT. COORDINATE INTERRUPTION OF BUILDING OPERATION WITH THE OWNER AND/OR TENANT A MINIMUM OF SEVEN DAYS IN ADVANCE OF WORK.

MECHANICAL IDENTIFICATION

PROVIDE MANUFACTURER'S STANDARD PRE-PRINTED, SEMI-RIGID SNAP-ON OR PERMANENT ADHESIVE, PRESSURE-SENSITIVE VINYL PIPE MARKERS.

PROVIDE MANUFACTURER'S STANDARD LAMINATED PLASTIC, COLOR CODED EQUIPMENT MARKERS. CONFORM TO THE FOLLOWING COLOR CODE: GREEN FOR COOLING; YELLOW FOR HEATING; YELLOW/GREEN FOR COMBINATION COOLING AND HEATING; BROWN FOR ENERGY RECLAMATION; BLUE FOR OTHER EQUIPMENT TYPES. CONFORM TO ANSI A13.1 FOR HAZARDOUS EQUIPMENT.

PROVIDE STENCILED SIGNS FOR EQUIPMENT IDENTIFICATION AT CONTRACTOR'S OPTION OR WHERE DISTANCE OF REQUIRED IDENTIFICATION REQUIRES LETTERING LARGER THAN 1 INCH HEIGHT. STENCIL PAINT SHALL BE EXTERIOR TYPE, OIL-BASED, ALKYD ENAMEL, MINIMUM 1-1/4 INCH HEIGHT OR GREATER AS REQUIRED FOR LONG DISTANCE IDENTIFICATION, WHITE OR BLACK COLOR FOR BEST CONTRAST.

PROVIDE DUCT MARKERS OR PROVIDE STENCILED SIGNS AND ARROWS INDICATING DUCTWORK SERVICE AND FLOW DIRECTION IN BLACK OR WHITE LETTERING FOR BEST CONTRAST WITH DUCT OR INSULATION COLOR. LOCATE MARKERS MAXIMUM 50 FEET ALONG EACH DUCT SIDE AND WITHIN 5 FEET OF ALL CONTROL AND BALANCING DAMPERS OR BRANCH DUCTS MORE THAN 25 FEET LENGTH AND WITHIN 5 FEET ON EACH SIDE OF WALL, FLOOR, AND CEILING PENETRATIONS. PROVIDE ADDITIONAL MARKERS IN CONGESTED AREAS OR AT MULTIPLE DUCT RUNS AS REQUIRED FOR CLARITY.

DUCT INSULATION, DUCTWORK, ACCESSORIES AND FANS

DUCT INSULATION

PROVIDE DUCT LINER IN RECTANGULAR SUPPLY AND RETURN AIR DUCTWORK. LINER SHALL BE 1-1/2" THICK, 1-1/2 POUND DENSITY FIBERGLASS, MINIMUM R-6.0 CERTAINTEED CORP. "TOUGHGARD" OR EQUIVALENT OWENS-CORNING OR KNAUF LONG TEXTILE FIBER DUCT LINER. LINER SURFACE SHALL SERVE AS A BARRIER AGAINST INFILTRATION OF DUST AND DIRT, SHALL MEET ASTM C 1338 FOR FUNGI RESISTANCE AND SHALL BE CLEANABLE USING DUCT CLEANING METHODS AND EQUIPMENT OUTLINED BY NORTH AMERICAN INSULATION MANUFACTURERS ASSOCIATION (NAIMA) DUCT CLEANING GUIDE. INSTALL WITH LINER ADHESIVE AND MECHANICAL FASTENERS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. DUCTWORK SIZES SHOWN ON DRAWINGS ARE INSIDE CLEAR DIMENSIONS. INCREASE SHEET METAL BY LINER THICKNESS IN BOTH DIRECTIONS WHERE LINER IS INSTALLED.

COVER CONCEALED, RIGID DUCTWORK WITH 2" THICK, 3/4 POUND DENSITY, MINIMUM R-6.0 DUCT WRAP, CERTAINTEED OR EQUIVALENT OWENS-CORNING OR KNAUF WITH HEAVY-DUTY FOIL-SCRIM-KRAFT FACING, AND WITH JOINTS TAPED WITH 3" WIDE FOIL TAPE AS FOLLOWS:

A. ROUND SUPPLY AND RETURN AIR DUCTWORK.

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

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

FOR DUCTWORK THAT IS LOCATED EXTERIOR TO THE BUILDING AND INSTALLED WITH SEAMS SEALED WITH SEALANT, PROVIDE 2" (MINIMUM R-8.0) THICK, 3 POUND DENSITY LINER. FOR WELDED DUCTWORK THAT IS EXTERIOR TO THE BUILDING, INSULATE WITH 2" (MINIMUM R-8.0) THICK FIBROUS BOARD INSULATION AND PROVIDE MINIMUM 20 GAUGE ALUMINUM JACKET.

DUCTWORK

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

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

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

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

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

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

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

LOW PRESSURE (DUCT PRESSURE CLASS UP TO AND INCLUDING 2" W.G.) FITTINGS 24" IN DIAMETER AND LESS SHALL BE PREFABRICATED, SPOTWELDED AND INTERNALLY SEALED. SEAL LONGITUDINAL AND TRANSVERSE DUCTWORK JOINTS AIRTIGHT WITH HEAVY LIQUID SEALANT APPLIED ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

FLEXIBLE DUCT

LOW PRESSURE (DUCT PRESSURE CLASS UP TO AND INCLUDING 2" W.G.) FLEXIBLE DUCT SHALL BE FLEXMASTER TYPE 8B, THERMAFLEX TYPE G-KM, M-KE, OR EQUAL (FIRE RETARDANT POLYETHYLENE) PROTECTIVE VAPOR BARRIER, U.L.181 CLASS 1, ACOUSTICAL INSULATED DUCT, R-6.0 FIBERGLASS INSULATION. PROVIDE CPE LINER WITH STEEL WIRE HELIX MECHANICALLY LOCKED OR PERMANENTLY BONDED TO THE LINER.

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

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

AIR DEVICES

PROVIDE AIR DEVICES AS SCHEDULED ON DRAWINGS, MANUFACTURED BY CARNES, E.H. PRICE, KRUEGER, NAILOR INDUSTRIES, TITUS, OR TUTTLE & BAILEY. SELECT AIR DEVICES TO LIMIT ROOM NOISE LEVEL TO NO HIGHER THAN NC-30 UNLESS OTHERWISE SHOWN. PROVIDE DEVICES WITH A SOFT PLASTIC GASKET TO MAKE AN AIRTIGHT SEAL AGAINST THE MOUNTING SURFACE. COORDINATE FINAL LOCATION, FRAME, AND MOUNTING TYPE OF AIR DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLANS.

PROVIDE CEILING SUPPLY AIR DIFFUSERS AND RETURN AIR GRILLES OF LAY-IN OR SURFACE MOUNTED TYPE AS REQUIRED TO BE COMPATIBLE WITH CEILING CONSTRUCTION. PROVIDE CEILING DIFFUSERS AND GRILLES WITH WHITE ENAMEL FINISH UNLESS NOTED OTHERWISE.

TEMPERATURE CONTROLS

GENERAL REQUIREMENTS

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

EQUIPMENT

MANUFACTURERS AND MODEL NUMBERS ARE LISTED FOR REFERENCE AS TO QUALITY AND FEATURES REQUIRED FOR THE CONTROL DEVICES. PROVIDE CONTROL DEVICES BY BARBER-COLMAN, HONEYWELL, JOHNSON CONTROLS, TRANE OR WHITE RODGERS WITH QUALITY AND FEATURES AS INDICATED.

SEVEN DAY PROGRAMMABLE, OCCUPIED/UNOCCUPIED THERMOSTATS FOR HEATING, COOLING AND FOR CONTROL OF ECONOMIZER SHALL BE HONEYWELL SERIES T7351 OR EQUAL WITH INTEGRAL SUBBASE W7459A ECONOMIZER MODULE. PROVIDE TR24 REMOTE SENSOR WITH OVERRIDE BUTTON WITHOUT SETPOINT ADJUSTMENT AT REMOTE SENSOR. INSTALL THERMOSTATS AT 48" AFF TO MEET ADA REQUIREMENTS UNLESS OTHERWISE NOTED ON THE PLANS.

PROVIDE DAMPER OPERATOR FOR EACH AUTOMATIC DAMPER WITH SUFFICIENT CAPACITY TO OPERATE THE DAMPER UNDER ALL CONDITIONS AND TO GUARANTEE TIGHT CLOSE-OFF OF DAMPERS AGAINST SYSTEM PRESSURE ENCOUNTERED. EACH OPERATOR SHALL BE PROVIDED WITH SPRING-RETURN FOR NORMALLY CLOSED OR NORMALLY OPEN POSITION FOR FAIL SAFE OPERATION TO ACCOUNT FOR FIRE, LOW TEMPERATURES, OR POWER INTERRUPTION AS REQUIRED BY THE SEQUENCE OF OPERATION. DAMPER OPERATORS SHALL BE MANUFACTURED BY BELIMO, JOHNSON CONTROLS OR APPROVED EQUAL.

SMOKE DETECTORS FURNISHED AND INSTALLED AS SCHEDULED ON THE PLANS SHALL SHUT DOWN EACH ASSOCIATED UNIT SUPPLY FAN UPON ACTIVATION WHERE REQUIRED BY CODE. PROVIDE REMOTE VISUAL AND AUDIBLE ALARM DEVICE IN AN APPROVED LOCATION IF SMOKE DETECTORS ARE NOT CONNECTED TO A FIRE ALARM PANEL AND LABEL DEVICE AS "AIR DUCT DETECTOR TROUBLE".

SEQUENCE OF OPERATION

ROOFTOP UNIT CONTROL (FIXED DRY BULB ECONOMIZER)

DURING OCCUPIED HOURS, OPERATE ROOFTOP UNIT SUPPLY FAN CONTINUOUSLY AND OPEN OUTDOOR AIR DAMPER TO MINIMUM POSITION TO MAINTAIN MINIMUM VENTILATION. CYCLE STAGE(S) OF COOLING AND HEATING TO MAINTAIN ROOM THERMOSTAT SET POINT (75 DEGREES FAHRENHEIT COOLING, 72 DEGREES FAHRENHEIT HEATING). ENABLE DRY BULB TYPE OUTDOOR AIR ECONOMIZER FOR FIRST STAGE COOLING TO MAINTAIN DISCHARGE AIR TEMPERATURE SET POINT (55 DEGREES F, ADJUSTABLE) WHEN OUTDOOR AMBIENT TEMPERATURE REACHES 60 DEGREES FAHRENHEIT OR BELOW AND OPERATE MECHANICAL COOLING AS NEEDED TO MAINTAIN SPACE TEMPERATURE.

RETURN THE ECONOMIZER TO MINIMUM POSITION WHEN AMBIENT TEMPERATURE IS ABOVE 60 DEGREES FAHRENHEIT OR WHEN DISCHARGE AIR TEMPERATURE DROPS BELOW 50 DEGREES FAHRENHEIT. IF FREEZESTAT SENSES TEMPERATURE BELOW 40 DEGREES FAHRENHEIT, CLOSE OUTDOOR AIR DAMPER AND STOP SUPPLY FAN. SMOKE DETECTORS SHALL SHUTDOWN UNIT UPON ALARM.

DURING UNOCCUPIED HOURS, CYCLE THE ROOFTOP UNIT SUPPLY FAN AND COOLING OR HEATING SYSTEM TO MAINTAIN UNOCCUPIED SETBACK TEMPERATURE SET POINTS. OUTDOOR AIR DAMPER SHALL BE CLOSED DURING UNOCCUPIED HOURS. PROVIDE FREEZESTAT IN THE SUPPLY AIR DUCT TO SHUT DOWN THE SUPPLY FAN AND CLOSE THE OUTDOOR AIR DAMPER IF TEMPERATURE IN THE SUPPLY DUCT DROPS BELOW 40 DEGREES FAHRENHEIT.

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MECHANICAL SPECIFICATIONS

M3

GENERAL NOTES:

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

KITCHEN GENERAL NOTES:

1. REFERENCE THE KITCHEN EQUIPMENT PLUMBING CONNECTION SCHEDULE FOR ITEMS TO BE FURNISHED AND / OR INSTALLED AS REQUIRED TO COMPLETE THE INSTALLATION OF PLUMBING SYSTEMS FOR KITCHEN EQUIPMENT. REFERENCE KITCHEN EQUIPMENT DRAWINGS FOR THE EXACT LOCATION OF EQUIPMENT AND ROUGH-IN. REFERENCE THE KITCHEN EQUIPMENT SHOP DRAWINGS AND COORDINATE WITH THE OWNER FOR EXACT REQUIREMENTS PRIOR TO THE START OF INSTALLATION.
2. PROVIDE ITEMS AND WORK AS REQUIRED FOR A COMPLETE AND WORKING PLUMBING INSTALLATION FOR EACH PIECE OF KITCHEN EQUIPMENT. PROVIDE ROUGH-INS AND CONNECT TO THE KITCHEN EQUIPMENT WITH TRAPS, SUPPLIES, SHUTOFF VALVES, PIPES TO THE WALL, ESCUTCHEONS, ETC AS SHOWN, SPECIFIED AND REQUIRED.
3. VERIFY GAS LOADS AND GAS ROUGH-IN OF KITCHEN EQUIPMENT WITH THE KITCHEN EQUIPMENT SHOP DRAWINGS PRIOR TO INSTALLING GAS PIPING. PROVIDE GAS COCKS, UNIONS, ETC. AS SPECIFIED AND REQUIRED. INSTALL GAS QUICK DISCONNECTS WHERE FURNISHED WITH THE KITCHEN EQUIPMENT.
4. PROVIDE INDIRECT WASTE LINES OF SAME SIZE AS CONNECTION TO EQUIPMENT WITH 3/4" BEING MINIMUM SIZE. ROUTE FROM EQUIPMENT CONNECTION POINTS INDICATED TO FLOOR DRAIN OR FLOOR SINK. PROVIDE AIR GAP OF TWO PIPE DIAMETERS MINIMUM PER CODE.
5. COMPLY WITH HEALTH DEPARTMENT REGULATIONS. PROVIDE CLEARANCE FOR CLEANING BEHIND AND UNDER EXPOSED PIPING AS REQUIRED BY HEALTH DEPARTMENT. CONFORM TO HEALTH DEPARTMENT REQUIREMENTS FOR LOCATIONS OF FLOOR SINKS.
6. PROVIDE AIRTIGHT SEAL AROUND PIPING PENETRATIONS THROUGH WALK-IN COOLER OR FREEZER WALLS OR CEILINGS.
7. DO NOT INSTALL PIPING IN COOLER OR FREEZER WALLS. INSTALL EXPOSED PIPING IN A NEAT APPEARING MANNER.
8. COORDINATE FLOOR DRAIN LOCATION AND FLOOR SLOPE REQUIREMENTS WITH THE ARCHITECT.
9. INSTALL RIM OF FLOOR DRAINS AND FLOOR SINKS BELOW FINISHED FLOOR LEVEL. SLOPE FLOOR TO DRAINS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION.
10. COORDINATE LOCATION OF VENT, WATER, AND GAS PIPING TO AVOID CONFLICT WITH OTHER TRADES.
11. CLEAN INSTALLED PLUMBING FIXTURES AND EQUIPMENT.
12. PROVIDE WALL BACKING OR SPECIFIED CARRIERS FOR THE PROPER SUPPORT OF INSTALLED WALL HUNG FIXTURES AND EQUIPMENT.
13. PROVIDE VERTICAL LIFT SPRING LOADED CHECK VALVES IN HOT AND COLD WATER SUPPLIES FOR 3-COMPARTMENT SINKS, PRE-RINSE UNITS, JANITOR SINKS, MIXING HOSE BIBBS & MIXING WALL HYDRANTS DOWNSTREAM OF SHUTOFF VALVES.
14. SEAL AROUND INSTALLED FIXTURES AND KITCHEN EQUIPMENT WITH CAULK.
15. PROVIDE APPROPRIATE BACKFLOW PREVENTION DEVICES FOR KITCHEN EQUIPMENT REQUIRING THEM PER LOCAL AUTHORITIES REQUIREMENTS. INSTALL BACKFLOW PREVENTION DEVICES FURNISHED WITH KITCHEN EQUIPMENT.

