GENERAL CONSTRUCTION NOTES

1. THE USE OF THESE DOCUMENTS IS RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY WERE PREPARED. REUSE OR REPRODUCTION OF THE DOCUMENTS, (WHOLE OR IN PART) FOR ANY OTHER PURPOSE IS PROHIBITED. CAVA RETAINS ALL RIGHTS OF OWNERSHIP.
2. THE CONTRACTOR AND SUB-CONTRACTORS SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS INCLUDING EMPLOYEES AND PROPERTY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUB-CONTRACTORS TO INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK.
3. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL WORK AND FOR THE MEANS, METHODS, PROCEDURES, TECHNIQUES, AND SEQUENCE OF CONSTRUCTION.
4. GENERAL CONTRACTOR SHALL PROVIDE ALL REQUIRED PERMITS, FEES, AND INSPECTIONS AS MAY BE REQUIRED BY GOVERNING BODIES HAVING LEGAL JURISDICTION. BUILDING PERMIT TO BE REIMBURSED BY OWNER.
5. THE GENERAL CONTRACTOR IS TO GUARANTEE ALL WORK INCLUDING WORK DONE BY SUB-CONTRACTORS FOR A PERIOD OF A MINIMUM ONE (1) YEAR COMMENCING WITH THE DATE OF SUBSTANTIAL COMPLETION OF THE WORK, OR AS STATED IN CONTRACT WITH OWNER. WHICHEVER IS GREATER.
6. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SCHEDULING AND MONITORING OF ON-SITE TESTING AND INSPECTION SERVICES AS LISTED IN THE PROJECT MANUAL AND GENERAL CONDITIONS A201.
7. WHEN CONTRACTOR ACCEPTS DELIVERY OF ALL ITEMS NOTED ON PLANS EITHER IN CONTRACT OR NOT IN CONTRACT HE SHALL BE RESPONSIBLE FOR LOSS AND/ OR DAMAGE TO THESE ITEMS.
8. GENERAL CONTRACTOR TO HAVE JOB PHONE AND INTERNET ACCESS ON PREMISES DURING ENTIRE CONSTRUCTION PERIOD TO ENSURE OPEN COMMUNICATION CHANNELS.
9. THE GENERAL CONTRACTOR & EACH SUBCONTRACTOR IS TO HAVE A FULL TIME QUALIFIED SUPERVISOR ON THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED.
10. THE CONTRACTOR SHALL MAINTAIN FOR THE ENTIRE DURATION OF THE WORK ALL EXITS, EXIT LIGHTING, FIRE PROTECTION DEVICES, AND ALARMS IN CONFORMANCE WITH ALL APPLICABLE CODES AND ORDINANCES.
11. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN. ALL PARTITION LOCATIONS, ALL DOOR AND OPENING LOCATIONS SHALL BE SHOWN ON FLOOR PLAN. IN CASE OF CONFLICT NOTIFY THE ARCHITECT. FLOOR PLAN BY ARCHITECT SUPERSEDES ALL OTHER PLANS. ALL DIMENSIONS MARKED "CLEAR" SHALL BE MAINTAINED AND SHALL ALLOW FOR THICKNESS OF ALL FINISHES INCLUDING CARPET, PAD, CERAMIC TILE, V.C.T., SLATWALL, ETC.
12. ALL DIMENSIONS SHOWN ARE TO FACE OF EXISTING CONDITIONS OR SUBSTRATE UNLESS SPECIFICALLY NOTED OTHERWISE.
13. ALL DIMENSIONS ON ARCHITECTURAL DRAWINGS LOCATING STRUCTURAL ELEMENTS ARE TO CENTERLINE OF STEEL COLUMNS AND STEEL BEAMS UNLESS NOTED OTHERWISE.
14. ALL DIMENSIONS SHOWN ARE NOMINAL DIMENSIONS UNLESS SPECIFICALLY NOTED OTHERWISE.
15. EGRESS DOORS SHALL BE PROVIDED PER IBC SECTIONS 1014 THROUGH 1024.
16. ALL ACCESS PANELS SHALL BE 24" x 30" UNLESS OTHERWISE NOTED.
17. ALL GLASS UNITS LOCATED IN HAZARDOUS LOCATIONS AS INDICATED IN IBC 2406.3 SHALL COMPLY WITH TEST REQUIREMENTS OF CONSUMER PRODUCT SAFETY COMMISSION 16, CFR PART 1201 FOR HUMAN IMPACT LOADS.
18. ALL SAW CUTTING AND CORING LOCATIONS SHALL BE REVIEWED IN FIELD BY THE GENERAL CONTRACTOR PRIOR TO CUTTING/CORING.
19. ALL FASTENERS, CONNECTORS, OR OTHER HARDWARE IN DIRECT CONTACT WITH PRESERVATIVE TREATED OR FIRE RETARDANT TREATED WOOD SHALL BE STAINLESS STEEL TYPE 304 OR TYPE 316, OR HOT-DIPPED GALVANIZED STEEL ASTM A653, CLASS G-185 WITH 1.85 OUNCES OF ZINC PER SQUARE FOOT TO REDUCE THE CORROSION PROCESS .
20. FIREBLOCKING SHALL BE INSTALLED IN CONCEALED SPACES OF STUD WALL AND PARTITIONS, INCLUDING FURRED OR STUDDED-OFF SPACES OF MASONRY OR CONCRETE WALLS, AND AT THE CEILING AND FLOOR OR ROOF LEVELS. PER IBC SECTION 717.2.2.
21. FIREBLOCKING SHALL BE INSTALLED AT ALL INTERCONNECTIONS BETWEEN VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS OVER CABINETS, DROP CEILINGS, COVE CEILINGS AND SIMILAR LOCATIONS. PER IBC SECTION 717.2.3.
22. REQUIRED FLAME SPREAD RATING: INTERIOR FINISH OF WALLS AND CEILINGS SHALL HAVE A FLAME SPREAD RATING NOT GREATER THAN THAT DESIGNATED BY THE CLASS PRESCRIBED FOR THE VARIOUS GROUPS LISTED IN IBC TABLE 803.5, WHEN TESTED IN ACCORDANCE WITH OBC SECTION 803.2.
23. PROVIDE PORTABLE FIRE EXTINGUISHERS WITH U.L. LABEL AND A RATING OF NOT LESS THAN 4A 80B:C WITH 75 FT TRAVEL DISTANCE TO ALL POSITIONS OF BUILDING OR AS DIRECTED BY THE FIRE DEPARTMENT FIELD INSPECTOR.

ACCESSIBILITY INFORMATION

1. ACCESS TO THESE FACILITIES SHALL BE PROVIDED AT PRIMARY ENTRANCES.
2. THE SLOPE OF PUBLIC WALKS SHALL NOT EXCEED MAX. CROSS SLOPE 2%.
3. WALKING SURFACES SLOPING GREATER THAN 2% SHALL BE SLIP RESISTANT.
4. PROVIDE A 60" x 60" MIN. LANDING ON STRIKE SIDE OF DOOR WITH 44" MINIMUM WIDTH IN DIRECTION OF TRAVEL.
5. WALKS SHALL EXTEND 24" TO THE SIDE OF THE STRIKE EDGE OF DOOR OR GATE THAT SWINGS TOWARD THE WALK.
6. EVERY REQUIRED EXIT DOORWAY SHALL BE SIZED FOR A DOOR NOT LESS THAN 3'-0" WIDE BY 6'-8" HIGH CAPABLE OF OPENING 90 DEGREES AND MOUNTED SO THAT THE CLEAR WIDTH OF THE EXIT SHALL BE A MINIMUM OF 32".
7. THRESHOLDS TO BE A MAXIMUM OF 1/2"ABOVE THE ADJACENT FINISHED FLOOR.
8. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 LBS FOR INTERIOR DOORS AND 15 LBS FOR EXTERIOR DOORS.
9. THE BOTTOM 10" OF ALL DOORS EXCEPT AUTOMATIC SLIDERS SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE.
10. THE BUILDING SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) AND ICC A117.1-2009, INCLUDING BUT NOT LIMITED TO IBC CHAPTER 11.
11. CONTROLS AND OPERATING MECHANISMS SHALL BE ACCESSIBLE AND HAVE MOUNTING HEIGHTS COMPLYING WITH ANSI 4.27.
12. ALL ROOM, DIRECTIONAL, AND INFORMATION SIGNS SHALL BE ACECSSIBLE DESIGN COMPLYING WITH ANSI 4.13 AND 4.30.

PROJECT TEAM

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CAVA

CAV.38002

CANTON

43450 FORD ROAD
CANTON, MI 48187



PROJECT DESCRIPTION

INTERIOR FIT-OUT FOR A FAST-CASUAL RESTAURANT USE. WORK INCLUDES KITCHEN EQUIPMENT, RESTROOMS, INCLUDING MECHANICAL, PLUMBING AND ELECTRICAL WORK.

SIGNAGE UNDER SEPARATE SUBMITTAL.
SITE WORK UNDER SEPARATE SUBMITTAL

BUILDING CODE INFORMATION

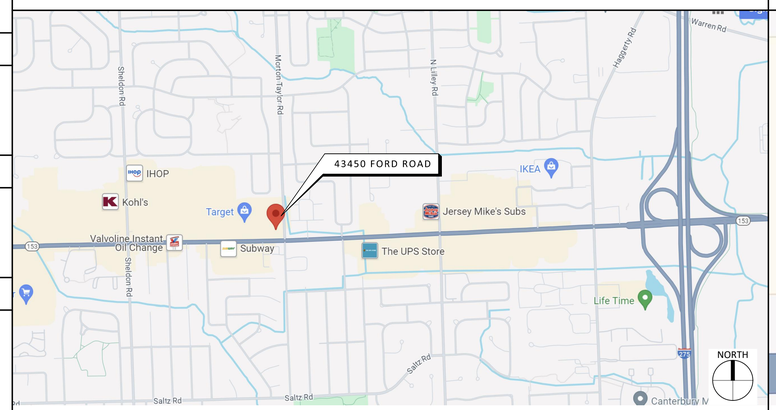
BUILDING CODE	2015 MICHIGAN BUILDING CODE
ENERGY CODE	2015 MICHIGAN UNIFORM ENERGY CODE
PLUMBING CODE	2021 MICHIGAN PLUMBING CODE W/ LOCAL AMENDMENTS
MECHANICAL CODE	2021 MICHIGAN MECHANICAL CODE W/ LOCAL AMENDMENTS
ELECTRICAL CODE	2023 NEC W/ LOCAL AMENDMENTS
FIRE/LIFE SAFETY CODE	2015 IFC W/ LOCAL AMENDMENTS
ACCESSIBILITY CODE	2009 INTERNATIONAL ICC/ANSI A117.1 ACCESSIBLE & USABLE BLDGS & FACILITIES

TENANT SPACE CODE SUMMARY

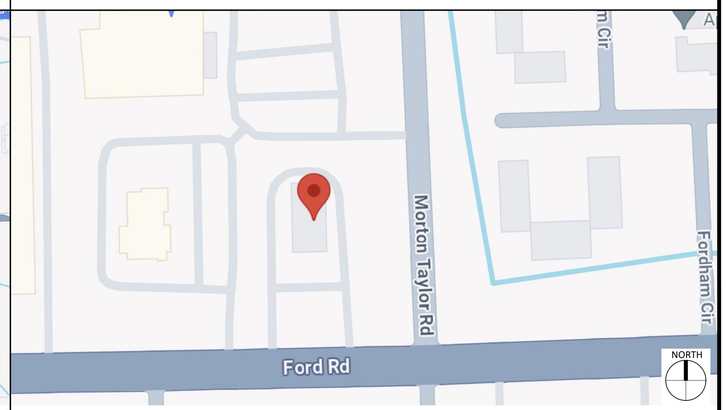
FIRE SUPPRESSION:	NON-SPRINKLERED	IBC SECTION 903
USE GROUPS:	A-2 ASSEMBLY	IBC SECTION 309
CONSTRUCTION TYPE:	VB	IBC SECTION 602
TENANT LEASE AREA:	3,852 S.F.	IBC TABLE 602.0

SHELL BUILDING CODE SUMMARY

FIRE SUPPRESSION:	NON-SPRINKLERED	IBC SECTION 903
USE GROUPS:	B/A-2	IBC SECTION 303
CONSTRUCTION TYPE:	VB	IBC SECTION 304
TOTAL BUILDING AREA:	3,852 S.F.	



1 G000 VICINITY MAP N.T.S.



2 G000 KEY PLAN N.T.S.

SHEET INDEX

● DRAWING HAS BEEN ISSUED OR REVISED ○ DRAWING HAS BEEN RE-ISSUED WITH NO REVISIONS		AUG 2, 2024	SEP 18, 2024	NOV 15, 2024	JAN 8, 2025
GENERAL					
G000	COVER SHEET	○	○	●	○
G001	ABBREVIATIONS AND SYMBOLS	○	○		○
G002	ACCESSIBILITY DETAILS	○	○		○
G003	ACCESSIBILITY DETAILS	○	○		○
G100	LIFE SAFETY PLAN	○	○		○
G200	DEMISED PREMISES PLAN	○	○		○
G600	RESPONSIBILITY MATRIX	○	○	●	
G900	SPECIFICATIONS	○	○		○
G901	SPECIFICATIONS	○	○		○
G902	SPECIFICATIONS	○	○		○
G903	SPECIFICATIONS	○	○		○
G904	SPECIFICATIONS	○	○		○
G905	SPECIFICATIONS	○	○		○
G906	SPECIFICATIONS	○	○		○
ARCHITECTURAL					
A001	DEMOLITION FLOOR PLAN	○	○		○
A002	DEMOLITION REFLECTED CEILING PLAN	○	○		○
A010	SITE PLAN	○	○	●	○
A011	SITE PLAN DETAILS		●		○
A100	SLAB PLAN	○	○		○
A111	TI ARCHITECTURAL FLOOR PLAN	○	○	●	
A120	FINISH PLAN AND NOTES	○	○		○
A121	FINISH SCHEDULE	○	○	●	
A130	FURNITURE, FIXTURE & EQUIPMENT PLAN	○	○		○
A131	FFE SCHEDULE	○	○		○
A132	HEALTH & HANGING PLAN	○	○		○
A140	REFLECTED CEILING PLAN - LIGHTING	○	○		○
A141	REFLECTED CEILING PLAN - FINISHES	○	○		○
A142	SOUND ATTENUATION PLAN	○	○		○
A150	ROOF PLAN	○	○		○
A210	EXTERIOR ELEVATIONS	○	○	●	○
A211	EXTERIOR ELEVATIONS	○	○	●	○
A220	INTERIOR ELEVATIONS	○	○		○
A221	INTERIOR ELEVATIONS	○	○		○
A222	INTERIOR ELEVATIONS		○		
A410	ENLARGED RESTROOM PLANS	○	○		○
A500	DETAILS	○	○		○
A501	DETAILS	○	○		○
A502	DETAILS	○	○		○
A503	DETAILS	○	○		○
A504	DETAILS	○	○		○
A505	DETAILS	○	○		○
A600	WALL PARTITION SCHEDULE	○	○		○
A601	DOOR, HARDWARE & WINDOW SCHEDULES	○	○		○
STRUCTURAL					
S1.0	STRUCTURAL GENERAL NOTES	○	○		○
S1.2	FRAMING PLAN	○	○		○
S3.2	SECTIONS	○	○		○
PLUMBING					
P000	GENERAL INFORMATION PLUMBING	○	○		○
P101	PLUMBING WASTE AND VENT PLAN	○	○	●	○
P201	PLUMBING WATER AND GAS PLAN	○	○		○
P301	PLUMBING RISER DIAGRAMS	○	○		○
P401	DETAILS PLUMBING	○	○		○
P501	PLUMBING SCHEDULES	○	○	●	○
P601	PLUMBING RISER DIAGRAM	○	○		○
P602	PLUMBING RISER DIAGRAM	○	○		○
P701	PLUMBING SPECIFICATIONS	○	○		○
P702	PLUMBING SPECIFICATIONS	○	○		○
P703	PLUMBING SPECIFICATIONS	○	○		○

		AUG 2, 2024	SEP 18, 2024	NOV 15, 2024	JAN 8, 2025
MECHANICAL					
M000	GENERAL INFORMATION MECHANICAL	○	○		○
M101	MECHANICAL PLAN	○	○		○
M201	MECHANICAL ROOF PLAN	○	○		○
M401	MECHANICAL DETAILS	○	○		○
M501	MECHANICAL SCHEDULES	○	○		○
M701	MECHANICAL SPECIFICATIONS	○	○		○
M702	MECHANICAL SPECIFICATIONS	○	○		○
ELECTRICAL					
E000	GENERAL INFORMATION ELECTRICAL	○	○		○
E100	LIGHTING PLAN	○	○		○
E200	POWER PLAN	○	○		○
E201	ROOF POWER PLAN	○	○		○
E202	LOW VOLTAGE PLAN	○	○		○
E301	SCHEDULES ELECTRICAL	○	○		○
E401	ELECTRICAL SCHEDULES & DETAILS	○	○		○
E701	SPECIFICATIONS ELECTRICAL	○	○		○
E702	SPECIFICATIONS ELECTRICAL	○	○		
HOOD					
H000	CAPTIVE AIRE HOOD DRAWINGS	○	○		○
H001	CAPTIVE AIRE HOOD DRAWINGS	○	○		○
H002	CAPTIVE AIRE HOOD DRAWINGS	○	○		○
H003	CAPTIVE AIRE HOOD DRAWINGS	○	○		○
H004	CAPTIVE AIRE HOOD DRAWINGS	○	○		○
H005	CAPTIVE AIRE HOOD DRAWINGS	○	○		○
H006	CAPTIVE AIRE HOOD DRAWINGS	○	○		○
CIVIL - UNDER SEPARATE APPLICATION					

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ISSUED FOR CONSTRUCTION

CAVA

CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
△1 BLDG RESPONSE	NOV 15, 2024
△1 CONSTR SET	JAN 8, 2025

COVER SHEET

SHEET:
G000

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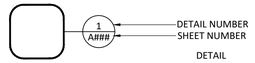
STANDARD ABBREVIATIONS

@	AT
A/C	AIR CONDITIONING
AB	ANCHOR BOLT
ABV	ABOVE
ACT	ACOUSTICAL CEILING TILE
AD	AREA DRAIN
ADA	AMERICAN'S W/ DISABILITIES ACT
ADJ	ADJACENT
ADJT	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFC	ABOVE FINISHED CEILING
AGG	AGGREGATE
AL	ALUMINUM
ALT	ALTERNATE
ANC	ANCHOR, ANCHORAGE
ANOD	ANODIZED
AP	ACCESS PANEL
ARCH	ARCHITECT, ARCHITECTURAL
ASPH	ASPHALT
BD	BOARD
BEL	BELOW
BL	BASE LINE
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BM	BENCH MARK
BO	BOTTOM OF
BPL	BEARING PLATE
BRG	BEARING
BRK	BRICK
BRKT	BRACKET
BRS	BRASS
BRZ	BRONZE
BS	BOTH SIDES
BUR	BUILT UP ROOFING
CB	CEMENTITIOUS BACKER BOARD
CEM	CEMENT
CG	CORNER GUARD
CL	CENTER LINE
CLG	HT CEILING HEIGHT
CLG	CEILING
CLR	CLEAR, CLEARANCE
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUE, CONTINUOUS
CONTR	CONTRACT(OR)
CORR	CORRUGATED
CPT	CARPET
CSMT	CASEMENT
CTR	COUNTER
DFE	DESIGN FLOOD ELEVATION
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIV	DIVISION
DN	DOWN
DR	DOOR
DS	DENS SHIELD
DTL	DETAIL
DWG	DRAWING
(E) EXISTING	
EA	EACH
EIFS	EXTERIOR INSULATION & FINISHING SYSTEM
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
EQ	EQUAL
EQUIP	EQUIPMENT
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EXT	EXTERIOR
FA	FIRE ALARM
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF EL	FINISH FLOOR ELEVATION
FF	FINISH FLOOR
FIN	FINISH
FIXT	FIXTURE
FLR	FLOOR
FLUOR	FLUORESCENT
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOS	FACE OF STUD
FRT	FIRE RETARDANT TREATED
FT	FOOT (FEET)
FTG	FOOTING
FV	FIELD VERIFY
GA	GAGE, GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GCMU	GLAZED CONCRETE MASONRY
GD	GRADE, GRADING
GL	GLASS, GLAZING
GLAM	GLUED LAMINATE
GB	GYPSUM BOARD
GYP	GYPSUM

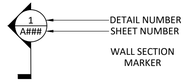
H.P.	HIGH POINT
HC	HOLLOW CORE
HCWD	HOLLOW CORE WOOD DOOR
HDWD	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HMF	HOLLOW METAL FRAME
HORIZ	HORIZONTAL
HT	HEIGHT
HVAC	HEATING, VENTILATION & COOLING
HW	HOT WATER
ID	INSIDE DIAMETER
IN	INCH
INCL	INCLUDE, (ED), (ING)
INSUL	INSULATION
INT	INTERIOR
JC	JANITOR'S CLOSET
JF	JOINT FILLER
JT	JOINT
KEC	KITCHEN EQUIPMENT CONTRACTOR
KIT	KITCHEN
KPL	KICK PLATE
L	LONG (LENGTH)
L.O.D.	LEASE OUTLINE DRAWING
L.P.	LOW POINT
L/T	LIGHT TRACK
LAM	LAMINATE
LAV	LAVATORY
LBS	POUNDS
LF	LINEAR FOOT
LGL	LAMINATED GLASS
LH	LEFT-HANDED
LL	LANDLORD
LT	LIGHT
LTL	LINTEL
MAT	MATERIAL
MAX	MAXIMUM
MBR	MEMBER
MDO	MEDIUM DENSITY OVERLAY
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MR	MOISTURE RESISTANT GYP. BOARD
MOD	MODIFIED
MTD	MOUNTED
MTL	METAL
NAT	NATURAL
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NR	NOISE REDUCTION
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPP	OPPOSITE
ORD	OVERFLOW ROOF DRAIN
PA	PAINT
PT	PRESSURE TREATED
PBD	PARTICLE BOARD
PERF	PERFORATE(D)
PLAM	PLASTIC LAMINATE
PLBG	PLUMBING
PLT	PLATE
PLYWD	PLYWOOD
POS	POINT OF SALE
PR	PAIR
PTD	PAINTED
PTN	PARTITION
PVC	POLYVINYL CHLORIDE
QT	QUARRY TILE
R	RISER
RAD	RADIUS
RB	RUBBER BASE
RD	ROOF DRAIN
REC	RECESSED
REF	REFERENCE
REQD	REQUIRED
RESIL	RESILIENT
REV	REVISION
RH	RIGHT HAND
RM	ROOM
RO	ROUGH OPENING
ROW	RIGHT OF WAY

SC	SOLID CORE
SCHED	SCHEDULE
SCN	SCREEN
SD	SMOKE DETECTOR
SECT	SECTION
SF	SQUARE FOOT (FEET)
SHT	SHEET
SIM	SIMILAR
SIPS	STRUCTURAL INSULATED PANEL
SND	INS SOUND INSULATION
SPEC	SPECIFICATION
SPK	SPEAKER
SPL	SPECIAL
SQ	SQUARE
SS	STAINLESS STEELOUP
STD	STANDARD
STG	SEATING
STL	STEEL
STN	STAIN
STO	STONE TILE
SUSP	SUSPENDED
SYM	SYMMETRY, (ICAL)
SYS	SYSTEM
T	TREAD
T&G	TONGUE & GROOVE
THK	THICKNESS
THR	THRESHOLD
TO	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOJ	TOP OF JOIST
TOM	TOP OF MASONRY
TOS	TOP OF SLAB
TOS	TOP OF STEEL
TOW	TOP OF WALL
TPG	TOPPING
TYP	TYPICAL
UC	UNDERCUT
UNF	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UTL	UTILITY
VCT	VINYL COMPOSITE TILE
VERT	VERTICAL
VF	VINYL FABRIC
VG	VERTICAL GRAIN
VIF	VERIFY IN FIELD
VT	VINYL TILE
W/	WITH
W/O	WITHOUT
WA	WALL ANCHOR
WC	WATER CLOSET
WD	WOOD
WF	WIDE FLANGE
WFAB	WALL FABRIC
WH	WATER HEATER
WIN	WINDOW
WP	WORKING POINT
WRB	WATER RESISTIVE BARRIER
WWF	WELDED WIRE FABRIC

SYMBOLS LEGEND



DETAIL NUMBER
SHEET NUMBER
DETAIL CALLOUT



DETAIL NUMBER
SHEET NUMBER
WALL SECTION MARKER



DETAIL NUMBER
SHEET NUMBER
INDIVIDUAL ELEVATION TAG MARKER



MULTI ELEVATION TAG



KEY NOTE REFERENCE

DOOR NUMBER



WINDOW NUMBER



WALL TYPE MARKER



FINISH TYPE MARKER / FURNITURE TYPE



FIXTURE / EQUIPMENT / TYPE MARKER

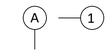


ROOM NAME

MATCH LINE



ELEVATION MARKER



COLUMN REFERENCE GRIDS

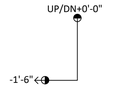
CENTERLINE



BREAK LINE



REVISION



STAIR / RAMP DIRECTION SYMBOL



NORTH SYMBOL

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135 Water Street
Suite 201
Naperville, IL 60540
P: 312.784.5455
core-states.com

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CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
1 BLDG RESPONSE	NOV 15, 2024
2 CONSTR SET	JAN 8, 2025

ABBREVIATIONS & SYMBOLS

SHEET:
G001

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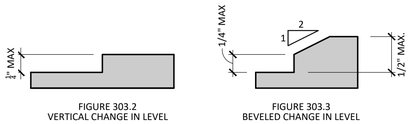


FIGURE 303.2
VERTICAL CHANGE IN LEVEL

FIGURE 303.3
BEVELED CHANGE IN LEVEL

1 G002 CHANGES IN LEVEL

N.T.S.

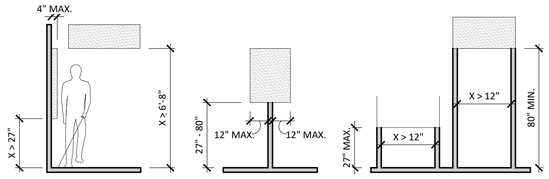


FIGURE 307.2
LIMITS OF PROTRUDING OBJECTS

FIGURE 307.3
POST-MOUNTED PROTRUDING OBJECTS

2 G002 PROTRUDING OBJECTS

1/4" = 1'-0"

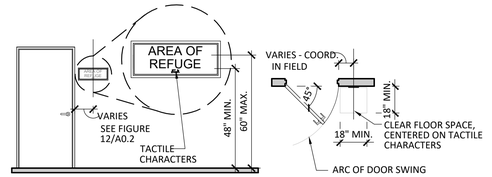
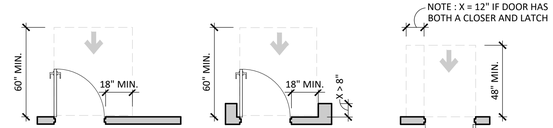


FIGURE 703.3.10
HEIGHT OF RAISED CHARACTERS
ABOVE FLOOR

FIGURE 703.3.11
LOCATION OF SIGNS AT DOORS

3 G002 COMMUNICATION ELEMENTS AND FEATURES

1/4" = 1'-0"

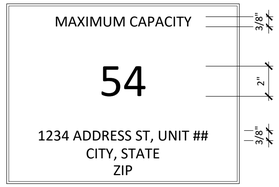


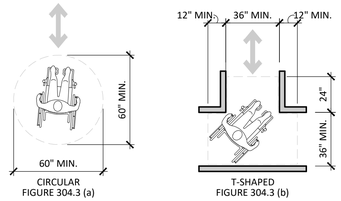
FRONT APPROACH, PULL SIDE
FIGURE 404.2.3.2 (a)

RECESSED DOOR
FRONT APPROACH, PULL SIDE
FIGURE 404.2.3.5 (a)

FRONT APPROACH, PUSH SIDE
FIGURE 404.2.3.2 (b)

OCCUPANCY LOAD MUST BE POSTED NEAR THE MAIN ENTRY.
G.C. TO PROVIDE SIGN WITH THE FOLLOWING ON 8 1/2" x 11" MIN SIZED SIGN





CIRCULAR
FIGURE 304.3 (a)

T-SHAPED
FIGURE 304.3 (b)

4 G002 WHEELCHAIR TURNING

1/4" = 1'-0"

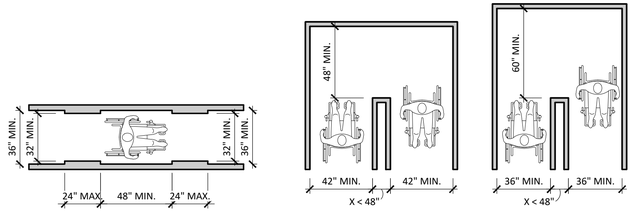


FIGURE 403.5

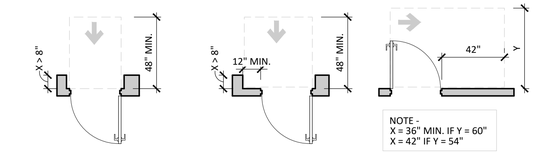
180 DEGREE TURN

FIGURE 403.5.1
CLEAR WIDTH AT 180 DEGREE TURN

180 DEGREE TURN (EXCEPTION)

5 G002 CLEAR WIDTH OF AN ACCESSIBLE ROUTE

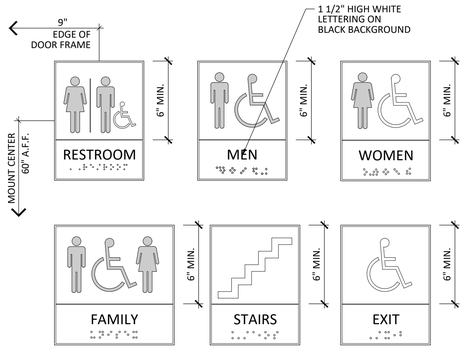
1/4" = 1'-0"



RECESSED DOOR
FRONT APPROACH, PUSH SIDE
FIGURE 404.2.3.5 (b)

RECESSED DOOR
FRONT APPROACH, PUSH SIDE
WITH BOTH CLOSER AND LATCH
FIGURE 404.2.3.2 (c)

HINGE APPROACH, PULL SIDE
FIGURE 404.2.3.2 (c & d)



PROVIDE (1) SIGN PER TOILET
COMPLYING WITH ANSI 2009, SECTION 703.
SIGN TO HAVE RAISED AND BRAILLE
CHARACTERS AND PICTORIAL SYMBOL
OF ACCESSIBILITY. MOUNT 5'-0" TO
CENTERLINE A.F.F.

BLACK PLASTIC (FIELD)
BACKGROUND w/ WHITE RAISED OR
DEPRESSED EMBLEMS (NOTE- EMBLEMS
& LETTERING MUST BE RAISED OR
DEPRESSED MIN. 1/32" TYPICAL)



INTERNATIONAL SYMBOL
OF ACCESSIBILITY
FIGURE 703.6.3.1



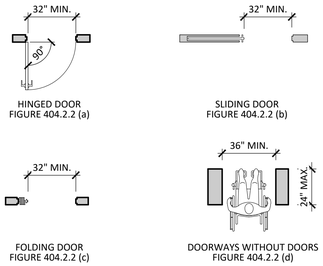
INTERNATIONAL TDD
SYMBOL
FIGURE 703.6.3.2



INTERNATIONAL SYMBOL
OF ACCESS FOR HEARING
LOSS
FIGURE 703.6.3.3

10 G002 ADA SIGNAGE

1/4" = 1'-0"



HINGED DOOR
FIGURE 404.2.2 (a)

SLIDING DOOR
FIGURE 404.2.2 (b)

FOLDING DOOR
FIGURE 404.2.2 (c)

DOORWAYS WITHOUT DOORS
FIGURE 404.2.2 (d)

6 G002 CLEAR DOORWAY WIDTH & DEPTH

1/4" = 1'-0"

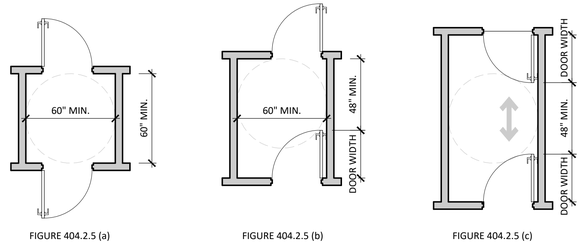


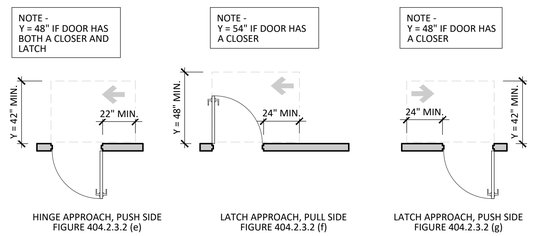
FIGURE 404.2.5 (a)

FIGURE 404.2.5 (b)

FIGURE 404.2.5 (c)

7 G002 TWO HINGED DOORS IN SERIES

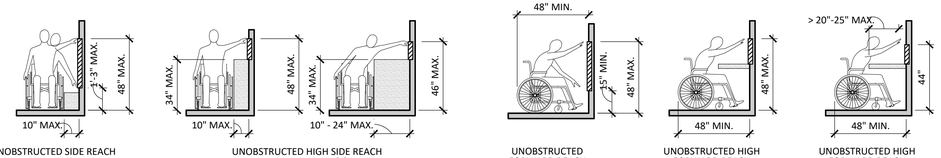
1/4" = 1'-0"



HINGE APPROACH, PUSH SIDE
FIGURE 404.2.3.2 (e)

LATCH APPROACH, PULL SIDE
FIGURE 404.2.3.2 (f)

LATCH APPROACH, PUSH SIDE
FIGURE 404.2.3.2 (g)



UNOBSTRUCTED SIDE REACH
FIGURE 308.3.1

UNOBSTRUCTED HIGH SIDE REACH
FIGURE 308.3.2 (a)

UNOBSTRUCTED
FORWARD REACH
FIGURE 308.2.1

UNOBSTRUCTED HIGH
FORWARD REACH
FIGURE 308.2.2 (a)

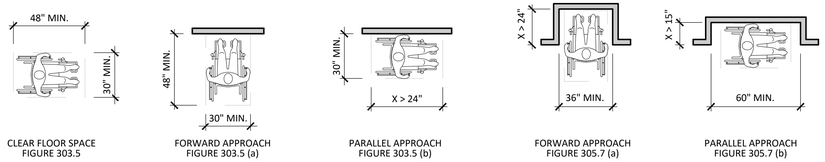
UNOBSTRUCTED HIGH
FORWARD REACH
FIGURE 308.2.2 (b)

8 G002 SIDE REACH

1/4" = 1'-0"

9 G002 FORWARD REACH

1/4" = 1'-0"



CLEAR FLOOR SPACE
FIGURE 303.5

FORWARD APPROACH
FIGURE 303.5 (a)

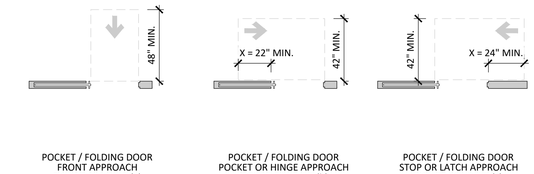
PARALLEL APPROACH
FIGURE 303.5 (b)

FORWARD APPROACH
FIGURE 305.7 (a)

PARALLEL APPROACH
FIGURE 305.7 (b)

11 G002 MINIMUM CLEAR FLOOR SPACE FOR WHEELCHAIRS

1/4" = 1'-0"



POCKET / FOLDING DOOR
FRONT APPROACH
FIGURE 404.2.3.3 (a)

POCKET / FOLDING DOOR
POCKET OR HINGE APPROACH
FIGURE 404.2.3.3 (b)

POCKET / FOLDING DOOR
STOP OR LATCH APPROACH
FIGURE 404.2.3.3 (c)

WITHOUT DOOR
FRONT APPROACH
FIGURE 404.2.3.4 (a)

WITHOUT DOOR
SIDE APPOACH
FIGURE 404.2.3.4 (b)

12 G002 MANEUVERING CLEARANCES AT DOORS

1/4" = 1'-0"

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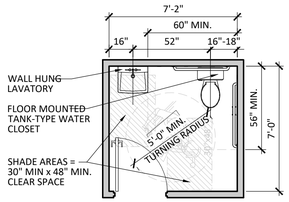
AOR PROJECT NUMBER:
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CONSTR SET	JAN 8, 2025

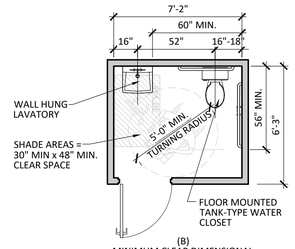
ACCESSIBILITY DETAILS

SHEET:
G002

NOTE : 30" X 48" OF CLEAR FLOOR SPACE IS REQUIRED IN EVERY RESTROOM. WHEN 30" X 48" CLEAR FLOOR SPACE IS PROVIDED BEYOND THE ARC OF THE DOOR SWING, THE DOOR IS PERMITTED TO SWING INTO THE CLEAR FLOOR SPACE OR CLEARANCE REQUIRED FOR ANY FIXTURE. DOOR MAY SWING INTO A REQUIRED WHEELCHAIR TURNING SPACE. PER 2009 ANSI SECTION 603.2.2, AN EXCEPTION IS MADE IN SINGLE OCCUPANCY TOILET ROOMS TO ALLOW DOOR TO SWING INTO THE REQUIRED FIXTURE CLEAR FLOOR OR GROUND SPACE \ WHEN ANOTHER CLEAR FLOOR OR GROUND SPACE IS PROVIDED OUTSIDE THE RADIUS OF THE DOOR SWING



(A)
MINIMUM CLEAR DIMENSIONAL REQUIREMENTS - INWARD DOOR SWING



(B)
MINIMUM CLEAR DIMENSIONAL REQUIREMENTS - OUTWARD DOOR SWING

1 G003 SINGLE OCCUPANT TOILET ROOM

1/4" = 1'-0"

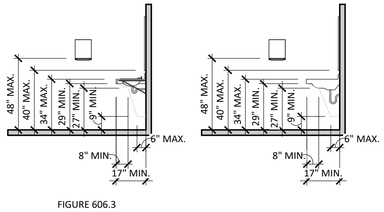
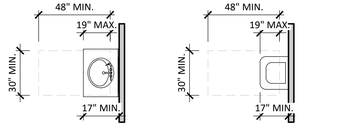


FIGURE 606.3

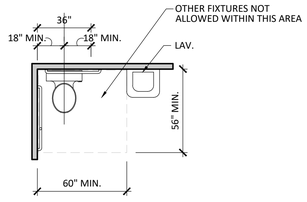
2 G003 LAV. CLEARANCES

1/4" = 1'-0"



3 G003 LAV. CLEAR FLOOR SPACE

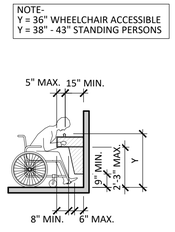
1/4" = 1'-0"



CLEARANCE FOR WATER CLOSET
FIGURE 604.3

4 G003 W.C. CLEAR FLOOR SPACE

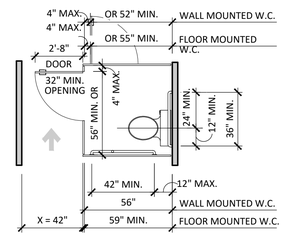
1/4" = 1'-0"



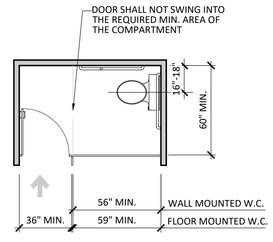
SPOUT HEIGHT AND KNEE CLEARANCE
FIGURE 602.5 (b)

5 G003 DRINKING FOUNTAINS

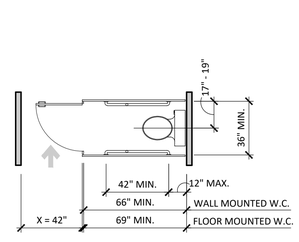
1/4" = 1'-0"



STANDARD STALL
FIGURES 604.9.3.1 (a & b)



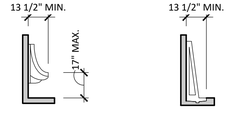
STANDARD STALL
(END OF ROW)
FIGURES 604.9.3.1 (c)



AMBULATORY STALL
FIGURES 604.10

6 G003 TOILET STALLS

1/4" = 1'-0"

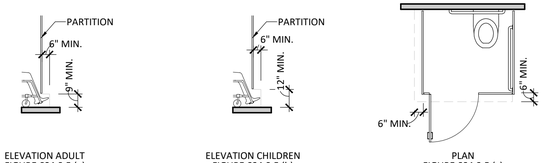


WALL HUNG TYPE
FIGURE 605.2 (a)

STALL TYPE
FIGURE 605.2 (b)

7 G003 URINAL CLEARANCES

1/4" = 1'-0"



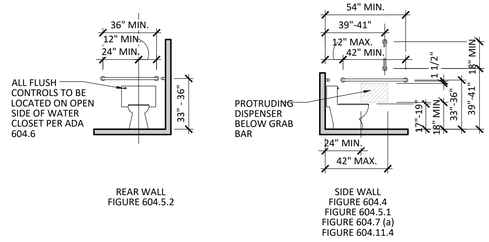
ELEVATION ADULT
FIGURE 604.9.5 (a)

ELEVATION CHILDREN
FIGURE 604.9.5 (b)

PLAN
FIGURE 604.9.5 (c)

8 G003 TOILET STALLS CLEAR HEIGHT

1/4" = 1'-0"



REAR WALL
FIGURE 604.5.2

SIDE WALL
FIGURE 604.4
FIGURE 604.5.1
FIGURE 604.7 (a)
FIGURE 604.11.4

9 G003 WATER CLOSET GRAB BARS & CONTROLS

1/4" = 1'-0"

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core-states.com

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ACCESSIBILITY DETAILS

SHEET:
G003

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PROJECT DATA

USE	AREA	S.F. / PERSON	OCCUPANT LOAD	FIXED OCCUPANT LOAD	EGRESS REQUIRED O.L. X .20" =	EXITS REQUIRED	EXITS PROVIDED	EGRESS WIDTH PROVIDED
ASSEMBLY W/ FIXED SEATS	N/A"	N/A"	23					
ASSEMBLY - BOOTH SEATING	237"	24"	10					
ASSEMBLY - UN CONCENTRATED	325 SQ. FT.	15 NSF	22					
ASSEMBLY - STANDING AREA	113 SQ. FT.	5 NSF	23					
BUSINESS	66 SQ. FT.	100 GSF	1					
KITCHEN - COMMERCIAL	1,864 SQ. FT.	200 GSF	10					
TOTAL	2,368 SQ. FT.		89 OCCUPANTS		18"	2	3	114"

TENANT LEASE AREA - 3,852 SQ. FT.

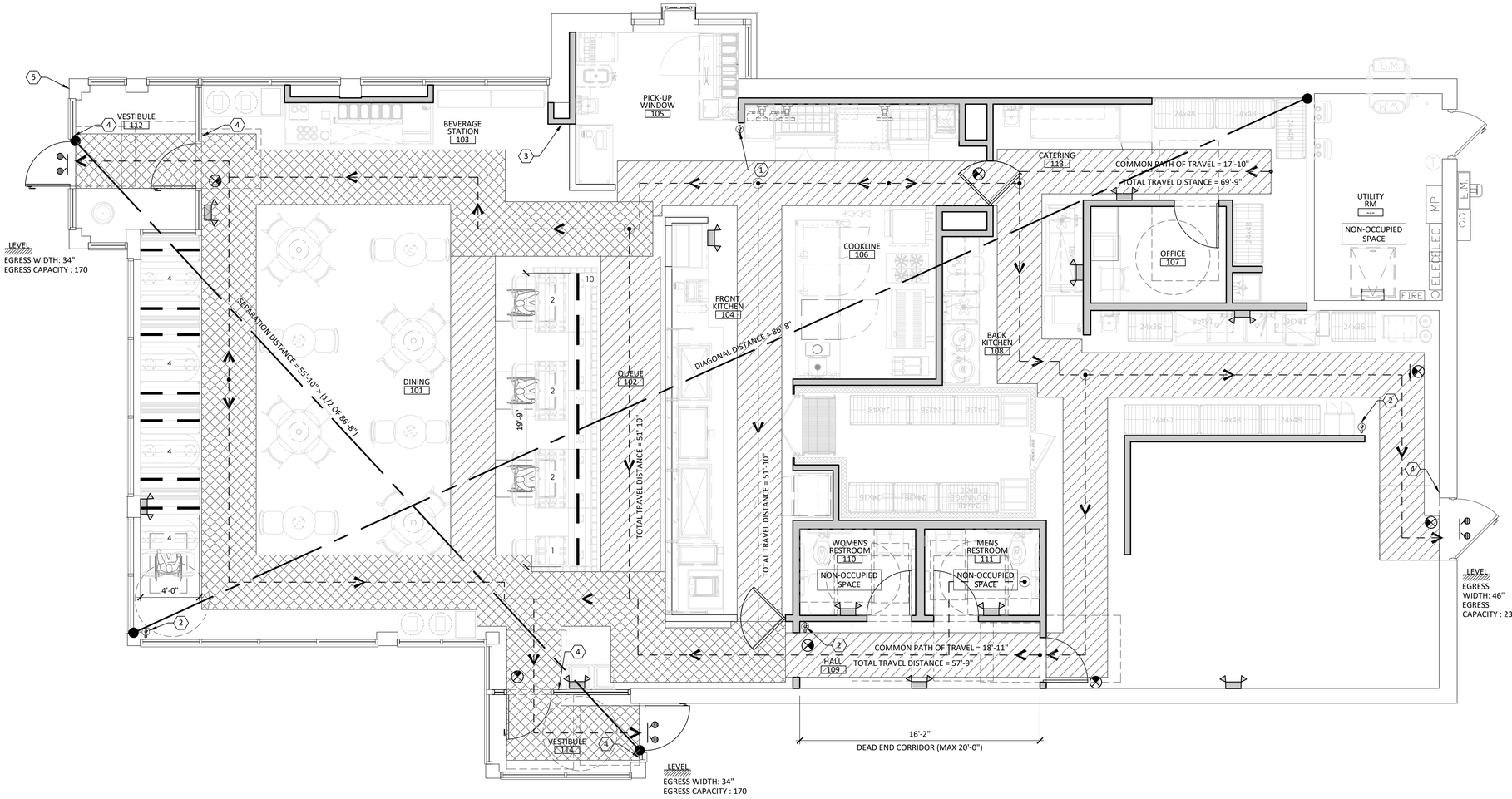
	INTERIOR	EXTERIOR	A.D.A. SEATS REQUIRED	A.D.A. SEATS PROVIDED
TOTAL SEAT COUNT	54	0	2 SEATS MIN. - INTERIOR 0 SEATS MIN. - EXTERIOR	4 SEATS - INTERIOR 0 SEATS - EXTERIOR

PLUMBING FIXTURES PROVIDED:

FIXTURE	REQUIRED	PROVIDED
WATER CLOSETS (MEN)	1 PER 75	1
WATER CLOSETS (WOMEN)	1 PER 75	1
LAVATORIES (MEN)	1 PER 200	1
LAVATORIES (WOMEN)	1 PER 200	1
SERVICE SINK	1	1

FINISH REQUIREMENTS: IBC SECTION 803 / 804 / 805 / 806

INTERIOR FINISHES (NON-SPRINKLERED)	A-2
WALL / CEILING - VERTICAL EXITS	CLASS 'B'
EXIT CORRIDORS	CLASS 'B'
OTHER ROOMS	CLASS 'C'
FLOORS - CORRIDORS/STAIRS	DOC FF-1
ROOMS	DOC FF-1
SMOKE DEVELOPED RATING -	450 OR LESS



LIFE SAFETY GENERAL NOTES

A. 44 INCHES REQUIRED EGRESS WIDTH FOR OCCUPANCIES OVER 50. IBC SEC 1023

B. NO DEAD END CORRIDORS OVER 20'-0" IN LENGTH. IBC SEC 1018.4

C. MAXIMUM EGRESS TRAVEL DISTANCE TO AN EXIT IS 200'-0". MEASURED AT THE MOST REMOTE POINT ALONG THE NATURAL AND UNOBSTRUCTED PATH OF HORIZONTAL AND VERTICAL TRAVEL TO THE EXIT FOR A SPACE WITH MORE THAN 1 EGRESS. IBC TABLE 1014.3

D. DOORS IN FULLY OPENED POSITION SHALL NOT REDUCE A REQUIRED DIMENSION BY MORE THAN 7 INCHES. IBC SEC 1008.1.8

E. DOORS, WHEN FULLY OPENED, SHALL NOT REDUCE THE REQUIRED MEANS OF EGRESS WIDTH BY MORE THAN 7 INCHES. DOORS IN ANY POSITION SHALL NOT REDUCE THE REQUIRED WIDTH BY MORE THAN ONE HALF. IBC SEC 1005.2

F. MINIMUM DISTANCE BETWEEN SEATS IS 12 INCHES FOR A DISTANCE OF 12'-0" WITH AN ADDITIONAL 1/2" WIDTH FOR EACH 1'-0" OR FRACTION THEREOF BEYOND THE ORIGINAL 12'-0". IBC SEC 1028.1.0.1.1

G. EGRESS ALONG SEATING IS MEASURED 19 INCHES FROM EDGE OF TABLE WHERE MOVEABLE CHAIRS ARE USED, OR FROM THE EDGE OF A FIXED SEAT.

LIFE SAFETY PLAN CODED NOTES (#)

1. NEW SURFACE MOUNTED TYPE K FIRE EXTINGUISHER.
2. NEW SURFACE MOUNTED TYPE ABC FIRE EXTINGUISHER.
3. POST OCCUPANCY PLACARD IN A CONSPICUOUS PLACE NEAR THE MAIN EXIT DOOR FROM THE SPACE. COORDINATE FINAL LOCATION WITH FIRE MARSHAL.
4. NEW TACTILE EXIT SIGN.

FIRE EXTINGUISHER NOTES

1. PROVIDE MIN. OF 2 TYPE ABC AND 1 TYPE K FIRE EXTINGUISHERS. G.C. TO VERIFY AND COORDINATE LOCATIONS AND QUANTITIES WITH LOCAL FIRE MARSHAL.
2. PER OFC, THE MINIMUM IS A 2A10BC EXTINGUISHER WITHIN 75' OF TRAVEL DISTANCE OF ALL AREAS.
3. NFPA INSPECTION TAGS SHALL BE ATTACHED TO ALL FIRE EXTINGUISHERS.

LEGEND

36" CLEAR PATH	POINT OF DIVERGENCE
44" CLEAR PATH	DIRECTION OF EGRESS
EMERGENCY LIGHT	
EXIT SIGN	

LIFE SAFETY PLAN

1/4" = 1'-0"

CORE STATES GROUP
135 Water Street
Suite 201
Naperville, IL 60540
312.218.4345
core-states.com

ISSUED FOR CONSTRUCTION

CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
BLDG RESPONSE	NOV 15, 2024
CONSTR SET	JAN 8, 2025

LIFE SAFETY PLAN

SHEET:
G100

8/12/2024 4:53 PM

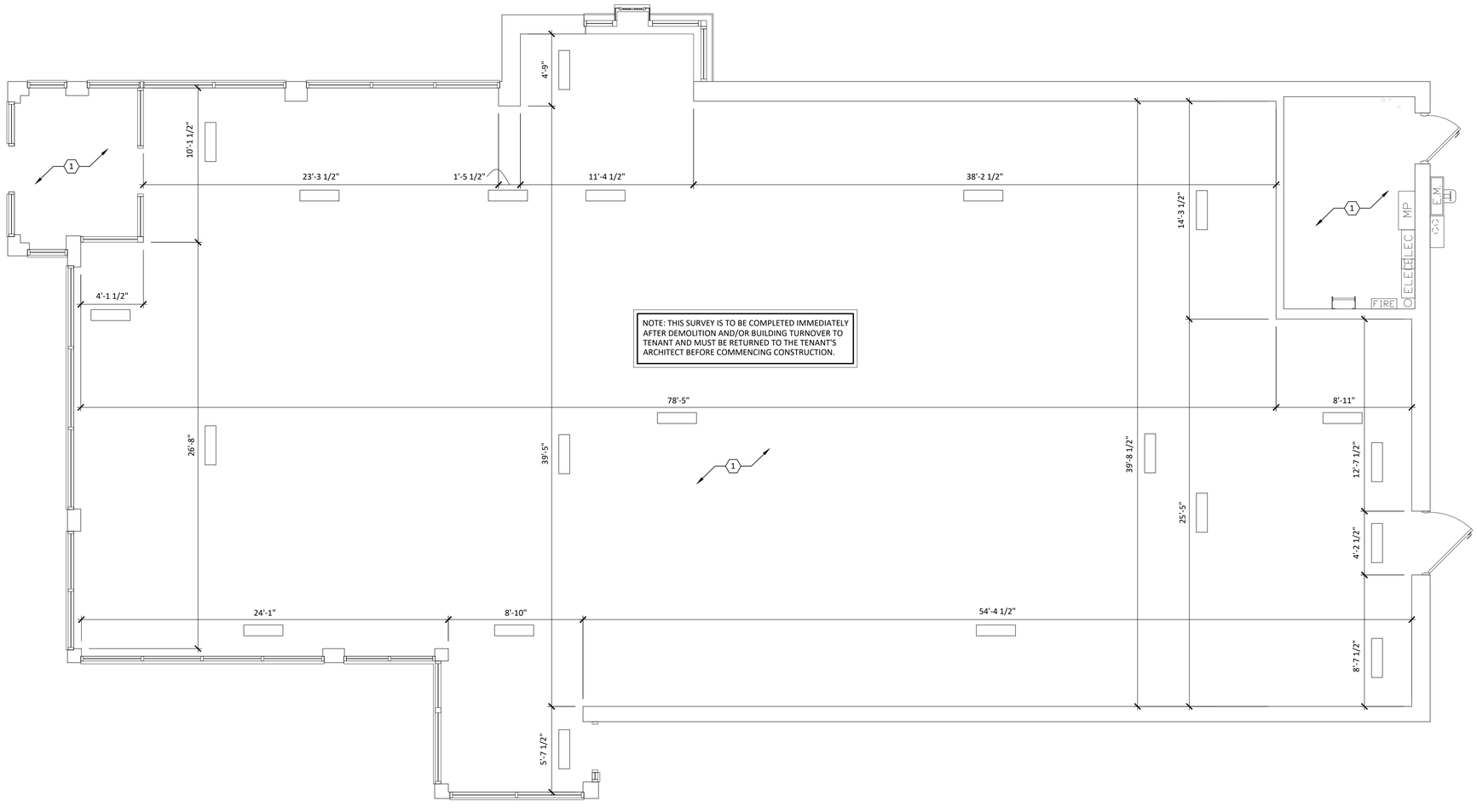
PREMISES PLAN GENERAL NOTES

A. ALL DIMENSIONS TO BE FIELD VERIFIED. NOTIFY ARCHITECT IMMEDIATELY IF DISCREPANCIES ARISE.

B. ALL DIMENSIONS ARE TO FACE OF EXISTING WALLS AND CENTERLINE OF FIXTURES UNLESS OTHERWISE NOTED.

PREMISES PLAN CODED NOTES (#)

1. REFER TO SLAB PLAN FOR SCOPE AND RESPONSIBILITY OF INTERIOR AND EXTERIOR SLAB WORK.



NOTE: THIS SURVEY IS TO BE COMPLETED IMMEDIATELY AFTER DEMOLITION AND/OR BUILDING TURNOVER TO TENANT AND MUST BE RETURNED TO THE TENANT'S ARCHITECT BEFORE COMMENCING CONSTRUCTION.

SURVEY CHECKLIST

THE FOLLOWING CHECKLIST AND PLAN SHALL BE COMPLETED BY THE GC AFTER TAKING POSSESSION OF AN EMPTY TENANT SPACE OR AFTER COMPLETING DEMOLITION. ALL ITEMS TO BE CHECKED OFF & SIGNED WITH NAME & DATE (COMPLETED BY), AND RETURNED TO THE ARCHITECT BEFORE COMMENCING CONSTRUCTION.

PLEASE COMPLETE ALL DIMENSIONS INDICATED. PLEASE NOTE THAT ALL DIMENSIONS SHOULD BE CLEAR DIMENSIONS (FROM THE INSIDE OF ONE WALL, OR COLUMN, TO THE INSIDE OF ANOTHER). IF CENTER TO CENTER DIMENSIONS ARE REQUIRED IT WILL BE NOTED. ALL DIMENSIONS SHOULD READ 0'-0" TO THE CLOSEST 1/8".

COMPLETED BY: _____

DATE: _____

☐ 1. INDICATE LOCATION & HEIGHT, UNDERSIDE OF EXISTING A/C UNIT & DUCTS.(IF APPLICABLE)

☐ 2. INDICATE LOCATION & HEIGHT, UNDERSIDE OF EXISTING WASTE PIPE & SIZE. (IF APPLICABLE)

☐ 3. INDICATE LOCATION & HEIGHT, UNDERSIDE OF EXISTING ROOF DRAIN & SIZE.

☐ 4. INDICATE LOCATION & HEIGHT, UNDERSIDE OF EXISTING MAIN SPRINKLER PIPE & SIZE

☐ 5. NOTE DIMENSIONS CORRESPONDING TO THE LETTERS A, B, C, D AND E, BELOW:

A - CLEAR HEIGHT UNDERSIDE OF ROOF/DECK.

B - CLEAR HEIGHT UNDERSIDE OF JOIST/BEAMS.

C - UNDERSIDE OF BULKHEAD

D - EXISTING CEILING HEIGHTS

E - BEAMS, LINTELS: LOCATE ON PLAN AND DIMENSION IN RELATION TO DEMISING WALL. SHOW CLEAR UNDERSIDE HEIGHTS.

F - EXISTING WALL CONDITION (PRECAST PANEL, STUD, GYP. BD. ETC.)

☐ 6. VERIFY IF ANY EXISTING COLUMNS OR ROOF DRAINS ARE HIDDEN IN INTERIOR OR DEMISING WALLS.

☐ 7. ELEC. PANEL MANUF. & MODEL #

☐ 8. PRIOR TO CONSTRUCTION START, GC TO VERIFY ALL EXISTING GLAZING IS INTACT. LANDLORD SHALL REPLACE BROKEN GLAZING WITH NEW TO MATCH EXISTING

☐ 9. INDICATE LOCATION & HEIGHT OF EXISTING GAS PIPE & SIZE.

☐ 10. VERIFY IF DEMISING WALLS GO UP TO THE ROOF. VERIFY THAT DEMISING WALL IS PROPERLY SEALED.

☐ 11. VERIFY IF ANY EXISTING EXTERIOR LIGHTS TO REMAIN ARE FUNCTIONING.

1 G200 DEMISED PREMISES VERIFICATION PLAN

1/4" = 1'-0"

CORE STATES GROUP
135 Water Street
Suite 201
Naperville, IL 60540
312.788.4445
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ISSUED FOR CONSTRUCTION

CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

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CONSTR SET	JAN 8, 2025

DEMISED PREMISES PLAN & NOTES

SHEET:
G200

7/30/2024 3:30 PM

VENDOR LIST

KITCHEN EQUIPMENT
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RACHEL MARCHETTI
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E: ELM@JOHNSON-LANCASTER.COM

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CARL MILLER
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-OR-

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RESPONSIBILITY MATRIX : WL 2024.12.14

Cava Responsibility Matrix

Note: The signed work letter supersede the plans and this matrix. This matrix supersedes anything shown on the set of drawings.

PRE-CONSTRUCTION	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Building Permits and City Fees					•	•			GC to pull and Cava will reimburse
Trade / Subcontractor Permits							•	•	
Landlord Construction Fees							•	•	
Barricade/Scaffolding							•	•	if applicable
Coming Soon Vinyl / Banners					•	•			GC to remove vinyl prior to turnover

01. GENERAL REQUIREMENTS	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Project Mngt, Supervision, General Labor							•	•	
GC Travel and Administrative Costs							•	•	
Temporary Facilities / Utilities							•	•	Inc. site storage, site office, bathroom, power, lighting, water and heating
Temporary Protection							•	•	Inc. protection for floors, millwork, furniture, equipment, tables, counters, etc
Layout and Pre-Construction Survey							•	•	
Equipment Rentals							•	•	Inc. barricades, fencing, heavy equipment
Testing and Inspections							•	•	Inc. any LL or 3rd party inspection fees
Trash Removal / Dumpsters							•	•	
Truck OSI Offloading							•	•	Inc. all lighting, millwork, furniture, misc. Ops items
Mall/Landlord Fees							•	•	
Final Cleaning (3) full cleaning visits)							•	•	1) punch, 2) health 3) Turnover. Inc. window cleaning, ceiling fixtures, walls, furniture, mirrors/glass, etc.
Surety, Completion, Performance Bonds							•	•	if required

02. DEMO / SITE WORK	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Demolition							•	•	Inc. all temp heaters, lights and receptacles. Scrape fireproofing as required. Includes awning removal/disposal if its not being replaced.
Hazardous Material/Abatement		•					•	•	Inc. asbestos abatement and mold remediation, Geo-seal
Earthwork		•					•	•	
Parking / Sidewalk Improvements		•					•	•	Inc. curb inlet, curb, sidewalks, wheelstops, retaining walls, ramps, parking lot light pole base
Site Utilities		•					•	•	Inc. water, fire, gas, sanitary, grease and electrical services.
Sewer/Inlets		•							Inc. manholes, catch basins, sediment/pollutant silt fence, drain tile, etc
Paving		•					•	•	Inc. new asphalt paving, top coating, striping, concrete paving, directional markers
Site Lighting & Misc Power		•					•	•	
Landscaping & Irrigation		•					•	•	Inc. hardscaping
Trash Enclosure		•					•	•	
Patio Improvements	•								repair cracks, fix lights, install or repaint rail

03. CONCRETE	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Trenching/Coring/Sawcutting Concrete Slab							•	•	Inc. sawcut for car detector loop
Foundations		•							
New Slab		•							
Trench Infill / Patching / Repairs							•	•	Inc. footing for crash bar
Slab Barriers		•							Inc. vapor and soil barriers
GPR / X-Ray							•	•	
Concrete Pads							•	•	Inc water heater and large cash safe pads

04. MASONRY	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
CMU		•					•	•	
Brick		•					•	•	
Stone	•								
Patio Breeze Block	•								

05. METALS	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Structural Steel		•					•	•	
Metal Staircases (Egress/Convenience)	•								
Guardrail/Hand Rails (Patio, drive lane, ADA, etc)							•	•	
Roof Screening		•					•	•	
Roof Ladder		•					•	•	
Stainless Steel Trims, Panels, Fillers, Corners and Top					•	•			inc. SS panels around hood

06. CARPENTRY	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Demising Walls - Framing	•								
Demising Walls – Gypsum Board	•								Taped, spackled and ready for prime paint
Outside Walls – Framing		•					•	•	
Outside Walls – Gypsum Board		•					•	•	Taped, spackled and ready for prime paint
Interior Walls - Framing/Gypsum Board							•	•	Inc. furring, insulation, taping, spackle
Ceiling - Framing							•	•	
Hard Ceiling - Gypsum Board							•	•	
Soft Ceiling - ACT Ceiling & Grid (AT-01)							•	•	
Rough Carpentry							•	•	Inc. all blocking for fixtures, signage, TVs, back of house, etc.
Finish Carpentry							•	•	Inc. half 1.5" thick wood walls and full height plank walls, managers desk
Millwork					•			•	Inc. assembling and bolting down tables, chairs, counters, DO shelf, trash station, gallery grid, POS caddy, ceiling cloud, queue railing, half wall, etc.
Access Panels							•		as required

07. THERMAL & MOISTURE PROTECTION	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Roofing							•	•	Tear off existing roofing system and completely replace.
Dampproofing & Waterproofing		•					•	•	only req, if space is above another space or if required by code
Wall Insulation		•					•	•	if required
Roof Insulation							•	•	Evaluate after membrane removed, replace if damaged and not code compliant
Sound Insulation							•	•	only if required in lease or by local code
Sound Attenuation Panels							•	•	
Fireproofing		•					•	•	any patching of existing fireproofing

08. STOREFRONT / BUILDING	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Exterior Signage					•	•			GC to provide power, support backing and termination
Awnings					•	•			
Storefront Glass/Entrance System		•					•	•	Inc. door threshold
Entry Vestibule		•					•	•	Inc. doors and hardware
Rear Door		•							
Exterior Façade Improvements							•	•	Inc. any facade repair to damage done by previous tenant
Window UV Protection Film					•	•			Inc. resdeals film
Window Shades					•	•			
Parking Signs					•	•		•	Sign and post by CAVA. Core drill and footing by GC. Specify if movable post are req.
Drive Lane Clearance Bar					•			•	GC to Fil footing for clearance bar and parking signs.

09. DOORS & WINDOWS / GLASS	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Interior Doors, Frames & Hardware							•	•	Inc. Elsecon door, emergency push bar and audible alarm.
PBC Window		•							
Interior Glass		•					•	•	Inc. baffles, railings, etc.
Sneeze Guard Glass & Trim					•	•			at serve line, Includes SS serve line cap
Mirror							•	•	inc. bathroom mirror

09. FINISHES	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Tectum Panels							•	•	
Floor Preparation							•	•	Inc. any ramping, floating, leveling and smoothing required
Floor Leveling		•					•	•	Inc. any ramping, floating, leveling and smoothing required
Epoxy Flooring (Kitchen area)							•	•	
Quarry Tile (Kitchen area alternate)	•								
Floor/Wall Tile							•	•	
FRP							•	•	
Plaster							•	•	
Thin Brick							•	•	
Concrete Seeling (Dining area)							•	•	
Cement Panels	•								
Vinyl Base							•	•	Inc. vinyl around millwork
Paints & Coatings							•	•	
Interior/Window Graphics					•	•			
Interior Signage, Vinyl, Braille Signage					•			•	
Framed Art and Faux Indoor Plants					•			•	

D10. SPECIALTIES	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Toilet Partitions	•								
Bathroom Accessories / Dispensers							•	•	Furnish includes: grab bars, sanitary napkin, toilet paper dispenser, mirror, baby changing table, air freshner, coat hooks, bathroom male/female signage
Kitchen Paper Towel, Soap and Chemical Dispensers					•	•			

D11. EQUIPMENT	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Kitchen Cooking Equipment					•	•			Ovens, Grills, Fryers, Ranges, Panini Press, Rice Cooker, Warmers, Ice Machine, Refrigerators/coolers
Stainless Steel Tables and trims					•	•			Inc. all prep tables and beverage counter. Inc. corner guards, wall caps and stand offs
Walk-In Cooler Box					•			•	GC to install trim around WIC. GC to connect lighting and to make walls, ceiling and roof modifications to accommodate WIC
Walk-In Cooler Box Refrigeration					•	•		•	KES to hang evaporator, make final connections of drain lines, install refrigeration lines from evaporator to condenser on roof and start-up. GC to place condenser on roof, provide sleeves and support
Walk-In Cooler Display Doors					•	•		•	KES to install Stylebine doors and shelving. GC to connect lighting
Stainless Steel Sink (4-comp, prep/hand sink, mop sink)					•	•			
Kitchen Shelving					•	•			
Lockers					•	•			
Dishwasher					•	•			
CO2 Tank					•	•		•	GC to chain to wall and provide CO2 leak detector
Soda Station and Soda Bag Rack					•	•			GC to provide and install water connection point
Soda Line Tubes from Rack to Soda Station					•	•		•	GC to provide and install 6" conduit
Smallware & Health & Hanging Items					•			•	
Water Softener	•								GC to make connections
Cash Safe					•			•	GC to bolt down, GC to install 4" pad
Brinks Smart Safe					•	•			GC to install 4" pad

D12. FURNITURE / FURNISHINGS	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Tables, Benches & Chairs					•			•	Inc. Clocks, Punch Clock, Aroma Disp, Mop Holders, Wire Shelves, Key Box, Chem Disp, menu holder, first aid kit,
Ops Health & Hanging Items					•			•	Inc. Clocks, Punch Clock, Aroma Disp, Mop Holders, Wire Shelves, Key Box, Chem Disp, menu holder, first aid kit,
Managers Desk							•	•	P-Lam desk with wall brackets. Includes shelf for printer
Outdoor Furniture, Trash Station and Umbrellas	•								
Patio Heaters, Fans	•								
Outdoor Planters & Plants	•								

D13. SPECIAL CONSTRUCTION	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Patio Improvements	•						•	•	Inc. planters, plants, partitions, railing, built in seating, etc
Pergola	•								
Wood Canopy							•	•	
PBC Canopy	•								
Outdoor Sun Shade	•								

D14. CONVEYING SYSTEM	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Elevators / Escalator	•								
Handicap Lift	•								
Dumbwaiter	•								

D15. PLUMBING	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Plumbing Service (Domestic, Sanitary, Vent)		•							Valved, and capped to tenant space
Plumbing Rough-In (Domestic, Sanitary, Vent)							•	•	GC to include jetting the Sanitary lines once
Waste Ejector Pump	•								
Plumbing Fixtures							•	•	Furnish inc: toilet, bath sink and faucet, BOH mop sink, floor drains, sinks and any fillers. Excludes SS kitchen sinks and faucets and mop sink faucet. Connections by GC.
Kitchen Equip: Water/Sanitary Connections							•	•	Includes connections to beverage stations, island/mid/dish sinks, ice machine, WIC condensate drain and pump, and hand sinks
Water Heater & Mop Sink/Faucet							•	•	
Grease Service / Stub							•	•	
Grease Interceptor							•	•	If required: interior and exterior
Gas Service		•							Valved and capped to space
Gas Flue, Water Heater Fresh Air Intake, Roof Penetration and Gooseneck		•							Inc. CPVC interior rough-in and tie-in to water heater
Gas Rough-In							•	•	
Kitchen Equip: Gas Connections							•	•	includes connections to fryer, stove/range and grill.

D15. MECHANICAL	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
HVAC Units & Curbs							•	•	
HVAC Distribution							•	•	Inc. supply, return, make-up/fresh-air ductwork, insulation, dampers
HVAC Unit Start-Up							•	•	
Air Curtains							•	•	
Kitchen Hood					•			•	Installation includes the SS panel to ceiling
PCU / ESP	•								
Grease & Fresh Air Ductwork							•	•	all ductwork by GC.
Kitchen Hood Exhaust Fan Unit					•			•	
VinoGuard System					•			•	
Kitchen Hood Fresh Air Intake Unit								•	
Bathroom Exhaust Fans & Curbs							•	•	Inc. any related roof work
Bathroom Exhaust Ductwork							•	•	
Temperature Control Wiring & Thermostats							•	•	
Diffusers, Registers & Grilles							•	•	GC to provide louvered opening at drink case and transfer grille at IT
Smoke Evacuation System	•								if required by code. Inc. ductwork
Air Test & Balance Report, Commissioning					•	•			

D15. FIRE & LIFE SAFETY	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Fire Detection Plan Engineering and Permits	•								
Fire Alarm Base Building Main Panel	•								
Fire Alarm System (Rough & Devices)	•						•	•	Any modifications of existing system by GC
Fire Detection Devices (Smoke/Heat)	•						•	•	
Fire Sprinkler Plan Engineering and Permits	•						•	•	if required
Fire Sprinkler System	•						•	•	Any modifications of existing system by GC
Annul System					•	•			
Fire Extinguisher (EX-01, FE)							•	•	Inc. FE cabinet

D16. ELECTRICAL	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
Electrical Service into Space		•							
Electric Meter		•							
Main Disconnect Switch		•							
Transformers		•							
Main Distribution Panel		•							
Sub-Panels, Breakers, Switches, Transformers							•	•	Includes main breakers from the MDP panel
Wiring, Conduit, Receptacle, Switches, Wirenold etc.							•	•	Inc. 6" conduit for soda machine
Light Fixtures (inc. EM, Exit, Tracks, Lamps)					•			•	
Lighting Control Panels & Switches					•			•	
Kitchen Equip: Electric Connections							•	•	includes internal hood/ansul wiring, gas shut off connection. Ice machine power cord to be hard wired, glass door light connection, WIC lights, etc.
CO2 Detection							•	•	stand alone unit for CO2 tanks stored in BOH
Security Low Voltage Wiring					•	•			GC to provide all required conduit
Security Equipment					•	•			Inc. devices, cameras, panels
Audio Low Voltage Wiring					•	•			GC to provide all required conduit
Audio Equipment/Devices					•	•			Inc. speakers, rack, volume control
Digital Menu Boards Monitors, STB's & Brackets					•	•			GC to provide blocking and power
Pick Up By Car Technology					•	•		•	GC to cut into drive-thru and install wiring. Vendor to terminate and install rack
IT Low Voltage Phone/Data Wiring					•	•			GC to provide all required conduit
IT Rack, Switches & other Equip. for POS & Server					•	•			Inc. rack, phone, computers and printers

POST-CONSTRUCTION	N/A	Existing	Landlord Furnished	Landlord Installed	CAVA Furnished	CAVA Installed	General Contractor Furnished	General Contractor Installed	Remarks
TCO/CO, Testing & Inspections							•	•	includes posting code required occupancy signage where inspector desires
Special or 3rd Party Inspections							•	•	
As-bi & MEP As-Built Submittals							•	•	
Warranties/Operation Manuals					•	•	•	•	

CORE STATES GROUP
135 Water Street
Suite 201
Naperville, IL 60540
P: 312.784.5455
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ISSUED FOR CONSTRUCTION

CAVA

CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
1 BLDG RESPONSE	NOV 15, 2024
2 CONSTR SET	JAN 8, 2025

RESPONSIBILITY MATRIX & SCHEDULES

SHEET:
G600

1/8/2025 6:45 PM

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01010 - SUMMARY OR WORK

1.1 CONTRACT
- A. UNLESS OTHERWISE NOTED. "THE OWNER" OR "THE TENANT" REFERS TO TH EPERSONS, ORGANIZATION AND/OR BUSINESS ENTERING INTO AN AGREEMENT WITH THE CONTRACTOR TO EXECUTE THE WORK INDICATED IN THE CONTRACT DOCUMENTS. "THE LANDLORD" REFERS TO THE PERSON, ORGANIZATION AND/OR BUSINESS THAT OWNS OR IS RESPONSIBLE FOR MANAGING THE PROPERTY ON WHICH THE WORK IS TO BE EXECUTED. THE CONTRACTOR'S RESPONSIBILITIES TO EACH PARTY IS DESCRIBED IN THE SPECIFICATIONS AND DOCUMENTS BELOW.
- B. THE "WORK" INCLUDES OWNER IMPROVEMENTS TO AN EXISTING TENANT SPACE AND INCLUDES NEW PARTITIONS, FINISHES AND MODIFICATIONS TO HVAC, PLUMBING, ELECTRICAL, AND FIRE PROTECTION SYSTEMS AND ACCESS CONTROL SYSTEMS.
- C. OWNER-FURNISHED ITEMS INCLUDE: FURNITURE, OFFICE EQUIPMENT, TELEPHONE AND AUDIO/VISUAL CABLING AND EQUIPMENT.
- D. OWNER-FURNISHED/ CONTRACTOR-INSTALLED ITEMS AS INDICATED IN THE DRAWINGS SHALL BE RECEIVED, PROTECTED, AND INSTALLED AS PART OF THE CONTRACT.
- E. PERMITS AND INSPECTIONS

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS REQUIRED TO PERFORM THE WORK
2. THE CONTRACTOR IS RESPONSIBLE FOR INSPECTIONS REQUIRED FOR THE JURISDICTION IN WHICH THE WORK IS PERFORMED. VERIFY WITH LOCAL REGULATORY AGENCY EXACT NUMBER, TYPE AND SCHEDULE OR INSPECTIONS REQUIRED FOR THE WORK PRIOR TO COMMENCING WITH THE WORK.
3. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH DOCUMENTATION AND SCHEDULING NECESSARY FOR OCCUPANCY PERMIT.
   - F. CONTRACT DOCUMENTS
4. THE AIA "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION" AIA DOCUMENT A201, 1997 EDITION, PUBLISHED BY THE AMERICAN INSTITUTE OF ARCHITECTS, HEREINAFTER REFERRED TO AS "GENERAL CONDITIONS", IS HEREBY MADE PART OF THE CONTRACT DOCUMENTS, THE SAME AS IF BOUND HEREIN.
5. THE CONTRACT DOCUMENT CONSIST OF THE FOLLOWING:
   - a. OWNER-CONTRACTOR AGREEMENT ("THE CONTRACT")
   - b. GENERAL CONDITIONS
   - c. DRAWINGS AS DATED IN AGREEMENT ("THE DRAWINGS")
   - d. ADDENDA
   - e. MODIFICATIONS
6. THE CONTRACT DOCUMENTS ARE INSTRUMENTS OF SERVICE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT WHETHER THE PROJECT FOR WHICH THEY ARE PREPARED IS EXECUTED OR NOT. THE CONTRACT DOCUMENTS ARE NOT TO BE USED BY THE OWNER, LANDLORD OR TENANT FOR OTHER PROJECTS OR EXTENSIONS TO THE PROJECT NOR ARE THEY TO BE MODIFIED IN ANY MANNER WHATSOEVER EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO THE ARCHITECT.

SECTION 01030 - ALTERNATES AND UNIT PRICES

1.1 GENERAL
- A. THE CONTRACTOR SHALL PROVIDE PRICING FOR ALL ALTERNATIVES INDICATED IN THE BID FORM.
- B. THE CONTRACTOR SHALL PROVIDE UNIT PRICING FOR ITEMS IDENTIFIED AS REQUESTED BY OWNER.
- C. THE OWNER RESERVES THE RIGHT TO REDUCE OR INCREASE THE TOTAL SCOPE OF WORK BY ACCEPTING ANY OF THE ALTERNATIVES OR ADDED/DELETED UNIT PRICE ITEMS.

SECTION 01035 - SUBSTITUTIONS

1.1 GENERAL
- A. THE CONTRACTOR'S BID SHALL BE BASED ON PROVIDING ALL SPECIFIED ITEMS. SUBSTITUTIONS SHALL BE CONSIDERED ONLY UNDER THE FOLLOWING CIRCUMSTANCES:
  - a. THE ITEM IS SHOWN TO HAVE A PROHIBITIVELY LONG LEAD TIME.
  - b. AN ITEM OF EQUAL APPEARANCE AND EQUAL OR GREATER QUALITY TO THE SPECIFIED ITEM CAN BE PROVIDED AT SUBSTANTIAL SAVINGS TO THE OWNER.
- B. SUBSTITUTIONS SHALL BE CONSIDERED BY THE ARCHITECT FOR ACCEPTANCE UNDER THE FOLLOWING PROCEDURE:
  - a. THE ARCHITECT REQUIRES SEVEN (5) DAYS FOR REVIEW OF THE CONTRACTOR'S REQUEST FOR SUBSTITUTION.
  - b. THE CONTRACTOR'S REQUEST FOR SUBSTITUTION SHALL INCLUDE PRODUCT INFORMATION AND SAMPLES AS DEEMED NECESSARY BY THE ARCHITECT OF BOTH THE SPECIFIED ITEM AND PROPOSED SUBSTITUTION. CHARACTERISTICS OF BOTH PRODUCTS SHALL BE CLEARLY IDENTIFIED BY THE ARCHITECT'S EVALUATION.

SECTION 01040 - COORDINATION

1.1 GENERAL COORDINATION
- A. COORDINATION WITH BASE BUILDING AND OTHER BUILDING TENANTS:

1. EXERCISE EXTREME CARE AND PRECAUTION DURING CONSTRUCTION OF THE WORK. SCHEDULE WORK TO MINIMIZE DISTURBANCES TO ADJACENT SPACES AND/OR STRUCTURES AND THEIR OCCUPANTS, PROPERTY, PUBLIC THOROUGHFARES, ETC. THE CONTRACTOR SHALL TAKE PRECAUTIONS AND BE RESPONSIBLE FOR THE SAFETY OF THE BUILDING OCCUPANTS FROM CONSTRUCTION PROCEDURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY OVERTIME COSTS INCURRED THEREBY.
2. THE CONTRACTOR SHALL BE REQUIRED TO MEET ALL LANDLORD REQUIREMENTS FOR CONSTRUCTION.
3. THE CONTRACTOR SHALL COORDINATE WITH THE LANDLORD ALL WORK REQUIRED BY THE TENANT THAT OCCURS OUTSIDE THE TENANT SPACE AND IS ON OR WITHIN THE BASE BUILDING. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND INTEGRITY OF ALL PENETRATIONS REQUIRED TO THE EXISTING ROOF AND FOR MEETING ALL LANDLORD REQUIREMENTS.
4. THE CONTRACTOR SHALL REVIEW THE BASE BUILDING CONTRACT DOCUMENTS AND SHALL COMPLY WITH BASE BUILDING REQUIREMENTS AND DESIGN CRITERIA.
5. PRIOR TO DRILLING SLAB PENETRATIONS, THE CONTRACTOR SHALL DO THE FOLLOWING:
   - a. CLEARLY IDENTIFY THE LOCATION OF SLAB PENETRATIONS FOR ARCHITECT'S REVIEW.
   - b. COORDINATE WITH EXISTING CONDITIONS BELOW SLAB TO INSURE NO CONFLICTS WITH EXISTING DUCTWORK, SPRINKLER PIPING, CEILING CONDITIONS, ETC.
   - c. X-RAY PROPOSED SLAB PENETRATION LOCATIONS TO IDENTIFY STRUCTURAL CONFLICTS AS REQUIRED BY LANDLORD.

- B. COORDINATION WITH TENANT IN OCCUPIED RENOVATION:

1. COORDINATE HOURS OF OPERATION WITH TENANT PRIOR TO CONSTRUCTION.
2. ALL LOUD CONSTRUCTION SHALL BE PREFORMED OUTSIDE OWNER'S NORMAL HOURS OF OPERATION. LOUD CONSTRUCTION SHALL INCLUDE, BUT NOT LIMITED TO THE FOLLOWING: DEMOLITION, FRAMING, GWB INSTALLATION, DUCTWORK INSTALLATION, PULLING OF ELECTRICAL WIRING.
3. ALL ODOR PRODUCING CONSTRUCTION SHALL BE PERFORMED OUTSIDE THE OWNER'S NORMAL HOURS OF OPERATION. VERIFY ODOR PRODUCING CONSTRUCTION AND REVIEW ALL ITEMS WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION. ODOR PRODUCING CONSTRUCTION SHALL INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING: APPLICATION OF ALKYD OR OIL BASED COATINGS, INSTALLATION OR ITEMS REQUIRING ADHESIVES
4. PROVIDE TEMPORARY DUST-PROOF PARTITIONS AS NECESSARY TO SEPARATE CONSTRUCTION ACTIVITIES FROM OWNERS OPERATIONS. REVIEW PROPOSED LOCATIONS OF TEMPORARY DUST-PROOF PARTITIONS WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION.

- C. COORDINATION WITH OWNER-SUPPLIED ITEMS:

1. MAKE NECESSARY PROVISIONS FOR ITEMS TO BE FURNISHED OR INSTALLED BY OWNER AS INDICATED ON THE DRAWINGS. SUCH PROVISIONS INCLUDE, BUT ARE NOT LIMITED TO, PLUMBING & ELECTRICAL REQUIREMENTS.
2. PROVIDE PROJECTION FOR OWNER-SUPPLIED ITEMS UNTIL COMPLETION OF THE PROJECT.
3. THE CONTRACTOR IS TO INCLUDE THE INSTALLATION COST OF OWNER-SUPPLIED ITEMS UNLESS OTHERWISE NOTED.
4. ANY AMBIGUITY OR NEED FOR CLARIFICATION REGARDING SCOPE OF WORK RELATED TO OWNER-SUPPLIED ITEMS TO BE REVIEWED WITH THE ARCHITECT PRIOR TO COMMENCING WITH THE WORK.
5. TELEPHONE AND DATA WORK SHALL BE COORDINATED BY THE CONTRACTOR WITH OWNER'S REPRESENTATIVE.
6. SECURITY SYSTEM WORK SHALL BE COORDINATED BY THE CONTRACTOR WITH OWNER'S REPRESENTATIVE.

- D. CUT AND FIT COMPONENTS FOR ALTERATION OF EXISTING WORK AND INSTALLATION OR NEW YORK. PATCH DISTURBED AREAS TO MATCH ADJACENT MATERIALS AND FINISHES.
- E. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THAT NOCONFLICTS EXIST IN LOCATIONS OF ANY MECHANICAL, TELEPHONE, ELECTRICAL, PLUMBING AND SPRINKLER EQUIPMENT (TO INCLUDE PIPING, DUCT WORK, STRUCTURAL MEMBERS AND CONDUIT) AND THAT REQUIRED CLEARENCES FOR INSTALLATIONS AND MAINTENANCE OF ABOVE EQUIPMENT ARE PROVIDED. ELEMENTS IN CONFLICT SHALL BE DETERMINED AND REVIEWED WITH ARCHITECT FOR RESOLUTION PRIOR TO CONSTRUCTION.
- F. CONTRACTOR SHALL ORDER AND SCHEDULE DELIVERY MATERIALS IN AMPLE TIME TO AVOID DELAYS IN CONSTRUCTION. IF AN ITEM IS FOUND TO BE UNAVAILABLE OR HAVE LONG A LONG LEAD TIME, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT WITHIN SEVEN (7) DAYS OF CONTRACT AWARD.

DIVISION 1 - GENERAL REQUIREMENTS - cont.

SECTION 01300 - SUBMITTALS

1.1 GENERAL
- A. WITHIN SEVEN (7) DAYS OF THE CONTRACT AWARD, THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT A SCHEDULE OF ALL SUBMITTALS IDENTIFYING ESTIMATED DATE OF SUBMISSION. SUBMITTALS SHALL INCLUDE BUT ARE NOT LIMITED TO:

1. FINISHES
2. CARPET SEAMING DIAGRAM
3. DOORS, FRAMES, HARDWARE AND STOREFRONT
4. GLASS
5. METALS
6. MILLWORK
7. EQUIPMENT
8. APPLIANCES
9. MECHANICAL EQUIPMENT, DIFFUSERS, GRILLES, DEVICES, ETC.
10. ELECTRICAL EQUIPMENT, LIGHT FIXTURES, CONTROLS, DEVICES, ETC.
11. PLUMBING EQUIPMENT, FIXTURES, DEVICES, ETC.
12. SPRINKLER PLAN

- B. PREPARATION OF SUBMITTALS SHALL BE AS FOLLOWS:

1. SUBMIT ONE (1) REPRODUCIBLE COPY AND TWO (2) PRINTS OF EACH SHOP DRAWING.
2. FOR CATALOG CUTS, BROCHURES, AND OTHER STANDARD PRINTED OR PUBLISHED PRODUCT DATA, SUBMIT NUMBER OF COPIES NEEDED BY CONTRACTOR, PLUS TWO (2) COPIES TO BE RETAINED BY ARCHITECT.
3. THE CONTRACTOR SHALL SUBMIT A MINIMUM OF THREE (3) SAMPLES OF FINISHES. THE ARCHITECT SHALL RETAIN TWO (2) SAMPLES OF FINISHES FOR RECORD AND RETURN A MINIMUM OF ONE SAMPLE TO CONTRACTOR.

- C. THE CONTRACTOR SHALL PROVIDE MANUFACTURER'S SPECIFICATIONS, INSTALLATION INSTRUCTIONS, SHOP DRAWINGS AND SAMPLES FOR REVIEW AND APPROVAL PRIOR TO ORDERING OR PROCEEDING WITH THE WORK. NO CONSTRUCTION SHALL PROCEED UNTIL SUBMITTALS ARE APPROVED.
- D. CONTRACTOR SHALL ALLOW FIVE (5) WORKING DAYS FOR THE ARCHITECT AND CONSULTANTS TO THE ARCHITECT TO REVIEW SUBMITTALS. ALL SUBMITTALS NOT REVIEWED DIRECTLY BY THE ARCHITECT, BUT RATHER CONSULTANTS TO THE ARCHITECTS, SHALL BE SUBMITTED SIMULTANEOUSLY TO BOTH THE ARCHITECT AND THE CONSULTANT AND SHALL BE NOTED AS SUCH. THE CONTRACTOR SHALL BOT PROCEED WITH WORK UNTIL BOTH THE ARCHITECT AND CONSULTANT HAVE APPROVED THE SUBMITTAL. NO EXTENSION OF THE CONTRACT TIME WILL BE GRANTED BECAUSE OF FAILURE TO PROVIDE SUBMITTALS FOR THE ARCHITECT'S REVIEW COORDINATION IN A TIMELY FASHION.
- E. THE ARCHITECT RESERVES THE RIGHT TO REJECT AND AND ALL ITEMS INSTALLED WITHOUT PRIOR REVIEW AND APPROVAL BY THE ARCHITECT.
- F. REFER TO SPECIFIED ITEMS FOR SPECIFIC SUBMITTAL REQUIREMENTS.

SECTION 01400 - QUALITY CONTROL

1.1 GENERAL
- A. DIMENSIONS AND TOLERANCES:

1. DO NOT SCALE DRAWINGS GOVERN. VERIFY DIMENSIONS WITH FIELD CONDITIONS. IF DISCREPANCIES AND DISCOVERED BETWEEN FIELD CONDITIONS AND DRAWINGS OR BETWEEN DRAWINGS, CONTRACT THE ARCHITECT FOR RESOLUTION BEFORE PROCEEDING.
2. HORIZONTAL DIMENSIONS INDICATED ARE TO/FROM FINISHED FACE OF PARTITION, EXCEPT AS NOTED.
3. VERTICAL DIMENSIONS INDICATED ARE TO/FROM FINISHED FACE OF PARTITION, EXCEPT AS NOTED.
4. FLOOR TOLERANCE: THE CONTRACTOR IS TO IMMEDIATELY VERIFY SLOPE AND REPORT AND DEVIATION OVER A $\frac{1}{4}$ INCH SLOPE IN 10 FEET TO THE ARCHITECT PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LEVELING ALL AREAS TO ACHIEVE A SLOP DEVIATION AND SLIDING DOORS.
5. DIMENSIONS ARE NOT ADJUSTABLE WITHOUT APPROVAL OF THE ARCHITECT UNLESS NOTED (+-).
6. DIMENSIONS INDICATED TO BE "CLEAR" OR "CLR" SHALL BE MAINTAINED. ANY DISCREPANCIES OR VARIATIONS IN THESE DIMENSIONS SHALL BE REVIEWED WITH THE ARCHITECT BEFORE BEGINNING CONSTRUCTION.
7. ANY DIMENSION NOTED "VERIFY" OR "VIF" MUST BE REVIEWED WITH THE ARCHITECT BEFORE BEGINNING CONSTRUCTION.
8. THE CONTRACTOR SHALL CONTINUOUSLY CHECK ARCHITECTURAL AND STRUCTURAL CLEARANCES FOR ACCESSIBILITY OF EQUIPMENT AND MECHANICAL AND ELECTRICAL SYSTEMS. NO ALLOWANCE OF ANY KIND WILL BE MADE FOR THE CONTRACTOR'S FAILURE TO FORESEE MEANS OF INSTALLING EQUIPMENT INTO POSITION INSIDE STRUCTURES.

- B. OBSERVATION OF WORK

1. THE ARCHITECT, ACTING AS THE OWNER'S DESIGNATED AGENT FOR DESIGN OF THIS PROJECT, WILL EXERCISE SOLE AUTHORITY FOR DETERMINING CONFORMANCE OF MATERIALS, EQUIPMENT AND SYSTEMS WITH THE INTENT OF THE DESIGN. REVIEW AND ACCEPTANCE OF ITEMS PROPOSED BY CONTRACTOR FOR INCORPORATION INTO THE WORK WILL BE BY THE ARCHITECT. THIS FUNCTION OF THE ARCHITECT WILL APPLY BOTH TO CONTRACT AS INITIALLY SIGNED, AND TO THE CHANGES TO CONTRACT BY MODIFICATION DURING PROGRESS OF WORK.
2. IF AT ANY TIME BEFORE COMMENCEMENT OF WORK, OR DURING PROGRESS THEREOF, THE CONTRACTOR'S METHODS, EQUIPMENT OR APPLIANCES ARE INEFFICIENT OR INAPPROPRIATE FOR SECURING QUALITY OR WORK, OR RATE OF PROGRESS INTENDED BY CONTRACT DOCUMENTS, THE OWNER MAY ORDER THE CONTRACTOR TO IMPROVE THEIR QUALITY OR INCREASE THEIR EFFICIENCY. THIS WILL NOT RELIEVE THE CONTRACTOR OF HIS SURETIES FROM THEIR OBLIGATIONS TO SECURE QUALITY OF WORK AND RATE OF PROGRESS SPECIFIED IN CONTRACT.

- C. REFERENCE TO STANDARDS:

1. MATERIALS AND WORKMANSHIP SPECIFIED BY REFERENCE TO NUMBER SYMBOL, TO TITLE OF A SPECIFICATION SUCH AS COMMERCIAL STANDARDS, FEDERAL SPECIFICATION, TRADE ASSOCIATION STANDARD, OR OTHER SIMILAR STANDARD, SHALL COMPLY WITH REQUIREMENTS IN LATEST EDITION OR REVISION THEREOF AND WITH ANY AMENDMENT OR SUPPLEMENT THERETO IN EFFECT ON DATE OF ORIGIN OF THIS PROJECT'S CONTRAST DOCUMENTS. SUCH STANDARD, EXCEPT AS MODIFIED HEREIN, SHALL HAVE FULL FORCE AND EFFECTS AS THOUGH PRINTED IN CONTRACT DOCUMENTS.
2. THE CONTRACTOR SHALL WAIVE "COMMON PRACTICE" AND "COMMON USAGE" AS CONSTRUCTION CRITERIA WHEREVER DETAILS AND CONTRACT DOCUMENTS OR GOVERNING CODES, ORDINANCES, ETC., REQUIRE GREATER QUANTITY OR BETTER QUALITY THAN COMMON PRACTICE OR COMMON USAGE WOULD REQUIRE.

- D. EXISTING CONDITIONS:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING CONTRACT DOCUMENTS, FIELD CONDITIONS, AND DIMENSIONS FOR ACCURACY AND CONFIRMING THAT WORK IS BUILDABLE AS SHOWN BEFORE PROCEEDING WITH CONSTRUCTION. CLARIFICATION REGARDING ANY CONFLICTS SHALL BE RECEIVED PRIOR TO RELATED WORK BEING STARTED.
2. THE CONTRACTOR'S SHALL NOTIFY THE OWNER IN WRITING OF ANY DEFICIENCIES IN BASE CONSTRUCTION PRIOR TO THE COMMENCEMENT OF THIS WORK. ANY UNREPORTED DEFICIENCIES WILL BECOME THE RESPONSIBILITY OF THE CONTRACTOR TO CORRECT.

- E. IN THE VENT OF CONFLICT BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN. DETAIL DRAWINGS TAKE PRECEDENCE OVER DRAWINGS OF LARGER SCOPE. SHOULD THE CONTRACTOR AT ANY TIME DISCOVER AN ERROR IN A DRAWING OR SPECIFICATION, OR A DISCREPANCY OR VARIATION BETWEEN DRAWINGS, OR A DISCREPANCY OR VARIATION BETWEEN DIMENSIONS AND MEASUREMENTS AT SITE, OR LACK OF DIMENSIONS OR OTHER INFORMATION, THE CONTRACTOR SHALL NOT PROCEED WITH THE WORK AFFECTED UNTIL CLARIFICATION HAS BEEN MADE.
- F. THE CONTRACTOR SHALL COORDINATE AND REVIEW THE LAYOUT AND EXACT LOCATION OF THE ITEMS LISTED BELOW IN THE FIELD PRIOR TO CONSTRUCTION. ANY CONFLICTS THAT ARISE SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION IN WRITING FOR RESOLUTION PRIOR TO PROCEEDING WITH CONSTRUCTION:

1. PARTITIONS
2. DOORS
3. CORE DRILL LOCATIONS
4. ELECTRICAL/TELEPHONE OUTLETS
5. THERMOSTATS
6. LIGHTS SWITCHES
7. LIGHT FIXTURES
8. CHANGES UB CEILING PLACE, AND OTHER CEILING FEATURES
9. VAV BOXES, SUPPLEMENTAL AC UNITS AND OTHERT MECHANICAL, ELECTRICAL, OR PLUMBINGS ITEMS REQUIRING CEILING ACCESS OR AFFECTING CEILING HEIGHT.

- G. THE CONTRACTOR SHALL FOLLOW MANUFACTURER'S RECOMMENDED SPECIFICATION & INSTALLATION PROCEDURES. IF THESE ARE CONTRARY TO THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT, IN WRITING IMMEDIATELY, TO RESOLVE DISCREPANCIES PRIOR TO PROCEEDING.
- H. ONLY NEW ITEMS OF RECENT MANUFACTURE, OF THE HIGHEST QUALITY, FREE FROM DEFECTS, WILL BE PERMITTED ON THE WORK. REJECTED ITEMS SHALL BE REMOVED IMMEDIATELY FORM THE WORK AND REPLACED WITH ITEMS OF THE QUALITY SPECIFIED. FAILURE TO REMOVE REJECTED MATERIALS AND EQUIPMENT SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY FOR QUALITY AND CHARACTER OF ITEMS USED NOR FROM ANY OTHER OBLIGATION IMPOSED BY THE CONTRACT.

DIVISION 1 - GENERAL REQUIREMENTS - cont.

SECTION 01400 - QUALITY CONTROL (CONT'D)

- I. THE FINISHED WORK SHALL BE FIRM, WELL ANCHORED, IN TRUE ALIGNMENT, PLUMB, LEVEL, WITH SMOOTH, CLEAN, UNIFORM APPEARANCE WITHOUT WAVES, DISTORTIONS, HOLES, MARKS, CRACKS, STAINS, OR DISCOLORATION. JOINTINGS SHALL BE CLOSE FITTING, NEAT AND WELL SCRIBED. THE FINISHED WORK SHALL HAVE NO EXPOSED UNSIGHTLY ANCHORS OR FASTENERS AND SHALL NOT PRESENTS HAZARDOUS, UNSAFE CORNERS. WORK SHALL HAVE THE PROVISION FOR EXPANSION, CONTRACTION, AND SHRINKAGE AS NECESSARY TO PREVENT CRACKS, BUCKLING AND WARPING DUE TO TEMPERATURE AND HUMIDITY CONDITIONS.
- J. ATTACHMENTS, CONNECTIONS, OR FASTENINGS OF ANY NATURE ARE TO BE PROPERLY AND PERMANENTLY SECURED IN CONFORMANCE WITH BEST PRACTICE AND THE CONTRACTOR IS RESPONSIBLE FOR IMPROVING THEM ACCORDINGLY. THE DRAWINGS SHOW ONLY SPECIAL CONDITIONS TO ASSIST THE CONTRACTOR. THEY DO NOT ILLUSTRATE EVERY SUCH DETAIL.
- K. NO WORK DEFECTIVE IN CONSTRUCTION OR QUALITY OR DEFICIENT IN ANY REQUIREMENTS OF DRAWINGS AND SPECIFICATIONS WILL BE ACCEPTABLE IN CONSEQUENCE OF THE OWNER'S OR ARCHITECT'S FAILURE TO DISCOVER OR TO POINT OUT DEFECTS OR DEFICIENCIES DURING CONSTRUCTION; NOR WILL PRESENCE OF INSPECTORS ON WORK RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR SECURING QUALITY AND PROGRESS OR WORK AS REQUIRED BY THE CONTRACT. DEFECTIVE WORK REVEALED WITHIN REQUIRED TIME GUARANTEES, AS SPECIFIED IN THE CONTRACT, SHALL BE REPLACED BY WORK CONFORMING WITH THE INTENT OF THE CONTRACT. NO PAYMENT WHETHER PARTIAL OR FINAL. SHALL BE CONSTRUED AS AN ACCEPTANCE OF DEFECTIVE WORK OR IMPROPER MATERIALS.

SECTION 0150 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

1.1 GENERAL
- A. THE CONTRACTOR IS RESPONSIBLE FOR AND SHALL PROVIDE PROTECTION FOR ANY EXISTING FINISHES INCLUDING ELEVATORS, LOBBIES, STAIRS, AND CORRIDORS OF THE BASE BUILDING.
- B. THE CONTRACTOR SHALL PROTECT EXISTING BASE BUILDING WINDOW COVERINGS.
- C. THE CONTRACTOR SHALL PATCH AND REPAIR FIREPROOFING DAMAGED OR REMOVED DURING PERFORMANCE OF THE WORK. FIREPROOF NEW PENETRATIONS REQUIRED BY THE WORK.
- D. DEBRIS SHALL BE REMOVED FROM THE SITE ON A DAILY BASIS. UPON COMPLETION OF THE WORK, REMOVE DEBRIS FROM THE SITE CREATED BY THE WORK PROVIDED UNDER THE CONTRACT AND LEAVE AREAS CLEAN.
- E. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN A JOB SITE TELEPHONE AND E-MAIL CONNECTION.

SECTION 01700 - CONTRACT CLOSEOUT

1.1 GENERAL
- A. WHEN THE CONTRACTOR CONSIDERS THAT THE WORK IS SUBSTANTIALLY COMPLETE, THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ARCHITECT A LIST OF ITEMS TO BE COMPLETED OR CORRECTED. THE ARCHITECT SHALL VISIT THE SITE TO DETERMINE THE STATUS OF COMPLETION AND AMEND THE CONTRACTOR'S LIST AS REQUIRED. UPON THE CONTRACTOR'S STATED COMPLETION OF THE ITEMS LISTED TO BE COMPLETED OR CORRECTED, AND PRIOR TO FINAL PAYMENT, THE ARCHITECT SHALL PERFORM A FINAL INSPECTION OF ALL ITEMS LISTED. FAILURE TO COMPLETE LISTED ITEMS, AS DETERMINED BY THE ARCHITECT, SHALL REQUIRE ADDITIONAL SITE VISITS AS NEEDED BY THE ARCHITECT TO DETERMINE FINAL COMPLETION. THE COST OF ANY ADDITIONAL SITE VISITS SHALL BE BILLED HOURLY BASED ON THE ARCHITECTS PUBLISHED HOURLY RATES AND SHALL BE DEDUCTED FROM THE CONTRACTOR'S FINAL PAYMENT.
- B. THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE OWNER BY THE CONTRACTOR BEFORE REQUESTING FINAL PAYMENT:

1. COMPLETE RELEASE OR WAIVER OF LIENS - DOCUMENTATION SHALL BE NOTARIZED AND SIGNED.
2. CERTIFICATES OF INSPECTION APPROVALS FOR REQUIRED OCCUPANCY PERMIT AND SIMILAR APPROVALS OR CERTIFICATIONS BY GOVERNING AUTHORITIES, ASSURING THE OWNER'S FULL ACCESS AND USE OF COMPLETED WORK.
3. A NOTEBOOK CONTAINING WARRANTIES, BONDS, GUARANTEES, AFFIDAVITS AND CERTIFICATES REQUIRED BY THE CONTRACT DOCUMENTS INCLUDE ANY OPERATING AND CLEANING INSTRUCTIONS FOR APPLIANCES, MATERIALS, FINISHES, SYSTEMS AND EQUIPMENT INSTALLED AS PART OF THE WORK.

- C. FINAL CLEANING: REMOVE PROTECTIVE COATINGS, COVERINGS, ANY TAGS, LABELS OR OTHER MARKINGS FROM MATERIALS FIXTURES AND EQUIPMENT. CLEAN WALL, FLOOR AND CEILING SURFACES INCLUDING TRIM, OUTLET AND SWITCH PLATES, WINDOWS, WINDOW SILLS, AND WINDOW TREATMENTS. CLEAN PLUMBING FIXTURES TO A SANITARY CONDITION.

4. GC TO PROVIDE AS-BUILT REDLINES TO AOR FOR FINAL CLOSE OUT DOCUMENTS.

DIVISION 2 - SITEWORK

SECTION 02070 - SELECTIVE DEMOLITION

1.1 FIELD CONDITIONS
- A. NOTIFY ARCHITECT OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DRAWINGS BEFORE PROCEEDING WITH SELECTIVE DEMOLITION.
- B. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL SCHEDULE A MEETING WITH THE OWNER AND THE ARCHITECT TO REVIEW ALL ITEMS TO BE SALVAGED. SALVAGED ITEMS MAY NOT NECESSARILY BE INDICATED FOR REUSE. SALVAGED ITEMS MAY INCLUDE:

1. MILLWORK
2. DOORS, FRAMES, AND HARDWARE
3. LAY-IN CEILING PANELS AND CEILING GRID
4. ALL GLASS ENTRANCE SYSTEMS COMPONENTS
5. HVAC DIFFUSERS, GRILLES, EQUIPMENT AND CONTROLS
6. ELECTRICAL EQUIPMENT, LIGHTING FIXTURES AND CONTROLS

1.2 EXECUTION
- A. EXTENT OF DEMOLITION IS INDICATED IN THE DRAWINGS.
- B. PROTECT FINISHES INDICATED TO REMAIN DURING DEMOLITION.
- C. FOLLOWING DEMOLITION, BASE BUILDING PARTITIONS SHOULD BE CLEANED AND PREPARED FOR PROPOSED TENANT CONSTRUCTION PER REVIEW OF ARCHITECT AND THE CONTRACTOR. SURFACES INDICATED ARE EXISTING TO REMAIN SHALL BE RESTORED TO LIKE-NEW CONDITION. SURFACES INDICATED AS EXISTING TO REMAIN AND TO RECEIVE NEW FINISHES SHALL BE PROPERLY PREPARED TO RECEIVE INDICATED FINISHES.
- D. EXTENT OF ITEMS TO BE REUSED IS INDICATED IN THE CONTRACT DOCUMENTS. DISPOSE OF REMAINING ITEMS DETERMINED NOT TO BE SALVAGED IN A SAFE, CLEAN, MANNER AND IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
- E. MAKE SAFE ABANDONED ELECTRICAL CONDUITS.
- F. TERMINATE ABANDONED PLUMBING AT ENTRY TO TENANT SPACE.