EQUIPMENT SCHEDULE / MECHANICAL SCHEDULE

ITEM NO	QTY	EQUIPMENT CATEGORY	REMARKS	WATER HOT	WATER COLD	ROUGH-IN HIEGHT	WASTE DIRECT	WASTE INDIRECT	ROUGH-IN HIEGHT	GAS SIZE	GAS MBTU	ROUGH-IN HIEGHT	REMARKS
4	1	THREE COMPARTMENT SINK						(3) 1-1/2"	REMARKS				RUN I.W. TO FLOOR SINK; MANIFOLD DRAINS
5	1	PRE-RINSE FAUCET		1/2"	1/2"	22"							
7	1	MOP SINK	BY OTHERS				2"		3"				VERIFY REQUIREMENTS W/LOCAL JURISDICTION
8	1	SERVICE FAUCET		1/2"	1/2"	42"							
21	1	ICE MAKER W/BIN			1/2"	REMARKS		(2) 3/4"	REMARKS				RUN I.W. TO FLOOR SINK; FILTERED CW FROM #22
22	1	WATER FILTER, 3-STAGE			1/2"	84"							P.C. TO RUN CW TO ITEM #21
24	1	PREP SINK		1/2"	1/2"	22"		1-1/2"	REMARKS				P.C. TO RUN I.W. TO FLOOR SINK
31	1	WORK TABLE W/HAND SINK & DUMP SINK		(2) 1/2"	(2) 1/2"	22"	1-1/2"	1-1/2"	18"				P.C. TO RUN I.W. TO FLOOR SINK
36B	1	FILTERED WATER SPIGOT			1/2"	REMARKS							FILTERED CW FROM #36C
36C	1	WATER FILTER, 2-STAGE			1/2"	22"							P.C. TO RUN CW TO ITEM #36B
38	1	ICE BIN, DROP-IN						1"	REMARKS				P.C. TO RUN I.W. TO HUB DRAIN
39	1	HAND SINK		1/2"	1/2"	22"	1-1/2"		18"				
62	1	DRAIN BOARD						1"	REMARKS				P.C. TO RUN I.W. TO HUB DRAIN

PLUMBING EQUIPMENT SCHEDULE

REF. NO	ITEM DESCRIPTION	MANUFACTURER OR CAT. #	REMARKS
AGF	AIR GAP FITTING	ZURN Z - 1024-4 OR EQUAL	3/4" X 1 1/2"
FD	FLOOR DRAIN	ZURN FD-2320-NH3-ST-P	PUSH-ON JOINT OF OUTLET SIZE
FS	FLOOR SINK - INSTALLED FLUSH WITH FINISH FLOOR	WADE W-9140-16-1, 12"X12" OR EQUAL, NICKEL-BRONZE STRAINER 3/4" GRADE	PROVIDE INTERNAL STRAINER
WHA	WATER HAMMER ARRESTOR	PRECISION PLUMBING PRODUCTS TYPE SC OR EQUAL	PROVIDE ACCESS PANEL
FCO	FLOOR CLEAN OUT	ZURN Z1400 OR EQUAL	FLUSH WITH FINISH FLOOR
WCO	WALL CLEAN OUT	ZURN Z1441 OR EQUAL	
TMV	UNDER SINK THERMOSTATIC MIXING VALVE	WATTS LFMMV SERIES OR EQUAL; LEAD FREE	UP TO 1" HW & CW ROUGH-IN VALVE SHALL HAVE INTEGRAL CHECK STOPS. CONCEAL IN WALL CAVITY
BFP	BACK FLOW PREVENTION ASSEMBLY FOR ICE MAKER	WATTS SERIES 9D DUAL CHECK VALVE ASSEMBLY WITH ATMOSPHERIC PORT, OR EQUAL	MIN. WORKING PRESSURE: 25 PSI; MAX. WORKING PRESSURE: 175 PSI
RPZ	REDUCED PRESSURE ZONE-DOUBLE CHECK BACK FLOW PREVENTER	WATTS SERIES LF009, LEAD FREE DOUBLE CHECK VALVE ASSEMBLY, OR EQUAL	LEAD FREE CAST COPPER SILICON ALLOY (1/2" TO 2") MAX. WORKING PRESSURE: 175 PSI
TP	TRAP PRIMER	PRECISION PLUMBING PRODUCTS # PR-500 "PRIME RITE", CORROSION RESISTANT BRASS BODY, "O" RING SEALS, 1/2" INLET AND OUTLET, AND INTEGRAL VACUUM BREAKER.	INSTALL THE VALVE AT A MINIMUM OF 12" ABOVE FINISHED FLOOR.
AP	ACCESS PANEL	JAY R. SMITH # 4762-12"x12" -CL. TYPE 304 STAINLESS STEEL PANEL AND FRAME WITH CONCEALED HINGE, KEY OPERATED CYLINDER LOCK.	PROVIDE WITH NAILER SLOTS FOR INSTALLATION IN STUD WALLS AND ANCHOR STRAPS FOR INSTALLATION IN MASONRY CONSTRUCTION.
HD	HUB DRAIN		
TR	TRENCH DRAIN 5" PRO SERIES CHANNEL DRAIN KIT WITH METAL GRATE	NDS 864GMTL (OR EQUAL) CLASS B. LOADS WITH 61-175 PSI WITH MECHANICAL INTERLOCKING JOINTS AND UV INHIBITORS	USE WITH 3" HUB AND 4" SPIGOT SEWER AND PIPE DRAIN. #4 REBAR TIE CLIPS FOR EASIER INSTALLATION
GT	INTERIOR GREASE TRAP	SCHIER GB2 35 GPM, 130 LBS GREASE CAPACITY	PDI CERTIFIED- PROVIDE EXTENSIONS AS NEEDED

PLUMBING FIXTURE SCHEDULE

PROVIDE AS SPECIFIED OR EQUAL PRODUCT

REF	ITEM	MFR & CAT. NO.	WASTE	TRAP	VENT	H.W.	C.W.
FIXTURES PROVIDED AND INSTALLED BY THE PLUMBING CONTRACTOR (REUSE EXISTING IF PRESENT AND IN WORKING ORDER)							
LV SEE NOTE 1.	WALL HUNG LAVATORY - ADA: VITREOUS CHINA, 20" X 18" PERFORATED STRAINER WITH 1 1/4" OFFSET TAILPIECE. CHROME PLATED 3/8" SUPPLY W/ANGLE STOP & WROT ESCUTCHEON OFFSET, CHROME BRASS P-TRAP, 17 GA. WITH ESCUTCHEON WALL MTD. CARRIER W/HANGER PLATE, CONCEALED ARMS. FAUCET WITH AERATOR, 6" HANDLE 0.5 GPM FLOW, ON 4" CENTERS	AMERICAN STANDARD 0124.024 MCGUIRE 155-WC MCGUIRE 158WC MCGUIRE 8902 JOSAM OR ZURN SYMMONS S-20-2-G-FR-W	2	2	2	1/2	1/2
7 8 SEE NOTE 1.	MOP BASIN ONE-PIECE CONSTRUCTION, 24" X 24" X 10" FLOOR MOUNTED TYPE. FAUCET WITH PAIL HOOK AND HOSE END, VACUUM BREAKER, INTEGRAL STOPS HOSE AND HOSE BRACKET MOP HANGER, 24" X 3", 18 GA. VINYL BUMPER GUARD SILICONE SEALANT	FIAT MSB-2424 FIAT 830-AA FIAT 832-AA FIAT 889-CC FIAT E-77-AA FIAT 833-AA	3	3	2	3/4	3/4
WC SEE NOTE 2.	WATER CLOSET - ADA: VITREOUS CHINA, FLUSH TANK, SIPHON JET, ELONGATED BOWL, 12" ROUGHING, FLOOR MOUNTED, WATER SAVER TYPE, SEAT 19" A.F.F., WHITE SOLID PLASTIC SEAT, OPEN FRONT CHECK HINGE, CHROME PLATED 3/8" SUPPLY W/ANGLE STOP AND WROT. ESCUT.	AMERICAN STANDARD 2108.408 OLSONITE 95 MCGUIRE 166	4	INT.	2	-	3/4
FIXTURES PROVIDED BY EQUIPMENT SUPPLIER AND INSTALLED BY THE PLUMBING CONTRACTOR							
4 5 SEE NOTE 1.	3-COMPARTMENT SERVICE SINK: ONE-PIECE CONSTRUCT., 97-1/2"X29-1/2" FLOOR MOUNTED TYPE W/ FOUR LEGS (1) FAUCETS WITH 12" SWING NOZZLE VACUUM BREAKER, INTEGRAL STOPS PERFORATED STRAINER WITH 1 1/4" OFFSET TAILPIECE. BRASS 3/4" SUPPLY W/ANGLE STOP & WROT ESCUTCHEON OFFSET, BRASS P-TRAP, 17 GA. WITH ESCUTCHEON ATMOSPHERIC BACK-FLOW PREVENTOR	ELKAY SE3C18X18218X T&S B-0133-B T&S T&S T&S T&S B-0970-FEZ	3	3	2	3/4	3/4
24 SEE NOTE 1.	1-COMPARTMENT PREP SINK: ONE-PIECE CONSTRUCT., 97-1/2"X29-1/2" FLOOR MOUNTED TYPE W/ FOUR LEGS (1) SINK MIXING FAUCET TWIST WASTE VALVE PERFORATED STRAINER WITH 1 1/4" OFFSET TAILPIECE. BRASS 3/4" SUPPLY W/ANGLE STOP & WROT ESCUTCHEON OFFSET, BRASS P-TRAP, 17 GA. WITH ESCUTCHEON	ELKAY 14-1C16X20-L-18X T&S B-0231 T&S B-3952 T&S T&S T&S	2	2	2	1/2	1/2
39 SEE NOTE 1.	WALL MOUNTED HAND SINK STAINLESS STEEL 14"x10"x5" BOWL PERFORATED STRAINER CHROME PLATED 3/8" SUPPLY W/ANGLE STOP & WROT ESCUTCHEON OFFSET, CHROME BRASS P-TRAP, 17 GA. WITH ESCUTCHEON FAUCET WITH AERATOR, 6" HANDLE 0.5 GPM FLOW, ON 4" CENTERS	ELKAY SEHS-17X INCLUDED MCGUIRE 158WC MCGUIRE 8902 INCLUDED	2	2	2	1/2	1/2

HANDICAP ACCESSIBILITY NOTES:

1. ALL FAUCET OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS MAXIMUM.
2. WATER CLOSET FLUSH CONTROLS SHALL BE HAND OPERATED. HAND OPERATED FLUSH CONTROLS SHALL BE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET.

ELECTRIC WATER HEATER SCHEDULE

MARK	MANUFACTURER/ MODEL#	AREA SERVED	ENERGY SOURCE	TANK SIZE (GALLONS)	INPUT PHASE	INPUT VOLTS	INPUT KW	RECOVERY 80F DEGREE RISE
WH-1	STATE CSB 52 6 IFE	KITCHEN/RESTROOM	ELECTRIC	50	1	208	6.0	31

NOTE:
80F TEMP RISE WITH 140F OPERATING TEMPERATURE
PROVIDE UL LISTED CONVERSION KIT FOR SIMULTANEOUS HEATER ELEMENT OPERATION

WATER PIPE SIZING CHART

FIXTURE UNITS VS. PRESSURE LOSS
IN PSI / 100 FEET FOR TYPE "L" COPPER TUBE

	COLD WATER @ 5 PSI / 100'				HOT WATER @ 5.0 PSI / 100'		
PIPE SIZE	FLUSH TANK SFU	FLUSH VALVE SFU	VELOCITY FEET / SEC	FLOW GPM	FLUSH TANK SFU	VELOCITY FEET / SEC	FLOW GPM
1/2"	1.6	N/A	3.1	2.4	*	*	*
3/4"	6.9	N/A	3.9	6.3	*	*	*
1"	16	N/A	4.9	12.5	*	*	*
1-1/4"	32	4	5.4	22.0	29.2	5	19.5
1-1/2"	59.6	15.8	5.9	35.0	47.5	5	27.5
2"	214	116	7.5	72.0	120	5	48.2
SIZED WITH HAZEN WILLIAMS CONSTANT "C = 135"					* UTILIZE COLD WATER SIZING CHART		

GREASE TRAP SIZING

1 Count all contributing fixtures, measure and calculate capacities as follows:

Rinse Sinks:
1 — 14 W x 10 L x 5 D — cu. in / 231 = 3.0 gallons
— W x — L x — D — cu. in / 231 = 0.0 gallons

Pot Sinks:
3 — 18 W x 18 L x 11 D — cu. in / 231 = 46.3 gallons
1 — 16 W x 20 L x 14 D — cu. in / 231 = 19.4 gallons

Service Sinks:
1 — 22 W x 22 L x 10 D — cu. in / 231 = 21.0 gallons

1-A TOTAL = 89.7 gallons

2 89.7 Total Gallons from 1-A x 0.75 (fill factors) / 2 minute drain down period = 33.6 GPM

3 1 Number of Floor Sinks or Drains (Except Indirect Wastes from Above) x 0.6 = 0.6 GPM

5-A TOTAL 34.2 GPM

Adjusted Total GPM 34 GPM

WATER & WASTE FIXTURE CALC

FIXTURE TYPE	QTY	D.F.U. (EA)	TOTAL D.F.U.	HOT S.F.U. (EA)	COLD S.F.U. (EA)	COMBINED S.F.U. (EA)	TOTAL S.F.U. (HOT)	TOTAL S.F.U. (COLD)	TOTAL SERVICE S.F.U.
PUBLIC LAVATORY	2	2.0	4.0	1.50	1.50	2.00	3	3	4.0
SERVICE SINK (MOP BASIN)	1	3.0	3.0	2.25	2.25	3.00	2.25	2.25	3.0
FLOOR DRAIN	1	2.0	2.0	0.00	0.00	0.00	0	0	0.0
PUBLIC WATER CLOSET (1.6 GPF FLUSH TANK)	2	4.0	8.0	0.00	5.00	5.00	0	10	10.0
SPECIALTY KITCHEN EQUIP.									
SINK (HAND OR DUMP)	4	2.0	8.0	1.50	1.50	2.00	6	6	8.0
PREP SINK	1	3.0	3.0	1.50	1.50	2.00	1.5	1.5	2.0
SINK (3 COMPARTMENT)	1	3.0	3.0	3.00	3.00	4.00	3	3	4.0
ICE MACHINE	1	0.5	0.5	0.00	1.00	1.00	0	1	1.0
WATER SPIGOT	1	0.5	0.5	0.00	0.50	0.50	0	0.5	0.5
TOTAL UNITS:	14		32.5				15.75	27.25	33.50

PLUMBING PIPE MATERIAL SCHEDULE

PIPING SYSTEM	ABBREVIATION	PIPING MATERIAL
SANITARY DRAINAGE & VENT (ABOVE GRADE)	S, W OR V	HUBLESS CAST IRON (PVC DWV OPTIONAL)
SANITARY DRAINAGE & VENT (BELOW GRADE)	S, W OR V	SERVICE WEIGHT CAST IRON (PVC DWV OPTIONAL)
POTABLE WATER (ABOVE GRADE)	CW, HW OR HWR	TYPE L HARD DRAWN COPPER WITH SOLDERED JOIUNTS
POTABLE WATER - 2" & SMALLER (BELOW GRADE)	CW, HW OR HWR	TYPE K SOFT ANNEALED COPPER
NATURAL GAS (ABOVE GRADE & ON ROOF)	G	SCHEDULE 40 BLACK STEEL
NATURAL GAS (BELOW GRADE)	G	APPROVED 'PE' PIPE FOR GAS
CONDENSATE DRAIN - 1" & SMALLER	CD	TYPE M HARD DRAWN COPPER (PVC DWV OPTIONAL)
CONDENSATE DRAIN - 1-1/4" & LARGER	CD	TYPE DWV HARD DRAWN COPPER (PVC DWV OPTIONAL)
INDIRECT DRAIN - 1"& SMALLER	ID	TYPE M HARD DRAWN COPPER
INDIRECT DRAIN - 1-1/4" & LARGER	ID	TYPE DWV HARD DRAWN COPPER

REFER TO SPECIFICATIONS FOR FITTINGS, INSTALLATION REQUIREMENTS AND FURTHER INFORMATION

PLUMBING SYMBOLS

ANNOTATION

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

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	MH	MANHOLE
AFG	ABOVE FINISHED GRADE	MIN	MINIMUM
AHU	AIR HANDLING UNIT	N/C	NORMALLY CLOSED
BFF	BELOW FINISHED FLOOR	N/O	NORMALLY OPEN
BFG	BELOW FINISHED GRADE	ORD	OVERFLOW ROOF DRAIN
BOP	BOTTOM OF PIPE	PDI	PLUMBING DRAINAGE INSTITUTE
BOS	BOTTOM OF STRUCTURE	PVC	POLYVINYL CHLORIDE
BTU	BRITISH THERMAL UNIT	PRV	PRESSURE REDUCING VALVE
CPVC	CHLORINATED POLYVINYL CHLORIDE	RD	ROOF DRAIN
DN	DOWN	RPM	REVOLUTIONS PER MINUTE
DFU	DRAINAGE FIXTURE UNIT	RTU	ROOFTOP UNIT
DS	DOWNSPOUT	SF	SQUARE FEET, SUPPLY FAN
ETR	EXISTING TO REMAIN	SP	SUMP PUMP
EWC	ELECTRIC WATER COOLER	SS	STAINLESS STEEL, SANITARY SEWER, SOIL STACK
FD	FLOOR DRAIN	TDH	TOTAL DYNAMIC HEAD
FFA	FROM FLOOR ABOVE	TFA	TO FLOOR ABOVE
FFB	FROM FLOOR BELOW	TFB	TO FLOOR BELOW
FF	FINISHED FLOOR	TYP	TYPICAL
FL	FLOW LINE	UL	UNDERWRITERS LABORATORIES, INC.
FLA	FULL LOAD AMPS	UNO	UNLESS NOTED OTHERWISE
FLR	FLOOR	UPS	UNINTERRUPTIBLE POWER SUPPLY
GPM	GALLONS PER MINUTE	V	VOLT(S)
HD	HEAD, HUB DRAIN	VCP	VITRIFIED CLAY PIPE
IE	INVERT ELEVATION	VS	VENT STACK
IN WC	INCHES OF WATER COLUMN	VTR	VENT THROUGH ROOF
JB	JUNCTION BOX	W/	WITH
J-BOX	JUNCTION BOX	W/O	WITHOUT
kW	KILOWATT	WC	WATER COLUMN
MAU	MAKE-UP AIR UNIT	WS	WASTE STACK
MAX	MAXIMUM	WSFU	WATER SUPPLY FIXTURE UNIT
MBH	1000 BTU PER HOUR		

PIPING

- DOMESTIC COLD WATER (CW)
- DOMESTIC HOT WATER (HW)
- T — TRAP PRIMER LINE (T)
- S — SOIL PIPING - ABOVE FLOOR (S)
- S — SOIL PIPING - BELOW FLOOR (S)
- W — WASTE PIPING - ABOVE FLOOR (W)
- W — WASTE PIPING - BELOW FLOOR (W)
- GW — GREASE WASTE - ABOVE FLOOR (GW)
- GW — GREASE WASTE - BELOW FLOOR (GW)
- VBG — VENT BELOW GRADE (VBG)
- VBF — VENT BELOW FLOOR (VBF)
- CD — CONDENSATE DRAIN (CD)
- G — NATURAL GAS (G)
- EXISTING PIPING TO REMAIN
- V — VENT PIPING (V)
- SQUARE FLOOR DRAIN (FS), SIZE & TYPE
- ROUND FLOOR DRAIN (FD), SIZE & TYPE
- BALL VALVE
- CONTROL VALVE
- SHUTOFF VALVE
- CHECK VALVE
- UNION
- CAP
- WALL CLEANOUT (WCO)
- FLOOR CLEANOUT (FCO)
- EXTERIOR CLEANOUT (ECO)
- ELBOW UP
- ELBOW DOWN
- TEE UP
- TEE DOWN
- ELBOW UP WITH SHUT-OFF VALVE (SOV)
- ELBOW DOWN WITH SHUT-OFF VALVE (SOV)
- TEE UP WITH SHUT-OFF VALVE (SOV)
- TEE DOWN WITH SHUT-OFF VALVE (SOV)
- "A" WATER HAMMER ARRESTER (WHA) WITH PDI SIZES, (A, B, C, D, & E)
- GAS COCK
- TRAP PRIMER
- TRAP PRIMER WITH DISTRIBUTION UNIT

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TSC: FL-278

REVISION
1
2
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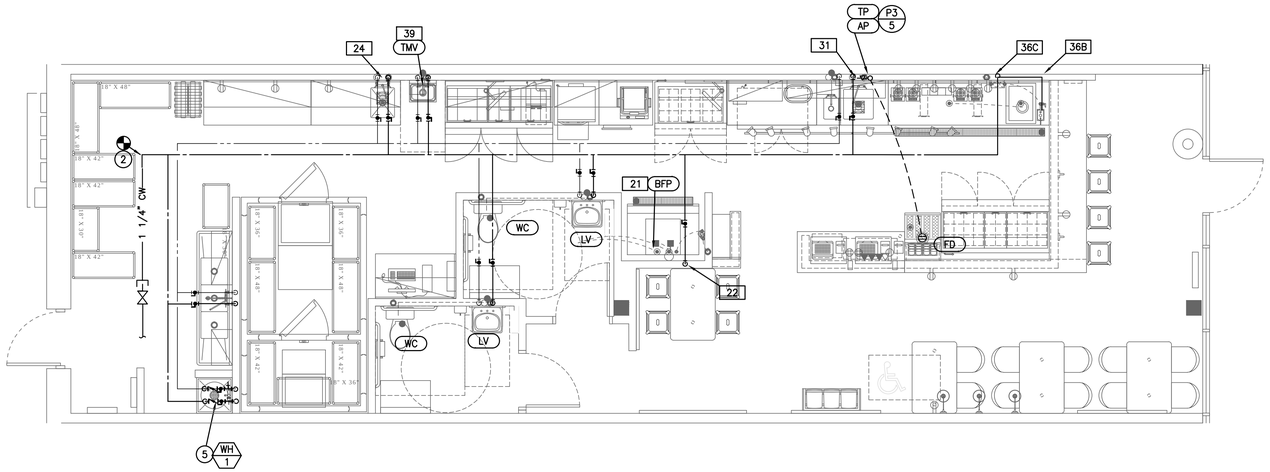
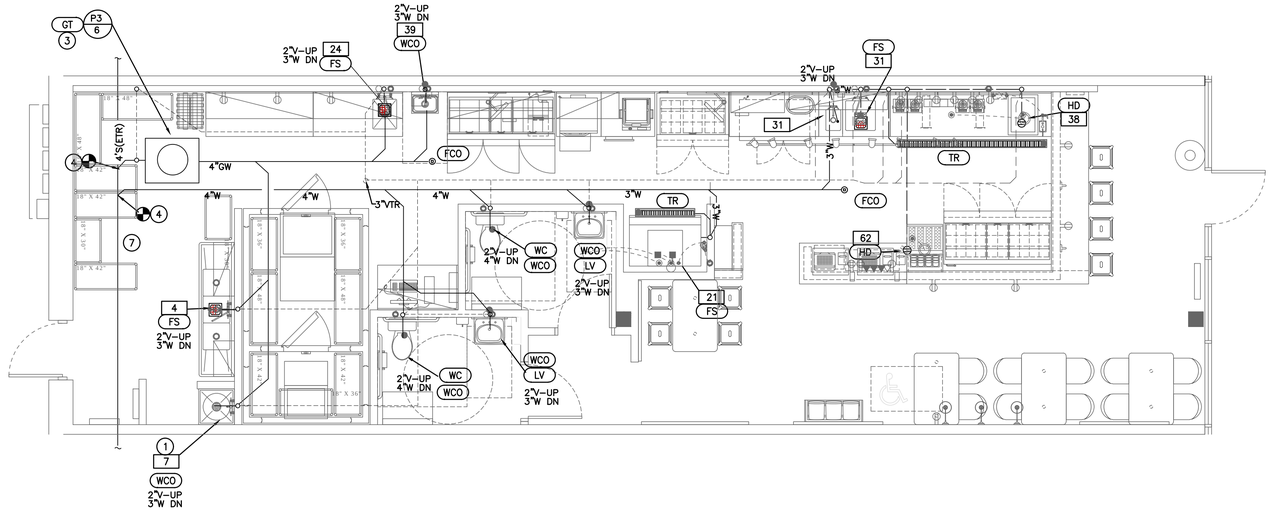
DATE: 12.26.2019

PLUMBING SCHEDULES
P1



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



2 SANITARY & VENT PIPING PLAN
1/4" = 1'-0"

PLUMBING PLAN NOTES:

1. PROVIDE 1" CONDENSATE LINE FROM ROOFTOP UNITS AND ROUTE TO MOP SINK. RON CONDENSATE LINE DOWN WALL AND DISCHARGE OVER MOP SINK WITH AIR GAP PER CODE.
2. ROUTE NEW 1 1/4" COLD WATER LINE FROM EXISTING 2" WATER LINE STUB LOCATED ABOVE THE CEILING. GC MUST FIELD VERIFY PRIOR TO PERMIT AND ALERT ENG/ ARCH IMMEDIATELY IF NOT PROVIDED 2"CW LINE AND METER BY LANDLORD.
3. LOCATE GREASE TRAP UNDER FLOOR– SEE 6/P3– SEE MFG SPECS
4. CONNECT NEW 4" SANITARY WASTE LINE TO EXISTING 4" SANITARY WASTE LINE. VERIFY EXACT SIZE, LOCATION AND INVERT PRIOR TO INSTALLATION. XRAY OR CAMERA TO LOCATE MUST BE IN BID
5. ELEC WATER HEATER ABOVE MOP SINK, PROVIDE 1" COLD & HOT WATER LINES TO WATER HEATER– SEE MFG SPECS
6. NOT USED
7. GC TO LOCATE EXACT LOCATION AND DEPTH OF WASTE LINE PRIOR TO START OF WORK. PROVIDE CAMERA OR XRAY IN BID

NOTE:
GC TO PROVIDE CAMERA TEST OR X-RAY OF SLAB TO LOCATE EXISTING WASTE LINES UNDER SLAB. NO SHELL PLANS PROVIDED. CONFIRM WITH P SHEETS AND CONTACT DESIGN TEAM IF MODIFICATIONS ARE NEEDED. CONFIRMATION REQUIRED PRIOR TO ISSUANCE OF PERMIT ISSUANCE.

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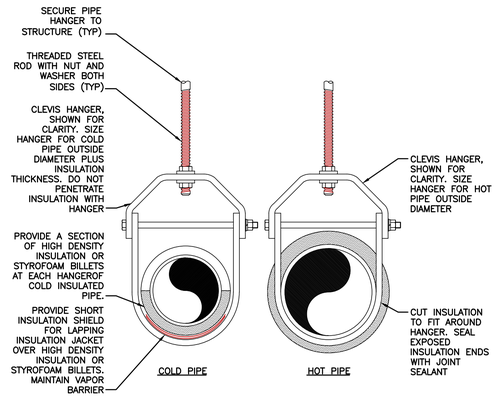
PLUMBING FLOOR PLAN & DETAILS

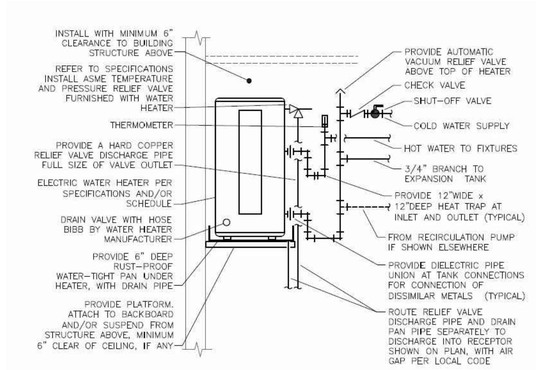
P2

1 NOT USED
NO SCALE



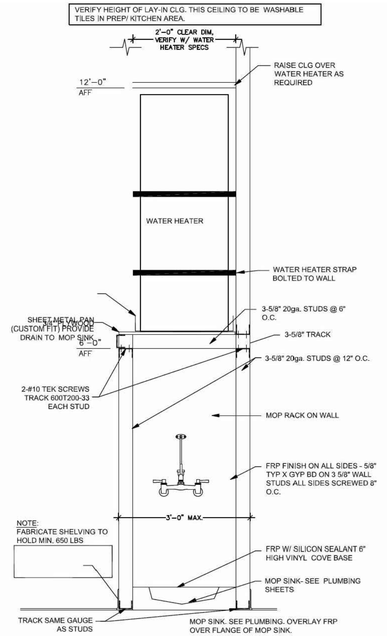
REFER TO SPECIFICATIONS FOR INSULATION TYPES, INSULATION THICKNESSES, HANGER TYPES, HANGER ROD CONNECTIONS TO SRUCTURE AND HANGER SPACING.

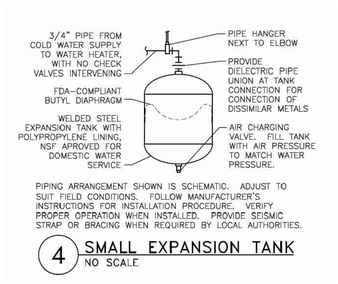
2 INSULATED PIPE HANGER DETAIL
NO SCALE



REFER TO SPECIFICATIONS, SCHEDULES AND NOTES FOR MORE INFORMATION. PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. VERIFY CONNECTION SIZES AND LOCATIONS PER MANUFACTURER'S REQUIREMENTS. REFER TO FLOOR PLANS FOR PIPE SIZES. PROVIDE SEISMIC STRAP OR BRACING IF/AS REQUIRED BY LOCAL AUTHORITIES AND/OR SEPARATE DETAIL. INSTALL WITH BOTTOM MINIMUM 6'-6" ABOVE FLOOR IF ABOVE JANITOR'S SINK; OTHERWISE HIGH AS POSSIBLE. PLATFORM SHALL BE PLYWOOD ON UNISTRUT FRAME BRACKETED AND ANCHORED TO WALL, AND/OR SUSPENDED FROM STRUCTURE ABOVE WITH THREADED ROD. POWER WIRING AND DISCONNECT SWITCH ARE SPECIFIED BY ELECTRICAL. INTERLOCK OF AQUASTAT WITH RECIRCULATION PUMP IS SPECIFIED BY ELECTRICAL IF REQUIRED.

3 ELECTRIC WATER HEATER OVERHEAD
NO SCALE





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

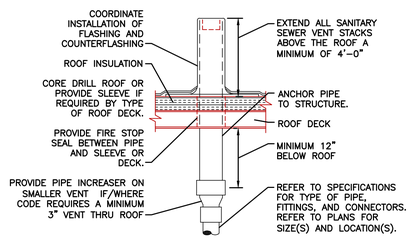
4 SMALL EXPANSION TANK
NO SCALE

PROVIDE TRAP PRIMERS WHERE SHOWN ON FLOOR PLANS, AND WHERE REQUIRED BY LOCAL AUTHORITIES. PIPING ARRANGEMENT SHOWN IS SCHEMATIC: ADJUST TO SUIT FIELD CONDITIONS. REFER TO SPECIFICATIONS AND PLUMBING FIXTURE SCHEDULE FOR MORE INFORMATION. INSTALL TRAP PRIMER VALVE AND DISTRIBUTION UNIT PER MANUFACTURER'S RECOMMENDATIONS.

5 TRAP PRIMER IN/OUT WALL
NO SCALE

ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. LOCATE GREASE TRAP WHERE SHOWN ON PLAN IF POSSIBLE, OTHERWISE NOT WHERE PEOPLE STAND BUT WHERE COVER CAN BE EASILY REMOVED (FOR CLEANING). DETAIL IS FOR SLAB ON GRADE INSTALLATION; IF FLOOR SLAB IS NOT ON GRADE, COORDINATE INSTALLATION WITH STRUCTURE; REFER TO STRUCTURAL DRAWINGS. PROVIDE SUPPORTS HUNG FROM SLAB PER THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE ANCHOR FLANGE WITH FLASHING CLAMP FOR SEALING WATER PROOF FLOOR MEMBRANE. REFER TO ARCHITECTURAL DRAWINGS.

6 GREASE TRAP INSTALLATION
NO SCALE



LOCATE VTR MINIMUM THREE FEET FROM PROPERTY LINE, TEN FEET HORIZONTAL OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, TWENTY FIVE FEET FROM ANY OPENING OR FRESH AIR INTAKE IN MEDICAL FACILITIES AND ONE FOOT FROM ANY VERTICAL SURFACE. REFER TO LOCAL CODES FOR OTHER VENT TERMINATION REQUIREMENTS. LOCATE VTR MINIMUM 18" FROM ADJACENT WALL, PARAPET, EXPANSION JOINT, ROOF DRAIN, EQUIPMENT CURB, OR OTHER ROOF FEATURE. OFFSET IN CEILING SPACE WHERE REQUIRED TO MEET THESE CONDITIONS. INSULATE LAST SIX FEET OF VENT PIPE INSIDE BUILDING PER SPECIFICATIONS.

7 VENT THRU ROOF ("VTR")
NO SCALE

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PLUMBING DETAILS

P3

SECTION 15B: PLUMBING:

15B OPERATION AND MAINTENANCE INSTRUCTIONS

DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE A COMPLETE BROCHURE OF EQUIPMENT FURNISHED AND INSTALLED ON THIS PROJECT. INCLUDE OPERATIONAL AND MAINTENANCE INSTRUCTIONS, MANUFACTURER'S CATALOG SHEETS, WIRING DIAGRAMS, PARTS LISTS, APPROVED SHOP DRAWINGS, AND DESCRIPTIVE LITERATURE AS FURNISHED BY THE EQUIPMENT MANUFACTURER. INCLUDE AN INSIDE COVER SHEET THAT LISTS THE PROJECT NAME, DATE, OWNER, ARCHITECT, CONSULTING ENGINEER, GENERAL CONTRACTOR, SUB-CONTRACTOR, AND AN INDEX OF CONTENTS.

SUBMIT THREE COPIES OF LITERATURE BOUND IN APPROVED BINDERS TO THE ARCHITECT AT THE TERMINATION OF THE WORK. PAPER CLIPS, STAPLES, RUBBER BANDS, AND MAILING ENVELOPES ARE NOT CONSIDERED APPROVED BINDERS. FINAL APPROVAL OF MECHANICAL SYSTEMS INSTALLED UNDER THIS CONTRACT WILL BE WITHHELD UNTIL THIS EQUIPMENT BROCHURE IS RECEIVED AND DEEMED COMPLETE BY THE ARCHITECT AND ENGINEER. INSTRUCT WORKMEN TO SAVE REQUIRED LITERATURE SHIPPED WITH THE EQUIPMENT ITSELF, FOR INCLUSION IN THIS BROCHURE.

PROVIDE "AS-BUILT" DRAWINGS (SEE SPECIAL CONDITIONS).

15B TRAINING

AT A TIME MUTUALLY AGREED UPON BETWEEN THE OWNER AND CONTRACTOR, PROVIDE THE SERVICES OF A FACTORY TRAINED AND AUTHORIZED REPRESENTATIVE TO TRAIN OWNER'S DESIGNATED PERSONNEL ON THE OPERATION AND MAINTENANCE OF THE EQUIPMENT PROVIDED FOR THIS PROJECT.

PROVIDE TRAINING TO INCLUDE BUT NOT BE LIMITED TO AN OVERVIEW OF THE SYSTEM AND/OR EQUIPMENT AS IT RELATES TO THE FACILITY AS A WHOLE; OPERATION AND MAINTENANCE PROCEDURES AND SCHEDULES RELATED TO STARTUP AND SHUTDOWN, TROUBLESHOOTING, SERVICING, PREVENTIVE MAINTENANCE AND APPROPRIATE OPERATOR INTERVENTION; AND REVIEW OF DATA INCLUDED IN THE OPERATION AND MAINTENANCE MANUALS.

SUBMIT A CERTIFICATION LETTER TO THE ARCHITECT STATING THAT THE OWNER'S DESIGNATED REPRESENTATIVE HAS BEEN TRAINED AS SPECIFIED HEREIN. LETTER SHALL INCLUDE DATE, TIME, ATTENDEES AND SUBJECT OF TRAINING. THE CONTRACTOR AND THE OWNER'S REPRESENTATIVE SHALL SIGN THE CERTIFICATION LETTER INDICATING AGREEMENT THAT THE TRAINING HAS BEEN PROVIDED.

SCHEDULE TRAINING WITH OWNER WITH AT LEAST 7 DAYS' ADVANCE NOTICE.

15B WARRANTIES

COORDINATE WITH DIVISION 1 AND GENERAL CONDITIONS TO DETERMINE WHAT THE ACTUAL REQUIREMENTS ARE, AND MODIFY THE FOLLOWING AS REQUIRED SO AS TO NOT CONTRADICT THEM.

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

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

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

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

15B SPARE PARTS

FURNISH TO OWNER, WITH RECEIPT, THE SPARE PARTS TO INCLUDE FAUCET WASHERS AND O-RINGS, FLUSHOMETER REPAIR KITS AND WATER CLOSET TANK REPAIR KITS FOR THE FIXTURES FURNISHED FOR THIS PROJECT.

15B EXCAVATION AND BACKFILLING

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

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

15B COINCIDENTAL DAMAGE

CONTRACTOR SHALL REPAIR STREETS, SIDEWALKS, DRIVES, PAVING, WALLS AND FINISHES ETC. THAT HE DAMAGES IN THE COURSE OF THIS PROJECT. REPAIR MATERIALS SHALL MATCH EXISTING CONSTRUCTION. REPAIR WORK SHALL MEET REQUIREMENTS OF THE LOCAL AUTHORITIES HAVING JURISDICTION AND MEET THE SATISFACTION OF THE ARCHITECT.