DIVISION 3 - CONCRETE

SECTION 03500 - CEMENTITIOUS DECKS AND TOPPINGS

1.1 GENERAL
- A. WHERE LEVELING OR PATCHING OF EXISTING CONCRETE FLOOR IS REQUIRED EITHER BECAUSE SURFACE OF SLAB IS NOT WITHIN REQUIRED TOLERANCE OR BECAUSE RESURFACING IS REQUIRED FOR INSTALLATION OF SPECIFIED FINISH, USE A SELF-LEVELING CEMENTITIOUS TOPPING AS INDICATED BELOW.
- B. ACCEPTABLE PRODUCTS:

1. ARDEX INC. - K-15 SELF-LEVELING UNDERLAYMENT
2. W.R. BONSAL CO. - SELF-LEVELING UNDERLAYMENT

- C. SURFACE PREPARATION:

1. SUBFLOORS SHALL BE SOLID, THOROUGHLY CLEANED, FREE FROM WAX, GREASE, LATEX COMPOUNDS, CURING COMPOUNDS, DUST, AND OTHER SIMILAR FOREIGN MATTER.
2. CRACKS AND PENETRATIONS SHALL BE PATCHED TO PREVENT SEEPAGE OR LEAKING OF TOPPING.
3. TOPPINGS SHALL NOT BE APPLIED OVER GYPSUM, ASPHALT, HOT PATCHES, WATERBASE ADHESIVES, AND MOST KINDS OF LIGHTWEIGHT CONCRETE.
4. SURFACES SCHEDULED TO RECEIVE UNDERLAYMENT TOPPING SHALL BE PRIMED USING A SUITABLE PRIMER, AS A RECOMMENDED BY UNDERLAYMENT MANUFACTURER.

DIVISION 4 - MASONRY

SECTION 04200 - UNIT MASONRY

1.1 DEFINITIONS
- A. CMU(S): CONCRETE MASONRY UNIT(S).
- B. REINFORCED MASONRY: MASONRY CONTAINING REINFORCING STEEL IN GROUTED CELLS.

1.2 PERFORMANCE REQUIREMENTS
- A. PROVIDE STRUCTURAL UNIT MASONRY THAT DEVELOPS INDICATDE NET-AREA COMPRESSIVE STRENGTHS AT 28 DAYS.

1. DETERMINE NET-AREA COMPRESSIVE STRENGTH FROM AVERAGE NET-AREA COMPRESSIVE STRENGTHS OF MASONRY UNITS AND MORTAR TYPES (UNIT-STRENGTH METHOD) ACCORDING TO TABLES 1 AND 2 IN ACI 530.1/ASCE 6/TMS 602.
2. DETERMINE NER-AREA COMPRESSIVE STRENGTH OF MASONRY BY TESTING MASONRY PRISMS ACCORDING TO ASTM C 1314.

1.3 ACTION SUBMITTALS
- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
- B. SHOP DRAWINGS: FOR THE FOLLOWING:

1. MASONRY UNITS: SHOW SIZES, PROFILES, PROFILES, COURSING, AND LOCATIONS OF SPECIAL SHAPES.
2. REINFORCING STEEL: DETAIL BENDING AND PLACEMENT OF UNIT MASONRY REINFORCING BARS. COMPLY WITH ACI 315, "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."
3. FABRICATED FLASHING: DETAIL CORNER UNITS, END-DAM UNITS, AND OTHER SPECIAL APPLICATIONS.

1.4 INFORMATIONAL SUBMITTALS
- A. MATERIAL CERTIFICATES: FOR EACH TYPE AND SIZE OF THE FOLLOWING:

1. MASONRY UNITS.
   - a. INCLUDE DATA ON MATERIAL PROPERTIES.
   - b. FOR MASONRY UNITS USED IN STRUCTURAL MASONRY , INCLUDE DATA AND CALCULATIONS ESTABLISHING AVERAGE NET-AREA COMPRESSIVE STRENGTH OF UNITS.
2. CEMENTITIOUS MATERIALS. INCLUDE BRA

DIVISION 4 - MASONRY - cont

SECTION 04200 - UNIT MASONRY (CONT'D)

2.5 MORTAR AND GROUT MATERIALS
- A. REGIONAL MATERIALS: AGGREGATE FOR MORTAR AND GROUT SHALL BE EXTRACTED, HARVESTED, OR RECOVERED, AS WELL AS MANUFACTURED, WITHIN 500 MILES (800 KM) OF PROJECT SITE.
- B. PORTLAND CEMENT: ASTM C 150, TYPE I OR II, EXCEPT TYPE III MAY BE USED FOR COLD-WEATHER CONSTRUCTION, PROVIDE NATURAL COLOR OR WHITE CEMENT AS REQUIRED TO PROVIDE MORTAR COLOR INDICATED.
- C. HYDRATED LIME: ASTM C 207, TYPE S.
- D. MORTAR CEMENT: ASTM C 207, 1329.
- E. COLD-WEATHER ADMIXTURE: NONCHLORIDE, NONCORROSIVE, ACCELERATING ADMIXTURE COMPLYING WITH ASTM C 494/C 494M, TYPE C, AND RECOMMENDED BY MANUFACTURER FOR USE IN MASONRY MORTAR OF COMPOSITION INDICATED.
- F. WATER-REPELLANT ADMIXTURE: LIQUID WATER-REPELLANT MORTAR ADMIXTURE INTENDED FOR USE WITH CMUS CONTAINING INTEGRAL WATER REPELLANT BY SAME MANUFACTURER.
- G. WATER: POTABLE

2.6 REINFORCEMENT
- A. UNCOATED STEEL REINFORCING BARS: ASTM A 615/A 614M OR ASTM A 996/A 996M, GRADE 60 (GRADE 420).
- B. MASONRY JOINT REINFORCEMENT, GENERAL: ASTM A 951/A 951M.

1. INTERIOR WALLS: HOT-DIP GALVANIZED, CARBON STEEL.
2. EXTERIOR WALLS: STAINLESS STEEL.
3. WIRE SIZE FOR SIDE RODS: 0.187-INCH (4.76-MM) DIAMETER.
4. WIRE SIZE FOR CROSS RODS: 0.187-INCH (4.76-MM) DIAMETER.
5. WIRE SIZE FOR VENEER TIES: 0.187-INCH (4.76-MM) DIAMETER.
6. SPACING OF CROSS RODS, TABS, AND CROSS TIES: NOT MORE THAN 16 INCHES (407 MM) O.C.
7. PROVIDE IN LENGTHS IF NOT LESS THAN 10 FEET (3 M), WITH PREFABRICATED CORNER AND TEE UNITS.

- C. MASONRY-JOINT REINFORCEMENT FOR SINGLE-WYTHE MASONRY: EITHER LADDER OR TRUSS TYPE WITH SINGLE PAIR OF SIDE RODS.

2.7 EMBEDDED FLASHING MATERIALS
- A. METAL FLASHING: PROVIDE METAL FLASHING COMPLYING WITH SMACNA'S "ARCHITECTURAL SHEET METAL MANUAL") DIVISION 07 SECTION "SHEET METAL FLASHING AND TRIM" AND AS FOLLOWS:

1. METAL DRIP EDGE: FABRICATE FROM STAINLESS STEEL. EXTEND AT LEAST 3 INCHES (76 MM) INTO WALL AND 1/2 INCH (13 MM) OUT FORM WALL, WITH OUTER EDGE BENT DOWN 30 DEGREES AND HEMMED.
2. METAL SEALANT STOP: FABRICATE FROM STAINLESS STEEL. EXTEND AT LEAST 3 INCHES (76 MM) INTO WALL AND OUT TO EXTERIOR FACE OF WALL. AT EXTERIOR FACE OF WALL, BEND METAL BACK ON ITSELF FOR 3/4 INCH (19 MM) AND DOWN INTO JOINT 1/4 INCH (6 MM) TO FORM A STOP FOR RETAINING SEALANT BACKER ROD.
3. METAL EXPANSION-JOINT STRIPS: FABRICATE FROM STAINLESS STEEL TO SHAPES INDOCATED.

- B. FLEXIBLE FLASHING: USE ONE OF THE FOLLOWING UNLESS OTHERWISE INDICATED:

1. 7-OZ.SQ. FT. (2-KG/SQ. M) COPPER SHEET BONDED BETWEEN 2 LAYERS OF GLASS-FIBER CLOTH. USE ONLY WHERE FLASHING IS FULLY CONCEALED IN MASONRY.
2. RUBBERIZED-ASPHALT FLASHING: COMPOSITE FLASHING PRODUCT CONSISTING OF A PLIABLE, ADHESIVE RUBBERIZED-ASPHALT COMPOUND, BONDED TO A HIGH-DENSITY, CROSS-LAMINATED POLYETHYLENE FILM TO PRODUCE AN OVERALL THICKNESS OF NOT LESS THAN 0.040 INCH (1.02 MM).
3. ELASTOMERIC THERMOPLASTIC FLASHING: COMPOSITE FLASHING PRODUCT FLASHING PRODUCT CONSISTING OF A POLYESTER-REINFORCED ETHYLENE INTERPOLYMER ALLOY.
4. EPDM D 4637, 0.040 INCH (1.0 MM) THICK.

- C. ADHESIVES, PRIMERS, AND SEAM TAPES FOR FLASHING: FLASHING MANUFACTURER'S STANDARD PRODUCTS OR PRODUCTS RECOMMENDED BY FLASHING MANUFACTURER FOR BONDING FLASHING SHEETS TO EACH OTHER AND TO SUBSTRATES.

2.8 MISCELLANEOUS MASONRY ACCESSORIES
- A. COMPRESSIBLE FILLER: PREMOLDED FILLER STRIPS COMPLYING WITH ASTM D 1056, GRADE 2A1; COMPRESSIBLE UP TO 35 PERCENT; OF WIDTH AND THICKNESS INDICATED; FORMULATED FROM NEOPRENE, URETHANE OR PVC.
- B. PREFORMED CONTROL-JOINT GASKETS: MADE FROM STYRENE-BUTADIENE-RUBBER COMPOUND, COMPLYING WITH ASTM D 2000, DESIGNATION M2AA-805 OR PVC, COMPLYING WITH ASTM D 2287, TYPE PVC-65406 AND DESIGNED TO FIR STANDARD SASH BLOCH AND TO MAINTAIN LATERAL STABILITY IN MASONRY WALL; SIZE AND CONFIGURATION AS INDICATED.
- C. BOND-BREAKER STRIPS: ASPHALT-SATURATED, ORGANIC ROOFING FELT COMPLYING WITH ASTM D 226, TYPE A (NO. 15 ASPHALT FELT).

2.9 MASONRY-CELL INSULATION
- A. LOOSE-GRANULAR FILL INSULATION: PERLITE COMPLYING WITH ASTM C 549, TYPE II (SURFACE TREATED FOR WATER REPELLENCY AND LIMITED MOISTURE ABSORPTION) OR TYPE IV (SURFACE TREATED FOR WATER REPELLENCY AND TO LIMIT DUST GENERATION).
- B. MOLDED-POLYSTYRENE INSULATION UNITS: RIGID, CELLULAR THERMAL INSULATION FORMED BY THE EXPANSION OF POLYSTYRENE-RESIN BEADS OR GRANULES IN A CLOSED MOLD TO COMPLY WITH ASTM C 578, TYPE I. PROVIDE SPECIALLY SHAPED UNITS DESIGNED FOR INSTALLING IN CORES OF MASONRY UNITS.

DIVISION 5 - METALS

SECTION 05500 - METAL FABIRCATIONS

1.1 GENERAL
- A. SUBMITTALS

1. SHOP DRAWINGS: SHOW FABRICATION AND INSTALLATION DETAILS FOR METAL FABRICATIONS.
   - a. INCLUDE PLANS, ELEVATIONS, SECTIONS, AND DETAILS OF METAL FABRICATIONS AND THEIR CONNECTIONS. SHOW ANCHORAGE AND ACCESSORY ITEMS.
2. SAMPLES: FOR EACH TYPE AND FINISH.

- B. PRODUCTS

1. METAL SURFACES, GENERAL: PROVIDE MATERIALS WITH SMOOTH, FLAT SURFACES WITHOUT BLEMISHES.
2. FERROUS METALS
   - a. STEEL TUBING: ASTM A 500, COLD-FORMED STEEL TUBING.
   - b. STEEL PIPE: ASTM A 53/A 53M, STANDARD WEIGHT (SCHEDULE 40) UNLESS OTHERWISE INDICATED.
   - c. SLOTTED CHANNEL FRAMING: COLD-FORMED METAL BOX CHANNELS (STRUTS) COMPLYING WITH MFMA-
     - I) SIZE OF CHANNELS: 1-5/8 BY 1-5/8 INCHES (41 BY 41 MM).
     - II) MATERIAL: GALVANIZED STEEL, ASTM A 653/A 653M, WITH G96 (Z275) COATING; 0.079-INCH (2-MM) NOMINAL THICKNESS

- C. FABRICATION

1. SHOP ASSEMBLY: PREASSEMBLE ITEMS IN THE SHOP TO GREATEST EXTENT POSSIBLE. USE CONNECTIONS THAT MAINTAIN STRUCTURAL VALUE OF JOINED PIECES.
2. CUT, DRILL, AND PUNCH METALS CLEANLY AND ACCURATELY. REMOVE BURRS AND EASE EDGES. REMOVE SHARP OR ROUGH AREAS ON EXPOSED SURFACES.
3. WELD CORNERS AND SEAMS CONTINUOUSLY TO COMPLY WITH THE FOLLOWING:
   - a. USE MATERIALS AND METHODS THAT MINIMIZE DISTORTION AND DEVELOP STRENGTH AND CORROSION RESISTANCE OF BASE METALS.
   - b. OBTAIN FUSION WITHOUT UNDERCUT OR OVERLAP.
   - c. REMOVE WELDING FLUX IMMEDIATELY.
   - d. AT EXPOSED CONNECTIONS, FINISH EXPOSED WELDS AND SURFACES SMOOTH AND BLENDED.
4. FORM EXPOSED CONNECTIONS WITH HAIRLINE JOINTS, FLUSH AND SMOOTH, USING CONCEALED FASTENERS OR WELDS WHERE POSSIBLE. LOCATE JOINTS WHERE LEAST CONSPICUOUS.
5. FABRICATE SEAMS AND OTHER CONNECTIONS THAT WILL BE EXPOSED TO WEATHER IN A MANNER TO EXCLUDE WATER. PROVIDE WEEP HOLES WHERE WATER MAY ACCUMULATE.
6. WHERE UNITS ARE INDICATED TO BE CAST INTO CONCRETE OR BUILT INTO MASONRY, EQUIP WITH INTEGRALLY WELDED STEEL STRAP ANCHORS NOT LESS THAN 24 INCHES (600 MM) O.C.
7. MISCELLANEOUS FRAMING AND SUPPORTS
   - a. GENERAL: PROVIDE STEEL FRAMING AND SUPPORTS NOT SPECIFIED IN OTHER SECTIONS AS NEEDED TO COMPLETE THE WORK.
   - b. FABRICATE UNITS FROM STEEL SHAPES, PLATES, AND BARS OF WELDED CONSTRUCTION UNLESS OTHERWISE INDICATED. FABRICATE TO SIZES, SHAPES, AND PROFILES INDICATED AND AS NECESSARY TO RECEIVE ADJACENT CONSTRUCTION.
   - c. WHERE WOOD NAILERS ARE ATTACHED TO GLIDERS WITH BOLTS OR LAG SCREWS, DRILL OR PUNCH HOLES AT 24 INCHES (600 MM) O.C.
8. MISCELLANEOUS STEEL TRIM
   - a. UNLESS OTHERWISE INDICATED, FABRICATE UNITS FROM STEEL SHAPES, PLATES, AND BARS OF PROFILES SHOWN WITH CONTINUOUSLY WELDED JOINTS AND SMOOTH EXPOSED EDGES. MITER CORNERS AND USE CONCEALED FIELD SPLICES WHERE POSSIBLE.
   - b. PROVIDE CUTOUTS, FITTINGS, AND ANCHORAGES AS NEEDED TO COORDINATE ASSEMBLY AND INSTALLATION WITH OTHER WORK. PRIME EXTERIOR MISCELLANEOUS STEEL TRIM WITH ZINC-RICH PRIMER.

- D. STEEL AND IRON FINISHES

1. GALVANIZING: HOT-DIP GALVANIZE ITEMS AS INDICATED TO COMPLY ASTM A 153/A 153M FOR STEEL AND IRON HARDWARE WITH ASTM A 123/A 123M FOR OTHER STEEL AND IRON PRODUCTS.
2. SHOP PRIME IRON AND STEEL ITEMS NOT INDICATED TO BE GALVANIZED UNLESS THEY ARE TO BE EMBEDDED IN CONCRETE, SPRAYED-ON FIREPROOFING, OR MASONRY, OR UNLESS OTHERWISE INDICATED.

- E. EXECUTION

1. INSTALLATION, GENERAL
   - a. CUTTING, FITTING, AND PLACEMENT: PERFORM CUTTING, DRILLING, AND FITTING REQUIRED FOR INSTALLING METAL FABRICATIONS. SET METAL FABRICATIONS ACCURATELY IN LOCATION, ALIGNMENT, AND ELEVATION; WITH EDGES AND SURFACES LEVEL, PLUMB, TRUE, AND FREE OF RACK; AND MEASURED FORM ESTABLISHED LINES AND LEVELS.
   - b. FIT EXPOSED CONNECTIONS ACCURATELY TOGETHER TO FORM HAIRLINE JOINTS. WELD CONNECTIONS THAT ARE NOT TO BE LEFT AS EXPOSED JOINTS BUT CANNOT BE SHOP WELDED BECAUSE OF SHIPPING SIZE LIMITATIONS. DO NOT WELD, CUT, OR ABRADE SURFACES OF EXTERIOR UNITS THAT HAVE BEEN HOT-DIP GALVANIZED AFTER FABRICATION AND ARE FOR BOLTED OR SCREWED FIELD CONNECTIONS.
   - c. FIELD WELDING: COMPLY WITH THE FOLLOWING REQUIREMENTS:
     - I) USE MATERIALS AND METHODS THAT MINIMIZE DISTORTION AND DEVELOP STRENGTH AND CORROSION RESISTANCE OF BASE MATERIALS.
     - II) OBTAIN FUSION WITHOUT UNDERCUT OR OVERLAP.
     - III) REMOVE WELDING FLUX IMMEDIATELY.
     - IV) AT EXPOSED CONNECTIONS, FINISH EXPOSED WELDS AND SURFACES SMOOTH AND BLENDED.
   - d. FASTENING TO IN-PLACE CONSTRUCTION: PROVIDE ANCHORAGE DEVICES AND FASTENERS WHERE METAL FABRICATIONS ARE REQUIRED TO BE FASTENED TO IN-PLACE CONSTRUCTION.
2. ADJUSTING AND CLEANING
   - a. TOUCHUP PAINTING: IMMEDIATELY AFTER ERECTION, CLEAN FIELD WELDS, BOLTED CONNECTIONS, AND ABRADED AREAS. PAINT UNCOATED AND ABRADED AREAS WITH THE SAME MATERIAL AS USED FOR SHOP PAINTING TO COMPLY WITH SSPC-PA 1 FOR TOUCHING UP SHOP-PAINTED SURFACES.

- F. GALVANIZED SURFACES: CLEAN FIELD WELDS, BOLTED CONNECTIONS, AND ABRADED AREAS AND REPAIR GALVANIZING TO COMPLY WITH ASTM A 780.

DIVISION 6 - WOODS AND PLASTICS

SECTION 06100 - ROUGH CARPENTRY

1.1 GENERAL
- A. SUBMITTALS: NONE REQ'D
- B. PRODUCTS

1. LUMBAR: DOC PS 20 AND APPLICABLE RULED OF GRADING AGENCIES INDICATED. IF NO GRADING AGENCY IS INDICATED, PROVIDE LUMBAR THAT COMPLIES WITH THE APPLICABLE RULES OF ANY RULES-WRITING AGENCY CERTIFIED BY THE ALSO BOARD OF REVIEW. PROVIDE LUMBAR GRADED BY AN AGENCY CERTIFIED BY THE ALSO BOARD REVIEW TO INSPECT AND GRADE LUMBAR UNDER THE RULES INDICATED.
2. USE INTERIOR TYPE A FIRE-RETARDANT-TREATED MATERIALS FOR CONCEALED BLOCKING IN WALLS, AND FRAMING FOR RAISED PLATFORMS, FOR EXPOSED ITEMS INDICATED TO RECEIVE A STAINED OR NATURAL FINISH, USE CHEMICAL FORMULATIONS THAT DO NOT BLEED THROUGH, CONTAIN COLORANTS, OR OTHERWISE ADVERSELY.
3. PROVIDE MISCELLANEOUS LUMBAR INDICATED AND LUMBAR FOR SUPPORT OR ATTACHMENT OF OTHER CONSTRUCTION, INCLUDING BLOCKING, NAILERS, GROUNDS.
4. PLYWOOD BACKING PANELS AT TELEPHONE AND ELECTRICAL EQUIPMENT BACKING PANELS: DOC PS 1, EXTERIOR, AC FIRE-RETARDANT TREATED, IN THICKNESS INDICATED OR, IF NOT INDICATED, NOT LESS THAN 3/4-INCH (19-MM) NOMINAL THICKNESS.

- C. INSTALLATION, GENERAL

1. PROVIDE BLOCKING AND FRAMING AS INDICATED AND AS REQUIRED TO SUPPORT FACING MATERIALS, FIXTURES AND SPECIALTY ITEMS.
2. PROVIDE FIRE BLOCKING IN FURRED SPACES, STUD SPACES, AND OTHER CONCEALED CAVITIES AS INDICATED AN AS REQUIRED BY CODE.

DIVISION 6 - WOODS AND PLASTICS - cont.

SECTION 06200 - FINISH CARPENTRY (CONT'D)

1.1 GENERAL
- A. SUBMITTALS:

1. SHOP DRAWINGS AND HARDWARE CATALOG CUTS OF ALL MILLWORK HARDWARE FOR REVIEW BY THE ARCHITECT IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. SHOP DRAWINGS SHALL SHOW THE DESIGN AND DIMENSIONS, AND CLEARLY INDICATE IN LARGE SCALE THE CONSTRUCTION OF THE VARIOUS COMPONENTS, REINFORCEMENTS, AND ALL OTHER PERTINENT DATA AND INFORMATION AS REQUIRED FOR CONSTRUCTION. ANY VARIATION FROM THE DRAWINGS MUST BE CLEARLY NOTED AS A VARIATION FROM THE REQUIREMENTS. FABRICATION OF MILLWORK SHALL NOT PROCEED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED BY THE ARCHITECT.
2. THREE (3) 8" X 10" SAMPLES OF ALL MILLWORK FINISHES (INCLUDING SOLID SURFACES AND METAL) FOR APPROVAL. THE ARCHITECT SHALL RETAIN TWO (2) SAMPLES OF FINISHES FOR RECORD AND RETURN A MINIMUM OF ONE SAMPLE TO CONTRACTOR. IN CIRCUMSTANCES AS APPROPRIATE SIZE OF SAMPLES MAY BE REDUCED IF REQUESTED IN WRITING BY CONTRACTOR AND APPROVED BY ARCHITECT PRIOR TO SUBMISSION. FINISHING OF MILLWORK SHALL NOT PROCEED UNTIL SAMPLES HAVE BEEN REVIEWED.
3. THE CONTRACTOR SHALL PROVIDE THE ARCHITECT WITH ANTICIPATED DELIVERY DATE FOR ALL MILLWORK. THE CONTRACTOR SHALL CONTINUE TO MONITOR IN WRITING THE ANTICIPATED DELIVERY DATES UNTIL ALL FINISH MATERIALS HAVE BEEN RECEIVED.

- B. VERIFICATION OF EXISTING CONDITIONS:

1. BEFORE PROCEEDING WITH THE MILLWORK, THE CONTRACTOR IS TO OBTAIN FIELD MEASUREMENTS, VERIFY DIMENSIONS, AND PROVIDE SHOP DRAWINGS AND DETAILS TO ENSURE AN ACCURATE FIT. ANY VARIANCE FOUND IN THE FIELD MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO FABRICATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE MILLWORK SUBCONTRACTOR ANY REVISIONS OR CLARIFICATIONS ISSUED BY THE ARCHITECT.
2. THE CONTRACTOR SHALL PROVIDE FIELD LAYOUT OF ALL WORK AND REPORT AND DISCREPANCIES TO THE ARCHITECT.

- C. PRODUCTS:

1. FINISH MATERIALS:
   - a. WOOD SPECIES AND CUT FOR TRANSPARENT FINISH AS INDICATED ON FINISH SCHEDULE.
   - b. WOOD SPECIES FOR OPAQUE FINISH: ANY CLOSED-GRAIN HARDWOOD.
   - c. HIGH-PRESSURE DECORATIVE LAMINATE AS INDICATED ON FINISH SCHEDULE.
2. WOOD PRODUCTS:
   - a. RECYCLED CONTENT OF MEDIUM-DENSITY FIBERBOARD AND PARTICLEBOARD: PROVIDE PRODUCTS WITH AN AVERAGE RECYCLED CONTENT SO POSTCONSUMER RECYCLED CONTENT PLUS ONE-HALF OF PRECONSUMER RECYCLED CONTENT IS NOT LESS THAN 30 PERCENT.
   - b. HARDBOARD: AHA A135.4.
   - c. MEDIUM-DENSITY FIBERBOARD: ANSI A208.2, GRADE MD, MADE WITH BINDER CONTAINING NO UREA FORMALDEHYDE.
3. CABINET HARDWARE AND ACCESSORIES
   - a. GENERAL: PROVIDE CABINET HARDWARE AND ACCESSORY MATERIALS ASSOCIATED WITH ARCHITECTURAL WOORDWORK, EXCEPT FOR ITEMS SPECIFIED IN DIVISION 8 SECTION "DOOR HARDWARE (SCHEDULED BY DESCRIBING PRODUCTS)."
   - b. FRAMELESS CONCEALED HINGES (EUROPEAN TYPE): BHMA A156.9, B01602, 170 DEGREES OF OPENING, SELF-CLOSING.
   - c. BLACK-MOUNTED PULLS: DOUG MOCKETT DP3B BLACK-MOUNTED PULLS OR APPROVED EQUAL
   - d. DRAWER SLIDES: BHMA A156.9, B05091.
     - I) STANDARD DUTY (GRADE 1, GRADE 2, AND GRADE 3): SIDE MOUNTED AND EXTENDING UNDER BOTOTM EDGE DRAWER; FULL-EXTENSION TYPE; ZINC-PLATED STEEL WITH POLYMER ROLLERS
     - II) BOX DRAWER SLIDES: GRADE 1; FOR DRAWERS NOT MORE THAN 6 INCHES (150 MM) HIGH AND 24 INCHES (600 MM) WIDE.
     - III) PENCIL DRAWER SLIDES: GRADE 1; FOR DRAWERS NOT MORE THAN 3 INCHES (75 MM) HIGH AND 24 INCHES (600 MM) WIDE.
   - e. DOOR LOCKS: BHMA A156.11, E07121.
   - f. DRAWER LOCKS: BHMA A156.11, E07041.
   - g. EXPOSED HARDWARE FINISHES: BRIGHT CHROMIUM PLATED (BHMA 625 OR BHMA 651) UNLESS NOTED OTHERWISE ON DRAWINGS.

- D. EXECUTION OF THE WORK:

1. THE METHOD MANUFACTURING, FABRICATING AND INSTALLING MILLWORK AND EQUIPMENT AND IT'S STRUCTURAL COMPONENTS DEFINED IN THE CONTRACT DOCUMENTS IS REPRESENTATIVE AND INDICATES DESIGN INTENT ONLY. IF THE MATERIALS, DETAILS OR DIMENSIONAL PROPERTIES ARE AT A VARIANCE WITH THE CONTRACTOR'S OR MANUFACTURER'S RECOMMENDATIONS, ALTERNATE DETAILS WILL BE CONSIDERED FOR REVIEW WHEN SHOP DRAWINGS ARE SUBMITTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO GUARANTEE THAT THE MILLWORK AND EQUIPMENT WILL HAVE PROPER SUPPORT, STABILITY, AND FAULT-FREE PERFORMANCE. ALL WORK SHALL CONFORM TO ARCHITECTURAL WOODWORK INSTITUTE (AWI) STANDARDS FOR PREMIUM CONSTRUCTION.
2. IT IS THE INTENT OF THE ARCHITECT THAT THEIR HARDWARE REPRESENT THE HIGHEST QUALITY AND LASTING DURABILITY FOR IT'S SPECIFIC FUNCTION. IF, THE THE OPINION OF THE CONTRACTOR, THE HARDWARE INDICATED ON THE DRAWINGS DOES NOT REPRESENT THE ABOVE-STATED INTENT, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING WITH STATED REASONS AND PROPOSED SUBSTITUTION.
3. MILLWORK INDICATED TO HAVE TRANSPARENT FINISHES SHALL BE CONSTRUCTED ACCORDING TO AWI STANDARDS FOR PREMIUM GRADE CONSTRUCTION.
4. MILLWORK COVERED IN WOOD VENEER OR PLASTIC LAMINATE SHALL BE FABRICATED AND ASSEMBLED BY SKILLED WORKMEN TO THE COMPLETE SATISFACTION OF THE ARCHITECT. REINFORCING AS REQUIRED TO ENSURE A RIGID AND SECURE ASSEMBLY SHALL BE PROVIDED, EVEN IF NOT DETAILED ON THE DRAWINGS. EXPOSED SURFACES SHALL BE FREE FROM DENTS, TOOL MARKS, WARPAGE, BUCKLE, GLUE AND OPEN JOINTS. ALL JOINT CORNERS AND MITER CONNECTIONS SHALL BE MADE TIGHTLY SO THAT THE THREADS ARE ENTIRELY CONCEALED. ALL EXPOSED LAMINATE JOINTS SHALL BE SHOWN ON SHOP DRAWINGS AND REVIEWED BY THE ARCHITECT.
5. FOR MILLWORK INDICATING PLASTIC LAMINATE EXTERIOR FINISHED SURFACES, PROVIDE GREY MELAMINE AS THE INTERIOR CABINET AND DRAWER SURFACE FINISH (UNLESS OTHERWISE NOTED IN THE DRAWINGS AND DETAILS).
6. INSTALL MILLWORK TO BE PLUMB, LEVEL, TRUE AND STRAIGHT WITH NO DISTORTIONS. SHIM AS REQUIRED USING CONCEALED SHIMS.
7. SCRIBE AND CUT WORK TO FIT ADJOINING WORK AND REFINISH CUT SURFACES OR REPAIR DAMAGED FINISH AT CUTS. PROVIDE CLEAR SEALANT AT ALL JOINTS.
8. ANCHOR MILLWORK TO BUILT-IN BLOCKING OR DIRECTLY ATTACH TO SUBSTRATE. SECURE TO GROUNDS, STRAPPING AND BLOCKING WITH COUNTER-SUNK, CONCEALED FASTENERS AND BLIND NAILING AS REQUIRED FOR A COMPLETE INSTALLATIONS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING CERTAIN THAT MILLWORK ITEMS ARE NOT DELIVERED UNITL AREAS ARE SUFFICIENTLY DRY SO THAT THE MILLWORK WILL NOT BE DAMAGED BY EXCESSIVE CHANGES IN MOISTURE CONTENT. ALL DELIVERED UNITS SHALL MATCH THE FINAL APPROVED SHOP DRAWINGS AND SAMPLES. UNITS WHICH ARE MARRED, CHIPPED OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REPLACED AS DETERMINED BY THE ARCHITECT. UNITS SHALL BE PROTECTED DURING SHIPMENT AND INSTALLATION. AFTER INSTALLATION OF UNITS IN THEIR PROPER LOCATION, ALL PROTECTION SHALL BE REMOVED AND ALL SURFACES THOROUGHLY CLEANED TO THE COMPLETE SATISFACTION OF THE ARCHITECT. SURFACES SHALL THEN BE RECOVERED AND PROTECTED.
10. REPAIR OR REPLACE DAMAGED OR DEFECTIVE MILLWORK WHEREVER DEEMED NECESSARY. IF MILLWORK CANNOT BE ADEQUATELY REPAIRED, IT SHALL BE REPLACED TO THE SATISFACTION OF THE ARCHITECT.
11. ALL STANDING AND RUNNING TRIM PIECES SHALL BE PLAIN SAWN HARDWOOD GRADE I LUMBER TO MEET AWI REQUIREMENTS FOR PREMIUM GRADE.

SECTION 062013 - EXTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
- A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY
- A. SECTION INCLUDES:

1. EXTERIOR DECKING.

- B. RELATED REQUIREMENTS:

1. SECTION 055000 "METAL FABRICATIONS" FOR METAL SUPPORTS OF EXTERIOR BENCH SLATS.
2. SECTION 064013 "EXTERIOR ARCHITECTURAL WOODWORK" FOR EXTERIOR WOOD VENEER COMPOSITE PANEL ASSEMBLIES.

DIVISION 6 - WOODS AND PLASTICS - cont.

1.3 ACTION SUBMITTALS
- A. PRODUCT DATA: FOR EACH TYPE OF PROCESS AND FACTORY-FABRICATED PRODUCT. INDICATE COMPONENT MATERIALS, DIMENSIONS, PROFILES, TEXTURES, AND COLORS AND INCLUDE CONSTRUCTION AND APPLICATION DETAILS.

1. INCLUDE DATA FOR WOOD-PRESERVATIVE TREATMENT FROM CHEMICAL-TREATMENT MANUFACTURER AND CERTIFICATION BY TREATING PLANT THAT TREATED MATERIALS COMPLY WITH REQUIREMENTS. INDICATE TYPE OF PRESERVATIVE USED AND NET AMOUNT PF PRESERVATIVE RETAINED. INCLUDE CHEMICAL-TREATMENT MANUFACTURER'S WRITTEN INSTRUCTIONS FOR FINISHING TREATED MATERIAL.

SECTION 062013 - EXTERIOR FINISH AND CARPENTRY (CONT'D)

2. FOR PRODUCTS RECEIVING A WATERBORNE TREATMENT, INCLUDE STATEMENT THAT MOISTURE CONTENT OF TREATED MATERIALS REDUCED BEFORE SHIPMENT TO PROJECT SITE TO LEVELS SPECIFIED.
3. INCLUDE COPIES OF WARRANTIES FROM CHEMICAL-TREATMENT MANUFACTURERS FOR EACH TYPE OF TREATMENT.

- B. SAMPLES FOR INITIAL SELECTION: FOR EACH TYPE OF PRODUCT INVOLVING SELECTION OF COLORS, PROFILES, OR TEXTURES.
- C. SAMPLES FOR VERIFICATION:

1. FOR EACH SPECIES AND CUT OF LUMBER AND PANEL PRODUCTS, WITH 1/2 OF EXPOSED SURFACE FINISHED; 50 SQ. IN. FOR LUMBER AND 8 BY 10 INCHES FOR PANELS.

1.4 INFORMATIONAL SUBMITTALS
- A. COMPLIANCE CERTIFICATES:

1. FOR LUMBER THAT IS NOT MARKED WITH GRADE STAMP.
2. FOR PRESERVATIVE-TREATED WOOD THAT IS NOT MARKED WITH TREATMENT-QUALITY MARK.

- B. EVALUATION REPORTS: FOR THE FOLLOWING, FROM ICC-ES:

1.5 DELIVERY, STORAGE, AND HANDLING
- A. STACK LUMBER, PLYWOOD, AND OTHER PANELS FLAT WITH SPACERS BETWEEN EACH BUNDLE TO PROVIDE AIR CALCULATION. PROTECT MATERIALS FROM WEATHER BY COVERING WITH WATERPROOF SHEETING ANCHORED. PROVIDE THE AR CIRCULATION AROUND STACKS AND UNDER COVERINGS

1.6 FIELD CONDITIONS
- A. WEATHER LIMITATIONS: PROCEED WITH INSTALLATION ONLY WHEN EXISTING AND FORECAST WEATHER CONDITIONS PERMIT WORK TO BE PERFORMED AND AT LEAST ONE COAT PF SPECIFIED FINISH CAN BE APPLIED WITHOUT EXPOSURE TO RAIN, SNOW, OR DAMPNESS.
- B. DO NOT INSTALL FINISH CARPENTRY MATERIALS THAT ARE WET, MOISTURE DAMAGED, OR MOLD DAMAGED.

1. INDICATIONS THAT MATERIALS ARE WET OR MOISTURE DAMAGED INCLUDE, BUT ARE NOT LIMITED TO, DISCOLORATION, SAGGING, OR IRREGULAR SHAPE.
2. INDICATIONS THAT MATERIALS ARE MOLD DAMAGED INCLUDE, BUT ARE NOT LIMITED TO, FUZZY OR SPLOTCHY SURFACE CONTAMINATION AND DISCOLORATION.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL
- A. LUMBER: DOC PS 20.
- B. FACTORY MARK EACH PIECE OF LUMBER WITH GRADE STAMP OF INSPECTION AGENCY INDICATING GRADE, SPECIES, MOISTURE CONTENT AT TIME OF SURFACING, AND MILL.

1. FOR EXPOSED LUMBER, MARK GRADE STAMP ON BACK OF EACH PIECE, OR OMIT GRADE STAMP AND PROVIDE CERTIFICATIONS OF GRADE COMPLIANCE ISSUED BY INSPECTION AGENCY.

2.2 DECKING
- A. LUMBER OF UNFINISHED APPLICATIONS:

1. SPECIES AND GRADE: IPE (TABEBUIA SPP.), HEARTWOOD, S-DRY OR KD, SELECT.
2. MOISTURE CONTENT: 12 PERCENT
3. DRESSING: DRY.
4. FINGER JOINTING: NOT ALLOWED.
5. FACE SURFACE: SURFACED (SMOOTH).

2.3 MISCELLANEOUS MATERIALS
- A. FASTENERS FOR BENCH SLATS: PROVIDE STAINLESS STEEL, HEX HEAD LAG SCREWS, MINIMUM 3/8-INCH THREAD SIZE AND IN SUFFICIENT LENGTH TO PENETRATE 1-INCH INTO WOOD BENCH SLAT .

2.4 FABRICATION
- A. EASE EDGES OF LUMBER LESS THAN 1 INCH IN NOMINAL THICKNESS TO 1/8-INCHES RADIUS AND EDGES OF LUMBER 1 INCH OR MORE IN NOMINAL THICKNESS TO 1/4-INCH RADIUS.

PART 3 - EXECUTION

3.1 EXAMINATION
- A. EXAMINE SUBSTRATES, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE.
- B. EXAMINE FINISH CARPENTRY MATERIALS BEFORE INSTALLATION. REJECT MATERIALS THAT ARE MET, MOISTURE DAMAGED, AND MOLD DAMAGED.
- C. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 PREPARATION
- A. CLEAN SUBSTRATES OF PROJECTIONS AND SUBSTANCES DETRIMENTAL TO APPLICATION.

3.3 INSTALLATION, GENERAL
- B. INSTALL EXTERIOR FINISH CARPENTRY LEVEL, PLUMB, TRUE, AND ALIGNED WITH ADJACENT MATERIALS. USE CONCEALED METAL WASHER SHIMS WHERE NECESSARY FOR ALIGNMENT.

1. SCRIBE AND CUT EXTERIOR FINISH CARPENTRY TO FIT ADJOINING WORK. REFINISH AND SEAL CUTS AS RECOMMENDED BY MANUFACTURER.
2. INSTALL TO TOLERANCE OF 1/8 INCH IN 96 INCHES FOR LEVEL AND PLUMB. INSTALL ADJOINING EXTERIOR FINISH CARPENTRY WITH 1/32-INCH MAXIMUM OFFSET FOR FLUSH INSTALLATION AND 1/16-INCH MAXIMUM OFFSET TO REVEAL INSTALLATION.
3. COORDINATE EXTERIOR FINISH CARPENTRY WITH MATERIALS AND SYSTEMS IN OR ADJACENT TO IT.

3.4 ADJUSTING
- A. REPLACE EXTERIOR FINISH CARPENTRY THAT IS DAMAGED OR DOES NOT COMPLY WITH REQUIREMENTS. EXTERIOR FINISH CARPENTRY MAY BE REPAIRED OR REFINISHED IF WORK COMPLIES WITH REQUIREMENTS AND SHOWS NO EVIDENCE OF REPAIR OR REFINISHING. ADJUST JOINERY FOR UNIFORM APPEARANCE.

3.5 CLEANING
- A. CLEAN EXTERIOR FINISH CARPENTRY ON EXPOSED AND SEMI-EXPOSED SURFACES.

3.6 PROTECTION
- A. PROTECT INSTALLED PRODUCTS FROM DAMAGE FROM WEATHER AND OTHER CAUSES DURING CONSTRUCTION.
- B. REMOVE AND REPLACE FINISH CARPENTRY MATERIALS THAT ARE WET, MOISTURE DAMAGED, AND MOLD DAMAGED.

1. INDICATIONS THAT MATERIALS ARE WET OR MOISTURE DAMAGED INCLUDE, BUT ARE NOT LIMITED T

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

SECTION 071416 - COLD FLUID-APPLIED WATERPROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT =, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

B. SECTION INCLUDES:

1. SINGLE-COMPONENT POLYURETHANE WATERPROOFING.

1.3 PERFORMANCE REQUIREMENTS

C. PROVIDE WATERPROOFING MEMBRANE ASSEMBLY THAT PREVENTS THE PASSAGE OF WATER.

1.4 ACTION SUBMITTALS

D. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED. INCLUDE MANUFACTURER'S WRITTEN INSTRUCTIONS FOR EVALUATING, PREPARING, AND TREATING SUBSTRATE, TECHNICAL DATA, AND TESTED PHYSICAL AND PERFORMANCE PROPERTIES OF WATERPROOFING.

B. SHOP DRAWINGS: SHOW LOCATIONS AND EXTENT OF WATERPROFING, INCLUDING AND DRAINAGE PANEL. INCLUDE DETAILS FOR SUBSTRATE JOINTS AND CRACKS, SHEET FLASHINGS, PENETRATIONS, INSIDE AND OUTSIDE CORNERS, TIE-INS WITH ADJOINING WATERPROOFING, FLASHINGS AND OTHER TERMINATION CONDITIONS.

1. INCLUDE SETTING DRAWINGS SHOWING LAYOUT, SIZES, SECTIONS, PROFILES, AND JOINT DETAILS OF PEDESTAL-SUPPORTED CONCRETE PAVERS.
2. SHOW INSTALLATION DETAILS FOR TERMINATION CONDITIONS AT GRADE AND AT OTHER BARRIER ASSEMBLIES AND WATERPROOFING SYSTEMS.

C. SAMPLES: FOR THE FOLLOWING PRODUCTS:

1. FLASHING SHEET, 10 BY 8 INCHES.

1.5 INFORMATIONAL SUBMITTALS

D. QUALIFICATION DATA: FOR INSTALLER.

B. PRODUCT TEST REPORTS: FOR WATERPROOFING, BASED ON EVALUATION OF COMPREHENSIVE TESTS BY A QUALIFIES TESTING AGENCY.

C. FIELD QUALITYQCONTROL REPORTS.

D. WARRANTY: SAMPLE OF SPECIAL WARRANTY.

1.6 QUALITY ASSURANCE

E. INSTALLER QUALIFICATIONS: A FIRM THAT IS ACCEPTABLE TO WATERPROOFING MANUFACTURER FOR INSTALLATION OF WATERPROOFING REQUIRED FOR THIS PROJECT.

1.7 DELIVERY, STORAGE, AND HANDLING

F. DELIVER LIQUID MATERIALS TO PROJECT SITE IN ORIGINAL CONTAINERS WITH SEALS UNBROKEN, LABELED WITH MANUFACTURER'S NAME, PRODUCT BRAND NAME AND TYPE, DATE OF MANUFACTURE, SHELF LIFE, AND DIRECTIONS FOR STORING AND MIXING WITH OTHER COMPONENTS.

B. STORE LIQUID IN THEIR ORIGINAL UNDAMAGED CONTAINERS IN A CLEAN, DRY, PROTECTED LOCATION AND WITHIN THE TEMPERATURE RANGE REQUIRED BY WATERPROOFING MANUFACTURER.

C. REMOVE AND REPLACE LIQUID MATERIALS THAT CANNOT BE APPLIED WITHIN THEIR STATED SHELF LIFE.

D. PROTECT STORED MATERIALS FORM DIRECT SUNLIGHT.

1.8 PROJECT CONDITIONS

E. ENVIRONMENTAL LIMITATIONS: APPLY WATERPROOFING WITHIN THE RANGE OF AMBIENT AND SUBSTRATE TEMPERATURES RECOMMENDED BY WATERPROOFING MANUFACTURER. DO NOT APPLY WATERPROOFING TO A DAMP OR WET SUBSTRATE, WHEN RELATIVE HUMIDITY EXCEEDS 85 PERCENT, OR WHEN TEMPERATURES ARE LESS THAN 5 DEG F ABOVE DEW POINT.

1. DO NOT APPLY WATERPROOFING IN SNOW, RAIN, FOG, OR MIST, OR WHEN SUCH WEATHER CONDITIONS ARE IMMINENT DURING APPLICATION AND CURING PERIOD.

F. MAINTAIN ADEQUATE VENTILATION DURING APPLICATION AND CURING OF WATERPROOFING MATERIALS.

PART 2 - PRODUCTS

2.1 WATERPROOFING MATERIALS, GENERAL

G. PROVIDE WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER TO BE COMPATIBLE WITH ONE ANOTHER AND ABLE TO DEVELOP BOND TO SUBSTRATE UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY WATERPROOFING MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.

1. PRODUCE WATERPROOFING MATERIALS SUITABLE FOR APPLICATION TO VERTICAL, HORIZONTAL, AND SLOPED SUBSTANCES, AS APPLICABLE.
2. PROVIDE WATERPROOFING MATERIALS WITH NOT LESS THAN 40 PERCENT SOLIDS.

2.2 SINGLE-COMPONENT POLYURETHANE WATERPROOFING

D. SINGLE-COMPONENT, MODIFIED POLYURETHANE WATERPROOFING: COMPLY WITH ASTM C 836 AND WITH MANUFACTURER'S WRITTEN PHYSICAL REQUIREMENTS.

1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
   a. CARLISLE COATINGS & WATERPROOFING INC.; CCW-525.
   b. CETCO; LDC 60
   c. TREMCO INCORPORATED; TREMPROOF 60.

2.3 AUXILIARY MATERIALS

E. GENERAL: PROVIDE AUXILIARY MATERIALS RECOMMENDED BY MANUFACTURER TO BE COMPATIBLE WITH ONE ANOTHER AND WITH WATERPROOFING, AS DEMONSTRATED BY WATERPROOFING MANUFACTURER, BASED ON TESTING AND FIELD EXPERIENCE.

B. PRIMER: MANUFACTURER'S STANDARD, FACTORY-FORMULATED POLYURETHANE OR EPOXY PRIMER.

C. SHEET FLASHING: 50-MIL-MINIMUM, NONSTAINING, UNCURED SHEET NEOPRENE.

1. ADHESIVE: MANUFACTURER'S STANDARD, FACTORY-FORMULATED POLYURETHANE OR EPOXY PRIMER.

D. JOINT REINFORCING STRIP: MANUFACTURER'S RECOMMENDED FIBERGLASS MESH OR POLYESTER FABRIC.

E. JOINT SEALANT: MULTICOMPONENT POLYURETHANE SEALANT, COMPATIBLE WITH WATERPROOFING WITH WATERPROOFING, COMPLYING WITH ASTM C 920 TYPE M, CLASS 25; GRADE NS FOR SLOPING AND VERTICAL APPLICATIONS OR GRADE P FOR DECK APPLICATIONS; USE NT EXPOSURE; AND AS RECOMMENDED BY MANUFACTURER FOR SUBSTRATE AND JOINT CONDITIONS.

1. BACKER ROD: CLOSED-CELL POLYETHYLENE FOAM.

2.4 PROTECTION COURSE

F. PROTECTION COURSE: ASTM D 6506, SEMIRIGID SHEETS OF FIBERGLASS OR MINERAL-REINFORCED-ASPHALTIC CORE, PRESSURE LAMINATED BETWEEN TWO ASPHALT-SATURATED FIBROUS LINERS AND AS FOLLOWS:

1. THICKNESS: 1/8 INCH, NOMINAL, FOR VERTICAL APPLICATIONS; 1/4 INCH, NOMINAL, ELSEWHERE.
2. ADHESIVE: RUBBER-BASED SOLVENT TYPE RECOMMENDED BY WATERPROOFING MANUFACTURER FOR TYPE OF PROTECTION COURSE.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

G. CLEAN AND PREPARE SUBSTRATE ACCORDING TO MANUFACTURER'S WRITTEN RECOMMENDATIONS. PROVIDE CLEAN, DUST-FREE, AND DRY SUBSTRATE FOR WATERPROOFING APPLICATION.

B. MASK OFF ADJOINING SURFACES NOT RECEIVING WATERPROOFING TO PREVENT SPILLAGE OR OVERSPRAY AFFECTING OTHER CONSTRUCTION.

C. CLOSE OFF DECK DRAINS AND OTHER DECK PENETRATIONS TO PREVENT SPILLAGE AND MIGRATION OF WATERPROOFING FLUIDS.

D. REMOVE GREASE, OIL, BITUMEN, FORM-RELEASE AGENTS, PAINTS, CURING COMPOUNDS, ACID RESIDUES, AND OTHER PENETRATING CONTAMINANTS OR FILM-FORMING COATINGS FROM CONCRETE.

E. REMOVE FINS, RIDGES, AND OTHER PROJECTIONS AND FILL HONEYCOMB, AGGREGATE POCKETS, AND OTHER VOIDS.

3.2 PREPARATION AT TERMINATIONS AND PENETRATIONS

F. PREPARE VERTICAL AND HORIZONTAL SURFACES AT TERMINATIONS AND PENETRATIONS THROUGH WATERPROOFING AND AT EXPANSION JOINTS, DRAINS, AND SLEEVES ACCORDING TO ASTM C 898, ASTM C 1471 AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

SECTION 071416 - COLD FLUID-APPLIED WATERPROOFING (CONT'D)

B. PRIME SUBSTRATE UNLESS OTHERWISE INSTRUCTED BY WATERPROOFING MANUFACTURER.

C. APPLY WHEN WATERPROOFING IN TWO SEPARATE APPLICATIONS, EMBED A JOINT

DIVISION 7 - THERMAL AND MOISTURE PROTECTION cont.

REINFORCING STRIP IN THE FIRST PREPARATION COAT WHEN RECOMMENDED BY WATERPROOFING MANUFACTURER.

1. PROVIDE SEALANT CANTS AROUND PENETRATIONS AND AT INSIDE CORNERS OF DECK-TO-WALL BUTT JOINTS WHEN RECOMMENDED BY WATERPROOFING MANUFACTURER.

3.3 JOINT AND CRACK TREATMENT

D. PREPARE, TREAT, ROUT, AND FILL JOINTS AND CRACKS IN SUBSTRATE ACCORDING TO ASTM C 898, ASTM C 1471 AND WATERPROOFING MANUFACTURER'S WRITTEN INSTRUCTIONS. REMOVE DUST AND DIRT FROM JOINTS AND CRACKS, COMPLYING WITH ASTM D 4258, BEFORE COATING SURFACES.

1. COMPLY WITH ASTM C 1193 FOR JOINT-SEALANT INSTALLATION.
2. APPLY BOND BREAKER BETWEEN SEALANT AND PREPARATION STRIP.
3. PRIME SUBSTRATE AND APPLY A SINGLE THICKNESS OF PREPARATION STRIP EXTENDING A MINIMUM OF 3 INCHES ALONG EACH SIDE OF JOINT. APPLY WATERPROOFING IN TWO SEPARATE APPLICATIONS AND EMBED A JOINT REINFORCING STRIP IN THE FIRST PREPARATION COAT.

B. INSTALL SHEET FLASHING AND BOND TO DECK AND WALL SUBSTRATES WHERE INDICATED OR REQUIRED ACCORDING TO WATERPROOFING MANUFACTURER'S WRITTEN INSTRUCTIONS.

1. EXTEND SHEET FLASHING ONTO PERPENDICULAR SURFACES AND OTHER WORK PENETRATING SUBSTRATE ACCORDING TO ASTM C 898.

3.4 WATERPROOFING APPLICATION

A. APPLY WATERPROOFING ACCORDING TO ASTM C 898, ASTEM C 1471 AND MANUFACTURER'S WRITTEN INSTRUCTIONS .

B. APPLY PRIMER OVER PREPARED SUBSTRATE.

C. UNREINFORCED WATERPROOFING APPLICATIONS: MIX MATERIALS AND APPLY WATERPROOFING BY SPRAY, ROLLER, NOTCHED, SQUEEGEE, TOWEL, OR OTHER APPLICATION METHOD SUITABLE TO SLOPE OF SUBSTRATE.