15B CUTTING AND PATCHING

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

15B ROUGH-IN

BEFORE STARTING CONSTRUCTION, COORDINATE WITH OTHER CONTRACTORS REGARDING ROUGH-IN WITH GENERAL CONSTRUCTION. CONCEAL PIPING, CONDUIT AND ROUGH-IN EXCEPT IN UNFINISHED AREAS AND WHERE OTHERWISE SHOWN.

15B ACCESS DOORS

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

15B PENETRATIONS

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

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

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

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

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

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

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

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

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

15B ELECTRICAL WIRING

LINE VOLTAGE WIRING SHALL BE PROVIDED BY DIVISION 16. LINE VOLTAGE CONTROL AND INTERLOCK WIRING FOR PLUMBING SYSTEMS SHALL ALSO BE PROVIDED BY DIVISION 16 CONTRACTOR. LOW VOLTAGE CONTROL WIRING SHALL BE PROVIDED BY THE DIVISION 15 CONTRACTOR. FURNISH WIRING DIAGRAMS TO THE DIVISION 16 CONTRACTOR AS REQUIRED FOR PROPER EQUIPMENT HOOKUP. COORDINATE WITH THE DIVISION 16 CONTRACTOR THE ACTUAL WIRE SIZING AMPS FOR PLUMBING EQUIPMENT (FROM THE EQUIPMENT NAMEPLATE) TO ENSURE PROPER INSTALLATION.

15B EQUIPMENT FURNISHED BY OTHERS

FURNISH AND INSTALL ROUGHED-IN WASTES, VENTS AND WATER SERVICES. PROVIDE FINAL CONNECTION TO KITCHEN EQUIPMENT, FURNISHED BY OTHERS, IN LOCATIONS AS INDICATED ON THE DRAWINGS. PROVIDE ACCESSORY ITEMS THAT ARE REQUIRED BUT NOT FURNISHED WITH THE EQUIPMENT, INCLUDING TRAPS, STOP VALVES, PRV'S, INDIRECT DRAIN FROM EQUIPMENT TO FLOOR DRAINS, AND ACCESSORY ITEMS INDICATED OR REQUIRED FOR THE PROPER OPERATION OF THE COMPLETE SYSTEM AT THE TERMINATION OF THE WORK.

DIVISION 15 CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECT ROUGH-IN DIMENSIONS, AND SHALL VERIFY SAME WITH ARCHITECT AND/OR EQUIPMENT SUPPLIER PRIOR TO SERVICE INSTALLATIONS.

15B UTILITY CONNECTIONS

PROVIDE UTILITY CONNECTIONS REQUIRED AND INDICATED ON THE DRAWINGS. INSTALL INTERIOR AND EXTERIOR CONNECTIONS TO "MAINS" AND EXISTING SERVICE LINES COMPLETE AND FUNCTIONING, IN COMPLIANCE WITH THE REQUIREMENTS OF THE CODES HAVING JURISDICTION AND THE SERVING UTILITY INVOLVED. VERIFY THE EXACT LOCATION OF UTILITY MAINS, SERVICE LINES, AND CONNECTION POINTS REQUIRING CONNECTION IN THE FIELD PRIOR TO INSTALLATION. WORK IN CONJUNCTION WITH THE UTILITY INVOLVED IN THE INSTALLATION OF SERVICES. VERIFY THAT INSTALLATION WILL TIE INTO THE EXISTING UTILITY MAINS, SERVICE LINES, AND CONNECTION POINTS AT THE INDICATED INVERT ELEVATION POINT PRIOR TO INSTALLATION. IF THE INSTALLATION WILL NOT TIE INTO THE INDICATED INVERT ELEVATION POINT WHILE MAINTAINING PROPER FALL, NOTIFY THE ARCHITECT AND THE ENGINEER SO THAT AN ALTERNATIVE MAY BE DETERMINED.

PROVIDE SERVICE PIPING AND ACCESSORIES REQUIRED TO COMPLETE UTILITY CONNECTIONS THAT ARE NOT FURNISHED BY THE SERVING UTILITY. COORDINATE WITH THE SERVING UTILITY COMPANY REGARDING ITEMS FURNISHED, WORK PERFORMED, AND PERMITS AND INSPECTIONS REQUIRED. PAY ASSOCIATED FEES OR CHARGES.

15B MISCELLANEOUS REMODELING WORK

PROVIDE ITEMS OF PLUMBING SYSTEMS MODIFICATION REQUIRED BECAUSE OF BUILDING REMODELING, AS NOTED ON THE DRAWINGS, OR NECESSARY FOR PROPER OPERATION. MATCH EXISTING MATERIALS AND CONSTRUCTION TECHNIQUES WHEN MODIFYING EXISTING SYSTEMS. COORDINATE REQUIREMENTS WITH GENERAL CONTRACTOR AND ARCHITECT.

NEW FLOOR DRAINS SHALL BE CONNECTED TO THE EXISTING SANITARY DRAINAGE SYSTEM AS SHOWN ON THE DRAWINGS OR AS REQUIRED. SAW-CUT EXISTING CONCRETE FLOOR AS REQUIRED TO INSTALL NEW UNDERFLOOR LINES, AND PATCH TO MATCH EXISTING SUB-FLOOR. REFER TO ARCHITECTURAL SPECIFICATIONS FOR FINISH FLOOR PATCHING REQUIREMENTS.

EXISTING PLUMBING FIXTURES WHERE INDICATED ON THE DRAWINGS TO BE REUSED SHALL BE CLEANED, REPAIRED, PROVIDED WITH NEW WASHERS, ETC. AS REQUIRED TO PUT THEM INTO GOOD OPERATING CONDITION.

MAKE CONNECTION OF NEW PIPE TO SIMILAR EXISTING WASTE, WATER AND GAS PIPE USING STANDARD FITTINGS AND JOINING PRACTICES.

15B BUILDING OPERATION

COMPLY WITH THE SCHEDULE OF OPERATIONS AS OUTLINED IN THE ARCHITECTURAL PORTIONS OF THIS SPECIFICATION. BUILDING WILL BE IN OPERATION DURING NORMAL WORK-DAY HOURS. ACCOMPLISH WORK REQUIRING INTERRUPTION OF BUILDING OPERATION AT A TIME WHEN THE BUILDING IS NOT IN OPERATION, AND ONLY WITH WRITTEN APPROVAL OF BUILDING OWNER AND/OR TENANT. COORDINATE INTERRUPTION OF BUILDING OPERATION WITH THE OWNER AND/OR TENANT A MINIMUM OF SEVEN DAYS IN ADVANCE OF WORK.

15B SYSTEM TESTING AND ADJUSTING

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

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

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

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

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

FOR LOW PRESSURE NATURAL GAS SYSTEMS, SUBJECT THE PIPE TO 10 PSIG AIR PRESSURE FOR A PERIOD OF ONE HOUR. THE RESULTANT PRESSURE DIFFERENTIAL FOR THIS PERIOD SHALL BE 0 PSIG. TEST PER GAS COMPANY REQUIREMENTS WHERE REQUIRED.

15B GUARANTEE

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

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

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

15B PLUMBING PIPING

15B PIPING MATERIALS

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

DOMESTIC WATER (COLD, HOT): DOMESTIC WATER PIPING INSTALLED ABOVE THE FLOOR SLAB INSIDE THE BUILDING SHALL BE TYPE "L" HARD TEMPER COPPER TUBE WITH WROUGHT COPPER FITTINGS AND SOLDERED CONNECTIONS MADE UP WITH 95/5 SOLDER. BRAZED MECHANICALLY FORMED TEE CONNECTIONS (T-DRILL) MAY BE USED IN COPPER LINES WHERE APPROVED BY CODE; CONNECTION SHALL BE MADE WITH BRAZED SILVER SOLDER (SILFOS) JOINTS IN CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS.

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

INTERIOR WASTE AND VENT BELOW SLAB: WASTE AND VENT PIPE BELOW SLAB INSIDE BUILDING SHALL BE SERVICE WEIGHT CAST IRON SOIL PIPE WITH HUB AND SPIGOT FITTINGS WITH NEOPRENE GASKET JOINTS, MEETING ASTM A74, MANUFACTURED BY AB & I FOUNDRY, CHARLOTTE OR TYLER PIPE AND BEARING THE TRADEMARK OF THE CISPI AND NSF. HUBLESS WASTE AND VENT PIPE IS NOT PERMITTED BELOW BASE SLAB. PVC SCHEDULE 40 DWV ASTM D2665 PIPE WITH PVC MEETING ASTM B1784, "SOLID WALL" CELL CLASS 12454-B WITH ASTM 2665 SOCKET FITTINGS WITH SOLVENT WELD JOINTS IS ALSO PERMITTED WHERE APPROVED BY CODE.

INTERIOR WASTE AND VENT ABOVE SLAB: WASTE AND VENT PIPE ABOVE SLAB INSIDE BUILDING SHALL BE HUBLESS CAST IRON SOIL PIPE AND FITTINGS, MEETING ASTM A888 AND CISPI 301, MANUFACTURED BY AB & I FOUNDRY, CHARLOTTE OR TYLER PIPE AND BEARING THE TRADEMARK OF THE CISPI AND NSF. PVC SCHEDULE 40 DWV ASTM D2665 PIPE WITH PVC MEETING ASTM B1784, "SOLID WALL" CELL CLASS 12454-B WITH ASTM 2665 SOCKET FITTINGS WITH SOLVENT WELD JOINTS IS ALSO PERMITTED WHERE APPROVED BY CODE. (NOTE: PVC PIPING IS NOT ALLOWED IN CEILING RETURN AIR PLENUMS)

NATURAL GAS: GAS PIPING ABOVE GROUND SHALL BE SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON SCREWED FITTINGS, OR STANDARD WELDED FITTINGS.

CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT: 1-1/4" AND LARGER WASTE CONNECTIONS FROM FIXTURE TRAPS TO CAST IRON PIPE SHALL BE "DWV" COPPER WITH WROUGHT COPPER DRAINAGE PATTERN FITTINGS WITH COPPER SWEAT OR COMPRESSION JOINTS AT FIXTURE TRAP CONNECTIONS AND THREADED JOINTS AT CONNECTIONS TO CAST IRON PIPE.

INDIRECT AND CONDENSATE DRAIN INSIDE BUILDING: INDIRECT AND CONDENSATE DRAIN PIPE INSTALLED INSIDE THE BUILDING SHALL BE TYPE SCHEDULE 40 PVC PIPE AND FITTINGS WITH SOLVENT WELD JOINTS WHERE ALLOWED BY CODE. (NOTE: PVC PIPING IS NOT ALLOWED IN CEILING RETURN AIR PLENUMS.) INSTALL CLEANOUTS AT ELBOWS GREATER THAN 45 DEGREES.

INDIRECT AND CONDENSATE DRAIN OUTSIDE BUILDING: INDIRECT AND CONDENSATE DRAIN PIPE INSTALLED OUTSIDE THE BUILDING ABOVE GROUND SHALL BE SCHEDULE 40 PVC PIPE AND FITTINGS WITH SOLVENT WELD JOINTS WHERE ALLOWED BY CODE. TERMINATE CONDENSATE AT THE MOP SINK AND THE INDIRECT DRAINS WHERE INDICATED ON THE PLANS. INSTALL CLEANOUTS AT ELBOWS GREATER THAN 45 DEGREES.

15B PIPING AND EQUIPMENT INSULATION

DOMESTIC COLD WATER, HOT WATER, INDIRECT AND CONDENSATE DRAIN PIPE (WITHIN BUILDING) 1" ONE-PIECE FIBERGLASS COVERING WITH FIRE-RESISTANT JACKET WITH SELF-SEALING LAP TO PROVIDE A CONTINUOUS VAPOR BARRIER BY CERTAINTEED, OWENS-CORNING OR ARMSTRONG. FOR HOT PIPING, PROVIDE PIPE HANGERS AND RISER CLAMPS SIZED FOR THE OUTSIDE DIAMETER OF PIPING. BUTT INSULATION TO HANGER OR RISER CLAMP FOR VERTICAL PIPE. SEAL EXPOSED INSULATION WITH INSULATION SEALER. EXCEPTION FOR VERTICAL PIPING: PROVIDE CLAMPS SIZED FOR THE OUTSIDE DIAMETER OF THE VERTICAL PIPE AND EXTEND CLAMP THROUGH INSULATION. SEAL PENETRATIONS OF INSULATION AND VAPOR BARRIER WITH WET COAT OF VAPOR BARRIER LAP CEMENT. FOR COLD PIPING AT HANGERS PROVIDE 8" LONG SECTIONS OF HIGH DENSITY, HIGH TEMPERATURE CALCIUM SILICATE BY JOHNS-MANVILLE, FIBERGLASS BY KNAUF, OR 8" LONG STYROFOAM BILLETS BY DOW OR FLEXIBLE UNICELLULAR PIPING INSULATION MEETING ASTM C 534-01A, TYPE I WITH INTEGRAL HIGH DENSITY PIPE SUPPORTS AND ENCASED IN STEEL INSULATION SHIELD BY COOPER B-LINE / ARMACELL OR APPROVED EQUAL. INSULATION SHALL BE CONTINUOUS ALONG THE PIPE SURFACE, EXCEPT AT VALVES, UNIONS, AND WHERE PIPING IS EXPOSED AT FIXTURES. PROVIDE 1" FIBERGLASS INSULATION ON VENT PIPING WITHIN SIX FEET OF VENT THROUGH THE OF ROOF. PROVIDE FIBERGLASS INSULATION ON DOMESTIC COLD AND HOT WATER PIPES INSTALLED IN WALLS AND CHASES. PROVIDE FIBERGLASS INSULATION ON DOMESTIC COLD AND HOT WATER PIPES INSTALLED IN WALLS AND CHASES. PROVIDE INSULATION PROTECTION SHIELD AT EACH HANGER FOR INSULATED PIPING.

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

15B PIPING JOINTS

COPPER TUBING: JOINTS IN HARD TEMPER TUBING SHALL BE SOLDERED JOINTS USING LEAD-FREE 95/5 SOLDER EXCEPT WHERE TUBING IS INSTALLED BELOW GRADE OR BELOW THE BASE SLAB, IN WHICH CASE JOINTS SHALL BE SOLDERED WITH SILVER SOLDER (SILFOS). JOINTS IN SOFT TEMPER COPPER TUBING SHALL BE OF THE FLARED TYPE INSTALLED IN COMPLIANCE WITH THE FITTING MANUFACTURER'S RECOMMENDATIONS.

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

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

CAST IRON PIPE ABOVE GRADE: JOINTS IN HUBLESS PIPE SHALL BE STANDARD CISPI 310 NSF CERTIFIED BY ANACO, IDEAL, MISSON OR TYLER. JOINTS IN STORM PIPING, INCLUDING CONNECTIONS TO ROOF DRAINS, SHALL BE HEAVY DUTY COUPLINGS MEETING ASTM C1540 AND FM 1680, ANACO HUSKY #SD-4000 OR CLAMP-ALL "HI TORQUE" 125 IN. LB.

PVC PIPE: CLEAN JOINTS FREE FROM DEBRIS AND MOISTURE. APPLY PVC PRIMER MEETING ASTM F656 TO EACH JOINT. APPLY SOLVENT CEMENT MEETING ASTM D2564 AND MAKE JOINT WHILE WET AND IN ACCORDANCE WITH ASTM D2855.

PIPE ADAPTERS: MAKE CONNECTION OF NEW WASTE PIPE TO NEW OR EXISTING DISSIMILAR WASTE PIPE USING ADAPTER COUPLINGS. PROVIDE FERNCO, PROFLEX 3000 SERIES OR MISSION FLEXSEAL MR56 SERIES WITH NEOPRENE ADAPTER GASKET WITH STAINLESS STEEL SHIELD AND HOSE CLAMPS FOR CONNECTING DISSIMILAR PIPES ABOVE GRADE. PROVIDE FERNCO, 1056 SERIES OR MISSION SEWER COUPLINGS WITH NEOPRENE ADAPTER GASKET AND HOSE CLAMPS FOR CONNECTING DISSIMILAR PIPES BELOW GRADE AND COAT STAINLESS STEEL BANDS WITH MASTIC.

15B PIPING INSTALLATION

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

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

COPPER TUBE: ADJUSTABLE BAND HANGERS FOR BARE COPPER TUBE 3" AND SMALLER SHALL BE B-LINE #B3170 CT COPPER PLATED ADJUSTABLE BAND SWIVEL RING TYPE. ADJUSTABLE BAND HANGERS FOR INSULATED COPPER TUBE AND 3" SMALLER SHALL BE B-LINE #B3170 NF ADJUSTABLE BAND SWIVEL RING TYPE. SUPPORT EXPOSED COPPER TUBE 2" AND SMALLER TO WALLS OR IN CHASES WITH B-LINE #B3198RCT COPPER COATED EXTENSION SPLIT RING PIPE CLAMPS, 3/8" THREADED ROD AND B-LINE #B3199CT CEILING FLANGES. SUPPORT COPPER TUBE IN CHASES AND WALLS AT PLUMBING FIXTURES WITH PLASTIC OR COPPER BRACKETS SECURED TO STRUCTURE AND U-BOLTS SIZED TO BARE ON THE PIPE. RISER CLAMPS TO SUPPORT VERTICAL COPPER TUBE SHALL BE B-LINE #B3373CT COPPER COATED STEEL, CUT INSULATION, SEAL VAPOR BARRIER, AND ATTACH TO BARE TUBE.

STEEL PIPE: ADJUSTABLE BAND HANGERS FOR 2" AND SMALLER SHALL BE B-LINE #B3170 NF ADJUSTABLE BAND SWIVEL RING TYPE. RISER CLAMPS TO SUPPORT VERTICAL PIPE SHALL BE B-LINE #B3373 GALVANIZED STEEL.

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

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

INSULATION PROTECTION SHIELDS: B-LINE #B3151 OF 18 GAUGE GALVANIZED SHEET METAL. SHIELD SHALL COVER HALF OF THE CIRCUMFERENCE OF THE PIPE AND SHALL BE OF LENGTH INDICATED BY MANUFACTURER FOR PIPE SIZE AND THICKNESS OF INSULATION.

HANGER SPACING, ROD SIZES & CONNECTORS: CONNECT RODS TO STEEL BEAMS OR JOISTS WITH B-LINE #B3031 OR #B3033BEAM CLAMPS AS REQUIRED. CONNECT RODS TO CONCRETE WITH B-LINE #3014 MALLEABLE IRON SINGLE TYPE INSERTS WITH MALLEABLE IRON NUT. CONNECT RODS IN WOOD CONSTRUCTION WITH B-LINE #B3058 SIDE BEAM CONNECTORS. HANG AND SUPPORT PIPING WITH SPACING AND ROD SIZES AS FOLLOWS:

COPPER TUBE: 1-1/2" AND SMALLER - EVERY 6' WITH 3/8" HANGER RODS. SUPPORT VERTICAL COPPER TUBE EVERY 10'.

SUPPORTS ON FLOOR: SUPPORT PIPING FROM THE FLOOR WHERE REQUIRED FOR FERROUS PIPE OR INSULATED COPPER TUBE, SHALL BE B-LINE B3093 GALVANIZED STEEL WITH PIPE SADDLE, THREADED SHANK FOR HEIGHT ADJUSTMENT AND FLOOR STAND SECURED TO THE FLOOR.

BELOW GROUND INSTALLATION FOR SOIL, WASTE AND STORM: INSTALL SOIL AND WASTE PIPING TO A UNIFORM SLOPE OF NOT LESS THAN 1/8" PER FOOT FOR PIPING 4" OR LARGER, AND NOT LESS THAN 1/4" PER FOOT FOR PIPING 3" OR SMALLER. LAY PIPE AT UNIFORM SLOPE, FREE FROM SAGS, WITH HUB END UPSTREAM. MAKE CHANGES IN DIRECTION FROM HORIZONTAL TO VERTICAL, AT FIXTURE BRANCHES AND OTHER BRANCH CONNECTIONS WITH SANITARY "TEES" OR SHORT SWEEP "ELLS". MAKE CHANGES IN DIRECTION FROM VERTICAL TO HORIZONTAL OR HORIZONTAL TO HORIZONTAL WITH LONG RADIUS FITTINGS, LONG SWEEPING "ELLS", COMBINATION "Y AND 1/8 BEND" FITTINGS, OR 45 DEGREE "ELLS" (1/8 BEND FITTINGS), 1/6 BEND OR 1/16 BEND AND "Y" FITTINGS. INSTALL PIPE WITH THE BARREL OF THE PIPE ON FIRM, SOLID EARTH FOR ITS ENTIRE LENGTH, AND EXCAVATE HOLES FOR THE PIPE BELLS. LAY PIPE IN A STRAIGHT LINE AND INSTALL WITH UNIFORM GRADE TO LINE WITH BATTEN BOARDS SET NOT MORE THAN 24'-0" APART. CLOSE OPEN ENDS OF PIPE WITH A STOPPER WHEN PIPE LAYING IS NOT IN PROGRESS. CENTER SPIGOTS ACCURATELY IN BELLS FOR UNIFORM CAULKING. PROVIDE A SMOOTH AND UNIFORM INVERT IN THE SYSTEM. DRILLING OR TAPPING OF SOIL AND WASTE LINES, AND SADDLE HUBS AND BANDS ARE NOT PERMITTED. LOCATE AND INSTALL SOIL AND WASTE LINES AS INDICATED ON THE DRAWINGS. DETERMINE EXACT LOCATIONS IN SUCH A MANNER AS TO MAINTAIN PROPER CLEARANCE. PRIOR TO INSTALLATION OF ANY BUILDING DRAIN PIPE, VERIFY ELEVATION OF CONNECTION POINT OF EXISTING SEWER, SERVICE LINE OR EXISTING TENANT CONNECTIONS INDICATED ON THE DRAWINGS. IF THE INSTALLATION WILL NOT TIE INTO THE INDICATED INVERT ELEVATION POINT WHILE MAINTAINING PROPER FALL, NOTIFY ARCHITECT SO THAT AN ALTERNATIVE MAY BE DETERMINED.

ABOVE GROUND INSTALLATION FOR SOIL, WASTE AND STORM: INSTALL SOIL AND WASTE PIPING TO A UNIFORM SLOPE OF NOT LESS THAN 1/8" PER FOOT FOR PIPING 4" OR LARGER, AND NOT LESS THAN 1/4" PER FOOT FOR PIPING 3" OR SMALLER. LAY PIPE AT UNIFORM SLOPE FREE FROM SAGS. SUPPORT PIPE WITHIN 12" OF EACH JOINT. MAKE CHANGES IN DIRECTION FROM HORIZONTAL TO VERTICAL, AT FIXTURE BRANCHES AND OTHER BRANCH CONNECTIONS WITH SANITARY "TEES" OR SHORT SWEEP "ELLS". MAKE CHANGES IN DIRECTION FROM VERTICAL TO HORIZONTAL OR HORIZONTAL TO HORIZONTAL WITH LONG RADIUS FITTINGS, LONG SWEEPING "ELLS", COMBINATION "Y AND 1/8 BEND" FITTINGS, OR 45 DEGREE "ELLS" (1/8 BEND FITTINGS), 1/6 BEND OR 1/16 BEND AND "Y" FITTINGS. PROVIDE A SMOOTH AND UNIFORM INVERT IN THE SYSTEM. DRILLING OR TAPPING OF SOIL AND WASTE LINES, AND SADDLE HUBS AND BANDS ARE NOT PERMITTED. LOCATE AND INSTALL SOIL AND WASTE LINES AS INDICATED ON THE DRAWINGS. DETERMINE EXACT LOCATIONS IN SUCH A MANNER AS TO MAINTAIN PROPER CLEARANCE.

PLUMBING VENT: CONNECT PLUMBING VENT PIPES TO FIXTURE DRAIN PIPES AS INDICATED ON THE DRAWINGS OR AS REQUIRED BY THE INSTALLATION PRACTICES ADOPTED AND ENFORCED BY LOCAL CODES OFFICIAL, AND EXTEND VENT PIPES FULL SIZE THROUGH THE ROOF LINE. GRADE PIPE TO A UNIFORM SLOPE SO AS TO DRAIN BACK BY GRAVITY TO THE DRAINAGE PIPING SYSTEM. TURN FLASHING DOWN INTO STACKS AT LEAST 2", AND EXTEND FLASHING 24" IN ALL DIRECTIONS FROM THE PIPE AT THE ROOF LINE. APPLY WHITE LEAD PIPE DOPE ON MALE STEEL PIPE THREADS. VENT LINES SHALL BE AIR AND WATER TIGHT. VENT FLOOR DRAINS INDIVIDUALLY OR CONNECT THEM TO A HORIZONTALLY VENTED LINE AS SHOWN ON THE DRAWINGS.

DOMESTIC WATER: ARRANGE COLD & HOT WATER RECIRCULATION PIPING TO DRAIN AT THE LOWEST POINT IN EACH SYSTEM. INSTALL AT LEAST ONE PIPE UNION ADJACENT TO ALL SHUTOFF VALVES, AT CONNECTION POINTS OF EACH PIECE OF EQUIPMENT, AND ELSEWHERE IN THE SYSTEM WHERE REQUIRED TO ALLOW PROPER MAINTENANCE. PROVIDE UNIONS OF THE GROUND JOINT TYPE. MAKE ALLOWANCE FOR EXPANSION AND CONTRACTION WHERE REQUIRED BY THE INSTALLATION. WHERE WATER PIPING OCCURS IN EXTERIOR WALLS, HOLD PIPE AS CLOSE AS POSSIBLE TO THE INTERIOR FACE OF WALL AND INSTALL INSULATION BATT OR OTHER INSULATION (MINIMUM R8) BETWEEN PIPING AND THE EXTERIOR WALL FACE.

NATURAL GAS: PITCH NATURAL GAS PIPING, AND PROVIDE ACCESSIBLE DIRT LEGS AT THE LOW POINTS. TAKE BRANCH PIPES OFF THE TOP OR SIDES OF MAIN PIPES, TO PREVENT ACCUMULATION OF WATER IN THE BRANCHES. INSTALL GAS PIPING VALVES AND UNIONS ONLY IN ACCESSIBLE LOCATIONS. DO NOT INSTALL GAS PIPE BELOW THE BASE SLAB.

15B PIPING SANITIZATION

SANITIZE THE ENTIRE DOMESTIC WATER PIPING SYSTEM (COLD, HOT, AND HOT WATER RETURN) WITH A SOLUTION CONTAINING NOT LESS THAN 50 PPM AVAILABLE CHLORINE. KEEP SOLUTION IN THE SYSTEM FOR A MINIMUM OF 24 HOURS, WITH EACH VALVE BEING OPERATED SEVERAL TIMES DURING THE PERIOD. AFTER COMPLETION, FLUSH SYSTEM WITH CITY WATER UNTIL CHLORINE RESIDUAL IS LOWERED TO INCOMING CITY WATER LEVEL.

15B PIPE AND VALVE MARKERS

PROVIDE MANUFACTURER'S STANDARD PRE-PRINTED, SEMI-RIGID SNAP-ON OR PERMANENT ADHESIVE, PRESSURE-SENSITIVE VINYL PIPE MARKERS. PIPE MARKERS SHALL BE COLOR-CODED COMPLYING WITH ANSI A13.1.

INSTALL PIPE MARKERS ON EACH PLUMBING PIPING SYSTEM AND INCLUDE ARROWS TO SHOW NORMAL DIRECTION OF FLOW.

LOCATE PIPE MARKERS AND COLOR BANDS WHEREVER PIPING IS EXPOSED TO VIEW IN OCCUPIED SPACES, MACHINE ROOMS, ACCESSIBLE MAINTENANCE SPACES (SHAFTS, TUNNELS, PLENUMS) AND EXTERIOR NON-CONCEALED LOCATIONS.

PROVIDE PLASTIC LAMINATE OR BRASS VALVE TAG ON EVERY VALVE, COCK AND CONTROL DEVICE IN EACH PLUMBING PIPING SYSTEM; EXCLUDE CHECK VALVES, VALVES WITHIN FACTORY-FABRICATED EQUIPMENT UNITS, PLUMBING FIXTURE FAUCETS, CONVENIENCE AND LAWN-WATERING HOSE BIBBS, AND SHUT-OFF VALVES AT PLUMBING FIXTURES AND SIMILAR ROUGH-IN CONNECTIONS OF END-USE FIXTURES AND UNITS.

15B PLUMBING SPECIALTIES

15B WATER HAMMER ARRESTORS AND TRAPS

PROVIDE WATER HAMMER ARRESTORS AT VALVES OR BATTERIES OF FIXTURES AS INDICATED ON THE DRAWINGS TO PREVENT WATER HAMMER. ARRESTORS SHALL BE JOSAM, SMITH, PRECISION PLUMBING PRODUCTS, PROFLO, SIOUX CHIEF, WADE, WATTS, OR ZURN, STAINLESS STEEL BELLOWS TYPE, OR O-RING SEALED AND LUBRICATED ACETAL PISTON. INSTALL WATER HAMMER ARRESTORS PER THE PLUMBING AND DRAINAGE INSTITUTE PDI WH-201 INSTALLATION INSTRUCTIONS. INSTALLATION OF ARRESTORS AT BATTERIES OF FIXTURES PRECLUDES THE REQUIREMENT FOR INDIVIDUAL AIR CHAMBERS AT EACH BATTERY FIXTURE.

PROVIDE WATER-SEAL TRAPS ON FLOOR DRAINS, FIXTURES AND EQUIPMENT WITH DRAIN CONNECTIONS, INCLUDING TRAPS NOT FURNISHED IN COMBINATION WITH FIXTURES AND EQUIPMENT. PLACE TRAP AS CLOSE TO THE FIXTURE OR DRAIN AS POSSIBLE. EXPOSED TRAPS IN FINISHED SPACES SHALL BE CHROME-PLATED BRASS.

PROVIDE CONVENTIONAL "P" TYPE TRAP, WATER-SEALED SELF-CLEANING DESIGN. FULL "S" TRAPS OR TRAP STANDARDS SHALL BE USED ONLY WHERE SPECIFICALLY CALLED FOR ON THE DRAWINGS OR ELSEWHERE IN THIS SPECIFICATION. TRAP WATER SEALS SHALL NOT BE LESS THAN 2", AND DEEP SEAL TRAPS SHALL BE PROVIDED WHERE SPECIFIED OR INDICATED. EACH TRAP NOT INTEGRAL WITH THE FIXTURE OR FLOOR DRAIN OR INSTALLED BELOW THE BASE SLAB SHALL BE PROVIDED WITH AN ACCESSIBLE CLEANOUT OF ADEQUATE SIZE. PROVIDE TRAP PRIMERS WHERE REQUIRED BY CODE AND WHERE INDICATED ON THE DRAWINGS.

15B CLEANOUTS & FLOOR DRAINS

CLEANOUTS & FLOOR DRAINS SHALL BE AS SPECIFIED ON THE DRAWINGS. PROVIDE LONG SWEEP FITTINGS FOR CLEANOUT EXTENSIONS; SHORT SWEEPS AT START OF RUNS OR CHANGE IN DIRECTION AND COMBINATION WYE AND EIGHT BEND FITTINGS IN HORIZONTAL RUNS. INSTALL CLEANOUTS WITH A MINIMUM OF 18" CLEAR ALL AROUND, CONSULT LOCAL CODES FOR OTHER REQUIREMENTS, FOR EASY SYSTEM MAINTENANCE. INSTALL PLUG WITH TEFLON JOINT COMPOUND.

FLOOR DRAINS: SHALL BE AS SCHEDULED ON THE DRAWINGS.

FLOOR CLEANOUTS: SHALL BE AS SCHEDULED ON THE DRAWINGS. INSTALL CLEANOUTS AT POINTS AS NOTED ON THE DRAWINGS, AT THE BUILDING EXIT; AT A MINIMUM OF EVERY 50 FEET IN HORIZONTAL SOIL AND WASTE LINES; AND AT TURNS OF PIPE GREATER THAN 45 DEGREES CLEANOUTS SHALL BE FULL SIZE OF THE PIPE UP TO 4", AND 4" SIZE FOR PIPES LARGER THAN 4". DETERMINE THE TYPE OF FLOOR COVERING TO BE USED AT EACH FLOOR CLEANOUT LOCATION AND PROVIDE TOP WITH VARIATIONS SUITABLE FOR FLOOR COVERING (CARPET MARKERS, RECESSED FOR TILE AND SCORIATED FOR UNFINISHED FLOOR). ROUGH-IN AND INSTALL EACH FLOOR CLEANOUT FLUSH WITH THE FINISHED FLOOR CONSTRUCTION.

WALL CLEANOUTS: SHALL BE AS SCHEDULED ON THE DRAWINGS. INSTALL WALL CLEANOUTS AT POINTS AS NOTED ON THE DRAWINGS; AT THE FOOT OF EACH SOIL, WASTE OR INTERIOR DOWNSPOUT STACK; AT HORIZONTAL SOIL AND WASTE BRANCHES LONGER THAN FIVE FEET NOT SERVED BY A FLOOR CLEANOUT; CONSULT LOCAL CODES FOR INSTALLATION AT SPECIFIC FIXTURE TYPES. INSTALL WALL CLEANOUTS ABOVE THE FLOOD RIM OF THE FIXTURE SERVED WITHIN FOUR FEET OF THE FLOOR AND INSTALL EXTENSIONS FROM THE CLEANOUT TEE TO THE WALL TO LOCATE THE PLUG WITHIN 2" OF THE WALL WHERE REQUIRED. INSTALL CLEANOUTS ON URINALS AND SINKS WHERE REQUIRED BY CODE.

15B VALVES & UNIONS

PLUMBING SYSTEM VALVES SHALL BE CRANE COMPANY OR NIBCO OF MODELS HEREIN SPECIFIED, OR APPROVED EQUAL BY HAMMOND, MILWAUKEE, STOCKHAM OR MUELLER VALVES. VALVES SHALL BE OF THE BEST QUALITY, DESIGNED FOR 125 PSI STEAM WORKING PRESSURE. INSTALL VALVES ON THE HOT AND COLD WATER LINES AT THE WATER HEATER CONNECTIONS AND OTHER ITEMS OF EQUIPMENT, AT BRANCHES FROM MAINS SERVING GROUPS OF FIXTURES, AND AT OTHER PLACES INDICATED OR REQUIRED BY THE INSTALLATION TO ALLOW EASE OF FUTURE MAINTENANCE.

BALL VALVES (MAY BE USED IN LIEU OF GATE VALVES UP TO 2"): 2" AND SMALLER, NIBCO #T580; TWO PIECE BRONZE BODY, WITH SOLDERED ENDS, CHROME PLATED BRONZE BALL WITH CONVENTIONAL PORT, 600 PSI, BLOW-OUT PROOF STEM.

CHECK VALVES: CHECK VALVES SHALL BE CLASS 125. CHECK VALVES FOR INSTALLATION IN HORIZONTAL PIPE RUNS SHALL BE OF THE "SWING DISC" DESIGN. HORIZONTAL CHECK VALVES 2" AND SMALLER SHALL BE CRANE #137 OR NIBCO #T-413 WITH SOLDERED BRONZE BODY AND BRONZE DISC. HORIZONTAL CHECK VALVES 2-1/2" AND LARGER SHALL BE CRANE #373 OR NIBCO F-918 IRON BODY FLANGED VALVE WITH BRASS TRIM. CHECK VALVES FOR INSTALLATION IN VERTICAL PIPE RUNS SHALL BE OF THE "VERTICAL LIFT" SPRING LOADED DESIGN. VERTICAL CHECK VALVES 2" AND SMALLER SHALL BE CRANE #29 OR NIBCO #T-480 WITH SOLDERED BRONZE BODY AND BRONZE DISC. VERTICAL CHECK VALVES 3" AND LARGER SHALL BE CENTER GUIDED.