1. APPLY ONE OR MORE COATS OF WATERPROOFING TO OBTAIN A SEAMLESS MEMBRANE FREE OF ENTRAPPED GASES, WITH AN AVERAGE DRY FILM THICKNESS OF 60 MILS AND A MINIMUM DRY FILM THICKNESS OF 50 MILS AT ANY POINT.
2. APPLY WATERPROOFING TO PREPARED WALL TERMINATIONS AND VERTICAL SURFACES.

D. INSTALL PROTECTION COURSE WITH BUTTED JOINTS OVER NOMINALLY CURED MEMBRANE BEFORE STARTING SUBSEQUENT CONSTRUCTION OPERATIONS.

3.5 CURING, PROTECTION, AND CEILING

A. CURE WATERPROOFING ACCORDING TO MANUFACTURER'S WRITTEN RECOMMENDATIONS, TAKING CARE TO PREVENT CONTAMINATION AND DAMAGE DURING APPLICATION STAGES AND CURING.

3. DO NOT PERMIT FOOT OR VEHICULAR TRAFFIC ON UNPROTECTED MEMBRANE.

B. PROTECT WATERPROOFING FROM DAMAGE AND WEAR DURING REMAINDER OF CONSTRUCTION PERIOD.

C. CLEAN SPILLAGE AND SOILING FROM ADJACENT CONSTRUCTION USING CLEARING AGENTS AND PROCEDURES RECOMMENDED BY MANUFACTURER OF AFFECTED CONSTRUCTION.

SECTION 075400 - THERMOPLASTIC MEMBRANE ROOFING

1.1 GENERAL:

PROVIDE THE THERMOPLASTIC MEMBRANE (PVC) ROOFING SYSTEM AS SHOWN AND SPECIFIED.

A. STANDARDS: MATERIALS AND CONSTRUCTION SHALL CONFORM TO FOLLOWING:

1. ASTM D5036 "APPLICATION OF ADHERED POLY(VINYL CHLORIDE) SHEET ROOFING."
2. FM 1-29 LOSS PREVENTION DATA ADHERED OR MECHANICALLY ATTACHED SINGLE PLY MEMBRANE ROOF SYSTEMS."
3. NRCA "SINGLE-PLY ROOFING MEMBRANE."
4. UL "790 -TESTS FOR FIRE RESISTANCE OF ROOF COVERING MATERIALS."

B. INSTALLER QUALIFICATIONS: AN EXPERIENCED ROOFING INSTALLER APPROVED BY ROOFING SYSTEM MANUFACTURER AND WITH NOT LESS THAN FIVE YEARS OF SUCCESSFUL EXPERIENCE INSTALLING MEMBRANE ROOFING SYSTEMS SIMILAR TO THOSE REQUIRED FOR THIS PROJECT.

C. DELIVER, STORE AND HANDLE ROOF SYSTEM MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS TO AVOID DAMAGE AND DETERIORATION.

1. COMPLY WITH MANUFACTURER'S RECOMMENDATIONS FOR HANDLING AND PROTECTION DURING INSTALLATION.

D. INSTALL ROOFING WORK ONLY WHEN WEATHER CONDITIONS ARE IN COMPLIANCE WITH MANUFACTURER'S SPECIFIC ENVIRONMENTAL REQUIREMENTS AND CONDITIONS WILL PERMIT WORK TO BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND WARRANTY REQUIREMENTS.

1. PROTECT ADJACENT MATERIALS AND SURFACES FROM DAMAGE AND SOILING DURING ROOFING SYSTEM INSTALLATION.
2. PROVIDE SPECIAL PROTECTION ON COMPLETED ROOFING WORK.
3. PROTECT PAVING AND STRUCTURE WALLS ADJACENT TO HOISTS BEFORE STARTING WORK.
4. DO NOT OVERLOAD THE BUILDING STRUCTURE WITH STORAGE OF MATERIALS OR INSTALLATION EQUIPMENT ON THE SUBSTRATE DECKING.

E. WARRANTY

1. CONTRACTOR AND ROOF SYSTEM INSTALLER SHALL JOINTLY WARRANT ROOFING MATERIALS AND INSTALLATION FOR A PERIOD OF TWO YEARS FROM THE DATE OF SUBSTANTIAL COMPLETION. WARRANTY SHALL INCLUDE ROOFING MEMBRANE, FLASHING, ROOF INSULATION, ROOFING ACCESSORIES AND SHEET METAL WORK PROVIDED UNDER SECTION 07600.
2. MANUFACTURER'S WARRANTY: SUBMIT EXECUTED COPY OF ROOFING SYSTEM MANUFACTURER'S 15 YEAR TOTAL SYSTEM WARRANTY, INCLUDING LABOR AND MATERIALS FOR THE ENTIRE ROOF SYSTEM. INCLUDING PERIMETER EDGE METAL, SECTION 07600 FLASHING & SHEET METAL

2.1 MATERIALS

A. MANUFACTURER: DURO-LAST ROOFING, INC, (614) 370-5569, MIKE SUMAN, WWW.DURO-LAST.COM

1. BASIS OF DESIGN PRODUCT ROOFING SYSTEM
   a. THERMOPLASTIC SINGLE PLY MEMBRANE ROOFING SYSTEM: DL MEMBRANE (PVC) FULLY ADHERED, SMOOTH SURFACE, UL CLASS A FIRERATEDSINGLE PLY MEMBRANE ROOFING SYSTEM.
   b. THERMOPLASTIC FIBER REINFORCED PVC MEMBRANE, NOT LESS THAN 40 MILS (.040), COMPLYING WITH ASTM D4434 AND MEMBRANE MANUFACTURER'S PUBLISHED PHYSICAL PROPERTIES.

B. COMPARABLE ALTERNATE ROOF MANUFACTURERS:

1. VERSICO ROOFING SYSTEMS, (815) 341-3770, CHRIS SHERMACH, CHRIS.SHERMACH@VERSICO.COM
   a. VERSIFLEX PVC ADHERED SYSTEM
2. OTHER COMPARABLE ALTERNATES CAN BE CONSIDERED WHEN APPROVED BY ARCH PM AND CHIPOTLE DM/CM.

C. THE ROOF COVERING DESIGN MUST RESIST A WIND LOAD OF 100 MPH, EXPOSURE C AND SHALL RESIST IMPACT DAMAGE BASED ON RESULTS OF TESTS BASED ON THE RESULTS OF TESTS CONDUCTED IN ACCORDANCE WITH ASTM D 3746, ASTM D 4272, CGSB 37-GP-52M OR FM-4470

1. INSULATION COVER BOARD: GEORGIA-PACIFIC CORP. (800) 284-5347, INTERNET WWW.GP.COM, "DENS-DECK" NONSTRUCTURAL FIBERGLASS-FACED, SILICONE-TREATED GYPSUM CORE PANELS, 1/2"" THICKNESS.
2. ROOF INSULATION: RIGID CLOSED CELL POLYISOCYANURATE BOARDS APPROVED BY THE MEMBRANE MANUFACTURER; COMPLYING WITH ASTM C1289, TYPE II, MINIMUM 20 PSI COMPRESSIVE STRENGTH, AGED R-VALUE EQUAL 5.6 PER INCH OF THICKNESS.
   a. PROVIDE A DOUBLE LAYER INSTALLATION. MINIMUM TOTAL R-VALUE AS INDICATED ON PLANS.
   b. SPECIFIED PERIMETER EDGE METAL SHALL BE COMPLIANT WITH INTERNATIONAL BUILDING CODE ANSI / SPRI ES-1, ER2 TESTING REQUIREMENTS.
3. FLASHING: ROOF SYSTEM MANUFACTURER'S STANDARD SHEET FLASHING OF SAME MATERIAL, TYPE, AND COLOR AS SHEET MEMBRANE. SPECIFIED PERIMETER EDGE METAL WILL BE COMPLIANT WITH INTERNATIONAL BUILDING CODE ANSI / SPRI ES-1, RE2 TESTING REQUIREMENTS.
4. MEMBRANE BONDING ADHESIVE: ROOF SYSTEM MANUFACTURER'S STANDARD MEMBRANE BONDING ADHESIVE.
5. INSULATION AND COVER BOARD ADHESIVE: DOW CHEMICAL COMPANY, (888) 868-1183, INTERNET WWW.FLEXIBEPRODUCTS.COM, "INSTASTIKPROFESSIONAL ROOF INSULATION ADHESIVE", A SINGLE COMPONENT, MOISTURE CURED POLYURETHANE ADHESIVE.
6. FASTENERS: ROOF SYSTEM MANUFACTURER'S STANDARD FASTENERS FOR PROJECT CONDITIONS INDICATED.
7. ACCESSORIES: ROOF SYSTEM MANUFACTURER'S RECOMMENDED POURABLE SEALERS, PREFORMED PENETRATION FLASHING, PREFORMED CORNER FLASHING, SEAM CAULK, TERMINATION BARS AND OTHER ACCESSORIES REQUIRED FOR SUBSTRATE SURFACES AND INSTALLATION CONDITIONS INDICATED.
8. TRAFFIC WALKWAYS: DURO-LAST ROOF TRACK II WALKWAY PADS.3.1INSTALLATION

2.2 COVER BOARDS

A. COVER BOARDS: GLASS-MAT FACED GYPSUM PANELS COMPLYING WITH ASTM C1177/C1177M.

1. THICKNESS: 1/2 INCH, FIRE-RESISTANT.
2. MANUFACTURERS:
   a. GEORGIA-PACIFIC; DENSDECK PRIME WITH EONIC TECHNOLOGY: WWW.DENSDECK.COM/#SLE OR EQUAL.

2.3 INSULATION

A. POLYISOCYANURATE (ISO) BOARD INSULATION: RIGID CELLULAR FOAM, COMPLYING WITH ASTM C1289.

1. CLASSIFICATIONS:
   a. TYPE II:
1. CLASS 1 - FACED WITH GLASS FIBER REINFORCED CELLULOSIC FELT FACERS ON BOTH MAJOR SURFACES OF CORE FOAM.
2. COMPRESSIVE STRENGTH: CLASSES 1-2-3, GRADE 1 - 16 PSI (110 KPA), MINIMUM.
3. THERMAL RESISTANCE, R-VALUE: AT 1-1/2 INCH THICK; CLASS 1, GRADES 1-2-3 - 8.4 (1.48) AT 75

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DEGREES F.

2. BOARD SIZE: 48 BY 96 INCH.
3. BOARD THICKNESS: 1.5 INCH, OR 2 INCHES, AS REQUIRED.
4. TAPERED BOARD: SLOPE AS INDICATED; MINIMUM THICKNESS 1/4 INCH; FABRICATE OF FEWEST LAYERS POSSIBLE.
5. BOARD EDGES: SQUARE.
6. MANUFACTURERS:
   a. JOHNS MANVILLE; ENRGY 3, FLAT AND TAPERED OR EQUAL.

2.4 ACCESSORIES

A. STACK BOOTS: PREFABRICATED FLEXIBLE BOOT AND COLLAR FOR PIPE STACKS THROUGH MEMBRANE; SAME MATERIAL AS MEMBRANE.

B. INSULATION FASTENERS: APPROPRIATE FOR PURPOSE INTENDED AND APPROVED BY ROOFING MANUFACTURER.

1. LENGTH AS REQUIRED FOR THICKNESS OF INSULATION MATERIAL AND PENETRATION OF DECK SUBSTRATE, WITH METAL WASHERS.

C. MEMBRANE ADHESIVE: COLD APPLIED, MOISTURE CURED, SINGLE COMPONENT ROOF MEMBRANE ADHESIVE AS RECOMMENDED BY THE MEMBRANE MANUFACTURER.

D. SEALANTS: AS RECOMMENDED BY MEMBRANE MANUFACTURER.

E. WALKWAY PADS: SUITABLE FOR MAINTENANCE TRAFFIC, CONTRASTING COLOR OR OTHERWISE VISUALLY DISTINCTIVE FROM ROOF MEMBRANE.

1. COMPOSITION: ROOFING MEMBRANE MANUFACTURER'S STANDARD.
2. WIDTH: 30 INCHES.
3. SURFACE COLOR: WHITE.

3.1 INSTALLATION

A. PREPARATION:

1. CLEAN SUBSTRATE SURFACES OF DEBRIS AND OTHER SUBSTANCES DETRIMENTAL TO ROOFING INSTALLATION.
2. CORRECT UNSATISFACTORY CONDITIONS BEFORE STARTING ROOFING. ROOF DECK SURFACE CONDITIONS SHALL COMPLY WITH MANUFACTURER'S REQUIREMENTS AND BE ACCEPTABLE TO THE ROOFING SYSTEM INSTALLER.

B. INSTALLATION:

1. GENERAL: PROVIDE ROOFING SYSTEM MATERIALS AND INSTALLATION COMPLYING WITH ROOFING SYSTEM MANUFACTURER'S INSTRUCTIONS AND GOVERNING CODES AND REGULATIONS.
   a. MIX AND APPLY ROOF INSULATION AND COVER BOARD ADHESIVE IN STRICT ACCORDANCE WITH THE ADHESIVE MANUFACTURER'S INSTALLATION INSTRUCTIONS. DISPENSE ADHESIVE AT MANUFACTURER'S RECOMMENDED APPLICATION RATE USING APPROVED DISPENSING EQUIPMENT.
2. ROOF INSULATION.
   a. EXTEND INSULATION FULL THICKNESS OVER ENTIRE SURFACE TO BE INSULATED. CUT AND FIT AROUND OBSTRUCTIONS; FILL ALL VOIDS WITH INSULATION. PROVIDE SADDLES AND TAPERED EDGES AS REQUIRED TO PROVIDE POSITIVE PROPER DRAINAGE.
   b. INSTALL AND SECURE IN PLACE WITH INSULATION ADHESIVE, A DOUBLE LAYER OF INSULATION UNITS OF THE REQUIRED THICKNESS. RUN LONG JOINTS OF INSULATION IN CONTINUOUS STRAIGHT LINES, PERPENDICULAR TO ROOF SLOPE, WITH END JOINTS STAGGERED BETWEEN ROWS. STAGGER JOINTS OF EACH LAYER OF INSULATION. BUTT EDGES TO MODERATE CONTACT. LIMIT JOINTS BETWEEN ADJACENT UNITS TO MAXIMUM 1/4".
3. INSULATION COVER BOARD: INSTALL AND SECURE IN PLACE WITH INSULATION ADHESIVE A SINGLE LAYER OF INSULATION COVER BOARD ON INSTALLED ROOF INSULATION. SECURE COVER BOARD IN ACCORDANCE WITH MEMBRANE MANUFACTURER'S RECOMMENDATIONS. STAGGER JOINTS WITH JOINTS OF ROOF INSULATION.
4. THERMOPLASTIC MEMBRANE: COMPLY WITH MEMBRANE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS FOR HANDLING AND INSTALLING SINGLE PLY MEMBRANE ROOFING.
   a. UNROLL AND POSITION ROOFING SHEET MEMBRANE WITHOUT STRETCHING. ALIGN TOP SHEET WITH PR-MARKED LINES ON BOTTOM SHEET. ALLOW MEMBRANE TO "RELAX" FOR AT LEAST 30 MINUTES BEFORE ADHERING, SPLICING AND FLASHING.
   b. ADHERE MEMBRANE TO INSULATION COVER BOARD WITH BONDING ADHESIVE. BROOM BONDED MEMBRANE TO ACHIEVE MAXIMUM CONTACT.
   c. JOIN MEMBRANE SEAMS USING APPROVED HEAT WELDING EQUIPMENT. CHECK ALL SPLICES FOR VOIDS AND REPAIR VOIDS WITH HEAT GUN AND ROLLER.
   d. WHEN REQUIRED, MECHANICALLY FASTEN MEMBRANE AT ROOF PERIMETER, CURB FLASHING AND SIMILAR PENETRATIONS IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
   e. FLASH AND MAKE WEATHERTIGHT ALL EQUIPMENT CURBS, PIPES, CONDUITS, DRAINS AND OTHER PENETRATIONS OR PROJECTIONS THROUGH SHEET ROOFING USING ROOFING SYSTEM MANUFACTURER'S RECOMMENDED FLASHING MATERIALS, ACCESSORIES AND PROCEDURES.
5. INSTALL ROOF ACCESSORIES AND TRAFFIC WALKWAYS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
6. INSTALL SHEET METAL WORK FURNISHED UNDER SECTION 05500.

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

A. SECTION INCLUDES:

1. SILICONE JOINT SEALANTS.
2. URETHANE JOINT SEALANTS.

1.3 PRECONSTRUCTION TESTING

A. PRECONSTRUCTION FIELD ADHESION TESTING: BEFORE INSTALLING SEALANTS, FIELD TEST THEIR ADHESION TO PROJECT JOINT SUBSTRATES AS FOLLOWS:

1. LOCATE TEST JOINTS WHERE INDICATED ON PROJECT OR, IF NOT INDICATED , AS DIRECTED BY ARCHITECT.
2. CONDUCT FIELD TESTS FOR EACH APPLICATION INDICATED BELOW:
   a. EACH KIND OF SEALANT AND JOINT SUBSTRATE INDICATED.
3. NOTIFY ARCHITECT THREE DAYS IN ADVANCE OF DATES AND TIMES WHEN TEST JOINTS WILL BE ERECTED.
   a. TEST METHOD: TEST JOINT SEALANTS ACCORDING TO METHOD A, FIELD-APPLIED SEALANT JOINT HAND PULL TAB, IN APPENDIX X1 IN ASTM C 1193 OR METHOD A, TAIL PROCEDURE, IN ASTM C 1521..

1) FOR JOINTS WITH DISSIMILAR SUBSTRATES, VERIFY ADHESION TO EACH SUBSTRATE SEPARATELY; EXTEND CUT ALONG ONE SIDE, VERIFYING ADHESION TO OPPOSITE SIDE. REPEAT PROCEDURE FOR OPPOSITE SIDE.

4. REPORT WHETHER SEALANT FAILED TO ADHERE TO JOINT SUBSTRATES OR TORE COHESIVELY. INCLUDE DATA ON PULL DISTANCE USED TO TEST EACH KIND OF PRODUCT AND JOINT SUBSTRATE. FOR SEALANTS THAT FAIL ADHESIVELY, RETEST UNTIL SATISFACTORY ADHESION IS OBTAINED.
5. EVALUATION OF PRECONSTRUCTION FIELD-ADHESION-TEST RESULTS: SEALANTS NOT EVIDENCING ADHESIVE FAILURE FROM TESTING, IN ABSENCE OF OTHER INDICATIONS OF NONCOMPLIANCE WITH REQUIREMENTS, WILL BE CONSIDERED SATISFACTORY. DO NOT USE SEALANTS THAT FAIL TO ADHERE TO JOINT SUBSTRATES DURING TESTING.

1.4 ACTION SUBMITTALS

A. PRODUCT DATE: FOR EACH JOINT-SEALANT PRODUCT INDICATED.

B. SAMPLES FOR INITIAL SELECTION: MANUFACTURER'S COLOR CHARTS CONSISTING OF STRIPS OF CURED SEALANTS SHOWING THE FULL RANGE OF COLORS AVAILABLE FOR EACH PRODUCT EXPOSED TO LAW.

C. SAMPLES FOR VERIFICATION: FOR EACH KIND AND COLOR OF JOINT SEALANT REQUIRED, PROVIDE SAMPLES WITH JOINT SEALANTS IN 1/2-INCH-WIDE JOINTS FORMED BETWEEN TWO 6-INCH-LONG STRIPS OF MATERIAL MATCHING THE APPEARANCE OF EXPOSED SURFACES ADJACENT TO JOINT SEALANTS.

D. JOINT-SEALANT SCHEDULE: INCLUDE THE FOLLOWING INFORMATION:

1. JOINT-SEALANT APPLICATION, JOINT LOCATION, AND DESIGNATION.
2. JOINT-SEALANT MANUFACTURER AND PRODUCT NAME.
3. JOINT-SEALANT FORMULATION.
4. JOINT-SEALANT COLOR.

1.5 INFORMATIONAL SUBMITTALS

A. QUALIFICATION DATA: FOR QUALIFIED INSTALLER.

B. PRODUCT CLASSIFICATION: FOR EACH KIND OF JOINT SEALANT AND ACCESSORY, FROM MANUFACTURER.

C. PRODUCT TEST REPORTS: BASED ON EVALUATION OF COMPREHENSIVE TESTS PERFORMED BY A QUALIFIED TESTING AGENCY, INDICATING THAT THE SEALANTS COMPLY WITH REQUIREMENTS.

D. PRECONSTRUCTION FIELD-ADHESION TEST REPORTS: INDICATE WHICH SEALANTS AND JOINT PREPARATION METHODS RESULTED IN OPTIMUM ADHESION TO JOINT SUBSTRATES BASED ON TESTING SPECIFIED IN "PRECONSTRUCTION TESTING" ARTICLE.

E. FIELD-ADHESION TEST REPORTS: FOR EACH SEALANT APPLICATION TESTED.

1.6 QUALITY ASSURANCE

A. INSTALLER QUALIFICATIONS: MANUFACTURER'S AUTHORIZED REPRESENTATIVE WHO IS TRAINED AND APPROVED FOR INSTALLATION OF UNITS REQUIRED FOR THIS PROJECT.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION cont.

B. SOURCE LIMITATIONS: OBTAIN EACH KIND OF JOINT SEALANT FROM SINGLE SOURCE FROM SINGLE MANUFACTURER.

C. MOCKUPS: INSTALL SEALANT IN MOCKUPS OF ASSEMBLIES SPECIFIED IN OTHER SECTIONS THAT ARE INDICATED TO RECEIVE JOINT SEALANTS SPECIFIED IN THIS SOLUTION. USE MATERIALS AND INSTALLATION METHODS SPECIFIED IN THIS SECTION.

1.7 PROJECT CONDITIONS

A. DO NOT PROCEED WITH INSTALLATION OF JOINT SEALANTS UNDER THE FOLLOWING CONDITIONS:

1. WHEN AMBIENT AND SUBSTRATE TEMPERATURE CONDITIONS ARE OUTSIDE LIMITS PERMITTED BY JOINT-SEALANT MANUFACTURER OR ARE BELOW 40 DEGREE F.
2. WHEN JOINT SUBSTRATES ARE WET.

SECTION 079200 - JOINT SEALANTS (CONT'D)

3. WHERE JOINT WIDTHS ARE LESS THAN THOSE ALLOWED BY JOINT-SEALANT MANUFACTURER FOR APPLICATIONS INDICATED.
4. WHERE CONTAMINANTS CAPABLE OF INTERFERING WITH ADHESION HAVE NOT YET BEEN REMOVED FROM JOINT SUBSTANCES .

2.1 MATERIALS, GENERAL

A. COMPATIBILITY: PROVIDE JOINT SEALANTS, BACKINGS, AND OTHER RELATED MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH JOINT SUBSTRATES UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY JOINT-SEALANT MANUFACTURER, BASED ON TESTING AND FIELD EXPERIENCE.

B. NON-TEST-RESPONSE CHARACTERISTICS: WHERE SEALANTS ARE SPECIFIED TO BE NONSTAINING TO PORPUS SUBSTRATES INDICATED FOR PROJECT.

C. COLORS OF EXPOSED JOINT SEALANTS: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE, FOR EACH APPLICATION AND SUBSTRATE.

2.2 SILICONE JOINT SEALANTS

A. SINGLE-COMPONENT, NONSAG, NON-STAINING, NEUTRAL-CURING SILICONE JOINT SEALANT: ASTM C 920, TYPE S, GRADE NS, CLASS 50, FOR USE NT.

1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
   a. DOW CORNING CORPORATION; 795.
   b. GE SEALANTS; SILPRUF NB SCS9000.
   c. PECORA CORPORATION; 895 NST.
   d. TREMCO, SPECTRUM 3.

2.3 URETHANE JOINT SEALANTS

A. SINGLE-COMPONENT, POURABLE, TRAFFIC-GRADE, URETHANE JOINT SEALANT: ASTM C 920, TYPE S, GRADE P, CLASS 25, FOR USE T.

1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NO

DIVISION 8 - DOORS AND WINDOWS cont.

SECTION 08100 - STEEL DOORS AND FRAMES (CONT'D)

E. FINISHES

1. SHOP PRIMING:
   a. DOORS AND FRAMES SHALL BE CHEMICALLY TREATED TO ENSURE MAXIMUM PAINT ADHESION AND COATED, ON EXPOSED SURFACES, WITH A RUST-INHIBITIVE PRIMER SUITABLE AS A BASE FOR FINISH PAINTS.
   b. APPLY PRIMER OF EVEN CONSISTENCY TO PROVIDE A UNIFORM FINISHED SURFACE. ALLOW TO FULLY CARE BEFORE SHIPMENT.

F. FRAME TOLERANCES:

1. SQUARENESS: +/- 1/16" (1.5 MM)
   a. MEASURED ON A LINE 90 DEGREES FROM ONE JAMB, AT UPPER CORNER OF FRAME AT OTHER JAMB.
2. ALIGNMENT: +/- 1/16" (1.5 MM)
   a. MEASURED ON JAMBS ON A HORIZONTAL LINE PARALLEL TO PLANE OF WALL
3. TWIST: +/- 1/16" (1.5 MM)
   a. MEASURED AT FACE CORNERS OF JAMBS ON PARALLEL LINE PERPENDICULAR TO PLANE OF WALL.
4. PLUMBNESS: +/- 1/16" (1.5 MM)
   a. MEASURED ON JAMBS AT FLOOR

G. DOOR CLEARANCE SUBJECT TO +/- 1/32" (.08 MM) TOLERANCE:

1. HEAD AND JAMBS: 1/8" (3 MM)
2. UNDERCUT DOORS SUFFICIENTLY TO ALLOW CLEARANCE ABOVE FINISH FLOORS AND WHERE INDICATED ON DRAWINGS TO ALLOW FOR ADEQUATE AIR TRANSFER.
   a. WHERE SCHEDULED FLOOR FINISHED MATERIAL IS LESS THAN 1/2" (12 MM) THICK, ALLOW NOT MORE THAN 5/8" (16 MM) ABOVE TOP OF SUBSTANCE TO WHICH IT IS APPLIED.
   b. WHERE SCHEDULED FLOOR FINISH MATERIAL IS MORE THAN 1/2" (21 MM) THICK, ALLOW NOT MORE THAN 1/4" (6 MM) ABOVE FINISH MATERIAL.
   c. WHERE A THRESHOLD IS USED, ALLOW NOT MORE THAN $\frac{1}{4}$" (6 MM) ABOVE THRESHOLD.

H. ADJUSTMENTS

1. PRIME-COAT TOUCH-UP:
   a. SAND SMOOTH ALL RUSTED OR DAMAGED AREAS OF PRIME COAT AND TOUCH-UP WITH COMPATIBLE AIR-DRYING PRIMER
   b. TOUCH-UP AREAS SHALL NOT BE OBVIOUS.
2. FINAL ADJUSTMENTS:
   a. CHECK AND RE-ADJUST OPERATING FINISH HARDWARE JUST PRIOR TO FINAL INSPECTION AND AFTER PAINTING HINGES IF HINGES AND INDICATED TO BE PAINTED.
   b. REMOVE AND REPLACE DEFECTIVE WORK.

SECTION 08411 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

1.1 GENERAL

A. PERFORMANCE REQUIREMENTS

1. DELEGATED DESIGN: DESIGN ALUMINUM-FRAMED, INCLUDING COMPREHENSIVE ENGINEERING ANALYSIS BY A QUALIFIED PROFESSIONAL ENGINEER, USING PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED.
2. WIND LOADS: 90 MPH (40 M/S).
3. DEFLECTION OF FRAMING MEMBERS:
   a. DEFLECTION NORMAL TO WALL PLANE: LIMITED TO EDGE OF GLASS IN A DIRECTION PERPENDICULAR TO GLASS PLANE SHALL NOT EXCEED L/175 OF THE GLASS EDGE LENGTH FOR EACH INDIVIDUAL GLAZING LITE OR AN AMOUNT THAT RESTRICTS EDGE DEFLECTION OF INDIVIDUAL GLAZING LITES TO 3/4 INCH (19 MM), WHICHEVER IS LESS.
   b. DEFLECTION PARALLEL TO GLAZING PLANE: LIMITED TO L/360 OF CLEAR SPAN OR 1/8 INCH (3.2 MM), WHICHEVER IS SMALLER.

B. SUBMITTALS

1. SHOP DRAWINGS: FOR ALUMINUM-FRAMED SYSTEMS. INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK.
2. SAMPLES: FOR EACH TYPE OF EXPOSED FINISH REQUIRED.
3. ENTRANCE DOOR HARDWARE SCHEDULE: PREPARED BY OR UNDER THE SUPERVISION OF SUPPLIER, DETAILING FABRICATION AND ASSEMBLY OF ENTRANCE DOOR HARDWARE, AS WELL AS PROCEDURES AND DIAGRAMS.
4. DELEGATED-DESIGN SUBMITTAL: FOR ALUMINUM-FRAMES SYSTEMS INDICATED TO COMPLY WITH PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

C. QUALITY ASSURANCE

1. ENGINEERING RESPONSIBILITY: PREPARE DATA FOR ALUMINUM-FRAMED SYSTEMS, INCLUDING SHOP DRAWINGS, BASED ON TESTING AND ENGINEERING ANALYSIS OF MANUFACTURER'S STANDARD UNITS IN SYSTEMS SIMILAR TO THOSE INDICATED FOR THIS PROJECT.
2. PRODUCT OPTIONS: INFORMATION ON DRAWINGS AND IN SPECIFICATIONS ESTABLISHES REQUIREMENTS FOR SYSTEMS' AESTHETIC EFFECTS AND PERFORMANCE CHARACTERISTICS. AESTHETIC EFFECTS ARE INDICATED BY DIMENSIONS, ARRANGEMENTS, ALIGNMENT, AND PROFILES OF COMPONENTS AND ASSEMBLIES AS THEY RELATE TO SIGHTLINES, TO ONE ANOTHER, AND TO ADJOINING CONSTRUCTION. PERFORMANCE CHARACTERISTICS ARE INDICATED BY CRITERIA SUBJECT TO VERIFICATION BY ONE OR MORE METHODS INCLUDING PERCONSTRUCTION TESTING, FIELD TESTING, AND IN-SERVICE PERFORMANCE.
3. ACCESSIBLE ENTRANCES" COMPLY WITH APPLICABLE PROVISIONS IN THE U.S. ARCHITECTURAL & TRANSPORTATION BARRIERS COMPLIANCE BOARD'S ADA-ABA ACCESSIBILITY GUIDELINES AND ICC/ANSI A117.1.
4. SOURCE LIMITATIONS FOR ALUMINUM-FRAMED SYSTEMS: OBTAIN FROM SINGLE SOURCE FROM SINGLE MANUFACTURER.

D. PRODUCTS

1. MANUFACTURERS
   a. MANUFACTURER'S: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
      ARCADIA, INC.
      ARCH ALUMINUM & GLASS CO. INC.
      CMI ARCHITECTURAL.
      EFCO CORPORATION.
      KAWNEER NORTH AMERICA; AN ALCOA COMPANY.
      YKK AP AMERICA INC.
      RACO INC.
2. FRAMING SYSTEMS
   a. FRAMING MEMBERS: MANUFACTURER'S STANDARD EXTRUDED-ALUMINUM FRAMING MEMBERS OF THICKNESS REQUIRED AND REINFORCED TO SUPPORT IMPOSED LOADS.
   b. CONSTRUCTION OF EXTERIOR: THERMALLY BROKEN.
      GLAZING SYSTEM: RETAINED MECHANICALLY WITH GASKETS ON FOUR SIDES.
      GLAZING PLANE: FRONT.
   c. BRACKETS AND REINFORCEMENTS: MANUFACTURER'S STANDARD HIGH-STRENGTH ALUMINUM WITH NONSTANDING, NONFERROUS SHIMS FOR ALIGNING SYSTEM COMPONENTS.
   d. FASTENERS AND ACCESSORIES: MANUFACTURER'S STANDARD CORROSION-RESISTANT, NONSTAINING, NONBLEEDING FASTENERS AND ACCESSORIES COMPATIBLE WITH ADJACENT MATERIALS.
   e. FRAMING SYSTEM GASKETS AND SEALANTS: MANUFACTURER'S STANDARD, RECOMMENDED BY MANUFACTURER FOR JOINT TYPE.
3. GLAZING SYSTEMS
   a. GLAZING GASKETS: MANUFACTURER'S STANDARD COMPRESSION TYPES; REPLACEABLE, MOLDED OR EXTRUDED, OF PROFILE AND HARDNESS REQUIRED TO MAINTAIN WATERTIGHT SEAL.
   b. SPACERS AND SETTING BLOCKS: MANUFACTURER'S STANDARD ELASTOMERIC TYPE.
4. ENTRANCE DOORS SYSTEMS
   a. ENTRANCE DOORS: MANUFACTURER'S STANDARD GLAZED ENTRANCE DOORS FOR MANUAL-SWING OPERATION.
      DOOR CONSTRUCTION: 1-3/4-INCH (44.5-MM) OVERALL THICKNESS, MINIMUM 0.125-INCH-(3.2-MM) THICK, EXTRUDED-ALUMINUM TUBULAR RAIL AND STILE MEMBERS. MECHANICALLY FASTEN CORNERS WITH REINFORCING BRACKETS THAT ARE DEEPLY PENETRATED AND FILLED WELDED OR THAT INCORPORATE CONCEALED TIE RODS.
   b. GLAZING STOPS AND GASKETS: SQUARE EDGE, SNAP-ON, EXTRUDED-ALUMINUM STOPS AND PERFORMED GASKETS WITH NON-REMOVABLE GLAZING STOPS ON OUTSIDE OF DOORS.
   c. ENTRANCE DOOR HARDWARE: AS INDICATED ON DRAWINGS AND AS SPECIFIED IN DIVISION 8 SECTION "DOOR HARDWARE."

E. FABRICATION

1. FORM OR EXTRUDE ALUMINUM SHAPES BEFORE FINISHING.
2. WELD IN CONCEALED LOCATIONS TO GREATEST EXTENT POSSIBLE TO MINIMIZE DISTORTION OR DISCOLORATION OF FINISH. REMOVE WELD SPATTER AND WELDING OXIDES FROM EXPOSED SURFACES BY DE-SCALING OR GRINDING.
3. FRAMING MEMBERS, GENERAL: FABRICATE COMPONENTS THAT, WHEN ASSEMBLED THAT THE FOLLOWING CHARACTERISTICS:

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DIVISION 8 - DOORS AND WINDOWS cont.

SECTION 08411 - ALUMINUM FRAMED ENTRANCES AND STOREFRONTS (CONT'D)

   a. PROFILES THAT ARE SHARP, STRAIGHT, AND FREE OF DEFECTS OR DEFORMATIONS.
   b. ACCURATELY FITTED JOINTS WITH ENDS COPED OR MITERED.
   c. MEANS TO DRAIN WATER PASSING JOINTS, CONDENSATION WITHIN FRAMING MEMBERS, AND MOISTURE MIGRATING WITHIN THE SYSTEM TO EXTERIOR.
   d. PHYSICAL AND THERMAL ISOLATION OF GLAZING FORM FRAMING MEMBERS.
   e. ACCOMMODATIONS FOR THERMAL AND MECHANICAL MOVEMENTS OF GLAZING AND FRAMING TO MAINTAIN REQUIRED GLAZING EDGE CLEARANCES.
   f. PROVISIONS FOR FIELD REPLACEMENT OF GLAZING FROM INTERIOR FOR VISION GLASS AND EXTERIOR FOR SPANDREL GLAZING OR METAL PANELS.
   g. FASTENERS, ANCHORS, AND CONNECTION DEVICES THAT ARE CONCEALED FROM VIEW TO GREATEST EXTENT POSSIBLE.
4. MECHANICALLY GLAZED FRAMING MEMBERS: FABRICATE FOR FLUSH GLAZING WITHOUT PROJECTING STOPS.
5. ENTRANCE DOOR FRAMES: REINFORCE AS REQUIRED TO SUPPORT LOADS IMPOSED BY DOOR OPERATION AND FOR INSTALLING ENTRANCE DOOR HARDWARE.
6. ENTRANCE DOOR: REINFORCE DOORS AS REQUIRED FOR INSTALLING ENTRANCE DOOR HARDWARE.
7. ENTRANCE DOOR HARDWARE INSTALLATION: FACTORY INSTALL ENTRANCE DOOR HARDWARE TO THE GREATEST EXTENT POSSIBLE. CUT, DRILL, AND TAP FOR FACTORY-INSTALLED ENTRANCE DOOR HARDWARE BEFORE APPLYING FINISHED.

F. INSTALLATION

1. GENERAL:
   a. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
   b. DO NOT INSTALL DAMAGED COMPONENTS.
   c. FIT JOINTS TO PRODUCE HAIRLINE JOINTS FREE OF BURRS AND DISTORTION.
   d. RIGIDLY SECURE NON-MOVEMENT JOINTS.
   e. INSTALL ANCHORS WITH SEPARATES AND ISOLATORS TO PREVENT METAL CORROSION AND ELECTROLYTIC DETERIORATION.
   f. SEAL JOINTS WATERTIGHT UNLESS OTHERWISE INDICATED.
2. WHERE ALUMINUM AT EXTERIOR DOORS WILL CONTACT DISSIMILAR METALS, PROTECT AGAINST GALVANIC ACTION BY PAINTING CONTRACT SURFACES WITH PRIMER OR APPLYING SEALANT OR TAPE, OR BY INSTALLING NONCONDUCTIVE SPACERS AS RECOMMENDED BY MANUFACTURER FOR THIS PURPOSE. WHERE ALUMINUM WILL CONTACT CONCRETE OR MASONRY, PROTECT AGAINST CORROSION. BY PAINTING CONTRACT SURFACES WITH BITUMINOUS PAINT.
3. INSTALL COMPONENTS PLUMB AND TRUE IN ALIGNMENT WITH ESTABLISHED LINES AND GRADES, AND WITHOUT WARP OR RACK AND PRODUCE SMOOTH OPERATION AND TIGHT FIT AT CONTACT POINTS.
4. INSTALL EXTERIOR DOOR AND SOUND RATED INTERIOR DOORS TO PRODUCE WEATHERTIGHT ENCLOSURE AND TIGHT FIT AT WEATHER STRIPPING AND SOUNDPROOF GASKETING AND INSTALL COMPONENTS TO DRAIN WATER PASSING JOINTS, CONDENSATION OCCURRING WITHIN FRAMING MEMBERS, AND MOISTURE MIGRATING WITHIN THE SYSTEM TO EXTERIOR. SET CONTINUOUS SILL MEMBERS AND FLASHING IN FULL SEALANT BED.
5. SOUND RATED INTERIOR DOOR TO PRODUCE A TIGHT FIT AT SOUNDPROOF GASKETING AND INSTALL COMPONENTS.

SECTION 08450 - ALL-GLASS ENTRANCES

1.1 GENERAL

A. SUBMITTALS

1. SUBMIT MANUFACTURER'S LITERATURE DESCRIBING PRODUCTS TO BE PROVIDED.
2. SHOP DRAWINGS
   a. SUBMIT SHOP DRAWINGS FOR SYSTEM. SHOW ANCHORAGE, FIELD CONNECTIONS, AND GLAZING FOR COMPONENT PARTS AND PREPARE COORDINATION DETAILS FOR ENTIRE SYSTEM INCLUDING FRAMING AND BRACING TO STRUCTURE.
3. SAMPLES:
   a. EXTRUSIONS: 6" LENGTHS
   b. SHEET OR PLATE MATERIALS: 6" SQUARES
   c. SAMPLE SIZE" 8"X10"

B. QUALITY ASSURANCE

1. REGULATORY REQUIREMENTS:
   a. PROVIDE GLAZING AT HAZARDOUS LOCATIONS AS DETERMINED BY CPSC 16 CFR 1201. GLAZING SHALL BE IN COMPLIANCE WITH CONSUMER PRODUCT SAFETY ACT AND SHALL HAVE BEEN TESTED AND LABELED.
   b. SAFETY GLAZING SHALL CONFORM TO REQUIREMENTS OF ANSI Z97.1.

C. MATERIALS

1. GLASS: TEMPERED; ASTM C1048
   a. CLASSIFICATIONS: ASTM C1036; TYPE 1, CLASS 1, QUALITY Q^3
   b. THICKNESS: 1/2 MIN"
   c. COLOR: CLEAR
2. CONTINUOUS RAIL FITTINGS:
   a. TOP RAIL: 1 3/4" X 4" NOMINAL
   b. BOTTOM RAIL: 1 3/4" X 4" NOMINAL
   c. FINISH: US26
   d. ACCEPTABLE MANUFACTURERS:
      BLUMCRAFT
      BRITE VUE GLASS
      GUARDIAN/FALCONER-
      VIRGINIA GLASS
      DORMA
3. PATCH FITTINGS:
   a. SIZE AS INDICATED ON DRAWINGS
   b. FINISH: US26
   c. ACCEPTABLE MANUFACTURERS:
      BLUMCRAFT
      BRITE VUE GLASS
      GUARDIAN/FALCONER-
      VIRGINIA GLASS
      DORMA

D. DOOR HARDWARE

1. SEE SECTION 08700 HARDWARE

E. INSTALLATION

1. ALL-GLASS ENTRANCE SYSTEMS:
   a. INSTALL ALL-GLASS ENTRANCE SYSTEM IN COMPLIANCE WITH MANUFACTURER'S INSTRUCTIONS.
   b. USE METHOD OF ATTACHMENT TO STRUCTURE TO PERMIT SUFFICIENT ADJUSTMENT TO ACCOMMODATE CONSTRUCTION TOLERANCES AND IRREGULARITIES.
   c. FIT, ALIGN, AND ADJUST DOOR ASSEMBLIES PLUMB AND LEVEL, TO PROVIDE A SMOOTH OPERATION.
   d. CLEARANCES:
      I. DOOR HEAD AND JAMBS: 1/8"
      II. DOOR SILLS: 1/4" .
      III. BUTT GLAZING JOINT: 3/8", EXCEPT BETWEEN SIDELIGHTS AND GLASS TRANSOMS, WHICH SHALL BE 1/8"

SECTION 08700 - HARDWARE

1.1 GENERAL

A. SUBMITTALS:

1. SUBMIT MANUFACTURER'S LITERATURE DESCRIBING PRODUCTS TO BE PROVIDED.
2. SUBMIT A MINIMUM OF 3 COPIES OF HARDWARE SCHEDULE. INDICATE LOCATION OF HARDWARE SET, CROSS-REFERENCED TO INDICATIONS ON DRAWINGS, MANUFACTURER'S NAME AND PRODUCT NUMBER, FINISH, AND OTHER SIMILAR INFORMATION DESCRIBING HARDWARE TO BE PROVIDED.

B. REGULATORY REQUIREMENTS:

1. FEDERAL ACCESSIBILITY REGULATIONS:
   a. AMERICANS WITH DISABILITIES ACT - ADA
   b. UNIFORM FEDERAL ACCESSIBILITY STANDARDS - UFAS
2. NATIONAL FIRE PROTECTION ASSOCIATION:
   a. NFPA 80 STANDARD FOR FIRE DOORS AND WINDOWS
   b. NFPA 101 LIFE SAFETY CODE
   c. NFPA 105 SMOKE- AND DRAFT-CONTROL DOOR ASSEMBLIES.

DIVISION 8 - DOORS AND WINDOWS cont.

SECTION 08700 - HARDWARE (CONT'D)

C. GENERAL REQUIREMENTS:

1. ITEMS OF HARDWARE NOT DEFINITELY SPECIFIED, BUT NEEDED FOR SATISFACTORY INSTALLATION OF HARDWARE SHALL BE PROVIDED. SUCH ITEMS SHALL BE OF TYPE AND QUALITY SUITABLE FOR SERVICE NEEDED AND COMPARABLE TO ADJACENT HARDWARE.
2. SECURITY VENDOR AND COORDINATE INSTALLATION OF SECURITY DEVICES WITH GC AND SHALL BE ENSURE SYSTEM MEETS ALL SPECIAL LOCKING REQUIREMENTS REQUIRED BY CODE. SECURITY AND VEND SHALL INSTALL DEVICES AS SHOWN ON ARCHITECTURAL DRAWINGS AND WHERE A DEVICE IS OT SHOWN, SHALL CONSULT WITH ARCHITECT FOR LOCATION. ALL DEVICES INSTALLED IN LOCATION NOT APPROVES BY ARCHITECT SHALL BE RELOCATED. ALL WORK ASSOCIATED WITH RELOCATION OF DEVICES, INCLUDING PATCHING AND REPLACING WALL OR CEILING FINISHES, SHALL BE THE RESPONSIBILITY OF THE GC.
3. VERIFY KEYING REQUIREMENTS WITH OWNER AND TENANT. FURNISH 2 KEYS PER LOCK WITH A MAXIMUM OF 8 KEYS PER KEYED ALIKE.

D. PRODUCTS: AS INDICATED IN DOOR HARDWARE SETS.

1.2 EXECUTION

A. FABRICATION

1. BASE METALS: PRODUCE DOOR HARDWARE UNITS OF BASE METAL, FABRICATED BY FORMING METHODS INDICATED, USING ALUMINUM FASTENERS ARE NOT PERMITTED. PROVIDE PHILLIPS FLAT-HEAD SCREWS WITH FINISHED HEADS TO MATCH SURFACE OF DOOR HARDWARE, UNLESS OTHERWISE INDICATED.
2. FASTENERS: PROVIDE SCREWS ACCORDING TO COMMERCIALLY RECOGNIZED INDUSTRY STANDARDS FOR APPLICATION INTENDED, EXCEPT ALUMINUM FASTENERS ARE NOT PERMITTED. PROVIDE PHILIPS FLAT-HEAD SCREWS WITH FINISHED HEADS TO MATCH SURFACE OF DOOR HARDWARE, UNLESS OTHERWISE INDICATED.
   COMPLY WITH NFPA 80 FOR FASTENERS OF DOOR HARDWARE IN FIRE-RATED APPLICATIONS.
   a. COMPLY WITH NFPA 80 FOR FASTENERS FOR DOORS HARDWARE IN FIRE RATED APPLICATIONS.
3. FINISHES: BHMA A156.18, AS INDICATED IN DOOR HARDWARE SETS.

B. INSTALLATION

1. STEEL DOORS AND FRAMES: COMPLY WITH DHI A115 SERIES. DRILL AND TAP DOORS AND FRAMES SURFACE-APPLIED DOOR HARDWARE ACCORDING TO ANSI A250.6.
2. WOOD DOORS: COMPLY WITH DHI A115-W SERIES.
3. MOUNTING HEIGHTS" MOUNT DOOR HARDWARE UNITS AT HEIGHTS INDICATED ON DRAWINGS AND AS FOLLOWS UNLESS OTHERWISE INDICATED OR REQUIRED TO COMPLY WITH GOVERNING REGULATION. - DHI'S "RECOMMENDED LOCATIONS FOR ARCHITECTURAL HARDWARE"
4. INSTALL EACH DOOR HARDWARE ITEM, TO COMPLY WITH MANUFACTURER'S WRITHEN INSTRUCTIONS. WHERE CUTTING AND FITTING ARE REQUIRED TO INSTALL DOOR HARDWARE ONTO OR INTO SURFACES THAT ARE LATER TO BE PAINTED OR FINISHED IN ANOTHER WAY, COORDINATE REMOVAL, STORAGE, AND REINSTALLATION OF SURFACE PROTECTIVE TRIM UNITS WITH FINISHING WORK SPECIFIED IN DIVISION 9 SECTIONS. DO NOT INSTALL SURFACE-MOUNTED ITEMS UNTIL FINISHES HAVE BEEN COMPLETED ON SUBSTANCES INVOLVED.
5. BOXED POWER SUPPLIES: LOCATE POWER SUPPLIES AS INDICATED OR, IF NOT INDICATED, ABOVE ACCESSIBLE CEILINGS OR IN ELECTRICAL EQUIPMENT ROOM(S). VERIFY LOCATION WITH ARCHITECT. PROVIDE THE LEAST NUMBER OF POWER SUPPLIES REQUIRED TO ADEQUATELY SERVE DOORS WITH ELECTRIFIED DOOR HARDWARE.
6. THRESHOLDS: SET THRESHOLDS FOR EXTERIOR AND ACOUSTICAL DOORS IN FULL BED OF SEALANT.
7. ADJUSTMENT: ADJUST AND CHECK LACK OPERATING ITEM OF DOOR HARDWARE AND EACH DOOR TO ENSURE PROPER OPERATION OR FUNCTION OF EVERY UNIT. REPLACE UNITS THAT CANNOT BE ADJUSTED TO OPERATE AS INTENDED. ADJUST DOOR CONTROL DEVISES TO COMPENSATE FOR FINAL OPERATION OF HEATING AND VENTILATING EQUIPMENT AND TO COMPLY WITH REFERENCED ACCESSIBILITY REQUIREMENTS.
8. DOOR CLOSERS: UNLESS OTHERWISE REQUIRED BY AUTHORITIES HAVING JURISDICTION, ADJUST SWEEP PERIOD SO THAT, FROM AN OPEN POSITION OF 70 DEGREES, THE DOOR WILL TAKE AT LEAST 3 SECONDS TO MOVE TO A POINT 3 INCHES (75 MM) FROM THE LATCH, MEASURED TO THE LEADING EDGE OF THE DOOR.

DIVISION 9 - FINISHES

SECTION 09000 - GENERAL FINISH NOTES

1.1 GENERAL

A. SUBMITTALS:

1. THE CONTRACTOR SHALL SUBMIT A MINIMUM OF THREE (3) 8"Z10" SQUARE SAMPLES OF EACH SCHEDULED FINISH FOR REVIEW BY THE ARCHITECT. THE ARCHITECT SHALL RETAIN TWO (2) SAMPLES OF FINISHES FOR RECORD AND RETURN A MINIMUM OF ONE SAMPLE TO CONTRACTOR.
2. THE CONTRACTOR SHALL ADVISE THE ARCHITECT OF LOCATIONS OF CHANGES IN DYE LOTS, BATCHES OR SIMILAR COLOR SHIFTS.

B. QUALITY ASSURANCE:

1. BEFORE PROCEEDING WITH PROCUREMENT OF FINISHES, THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS TO ASSURE THE SUFFICIENT QUANTITIES OF MATERIALS ARE ORDERED TO COMPLETE THE WORK.
2. THE CONTRACTOR SHALL REFER TO THE DRAWINGS FOR SPECIFIC LOCATIONS OF FINISHES. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES, OMISSIONS, AMBIGUITIES OR CONFLICTS ON THE PLANS, THE CONTRACTOR SHALL BRING THE ITEMS(S) TO THE ATTENTION OF THE ARCHITECT FOR DIRECTION, BEFORE ORDERING MATERIALS OR PROCEEDING WITH ANY WORK IN QUESTION.
3. FINISHES TO BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS AND IN A MANNER CONSISTENT WITH THE HIGHEST QUALITY STANDARDS OF WORKMANSHIP.
4. WHERE THERE IS A QUESTION AS TO THE ACCEPTABLE LEVEL OF QUALITY FOR THE INSTALLATION OF ANY MATERIALS, THE ARCHITECT SHALL ACT AS MEDIATOR.
5. UPON RECEIPT FROM THE MANUFACTURER, INSPECT MATERIALS FOR DEFECTS, FLAWS, SHIPPING DAMAGE, CORRECT COLOR AND PATTERN. PRIOR TO BEGINNING WORK, DAMAGED OR WRONG MATERIALS SHALL BE RETURNED TO THE MANUFACTURER FOR IMMEDIATE REPLACEMENT TO PREVENT DELAYS IN THE COMPLETION OF THE WORK.
6. COMPLIANCE WITH THE MANUFACTURER'S REQUIREMENTS FOR HANDLING, STORAGE, INSTALLATION AND PROTECTION IS THE EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR.
7. FINISHES SHALL EXTEND OVER, AND/OR BEHIND ANY ITEM OF BUILT-IN MILLWORK, EQUIPMENT, MIRRORS, ETC., AS INDICATED ON THE DRAWINGS.

SECTION 09250 - GYPSUM BOARD

1.1 GENERAL

A. SUBMITTALS

1. PRODUCT DATA: SUBMIT MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS WITH PROJECT CONDITIONS AND MATERIALS CLEARLY IDENTIFIED OR DETAILED FOR EACH REQUIRED SYSTEM.