GAS COCKS: GAS COCKS 2" AND SMALLER SHALL BE HOMESTEAD #611, SCREWED IRON BODY WITH BRASS TRIM AND FLAT HEAD. APPROVED EQUAL ARE FLOWSERVE-NORDSTROM OR RM ENERGY SYSTEMS "HERCULES".

THERMOSTATIC MIXING VALVES: THERMOSTATIC MIXING VALVES SHALL BE POWERS AS DESCRIBED ON THE DRAWINGS OR EQUAL BRADLEY, LEONARD, LAWLER, SYMMONS OR WATTS MEETING ASSE 1070 WITH BRASS BODY, NON-CORROSIVE INTERNAL PARTS, TAMPER RESISTANT TEMPERATURE ADJUSTMENT, UNION INLETS AND CHECK STOPS WITH STRAINERS. SET TEMPERATURE AS SCHEDULED ON THE DRAWINGS.

GAS LINE PRESSURE REGULATORS: GAS LINE PRESSURE REGULATORS SHALL BE BY AMERICAN METER COMPANY, FISHER, ITRON, MAXITROL OR SENSUS WITH CAPACITIES AS SCHEDULED ON THE DRAWINGS. REGULATORS SHALL BE SINGLE STAGE, STEEL JACKETED, CORROSION-RESISTANT TYPE WITH INTERSTITIAL RELIEF VALVE WITH ATMOSPHERIC VENT, ELEVATION COMPENSATOR; WITH THREADED ENDS, FOR INLET AND OUTLET.

UNIONS: FERROUS UNIONS SHALL BE CRANE OR EQUAL, COMBINATION IRON AND BRASS, GROUND JOINT WITH SCREWED ENDS. COPPER UNIONS SHALL BE STREAMLINE OR EQUAL, CAST BRONZE SWEAT TYPE WITH GROUND JOINT. FERROUS TO COPPER UNIONS SHALL BE UNIVERSAL CONTROLS OR EQUAL, DIELECTRIC TYPE WITH THREADED NYLON INSERT.

BACKFLOW PREVENTERS: SHALL BE OF THE TYPE AS SCHEDULED AND INDICATED ON THE DRAWINGS BY WATTS, CONBRACO, FEBCO OR WILKINS.

15B GREASE TRAPS AND INTERCEPTORS

GREASE TRAPS SHALL BE JOSAM, MIFAB, SMITH, WADE, WATTS, OR ZURN ABOVE-FLOOR OR RECESSED TYPE AS SCHEDULED ON THE DRAWINGS, OF WELDED STEEL CONSTRUCTION WITH ENAMELED INTERIOR, FLOW CONTROL VALVE, SHUT-OFF VALVE ON OUTLET, AND AUTOMATIC GREASE DRAW-OFF PIPING AS SCHEDULED ON THE DRAWINGS. PROVIDE VENT PIPES FOR FLOW CONTROL FITTING AND FOR TRAP ITSELF AS SHOWN ON THE DRAWINGS.

GREASE INTERCEPTORS SHALL BE PRECAST CONCRETE OF LOCAL MANUFACTURE SIMILAR TO DETAIL ON THE DRAWINGS, CONFORMING TO REQUIREMENTS OF THE LOCAL SEWER DISTRICT FOR CONFIGURATION AND CAPACITY. PROVIDE SAMPLING PORT AND VENT FOR GREASE INTERCEPTOR AS SHOWN ON THE DRAWINGS.

15B SYSTEM ACCESSORIES

THERMOMETERS SHALL BE AMERICAN 3" BI-METAL DIAL TYPE WITH SEPARABLE SOCKET, AND SHALL BE INSTALLED WHERE INDICATED OR REQUIRED.

PRESSURE GAUGES SHALL BE ASHCROFT 3" DIAL TYPE WITH SHUT-OFF COCK, AND SHALL BE INSTALLED WHERE INDICATED OR REQUIRED.

TRAP PRIMERS SHALL BE AS SPECIFIED ON THE DRAWINGS, PRECISION PLUMBING PRODUCTS "PRIME RITE" OR EQUAL BY MIFAB OR SIOUX CHIEF WITH BRASS BODY AND INTEGRAL VACUUM BREAKER. PROVIDE DISTRIBUTION BOX WHERE MORE THAN ONE TRAP IS INDICATED TO BE PRIMED ON THE DRAWINGS. PROVIDE ACCESS PANEL WHERE REQUIRED.

15B PLUMBING FIXTURES AND EQUIPMENT

15B PLUMBING FIXTURES

FURNISH AND INSTALL COMMERCIAL GRADE PLUMBING FIXTURES, SEE THE DRAWINGS FOR QUANTITIES AND DESCRIPTIONS. PROVIDE CHINA FIXTURES AS SCHEDULED BY ON THE DRAWINGS. PROVIDE STAINLESS STEEL SINKS AS SCHEDULED ON THE DRAWINGS. PROVIDE MOP SINKS AS SCHEDULED ON THE DRAWINGS.

FIXTURES SHOWN ON THE DRAWINGS OR SPECIFIED HEREIN SHALL BE FURNISHED AND INSTALLED, SET FIRM AND TRUE, CONNECTED TO REQUIRED PIPING SERVICES, THOROUGHLY CLEANED, LEFT CLEAN AND READY FOR USE. EXPOSED FITTINGS AND PIPING AT THE FIXTURES SHALL BE CHROME-PLATED, AND WATER SUPPLY PIPING SHALL BE VALVED AT EACH FIXTURE.

VITREOUS CHINA FIXTURES SHALL BE OF THE BEST GRADE VITREOUS WARE, WITHOUT PIT HOLES OR BLEMISHES, AND THE OUTLINES SHALL BE GENERALLY TRUE. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY PIECES WHICH, IN HIS OPINION, ARE FAULTY. FIXTURES SET AGAINST WALLS SHALL HAVE GROUND BACKS AND SHALL BE CAULKED WITH SILICONE SEALANT OF A MATCHING COLOR.

15B PLUMBING FIXTURE TRIM

FAUCETS AND TRIM IN CONTACT WITH DRINKING WATER SHALL MEET OR EXCEED THE SAFE WATER DRINKING ACT (SWDA) LEAD-FREE STANDARDS OF ANSI/NSF STANDARD 61, SECTION 9.

FIXTURE TRIM SHALL HAVE THE MANUFACTURER'S NAME STAMPED CLEARLY AND VISIBLY ON EACH ITEM.

PROVIDE FAUCETS AS SCHEDULED ON DRAWINGS.

FIXTURE P-TRAPS SHALL BE 17 GAUGE BRASS BODY WITH CLEANOUT, 17 GAUGE SEAMLESS TUBULAR WALL BEND WITH CAST BRASS SLIP NUT, SHALLOW STEEL FLANGE, ALL CHROME PLATED: BY MCGUIRE, BRASS CRAFT, DEARBORN BRASS, EBC, PROFLO, WATTS BRASS AND TUBULAR OR ZURN.

LAVATORY, SINK AND WATER CLOSET SUPPLIES SHALL BE SOLID BRASS ANGLE OR STRAIGHT TYPE WITH FULL TURN BRASS STEM, WHEEL HANDLE OR LOOSE KEY TYPES AS NOTED ON DRAWINGS, SHALLOW STEEL FLANGE, 3/8" COPPER RISER FLANGE, ALL CHROME PLATED, FINAL CONNECTION AS REQUIRED: BY MCGUIRE, BRASS CRAFT, EBC, PROFLO OR ZURN.

LAVATORY DRAINS SHALL BE GRID TYPE CHROME PLATED 17 GAUGE BRASS OPEN GRID WITH 1-1/4" X 6" LONG SEAMLESS BRASS TAILPIECE AND BRASS LOCKNUT WITH HEAVY RUBBER BASIN WASHER AND FIBER FRICTION WASHER, BY MCGUIRE, BRASS CRAFT, DEARBORN BRASS, EBC, PROFLO, WATTS BRASS AND TUBULAR OR ZURN.

SINK DRAINS SHALL BE BASKET TYPE WITH CHROME PLATED FORGED BRASS BASKET STRAINER AND STRAINER BODY WITH 1-1/2" X 4" LONG SEAMLESS BRASS TAILPIECE AND CAST BRASS LOCK AND COUPLING NUTS BY MCGUIRE, BRASS CRAFT, DEARBORN BRASS, EBC, PROFLO OR ZURN..

PROVIDE HANDICAP INSULATION KITS FOR LAVATORIES AND SINKS ON EXPOSED WATER AND WASTE PIPES AND FITTINGS, INCLUDING OFFSET DRAIN AND CONTINUOUS WASTE COVERS WHERE REQUIRED: BY BROCAR, MCGUIRE, PLUMBEREX "PRO-2000", PROFLO, TRAP-WRAP OR TRU-BRO.

PROVIDE SMITH, JOSAM, WADE, WATTS, OR ZURN CHAIR CARRIERS FOR MOUNTING WALL MOUNTED LAVATORIES AS DESCRIBED ON THE DRAWINGS. SECURELY FASTEN CARRIERS TO FLOOR AND TEST PER MANUFACTURER'S RECOMMENDATIONS PRIOR TO INSTALLATION OF PARTITIONS.

15B WATER HEATER

WATER HEATER SHALL BE AS SCHEDULED ON THE DRAWINGS. UNIT SHALL BE GAS-FIRED TANK TYPE WITH SUBMERGED COMBUSTION CHAMBER, FAN ASSISTED COMBUSTION AND GLASS LINED HEAT EXCHANGER COIL, COMPLETE WITH GLASSLINED TANK, HOT SURFACE IGNITION SYSTEM WITH FLAME MONITORING SYSTEM, STEEL JACKET, FIBERGLASS INSULATION, MAGNESIUM ANODE, INTEGRAL THERMOSTATS AND CONTROLS, AND TEMPERATURE & PRESSURE RELIEF VALVE. WATER HEATER SHALL BE AGA APPROVED AND MEET ASHRAE 90.1B STANDARDS FOR THERMAL EFFICIENCY AND STANDBY HEAT LOSS.

RELIEF VALVE: WATER HEATER RELIEF VALVE SHALL BE OF THE TEST LEVER TYPE, WITH AUTOMATIC RESET, COMBINATION TEMPERATURE AND PRESSURE RELIEF, APPROVED AND STAMPED BY THE AMERICAN GAS ASSOCIATION. IT SHALL BE INSTALLED DIRECTLY ON THE HEATER TANK, OR IN THE HOT WATER OUTLET, NOT MORE THAN 3" FROM THE TANK. THE TEMPERATURE SHALL BE NORMALLY SET TO RELIEVE AT 210øF AND THE PRESSURE RELIEF SHALL BE AT 125 PSI. THE RELIEF VALVE DISCHARGE LINE SHALL BE PIPED DOWN AND TERMINATE 6" ABOVE A FLOOR DRAIN.

VACUUM RELIEF VALVE: WATTS #N36 OR WILKINS #VR-10 WITH BRONZE BODY AND SILICON DISC. VALVE SHALL OPEN AT 0.5"HG VACUUM AND BE RATED FOR 200 PSIG WORKING PRESSURE AND 250F TEMPERATURE. INSTALL IN COLD WATER SUPPLY TO EACH WATER HEATER DOWNSTREAM OF THE SHUTOFF AND CHECK VALVES.

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PLUMBING SPECIFICATIONS

P4

GENERAL NOTES

1. ALL WORK TO BE IN ACCORDANCE WITH THE NEC AND ALL APPLICABLE RULES, REGULATIONS AND ORDINANCES.

2. ALL MATERIAL SHALL BE NEW, FREE OF DEFECTS, OF THE QUALITY SPECIFIED AND CONFORM TO NFPA, NEMA, UL AND ANSI STANDARDS IN EVERY CASE WHERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR TYPE TYPE OF MATERIAL.

3. COORDINATE ALL REQUIREMENTS PRIOR TO SUBMITTING BID AND COMMENCING WORK.
   - 3.a. VERIFY ALL LANDLORD REQUIREMENTS PRIOR TO SUBMITTING BID AND INCLUDE ALL REQUIRED WORK THEREIN.
   - 3.b. CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND COORDINATE WITH LANDLORD AND LOCAL UTILITY COMPANIES PRIOR TO SUBMITTING BIDS. VERIFY SCOPE OF WORK WITH LANDLORD'S ELECTRICIAN.
   - 3.c. VERIFY WATER HEATER AND RTU LOADS DURING BID PROCESS.
   - 3.d. ALL CONTRACTORS SHALL VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO COMMENCING WITH THE WORK.
   - 3.e. FIELD VERIFY PHYSICAL SPACE ALLOCATIONS FOR NEW EQUIPMENT.
   - 3.f. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXACT LOCATION OF ALL LIGHTING FIXTURES IN MECHANICAL, ELECTRICAL, AND OTHER EQUIPMENT ROOMS WHERE CONDUITS, DUCT WORK, PIPING, ETC., ARE PRESENT TO AVOID CONFLICT AND ENABLE PROPER ILLUMINATION DISTRIBUTION.

4. CLAIMS FOR ADDITIONAL COSTS DUE TO LANDLORD REQUIREMENTS ESTABLISHED ON THE DRAWINGS, IN THE SPECIFICATIONS OR IN THE LANDLORD DESIGN CRITERIA, INCLUDED IN THE PROJECT MANUAL WILL NOT BE ACCEPTED. CLAIMS FOR ADDITIONAL COSTS DUE TO LANDLORD REQUIREMENTS ESTABLISHED AFTER AWARD OF CONTRACT SHALL BE NEGOTIATED AS A CHANGE ORDER.

5. ELECTRICAL CONTRACTOR TO PROVIDE LOCK OUT AND TAG OUT SYSTEM ONCE BUILDING BECOMES ENERGIZED AND SHALL BE RESPONSIBLE FOR MAINTAINING "SAFE WORK" ENVIRONMENT.

6. PROVIDE PROPER GROUNDING FOR ALL EQUIPMENT, RACEWAYS ETC. AS PER NEC.

7. PROVIDE DISCONNECTS, FUSES, OVERLOAD PROTECTION AND PROPER CONTROL & POWER WIRING FOR OTHER EQUIPMENT SUCH AS HVAC, MECHANICAL AND ANY OTHER SPECIAL EQUIPMENT THAT MAY BE USED FOR THIS PROJECT. VERIFY THE ROUGH-IN DETAILS, ACTUAL LOCATIONS, WIRE SIZES AND ANY OTHER DETAILS WITH THE RESPONSIBLE TRADES AND FOLLOW THE ACTUAL INSTALLATION INSTRUCTIONS FOR THE EQUIPMENT BEING INSTALLED. COORDINATE WITH THE OTHER TRADES.

8. ELECTRICAL CONTRACTOR SHALL SECURE KITCHEN EQUIPMENT SPECIFICATION SHEETS PRIOR TO ROUGH-IN AND INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, INCLUDING WIRE SIZE AND ELECTRIC LOAD.

9. RECEPTACLES SHALL BE COMMERCIAL GRADE, RATED FOR 125-VOLT, 20-AMPERES, NEMA 5-20R.
   - 9.a. PROVIDE GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE RECEPTACLES LOCATED IN BATHROOMS, COMMERCIAL AND INSTITUTIONAL KITCHENS, OUTDOORS, AND ROOF TOPS OF ANY OCCUPANCY.
   - 9.b. ALL RECEPTACLES IN PREP AREA SHALL BE MOUNTED AT 48" AFF UNLESS OTHERWISE NOTED. CONFIRM OUTLET LOCATIONS IN SALES AREA WITH EQUIPMENT SUPPLIER AND CASEWORK FABRICATOR.
   - 9.c. RECEPTACLES SHALL BE BLACK WITH STAINLESS STEEL COVER PLATES.
   - 9.d. RECEPTACLES IN PUBLIC AREAS SHALL BE THE TAMPER PROOF TYPE.

10. ALL DISCONNECTS, FIXTURES, AND OTHER ELECTRICAL COMPONENTS THAT ARE SUBJECT TO THE OUT SIDE WEATHER ELEMENTS MUST HAVE THE WEATHERPROOF ENCLOSURES.

11. ALL WIRE TO BE COPPER THW, THWN, THHN, OR XHHW, #12 AWG MINIMUM. ALL CONDUITS TO BE EITHER RIGID STEEL OR EMT AS ALLOWED BY CODE. ALL EMT, FLEX CONDUITS, MC CABLES, AND NON-METALLIC CONDUITS MUST HAVE GROUND WIRE PER NEC. THIS IS A NON-RESIDENTIAL JOB, THEREFORE TYPE NM (ROMEX) OR SIMILAR WIRING METHODS SHALL NOT BE USED.
   - 11.a. ALUMINUM CONDUCTORS ARE NOT PERMITTED UNLESS NOTED OTHERWISE FOR A SPECIFIC USE.
   - 11.b. FOR HOMERUNS OVER 80 FEET, USE ONE SIZE LARGER WIRE. FOR HOMERUNS OVER 135 FEET, USE TWO SIZE LARGER WIRE.
   - 11.c. SEAL CONDUITS THAT PASS FROM ONE ENVIRONMENT TO ANOTHER OR SUBJECT TO DIFFERENT TEMPERATURES AS REQUIRED BY NEC 300.7(A).

12. PANELBOARDS SHALL BE NEW WITH RATINGS AS SHOWN IN PANEL SCHEDULES. TYPE LISTED IS TO ESTABLISH A LEVEL OF QUALITY. APPROVED MANUFACTURERS INCLUDE SQUARE D, SIEMENS, CUTLER HAMMER, AND GE. PROVIDE COPPER GROUND BUS AND FULLY RATED NEUTRAL. PROVIDE TYPED PANEL DIRECTORY FOR EACH PANEL.
   - 12.a. CIRCUIT BREAKERS SHALL BE THE BOLT-ON TYPE.
   - 12.b. ALL BREAKERS THAT ARE TO BE USED TO SUPPLY LIGHTING LOADS MUST BE RATED FOR SWITCHING DUTY. PROVIDE LOCK-ON DEVICES FOR THE NIGHT LIGHT CIRCUIT AND OTHER CIRCUITS THAT MAY BE SO DIRECTED BY THE ARCHITECT.
   - 12.c. ELECTRIC CONTRACTOR SHALL FURNISH AND INSTALL SHUNT TRIP BREAKERS ON ALL ELECTRIC APPLIANCES AND RECEPTACLES UNDER EXHAUST HOOD.

13. PANELS AND DISCONNECTS SHALL BE LABELED WITH PHENOLIC PLASTIC PLATES.

14. THE LIGHT FIXTURE SCHEDULE INDICATES GENERAL DESCRIPTION OF LIGHTING FIXTURES AND MANUFACTURERS CATALOG NUMBERS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE CORRECT CEILING CONFIGURATION AND PROVIDE THE FIXTURES WITH ALL NECESSARY TRIMS AND MOUNTING HARDWARE SO THAT BOTH THE CEILING SYSTEM AND THE FIXTURE CONSTRUCTION MATCHES. VERIFY THE RECESSED FIXTURES TO ASCERTAIN THAT THEY WILL MATCH WITH THE CEILING OR WALL DETAILS ALL FIXTURES TO BE MOUNTED IN A NEAT, EYE-PLEASING MANNER. HEIGHTS AND LOCATIONS THAT ARE SUBJECT TO THE FINAL CONFIRMATION BY THE OWNER OR ARCHITECT IN THE FIELD.
   - 14.a. NO LIGHT FIXTURE SUBSTITUTIONS SHALL BE APPROVED WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT, ENGINEER, OR THE CITY.
   - 14.b. ALL FLUORESCENT LIGHTING FIXTURES MUST BE EQUIPPED WITH ELECTRONIC BALLASTS.
   - 14.c. FLUORESCENT FIXTURES THAT UTILIZE DOUBLE-ENDED LAMPS AND CONTAIN BALLAST(S) THAT CAN BE SERVICED IN PLACE AND CONTAIN BALLAST(S) THAT CAN BE SERVICED IN PLACE SHALL HAVE A DISCONNECTING MEANS EITHER INTERNAL OR EXTERNAL TO EACH LUMINARIES (FIXTURE) WITH THE LINE SIDE TERMINALS OF THE DISCONNECTING MEANS GUARDED PER NEC 410.130. WHERE LUMINAIRE IS CONNECTED TO A MULTI-WIRE BRANCH CIRCUIT, THE DISCONNECTING MEANS SHALL SIMULTANEOUSLY BREAK ALL THE SUPPLY CONDUCTORS TO THE BALLAST, INCLUDING THE GROUNDED CONDUCTOR.

15. A JUNCTION BOX MUST BE PROVIDED WITH ALL EXIT LIGHTS CONNECTED TO MORE THAN ONE SET OF CONDUCTORS UNLESS THE EXIT LIGHT FIXTURE IS FURNISHED WITH AN APPROVED OUTLET BOX FOR THROUGH WIRING.

16. IN THE FOOD SERVICE AND KITCHEN AREAS THE CONTRACTOR SHALL PROVIDE SAFETY-TYPE LAMPS, FIXTURES OR OTHER GLASS SUSPENDED OVER EXPOSED FOOD IN ANY STEP OF PREPARATION OR OTHERWISE PROTECT AGAINST FOOD CONTAMINATION IN CASE OF GLASS BREAKAGE.

17. PROVIDE A PHOTOCELL TO CONTROL EXTERIOR SIGNS SO THEY AUTOMATICALLY TURN ON WHEN DARK, ALONG WITH A TIMER THAT WILL SHUT OFF AUTOMATICALLY AT 2AM. TIME CLOCK SHALL BE 365 DAY PROGRAMMABLE.

18. ALL FIRE ALARM SYSTEM MODIFICATIONS MUST BE PERFORMED BY OWNER

ELECTRICAL SYMBOLS LEGEND

SYMBOL	DESCRIPTION	ABBREVIATIONS
A-1,3,5	HOMERUN – TEXT DESIGNATES PANEL AND CIRCUIT NUMBERS. CONDUCTORS SHALL BE #12 AWG IN A 3/4" CONDUIT UNLESS NOTED OTHERWISE. LONG HASH MARKS INDICATE NEUTRAL CONDUCTORS, SHORT HASH MARKS INDICATE NUMBER OF PHASE CONDUCTORS. NO HASH MARKS INDICATE 3#12 IN A 3/4" C. PROVIDE A CODE-SIZED GROUND IN EACH CONDUIT.	A AMPERES AFC AVAILABLE FAULT CURRENT AFF ABOVE FINISHED FLOOR AIC AMPERE INTERRUPTING CURRENT AL ALUMINUM
	UNDER-SLAB ELECTRICAL CONDUIT	C CONDUIT CB CIRCUIT BREAKER CBIC CIRCUIT BREAKER INTERRUPTING CURRENT CU COPPER
$X	SWITCH, MOUNT AT 48" AFF X REPRESENTS IDENTIFIERS AS FOLLOWS: 3 3-WAY SWITCH M MOTOR RATED SWITCH	EC ELECTRICAL CONTRACTOR EX EXISTING F FUSE
	WALL MOUNT OCCUPANCY SENSOR, PASSIVE IR MOUNT AT 48" AFF	G GROUND GFI GROUND FAULT INTERRUPTER
TC	TIME CLOCK	HD HEAVY DUTY H HOT HT HEIGHT
DS	DAYLIGHT SENSOR	
J	JUNCTION BOX	INC INCANDESCENT
X	DUPLEX RECEPTACLE, MOUNT AT 18" AFF UNO X REPRESENTS IDENTIFIERS AS FOLLOWS: NONE NONE 44" MTG HT OTHER THAN STANDARD WP WEATHERPROOF OUTLET IG ISOLATED GROUND	LTS LIGHTS KW KILOWATT KVA KILOVOLT-AMPERE
SW	DUPLEX RECEPTACLE FOR SHOW WINDOW PER NEC 210.62, INSTALL IN CEILING SO FACEPLATE IS FLUSH WITH FINISHED CEILING	MCB MAIN CIRCUIT BREAKER MLO MAIN LUG ONLY MSB MAIN SWITCHBOARD MFR MANUFACTURER MTG MOUNTING
	GROUND FAULT CIRCUIT INTERRUPTER (GFCI) RECEPTACLE, MOUNT AT 18" AFF UNO	N NEUTRAL N1 NEMA 1 N3R NEMA 3R NF NON-FUSED
	SPECIAL APPLICATION RECEPTACLE	
	20" WIDE PANELBOARD	PH, ø PHASE P POLE
	DISCONNECT SWITCH D-A 30A/240V, 2P, F, NEMA-1	SES SERVICE ENTRANCE SECTION TMB TELEPHONE MOUNTING BOARD
EF	MOTOR EF EXHAUST FAN, 120/1, FRACTIONAL	UNO UNLESS NOTED OTHERWISE
	TELEPHONE OUTLET, MOUNT AT 54" AFF W WALL MOUNT TELEPHONE	V VOLT VA VOLT-AMPS
	DATA OUTLET, MOUNT AT 18" AFF	W WIRE WP WEATHERPROOF
	TELEPHONE/DATA OUTLET, MOUNT AT 18" AFF	
	TELEVISION OUTLET, MOUNT AT 72" AFF	

NOTE: MOUNTING HEIGHTS INDICATED ARE TYPICAL UNLESS NOTED OTHERWISE.

ADDITIONAL NOTES FOR GENERAL CONTRACTOR

1. IT IS THE RESPONSIBILITY OF THE GC TO FIELD VERIFY EXISTING CONDITIONS DURING THE BID PROCESS AND COORDINATE THE SCOPE OF WORK WITH THE LANDLORD.
2. GC SHALL REVIEW ALL ELECTRICAL SPECIFICATIONS AND EQUIPMENT SHEETS FOR REQUIRED ELECTRICAL NEEDS. PRIOR TO CONSTRUCTION, CONSULT DESIGNER AND TENANT FOR POSSIBLE SUB PANEL MAY BE NEEDED.
3. GC SHALL OBTAIN AND VERIFY ELECTRICAL LOADS OF WATER HEATER AND ROOF-TOP UNIT(S) DURING THE BID PROCESS.
4. GC TO OBTAIN SHOP DRAWINGS OF WALK-IN COOLER AND/OR FREEZER AND CONFIRM ELECTRICAL REQUIREMENTS.

OCCUPANCY SENSOR SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NO.
	WALL MOUNT OCCUPANCY SENSOR	LEVITON HUBBELL	RLVSW-4LW AD 1277W1
DS	CEILING MOUNT DAYLIGHT SENSOR PROVIDE POWER PACK/CONTROLLER	LEVITON HUBBELL	PCC1D-W NXDS

NOTE: PROVIDE POWER PACK AND/OR ROOM CONTROLLER AS REQUIRED TO INTERFACE DEVICES

ELECTRICAL DRAWING INDEX

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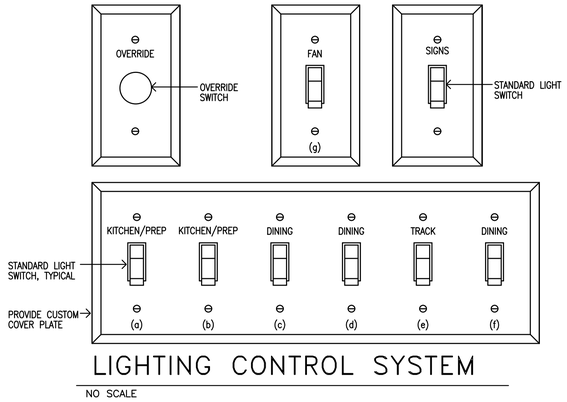
SYMBOL LEGEND AND NOTES

E1



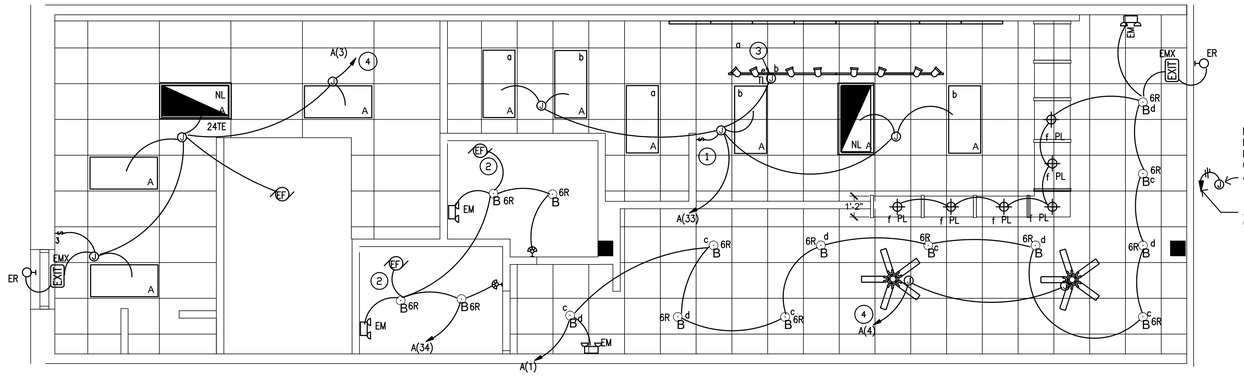
LIGHTING CONTROL SYSTEM

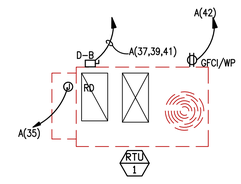
NO SCALE

LIGHT FIXTURE SCHEDULE

TYPE	SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLT/WATT	LAMPS	MOUNTING	LOCATION	NOTES
6R	⊘	6" LED RECESSED NC HOUSING, GU24 BASE, WHITE TRIM		20801082 20800761 20800977	120V 12 W	LED	RECESS	CEILING	4,5
LS	▭	SURFACE MOUNTED LUMINAIRE		72002753	120V 44 W	LED	SURFACE	CEILING	4,5
24T	◪	2X4 RECESSED LED TROFFER, ACRYLIC LENS, SMOOTH SIDE DOWN		20800844	120V 44 W	LED	RECESS	CEILING	4,5
24TE	◪	2X4 RECESSED LED TROFFER, ACRYLIC LENS, SMOOTH SIDE DOWN, EMERGENCY BATTERY		20800852	120V 44 W	LED	RECESS	CEILING	2,4,5
TL	⊼	LED SINGLE CIRCUIT TRACK HEAD 4' TRACK-WHITE 8' TRACK-WHITE WHITE CONNECTOR LIVE END FEED-WHITE		18644197 18622804 18622846 18622888 18622961	120V 10 W	LED	TRACK	CEILING	4,5,6
PL	⊡	BLUE GLASS PENDANT LED LAMP		86703397 43907403	120V 10 W	LED	PENDANT	CEILING	3,4,5
WS	⊙	LED GOOSENECK WALL SCONE		6619813 43907403	120V 9 W	LED	SURFACE	WALL	4,5,7
CF	✳	CEILING FAN-WHITE		50069353 518730 522608	120V		PENDANT	WALL	4,5,8
EMX EX	EXIT	LED EMERGENCY/EXIT COMBO LED EXIT COMBO		90902167 90900301	UNV		SURFACE	WALL,CEILING	1,2,4,5
EM	⊓	LED EMERGENCY LIGHT		90902167	UNV	LED	SURFACE	WALL,CEILING	2,4,5
ER	⊙	EXTERIOR EMERGENCY LIGHTING UNIT, UL924		–		LED	SURFACE	WALL	2,4,5

NOTES:
1. INSTALL SO BOTTOM OF FIXTURE IS 4-INCHES ABOVE DOOR FRAME.
2. 90 MINUTE BATTERY BACKUP.
3. INSTALL SO BOTTOM OF FIXTURE IS AT 7'-0" ABOVE FINISHED FLOOR.
4. LUMINAIRES AND LAMPS SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR AND PURCHASED THROUGH HERMITAGE LIGHTING NATIONAL ACCOUNTS CONTACT: JD RYAN (615) 843-3394
5. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING, STORING, AND INSTALLING LIGHT FIXTURES AND LAMPS. ELECTRICAL CONTRACTOR SHALL REPORT ANY DAMAGE OR MISSING PARTS FOR LIGHT FIXTURES TO HERMITAGE LIGHTING WITHIN 48 HOURS OF RECEIVING LIGHT FIXTURES.
6. PROVIDE CURRENT LIMITER PER PLAN NOTES, BLACK AND CURRENT LIMITING ELECTRICAL FEED, BLACK, AND ALL REQUIRED FEED POINT CONNECTORS FOR INSTALLATION. PROVIDE LED LAMPS TO BE TCP # LED8P20D40KNFLB. REFER TO NOTE 4.
7. INSTALL SO CENTER OF WALL PLATE IS AT 8'-6" ABOVE FINISHED FLOOR.
8. INSTALL SO BOTTOM OF FAN IS AT 8'-6" ABOVE FINISHED FLOOR.



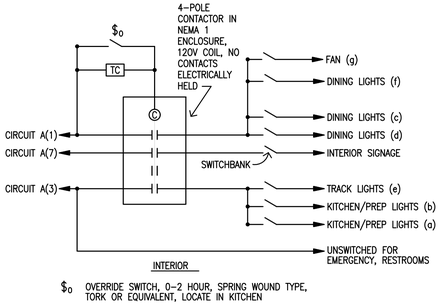


NOTE: GC TO REVIEW ROOF TOP UNIT SPECIFICATION SHEETS BY MFG PRIOR TO START OF WORK AND CONFIRM INSTALLATION OF EXISTING UNIT BY LANDLORD TO REMAIN.

SEE M1 SHEET FOR EXACT LOCATION ON ROOF

1 LIGHTING FLOOR PLAN

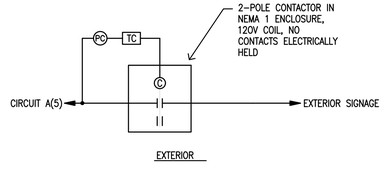
SCALE: 1/4"=1'-0"



$_o$ OVERRIDE SWITCH, 0-2 HOUR, SPRING WOUND TYPE, TORK OR EQUIVALENT, LOCATE IN KITCHEN

TC TIME CLOCK SHALL BE A DIGITAL, 2-CHANNEL, 365 DAY, HOLIDAY AND SEASONAL PROGRAMMING WITH HOLIDAY SKIP OPTIONS TORK # DC100A OR APPROVED EQUAL

DS DAYLIGHT SENSOR



TC TIME CLOCK SHALL BE A DIGITAL, 2-CHANNEL, 365 DAY, HOLIDAY AND SEASONAL PROGRAMMING WITH HOLIDAY SKIP OPTIONS TORK # DC100A OR APPROVED EQUAL

PC PHOTOCELL TORK OR EQUIVALENT

SIGN CONTROL DETAIL

NO SCALE

GENERAL NOTES

A. EMERGENCY AND EXIT NIGHT LIGHTS SHALL BYPASS SWITCHING.

B. SEE ARCHITECTURAL DRAWINGS FOR DETAILS AND INTERIOR ELEVATIONS FOR MOUNTING HEIGHTS.

C. COORDINATE EXTERIOR LIGHT FIXTURES WITH ARCHITECT AND PROPERTY OWNER.

SHEET NOTES

1. LIGHT SWITCH BANK AND SIGN SWITCH BANK TO BE LOCATED HERE. SEE LIGHTING CONTROL SYSTEM DETAIL ON DRAWING E2.0.
2. CONTROL EXHAUST FAN WITH LIGHTS IN RESTROOM.
3. PROVIDE 1A (120W) CURRENT LIMITER CIRCUIT BREAKER AT FIRST TRACK IN CIRCUIT. WIRE ALL TRACK SECTIONS IN SERIES SO THAT CURRENT LIMITER LIMITS CURRENT ON ENTIRE COMBINED TRACK LENGTH TO 1-AMPS.
4. TO LIGHT SWITCH BANK REFER TO NOTE 1 ABOVE.