B. GENERAL

1. FIRE RESISTANCE RATINGS: WHERE FIRE RESISTANCE CLASSIFICATIONS ARE INDICATED, PROVIDE MATERIALS AND APPLICATION PROCEDURES IDENTICAL TO THOSE LISTED BY UL OR TESTED ACCORDING TO ASTM E119 FOR TYPE OF CONSTRUCTION SHOWN.
2. ACOUSTICAL RATINGS: WHERE SOUNDS RATINGS ARE INDICATED, PROVIDE MATERIALS AND APPLICATION PROCEDURES IDENTICAL TO THOSE TESTED BY MANUFACTURER TO ACHIEVE SOUND TRANSMISSION CLASS (STC) SCHEDULED OR INDICATED IN ACCORDANCE WITH ASTM E90.
3. REFERENCE STANDARDS:
   a. APPLICABLE REQUIREMENTS OF ASTM C754 FOR INSTALLATION OF STEEL FRAMING.
   b. INSTALL GYPSUM BOARD IN ACCORDANCE WITH APPLICABLE REQUIREMENTS AND RECOMMENDATIONS OF GYPSUM ASSOCIATION GA 216, "RECOMMENDED SPECIFICATIONS FOR THE APPLICATION AND FINISHING OF GYPSUM BOARDS" EXCEPT FOR MORE STRINGENT REQUIREMENTS OF MANUFACTURER.
   c. APPLY ACOUSTICAL SEALANT IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF ASTM C919.
4. INSTALL INTERIOR GYPSUM BOARD IN THE FOLLOWING LOCATIONS:
   a. REGULAR TYPE: VERTICAL SURFACES, UNLESS OTHERWISE INDICATED.
   b. TYPE X: WHERE REQUIRED FOR FIRE-RESISTANCE-RATED ASSEMBLY.
   c. TYPE C: WHERE REQUIRED FOR SPECIFIC FIRE-RESISTANCE-RATED ASSEMBLY INDICATED.
   d. CEILING TYPE: CEILING SURFACES.
   e. FOIL-BACKED TYPE: AS INDICATED ON DRAWINGS.
   f. MOISTURE- AND MOLD-RESISTANT TYPE: AS INDICATED ON DRAWINGS.
   g. IMPACT-RESISTANT TYPE: AS INDICATED ON DRAWINGS.
5. WHEN POSSIBLE, SOURCE GYPSUM BOARD AS MIN. 75% RECYCLED CONTENT.

C. PRODUCTS

1. GYPSUM BOARD:
   a. ASTM C1396 (SECTION 5), REGULAR TYPE EXCEPT WHERE TYPE X FIRE RESISTANT TYPE IS INDICATED OR REQUIRED TO MEET UL ASSEMBLY TYPES.
   b. EDGES: TAPERED.
   c. THICKNESS: 5/8 INCH, UNLESS OTHERWISE INDICATED
   d. WHERE CURVED GYPSUM BOARD CONSTRUCTION IS INDICATED, USE 1/4 INCH FLEXIBLE FACING BOARD.

DIVISION 9 - FINISHES cont.

SECTION 09250 - GYPSUM BOARD (CONT'D)

   e. TYPICAL PARTITIONS AND CEILINGS: USG SHEETROCK® SW, FIRECODE® OR FIRECODE® "C" CORE OR EQUAL
   f. FOR FIRE-RATED WALLS: USG ULTRACODE® OR EQUAL
   g. USE GYPSUM BOARD AND JOINT COMPOUND WITH LITTLE OR NO VOCS AND FORMALDEHYDE EMISSIONS. GYPSUM BOARD SHALL HAVE A MINIMUM OF 5% POST-CONSUMER AND 20% POST-INDUSTRIAL (NATION-WIDE AVERAGE FOR COMPANY) AS DEFINED BY FTC (FEDERAL TRADE COMMISSION) BY USG
2. MOISTURE & MOLD RESISTANT
   a. ASTM C1396 (SECTION 5), REGULAR TYPE EXCEPT WHERE TYPE X FILE RESISTANT TYPE IS INDICATED OR REQUIRED TO MEET UL ASSEMBLY TYPES.
   b. EDGES: TAPERED.
   c. 5/8 INCH. USG SHEETROCK® BRAND MOLD TOUGH™ FIRECODE (TYPE X), FIRECODE® C CORE OR ULTRACODE® CORE OR EQUAL.
3. CEMENT BACKER BOARD:
   a. AGGREGATED PORTLAND CEMENT BOARD WITH WOVEN GLASS FIBER MESH FACING; COMPLYING WITH ANSI A118.9.
   b. 1/2 INCH. USG DUROCK CEMENT BOARD OR EQUAL
4. METAL STUDS AND RUNNERS:
   a. ASTM C645, "C" SHAPED WITH HOT-DIPPED GALVANIZED COATING.
   b. PROVIDE 25 GAUGE STUDS, EXCEPT AS OTHERWISE INDICATED OR SPECIFIED, DEPTH AS INDICATED. PROVIDE HEAVIER GAUGE IF REQUIRED.
   c. AT DOOR (AND BORROWED LIGHT) FRAMES, PROVIDE (2) 25 GAUGE MINIMUM STUDS AT EACH JAMB. WHERE WALL IS INDICATED OR SPECIFIED TO BE TYPICALLY FRAMED WITH 20 GAUGE STUDS, PROVIDE (2) 20 GAUGE STUDS AT EACH JAMB.
   d. PROVIDE 20 GAUGE STUDS AT WALLS TO RECEIVE CEMENT BACKER BOARD, AND WATER RESISTANT GYPSUM BOARD WITH CERAMIC TILE FACING.
   e. PROVIDE RUNNER GAUGE AS RECOMMENDED BY STUD MANUFACTURER.
5. METAL FURRING CHANNELS:
   a. HAT SHAPED: ASTM C645, 7/8 INCH HIGH, 25 GAUGE, WITH G40 HOT-DIPPED GALVANIZED COATING PER ASTM A525.
   b. PROVIDE 20 GAUGE AT FURRING TO RECEIVE TILE BACKER BOARD.
   c. RESILIENT: MANUFACTURER'S STANDARD TYPE DESIGNED TO REDUCE SOUND TRANSMISSION; 1/2 INCH DEEP, 25 GAUGE STEEL WITH G40 HOT-DIPPED GALVANIZED COATING PER ASTM A525.
6. CEILING SOFFIT SUPPORT MATERIALS
   a. HANGER ANCHORAGE DEVICES: SCREWS, CLIPS, BOLTS OR OTHER DEVICES COMPATIBLE WITH INDICATED STRUCTURAL ANCHORAGE FOR CEILING HANGERS AND WHOSE SUITABILITY HAS BEEN PROVEN THROUGH STANDARD CONSTRUCTION PRACTICES OR BY CERTIFIED TEST DATA.
   b. POWDER-ACTUATED FASTENERS IN CONCRETE: FABRICATED FROM CORROSION-RESISTANT MATERIALS, WITH CLIPS OR OTHER ACCESSORY DEVICES FOR ATTACHING HANGERS
   c. STEEL WIRE OR RODS, SIZES TO COMPLY WITH REQUIREMENTS OF ASTM C754 FOR CEILING OR SOFFIT AREA AND LOADS TO BE SUPPORTED.
7. PROPRIETARY CEILING FRAMING SYSTEMS:
   a. ACCEPTABLE PRODUCT: EQUIVALENT TO DRYWALL SUSPENSION SYSTEM BY USG.
8. METAL TRIM FOR GYPSUM BOARD:
   a. CORNER BEADS: EQUIVALENT TO DURABEAD NO. 103 BY USG.
   b. CASING BEADS (EDGE BEADS): EQUIVALENT TO 200A BY USG.
   c. L SHAPE: B4 SERIES BY USG; J SHAPE: B9 SERIES BY USG.
9. SPECIAL TRIM AND REVEALS: EXTRUDED ALUMINUM ALLOY 6063-T5, PROFILES AS INDICATED. PROFILES CALLED OUT IN DRAWINGS AS BASIS OF DESIGN FROM PITCON. OTHER ACCEPTABLE MANUFACTURERS INCLUDE: FRY REGLET AND GORDON.

D. METAL FRAMING INSTALLATION

1. ALIGN AND SECURE METAL RUNNER TRACKS ACCURATELY TO PARTITION LAYOUT AT BOTH FLOOR AND CEILING AND PROVIDE FASTENERS APPROPRIATE TO SUBSTRATE CONSTRUCTION AS RECOMMENDED BY MANUFACTURER.
2. METAL STUD FRAMING SHALL CONFORM TO ASTM C754 AS FOLLOWERS:

STUD DEPTH	GWB LAYERS	MAX HEIGHT*	STUD SPACING
2 1/2"	ONE	11'-8"	16"
2 1/2"	ONE	10'-8"	24"
2 1/2"	TWO	12'-7"	24"
3 5/8"	ONE	15'-5"	16"
3 5/8"

DIVISION 9 - FINISHES CONT.

SECTION 09250 - GYPSUM BOARD (CONT'D)

6. SOUND RATED CONSTRUCTION
   a. INSTALL SOUND ATTENUATION BLANKETS IN SOUND RATED PARTITIONS AND CEILINGS WHERE INDICATED.
   b. COMPLETELY FILL SPACE BETWEEN STUDS AND FRAMING TO FULL HEIGHT OF PARTITION WALL OR FULL AREA OF CEILING.
   c. FIT CAREFULLY BEHIND ELECTRICAL OUTLETS AND OTHER WORK PENETRATING SOUND RATED CONSTRUCTION.
   d. AT PARTITION WALLS, PROVIDE CONTINUOUS BEADS OF ACOUSTIC SEALANT AT JUNCTURE OF BOTH FACES OF RUNNERS WITH FLOOR AND CEILING CONSTRUCTION, AND WHEREVER GYPSUM BOARD ABUTS DISSIMILAR MATERIALS, PRIOR TO INSTALLATION OF GYPSUM BOARD.
   e. AT CEILINGS, PROVIDE CONTINUOUS BEADS OF SEALANT WHEREVER GYPSUM BOARD ABUTS DISSIMILAR MATERIALS.
   f. PROVIDE CONTINUOUS BEAD OF SEALANT BEHIND FACES OF CONTROL JOINTS PRIOR TO INSTALLATION OF CONTROL JOINT ACCESSORIES.
   g. AFTER INSTALLATION OF GYPSUM BOARD BASE LAYERS, CUT FACE LAYER SHEETS 1/2 INCH LESS THAN FLOOR TO CEILING HEIGHT AND POSITION WITH 1/2 INCH OPEN SPACE BETWEEN GYPSUM BOARD AND FLOOR, CEILING AND DISSIMILAR VERTICAL CONSTRUCTION. FILL 1/4 INCH OPEN SPACE WITH CONTINUOUS SEALANT BEADS AFTER INSTALLATION OF FACE LAYER.
   h. AT OPENINGS AND CUTOUTS, FILL OPEN SPACES BETWEEN GYPSUM BOARD AND FIXTURES, CABINETS, DUCTS AND OTHER FLUSH OR PENETRATING ITEMS, WITH CONTINUOUS BEAD OF SEALANT.
   i. SEAL SIDES AND BACKS OF ELECTRICAL BOXES TO COMPLETELY CLOSE OFF OPENINGS AND JOINTS.
   j. WHERE SOUND RATED PARTITION WALLS INTERSECT NON-RATED GYPSUM BOARD PARTITION WALLS, EXTEND SOUND-RATED CONSTRUCTION TO COMPLETELY CLOSE SOUND FLANKING PATHS THROUGH NON-RATED CONSTRUCTION AND SEAL JOINTS BETWEEN FACE LAYERS AT VERTICAL INTERIOR ANGLES OF INTERESTING PARTITIONS.
7. USE SAME FASTENERS TO ANCHOR TRIM ACCESSORY FLANGES AS REQUIRED TO FASTEN GYPSUM BOARD TO SUPPORTS, UNLESS OTHERWISE RECOMMENDED BY TRIM MANUFACTURER. INSTALL METAL CORNER BEADS AT EXTERNAL CORNERS AND METAL CASING BEAD TRIM WHENEVER EDGE OF GYPSUM BOARD WOULD OTHERWISE BE EXPOSED OR SEMI-EXPOSED.
8. INSTALL CONTROL JOINTS WITHIN LONG RUNS OR PARTITIONS, CEILINGS OR SOFFITS AT APPROXIMATELY 30'0" ON CENTER OR AS INDICATED. WHERE GYPSUM BOARD IS VERTICALLY CONTINUOUS, AS A STAIRWELLS, PROVIDE HORIZONTAL CONTROL JOINTS AT EACH FLOOR LEVEL.
9. SPECIAL TRIM: INSTALL AS INDICATED ON DRAWINGS AND IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

F. FINISHING

1. PROVIDE LEVELS OF GYPSUM BOARD FINISH FOR LOCATIONS AS FOLLOWS IN ACCORDANCE WITH GYPSUM ASSOCIATION GA 214, "RECOMMENDED SPECIFICATION: LEVELS OF GYPSUM BOARD FINISH".
   a. LEVEL 1: CEILING PLENUM AREAS AND CONCEALED AREAS, EXCEPT PROVIDE HIGHER LEVEL OF FINISH AS REQUIRED TO COMPLY WITH FIRE RESISTANCE RATINGS AND ACOUSTICAL RATINGS.
   b. LEVEL 2: GYPSUM BOARD SUBSTRATE AT TILE STONE, EXCEPT REMOVE TOOL MARKS AND RIDGES.
   c. LEVEL 3: GYPSUM BOARD SURFACES, WHERE TEXTURED FINISHES OR HEAVY VINYL WALL PAPERING WILL BE USED
   d. LEVEL 4: GYPSUM BOARD SURFACES, EXCEPT WHERE ANOTHER FINISH LEVEL IS INDICATED
   e. LEVEL 5: GYPSUM BOARD SURFACES REQUIRING EXTRA SMOOTH SURFACE FOR CRITICAL LIGHT, WHERE INDICATED USING SPRAY-APPLIED PRIMER-SURFACER, TUFF-HIDE OR WATERED-DOWN JOINT COMPOUND SKIM COAT OVER WHOLE SURFACE.
2. CEMENTITIOUS BACKER BOARD: PREPARE AND FINISH JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. WOOD BLOCKING SHALL BE FIRE RETARDANT TREATED (FRT). INSTALL WOOD BLOCKING AS REQUIRED IN PARTITIONS AT WALL HUNG SHELVING, CABINETS, ARTWORK, TOILET PARTITIONS AND ACCESSORIES, ETC. VERIFY BLOCKING REQUIREMENTS WITH MILLWORK SUBCONTRACTOR AND REVIEW WITH THE ARCHITECT FOR ACCEPTANCE PRIOR INSTALLATION.

SECTION 09300 - TILE

1.1 REFERENCES
   A. ANSI A108 1999 - SPECIFICATIONS FOR INSTALLATION OF CERAMIC TILE
   B. ANSI A118 1999 - STANDARD SPECIFICATION FOR MORTAR AND GROUT
   C. ANSI A136.1, 1999 - ORGANIC ADHESIVES FOR INSTALLATION OF CERAMIC TIME
   D. ANSI A137.1, 1998 - SPECIFICATIONS FOR CERAMIC TILE
   E. ASTM C50 - STANDARD SPECIFICATION FOR PORTLAND CEMENT
   F. ASTM C241 - TEST METHOD FOR ABRASION RESISTANCE OF STONE SUBJECTED TO FOOT TRAFFIC
   G. ASTM C615 - SPECIFICATION FOR GRANITE DIMENSION STONE
   H. ASTM C629 - SPECIFICATION FOR SLATE DIMENSION STONE
   I. ASTM C1028 - TEST METHOD FOR DETERMINING THE STATIC COEFFICIENT OF FRICTION OR CERAMIC TILE AND OTHER LIKE SURFACES BY THE HORIZONTAL DYNAMOMETER PULL METER METHOD.
   J. ASTM D4397 - SPECIFICATION POLYETHYLENE SHEETING FOR CONSTRUCTION, INDUSTRIAL, AND AGRICULTURAL APPLICATIONS
   K. TCA (HB) - HANDBOOK FOR CERAMIC TILE INSTALLATION; TILE COUNCIL PF AMERICA, INC.

1.2 PERFORMANCE REQUIREMENTS
   A. STATIC COEFFICIENT OF FRICTION: TILE ON WALKWAY SURFACES SHALL BE PROVIDED WITH THE FOLLOWING VALUES AS DETERMINED BY TESTING IN CONFORMANCE WITH ASTM C 1028.
   1. LEVEL SURFACES: MINIMUM OF 0.6 (WET).
   2. STEP TREADS: MINIMUM OF 0.6 (WET).
   3. RAMP SURFACES: MINIMUM OF 0.8 (WEST)

1.5 SUBMITTALS
   A. SUBMIT UNDER PROVISIONS OF SECTION 01300.
   B. MANUFACTURER'S DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING:
   1. PREPARATION INSTRUCTIONS AND RECOMMENDATIONS.
   2. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS.
   3. INSTALLATION METHODS.
   C. SHOP DRAWINGS: INDICATE TILE LAYOUT, PATTERNS, COLOR ARRANGEMENT, PERIMETER CONDITIONS, CORNER CONDITIONS, JUNCTIONS WITH DISSIMILAR MATERIALS, CONTROL AND EXPANSION JOINTS, THRESHOLDS, CERAMIC ACCESSORIES, AND SETTING DETAILS.
   D. SELECTION SAMPLES: SAMPLES OF ACTUAL TILES FOR SELECTION .
   E. SAMPLES: MOUNT TILE AND APPLY GROUT ON TWO PLYWOOD PANELS, MINIMUM 24 BY 24 INCH IN SIZE ILLUSTRATING PATTERN, COLOR VARIATIONS, AND GROUT JOINT SIZE VARIATIONS.
   F. MANUFACTURER'S CERTIFICATE:
   1. CERTIFY THAT PRODUCTS MEET OR EXCEED SPECIFIED REQUIREMENTS.
   2. FOR EACH SHIPMENT, TYPE AND COMPOSITION OF TILE PROVIDE A MASTER GRADE CERTIFICATE SIGNED BY THE MANUFACTURER AND THE INSTALLER CERTIFYING THAT PRODUCTS MEET OR EXCEED THE SPECIFIED REQUIREMENTS OF ANSI A137.1.
   G. MAINTENANCE STAT: INCLUDE RECOMMENDED CLEANING METHODS, CLEANING MATERIALS, STAIN REMOVAL METHODS, AND POLISHES AND WAXES.

1.6 QUALITY ASSURANCE
   A. MAINTAIN ONE COPY EACH OF ALL REFERENCED STANDARDS AND SPECIFICATIONS ON SITE. INCLUDE THE TCA HANDBOOK, ANSI A108 SERIES, ANSI A118 SERIES ANSI A136.1 AND ANSI A137.1 AND OTHERS AS SPECIFIED UNDER PARAGRAPH REFERENCES.
   B. INSTALLER QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING THE WORK OF THIS SECTION WITH MINIMUM 10 YEARS EXPERIENCE.
   C. SINGLE SOURCE RESPONSIBILITY:
   1. OBTAIN EACH TYPE AND COLOR OF TILE FROM A SINGLE SOURCE.
   2. OBTAIN EACH TYPE AND COLOR OF MORTAR, ADHESIVE AND GROUT FROM HE SAME SOURCE.

1.7 DELIVERY, STORAGE, AND HANDLING
   A. DELIVER AND STORE PRODUCTS IN MANUFACTURER'S UNOPENED PACKAGING UNTIL READY FOR INSTALLATION.
   B. PROTECT ADHESIVES AND LIQUID ADDITIVES FROM FREEZING OR OVERHEATING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
   C. STORE TILE AND SETTING MATERIALS ON ELEVATED PLATFORMS, UNDER COVER AND IN A DRY LOCATION AND PROTECT FROM CONTAMINATION, DAMPNESS, FREEZING OR OVERHEATING.

1.8 ENVIRONMENTAL REQUIREMENTS
   A. DO NOT INSTALL ADHESIVES TO AN UNVENTILATED ENVIRONMENT.
   B. MAINTAIN AMBIENT AND SUBSTRATE TEMPERATURE OF 50 DEGREES F (10 DEGREES C) DURING INSTALLATION OF MORTAR MATERIALS.

DIVISION 9 FINISHES cont.

SECTION 09300 - TILE (CONT'D)

1.8 ENVIRONMENTAL REQUIREMENTS
   A. DO NOT INSTALL ADHESIVES IN AN UNVENTILATED ENVIRONMENT.
   B. MAINTAIN AMBIENT AND SUBSTRATE TEMPERATURE OF 50 DEGREES F (10 DEGREES C) DURING INSTALLATION OR MORTAR MATERIALS.

1.9 EXTRA MATERIALS
   A. BEYOND MATERIAL REQUIRED FOR COMPLETION OF THE JOB USING SINGLE SOURCE MATERIAL. EXTRA MATERIAL SHALL BE PROVIDED TO OWNER AT COMPLETION OF JOB. PROVIDE MIN. 5 SQ FT OF EACH SIDE, COLOR, AND SURFACE FINISH OF FIELD TILE SPECIFIED AND MINIMUM 10 PIECES OF TRIM, CORNER, COVE OR SPECIALTY TILE.

2.1 MANUFACTURES
   A. ACCEPTABLE MANUFACTURER: SEE FINISH SCHEDULE FOR SPECIFIED MANUFACTURERS REQUESTS FOR SUBSTITUTIONS WILL BE CONSIDERED IN ACCORDANCE WITH PROVISIONS OF SECTION 01600.

2.2 TILE
   A. GENERAL: PROVIDE TILE THAT COMPLIES WITH ANSI A137.1 FOR TYPES, COMPOSITIONS AND CHARACTERISTICS INDICATED. PROVIDE TILE IN THE LOCATIONS AND OF THE TYPES COLORS AND PATTERN INDICATED ON THE DRAWINGS AND IDENTIFIED IN THE SCHEDULE AND THE END OF THIS SECTION. TILE SHALL ALSO BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING.
   1. FACTORY BLENDING: FOR TILE EXHIBITING COLOR VARIATIONS WITHIN THE RANGES SELECTED UNDER SUBMITTAL OD SAMPLES, BLEND TILE IN THE FACTORY AND PACKAGE SO TILE TAKEN FROM ONE PACKAGE SHOWS THE SAME RANGE OF COLORS AS THOSE TAKEN FROM OTHER PACKAGES.
   2. MOUNTING: FOR FACTORY MOUNTED TILE, PROVIDE BACK OR EDGE MOUNTED TILE ASSEMBLIES AS STANDARD WITH THE MANUFACTURER, UNLESS OTHERWISE SPECIFIED.
   3. FACTORY APPLIED TEMPORARY PROTECTIVE COATINGS: WHERE INDICATED UNDER TILE TYPE, PROTECT EXPOSED SURFACES OF TILE AGAINST ADHERENCE OR MORTAR AND GROUT BY PRE-COATING WITH A CONTINUOUS FILM OF PETROLEUM PARAFFIN WAX APPLIED HOT. DO NOT COAT UNEXPOSED TILE SURFACES.
   B. FIELD TILE: AS PER SPECIFIED IN FINISH SCHEDULE.
   C. TRIM UNITS: MATCHING BULLNOSE, COVE, COVE BASE, AND WINDOW SILL OR STEP NOSING SHAPES IN SIZES COORDINATED WITH FIELD TILE, UNLESS OTHERWISE SPECIFIED IN FINISH SCHEDULE.

2.3 TRIM AND ACCESSORIES
   A. NON-CERAMIC TRIM: SATIN NATURAL ANODIZED EXTRUDED ALUMINUM, STAINLESS STEEL, BRASS, ETC, STYLE AND DIMENSIONS TO SUIT APPLICATION, FOR SETTING USING TILE MORTAR OR ADHESIVE; USE IN THE FOLLOWING LOCATIONS:
   1. OPEN EDGES OF FLOOR TILE.
   2. TRANSITION BETWEEN FLOOR FINISHES OF DIFFERENT HEIGHTS.
   3. THRESHOLDS AT DOOR OPENINGS
   4. EXPANSION AND CONTROL JOINTS, FLOOR AND WALL
   B. STONE THRESHOLDS: PROVIDE STONE THRESHOLDS UNIFORM IN COLOR AND FINISH AND FABRICATED AS FOLLOWS:
   1. MATERIALS: AS SPECIFIED IN FINISH SCHEDULE
      a. MARBLE, COMPLYING WITH ASTM C 503 FOR EXTERIOR USE AND WITH A MINIMUM ABRASIVE HARDNESS OF 10 WHEN TESTED IN ACCORDANCE WITH ASTM C 241.
      b. GRANITE COMPLYING WITH ASTM C 614.
      c. STATE COMPLYING WITH ASTM C 629, ABRASION RESISTANT, NON-FADING FOR INTERIOR USE WITH A HONED FINISH.
   2. COLOR/FINISH:
      a. AS SELECTED FROM THE MANUFACTURERS STANDARD RANGE.
   3. SIZE:
      a. FABRICATE: FULL DEPTH OF JAMB BY FULL WIDTH OF WALL OR FRAME OPENING; 1/2 INCH (12 MM) THICK; BEVELED ONE LONG EDGE WITH RADIUSED CORNER ON TOP SIDE; WITHOUT HOLES, CRACKS, OR OPEN SEAMS. UNLESS OTHERWISE DETAILED
   4. PROVIDE TRANSITION BETWEEN TILE SURFACE AND ADJOINING FINISHES AND AT THE FOLLOWING LOCATIONS"
      a. AT DOORWAYS WHERE TILE TERMINATES.
      b. AT OPEN EDGES OF FLOOR TILE WHERE ADJACENT FINISH IS A DIFFERENT HEIGHT.

2.4 SETTING MATERIALS
   A. ORGANIC ADHESIVE: ANSI A136.1, THINSET BOND TYPE; USE TYPE I IN AREAS SUBJECT TO PROLONGED MOISTURE EXPOSURE.
   B. EPOXY ADHESIVE: ANSI A118.3, THINSET BOND TYPE.
   C. MORTAR BED MATERIALS:
   1. PORTLAND CEMENT: ASTM C150, TYPE 1, GRAY OR WHITE
   2. HYDRATED LIME: ASTM C207, TYPE S.
   3. STAND: ASTM C144, FINE.
   4. LATEX ADDITIVE: AS APPROVED.
   5. WATER: CLEAN AND POTABLE.
   D. MORTAR BOND COAT MATERIALS:
   1. DRY-SET PORTLAND CEMENT TYPE: ANSI A118.1.
   2. LATEX-PORTLAND CEMENT TYPE: ANSI A118.4.
   3. EPOXY: ANSI A118.3, 100 PERCENT SOLIDS.
   E. STANDARD GROUT: CEMENT GROUT, SANDED OR UNSANDED, AS SPECIFIED IN ANSI A118.6; COLOR AS SELECTED.
   F. POLYMER MODIFIED CEMENT GROUT, SANDED OR UNSANDED, AS SPECIFIED IN ANSI A118.7; COLOR AS SELECTED.
   G. EPOXY GROUT: ANSI A118.8, 100 PERCENT SOLIDS EPOXY GROUT; COLOR AS SELECTED.
   H. SILICONE SEALANT: SILICONE SEALANT, MOISTURE AND MILDEW RESISTANT TYPE; USE FOR SHOWER FLOORS AND SHOWER WALLS.
   I. WATERPROOFING/ISOLATION MEMBRANE AT FLOORS: MEMBRANE IN ACCORDANCE WITH ANSI A118.10 AND AS FOLLOWS: UN-REINFORCED, FLUID-APPLIED ELASTOMERIC MEMBRANE.
   1. GBP: REDGARD OR EQUAL.
   J. MEMBRANE AT WALLS: UN-REINFORCED, FLUID-APPLIED EALSTOMERIC MEMBRANE.
   K. MEMBRANE AT WALLS: 4 MIL (0.1 MM) THICK POLYETHYLENE FILM, ASTM D4397.
   L. CEMENTITIOUS BACKER BOARD: ANSI A118.9; HIGH DENSITY, CEMENTITIOUS, GLASS FIBER REINFORCED WITH 2 INCH (50 MM) WITH COATED GLASS FIBER TAPE FOR JOINTS AND CORNERS:
   1. THICKNESS: 1/4 INCH (6 MM).
   2. THICKNESS: 1/2 INCH (13 MM).
   3. THICKNESS: 5/8 INCH (16 MM).

3.1 EXAMINATION
   A. VERIFY THAT WALL SURFACES ARE FREE OF SUBSTANCES WHICH WOULD IMPAIR BONDING OF SETTING MATERIALS, SMOOTH AND FLAT WITHIN TOLERANCES SPECIFIED IN ANSI A137.1, AND ARE READY TO RECEIVE TILE.
   B. VERIFY THE SUB-FLOOR SURFACES ARE DUST-FREE, AND FREE OF SUBSTANCES WHICH WOULD IMPAIR BONDING IF SETTING MATERIALS TO SUB-FLOOR SURFACES, AND ARE SMOOTH AND FLAT WITHIN TOLERANCES SPECIFIED IN ANSI A137.1.
   C. VERIFY THAT CONCRETE SUB-FLOOR SURFACES ARE READY TO TILE INSTALLATION BY TESTING FOR MOISTURE EMISSION RATE AND ALKALINITY; OBTAIN INSTRUCTIONS IF TEST RESULTS ARE NOT WITHIN LIMITS RECOMMENDED BY TILE MANUFACTURER AND SETTING MATERIALS MANUFACTURER.
   D. VERIFY THAT REQUIRED FLOOR-MOUNTED UTILITIES ARE IN CORRECT LOCATION.

3.2 PREPARATION
   A. PROTECT SURROUNDING WORK FROM DAMAGE.
   B. REMOVE ANY CURING COMPOUNDS OR OTHER CONTAMINATES.
   C. VACUUM CLEAN SURFACES AND DAMP CLEAN.
   D. SEAL SUBSTRATE SURFACE CRACKS WITH FILLER. LEVEL EXISTING SUBSTRATE SURFACES TO ACCEPTABLE FLATNESS TOLERANCES.
   E. INSTALL CEMENTITIOUS BACKER BOARD IN ACCORDANCE WITH ANSI A108.11 AND BOARD MANUFACTURER'S INSTRUCTIONS. TAPE JOINTS AND CORNERS, COVER WITH SKIM COAT OF DRY-SET MORTAR TO A FEATHER EDGE.
   F. PREPARE SUBSTRATE SURFACES FOR ADHESIVE INSTALLATION IN ACCORDANCE WITH ADHESIVE MANUFACTURER'S INSTRUCTIONS.

3.3 INSTALLATION - GENERAL
   A. INSTALL TILE AND GROUT IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF ANSI A108.1 THROUGH A108.13, MANUFACTURER'S INSTRUCTIONS, AND TCA HANDBOOK RECOMMENDATIONS.
   B. LAY TILE TO PATTERN INDICATED. ARRANGE PATTERN SO THAT A FULL TILE OR JOINT IS CENTERED ON EACH WALL AND THAT NO TILE LESS THAN 1/2 WIDTH IS USED. DO NOT INTERRUPT TILE PATTERN THROUGH OPENINGS.

DIVISION 9 FINISHES cont.

SECTION 09300 - TILE (CONT'D)

   C. CUT AND FIT TILE TO PENETRATIONS THROUGH TILE, LEAVING SEALANT JOINT SPACE. FROM CORNERS AND BASES NEATLY. ALIGN FLOOR JOINTS.
   D. PLACE TILE JOINTS UNIFORM IN WIDTH, SUBJECT TO VARIANCE IN TOLERANCE ALLOWED IN TILE SIZE. MAKE JOINTS WATERTIGHT, WITHOUT VOIDS, CRACKS, EXCESS MORTAR, OR EXCESS GROUT.
   E. FORM INTERNAL ANGLES SQUARE AND EXTERNAL ANGLES BULLNOSED OR CORNER TRIM PIECES AS INDICATED IN DRAWINGS. STAGGER DIRECTION OF BLUENOSED EXTERNAL ANGLES AS INDICATED IN DRAWINGS.
   F. INSTALL CERAMIC ACCESSORIES RIGIDLY IN PREPARED OPENINGS.
   G. INSTALL NON-CERAMIC TRIM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
   H. INSTALL THRESHOLDS WHERE INDICATED.
   I. SOUND TILE AFTER SETTING. REPLACE HOLLOW SOUNDING UNITS.
   J. KEEP EXPANSION JOINTS FREE OF ADHESIVE OR GROUT. APPLY SEALANT TO JOINTS.
   K. ALLOW TILE TO SET FOR A MINIMUM OF 48 HOURS PRIOR TO GROUTING.
   L. GROUT TILE JOINTS. USE STANDARD GROUT UNLESS OTHERWISE INDICATED.
   M. APPLY SEALANT TO JUNCTION OF TILE AND DISSIMILAR MATERIALS AND JUNCTION OF DISSIMILAR PLANES.

3.4 INSTALLATION - FLOORS - THIN-SET METHODS
   A. OVER EXTERIOR CONCRETE SUBSTANCES, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F102,WITH STANDARD GROUT.
   B. OVER INTERIOR CONCRETE SUBSTRATES, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHODS F113, DRY-SET OR LATEX-PORTLAND CEMENT BOND COAT, WITH STANDARD GROUT, UNLESS OTHERWISE INDICATED.
   1. WHERE WATERPROOFING MEMBRANE IS INDICATED, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F122, WITH LATEX-PORTLAND CEMENT GROUT.
   2. WHERE EPOXY BOND COAT AND GROUT ARE INDICATED, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F131.
   C. OVER WOOD SUBSTRATES, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F142, WITH STANDARD GROUT, UNLESS OTHERWISE INDICATED.
   1. WHERE EPOXY BOND COAT AND GROUT ARE INDICATED, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F143.

3.5 INSTALLATION - FLOOR - MORTAR BED METHODS
   A. OVER EXTERIOR CONCRETE SUBSTANCES, INSTALL IN ACCORDANCE WITH TCA F101, BONDED, WITH STANDARD GROUT.
   B. OVER INTERIOR CONCRETE SUBSTRATES, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F111, WITH CLEAVAGE MEMBRANE, UNLESS OTHERWISE INDICATED.
   1. WHERE WATERPROOFING MEMBRANE IS INDICATED, WITH STANDARD GROUT OR NO MENTION OF GROUT TYPE, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F121.
   2. WHERE EPOXY BOND COAT AND GROUT ARE INDICATED, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F132, BONDED.
   3. WHERE EPOXY OR FURAN GROUT IS INDICATED, BUT NOT EPOXY OR FURAN BOND COAT, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F114, WITH CLEAVAGE MEMBRANE.
   C. OVER WOOD SUBSTRATES, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F141, WITH STANDARD GROUT, UNLESS OTHERWISE INDICATED.
   D. CLEAVAGE MEMBRANE: LAP EDGES AND ENDS.
   E. WATERPROOFING MEMBRANE: INSTALL AS SPECIFIED IN ANSI A108.13.
   F. MORTAR BED THICKNESS: 1-1/4 TO 2 INCH (32 TO 51 MM) MAXIMUM, UNLESS OTHERWISE INDICATED.

3.6 INSTALLATION - KITCHEN AND BAR DIE WALLS
   A. AT TILED KITCHEN AND BAR INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD B415, MORTAR BED FLOOR, AND W244, THIN-SET OVER CEMENTITIOUS BACKER UNIT WALLS.
   B. INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD B412, OVER CEMENTITIOUS BACKER UNITS WITH WATERPROOFING MEMBRANE EXTENDING UP WALLS 6" MIN.
   C. GROUT WITH STANDARD GROUT AS SPECIFIED ABOVE.
   D. SEAL JOINTS BETWEEN TILE WORK AND OTHER WORK WITH SEALANT.

3.7 INSTALLATION - WALL TILE
   A. OVER CEMENTITIOUS BACKER UNITS ON STUDS, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD W244, USING MEMBRANE AT TOILET ROOMS.
   B. OVER CEMENTITIOUS BACKER UNITS INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD W223, ORGANIC ADHESIVE.
   C. OVER GYPSUM WALLBOARD ON WOOD OR METAL STUDS INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD W243, THIN-SET WITH DRY-SET OR LATEX-PORTLAND CEMENT BOND COAT, UNLESS OTHERWISE INDICATED.
   1. WHERE MORTAR BOARD IS INDICATED, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD W222, ONE COAT METHOD.
   2. WHERE WATERPROOFING MEMBRANE IS INDICATED OTHER THAN AT KITCHEN AND BAR WALLS, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD W222, ONE COAT METHOD.
   D. OVER INTERIOR CONCRETE AND MASONRY INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD W202, THIN-SET WITH DRY-SET OR LATEX-PORTLAND CEMENT BOND COAT.
   E. OVER WOOD STUDS WITHOUT BACKER INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD W231, MORTAR BED, WITH MEMBRANE WHERE INDICATED.
   F. OVER METAL STUDS WITHOUT BACKER INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD W241, MORTAR BED, MEMBRANE WHERE INDICATED.

3.8 CLEANING
   A. CLEAN TILE AND GROUT SURFACES

3.9 PROTECTION OF FINISHED WORK
   A. DO NOT PERMIT TRAFFIC OVER FINISHED FLOOR SURFACE FOR 72 HOURS AFTER INSTALLATION.
   B. COVER FLOOR WITH KRAFT PAPER AND PROTECT FROM DIRT AND RESIDUE FROM OTHER TRADES.
   C. WHERE FLOOR WILL BE EXPOSED FOR PROLONGED PERIODS COVER WITH PLYWOOD OR OTHER SIMILAR TYPE WALKWAYS.

SECTION 09510 - ACOUSTICAL CEILING TILE

1.1 GENERAL
   A. SUBMITTALS
   1. SUBMITTALS
      a. ACOUSTICAL CEILING PANELS: 6" X 6" MINIMUM
      b. SUSPENSION SYSTEM COMPONENTS: 12" IN LENGTH
   B. QUALITY ASSURANCE
   1. TO THE GREATEST EXTENT POSSIBLE, MATERIALS, INCLUDING EXPOSED WALL MOLDING, SUSPENSIONS SYSTEMS, AND ACCESSORIES, SHALL BE PRODUCTS OF A SINGLE MANUFACTURER OR ITEMS STANDARD WITH MANUFACTURER OF ACOUSTICAL CEILING PANEL UNITS.
   C. MATERIALS
   1. ACOUSTICAL TILES AND SUSPENSION SYSTEM AS SCHEDULED IN DRAWINGS. PROVIDE MANUFACTURER STANDARD COMPONENTS AS SHOWN IN DETAILS.
   D. INSTALLATION
   1. GRID SYSTEM:
      a. INSTALL GRID SYSTEM IN COMPLIANCE WITH ASTM C636, MANUFACTURER'S INSTRUCTIONS, AND AS SUPPLEMENTED IN THIS SECTION.
      b. INSTALL GRID SYSTEM IN A TRUE, EVEN PLANE AND IN STRAIGHT COURSES AS INDICATED ON DRAWINGS AND ACCEPTED SHOP DRAWINGS.
      c. COORDINATE AND FIT CEILING COMPONENTS TO GRILLES, LIGHTING FIXTURES, AND OTHER RELATED ITEMS. IN DETERMINING LOCATION AND SPACING OF HANGERS AND PRIMARY RUNNERS, TAKE INTO CONSIDERATION WEIGHT OF GRILLES, LIGHT FIXTURES, ETC., THAT ARE TO BE INSTALLED IN CONJUNCTION WITH ACOUSTICAL CEILINGS.
      d. PROVIDE STABILIZER BARS, CLIPS, SPLICES, AND EDGE MOLDINGS NEEDED FOR A COMPLETE INSTALLATION.
      e. HANG GRID SYSTEM INDEPENDENT OF WALLS, COLUMNS, DUCTS, PIPES AND CONDUIT. WHERE CARRYING MEMBERS ARE SPLICED, AVOID VISIBLE DISPLACEMENT OF FACE PLANE OF ADJACENT MEMBERS.
      f. WHERE DUCTS OF OTHER EQUIPMENT PREVENT REGULAR SPACING IF HANGERS, REINFORCE NEAREST AFFECTED HANGERS AND RELATED CARRYING CHANNELS TO SPACE EXTRA DISTANCE.
      g. DO NOT SUPPORT COMPONENTS ON MAIN RUNNERS OR CROSS RUNNERS IF WEIGHT CAUSES TOTAL DEAD LOAD TO EXCEED MAXIMUM DEFLECTION LIMITATIONS. SUPPORT FIXTURE LOADS BY SUPPLEMENTARY HANGERS LOCATED WITHIN 6" (150 MM) OF EACH CORNER; OR SUPPORT COMPONENTS INDEPENDENTLY.
      h. DO NOT ECCENTRICALLY LOAD SYSTEM, OR PRODUCE ROTATION OF RUNNERS.
   2. MOLDINGS AND TRIM

DIVISION 9 FINISHES cont.

SECTION 09510 - ACOUSTICAL CEILING TILE (CONT'D)

      a. INSTALL WALL MOLDINGS AT INTERSECTION OF SUSPENDED CEILING AND VERTICAL SURFACES, USING LONGEST PRACTICAL LENGTHS. PROVIDE MOLDINGS AT JUNCTIONS WITH OTHER INTERRUPTIONS AND AS NEEDED TO COVER EDGES OF ACOUSTICAL CEILING PANELS.
      b. ATTACH MOLDINGS AND TRIMS WITH SCREWS SPACED NOT MORE THAT 16" (400 MM) ON CENTER AND WITHIN 3" (75 MM) OF ENDS OF EACH PIECE BEING INSTALLED.
      c. MOLDINGS AND TRIM SHALL BE LEVEL WITH SUSPENSION SYSTEM AND WITHIN TOLERANCES SPECIFIED FOR SUSPENSION SYSTEM.
      d. MITER CORNERS AND ALIGN BUTT JOINTS WHERE WALL MOLDINGS INTERSECT TO FORM TIGHT, HAIRLINE JOINTS.
      e. FACE RIVETING OF MOLDINGS AND TRIM SHALL NOT BE ACCEPTABLE.
   3. TOLERANCES
      a. DEFLECTION OF GRID COMPONENTS SHALL NOT EXCEED 1/360 OF SPAN.
      b. VARIATION FROM FLAT AND LEVEL SURFACE: 1/8" (3 MM) IN 10 FEET (3000 MM) MAXIMUM.
      c. VARIATION FROM PLUMB OF GRID MEMBERS: 2 DEGREES MAXIMUM; CAUSED BY ECCENTRIC LOADS.
   E. ADJUSTING AND CLEANING
   1. FOLLOW GRID SYSTEM MANUFACTURER'S RECOMMENDATIONS FOR METHODS AND MATERIALS TO CLEAN AND TOUCH-UP EXPOSED COMPONENTS.
   2. REPLACE COMPONENTS WHICH ARE DISCOLORED OR DAMAGED IN ANY WAY, IN A MANNER WHICH RESULTS IN GRID SYSTEM SHOWING NO EVIDENCE OF REPLACEMENT WORK.

SECTION 09650 - RESILIENT FLOORING

1.1 GENERAL
   A. SUBMITTALS:
   1. VINYL COMPOSITION TILE SAMPLE
   2. BLACK RESILIENT TRANSITION/REDUCER STRIP (PROVIDED AT CHANGES IN FLOORING).
   3. VINYL COVE AND STRAIGHT BASE.
   B. PREPARE THE EXISTING, BASE BUILDING SLAB PRIOR TO INSTALLATION OF THE SCHEDULED FLOORING. ALL SURFACES SHALL BE SEALED, SIZED OR PROPERLY PREPARED PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. THE CONTRACTOR SHALL FLASH PATCH ALL UNEVEN FLOOR SLAB SURFACES IN ORDER TO PROVIDE A FLAT, SMOOTH AND CONTINUOUS FLOOR SURFACE.
   C. VCT SHALL BE LAID IN STRAIGHT (NOT BASKET WEAVE) DIRECTION. REFER TO DRAWINGS FOR COLOR PATTERNS AND DIRECTION.
   D. 2 1/2" COVE BASED SHALL BE USED AT ALL VCT LOCATIONS. 2 1/2" STRAIGHT BASE SHALL BE USED AT CARPET LOCATIONS UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL USE INSIDE AND OUTSIDE CORNERS AND END STOPS FOR ALL AREAS SPECIFIED. USE ROLL GOODS ONLY. NE SEAM SHALL OCCUR WITHIN 6" OF AN OUTSIDE CORNER.
   E. INSTALL BLACK RESILIENT TRANSITION/REDUCER STRIP BETWEEN VCT AND OTHER FLOOR FINISHES.

SECTION 096513 - RESILIENT WALL BASE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY
   A. SECTION INCLUDES:
   1. RESILIENT WALL BASE.

1.3 SUBMITTALS
   A

DIVISION 9 - FINISHES cont.

SECTION 096513 - RESILIENT WALL BASE (CONT'D)

2.10 INSTALLATION MATERIALS
- A. ADHESIVES: AS RECOMMENDED BY TARKETT TO MEET SITE CONDITIONS
1. TARKETT 960 COVE BASE ADHESIVE (POROUS APPLICATIONS)
2. TARKETT 946 PREMIUM CONTACT BOND ADHESIVE (NON-POROUS APPLICATIONS)

PART 3 - EXECUTION

3.1 EXAMINATION
- A. EXAMINE SUBSTRATES, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR MAXIMUM MOISTURE CONTENT AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.
- B. VERIFY THE FINISHES OF SUBSTRATES COMPLY WITH TOLERANCES AND OTHER REQUIREMENTS SPECIFIED IN OTHER SECTIONS AND THAT SUBSTRATES ARE FREE OF CRACKS, RIDGES, DEPRESSIONS, SCALE, AND OTHER SECTIONS AND THAT SUBSTRATES ARE FREE OF CRACKS, RIDGES, DEPRESSIONS, SCALE, AND FOREIGN DEPOSITS THAT MIGHT INTERFERE WITH ADHESION OF RESILIENT PRODUCTS.
- C. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 PREPARATION
- A. PREPARE SUBSTRATES ACCORDING TO TARKETT'S WRITTEN INSTRUCTIONS TO ENSURE ADHESION OF RESILIENT WALL BASE.
- B. FILL CRACKS, HOLES, AND DEPRESSIONS IN SUBSTRATES WITH TROWELABLE LEVELING AND PATCHING COMPOUND AND REMOVE BUMPS AND RIDGES TO PRODUCE A UNIFORM AND SMOOTH SUBSTRATE.
- C. MOVE RESILIENT PRODUCTS AND INSTALLATION MATERIALS INTO SPACES WHERE THEY WILL BE INSTALLED AT LEAST 48 HOURS IN ADVANCE OF INSTALLATION.
- D. VACUUM CLEAN SUBSTRATES TO BE COVERED BY RESILIENT PRODUCTS IMMEDIATELY BEFORE INSTALLATION.

3.3 RESILIENT BASE INSTALLATION
- A. COMPLY WITH TARKETT'S WRITTEN INSTRUCTIONS FOR INSTALLING RESILIENT BASE.
- B. APPLY RESILIENT BASE TO WALLS, COLUMNS, PILASTERS, CASEWORK AND CABINETS IN TOE SPACES, AND OTHER PERMANENT FIXTURES IN ROOMS AND AREAS WHERE BASE IS REQUIRED.
- C. INSTALL RESILIENT BASE IN LENGTHS AS LONG AS PRACTICABLE WITHOUT GAPS AT SEAMS AND WITH TOPS OF ADJACENT PIECES ALIGNED.
- D. TIGHTLY ADHERE RESILIENT WALL BASE TO SUBSTRATE THROUGHOUT LENGTH OF EACH PIECE, WITH BASE IN CONTINUOUS CONTACT WITH HORIZONTAL AND VERTICAL SUBSTANCES.
- E. DO NOT STRETCH RESILIENT BASE DURING INSTALLATION.

3.4 CLEANING AND PROTECTION
- A. COMPLY WITH TARKETT'S WRITTEN INSTRUCTIONS FOR CLEANING AND PROTECTION OF RESILIENT PRODUCTS.
- B. PERFORM THE FOLLOWING OPERATIONS IMMEDIATELY AFTER COMPLETING RESILIENT PRODUCT INSTALLATION:
1. REMOVE ADHESIVE AND OTHER BLEMISHES FROM EXPOSED SURFACES.
- C. PROTECT RESILIENT PRODUCTS FROM MARS, MARKS, INDENTATIONS, AND OTHER DAMAGE FROM CONSTRUCTION OPERATIONS AND PLACEMENT OF EQUIPMENT AND FIXTURES DURING REMAINDER OF CONSTRUCTION PERIOD.
- D. END OF SECTION 09.65.13

SECTION 09780 - SEAMLESS EPOXY-QUARTZ FLOORING - ARMOR-REZ CQ 100

PART 1 - GENERAL

1.2 SUMMARY
- A. SECTION INCLUDES:
1. MOISTURE VAPOR EMISSION TESTING
2. SURFACE PREPARATION
3. WATERPROOF MEMBRANE (IF REQUIRED)
4. FURNISHINGS AND INSTALLATION OF SEAMLESS EPOXY-QUARTZ FLOORING
- B. RELATED REQUIREMENTS:
1. SECTION 099316 "DECORATIVE CONCRETE STAINING" FOR SURFACE PREPARATION AND THE APPLICATION OF STAINS AND SEALERS O ON EXTERIOR CONCRETE PAVING SUBSTANCES.

1.6 QUALITY ASSURANCE
1. ALL MATERIALS USED IN THE SEAMLESS EPOXY-QUARTZ FLOORING SYSTEM SHALL BE MANUFACTURED BY A SINGLE MANUFACTURER TO ENSURE COMPATIBILITY AND PRIOR BONDING
2. APPLICATOR SHALL BE APPROVED BY THE MANUFACTURER AND SHALL HAVE A MINIMUM OF 3 YEARS EXPERIENCE IN INSTALLING SEAMLESS EPOXY FLOORS

1.7 DELIVERY, STORAGE AND HANDLING
1. ALL MATERIALS SHALL BE DELIVERED TO THE JOB SITE IN UNOPENED CONTAINERS CLEARLY LABELED BY THE MANUFACTURER AND STORED IN A DRY LOCATION AT A MINIMUM OF 65 DEGREES

1.8 WARRANTY
1. MANUFACTURER'S SHALL GUARANTEE THAT HIS MATERIALS ARE FREE FROM DEFECTS AND COMPLY WITH HIS PUBLISHED SPECIFICATIONS.
2. APPLICATOR SHALL WARRANTY AGAINST FAULTY WORKMANSHIP FOR A PERIOD OF 3 YEARS FROM SUBSTANTIAL COMPLETION OF THE PROJECT.

PART 2 - PRODUCTS

2.01 MANUFACTURERS
- A. RESIN SYSTEM AND GRADED SILICA FILLER SHALL BE AS SUPPLIED BY ARIZONA POLYMER FLOORING, PHOENIX, ARIZONA
- B. BROADCAST AGGREGATE SHALL BE SUPPLIED BY:
1. SPECTRAQUARTZ
2. GORDON SAND
3. OTHER SUITABLE MANUFACTURER
- C. ELASTOMERIC CAULKING COMPOUNDS SHALL BE SUPPLIED BY:
1. VULKEM
2. SIKA
3. SONNEBORN

2.02 MATERIALS
- A. SEAMLESS EPOXY-QUARTZ FLOORING SHALL CONSIST OF 100% SOLIDS CLEAR EPOXY 400 AND 28 MESH COLOR QUARTZ AGGREGATE.
- B. TWO-COMPONENT ALIPHATIC POLYURETHANE 100 OR POLYURETHANE 501 SHALL BE USED AS THE FINISH COAT FOR SYSTEMS REQUIRING A MOPPABLE TEXTURE.

2.03 SYSTEM DESCRIPTION
- A. FLOORING SYSTEM TO BE 1/8" THICK WITH COLOR AND TEXTURE TO MATCH THE SAMPLE CHOSEN.
- B. FINISHED FLOORING SYSTEM SHALL HAVE THE FOLLOWING PERFORMANCE CHARACTERISTICS:
1. COMPRESSIVE STRENGTH (ASTM C 579): 9500 PSI.
2. TENSILE STRENGTH (ASTM C 307): 2500 PSI
3. FLEXURAL STRENGTH (ASTM C 580): 4200 PSI
4. HARDNESS SHORE D (ASTM D 2240): 85
5. IMPACT RESISTANCE (ASTM D 2794): PASSES 160 INCH POUNDS.
6. THERMAL SHOCK RESISTANCE (ASTM D 1044): PASSES
7. TABOR ABRASION (ASTM D 1044): 34 MG. LOSS
8. WATER ABSORPTION (ASTM D 543): 0.2%
9. BOND STRENGTH (ACI 503.4-2.3.2): 350 PSI, CONCRETE FAILURE
10. USDA APPROVAL: APPROVED
- C. CHEMICAL RESISTANCE: (ASTM D 1308 - 7 DAY EXPOSURE) UNAFFECTED BY THE FOLLOWING:
1. URINE
2. BLOOD
3. GASOLINE
4. BRAKE FLUID
5. MINERAL SPIRITS
6. 25% HYDROCHLORIC ACID

DIVISION 9 FINISHES cont.

SECTION 09780 - SEAMLESS EPOXY QUARTZ FLOORING - ARMOR-REZ CQ 100 (CONT'D)

7. 25% SULFURIC ACID
8. 10% ACETIC ACID

PART 3 - EXECUTION

3.01 EXAMINATION
- A. VERIFICATION OF CONDITIONS:
1. INSPECT SURFACES TO RECEIVE EPOXY FLOORING.
2. CONDUCT CALCIUM CHLORIDE MOISTURE VAPOR EMISSION TESTING ACCORDING TO ASTM 1896-04. IF TEST READING IS ABOVE THREE POUND, CONSULT ARIZONA POLYMER FLOORING BEFORE PROCEEDING.
3. BEFORE STARTING WORK, REPORT IN WRITING TO THE ARCHITECT ANY UNSATISFACTORY CONDITION.
4. APPLICATION OF ANY MATERIAL SHALL SIGNIFY HAT SURFACES HAVE BEEN INSPECTED AND ARE SATISFACTORY.

3.02 SURFACE PREPARATION
- A. SURFACES TO RECEIVE FLOORING SYSTEM SHALL BE ABRADED TO MINIMUM OF 5 MIL PROFILE USING SHOT BLASTING OR ACID ETCHING. IF ACID ETCHING IS USED, IT SHALL BE DONE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. ETCHING SHALL BE ACCOMPLISHED USING A MECHANICAL SCRUBBER WITH AN AGGRESSIVE "NYLOGRIT" TYPE BRUSH.
- B. FILL ALL CRACKS, HOLES AND JOINTS WITH EPOXY 300 FLEX PASTE PRIOR TO APPLICATION OF FLOORING SYSTEM. TRUE EXPANSION JOINTS SHALL BE MARKED FOR SAWCUTTING AFTER INSTALLATION OF THE FLOORING SYSTEM.

3.03 INSTALLATION
- A. ALLOW SUFFICIENT TIMED FOR THE INSTALLATION OF THE FLOORING SYSTEM. AT NO TIME SHALL THE SPEED OF PROJECT COMPLETION BE ALLOWED TO DETRIMENTALLY AFFECT THE APPLICATION.
- B. PROVIDE SUFFICIENT LIGHT, POWER, HEAT AND WORKING CONDITIONS TO PERMIT PROPER APPLICATION OF THE MATERIAL. SUBSTRATE TEMPERATURE SHALL BE AT A MINIMUM OF 50 DEGREES FAHRENHEIT DURING APPLICATION AND FOR 48 HOURS THEREAFTER.
- C. IF WATERPROOFING IS REQUIRED, APPLY ELASTOMERIC POLYURETHANE 300 ACCORDING TO MANUFACTURER'S INSTRUCTIONS TO ACHIEVE A 40 MIL MEMBRANE.
- D. INSTALL COVED BASE IF REQUIRED TO A THICKNESS OF $\frac{1}{8}$" TO $\frac{1}{4}$". COVE SHALL BE 4" TO 6" HIGH WITH $\frac{3}{4}$" TO 1" RADIUS AND TERMIBATED WITH A METAL PR PLASTIC EDGE STRIP. COVE SHALL BE REASONABLY SMOOTH AND UNIFORM IN APPEARANCE TO PROVIDE AN EASILY CLEANED SURFACE. THE SEAM BETWEEN THE COVED BASE AND THE WALL SHALL BE SEALED WITH AN ELASTOMERIC POLYURETHANE CAULKING.
- E. FLOORING SYSTEM SHALL BE INSTALLED USING THE DOUBLE BROADCAST TO ACHIEVE THE SPECIFIED THICKNESS.
1. BASE RESIN SHALL CONSIST OF EPOXY 400 CLEAR 100% SOLIDS EPOXY BINDER.
2. BROADCAST AGGREGATE FOR THE FIRST BROADCAST MAY BE 20-30 MESH MONTEREY TYPE SAND OR 28 MESH COLOR QUARTZ
3. BROADCAST AGGREGATE FOR THE SECOND BROADCAST SHALL BE BLENDED 28 MESH COLOR QUARTZ. COLOR BLEND SHALL BE CHOSEN BY THE OWNER.
- F. AREAS TO RECEIVE A MOPPABLE TEXTURE SHALL BE SANDED WITH 60-80 GRIT SANDPAPER AND FINISHED WITH POLYURETHANE 100 OR POLYURETHANE 501.
- G. IF THE FLOOR HAS BEEN INSTALLED OVER TRUE EXPANSION JOINTS, SAWCUT THROUGH THE FINISHED FLOOR AND CAULK THE JOINTS WITH ELASTOMERIC POLYURETHANE CAULK.

3.04 FIELD QUALITY CONTROL
- A. INSTALLER SHALL MONITOR THE THICKNESS OF THE SYSTEM AS THE WORK PROGRESSES. AREAS FOUND TO NOT MEET THE REQUIRED THICKNESS SHALL RECEIVE ADDITIONAL MATERIAL UNTIL SPECIFIED THICKNESS IS ATTAINED.

3.05 PROTECTION
- A. INSTALLATION AREAS MUST BE KEPT FREE FROM TRAFFIC AND OTHER TRADES DURRING THE APPLICATION PROCEDURE AND CURE TIME.

SECTION 09900 - PAINTING

1.1 GENERAL
- A. SUBMITTALS
1. PROVIDE A MINIMUM OF THREE 8" X 10" SAMPLES FOR EACH COLOR AND EACH FINISH INDICATED IN THE FINISH SCHEDULE.
- B. PRODUCTS
1. SEE FINISH SCHEDULE FOR MANUFACTURERS, COLOR AND FINISHES.
- C. EXECUTION
1. GENERAL:
   - a. PRIOR TO PAINT APPLICATION, THE CONTRACTOR SHALL SCHEDULE A REVIEW OF FINAL PAINT COLOR LOCATIONS WITH THE ARCHITECT IN THE FIELD.
   - b. SEE FINISH PLAN AND INTERIOR ELEVATIONS FOR SPECIFIC LOCATIONS OF PAINT COLORS AND FINISHES.
   - c. WHERE PAINTS OF TWO DIFFERENT TYPES OR COLOR ABUT, THE SEAM SHALL BE ON AN INSIDE CORNER ONLY.
   - d. FINAL COAT OF PAINT SHALL BE ROLL APPLIED AT ALL GWB SURFACES.
2. PREPARATION:
   - a. REMOVE BLISTERED, PEELING AND SCALING PAINT OR CHALK DEPOSITS TO SOUND SUBSTRATES.
   - b. COMPLETELY REMOVE SEALANTS OR CAULKING.
   - c. DULL GLOSSY SURFACES.
   - d. AT METAL SURFACES, REMOVE RUST, OIL, GREASE AND OTHER CONTAMINANTS HARMFUL TO PAINTING. SAND CLEAN AND SPOT PRIME.
   - e. AT GWB SURFACES; REPAIR SURFACE DEFECTS WITH JOINT COMPOUND, FILL FLUSH AND SAND SMOOTH. CLEAN SURFACES OF DUST. GREASE AND DIRT.
   - f. AT WOOD SURFACES; SAND SMOOTH AND REMOVE DUST. COUNTERSINK NAILS AND FILL NAIL HOLES, CRACKS AND OPEN JOINTS WITH PUTTY OR WOOD FILLER.
3. APPLICATION (UNLESS NOTED OTHERWISE):
   - a. AT GWB SURFACES:
     ONE (1) PRIMER COAT: VINYL ACRYLIC PRIMER SEALER.
     TWO (2) FINISH COATS: VINYL ACRYLIC LATEX; EGGSHELL FINISH @ WALLS, FLAT @ CEILINGS.
   - b. AT INTERIOR WOOD SURFACES TO BE PAINTED:
     ONE (1) TINTED PRIMER COAT TO MATCH FINISH COAT FOLOR: ALKYD ENAMEL UNDERBODY.
     TWO (2) FINISH COATS: VINYL ACRYLIC LATEX SEMI-GLOSS ENAMEL.
   - c. AT INTERIOR METAL SURFACES TO BE PAINTED:
     ONE (1) PRIMER COAT: RUST-INHIBITING ALKYD PRIMER.
     TWO (2) FINISH COATS: ALKYD GLASS ENAMEL.
4. CLEAN-UP:
   - a. THE CONTRACTOR SHALL PROVIDE ONE FINAL TOUCH-UP OF PAINT SURFACES AFTER THE OWNER HAS MOVED INTO THE SPACE.

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
- A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY
- A. SECTION INCLUDES SURFACE PREPARATION AND THE APPLICATION OF PAINT SYSTEMS ON THE FOLLOWING EXTERIOR SUBSTRATES:
1. CONCRETE
2. CLAY MASONRY
3. STEEL
4. GALVANIZED METAL
5. WOOD
6. EXTERIOR PORTLAND CEMENT PLASTER (STUCCO)
7. EXTERIOR GYPSUM BOARD
- B. RELATED REQUIREMENTS:
1. SECTION 099316 "DECORATIVE CONCRETE STAINING" FOR SURFACE PREPARATION AND THE APPLICATION OF STAINS AND SEALERS ON EXTERIOR CONCRETE PAVING SUBSTRATES.

DIVISION 9 FINISHES cont.

SECTION 099113 - EXTERIOR PAINTING (CONT'D)

1.3 DEFINITIONS
- A. GLOSS LEVEL 1: NOT MORE THAN 5 UNITS AT 60 DEGREES AND 10 UNITS AT 85 DEGRESS, ACCORDING TO ASTM D 523.
- B. GLOSS LEVEL 3: 10 TO 25 UNITS AT 60 DEGREES AND 10 TO 35 UNITS TO 85 DEGRESS, ACCORDING TO ASTM D 523.
- C. GLOSS LEVEL 4: 20 TO 35 UNITS AT 60 DEGREES AND NOT LESS THAN 35 UNITS AT 85 DEGREES, ACCORDING TO ASTM D 523.
- D. GLOSS LEVEL 5: 35 TO 70 UNITS AT 60 DEGREES, ACCORDING TO ASTM D 523.
- E. GLOSS LEVEL 6: 70 TO 85 UNITS AT 60 DEGREES, ACCORDING TO ASTM D 523.
- F. GLOSS LEVEL 7: MORE THAN 85 UNITS AT 60 DEGREES, ACCORDING TO ASTM D 523.

1.4 ACTION SUBMITTALS
- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT, INCLUDE PREPARATION REQUIREMENTS AND APPLICATION INSTRUCTIONS.
- B. SAMPLES FOR INITIAL SELECTION: FOR EACH TYPE OF TOPCOAT PRODUCT.
- C. SAMPLES FOR VERIFICATION: FOR EACH TYPE OF PAINT SYSTEM AND EACH COLOR AND GLOSS OF TOPCOAT.
1. SUBMIT SAMPLES ON RIGID BACKING, 8 INCHES SQUARE.
2. STEP COATS ON SAMPLES TO SHOW EACH COAT REQUIRED FOR SYSTEM.
3. LABEL EACH COAT OF EACH SAMPLE.
4. LABEL EACH SAMPLE FOR LOCATION AND APPLICATION AREA.
- D. PRODUCT LISTS: FOR EACH PRODUCT INDICATED, INCLUDE THE FOLLOWING.
1. CROSS-REFERENCE TO PAINT SYSTEM AND LOCATIONS PF APPLICATION AREAS. USE SAME DESIGNATIONS INDICATED ON DRAWINGS AND IN SCHEDULES.
2. PRINTOUT OF CURRENT "MPI APPROVED PRODUCTS LIST" FOR EACH PRODUCT CATEGORY SPECIFIED, WITH THE PROPOSED PRODUCT HIGHLIGHTED.
3. VOC CONTENT.

1.5 MAINTENANCE MATERIAL SUBMITTALS
- A. FURNISH EXTRA MATERIALS, FROM THE SAME PRODUCT RUN, THAT MATCH PRODUCTS INSTALLED AND THAT ARE PACKAGED WITH PROTECTIVE COVERING FOR STORAGE AND IDENTIFIED WITH LABELS DESCRIBING CONTENTS.
1. PAINT: 5 PERCENT, BUT NOT LESS THAN 1 GAL. OF EACH MATERIAL AND COLOR APPLIED

1.6 QUALITY ASSURANCE
- A. MOCKUPS: APPLY MOCKUPS OF EACH PAINT SYSTEM INDICATED AND EACH COLOR AND FINISH SELECTED TO VERIFY PRELIMINARY SELECTIONS MADE UNDER SAMPLE SUBMITTALS AND TO DEMONSTRATE AESTHETIC EFFECTS AND SET QUALITY STANDARDS FOR MATERIALS AND EXECUTION.
1. ARCHITECT WILL SELECT ONE SURFACE TO REPRESENTS SURFACES AND CONDITIONS FOR APPLICATIONS OF EACH PAINT SYSTEM SPECIFIED IN PART 3.
   - a. VERTICAL AND HORIZONTAL SURFACES: PROVIDE SAMPLES OF AT LEAST 100 SQ. FT.
   - b. OTHER ITEMS: ARCHITECT WILL DESIGNATE ITEMS OR AREAS REQUIRED.
2. FINAL APPROVAL OF COLOR SELECTIONS WILL BE BASED ON MOCKUPS.
   - a. IF PRELIMINARY COLOR SELECTIONS ARE NOT APPROVED, APPLY ADDITIONAL MOCKUPS OF ADDITIONAL COLORS SELECTED BY ARCHITECT AT NO ADDED COST TO OWNER.
3. APPROVAL OF MOCKUPS DOES NOT CONSTITUTE APPROVAL OF DEVIATIONS FROM THE CONTRACT DOCUMENTS CONTAINED IN MOCKUPS UNLESS ARCHITECT SPECIFICALLY APPROVES SUCH DEVIATIONS IN WRITING.
4. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, APPROVED MOCKUPS MAY BECOME PART OF THE COMPLETED WORK IN UNDISTURBED AT TIME OF SUBSTANTIAL COMPLETION.

1.7 DELIVERY, STORAGE, AND HANDLING
- A. STORE MATERIALS NOT IN USE IN TIGHTLY COVERED CONTAINERS IN WELL-VENTILATED AREAS WITH AMBIENT TEMPERATURES CONTINUOUSLY MAINTAINED AT NOT LESS THAN 45 DEG F.
1. MAINTAIN CONTAINERS IN CLEAN CONDITION, FREE OF FOREIGN MATERIALS AND RESIDUE.
2. REMOVE RAGS AND WASTE FROM STORAGE AREAS DAILY.

1.8 FIELD CONDITIONS
- A. APPLY PAINTS ONLY WHEN TEMPERATURE OF SURFACES TO BE PAINTED AND AMBIENT AIR TEMPERATURES ARE BETWEEN 50 AND 95 DEG F.
- B. DO NOT APPLY PAINTS IN SNOW, RAIN, FOG, OR MIST; WHEN RELATIVE HUMIDITY EXCEEDS 85 PERCENT; AT TEMPERATURES LESS THAN 5 DEG F ABOVE THE DEW POINT; OR TO DAMP OR WET SURFACES.

PART 2 - PRODUCTS

2.1 MANUFACTURERS
- A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE. BUT ARE LIMITED TO, THE FOLLOWING:
1. BENJAMIN MOORE & CO.
2. CLOVERDALE PAINT.
3. DURON, INC.
4. ICI PAINTS.
5. KELLEY-MOORE PAINTS.
6. PPG ARCHITECTURAL FINISHES, INC.
7. SHERWIN-WILLIAMS COMPANY (THE).

2.2 PAINT, GENERAL
- A. MPI STANDARDS: PROVIDE PRODUCTS THAT COMPLY WITH MPI STANDARDS INDICATED AND THAT ARE LISTED IN ITS "MPI APPROVED PRODUCTS LIST."
- B. MATERIAL COMPATIBILITY:
1. PROVIDE MATERIALS FOR USE WITHIN EACH PAINT SYSTEM THAT ARE COMPATIBLE WITH ONE ANOTHER AND SUBSTANCES INDICATED, UNDER CONDITIONS OF SERVICE AND APPLICATION AS DEMONSTRATED BY MANUFACTURER, BASED ON TESTING AND FIELD EXPERIENCE.
2. FOR EACH COAT IN A PAINT SYSTEM, PROVIDE PRODUCTS RECOMMENDED IN WRITING BY MANUFACTURERS OF TOPCOAT FOR USE IN PAINT SYSTEM AND ON SUBSTRATE INDICATED.
- C. VOC CONTENT: PROVIDE MATERIALS THAT COMPLY WITH VOC LIMITS OF AUTHORITIES HAVING JURISDICTION.
- D. COLORS: MATCH ARCHITECT'S SAMPLES.

PART 3 - EXECUTION

3.1 EXAMINATION
- A. EXAMINE SUBSTRATES AND CONDITIONS, WITH APPLICATOR PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR MAXIMUM MOISTURE CONTENT AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.
- B. MAXIMUM MOISTURE CONTENT OF SUBSTRATES: WHEN MEASURED WITH AN ELECTRONIC MOISTURE METER AS FOLLOWS:
1. CONCRETE: 12 PERCENT
2. MASONRY (CLAY AND CMU): 12 PERCENT
3. WOOD: 15 PERCENT
4. PORTLAND CEMENT PLASTER: 12 PERCENT
5. GYPSUM BOARD: 12 PERCENT
- C. PORTLAND CEMENT PLASTER SUBSTRATES: VERIFY THAT PLASTER IS FULLY CURED.
- D. EXTERIOR GYPSUM BOARD SUBSTRATES: VERIFY THAT FINISHING COMPOUND IS SANDED SMOOTH.
- E. VERIFY SUITABILITY OF SUBSTRATES, INCLUDING SURFACE CONDITIONS AND COMPATIBILITY WITH EXISTING FINISHES AND PRIMERS.
- F. PROCEED WITH COATING APPLICATION ONLY AFTER SATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
1. APPLICATION WITH COATING INDICATES ACCEPTANCE OF SURFACES AND CONDITIONS.

3.2 PREPARATION
- A. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS IN "MPI MANUAL" AND "MPI MAINTENANCE REPAINTING MANUAL" APPLICABLE TO SUBSTRATES AND PAINT SYSTEMS INDICATED.
- B. REMOVE HARDWARE, COVERS, PLATES, AND SIMILAR ITEMS ALREADY IN PLACE THAT ARE REMOVABLE AND ARE NOT TO BE PAINTED. IF REMOVAL IS IMPRACTICAL OR IMPOSSIBLE BECAUSE OF SIZE OR WRIGHT OF ITEM, PROVIDE SURFACE-APPLIED PROTECTION BEFORE SURFACE PREPARATION AND PAINTING.
1. AFTER COMPLETING PAINTING OPERATIONS, USE WORKERS SKILLED IN THE TRADES INVOLVED TO REINSTALL ITEMS THAT WERE REMOVED. REMOVE SURFACE-APPLIED PROTECTION.

DIVISION 9 FINISHES cont.

SECTION 099113 - EXTERIOR PAINTING (CONT'D)

- C. CLEAN SUBSTRATES OF SUBSTRATES THAT COULD IMPAIR BOND OF PAINTS, INCLUDING DUST, DIRT, OIL, GREASE, AND INCOMPATIBLE PAINTS AND ENCAPSULANTS.
1. REMOVE INCOMPATIBLE PRIMERS AND RE-PRIME SUBSTRATE WITH COMPATIBLE PRIMERS OR APPLY TIE COAT AS REQUIRED TO PRODUCE PAINT SYSTEMS INDICATED.
- D. CONCRETE SUBSTRATES: REMOVE RELEASE AGENTS, CURING COMPOUNDS, EFFLORESCENCE, AND CHALK. DO NOT PAINT SURFACES IF MOISTURE CONTENT OR ALKALINITY OF SURFACES TO BE PAINTED EXCEEDS THAT PERMITTED IN MANUFACTURER'S WRITTEN INSTRUCTIONS.
- E. MASONRY SUBSTRATES: REMOVE EFFLORESCENCE AND CHALK. DO NOT PAINT SURFACES IF MOISTURE CONTENT OR ALKALINITY OF SURFACES OR MORTAR JOINTS EXCEEDS THAT PERMITTED IN MANUFACTURER'S WRITTEN INSTRUCTIONS.
- F. STEEL SUBSTRATES: REMOVE RUST, LOOSE MILL SCALE, AND SHOP PRIMER IF ANY. CLEAN USING METHODS RECOMMENDED IN WRITING BY PAINT MANUFACTURER, BUT NOT LESS THAN THE FOLLOWING:
1. SSPC-SP 3, "POWER TOOL CLEANING."
- G. GALVANIZED-METAL SUBSTRATES: REMOVE GREASE AND OIL RESIDUE FROM GALVANIZED SHEET METAL BY MECHANICAL METHODS TO PRODUCE CLEAN, LIGHTLY ETCHED SURFACES THAT PROMOTE ADHESION OF SUBSEQUENTLY APPLIED PAINTS.
- H. WOOD SUBSTRATES:
1. SCRAPE AND CLEAN KNOTS. BEFORE APPLYING PRIMER, APPLY COAT OF KNOT SEALER RECOMMENDED IN WRITING BY TOPCOAT MANUFACTURER FOR EXTERIOR USE IN PAINT SYSTEM INDICATED.
2. SAND SURFACES THAT WILL BE EXPOSED TO VIEW, AND DUST OFF.
3. PRIME EDGES, ENDS, FACES, UNDERSIDES, AND BACKSIDES OF WOOD.
4. AFTER PRIMING, FILL HOLES AND IMPERFECTIONS IN THE FINISH SURFACES WITH PUTTY OR PLASTIC WOOD FILLER. SAND SMOOTH WHEN DRIED.

3.3 APPLICATION
- A. APPLY PAINTS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS IN "MPI MANUAL."
1. USE APPLICATORS AND TECHNIQUES SUITED FOR PAINT AND SUBSTRATE INDICATED.
2. PAINT SURFACES BEHIND MOVEABLE ITEMS SAME AS SIMILAR EXPOSED SURFACES. BEFORE FINAL INSTALLATION, PAINT SURFACES BEHIND PERMANENTLY FIXED ITEMS WITH PRIME COAT ONLY.
3. PAINT BOTH SIDES AND EDGES OF EXTERIOR DOORS AND ENTIRE EXPOSED SURFACE OF EXTERIOR DOOR FRAMES.
4. DO NOT PAINT OVER LABELS OF INDEPENDENT TESTING AGENCIES OR EQUIPMENT NAME, IDENTIFICATION, PERFORMANCE RATING, OR NOMENCLATURE PLATES.
5. PRIMERS SPECIFIED IN PAINTING SCHEDULES MAY BE OMITTED ON ITEMS THAT ARE FACTORY PRIMED OR FACTORY FINISHED IF ACCEPTABLE TO TOPCOAT MANUFACTURERS.
- B. IF UNDERCOATS OR OTHER CONDITIONS SHOW THROUGH TOPCOAT, APPLY ADDITIONAL COATS UNTIL CURED FILM HAS A UNIFORM PAINT FINISH, COLOR, AND APPEARANCE.
- C. APPLY PAINTS TO PRODUCE SURFACE FILMS WITHOUT CLOUDINESS, SPOTTING, HOLIDAYS, LAPS, BRISH MARKS, ROLLER TRACKING , RUNS, SAGS, ROPINESS, OR OTHER SURFACE IMPERFECTIONS. CUT IN SHARP LINES AND COLOR BREAKS.
- D. PAINTING FIRE SUPPRESSION, PLUMBING, HVAC, ELECTRICAL, COMMUNICATION, AND ELECTRONIC SAFETY AND SECURITY WORK:
1. PAINT THE FOLLOWING WORK WHERE EXPOSED TO VIEW:
   - a. EQUIPMENT, INCLUDING PANELBOARDS AND SWITCH GEAR
   - b. UN-INSULATED METAL PIPING
   - c. UN-INSULATED PLASTIC PIPING
   - d. PIPE HANGERS AND SUPPORTS
   - e. METAL CONDUIT
   - f. PLASTIC CONDUIT
   - g. TANKS THAT DO NOT HAVE FACTORY-APPLIED FINAL FINISHES

3.4 CLEANING AND PROTECTION
- A. AT END OF EACH WORKDAY, REMOVE RUBBISH, EMPTY CANS, RAGS, AND OTHER DISCARDED MATERIALS FROM PROJECT SITE.
- B. AFTER COMPLETING PAINT APPLICATION, CLEAN SPATTERED SURFACES. REMOVE SPATTERED PAINTS BY WASHING, SCRAPING, OR OTHER METHODS. DO NOT SCRATCH OR DAMAGE ADJACENT FINISHED SURFACES.
- C. PROTECT WORK OF OTHER TRADES AGAINST DAMAGE FROM PAINT APPLICATION. CORRECT DAMAGE TO WORK OF OTHER TRADES BY CLEANING, REPAIRING, REPLACING, AND REFINISHING, AS APPROVED BY ARCHITECT, AND LEAVE IN AN UNDAMAGED CONDITION.
- D. AT COMPLETION OF CONSTRUCTION ACTIVITIES OF OTHER TRADES, TOUCH UP AND RESTORE DAMAGED OR DEFACED PAINTED SURFACES.

3.5 EXTERIOR PAINTING SCHEDULE
- A. CONCRETE SUBSTRATES, NON-TRAFFIC SURFACES:
1. LATEX SYSTEM:
   - a. PRIME COAT: LATEX, EXTERIOR, MATCHING TOPCOAT.
   - b. INTERMEDIATE COAT: LATEX, EXTERIOR, MATCHING TOPCOAT.
   - c. TOPCOAT: LATEX, EXTERIOR SEMI-GLOSS (GLOSS LEVEL 5), MPI #11.
- B. CLAY-MASONRY SUBSTRATES:
1. HIGH-BUILD LATEX SYSTEM: DRY FILM THICKNESS NOT LESS THAN 10 MILS.
   - a. PRIME COAT: AS RECOMMENDED IN WRITING BY TOPCOAT MANUFACTURER.
   - b. INTERMEDIATE COAT: AS RECOMMENDED IN WRITING BY TOPCOAT MANUFACTURER.
   - c. TOPCOAT: LATEX, EXTERIOR, HIGH BUILD, MPI #40.
- C. STEEL SUBSTRATES;
1. WATER-BASED LIGHT INDUSTRIAL COATING SYSTEM:
   - a. PRIME COAT: PRIMER, ALKYD, ANTI-CORROSIVE FOR METAL, MPI #79.
   - b. INTERMEDIATE COAT: LIGHT INDUSTRIAL COATING, EXTERIOR, WATER BASED, MATCHING TOPCOAT.
   - c. TOPCOAT: LIGHT INDUSTRIAL COATING, EXTERIOR, WATER-BASED, SEMI-GLOSS (GLOSS LEVEL 5), MPI #163.
- D. GALVANIZED-METAL SUBSTRATES:
1. WATER-BASED LIGHT INDUSTRIAL COATING SYSTEM:
   - a. PRIME COAT: PRIMER, GALVANIZED METAL, AS RECOMMENDED IN WRITING BY TOPCOAT MANUFACTURER FOR EXTERIOR USE ON GALVANIZED-METAL SUBSTRATES WITH TOPCOAT INDICATED.
   - b. INTERMEDIATE COAT: LIGHT INDUSTRIAL COATING, EXTERIOR, WATER BASED, MATCHING TOPCOAT.
   - c. TOPCOAT: LIGHT INDUSTRIAL COATING, EXTERIOR, WATER BASED, SEMI-GLOSS (GLOSS LEVEL 5), MPI #163.
- E. WOOD SUBSTRATES: INCLUDING PLYWOOD SOFFITS.
1. LATEX OVER ALKYD PRIMER SYSTEM:
   - a. PRIME COAT: PRIMER, ALKYD FOR EXTERIOR WOOD, MPI #5.
   - b. INTERMEDIATE COAT: LATEX, EXTERIOR, MATCHING TOPCOAT.
   - c. TOPCOAT: LATEX, EXTERIOR FLAT (GLOSS LEVEL 1), MPI #10.
- F. PORTLAND CEMENT PLASTER SUBSTRATES:
2. LATEX OVER ALKALI-RESISTANT PRIMER SYSTEM:
   - a. PRIME COAT: PRIMER, ALKALI RESISTANT, WATER BASED, MPI #3.
   - b. INTERMEDIATE COAT: LATEX, EXTERIOR, MATCHING TOPCOAT.
   - c. TOPCOAT: LATEX, EXTERIOR FLAT (GLOSS LEVEL 1), MPI #10.
- G. EXTERIOR GYPSUM BOARD SUBSTRATES:
1. LATEX SYSTEM:
   - a. PRIME COAT: LATEX, EXTERIOR, MATCHING TOPCOAT.
   - b. INTERMEDIATE COAT: LATEX, EXTERIOR, MATCHING TOPCOAT.

DIVISION 9 - FINISHES CONTD.

GENERAL SPECIFICATION BOOTH / BANQUETTE cont.d'

WHERE SINUOUS (NO SAG) SPRINGS ARE SPECIFIED OR OTHERWISE APPROVED BY THE DESIGNER, SPRINGS SHALL BE CONSTRUCTED OF 8 GAUGE SPRING WIRE AT 5 INCHES OR LESS ON CENTER. MANUFACTURER SHALL PROVIDE NOISE COATED SPRING CLIPS AND LATERAL STABILIZING WRAPPED EDGE WIRE. MANUFACTURER SHALL PROVIDE 2 OZ BONDED POLYESTER DECK INSULATOR.

BACK SPRINGING: SINUOUS (NO-SAG) CONSTRUCTION USING 11 OR 12 GAUGE WIRE WITH LATERAL STABILIZING WRAPPED EDGE WIRE.

MANUFACTURER TO SUBMIT REPRODUCIBLE SHOP DRAWINGS TO THE ARCHITECT FOR APPROVAL PRIOR TO PRODUCTION.

DO SUBSTITUTIONS OR CHANGES OF EXPLICITLY SPECIFIED MATERIALS ARE TO BE MADE UNLESS APPROVED BY THE ARCHITECT.

MANUFACTURER TO MAKE ALTERNATE SIZE RECOMMENDATIONS TO ARCHITECT IF SCALE AND PROPORTION ARE NOT APPROPRIATE.

ALL UPHOLSTERED AND CHAIR SEATING MUST MEET APPLICABLE CODES.

CONSTRUCTION: FRAME TO BE CONSTRUCTED OF FIVE QUARTER KILN-DRIED HARDWOOD, REINFORCED WITH CORNER BLOCKS, GLUED AND SCREWED TO RAIL. ALL RAILS AND POSTS TO BE DOUBLE DOWELED, SCREWED AND GLUED IN PLACE. COMPONENTS TO BE FIRE-RETARDANT.

MANUFACTURER TO USE CONTRACT FIRM, FIRE-RETARDANT FOAM. STANDARD FOAM TO BE POLYDACRON WRAP WITH MUSLIN COVER OTHERWISE NOTED. FORM CORE AND WRAP MUST PASS CAL 117.

CUSHIONS TO BE FABRICATED USING POLYESTER WRAPPED IN HIGH RESILIENT POLYURETHANE UNLESS OTHERWISE NOTED.

MANUFACTURER AND/OR PA TO CONFIRM YARDAGE OR SQUARE FOOTAGE UPHOLSTERY REQUIREMENTS PRIOR TO FABRICATION.

MANUFACTURER TO SUBMIT FINISH SAMPLES, EITHER STANDARD OR CUSTOM, TO ARCHITECT FOR APPROVAL PRIOR FABRICATION.

FABRICS FOR A SINGLE PIECE OF UPHOLSTERED FURNITURE SHOULD BE FROM THE SAME DYE LOT.

ALL INTERNAL (HINGES, SCREWS, BOLTS, ETC.) TO BE CORROSION PROOF.

ALL WOOD LEGS TO BE SEALED ON THE UNDERSIDE.

MANUFACTURER TO PROVIDE HEAVY-DUTY CARPET GLIDES OR LEVELERS FOR LEGS AS SPECIFIED.

DEALER/MANUFACTURER TO PROVIDE DELIVERY OF SEATING TO INSIDE OF SPACE, UN-CRAFTING AND REMOVAL OF DEBRIS FOR CONTRACTOR INSTALLATION, UNLESS OTHERWISE NOTED.

WOOD SPECIES ON ALL EXPOSED SOLIDS AND/OR VENEERS TO BE PREMIUM GRADE HARDWOOD UNLESS OTHERWISE NOTED.

ALL DIMENSIONS ARE TO BE COORDINATED WITH THE ARCHITECT PRIOR TO ORDERING.

MANUFACTURER TO FOLLOW WOOD GRAIN DIRECTION PER ARCHITECT'S DRAWINGS.

IN THE EVENT THAT LOCAL CODES EXCEED THE REQUIREMENTS CONTAINED HEREIN, THE LOCAL CODES MUST BE INTERPRETED AS MINIMUM REQUIREMENTS.

16050 BASIC MATERIALS
(NOTE: REFER TO ENGINEERING DRAWINGS FOR COMPLETE ELECTRICAL SPECIFICATIONS.)

A. ELECTRICAL RECEPTACLES SHALL BE DECORA BY LEVITON (800-323-8920) THE FOLLOWING :
- A.A. PLATES ON TILE TO BE STAINLESS AND RECEPTACLES TO BE WHITE
- A.B. PLATES AND RECEPTACLES ON PT-106 WHITE PAINTED WALLS TO BE WHITE
- A.C. PLATES AND RECEPTACLES ON PT-101 RED OR DARKER WALLS TO BE BLACK
- A.D. PLATES AND RECEPTACLES IN RESTROOMS TO BE BLACK
- A.E. PLATES AND RECEPTACLES ON BK-100 TO BE BLACK
- A.F. DEDICATED KITCHEN EQUIPMENT CIRCUITS WHICH SHALL BE GRAY AND ISOLATED GROUND RECEPTACLES WHICH SHALL BE ORANGE. RECEPTACLE FACEPLATES SHALL BE STEEL WITH A SATIN OR BRUSHED FINISH.

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ISSUED FOR CONSTRUCTION

CAVA

CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
⚠ BLDG RESPONSE	NOV 15, 2024
⚠ CONSTR SET	JAN 8, 2025

SPECIFICATIONS

SHEET:
G906

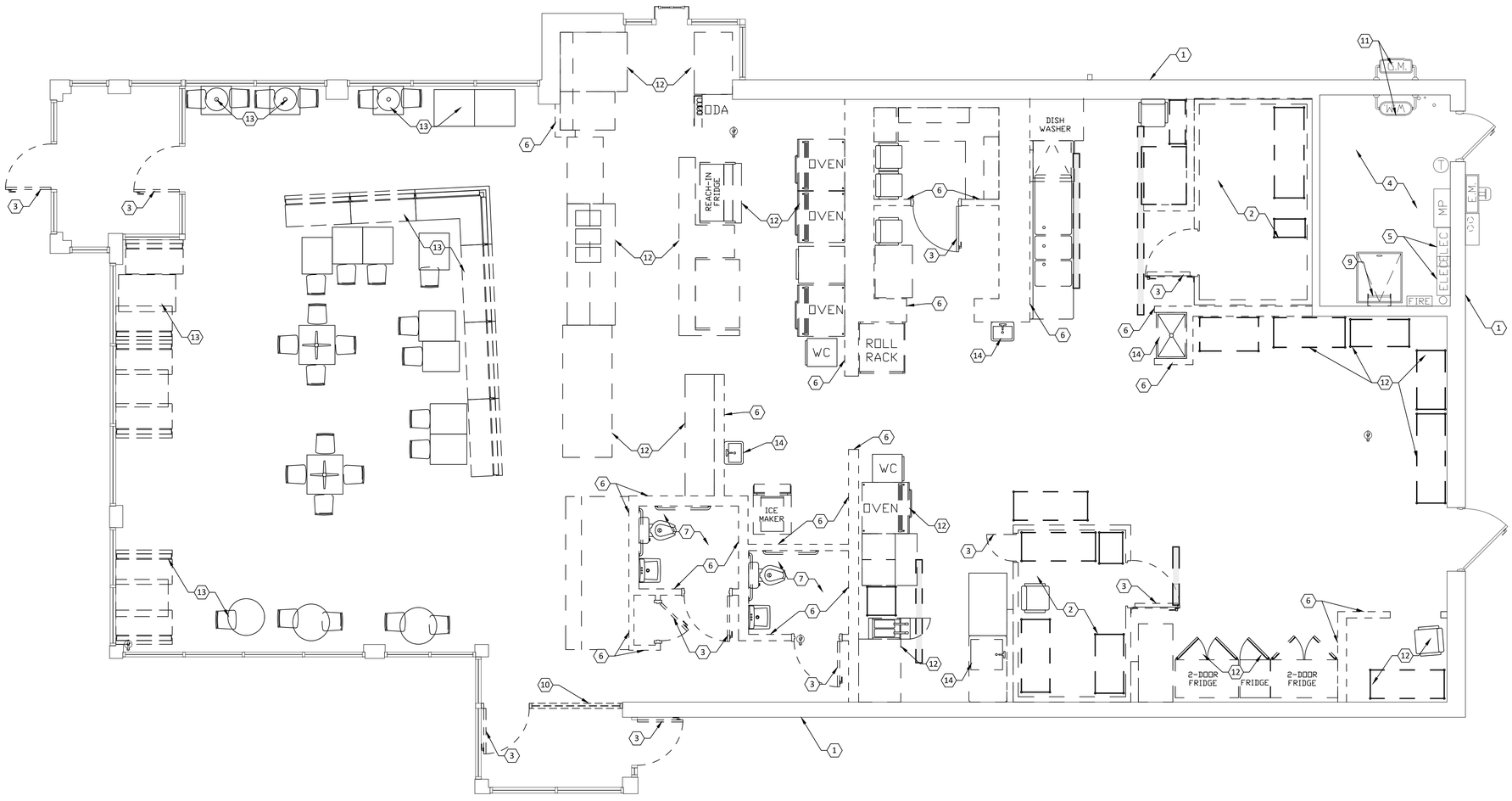
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WALL LEGEND

- - - - -	EXISTING WALL/PARTITION
- - - - -	DEMO WALL

FLOOR PLAN CODED NOTES

1. EXISTING EXTERIOR WALL TO REMAIN.
2. REMOVE EXISTING COOLERS
3. REMOVE EXISTING DOOR. TYP.
4. EXISTING ROOM TO REMAIN.
5. EXISTING ELECTRICAL PANEL TO REMAIN.
6. REMOVE EXISTING PARTITION IN ITS ENTIRETY. PATCH/REPAIR FLOOR TO FLAT LEVEL SURFACE IN WALL LOCATION.
7. REMOVE RESTROOM FIXTURE IN THEIR ENTIRETY. CAP PLUMBING LINES.
8. REMOVE EXISTING PLUMBING FIXTURE AND/OR EQUIPMENT INCLUDING DISTRIBUTION.
9. EXISTING ROOF LADDER TO REMAIN
10. REMOVE EXISTING GLAZING
11. EXISTING METER TO REMAIN.
12. REMOVE EXISTING EQUIPMENT AND MILLWORK.
13. REMOVE EXISTING FURNITURE/EQUIPMENT THROUGHOUT. U.O.N.
14. REMOVE PLUMBING FIXTURE AND CAP.



1 AD111 DEMOLITION FLOOR PLAN

1/4" = 1'-0"

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43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
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BLDG RESPONSE	NOV 15, 2024
CONSTR SET	JAN 8, 2025

DEMOLITION FLOOR PLAN

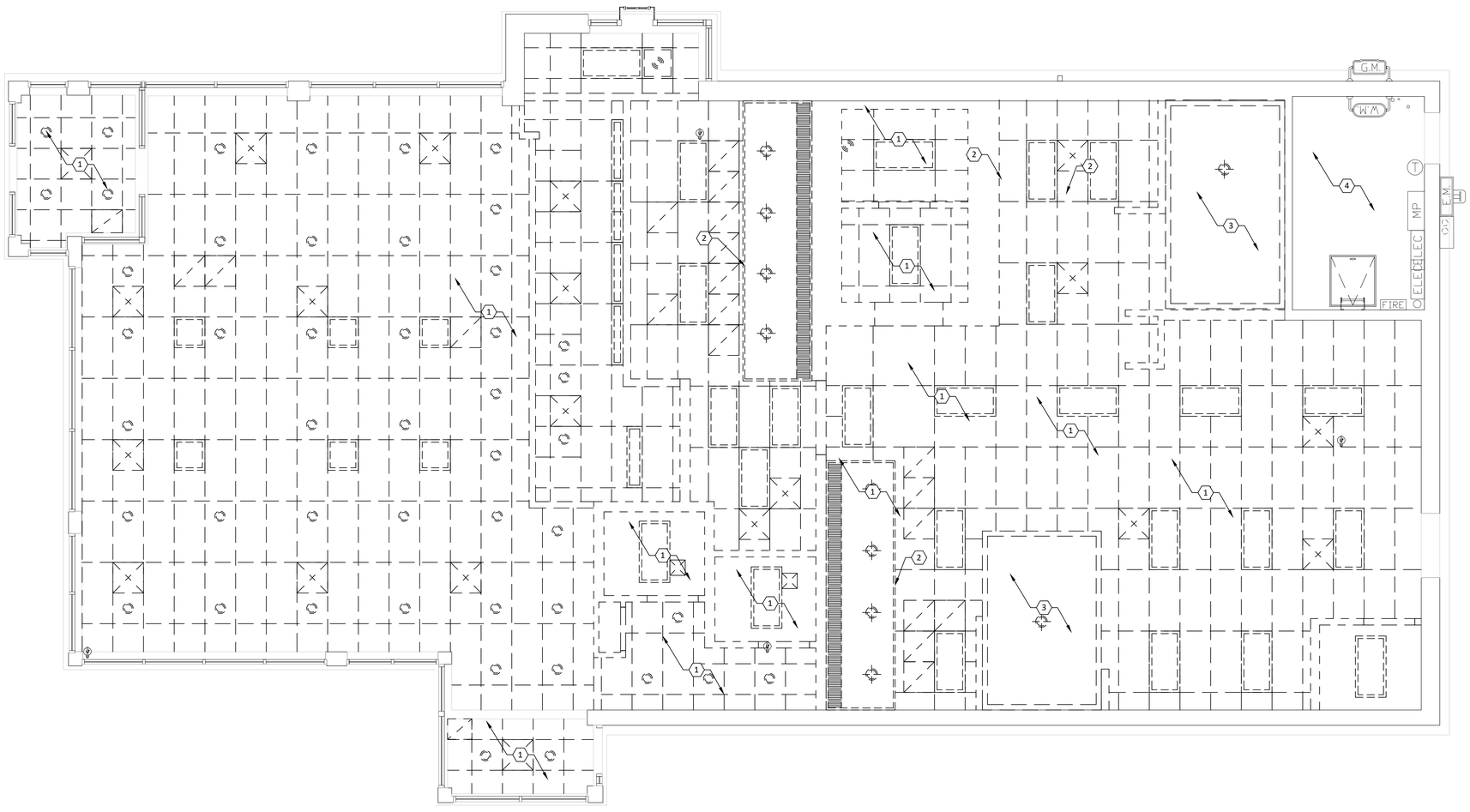
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WALL LEGEND	
	EXISTING WALL/PARTITION
	DEMO WALL

FLOOR PLAN CODED NOTES ⟨#⟩

1. REMOVE EXISTING CEILING SYSTEM AND LIGHTING THROUGHOUT
2. REMOVE EXISTING EXHAUST FAN IN ITS ENTIRETY
3. REMOVE LIGHTING IN COOLER
4. EXISTING CEILING AND LIGHTING TO REMAIN



1 AD140 DEMOLITION CEILING PLAN

1/4" = 1'-0"

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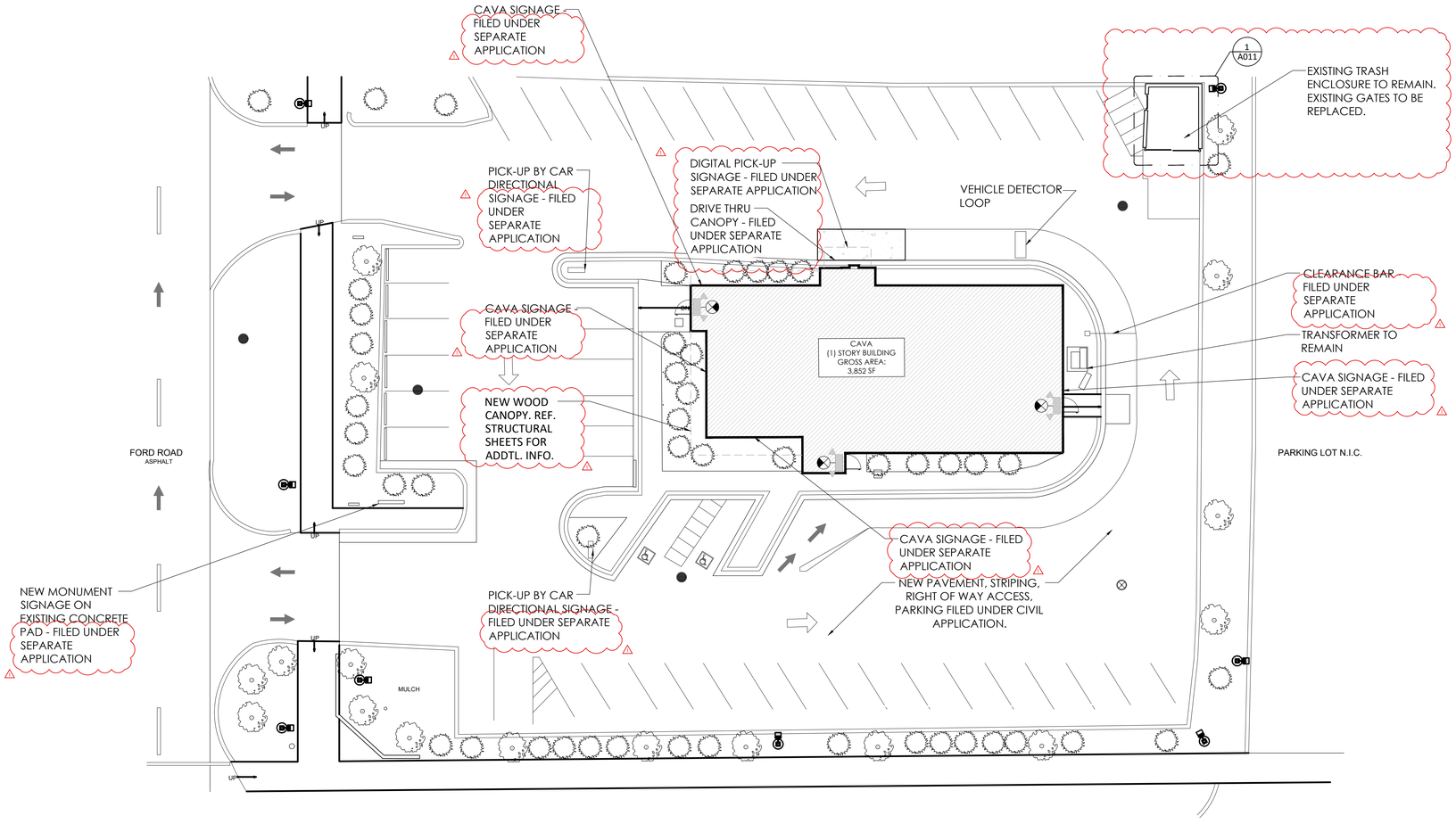
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DEMOLITION CEILING PLAN

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1 A010 ARCHITECTURAL SITE PLAN

N.T.S.

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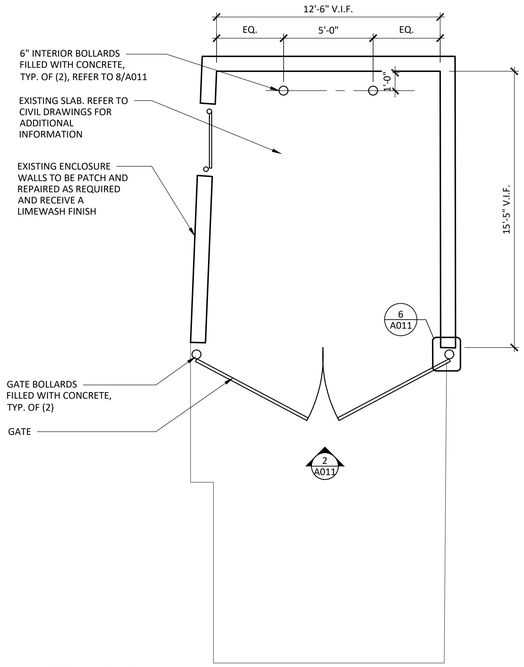
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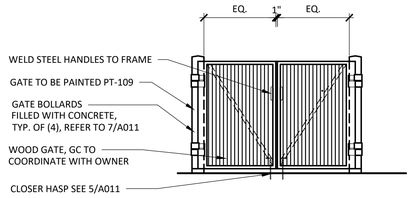
ARCHITECTURAL SITE PLAN

SHEET:
A010



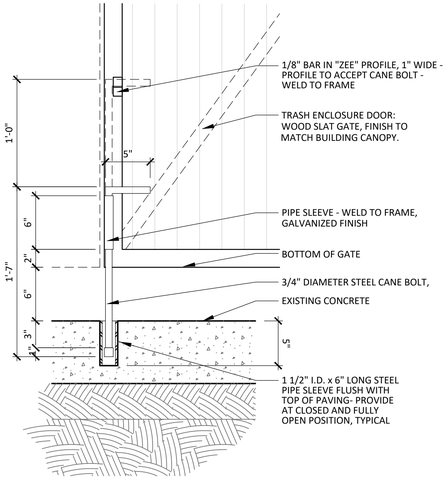
1 A011 DUMPSTER PLAN

1/4" = 1'-0"



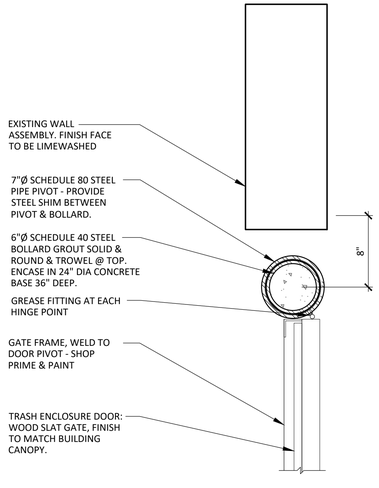
2 A011 DUMPSTER GATE ELEVATION

1/4" = 1'-0"



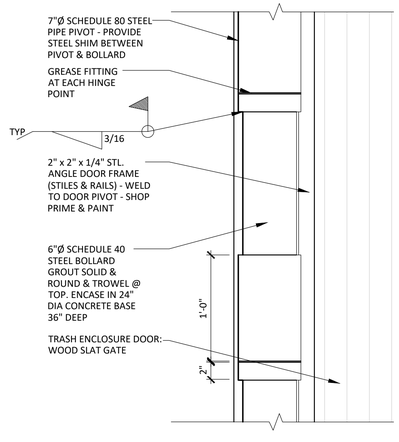
5 A011 CANE BOLT DETAIL

1 1/2" = 1'-0"



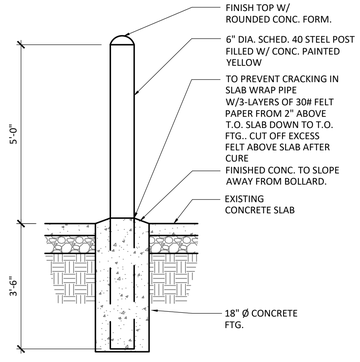
6 A011 POST DETAIL

1 1/2" = 1'-0"



7 A011 BOLLARD AND PIVOT

1 1/2" = 1'-0"



8 A011 BOLLARD DETAIL

1/2" = 1'-0"

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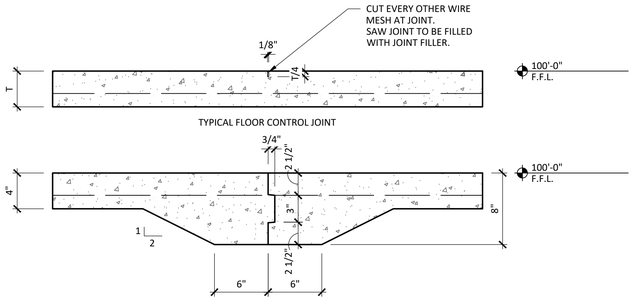
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SITE DETAILS

SHEET:
A011



3 A100

FLOOR JOINT DETAILS

1 1/2" = 1'-0"

SLAB PLAN CODED NOTES

1. NEW FLOOR SINK/DRAIN - REFER TO PLUMBING DRAWINGS.
2. NOT USED
3. NEW LAVATORY, REFER TO PLUMBING DRAWINGS.
4. NEW WATER CLOSET, REFER TO PLUMBING DRAWINGS.
5. NEW MOP SINK, REFER TO PLUMBING DRAWINGS.
6. NEW KITCHEN HAND SINK, REFER TO PLUMBING DRAWINGS.
7. NEW 4" CONCRETE CURB. NEW SAFES TO BE MOUNTED ON CURB. REFER TO DETAIL 7/A501.

SYMBOLS

	FLOOR SINK, REFER TO PLUMBING DRAWINGS
	FLOOR DRAINS, REFER TO PLUMBING DRAWINGS

SLAB PLAN GENERAL NOTES

A. THIS DRAWING IS PART OF A COORDINATED SET OF DOCUMENTS. DO NOT SEPARATE BOUND SETS.

B. DRAWINGS AND DIMENSIONS OF THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM OWNER'S PERMIT DRAWINGS. BE ALERT TO DIMENSIONAL DISCREPANCIES, STRUCTURAL SUPPORTS AND OTHER ELEMENTS CONCEALED IN WALLS, NOT SHOWN. REPORT DISCREPANCIES PRIOR TO PROCEEDING.