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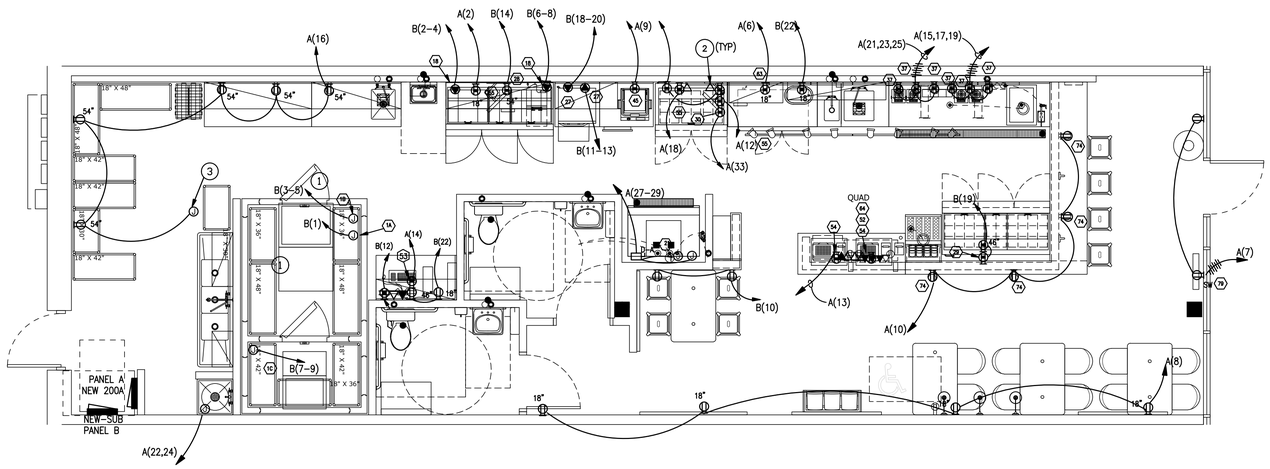
ELECTRICAL LIGHTING & ROOF PLAN

E2



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

EQUIPMENT SCHEDULE

ID	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLTS	AMPS	DISCONNECT	RECEPTACLE	MTG HEIGHT
1A	WALK-IN COOLER/FREEZER	BY FRANCHISEE		120	10.0	JB		108"
1B	WALK-IN COOLER REFRIGERATION, SELF-CONT.	BY FRANCHISEE		208	11.5	JB		108"
1C	WALK-IN FREEZER REFRIGERATION, SELF-CONT.	BY FRANCHISEE		208	18.1	JB		108"
9	EXISTING ELECTRIC WATER HEATER			208	4.5KW	EXISTING		EXISTING
10	SURVEILLANCE SYSTEM			120	8.0		5-20R QUAD IG	12" FROM CEILING
12	JOLT PRINTER	BY FRANCHISEE		120	3.1		5-20R IG	46"
18	ON QUE OVEN	BY FRANCHISEE		208	15.9		6-20R	46"
21	ICE MAKER WITH BIN	BY FRANCHISEE		208	12.2	30A/2P		72"
25	MICROWAVE OVEN	BY FRANCHISEE		120	13.0		5-20R	54"
27	MICROWAVE CONVECTION OVEN	BY FRANCHISEE		208	27.4		6-30R	46"
28	REFRIGERATED PREP TABLE, 30 PAN	BY FRANCHISEE		120	12.0		5-20R	18"
29	REFRIGERATED PREP TABLE, 30 PAN	BY FRANCHISEE		120	12.0		5-20R	18"
30	REFRIGERATED PREP TABLE, 18 PAN	BY FRANCHISEE		120	7.2		5-20R	18"
37	BLENDER, BAR TYPE	BY FRANCHISEE		120	15.0		5-20R	46"
45	PANINI PRESS 1.8KW	BY FRANCHISEE		120	15.0		5-20R	46"
52	POS TERMINAL	BY FRANCHISEE		120	1.0		5-20R IG	24"
53	POS SYSTEM BACK OF HOUSE	BY FRANCHISEE		120	0.25 EA.		5-20R IG	12" FROM CEILING
54	POS PRINTER	BY FRANCHISEE		120	0.5 EA.		5-20R IG	24"
55	KDS MONITOR	BY FRANCHISEE		120	1.0		5-20R IG	67"
63	UNDERCOUNTER REFRIGERATOR	BY FRANCHISEE		120	4.5		5-20R	24"
64	EMV CARD READER			120	1.0		SHARED QR	24"
74	USB ENABLED CONVENIENCE OUTLET COUNTER			120	15.0 CRT		5-20R	32"
77	BANQUET USB OUTLET			120	15.0 CRT		5-20R	16"
79	TROPICAL SMOOTHIE NEON SIGN	BY FRANCHISEE		120	3.0		5-20R	FEED FROM ABOVE
80	TROPICAL SMOOTHIE CAFE EXTERIOR SIGN			120				

NOTES:
A. ALL DEDICATED CIRCUIT SHALL HAVE ORANGE RECEPTACLES.
B. ITEM 1A MAKE CONNECTION TO LIGHTS, ALARM CLOCKS, DOOR FRAME HEATERS, PORTS AND SILLS.
C. ELECTRICAL CONTRACTOR SHALL INSTALL AND WIRE ALL LIGHT FIXTURES IN WALK-IN COOLER/FREEZERS.
D. FOR ITEM 80 REFER TO LIGHTING PLAN FOR LOCATIONS.

SHEET NOTES

1. COORDINATE POWER CONNECTIONS FOR WALK-IN COOLER AND FREEZER EQUIPMENT WITH EQUIPMENT SUPPLIER. MAKE ADJUSTMENTS AS REQUIRED FOR PROPER CONNECTIONS AND CODE COMPLIANCE.
2. PROVIDE 1" CONDUIT ROUGH-IN FROM DATA OUTLET TO ACCESSIBLE CEILING.
3. PROVIDE JUNCTION BOX ABOVE CEILING FOR DROP CORD CONVENIENCE OUTLET, 46" ABOVE FINISHED FLOOR. SECURE DROP CORD TO STRUCTURE AS NEEDED.

GENERAL NOTES

A. ELECTRICAL CONTRACTOR SHALL VERIFY ALL CONNECTION REQUIREMENTS FOR ALL EQUIPMENT SUPPLIED BY OTHERS PRIOR TO ROUGH-IN. COORDINATE NEMA PLUG CONFIGURATION FOR EQUIPMENT AND PROVIDE MATCHING RECEPTACLE WHERE APPLICABLE.

B. COORDINATE MECHANICAL AND PLUMBING EQUIPMENT REQUIREMENTS WITH OTHER TRADES.

C. COORDINATE EXACT LOCATION, QUANTITIES, AND INSTALLATION REQUIREMENTS OF EQUIPMENT IN MILLWORK.

D. ALL RECEPTACLES IN KITCHEN AND WITHIN 6-FT OF A SINK SHALL BE GFCI RATED.

E. ALL EXTERIOR DISCONNECTS SHALL BE WEATHERPROOF.

F. PROVIDE GROUNDING IN ACCORDANCE WITH NEC 250. PROVIDE A #6 CU GROUND TO ANY NEW METAL GAS PIPING SYSTEMS.

G. FINAL CONNECTION TO ALL HARD-WIRED EQUIPMENT SHALL BE MADE WITH LIQUID-TITE FLEXIBLE CONDUIT.

H. PROVIDE SEAL-OFFS FOR ALL CONDUITS ENTERING OR LEAVING WALK-IN BOXES.

I. ALL CIRCUITS SHALL HAVE AN INSULATED GROUND WIRE SIZED PER NEC 250 BUT NOT SMALLER THAN #12 AWG.

J. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL DISCONNECT SWITCHES, CONDUIT, AND WIRE FOR EQUIPMENT. INSTALL UNDER SUPERVISION OF EQUIPMENT SUPPLIER.

K. WHERE RECEPTACLES IN KITCHEN ARE CONSIDERED NOT ACCESSIBLE DUE TO EQUIPMENT, PROVIDE GFCI CIRCUIT BREAKER IN LIEU OF GFCI RECEPTACLE TO COMPLY WITH CODE.

L. ALL DEDICATED CIRCUITS TO HAVE ORANGE RECEPTACLES.

M. ELECTRICAL CONTRACTOR SHALL PROVIDE ROUGH-IN FOR ALL LOW VOLTAGE CABLING. COORDINATE WITH LOW VOLTAGE CONTRACTOR. REFER TO DETAIL ON THIS SHEET.

PANELBOARD: A (NEW)
BUS AMPS: 225A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SECTION: 1
AIC RATING: 10000 FULLY RATED
SERVES:
MOUNTING: RECESSED
LOCATION: KITCHEN
EQUIPMENT GROUND BUS
ISOLATED GROUND BUS

CKT NO.	DESCRIPTION	VOLTAMPS/PHASE A	B	C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VOLTAMPS/PHASE A	B	C	DESCRIPTION	CKT NO.
1	LIGHTING (DINING) / EM	420	·	·	(2)#12, (1)#12G	20	1	1	20	(2)#12, (1)#12G	1,440	·	·	REFRIG PREP TABLE (28)	2
3	LIGHTING (KITCHEN) / EM	·	550	·	(2)#12, (1)#12G	20	1	1	20	(2)#12, (1)#12G	·	600	·	CEILING FANS	4
5	EXTERIOR SIGN	·	·	1,200	(2)#12, (1)#12G	20	1	1	20	(2)#12, (1)#12G	·	·	540	UNDERCOUNTER REFR (63)	6
7	RECEPTACLE (SHOW WINDOW)	400	·	·	(2)#12, (1)#12G	20	1	1	20	(2)#12, (1)#12G	800	·	·	RECEPTACLE DINING	8
9	PANINI PRESS	·	1,800	·	(2)#12, (1)#12G	20	1	1	20	(2)#12, (1)#12G	·	1,000	·	RECEPTACLE DINING	10
11	SPARE	·	·	·	(2)#12, (1)#12G	20	1	1	20	(2)#12, (1)#12G	·	·	200	KDS MONITOR (55)	12
13	POS PRINTER & TERMINAL (52,54	800	·	·	(2)#12, (1)#12G	20	1	1	20	(2)#12, (1)#12G	200	·	·	POS SYSTEM (53)	14
15	BLENDER BAR TYPE (37)	·	1,500	·	(2)#12, (1)#12G	20	1	1	20	(2)#12, (1)#12G	·	1,000	·	GENERAL RECEPTACLE	16
17	BLENDER BAR TYPE (37)	·	·	1,500	(2)#12, (1)#12G	20	1	1	20	(2)#12, (1)#12G	·	·	200	KDS MONITOR (55)	18
19	BLENDER BAR TYPE (37)	1,500	·	·	(2)#12, (1)#12G	20	1	1			·	·	·	SPARE	20
21	BLENDER BAR TYPE (37)	·	1,500	·	(2)#12, (1)#12G	20	1	3	30	(2)#8,(1)#10G	·	3,000	·	WATER HEATER (9) 25 FLA	22
23	BLENDER BAR TYPE (37)	·	·	1,500	(2)#12, (1)#12G	20	1			1"C	·	·	3,000	6KW, 240V, 1PH	24
25	BLENDER BAR TYPE (37)	1,500	·	·	(2)#12, (1)#12G	20	1			(4)#3, (1)#8 G	14,122	·	·	PNLBD B	26
27	ICE MAKER W/ BIN (21)	·	1,269	·	(2)#10, (1)#10G	30	2	3	100	1-1/4" C	·	6,300	·		28
29		·	·	1,269							·	·	10,370		30
31	SPACE	·	·	·			1				·	·	·	SPACE	32
33	LIGHTING	·	600	·	(2)#10, (1)#10G	20	1	1	20	(2)#12, (1)#12G	·	680	·	LIGHTING	34
35	HEATER	·	·	480	(2)#10, (1)#10G	20	1	1	20	(2)#12, (1)#12G	·	·	360	ROOF RECEPT	36
37	RTU-1	3,984	·	·							·	·	·	SPACE	38
39	EXISTING BY LANDLORD	·	3,984	·	SEE MFG	45	3				·	·	·	SPACE	40
41	33.2 MCA	·	·	3,984				1	20	(2)#12, (1)#12G	·	·	360	ROOF RECEPT	42
	SUBTOTAL	8,604	11,203	9,933							16,562	12,580	15,030	SUBTOTAL	

TOTAL PHASE A - VA	25,166	LOAD	CONN. VA	DF	LOAD	CONN. VA	DF	
AMPS	210	COOLING	11,952	1.00	REFRIGERATION	14,178	1.00	
TOTAL PHASE B - VA	23,783	HEATING	480	0	SIGN/DISPLAY	1,200	1.25	
AMPS	198	LIGHTING	2,850	1.25	KITCHEN	28,800	0.65	
TOTAL PHASE C - VA	24,963	RECEPTACLES	5,320	1.0/.5	EXISTING		1.00	
AMPS	208	MOTORS	-2,486	1.00	LARGE MOTOR	2,486	1.25	TOTAL DEMAND
TOTAL PNLBD - VA	73,912	SUPP HEAT		1.00	SHOW WINDOW	400	1.25	65,086 VA
AMPS	205	MISC EQUIP	8,732	1.00	LTG TRACK		1.00	181 A

PANELBOARD NOTES
PROVIDE TYPE WRITTEN DIRECTORY
GF - GFCI TYPE CIRCUIT BREAKER
IG - ISOLATED GROUND CIRCUIT
LTG TRACK - TRACK LENGTH
SIGN/DISPLAY - SIGNAGE & DISPLAY CASE

PANELBOARD: B (NEW)
BUS AMPS: 125A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SECTION: 1
FAULT CURRENT:
AIC RATING: N/A
SERVES:
MOUNTING: SURFACE
LOCATION: KITCHEN
EQUIPMENT GROUND BUS

CKT NO.	DESCRIPTION	VOLTAMPS/PHASE A	B	C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VOLTAMPS/PHASE A	B	C	DESCRIPTION	CKT NO.
1	WALK-IN COOLER/FREEZER (1A)	1,200	·	·	(2)#12, (1)#12G	20	1	2	20	(2)#12, (1)#12G	1,650	·	·	ON QUE (18)	2
3	WALK-IN COOLER (1B)	·	1,196	·	(2)#12, (1)#12G	20	2				·	1,650	·		4
5		·	·	1,196				2	20	(2)#12, (1)#12G	·	·	1,650	ON QUE (18)	6
7	WALK-IN FREEZER (1C)	1,882	·	·	(2)#12, (1)#12G	20	2				1,650	·	·		8
9		·	1,882	·				1	20	(2)#12, (1)#12G	·	600	·	RECEPTACLE DINING	10
11	MICROWAVE CONVECTION	·	·	2,850	(2)#8, (1)#10G	30	2	1	20	(2)#12, (1)#12G	·	·	960	SURVEILLANCE SYSTEM (10)	12
13	OVEN (27)	2,850	·	·				1	20	(2)#12, (1)#12G	600	·	·	GENERAL RECEPTACLE	14
15	SPARE	·	·	·			1	1	20	(2)#12, (1)#12G	·	572	·	JOLT PRINTER (12)	16
17	REFRIG PREP TABLE (30)	·	·	864	(2)#12, (1)#12G	20	1	2	30	(2)#8, (1)#10G	·	·	2,850	MICROWAVE CONVECTION	18
19	REFRIG PREP TABLE (29)	1,440	·	·	(2)#12, (1)#12G	20	1				2,850	·	·	OVEN (27)	20
21		·	·	·				1	1	20	(2)#12, (1)#12G	·	400	·	GENERAL RECEPTACLE	22
23		·	·	·				1	1			·	·		24
	SUBTOTAL	7,372	3,078	4,910							6,750	3,222	5,460	SUBTOTAL	

TOTAL PHASE A - VA	14,122	LOAD	CONN. VA	DF	LOAD	CONN. VA	DF	
AMPS	118	COOLING		1.00	REFRIGERATION	9,660	1.00	
TOTAL PHASE B - VA	6,300	HEATING		0	SIGN/DISPLAY		1.25	
AMPS	53	LIGHTING		1.25	KITCHEN	18,000	0.80	
TOTAL PHASE C - VA	10,370	RECEPTACLES	1,800	1.0/.5	EXISTING		1.00	
AMPS	86	MOTORS		1.00	LARGE MOTOR		1.25	TOTAL DEMAND
TOTAL PNLBD - VA	30,792	SUPP HEAT		1.00	SHOW WINDOW		1.25	27,192 VA
AMPS	85	MISC EQUIP	1,332	1.00	LTG TRACK		1.00	75 A

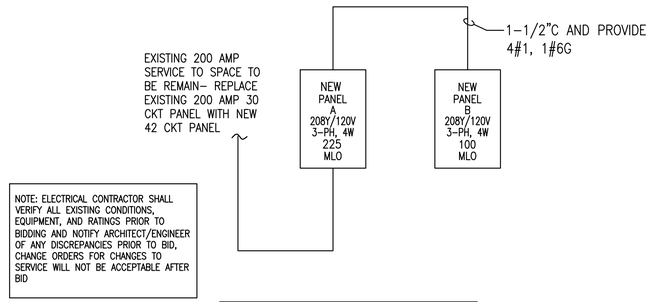
PANELBOARD NOTES
LTG TRACK - TRACK LENGTH
SIGN/DISPLAY - SIGNAGE & DISPLAY CASE

GENERAL NOTES

ALL INTERCONNECTING CONDUIT TO BE RUN ABOVE WALK-IN. EXPOSED INTERIOR CONDUIT WILL NOT BE ACCEPTABLE EXCEPT FOR THE CONDITIONS SHOWN AND NOTED IN THE ABOVE ILLUSTRATION.

SEAL ALL PENETRATIONS THRU-OUT WALK-IN. SEAL ALL INSIDE ELECTRICAL CONDUIT WITH THERMAL PLASTIC.

WALK-IN REFRIGERATION ELECTRICAL DIAGRAM



NOTE: ELECTRICAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, EQUIPMENT, AND RATINGS PRIOR TO BIDDING AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO BID. CHANGE ORDERS FOR CHANGES TO SERVICE WILL NOT BE ACCEPTABLE AFTER BID

ONE-LINE DIAGRAM
NO SCALE

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