C. IN THE EVENT OF INCONSISTENCIES BETWEEN ARCHITECTURAL AND CONSULTANT BASE PLANS CONTACT ARCHITECT TO REPORT DISCREPANCIES PRIOR TO PROCEEDING WITH AFFECTED WORK.

D. DO NOT SCALE DRAWINGS FOR CONSTRUCTION DIMENSIONS OR TOLERANCES. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER DRAWINGS. REQUEST CLARIFICATION IN WRITING PRIOR TO PROCEEDING.

E. DIMENSIONS ARE TO FACE OF FINISH UNLESS NOTED OTHERWISE.

F. DIMENSIONS AND CLEARANCES SHOWN ON DRAWINGS RELATING TO ACCESSIBILITY OR EGRESS ARE FROM FACE OF FINISH MATERIAL. ALLOW FOR FINISHES IN FABRICATING AND/OR INSTALLING ITEMS. REPORT DISCREPANCIES PRIOR TO PROCEEDING WITH AFFECTED ITEMS.

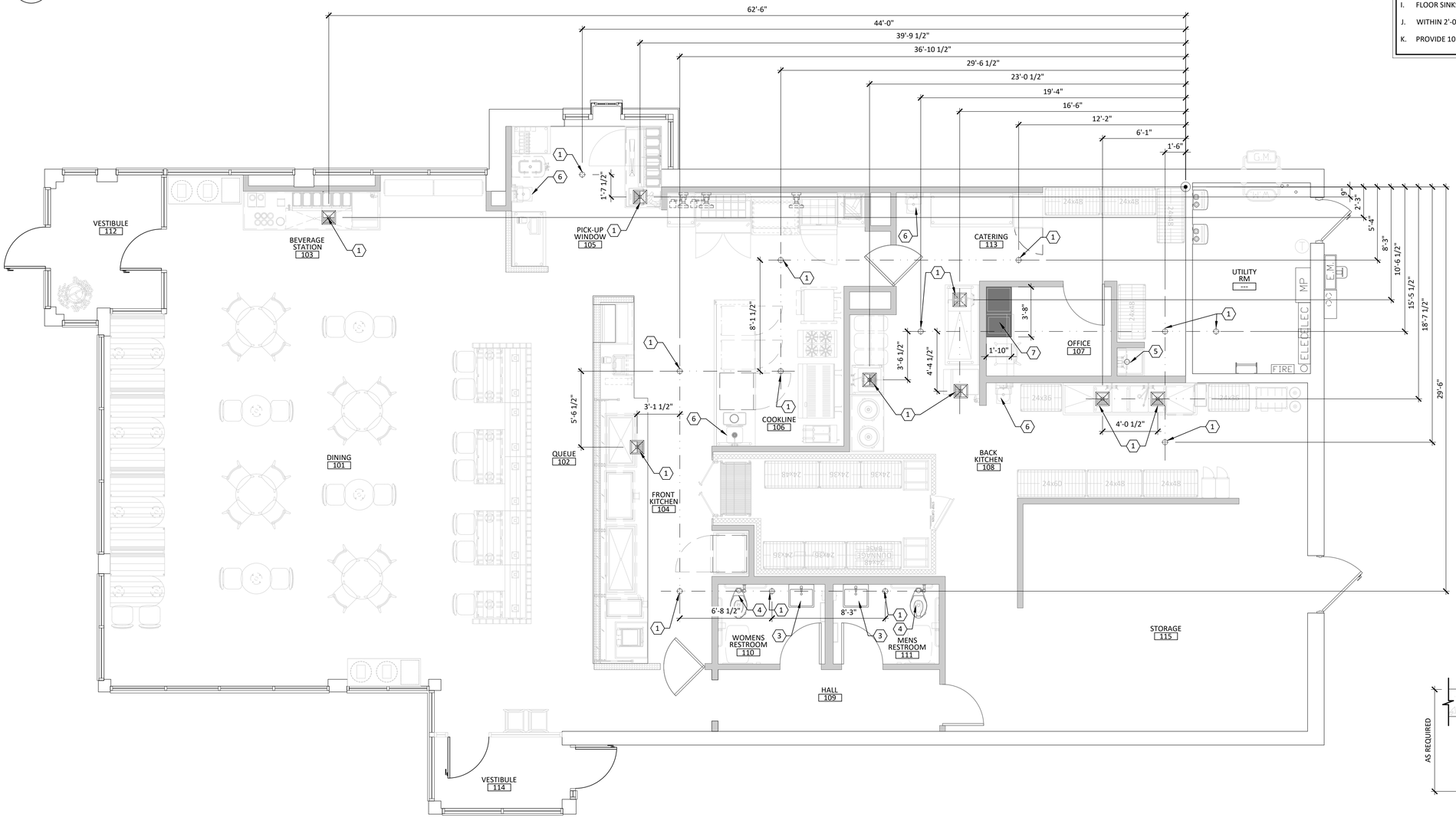
G. COORDINATE DIMENSIONS ON PLANS AND FIELD VERIFY PRIOR TO CONSTRUCTION. REPORT DISCREPANCIES PRIOR TO PROCEEDING WITH AFFECTED WORK.

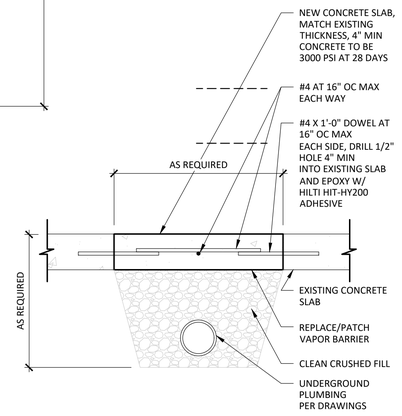
H. EXISTING CONDITIONS ARE TO REMAIN AND BE PROTECTED IN PLACE DURING THE COURSE OF CONSTRUCTION UNLESS SPECIFICALLY NOTED OTHERWISE.

I. FLOOR SINKS TO BE INSTALLED FLUSH WITH FINISH FLOOR ELEVATION.

J. WITHIN 2'-0" OF ALL FLOOR DRAINS, PROVIDE 1/8" ON 12" SLOPE TO FLOOR DRAINS.

K. PROVIDE 10 MIL VAPOR BARRIER UNDER NEW SLAB POUR.





1 A100

SLAB PLAN

1/4" = 1'-0"

2 A100

TYP. SLAB TRENCH DETAIL

1 1/2" = 1'-0"

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SLAB PLAN

SHEET:
A100

7/10/2024 10:10 AM

WALL LEGEND

	EXISTING WALL/PARTITION
	NEW WALL/PARTITION
	LOW SERVICE COUNTER/WALL (NEW)
	EXISTING EXTERIOR WALL

SYMBOL LEGEND

(###)	DOOR TYPE TAG, REFER TO DOOR/HARDWARE SCHEDULE
	WALL PARTITION TAG, REFER TO A111 (TAG WITH "*" DENOTES BATT INSUL. TO BE PROVIDED

FLOOR PLAN GENERAL NOTES

A. BASE BUILDING PARTITIONS SHOULD BE CLEAN AND REPAIRED/PREPARED AS REQUIRED FOR PROPOSED TENANT CONSTRUCTION. AREAS THAT ARE SCHEDULED AS GYPSUM BOARD SHOULD BE PAINT READY.

B. ALIGNMENT OF DOOR HEADS AND OTHER CRITICAL HORIZONTAL ELEMENTS SHALL BE MAINTAINED AT A CONSTANT LEVEL RELATIVE TO THE CEILING PLANE, AND SHALL NOT FOLLOW VARIATIONS IN THE FLOOR PLANE.

C. PARTITION TYPES ABOVE DOORS ARE TO BE SAME AS THE ADJACENT PARTITIONS, U.N.O.

D. ALL DIMENSIONS ARE TO FACE OF FINISHED FACE.

E. ANY DIMENSION NOTED "VERIFY" OR "V.I.F." MUST BE CONFIRMED WITH ARCHITECT BEFORE BEGINNING CONSTRUCTION OF PARTITIONS.

F. PROVIDE BLOCKING AS REQUIRED IN PARTITIONS AND CEILINGS AT WALL AND CEILING MOUNTED SHELVING, MILLWORK, LIGHTING, ETC. IN DAMP AND WET AREAS BLOCKING SHALL BE MOISTURE RESISTANT. IN FIRE RATED ASSEMBLIES AND 4'-0" HORIZONTALLY OF ALL COOKING EQUIPMENT BLOCKING SHALL BE NON-COMBUSTIBLE. COORDINATE LOCATIONS OF BLOCKING WITH ALL PLANS, ELEVATIONS, AND DETAILS. VERIFY SHOP STANDARDS WITH SUBCONTRACTORS AND SUPPLIERS AND REVIEW WITH ARCHITECT PRIOR TO INSTALLATION.

G. WHERE NEW CONSTRUCTION APPEARS TO ABUT EXISTING CONDITIONS AND THE FINISHED SURFACES APPEAR TO ALIGN, SURFACES SHALL BE CONSTRUCTED WITHOUT A VISIBLE JOINT, U.N.O.

H. PROVIDE ADDITIONAL STUDS AS REQUIRED WITHIN PARTITIONS TO ACHIEVE OUTLET GROUPINGS AS SPECIFIED IN ELECTRICAL DRAWINGS.

I. G.C. TO IDENTIFY AREAS TO REQUIRE ACCESS PANELS AND COORDINATE EXACT LOCATIONS, SIZES, AND QUANTITIES WITH ARCHITECT.

J. G.C. TO REVIEW CONDITION OF EXISTING FLOOR SLAB AND DETERMINE BEST METHOD FOR PATCHING/REPAIRING, FILLING, AND SEALING OF SLAB IN ORDER TO PREPARE IT TO RECEIVE NEW SCHEDULED FINISHES. (THIS MAY REQUIRE ALLOWANCE PRICING FOR UNKNOWNS WHEN BIDDING)

K. G.C. IS RESPONSIBLE FOR MAINTAINING DIMENSIONS AS INDICATED ON THE DRAWINGS. ALL DIMENSIONS INDICATED AS "HOLD" SHALL NOT VARY MORE THAN 1/16". ALL HOLD DIMENSIONS ARE TO FINISHED FACE. WHERE THIS TOLERANCE IS NOT OBTAINABLE THE ARCHITECT SHALL BE NOTIFIED PRIOR TO COMMENCEMENT OF THE WORK.

L. DIMENSIONS INDICATED AS "CLEAR" OR "CLR" SHALL BE MAINTAINED. ANY DISCREPANCIES OR VARIATIONS IN THESE DIMENSIONS SHALL BE REVIEWED WITH THE ARCHITECT BEFORE BEGINNING CONSTRUCTION.

M. THE DIMENSIONS AND WORK NOTED ON THESE DRAWINGS ARE INDICATED FOR DESIGN INTENT. IF THE INSTALLATION OF ELECTRICAL, MECHANICAL, PLUMBING, OR FIRE PROTECTION WORK INTERFERES WITH THIS INTENT, THE ARCHITECT SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH CONSTRUCTION.

N. THE G.C. IS RESPONSIBLE FOR BRACING TO DECK OF PARTITIONS AT DOORS AND WINDOWS.

O. G.C. TO COORDINATE LOCATIONS OF ALL MEP (INCLUDING THERMOSTATS, OUTLETS, ACCESS PANELS, EMERGENCY FIXTURES, SMOKE DETECTION FIXTURES, ETC) WITH EXISTING CONDITIONS, ARCHITECTURAL DRAWINGS, MILLWORK, FURNITURE, INTERIOR FINISHES, ETC AND NOTIFY ARCHITECT OF ANY DISCREPANCIES OF CONFLICTS PRIOR TO INSTALLATION OF EQUIPMENT OR SERVICES.

P. G.C. TO COORDINATE ALL WALL HEIGHTS WITH THE INTERIOR ELEVATIONS.

Q. COORDINATE WITH INTERIOR ELEVATIONS FOR IN-WALL BLOCKING REQUIRED FOR KITCHEN EQUIPMENT.

R. G.C. TO COORDINATE POSITION OF KITCHEN PARTITIONS (FOH & BOH) WITH FOOD SERVICE SHOP DRAWINGS TO ENSURE ALL EQUIPMENT CLEARANCES ARE MAINTAINED.

FLOOR PLAN CODED NOTES (#)

1. REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL PANEL INFORMATION.
2. OPENING FOR WALK IN COOLER. APPLY GYP. BOARD AND TILE DIRECTLY TO FACE OF COOLER ON FRONT OF COOLER.
3. EXISTING STOREFRONT WINDOWS ARE FIXED AND NON-OPERABLE.
4. PROVIDE 24 GA. GALVANIZED METAL BEHIND SHEATHING 18" BEYOND EDGE OF HOOD IN ALL DIRECTIONS.
5. WALLS TO ALIGN.
6. LINE OF SOFFIT AND CEILING ELEMENTS ABOVE (SHOWN DASHED), REFER TO RCP.
7. NEW WALK-IN COOLER PROVIDED BY KITCHEN EQUIPMENT VENDOR. INSTALLED BY GC. GC TO PROVIDE ALL PENETRATIONS IN WALLS, CEILINGS, AND DECK TO ACCOMODATE WALK-IN COOLER INSTALLATION. REFRIGERANT LINES INSTALLED BY KES VENDOR.
8. PROVIDE BLOCKING IN WALL FOR DIGITAL ORDER SHLEVES.
9. QUEUE LINE WALL HEIGHT DROP FOR GRAB N GO COOLER OPENING.
10. NEW STOREFRONT DOOR AND ASSOCIATED HARDWARE IN EXISTING STOREFRONT FRAME.
11. EXISTING ROOF ACCESS LADDER: GC TO ENSURE IT IS PROPERLY SECURED TO WALL. SCRAP AND CLEAN AS REQUIRED.
12. WALL-MOUNT FIRE EXTINGUISHER: CARBON DIOXIDE ONLY / WATER OR DRY CHEMICAL TYPES NOT PERMITTED, CLASS C OR B-C, 5LB. OR SMALLER, SET WALL BRACKET TO KEEP HANDLE <48" A.F.F.
13. NEW STOREFRONT SYSTEM TO MATCH EXISTING.
14. EXISTING HOLLOW METAL DOORS TO REMAIN AND BE PREPPED FOR NEW PAINT FINISH. NEW DOOR HARDWARE AS NOTED.
15. EXISTING UTILITIES: REFER TO MEP DRAWINGS FOR ADDITIONAL INFORMATION.
16. EXISTING DRIVE THRU WINDOW TO REMAIN: GC TO CONFIRM IF IT IS OPERABLE.
17. LINE OF CANOPY ABOVE.

ARCHITECTURAL FLOOR PLAN

1 / A111 — 1/4" = 1'-0"

1/8/2025 5:31 PM

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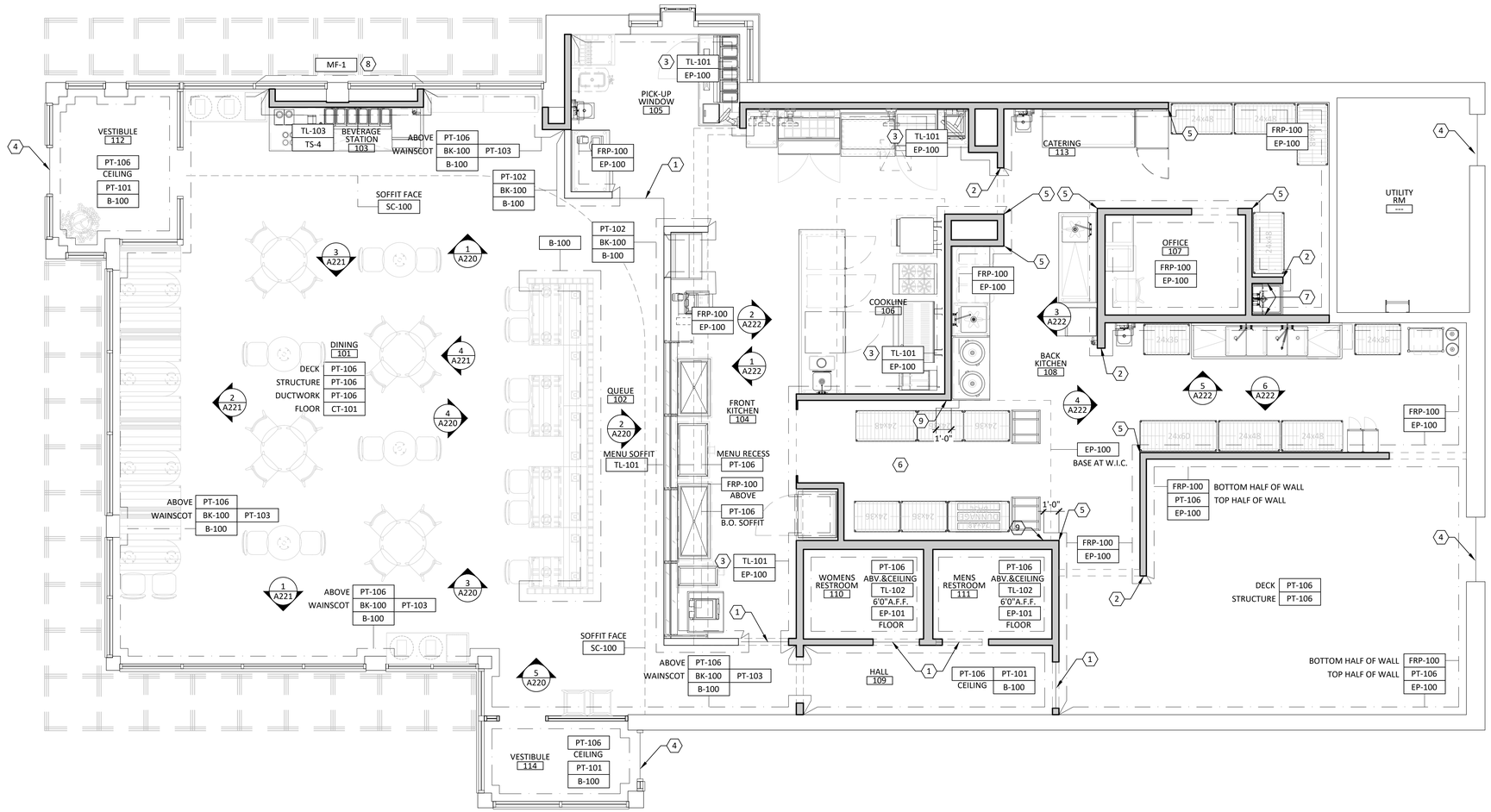
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ARCHITECTURAL FLOOR PLAN

SHEET:
A111



1 A120 FINISH PLAN

1/4" = 1'-0"

FINISH PLAN GENERAL NOTES

A. UPON RECEIPT FROM THE MANUFACTURER, SUB-CONTRACTORS SHALL INSPECT MATERIALS FOR DEFECTS, FLAWS, SHIPPING DAMAGE, CORRECT COLOR AND PATTERN PRIOR TO BEGINNING WORK. DAMAGED OR WRONG MATERIALS SHALL BE RETURNED TO THE MANUFACTURER FOR IMMEDIATE REPLACEMENT TO PREVENT DELAYS IN THE COMPLETION OF WORK.

B. COMPLIANCE WITH THE MANUFACTURER'S REQUIREMENTS FOR HANDLING, STORAGE, INSTALLATION, AND PROTECTION OF MATERIALS IS THE EXCLUSIVE RESPONSIBILITY OF THE GC AND THEIR RESPECTIVE INSTALLERS.

C. GC TO NOTIFY THE ARCHITECT OF LOCATIONS OF CHANGES IN DYE LOTS, BATCHES, OR SIMILAR COLOR SHIFTS.

D. GC TO PROVIDE ONE FINAL TOUCH-UP OF PAINT SURFACES AFTER THE TENANT HAS TAKEN OCCUPANCY OF THE SPACE.

E. ~~CEILING REGISTERS, VENTS, GRILLS, DIFFUSERS, SPEAKERS, ETC. SHALL BE PAINTED IN SEMI-GLOSS FINISH PAINT TO MATCH THE CEILING IN WHICH THEY OCCUR.~~

F. FINISHES SHALL EXTEND OVER, UNDER AND/OR BEHIND ANY ITEM OF BUILT-IN MILLWORK, EQUIPMENT, MIRRORS, ETC.

G. SUB-CONTRACTORS SHALL REFER TO THE ELEVATION AND DETAIL SHEETS FOR SPECIFIC LOCATIONS OF ALL FINISHES. SHOULD THE INSTALLER FIND ANY DISCREPANCIES, OMISSIONS, AMBIGUITIES, OR CONFLICTS WITH THE PLANS, THE ARCHITECT SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH ANY WORK IN QUESTIONS.

H. PARTITIONS CONCEALED BY MILLWORK CABINETRY ARE TO BE TAPED, MUDDED, SANDED SMOOTH, PRIMED, AND PAINTED WITH ONE COAT OF FINISH PAINT.

I. TRANSITIONS BETWEEN DISSIMILAR FLOOR FINISHES ARE TO ALIGN, U.N.O. REFER TO FLOOR TRANSITION DETAILS.

J. FLOOR FINISH TRANSITIONS OCCURRING IN A DOOR OPENING SHALL BE INSTALLED SO THE TRANSITION OCCURS UNDER THE CENTERLINE OF THE DOOR IN THE CLOSED POSITION.

K. PAINT ALL ACCESS PLATES, PANELS, BOXES, ETC. TO MATCH THE WALL IN WHICH THEY OCCUR.

L. ALL PAINTED SURFACES TO RECEIVE (3) COATS OF PAINT; (1) BASE COAT, (1) COLOR COAT, (1) TOPCOAT AS PER MANUFACTURER'S RECOMMENDATIONS.

M. ALL FINISHES INSIDE CLOSETS SHALL BE CONSISTENT WITH THE FINISHES OF THE ROOM TO WHICH THEY ARE ADJACENT, U.N.O.

N. BASE CORNER SECTIONS SHALL NOT BE LESS THAN 6" IN LENGTH, MEASURED FROM THE CORNER PROPER.

O. PROVIDE CLEAR CAULKING BETWEEN WALL BASE AND FINISHED FLOOR AT ALL MOP-ABLE FLOORING SURFACES.

P. FOR ALL WALL COVERINGS AND WALL PANELS, NO SEAM SHALL BE LOCATED WITHIN 12" OF CORNERS.

Q. GC TO COORDINATE ALL FINISH INTERIOR AND EXTERIOR TRANSITIONS AND THRESHOLDS TO PROVIDE FOR LEVEL AND EVEN SURFACE FROM ONE FLOORING TO ANOTHER WITHOUT NEED TO RAMP OR FEATHER UP OR DOWN BETWEEN FLOORINGS. SUBMIT NECESSARY DETAILS TO ARCHITECT FOR REVIEW PRIOR TO INSTALLATION OF FLOORING.

R. GC TO SUBMIT TILE LAYOUT FOR ALL FLOORING AND WALL TILE TO ARCHITECT FOR REVIEW PRIOR TO INSTALLATION.

S. REFER TO A500 & A501 FOR MATERIAL TRANSITION DETAILS TS-1, TS-2, & TS-3.

T. REFER TO SHEET A120 FOR FINISH SCHEDULE.

U. ALL WINDOWS ARE FIXED AND NOT OPERABLE.

V. REFER TO INTERIOR ELEVATIONS SHEETS A220 AND A221 FOR LOCATION OF FINISHES.

W. PAINT EXPOSED DECK STRUCTURE AND DUCT WORK PT-106.

X. SEE FINISH SCHEDULE A120 FOR PAINT FINISH TYPES PER AREA AND/OR USE.

Y. GC TO COORDINATE FINISH AROUND EXISTING COLUMNS WITH CAVA FOR FINISH DIRECTION.

FINISH PLAN CODED NOTES (#)

1. LINE OF EPOXY TO CONCRETE FLOOR FINISH TRANSITION. REFER TO 5/A501.
2. GC TO PROVIDE C-CHANNEL STAINLESS STEEL CHANNEL WALL CAP. 1-1/2" DEEP X WALL THICKNESS FROM TOP OF BASE TO BOTTOM OF CEILING.
3. CONTRACTOR TO TILE WALLS FROM TOP, WITH FULL COURSING, DOWN TO THE BOTTOM.
4. GC TO ENSURE TRANSITION FROM EXTERIOR/INTERIOR OF SPACE COMPLIES WITH THE ADA REQUIREMENT OF 1/2" AFF MAX TRANSITION ABOVE FLOOR FINISH.
5. GC TO PROVIDE 18 GA. STAINLESS STEEL CHANNEL 2" X 2" CORNER GUARD FROM TOP OF BASE TO BOTTOM OF CEILING.
6. WALK-IN COOLER SUPPLIED BY KITCHEN EQUIPMENT SUPPLIER. GC TO INSTALL AND PROVIDE EPOXY FLOOR AND BASE. GC TO COORDINATE WITH K.E.S. TO ENSURE FINISHED WALK-IN ALIGNS WITH NEW PARTITIONS.
7. GC TO PROVIDE STAINLESS STEEL PANELS AROUND MOP SINK TO 48" A.F.F.
8. GC TO PROVIDE WINDOW FILM BEHIND AIR CURTAIN.
9. GC TO APPLY 14 GAUGE STAINLESS STEEL TRIM TO CLOSE OFF THE WIC AND WALLS AROUND IT.

KES STAINLESS

ITEM	DESCRIPTION
CORNER GUARD - 18 GAUGE STAINLESS STEEL	2"X2"X120" HIGH
WALL CAP PACKAGE	(1) 5'X5' L SHAPE CAP (2) 10' FLATS (1) 34" FLAT (1) 34 5/8 " X 6"
COOLER TRIM PACKAGE - 14 GAUGE STAINLESS STEEL	(1)2: X2" X32" LONG 90 DEGREE BEND (21)1/4 " DIA. HOLES, COOLER TRIM
MISCELLANEOUS TRIM - 20 GAUGE STAINLESS STEEL	34- 5/8 " X 6"
STAND OFF	4"W X 6"D X 2"H W 1" FLANGES, 20 GAUGE S/S CONSTRUCTION

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FINISH PLAN & NOTES

SHEET:
A120

1/8/2025 5:31 PM

REFER TO FINISH PLAN, AND INTERIOR ELEVATIONS FOR FINISH LOCATIONS.

ANY FINISH SUBSTITUTIONS MUST BE APPROVED BY CAVA PRIOR TO GC PURCHASE.

FINISH SCHEDULE

MARK	MANUFACTURER DESCRIPTION	REMARKS
FLOOR		
CT-101	SHERWIN WILLIAMS - ARMORSEAL 1000HS B67C02000 (HIGH GLOSS) - H&C SHARKGRIP SLIP-RESISTANT ADDITIVE	- EXT'G FLOOR GROUND TO REMOVE EXT'G MASTIC, IMPERFECTIONS, ETC AFTER PATCHING. - CLEAR EXPANSION JOINTS OF DEBRIS, FILL ALL VOIDS, DIVETS (W/ ARDEX SDM OR SIMILAR CEMENTITIOUS PRODUCT TO MATCH EXISTING CONCRETE CONDITIONS) AND JOINTS (METZGER MCGUIRE RS OR SIM REMI-RIGID PRODUCT TO MATCH EXISTING CONCRETE FLOOR). - APPLY PRIMER. SEAL WITH BASE COAT. - PROVIDE SUFFICIENT SLIP RESISTANCE ADDITIVE AND CAST EVENLY ACROSS SURFACE.
EPOXY FLOORING AND BASE	EPOXY INSTALLATION TO BE COMPLETED BY DUR-A-FLEX CERTIFIED INSTALLER ONLY. APPROVED CONTRACTOR LETTER TO BE PROVIDED AT TIME OF SUBMITTAL TO CAVA CONSTRUCTION MANAGER.	
EP-100	DUR-A-FLEX - POLYCRETE SLB CHARCOAL - URETHANE FINISH - FLINT SHOT QUARTZ AGGREGATE - POLY-CRETE COLOR FAST TOPCOAT (PROVIDES GLOSS FINISH) - 6" HIGH COVED BASE	-FOH/BOH KITCHEN FLOORING - TO BE GROUND TO REMOVE EXISTING MASTIC - CLEAR EXPANSION JOINTS OF DEBRIS AND FILL ALL VOIDS AND DIVETS PER POLYCRETE SPECS ABOVE. - PROVIDE SUFFICIENT SLIP RESISTANCE ADDITIVE AND CAST EVENLY ACROSS SURFACE.
EP-101	DUR-A-FLEX - POLYCRETE SLB DARK GREY- URETHANE FINISH - FLINT SHOT QUARTZ AGGREGATE - POLY-CRETE COLOR FAST PLUS TOPCOAT (PROVIDES GLOSS FINISH) - 6" HIGH COVED BASE	-RESTROOM FLOORING - TO BE GROUND TO REMOVE EXISTING MASTIC - CLEAR EXPANSION JOINTS OF DEBRIS AND FILL ALL VOIDS AND DIVETS PER POLYCRETE SPECS ABOVE. - PROVIDE SUFFICIENT SLIP RESISTANCE ADDITIVE AND CAST EVENLY ACROSS SURFACE.
BASES		
B-100	CREATIVE MATERIALS - RUBBER VINYL WALL BASE COLOR BLACK	-INSTALL WITH MR 101 RUBBER BASE ADHESIVE. REMOVE ALL PAINT, VARNISH, OILS, RELEASE AGENTS, SEALERS AND WAXES. REMOVE RESIDUAL ADHESIVES AS REC'D BY FLOORING MANUFACTURER. REMOVE CURING AND HARDENING COMPOUNDS NOT COMPATIBLE WITH ADHESIVES USED, AS INDICATED BY A BOND TEST. DO NOT USE ORGANIC SOLVENTS -SCRIBE TO FINISHED FLOOR -SIZE : 6"H X 3/8" D
PAINT		FINISHES • VERTICAL SURFACES - EGGSHELL (LOW SHEEN) • CORRIDOR, DINING ROOM, RESTROOM CEILINGS - FLAT • KITCHEN CEILINGS - SEMIGLOSS • EXTERIOR MASONRY - SEMIGLOSS • DOORS AND RAILINGS - SATIN FINISH • METALS, CEILING REGISTERS, VENTS, GRILLS, DIFFUSERS, SPEAKERS, - SEMI-GLOSS
PT-101	SHERWIN WILLIAMS - INTERIOR PAINT SW 7598 : SIERRA REDWOOD	- HALLWAY WALLS AS NOTED - RESTROOM DOORS AND DOOR FRAMES (HALL SIDE ONLY) - KITCHEN DOOR AND DOOR FRAME (HALL SIDE ONLY)
PT-102	SHERWIN WILLIAMS - INTERIOR PAINT SW 7701 : CAVERN CLAY	- TAMBOUR WOOD AT QUEUE LINE - BRICK AT QUEUE LINE
PT-105	SHERWIN WILLIAMS - INTERIOR PAINT SW 7720 : DEER VALLEY	- DINING ROOM BRICK WAINSCOT. APPLY 2 COATS TO COMPLETELY COVER BRICK FINISH ENTIRELY. SEMI GLOSS FINISH
PT-106	SHERWIN WILLIAMS - INTERIOR PAINT SW 7106 : HONIED WHITE	- DINING ROOM WALLS - DINING ROOM OPEN DECK (DRYFALL) - RESTROOM & CORRIDOR CEILINGS - DUCTWORK, DECK AND EXPOSED STRUCTURE - SC-100 SOFFIT STUCCO
PT-108	SHERWIN WILLIAMS - INTERIOR & EXTERIOR PAINT SW 6993: BLACK OF NIGHT	- TRASH ENCLOSURE WALLS, BOLLARDS, AND METAL DOOR FRAME.
PT-109	SHERWIN WILLIAMS - INTERIOR & EXTERIOR PAINT SW 7673 : PEWTER CAST	- RESTROOM DOOR AND DOOR FRAME - RESTROOM SIDE ONLY - KITCHEN DOOR AND DOOR FRAME - KITCHEN SIDE ONLY - OFFICE DOOR AND FRAME - BOTH SIDES
PT-110	SHERWIN WILLIAMS - EXTERIOR PAINT SW 7008 : ALABASTER	- EXTERIOR PAINT - VERIFY LOCATIONS WITH CAVA DM
WALL TILE		
TL-101	CREATIVE MATERIALS - WALL TILE 'INFINITY' SERIES - COLOR 'WHITE' - TILE SIZE: 4" X 8"	-KITCHEN- INTERIOR -PATTERN : HORIZONTAL STACKED BOND -1/8" GROUT LINE (GT-101) -U.N.O, VERTICAL OUTSIDE CORNERS SHALL RECEIVE SCHLUTER(S) AS REQ. -1ST TOP ROW TO FEATURE FULL TILE. TILE TO BE CENTERED ON WALL, EITHER FULL TILE OR HALF, IN ORDER TO AVOID SMALL TILE CUTS.
TL-102	CREATIVE MATERIALS - WALL TILE 'OMNI' SERIES - COLOR 'GREY MATTE' - TILE SIZE 1X1 PENNY ROUND	-RESTROOMS -SPEC W/ TRANSITION STRIP AT BASE AND TOP - (GT-102)
TL-103	CREATIVE MATERIALS - WALL TILE 'MEKNES' SERIES - COLOR "YELLOW" TILE SIZE: 2" X 6"	-BEVERAGE STATION -PATTERN : VERTICAL STACKED BOND -GROUT : 1/16" GROUT LINE BETWEEN TILES (GT-103) -U.N.O., VERTICAL OUTSIDE CORNERS SHALL RECEIVE SCHED. SCHLUTER
OTHER		
SC-100	-PAREX - DPR STANDARD ACRYLIC FINISHES - 534 "SAND FINE"	-COLOR: TO MATCH PT-106 SW 7106 "HONIED WHITE" -FINISH: ACRYLIC GLAZE -SUBSTRATE: GYP. BD. -NOTES: TO BE APPLIED IN A STRAIGHT TOOTHED TROWEL PATTERN WITH CLEAN, VERTICAL LINES. 1/2" PROFILE. CARE SHOULD BE TAKEN NOT TO APPLY FINISH TOO THICK ONTO SUBSTRATE. - GC TO SEND SAMPLE TO CAVA DM AND CM FOR APPROVAL PRIOR TO FINAL APPLICATION -GC TO APPLY WITH SCRATCHER TROWEL V NOTCH 16"
MF-1	3M SUN CONTROL WINDOW FILM SILVER 15 EXTERIOR (RE15SIARXL)	- WINDOW FILM : APPLY AS NOTED ON ELEVATIONS.
WS-1	ROLL-A-SHADE PLUS + SHADE 4" BOTTOM DESIGNER NOTE: AOR TO RECOMMEND WHICH WINDOWS REQUIRE WINDOW SHADES BASED ON SITE SURVEY AND BUILDING ORIENTATION.	- WINDOW SHADES -MATERIAL: PHIFER SHEER WEAVE 2000 COLOR: CHARCOAL - 5% OPENNESS -FASCIA AND BRACKETS TO BE POWDER COATED BLACK. -SHADES WITH INTERNAL HEM BAR. -BLACK CLUTCHES WITH STAINLESS STEEL CHAIN AND BLACK TENSION DEVICES
ROK-1	LANDSCAPE RIVER ROCKS MSI NILE GRAY ROCK SIZE 1" - 3"	-FOR EXTERIOR OR INTERIOR PLANTERS -GC TO SUPPLY THIS SPEC OR SIMILAR GRAY ROUND RIVER ROCKS TO COVER TOP TWO LAYERS OF PLANTERS.

MARK	MANUFACTURER DESCRIPTION	REMARKS
WOOD		
WD-101	CEDAR SIZE: VARIES STAIN: N/A	-EXTERIOR CANOPY, EXTERIOR VERTICAL SLATS, EXTERIOR PRIVACY SCREEN
BRICK VENEER		
BK-100	CREATIVE MATERIALS - WAINSCOT - 'THIN BRICK' SERIES - COLOR 'TERRACOTA' BRICK SIZE: 2 1/4" X 7 5/8" X 9/16"	-WAINSCOT IN DINING ROOM -PATTERN : VERTICAL STACKED BOND, TIGHT WITH NO SPACERS -PAINT BRICK PT-### WITH (2) SOLID COATS. -THIN-SET CUSTOM VERSABOND MORTAR : WHITE - 1/16" GROUT LINES . -TS-1 APPLICATION ON TOP AND BOTTOM OF BRICK ONLY. -TS-1 TO BE PAINTED TO MATCH BK-100 PAINT FINISH. -FULL 4 ROWS OF BRICK AROUND THE DINING WALL. TOP ROW OF BRICK WILL BE CUT AT SERVING LINE TO MEET REQUIRED HEIGHT.
FIBER REINFORCED PLASTIC		
FRP-100	PANOLAM INDUSTRIES CLASSIC COLLECTION - PEBBLED WHITE	-KITCHEN AND BOH - INTERIOR -FIBER REINFORCED PLASTIC
EIFS		
EIFS-101	MANUFACTURER: FINESTONE TEXTURE: F1.0 LIMESTONE FINISH FINISH COLOR MATCH: SHERWIN WILLIAMS DIVINE WHITE SW6105	EXTERIOR FACADE : 3'-1" AFF AND ABOVE
EIFS-102	MANUFACTURER: FINESTONE TEXTURE: M1.5 MOJAVE FINISH FINISH COLOR MATCH: SHERWIN WILLIAMS DIVINE WHITE SW6105	EXTERIOR FACADE : 3'-1" AFF AND BELOW
BREEZE BLOCK		
BBK-01	ORCO MASONRY CORDOVA 4X12X12 WHITE	EXTERIOR SCREEN WALL
ACOUSTICAL TILE		
ACT-100	CELOTEX - SMOOTH ACOUSTIC CEILING TILE VINYLSHIELD A	-SIZE: 2'-0" X 2'-0" -COLOR: CRF WHITE -KITCHEN CEILING -USE 15/16" FLAT T-GRID SYSTEM. WASHABLE, SCRUBBABLE, SOIL RESISTANT, HUMIDITY RESISTANT, CLASS A
GROUT		
GT-101	CREATIVE MATERIALS - MAPEI - ULTRACOLOR PLUS FA #15 BONE	-GROUT FOR TL-101 INFINITY WHITE LOCATIONS -REFER TO TILE FINISH FOR GROUT LINE THICKNESS -ALL GROUT TO BE ENZYME RESISTANT
GT-102	CREATIVE MATERIALS - MAPEI - ULTRACOLOR PLUS FA #02 PEWTER	-GROUT FOR TL-102 OMNI GREY MATTE LOCATIONS -REFER TO TILE FINISH FOR GROUT LINE THICKNESS -ALL GROUT TO BE ENZYME RESISTANT
GT-103	CREATIVE MATERIALS - MAPEI - ULTRACOLOR PLUS FA #06 HARVEST	-GROUT FOR TL-103 MEKNES YELLOW LOCATIONS -REFER TO TILE FINISH FOR GROUT LINE THICKNESS -ALL GROUT TO BE ENZYME RESISTANT
METAL		
MT-101	KITCHEN EQUIPMENT - BRUSH STAINLESS STEEL- 7 GAUGE SHEET STOCK (3/16")	- MISC. TRIM, DETAILS& CORNER GUARDS INTERIOR - WALL CAP IN BACK KITCHEN - BRUSHED NO.4 FINISH - REFER TO DRAWINGS FOR DIRECTION ON SIZE AND APPLICATION -TRIM CAPS ARE BY KES. AOR TO HIGHLIGHT IN THE DRAWINGS WHERE CAPS ARE NEEDED. REFER TO FINISH PLAN FOR LOCATION.
MT-102	FULL HEIGHT WALL CAP	- WALL CAP AT MOP SINK
MT-104	CONTRACTOR - 4" PRE-FINISHING METAL COPING	-REFER TO EXTERIOR ELEVATIONS FOR LOCATION -COLOR: WHITE
TRANSITIONS		
TS-1	CREATIVE MATERIALS - SCHLUTER SYSTEMS L.P. - SCHLUTER "JOLLY" - ALUMINUM CREAM - J80TSC	- OUTSIDE WALL CORNERS - INTERIOR - TL-101 INFINITY WHITE LOCATIONS : 5/16"
TS-2	CREATIVE MATERIALS - SCHLUTER SYSTEMS L.P. - SCHLUTER "JOLLY" - SATIN NICKEL - J80AT	- BASE OF TILE TO EPOXY BASE - INTERIOR - TL-101 INFINITY WHITE LOCATIONS : 5/16" - ABOVE AND BELOW TL-102
TS-3	CREATIVE MATERIALS - SCHLUTER SYSTEMS L.P. - SCHLUTER "JOLLY" - ALUMINUM CREAM J80TSC	- OUTSIDE CORNERS - INTERIOR - TL-103 MEKNES YELLOW LOCATIONS : 7/16"
TS-4	CREATIVE MATERIALS - SCHLUTER "DILEX" AHKA - SATIN NICKEL J80AT	- CONCRETE TO TILE BASE TRANSITION - INTERIOR - TL-103 MEKNES YELLOW LOCATIONS : 3/8"
TS-5	CREATIVE MATERIALS - SCHLUTER SYSTEMS L.P. - SCHLUTER "JOLLY" - ALUMINUM CREAM J125TSC	- TOP & BOTTOM OF WAINSCOT - INTERIOR - BK-100 TERRACOTTA LOCATIONS : 1/2"
TS-6	CREATIVE MATERIALS - SCHLUTER "DILEX" AHKA - BRUSHED NICKEL AHKA80ATGB	- CONCRETE TO TILE BASE TRANSITION - INTERIOR - TL-102&4 RESTROOM LOCATIONS : 5/16"
ACOUSTICAL		
TECTUM	ARMSTRONG - TECTUM DIRECT-ATTACH CEILING ACOUSTICAL CEILING INSULATION BOARD	- VERIFY SIZE AND PLACEMENT ON RCP PRIOR TO PURCHASE - PAINT TO MATCH CEILING/DECK/STRUCTURE -SIZE: 24" X48" x1" THICK MOUNTING METHOD: MOUNTING D-20 PREFERRED - MOUNTING A OPTION

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ISSUED FOR CONSTRUCTION

CAVA

CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

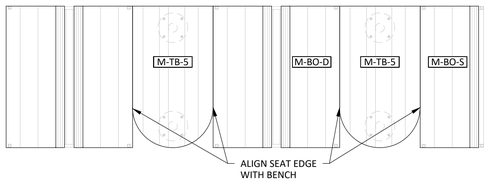
AOR PROJECT NUMBER:
CAV.38002

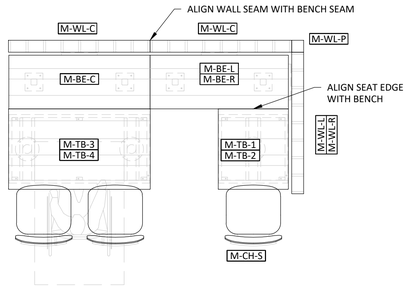
ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
1 BLDG RESPONSE	NOV 15, 2024
2 CONSTR SET	JAN 8, 2025

FINISH SCHEDULE

SHEET:
A121

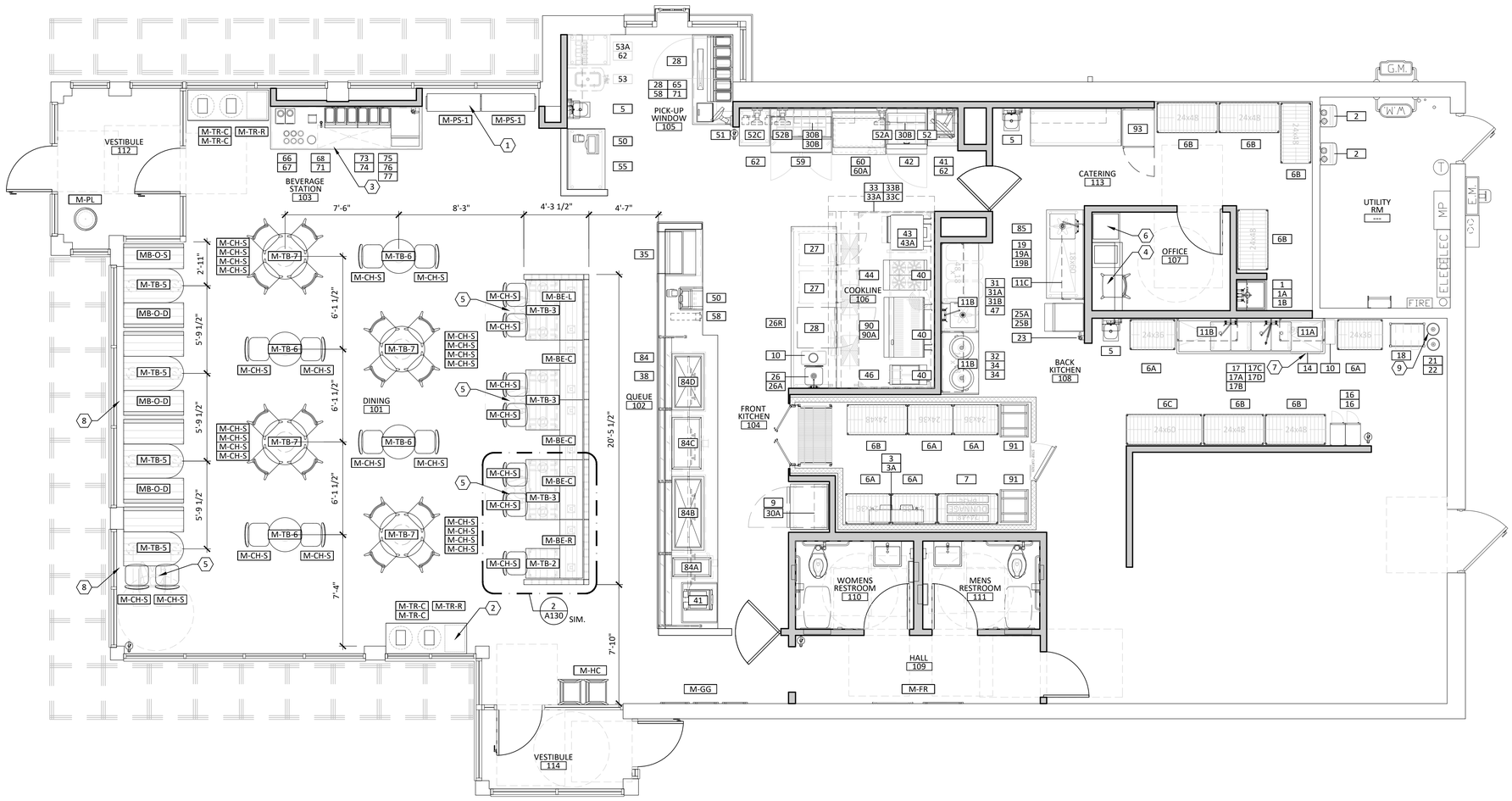
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2 / A130 ENLARGED PLAN DETAILS

1/2" = 1'-0"



1 / A130 FIXTURE, FURNITURE & EQUIPMENT PLAN

1/4" = 1'-0"

FF&E PLAN GENERAL NOTES

A. ALL FURNITURE AND FURNISHINGS SHALL BE OWNER FURNISHED AND INSTALLED PER RESPONSIBILITY MATRIX. G.C. TO COORDINATE BLOCKING LOCATIONS WITH FURNITURE AND MILLWORK.

B. MEP-SHEETS FOR EQUIPMENT TYPES AND SCHEDULES.

C. ALL FURNITURE, FURNISHINGS, AND MILLWORK DIMENSIONS TO BE VERIFIED IN FIELD BY G.C. PRIOR TO PURCHASE OR CONSTRUCTION ESPECIALLY WHERE SUCH DIMENSIONS ARE SET OR INFLUENCED BY BUILT ELEMENTS SUCH AS WALLS, CEILINGS, COLUMNS, LIGHT FIXTURES, ETC.

D. THE METHOD OF MANUFACTURING, FABRICATING, AND INSTALLING MILLWORK AND ITS STRUCTURAL COMPONENTS DEFINED IN THE CONTRACT DOCUMENTS IS REPRESENTATIVE AND INDICATES DESIGN INTENT ONLY. IF THE MATERIALS, DETAILS, OR DIMENSIONAL PROPERTIES ARE AT VARIANCE WITH THE SUB-CONTRACTOR'S OR MANUFACTURER'S RECOMMENDATIONS, ALTERNATE DETAILS WILL BE CONSIDERED FOR REVIEW WHEN SHOP DRAWINGS ARE SUBMITTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. IT SHALL BE THE RESPONSIBILITY OF THE G.C. TO GUARANTEE THAT THE MILLWORK WILL HAVE PROPER SUPPORT, STABILITY, AND FAULT-FREE PERFORMANCE.

E. SUB-CONTRACTOR TO SUBMIT SHOP DRAWINGS AND HARDWARE CATALOGUE CUT SHEETS OF MILLWORK FOR REVIEW BY ARCHITECT IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. SHOP DRAWINGS SHALL SHOW THE DESIGN AND DIMENSIONS AND CLEARLY INDICATE IN LARGE SCALE THE CONSTRUCTION OF THE VARIOUS COMPONENTS, REINFORCEMENTS, AND ALL OTHER PERTINENT INFORMATION REQUIRED FOR CONSTRUCTION. ANY VARIATION FROM THE DRAWINGS MUST BE CLEARLY NOTED AS A VARIATION FROM THE REQUIREMENTS. FABRICATION OF MILLWORK SHALL NOT PROCEED UNTIL THE ARCHITECT HAS APPROVED SHOP DRAWINGS.

F. G.C. TO BE RESPONSIBLE FOR MAKING CERTAIN THAT MILLWORK ITEMS ARE NOT DELIVERED UNTIL AREAS ARE SUFFICIENTLY DRY SO THAT THE MILLWORK WILL NOT BE DAMAGED BY EXCESSIVE CHANGES IN ATMOSPHERIC MOISTURE.

G. SUB-CONTRACTORS ARE RESPONSIBLE FOR OBTAINING FIELD MEASUREMENTS AND VERIFYING DIMENSIONS OF MILLWORK INSTALLATION LOCATIONS PRIOR TO PROCEEDING WITH MILLWORK FABRICATION. ARCHITECT SHALL BE NOTIFIED OF ANY VARIANCE FOUND BETWEEN FIELD AND SPECIFIED DIMENSIONS.

H. SCRIBE AND CUT MILLWORK TO FIT ADJOINING CONSTRUCTION. REFINISH CUT SURFACES OR REPAIR DAMAGED FINISH AT CUTS. PROVIDE SEALANT AT ALL JOINTS.

I. MILLWORK TO BE ANCHORED TO BUILT-IN BLOCKING OR DIRECTLY ATTACHED TO SUBSTRATE. SECURE TO GROUNDS. STRAPPING AND BLOCKING WITH COUNTER-SUNK, CONCEALED FASTENERS AND BLIND NAILING AS REQUIRED FOR A COMPLETE INSTALLATION. GC TO USE BLACK FASTENERS OR PAINT BLACK AFTER INSTALLATION.

J. ALL DIMENSIONS ARE TO FACE OF FINISH SHEATHING OR CENTERLINE OF EQUIPMENT UNLESS NOTED OTHERWISE.

K. G.C. RESPONSIBLE FOR MOUNTING FIXED TABLES IN PLACE.GC TO USE BLACK FASTENERS OR PAINT BLACK AFTER INSTALLATION.

L. ALL TABLE SURFACES FOR BANQUETTE SEATING TO OVERLAP BENCHES BY 1". REFER TO DETAIL 2/A130.

M. REFER TO AOR ELEVATION DRAWINGS FOR IN WALL BLOCKING.

N. G.C. TO PROVIDE CLEAR SILICON FOR KITCHEN EQUIPMENT INSTALLATION AT ALL SEAMS.

FF&E PLAN CODED NOTES

1. TO-GO PICK-UP SHELVING UNIT BY MILLWORKER, ONE SHELF MINIMUM TO BE AT ADA COMPLIANT HEIGHT (BETWEEN 9" MIN. TO 48" MAX. A.F.F.).
2. TRASH COUNTER BY MILLWORKER, MAX HEIGHT IS 34" A.F.F.
3. CONDIMENT STATION BY FOOD SERVICE CONSULTANT. MAX HEIGHT IS 34" A.F.F.
4. MANAGER'S DESK AND WALL SHELF. REFER TO DETAIL 7/AS01 FOR ADDITIONAL INFORMATION.
5. ADA COMPLIANT TABLE OR COUNTER 34" MAX. TYP.
6. LOCATION OF NEW SAFE MOUNTED TO CONCRETE CURB BELOW.
7. PROVIDE 2" CASTER @ DISHWASHER. DISHWASHER CAN ROLL OUT FOR CLEANING.
8. ROLLER SHADE AT WINDOWS DEEMED REQUIRED BY AOR.
9. CO2 TANKS TO BE CHAINED TO WALL BY GC WITH VENDOR SUPPLIED BRACKET.
10. 6" PVC FROM BAG N BOX TO BEVERAGE STATION. REFER TO ---- FOR LOCATIONS

ADA SEATING

INDICATES ADA SEATING LOCATION

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135 Water Street
Suite 201
Naperville, IL 60540
312.788.3455
core-states.com

ISSUED FOR CONSTRUCTION

CAVA

CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
BLDG RESPONSE	NOV 15, 2024
CONSTR SET	JAN 8, 2025

FIXTURE, FURNITURE & EQUIPMENT PLAN

SHEET:
A130

8/2/2024 6:31 PM

FURNITURE SCHEDULE

NO.	MANUFACTURER	SUPPLIED	REMARKS	COUNT
O-CH-S	OUTDOOR DINING CHAIR	KES		
O-TA-S	OUTDOOR 2-TOP TABLE	KES		
O-TA-D	OUTDOOR 4-TOP, ADA	KES		
O-TA-3	OUTDOOR 3-TOP	KES		
O-TA-UB	WEIGHTED UMBRELLA BASE (150LB)	CAVA		
O-TA-UM	UMBRELLA (10')	CAVA		
O-TR	OUTDOOR TRASH CAN	CAVA		
M-PL	PLANTER	CAVA		
M-CH-S	DINING CHAIR	MILLWORKER		
M-BO-S	BOOTH-SINGLE	MILLWORKER	WITH BOLSTER	#
M-BO-D	BOOTH-DOUBLE	MILLWORKER	WITH BOLSTER	#
M-BOL	BOLSTER	MILLWORKER		#
M-BE-C	BENCH (CENTER-STANDARD 47 3/8"	MILLWORKER	COMES W/ BOLSTER	#
M-BE-R	BENCH (CENTER-RIGHT 46 3/8"	MILLWORKER		#
M-BE-L	BENCH (CENTER-LEFT 46 3/8"	MILLWORKER		#
M-TB-1	WOOD TABLE (27"W X 23 1/2"L X 30"H) ADA MATCH	MILLWORKER		#
M-TB-2	WOOD TABLE (27"W X 23 1/2"L X 30"H)	MILLWORKER		#
M-TB-3	WOOD TABLE (27"W X 47 1/2"L X 30"H) ADA	MILLWORKER		#
M-TB-4	WOOD TABLE (27"W X 47 1/2"L X 30"H)	MILLWORKER		#
M-TB-5	HALF ROUND TABLE (BANQUETTE 27"W X 47 1/2")	MILLWORKER		#
M-TB-6	2-TOP ROUND TABLE 27"Ø	MILLWORKER	TOP MATERIAL TBD	#
M-TB-7	4-TOP ROUND TABLE 36"Ø	MILLWORKER	TOP MATERIAL TBD	#
M-DC-1	DINING COUNTER 98"L X 19 1/2"W X 30"H (ADA)	MILLWORKER		#
M-WL-R	PARTITION WALL MODULE-RIGHT PANEL	MILLWORKER		#
M-WL-C	PARTITION WALL MODULE-CENTER PANEL	MILLWORKER	COMES WITH BOLSTER	#
M-WL-L	PARTITION WALL MODULE-LEFT PANEL	MILLWORKER		#
M-WL-P	PARTITION WALL MODULE-CORNER POST	MILLWORKER		#
M-TR-R	TRASH STATION (WASTE UNIT)	MILLWORKER		#
M-TR-C	WASTE DRUM & DOLLY	MILLWORKER		#
M-HC	HIGH CHAIRS KOALA KARE KB105-02	CAVA		#
M-QR	QUEUE RAIL	MILLWORKER		#
M-POS	POS CADDY	MILLWORKER		#
M-PS-0	PASS-THRU PICK UP SHELVES	MILLWORKER		#
M-PS-1	DO WALL MOUNTED PICKUP SHELVES	MILLWORKER		#
M-PS-2	FREESTANDING PICKUP SHELVES	MILLWORKER		#
M-GG	GALLERY GRID FRAME	MILLWORKER		#
M-FR	FRAMEBRIDGE	CAVA		#
M-CLD	CEILING GRID-CURVED FRAME 1 (A)	MILLWORKER		#
M-CLD	CEILING GRID-CURVED FRAME 2 (B)	MILLWORKER		#
M-CLD	CEILING GRID-1X3 FRAME (C)	MILLWORKER		#

EQUIPMENT SCHEDULE: STANDARD NRO

						UTILITY				
NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SUPPLIED BY	INSTALLED BY	ELEC	GAS	WATER	SEWER	REMARKS
1	MOP SINK FAUCET	ELKAY	B940C	KES	GC			●		
1A	MOP SINK SHELF	ALL SOUTHERN FABRICATORS	CG-MOPWS1-WAL 7.87	KES	KES					
1B	MOP SINK	HYDROLOGIC	REFER TO PLUMBING DRAWINGS	GC	GC				●	
2	TANKLESS WATER HEATER	NAVIEN	REFER TO PLUMBING DRAWINGS	GC	GC	●	●	●		REFER TO PLUMBING DRAWINGS
3	WALK-IN COOLER	AMERICOOLER		KES	GC	●				
3A	EVAPORATOR COIL, COOLER	BY KES VENDOR		KES	GC	●				CONDENSING LINE BY GC TO NEAREST FLOOR DRAIN/FLOOR SINK
3B	CONDENSING UNIT	BY KES VENDOR		KES	GC	●				ON ROOF
5	HAND SINK	KROWNE	HS-30L	KES	KES/GC			●	●	
6A	SHELVING	METRO MAX		KES	KES					BACK OF HOUSE SHELVING 24"X 36"
6B	SHELVING	METRO MAX		KES	KES					BACK OF HOUSE SHELVING 24"X 48"
6C	SHELVING	METRO MAX		KES	KES					BACK OF HOUSE SHELVING 24"X 60"
7	DUNNAGE RACK	METRO SHELVING		KES	KES					DUNNAGE RACK AT BOTTOM OF METRO RACK
9	STAINLESS STEEL TABLE	CUSTOM FABRICATION	REFER TO SHOP DRAWINGS	KES	KES					
10	23 GALLON WASTE CAN	CARLISLE	34202303	KES	KES					
11A	WIRE SHELF, WALL-MOUNT	METRO SUPER ERECTA	1836NK3	KES	KES					18x36 ABOVE 4-COMP SINK
11B	WIRE SHELF, WALL-MOUNT	METRO SUPER ERECTA	1848NK3	KES	KES					18x48 ABOVE 4-COMP SINK
11C	WIRE SHELF, WALL-MOUNT	METRO SUPER ERECTA	1860NK3	KES	KES					18x60 ABOVE PREP AREAS
14	WAREWASHER, UNDERCOUNTER, LOW-TEMP	ECOLAB	E-ULT	ECOLAB	ECOLAB	●		●	●	ALWAYS SUPPLIED WITH CASTERS
15	WATER SOFTENER		REFER TO PLUMBING DRAWINGS		GC	●		●		
16	LOCKER	GLOBAL INDUSTRIAL	WB269696GY - 6 TIERS	KES	GC					
17	4-COMP SINK	CUSTOM FABRICATION	REFER TO SHOP DRAIWNGS	KES	KES/GC				●	
17A	FAUCET, ADD ON	DORMONT MANUFACTURING		KES	GC			●		
17B	PRE-RINSE FAUCET, WALL MOUNT	DORMONT MANUFACTURING	BKF-SMPR-WB-AF12-G	KES	GC			●		GC TO INSTALL SPRAYER WITH WATER DISPENSER AND TEMPERATURE ADAPTER PROVIDED BY ECOLAB
17C	FAUCET, WALL MOUNT	DORMONT MANUFACTURING	LFF-WST8-S12S-R	KES	GC			●		
17D	DRAIN LEVER	FISHER	22209	KES	GC					
18	CO2 TANK	AIRGAS	(2) 50LBS	AIRGAS	GC					GC TO INSTALL BRAKETS ON WALL
19	PREP TABLE WITH DROP-IN SINK	CUSTOM FABRICATION	REFER TO SHOP DRAWINGS	KES	KES/GC				●	VEGETABLE WASH
19A	FAUCET, DECK MOUNT	DORMONT MANUFACTURING	LFF-DST4-G06S-R	KES	GC			●		
19B	LEVER WASTE	FISHER	22209	KES	GC					
21	BAG-N-BOX			KES	GC					
22	CARBONATOR			KES	GC	●				
23	WATER FILTRATION SYSTEM, FOR ICE MACHINE	3M	ICE190-S	KES	GC			●		
25A	ICE MAKER	HOSHIZAKI	F-801MAJ-C	KES	GC			●		
25B	ICE BIN	HOSHIZAKI	B-300SF	KES	GC					
26	PREP TABLE : CG-CTR26 W/DROP-IN HAND SINK	CUSTOM FABRICATION	REFER TO SHOP DRAWINGS	KES	KES/GC				●	
26A	FAUCET, DECK MOUNT	DORMONT MANUFACTURING	LFF-DST4-G06S-R	KES	KES/GC			●		
27	UNDERCOUNTER HOT HOLDING	ALTO-SHAM	750-S	KES	GC	●				
28	UNDERCOUNTER REFRIGERATOR	EVEREST	ETBR1	KES	GC	●				
29	REACH IN REFRIGERATOR	HOSHIZAKI	R2A-HG							
30A	STAINLESS STEEL SHELF 12"D X 36"W	BUYOUT BY KES		KES	KES					
30B	STAINLESS STEEL SHELF 12"D X 48"W	BUYOUT BY KES		KES	KES					
30C	STAINLESS STEEL SHELF 12"D X 60"W	BUYOUT BY KES		KES	KES					
31	PREP TABLE W/ DROP-ON SINK	CUSTOM FABRICATION	REFER SHOPS DRAWINGS	KES	KES/GC				●	
31A	FAUCET, DECK-MOUNT	DORMONT MANUFACTURING	LFF-WST8-S12S-R	KES	GC			●		
31B	TWIST WASTE	FISHER	22209	KES	GC					
32	RICE TABLE	CUSTOM FABRICATION	REFER TO SHOP DRAWINGS	KES	KES					
33	EXHAUST HOOD	CAPTIVE-AIRE	REFER TO MECHANICAL DRAWINGS	CAPTIVE AIRE	GC	●				
33A	FIRE SUPPRESSION	CAPTIVE-AIRE	REFER TO MECHANICAL DRAWINGS	CAPTIVE AIRE	GC	●				
33B	EXHAUST FAN	CAPTIVE-AIRE	REFER TO MECHANICAL DRAWINGS	CAPTIVE AIRE	GC	●				
33C	SUPPLY FAN	CAPTIVE-AIRE	REFER TO MECHANICAL DRAWINGS	CAPTIVE AIRE	GC	●				
34	RICE COOKER	TOWN EQUIPMENT	57155	CAVA	CAVA	●				
35	LOW GRAB N GO	OASIS	C03324R -OR- C04324R	KES	KES	●				REFER TO DRAIWNGS FOR SIZE
36	DISPLAY REFRIGERATED CASE (SALAD/BEVERAGE)	FEDERAL INDUSTRIES	RSSL378SC	KES	KES	●				NOT USED
37	TIMER	DARLING FOOD SERVICE PRODUCTS LLC	5001401			●				
38	SNEEZE GUARD	PREMIER FOOD SHIELDS	CUSTOM	KES	KES					
40	BLUE GAS HOSE	DORMONT	1675KIT2S48	KES	KES		●			
41	PITA PRESS	STAR	PST14E	KES	KES	●				
42	REFRIGERATOR, SANDWICH/SALAD PREP	CONTINENTAL INDUSTRIES	SW32N12M	KES	KES	●				
43	CONVECTION OVEN, ELECTRIC	TURBOCHEF	HHD-9500	KES	KES/GC	●				KES TO ADD YELLOW WHEELS CHOCK FOR FRONT WHEELS ON ALL EQUIPMENT UNDER THE HOOD
43A	24" OVEN CART	TURBOCHEF	NGC-1217-1	KES	KES/GC					KES TO ADD YELLOW WHEELS CHOCK FOR FRONT WHEELS ON ALL EQUIPMENT UNDER THE HOOD
44	BURNER RANGE W/ HOSES	BUYOUT BY KES	EMHP4-HD	KES	KES/GC		●			KES TO ADD YELLOW WHEELS CHOCK FOR FRONT WHEELS ON ALL EQUIPMENT UNDER THE HOOD
46	FRYER, GAS W/ CASTERS AND SPLASH	BUYOUT BY KES	EGF-45/55	KES	KES/GC		●			KES TO ADD YELLOW WHEELS CHOCK FOR FRONT WHEELS ON ALL EQUIPMENT UNDER THE HOOD
47	INGREDIENT BIN	WINCO	IB-21	CAVA	CAVA					
48	TOTER TWO WHEEL TRASH CART, 96 GALLON	GLOBAL INDUSTRIAL	ANA96-00GRY DARK COOL GRAY							
49	TILT TRUCK, 1/2 CU.YD. CAP 850LBS GRAY	GLOBAL INDUSTRIAL								
50	POS 1	GRANITE		GRANITE	GRANITE	●				
51	POS 2	GRANITE		GRANITE	GRANITE	●				
52	KDS	GRANITE		GRANITE	GRANITE	●				
52A	MAKE 1	GRANITE		GRANITE	GRANITE	●				
52B	MAKE 2	GRANITE		GRANITE	GRANITE	●				
52C	EXPO	GRANITE		GRANITE	GRANITE	●				
53	SHAKE MACHINE (FUTURE)	TAYLOR	C708	KES	KES	●				
53A	SHAKE MACHINE TOPPINGS DECK (FUTURE)	VENDOR		KES	KES					
54	STAINLESS TABLE WITH DROP-IN SINK	CUSTOM FABRICATION	REFER TO SHOP DRAWINGS	KES	KES				●	
54A	DECK MOUNT FAUCET	DORMONT MANUFACTURING	LFF-DST4-G06S-R	KES	KES			●		
58	UC CUP DISPENSER	SAN JAMAR		KES	KES					
59	MEGA TOP SANDWICH / SALAD PREP REFRIGERATOR	EVEREST REFRIGERATION	EPBR2	KES	KES	●				
60	D.O TABLE W/ HOT WELL	CUSTOM FABRICATION	REFER TO SHOP DRAWINGS	KES	KES	●				
60A	DROP-IN HOT WELL	ALTO-SHAAM	300-HW/D6	KES	KES/GC	●				
62	24"W X 34"D STAINLESS STEEL TABLE	STAINLESS BUYOUT		KES	KES/GC					
63	24"W X 34"D STAINLESS STEEL TABLE	STAINLESS BUYOUT		KES	KES/GC					
65	PICK UP BY CAR BEVERAGE COUNTER	CUSTOM FABRICATION	REFER TO SHOP DRAWINGS	KES	KES/GC				●	
66	ICE DISPENSER W/ BEVERAGE HEADS	MAINE ROOT		MAINE ROOT	MAINE ROOT/GC	●				
67	WATER FILTRATION SYSTEM	3M	HF160-CLS - 3M	KES	GC			●		
68	BEVERAGE COUNTER	CUSTOM FABRICATION	REFER TO SHOP DRAWINGS	KES	KES/GC					
71	COLD BEVERAGE DISPENSER	GRINDMASTER-CECILWARE	D35-3	CAVA	CAVA	●				
72	COMPACT UNDERCOUNTER REFRIGERATOR:	EVEREST	ETBR1	KES	KES	●				
73	GLASS WATER BEV COUNTER	T&S	5GF-12P	KES	KES					
74	DROP-INC TRASH BIN	CUSTOM FABRICATION	REFER TO SHOP DRAWINGS	KES	KES					
75	FLATWARE HOLDER, CYLINDER	WINCO	WINCO FC-SL	CAVA	CAVA	●				
76	DISPENSER, LID	SAN JAMAR	L3400	KES	KES/GC					
77	DISPENSER, NAPKIN	DISPENSE RITE	CT-MINI-BS	CAVA	CAVA					
78	TRASH RECEPTACLE			CAVA	CAVA					
84	STAINLESS STEEL COUNTERTOP	CUSTOM FABRICATION	REFER TO SHOP DRAWINGS	KES	KES/GC					
84A	DROP-IN HOT WELL	ALTO-SHAM	300-HW/D6	KES	KES	●				
84B	DROP-IN HOT WELL	ALTO-SHAM	100-HW/D643	KES	KES	●				
84C	DROP-IN COLD WELL	WELLS	RCP-400	KES	KES	●				
84D	DROP-IN COLD WELL	WELLS	RCP-300	KES	KES	●			●	
85	PREP N PRINT	ECOLAB	TD-2120N	KES	KES	●				

EQUIPMENT SCHEDULE: ALTERNATE

30D	STAINLESS STEEL SHELF 12"D X 24"W	BUYOUT BY KES		KES	KES					
55	CATERING COUNTER	CUSTOM FABRICATION	REFER TO SHOP DRAWINGS	KES	KES					
56A	48" POS STAINLESS STEEL STATION (1 OR 2 PIECE)	CUSTOM FABRICATION	REFER TO SHOP DRAWINGS	KES	KES	●				D.N.: OPTIONAL FOR WHEN ITEM 84 DOES NOT FIT
56B	STAINLESS SERVING LINE SECTION (2 OF 2 PIECE)	CUSTOM FABRICATION	REFER TO SHOP DRAWINGS	KES	KES				●	D.N.: OPTIONAL FOR WHEN ITEM 84 DOES NOT FIT
90	48" GROOVED GRIDDLE, GAS	GARLAND	GTGG48-GT48M		KES		●			D.N.: USED ONLY IN NYC AND CATERING LOCATIONS
90A	48" EQUIPMENT STAND W/ LOCKING CASTERS	CUSTOM FABRICATION	REFER TO SHOP DRAWINGS		KES					D.N.: USED ONLY IN NYC AND CATERING LOCATIONS
91	BON PAN SPEED RACK	CHANNEL	405A		KES					D.N.: USED ONLY IN CATERING LOCATIONS
92	ROLL-IN REFRIGERATOR	CONTINENTAL	DL2WI-RT		KES	●				D.N.: USED ONLY IN CATERING LOCATIONS
93	HOT BOX UPRIGHT ALTOSHAAM (CATERING)	ALTO SHAAM	1000-UP							
94	60" SS TABLES (CATERING STAGING AND PACKING)									
95	ROLLING CART (CATERING ONLY)									
##	STICKER WALL RAIL									

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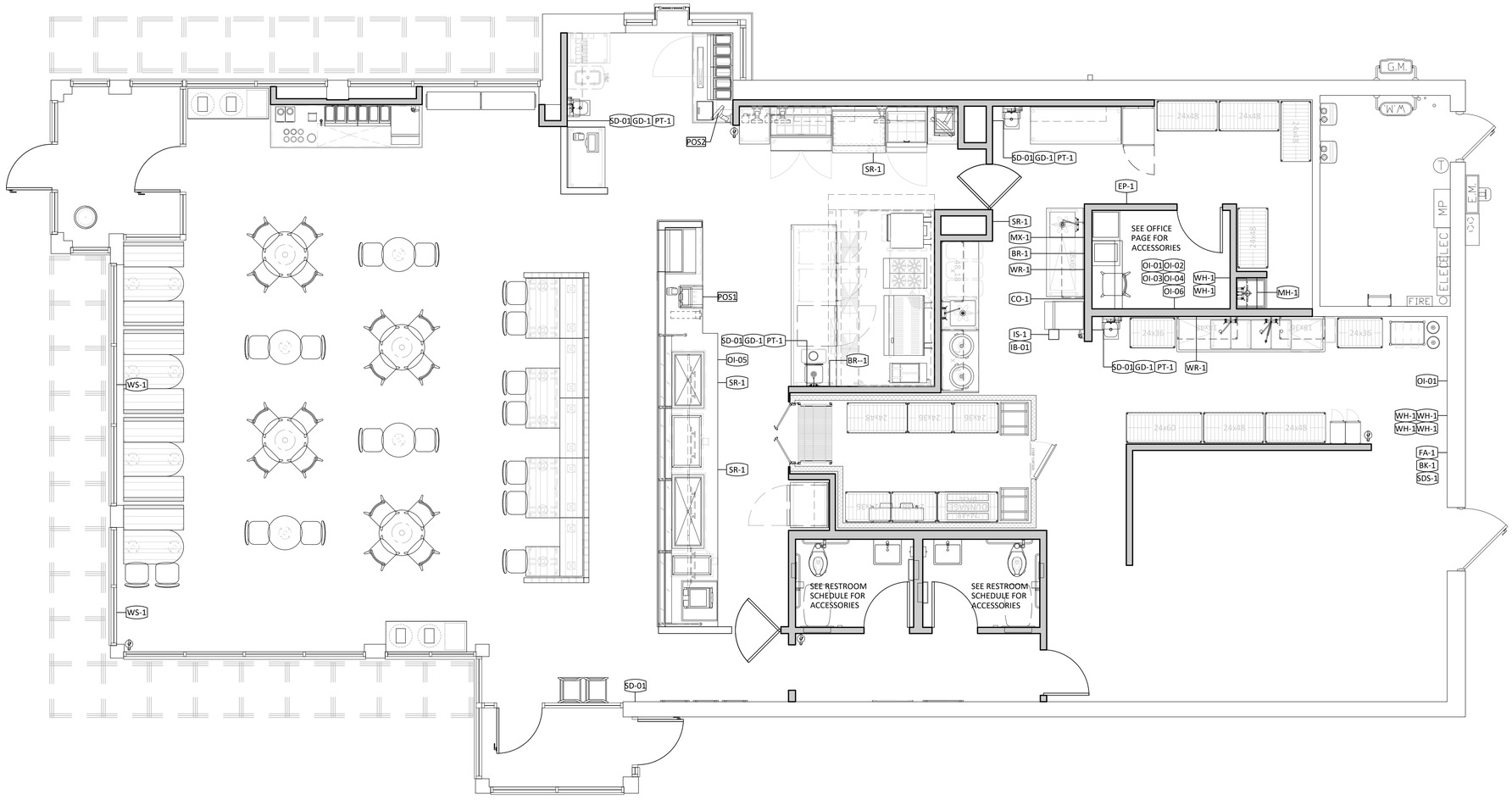
CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
⚠1 BLDG RESPONSE	NOV 15, 2024
⚠2 CONSTR SET	JAN 8, 2025

FIXTURE, FURNITURE & EQUIPMENT PLAN

SHEET:
A131



1 A132 HEALTH AND HANGING PLAN

1/4" = 1'-0"

GENERAL NOTES

A. ITEMS PROVIDED BY OPERATIONS AND INSTALLED BY G.C.

B. G.C. TO COORDINATE FINAL LOCATION WITH OPS TEAM OR CONSTRUCTION MANAGER ON SITE.

HEALTH & HANGING

NO.	MANUFACTURER	
SR-1	SPEED RAIL, 22"W, CENTERED	TABLECRAFT 5122
GD-1	GLOVE DISPENSER, WALL MOUNT	JOHN BOOS& CO. DS-3-X
PT-1	PAPER TOWEL DISPENSER, WALL MOUNT	BOBRICK DOME 2620
SD-01	SOAP DISPENSER	ECOLAB
CO-1	CAN OPENER, TABLE MOUNT	EDLUND 11300
MH-1	MOP HOLDER :UNGER ENTERPRISES INC	HO350
FA-1	FIRST AID KIT	DAY MARK SAFETY SYSTEMSIT117598
BK-1	BIOHAZARD KIT	IMPACT ABSERBENTS, INC.BK607SW-E
SDS-1	BINDER W/ SAFETY DATA SHEETS	
WR-1	24" WALL RACK W/ 8 HOOKS	H.A. SPARKE, INC. #SRK-2
IS-1	ICE SCOOP	SAN JAMAR SI2000
IB-01	ICE BUCKET	SAN JAMAR SI6000
BR-1	18" MAGNETIC BAR RAIL, WALL MOUNT	TABLECRAFT PRODUCTS 2918P
EP-1	EMPLOYEE REGULATIONS POSTER	
MX-1	MIXER	ROBOT COUPE USA INC. MP350VV
WH-1	WALL HOOK, SOLID BRASS, DOUBLE	FRANKLIN MACHINE 1341040
OI-01	CORK BULLETIN BOARD	SEE A503
OI-02	WOOD CLIPBOARDS	SEE A503
OI-03	DOCUMENT FRAMES	SEE A503
OI-04	KEY RACK	SEE A503
OI-05	WALL CLOCK	SEE A503
OI-06	POCKET WALL FILE	SEE A503
WS-1	WINDOW SHADES	

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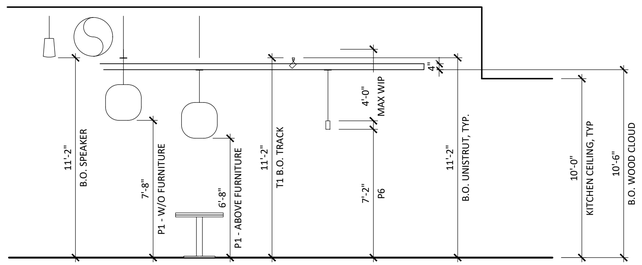
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HEALTH & HANGING PLAN

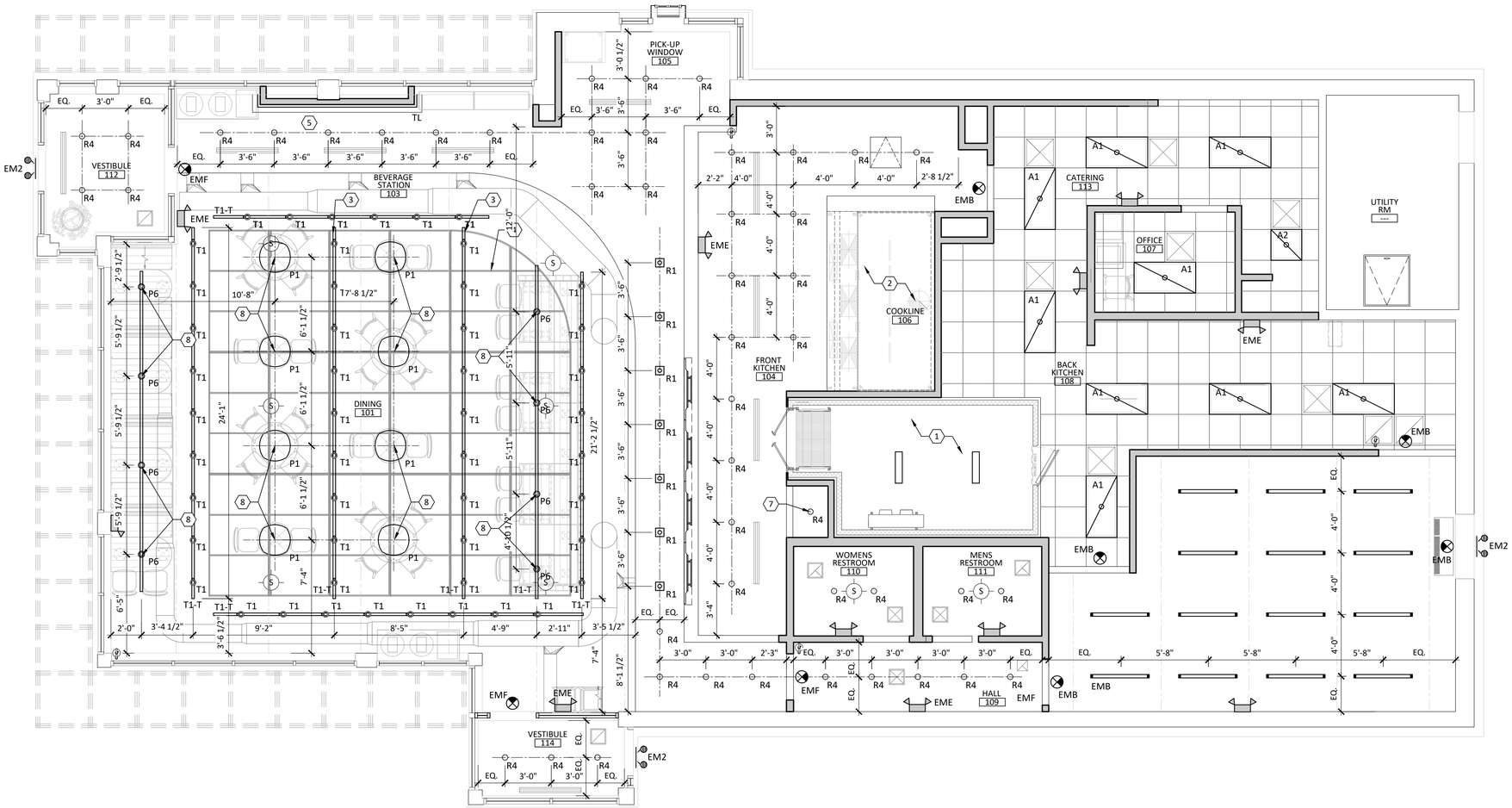
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2 / A140 TYPICAL LIGHTING HEIGHTS

1/4" = 1'-0"



1 / A140 REFLECTED CEILING PLAN - LIGHTING

1/4" = 1'-0"

CEILING PLAN CODED NOTES

1. G.C. TO COORDINATE INSTALLATION OF WALK-IN, WALK-IN LIGHTS AND CEILING LAYOUT AROUND BOX WITH FOOD SERVICE CONSULTANT. LIGHTS BY AMERIKOOLER, INSTALLED BY GC.
2. LOCATION OF FOOD SERVICE PROVIDED EXHAUST/HOOD. COORDINATE CEILING WITH PARTITION FRAMERS. MAKE-UP AIR GRILL TO HAVE 1/4" MAX. REVEAL BENEATH FINISHED FACE OF DRYWALL CEILING. G.C. TO ENSURE ANCILLARY PANEL OPENS UNOBSTRUCTED. HOOD LIGHTS TO BE PROVIDED BY VENDOR, INSTALLED BY GC.
3. HOLD TRACK LIGHTING 2" ABOVE WOOD GRID.
4. SUSPENDED WOOD GRID PANEL SYSTEM BY MILLWORKER. SEE MILLWORK DRAWINGS. SUSPENDED FROM CEILING WITH UNI-STRUT. PAINT UNISTRUT PT-106. UNISTRUT TO BE PLACED AS HIGH AS POSSIBLE.
5. PROVIDE CLEAN, SMOOTH, WASHABLE PTD. DRYWALL SURFACE ABOVE BEVERAGE COUNTER. INSTALL 2X STUDS FROM BOTTOM CHORD OF TRUSS TO ADJACENT BOTTOM CHORD OF TRUSS. PROVIDE EDGE BEADS AROUND PERIMETER OF DRYWALL. NEW SURFACE TO BE NO SMALLER THAN AREA OF BEVERAGE COUNTER.
6. ALIGN.
7. CENTER LIGHT.
8. MOUNT PENDANTS FROM UNISTRUT AND CENTER LIGHTING FIXTURE OVER TABLE. REFER TO DETAIL 4/A501.

CEILING PLAN GENERAL NOTES

A. WHERE CEILINGS ARE INDICATED TO BE GYP. BD., PROVIDE 1/2" GYPSUM BOARD ON METAL STUD FRAMING OR SUSPENDED CEILING SYSTEM. PROVIDE CEILING GYP. BD. CONTROL JOINTS PER MANUFACTURER'S RECOMMENDATIONS U.N.O.

B. VERTICALLY STACK LIGHT SWITCHES, THERMOSTATS, AND LIFE SAFETY DEVICES TO THE GREATEST EXTENT POSSIBLE.

C. CEILING HEIGHTS NOTED ARE FROM TOP OF FINISHED FLOOR (A.F.F.) TO UNDERSIDE OF FINISHED CEILING, U.N.O.

D. THE DIMENSIONS AND WORK NOTED ON THESE DRAWINGS ARE INDICATED FOR DESIGN INTENT. IF THE INSTALLATION OF ELECTRICAL, MECHANICAL, PLUMBING, OR FIRE PROTECTION WORK INTERFERES WITH THIS INTENT, THE ARCHITECT SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH CONSTRUCTION.

E. SEE PARTITION TYPE DETAIL SHEET FOR TYPICAL DEVICE MOUNTING HEIGHT IN INFORMATION.

F. REFER TO ENGINEERING DRAWINGS FOR ALL CIRCUITING AND SWITCHING INFORMATION. ARCHITECTURAL DRAWINGS TO DICTATE QUANTITIES ONLY. IF DISCREPANCY OCCURS, NOTIFY ARCHITECT PRIOR TO PROCEEDING WITH CONSTRUCTION.

G. REFER TO FINISH SCHEDULE FOR FURTHER SPECIFICATION OF CEILING MATERIALS AND FINISHES.

H. G.C. TO VERIFY AND COORDINATE ALL CONDITIONS IN FIELD PRIOR TO START OF WORK, INCLUDING ELECTRICAL PANEL CAPACITY, LOCATIONS, AND CLEARANCES AT MECHANICAL DUCTS, ELECTRICAL PIPES, SPRINKLERS, AND ASSOCIATED PIPING. ANY CONFLICTS ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER AT THE EARLIEST OPPORTUNITY.

I. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR LOCATION OF SUPPLY AND RETURN AIR DIFFUSERS, THERMOSTATS, EXIT SIGNS, AND LIFE SAFETY EQUIPMENT.

J. ACT AND GRID TO BE CENTERED IN ROOMS U.N.O.

K. SPRINKLER HEADS, LIGHT FIXTURES, DIFFUSERS, AND ETC. TO BE CENTERED WITHIN ACT, U.N.O. G.C. TO VERIFY SECURITY CAMERA LOCATIONS WITH OWNER'S VENDOR AND COORDINATE WITH ARCHITECT.

L. HVAC DIFFUSERS, EQUIPMENT ACCESS PANELS & HATCHES, SPRINKLER HEAD ESCUTCHEON PLATES, EMERGENCY LIGHT FIXTURES, SMOKE DETECTORS, SECURITY FEATURES, AUDIO DEVICES, ETC TO MATCH ADJACENT CEILING FINISH U.N.O. SUBMIT LOCATIONS, FINISHES & STYLES OF ALL CEILING FIXTURES TO ARCHITECT FOR APPROVAL PRIOR TO PURCHASING OR CONSTRUCTION.

M. ALL SPRINKLER HEADS LOCATED IN CLOSED CEILING IN VIEW OF PUBLICS AREAS SHALL BE RECESSED AND CONCEALED WITH AN ESCUTCHEON PLATE.

N. G.C. TO COORDINATE LOCATION OF ALL EQUIPMENT ACCESS PANELS & HATCHES WITH NECESSARY EQUIPMENT. CEILING OR PARTITION FEATURES, LIGHTING, AND OTHER EQUIPMENT. SUBMIT TO ARCHITECT FOR APPROVAL PRIOR TO COMMENCING WITH WORK. NOTIFY ARCHITECT OF ANY DISCREPANCIES OR CONFLICTS THAT INTERFERE WITH THE DESIGN INTENT PRIOR TO INSTALLATION OF EQUIPMENT OR SERVICES.

O. ALL ELECTRICAL CONDUIT, WIRING, PLUMBING LINES, AND OTHER SERVICES TO BE ROUTED THROUGH CLOSED CEILING, FRAMED WALLS, FAUX BEAMS, ETC. AS NECESSARY TO CONCEAL FROM VIEW.

P. G.C. TO COORDINATE THE CEILING FRAMING AROUND SUCH ITEMS AS THE HOOD AND WALK-IN COOLER BOX. THE HOOD SUPPLY PLENUM SHOULD HAVE A 1/4" REVEAL BELOW FINISHED CEILING HEIGHT.

Q. G.C. SHALL FURNISH AND INSTALL SOUND ATTENUATION INSULATION ON OPEN CEILING TO STRUCTURE AND/OR DECK ABOVE THE DINING ROOM.

LIGHTING LEGEND

TAG	SYMBOL	DESCRIPTION	MOUNTING HEIGHT
A1		RECESSED TROFFER (LAY-IN)	RECESSED, EXISTING
P1		DECORATIVE PENDANT	7'-8" AFF 6'-8" AFF IF ABOVE TABLE
P6		DECORATIVE PENDANT	7'-2 1/2" AFF
R1		ADJUSTABLE DOWNLIGHT	RECESSED
R4		RECESSED CAN	RECESSED
T1		TRACK HEAD (DIRECTIONAL)	TRACK
T1-T		TRACK	11'-8" AFF
TL		LED TAPE LIGHT	
SL		STRING LIGHT	
EG		EXTERIOR EGRESS WALL SCONCE	CENTERED ABOVE DOOR
EME		EMERGENCY LIGHT	
EMB		EXIT SIGN	
EM2		EMERGENCY LIGHT	
WS3		WALL SCONCE	

NOTE-
1. MOUNTING HEIGHTS TO BOTTOM OF FIXTURE.
2. FIXTURES NOTED [E] ARE EXISTING TO REMAIN. CLEAN AND RELAMP AS REQUIRED.
3. ALL FRONT OF HOUSE LIGHTING TO BE 2700K

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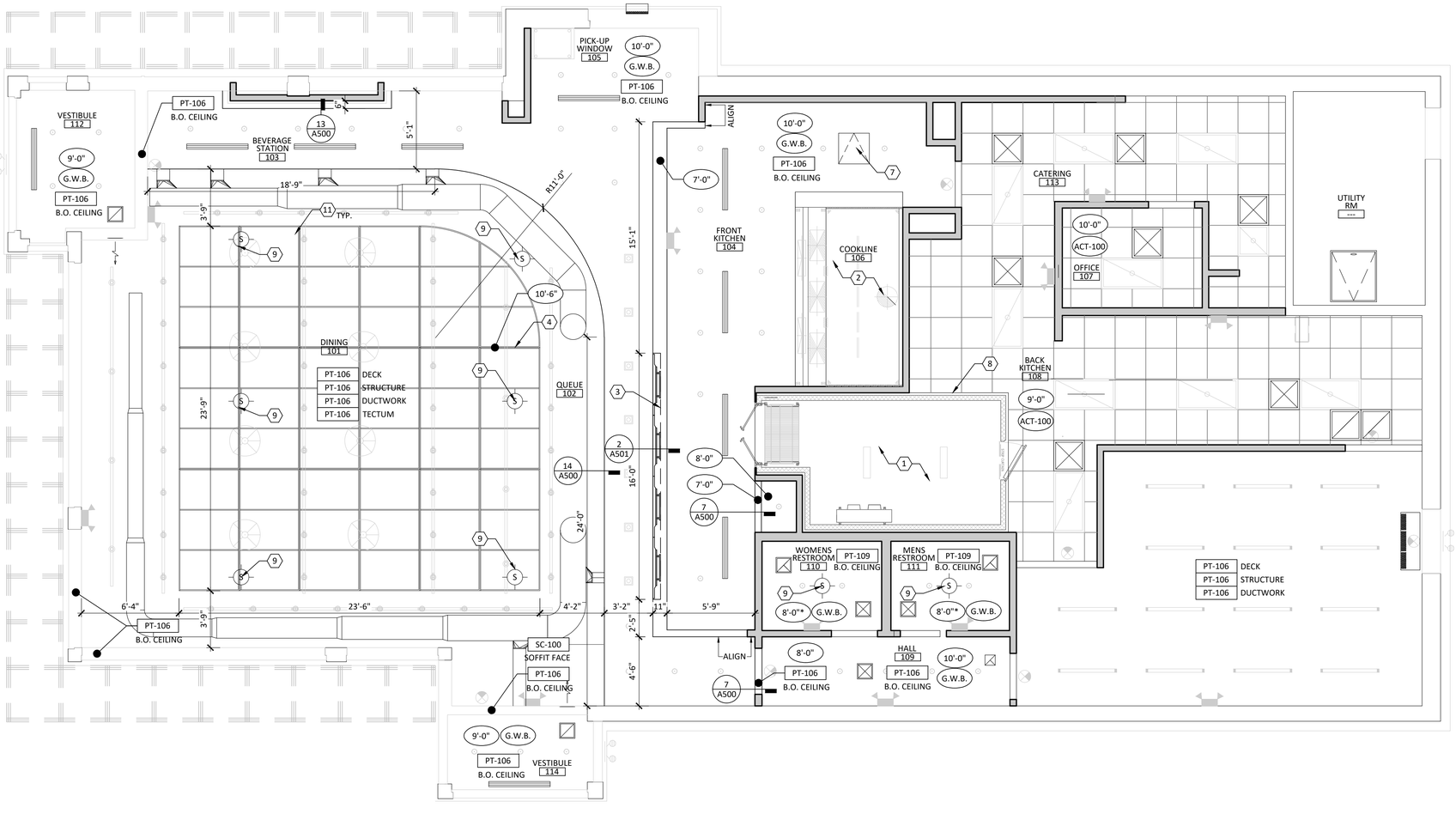
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REFLECTED CEILING PLAN

SHEET:
A140

8/6/2024 1:10 PM



REFLECTED CEILING PLAN - FINISHES

1 / A141 — 1/4" = 1'-0"

REFLECTED CEILING PLAN LEGEND

	24"x 24" CEILING TILE
	GYPSUM BOARD CEILING REFER TO PLAN
	SOUND ATTENUATION PANEL TECTUM PANEL
	ACCESS PANEL CENDREX EDG-GYP FLUSH ACCESS DOOR W/ CONCEALED PUSH LATCH
	SUPPLY AIR DIFFUSER (SEE MECHANICAL SHEETS)
	RETURN AIR GRILLE (SEE MECHANICAL SHEETS)
S	SPEAKERS (BY VENDOR)
	CAMERA (BY VENDOR)

NOTE-
1. SEE MECHANICAL AND ELECTRICAL SHEETS FOR ALL FIXTURE SPECIFICATIONS, WIRING, AND POWER REQUIREMENTS.
2. "*" WITHIN THE CEILING ELEVATION TAG DENOTES INSTALLATION OF R-13 SOUND BATT ABOVE CEILING

CEILING PLAN GENERAL NOTES

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B. VERTICALLY STACK LIGHT SWITCHES, THERMOSTATS, AND LIFE SAFETY DEVICES TO THE GREATEST EXTENT POSSIBLE.

C. CEILING HEIGHTS NOTED ARE FROM TOP OF FINISHED FLOOR (A.F.F.) TO UNDERSIDE OF FINISHED CEILING, U.N.O.

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E. SEE PARTITION TYPE DETAIL SHEET FOR TYPICAL DEVICE MOUNTING HEIGHT IN INFORMATION.

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M. ALL SPRINKLER HEADS LOCATED IN CLOSED CEILING IN VIEW OF PUBLICS AREAS SHALL BE RECESSED AND CONCEALED WITH AN ESCUTCHEON PLATE.

N. G.C. TO COORDINATE LOCATION OF ALL EQUIPMENT ACCESS PANELS & HATCHES WITH NECESSARY EQUIPMENT. CEILING OR PARTITION FEATURES, LIGHTING, AND OTHER EQUIPMENT. SUBMIT TO ARCHITECT FOR APPROVAL PRIOR TO COMMENCING WITH WORK. NOTIFY ARCHITECT OF ANY DISCREPANCIES OR CONFLICTS THAT INTERFERE WITH THE DESIGN INTENT PRIOR TO INSTALLATION OF EQUIPMENT OR SERVICES.

O. ALL ELECTRICAL CONDUIT, WIRING, PLUMBING LINES, AND OTHER SERVICES TO BE ROUTED THROUGH CLOSED CEILING, FRAMED WALLS, FAUX BEAMS, ETC. AS NECESSARY TO CONCEAL FROM VIEW.

P. G.C. TO COORDINATE THE CEILING FRAMING AROUND SUCH ITEMS AS THE HOOD AND WALK-IN COOLER BOX. THE HOOD SUPPLY PLENUM SHOULD HAVE A 1/4" REVEAL BELOW FINISHED CEILING HEIGHT.

Q. SECURITY CAMERA SCOPE AND LOCATION BY SECURITY TEAM.

R. SPEAKER SCOPE AND LOCATION BY AUDIO VENDER.

CEILING PLAN CODED NOTES (#)

1. G.C. TO COORDINATE INSTALLATION OF WALK-IN, CEILING LAYOUT AROUND BOX WITH FOOD SERVICE CONSULTANT.
2. LOCATION OF FOOD SERVICE PROVIDED EXHAUST/HOOD. COORDINATE CEILING WITH PARTITION FRAMERS. MAKE-UP AIR GRILL TO HAVE 1/4" MAX. REVEAL BENEATH FINISHED FACE OF DRYWALL CEILING. G.C. TO ENSURE ANCILLARY PANEL OPENS UNOBSTRUCTED.
3. PROVIDE BLOCKING IN CEILING FOR DIGITAL MENU BOARDS. REFER TO DETAIL 1/A501.
4. SUSPENDED WOOD SLAT PANEL SYSTEM BY MILLWORKER. SEE MILLWORK DRAWINGS. SUSPENDED FROM CEILING WITH UNI-STRUT. PAINT UNISTRUT PT-106.
5. CENTER DIFFUSER BETWEEN LIGHTS.
6. NOT USED
7. LOCATION OF ACCESS PANEL. COORDINATE IN FIELD ACCESS REQUIREMENTS. ALIGN ACCESS PANELS WITH CENTERLINE OF LIGHTING FIXTURE, DIFFUSERS AND OTHER CEILING ELEMENTS WHERE POSSIBLE.
8. GC TO CLOSE GAP ABOVE WALK IN AND ACT TILE. GC TO CLOSE ANY GAP BETWEEN WALLS AND WALK IN COOLER.
9. PROVIDE POWER FOR SPEAKER.
10. SOFFIT EDGE TO ALIGN WITH MULLION.
11. LOCATION OF SOUND ATTENUATING PANELS.

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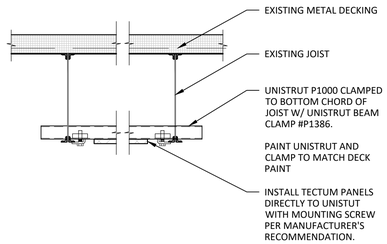
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2 CONSTR SET	JAN 8, 2025

REFLECTED CEILING PLAN

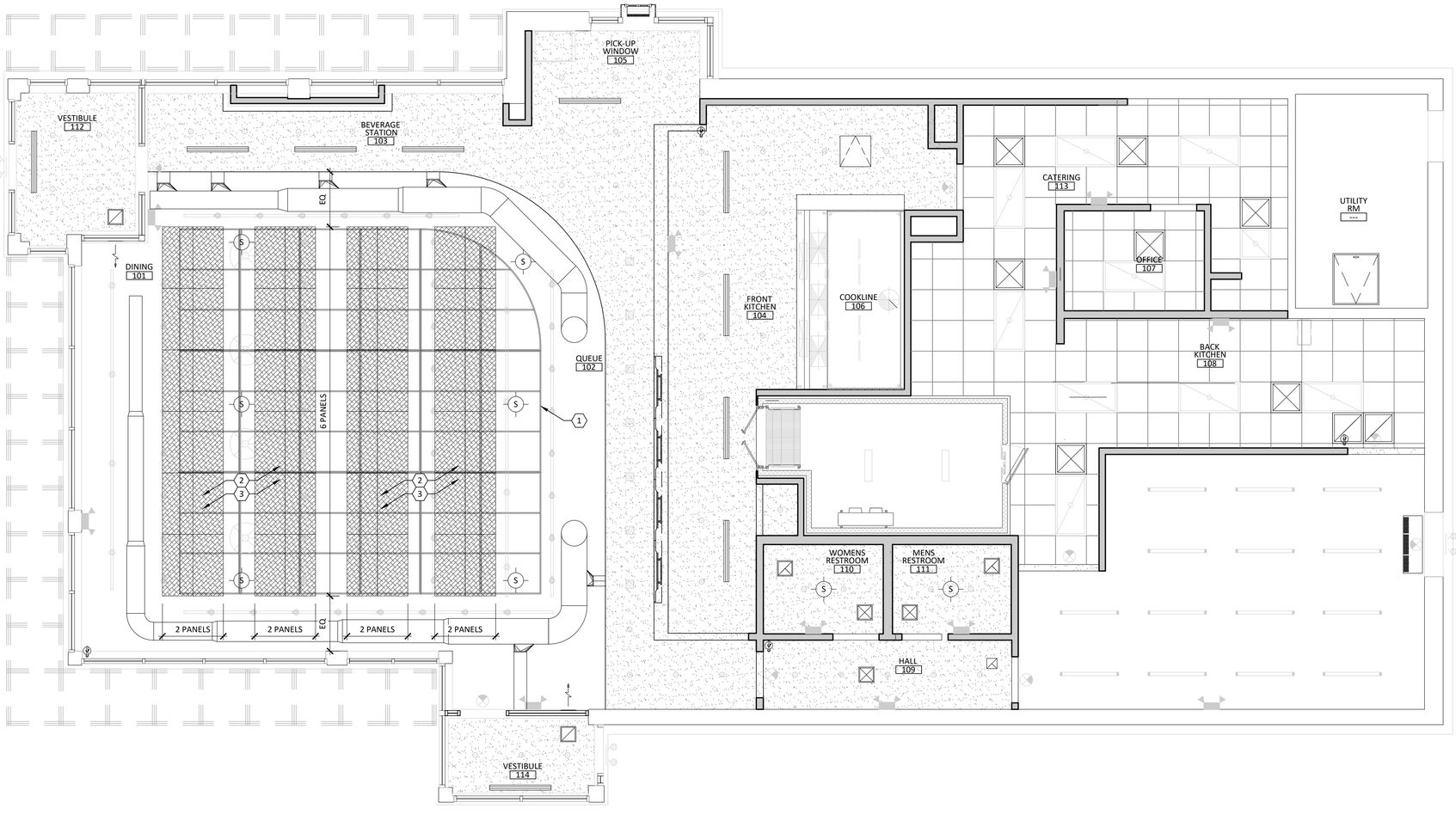
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A141

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2 / A142 SOUND ATTENUATION DETAIL

3/4" = 1'-0"



1 / A142 SOUND ATTENUATION PLAN

1/4" = 1'-0"

ATTENUATION PLAN GENERAL NOTES

A. G.C. SHALL FURNISH AND INSTALL SOUND ATTENUATION TECTUM PANELS ON OPEN CEILING DIRECT TO STRUCTURE AND/OR DECK ABOVE THE DINING ROOM. G.C. TO COVER AT LEAST 70% OF DINING ROOM OPEN DECK AREA. IF NOT POSSIBLE DUE TO CEILING OBSTRUCTION, G.C. TO COORDINATE WITH CAVA FOR LOCATIONS OF ADDITIONAL PANELS. TYPICAL INSTALLATION BETWEEN JOIST STRUCTURE IN A UNIFORM AND ORTHOGONAL PLACEMENT CONCENTRATED ABOVE THE SEATING AREA.

B. DIMENSIONS SHOWN ON DRAWINGS RELATED TO SOUND ATTENUATION PANELS ARE TO EXISTING WALLS OR CENTER OF JOIST.

C. SOUND ATTENUATION PANELS PROVIDED AND INSTALLED BY G.C.

D. G.C. SHALL FURNISH AND INSTALL SOUND ATTENUATION TECTUM PANELS ON OPEN CEILING DIRECT TO STRUCTURE AND/OR DECK ABOVE THE DINING ROOM. G.C. TO COVER AT LEAST 70% OF DINING ROOM OPEN DECK AREA. IF NOT POSSIBLE DUE TO CEILING OBSTRUCTION, G.C. TO COORDINATE WITH CAVA FOR LOCATIONS OF ADDITIONAL PANELS. TYPICAL INSTALLATION BETWEEN JOIST STRUCTUR, UNIFORM AND ORTHOGONAL PLACEMENT THROUGHOUT THE SPACE.

ATTENUATION PLAN CODED NOTES ⟨#⟩

1. SUSPENDED WOOD SLAT PANEL SYSTEM BELOW. SEE MILLWORK DRAWINGS. SUSPENDED FROM CEILING WITH UNI-STRUT. PAINT UNISTRUT PT-106.
2. CENTER SOUND ATTENUATING PANEL BETWEEN JOISTS, TYP. REFER TO 2/A142.
3. G.C. TO SECURE SUSPENDED ELEMENTS THROUGH THE SOUND ATTENUATION PANELS AND TO UNISTRUTS AS REQUIRED.
4. ALIGN.

SOUND ATTENUATION PANEL LEGEND

SYMBOL	DESCRIPTION	MANUF./MODEL	FINISH
	SOUND ATTENUATION PANEL TECTUM PANEL	#8182T10 ARMSTRONG TECTUM DIRECT-ATTACH HIGH NRC	NATURAL FINISH, PAINT PT-106
	ALTERNATE SOUND ATTENUATION PANEL TECTUM PANEL	ACOUSTICAL SURFACES ENVIROCOUSTIC WOOD WOOL DIRECT ATTACH	WHITE
	ADDITIONAL SOUND ATTENUATION PANEL TECTUM PANELS	CFAB CELLULOSE ABSORPTIVE ACOUSTICAL PANELS 1/2" THICK	

NOTE-
1. MOUNTING HEIGHTS TO BOTTOM OF CHORD.
2. GC TO COORDINATE INSTALL OF ADDITIONAL 16 PANELS WITH CAVA.

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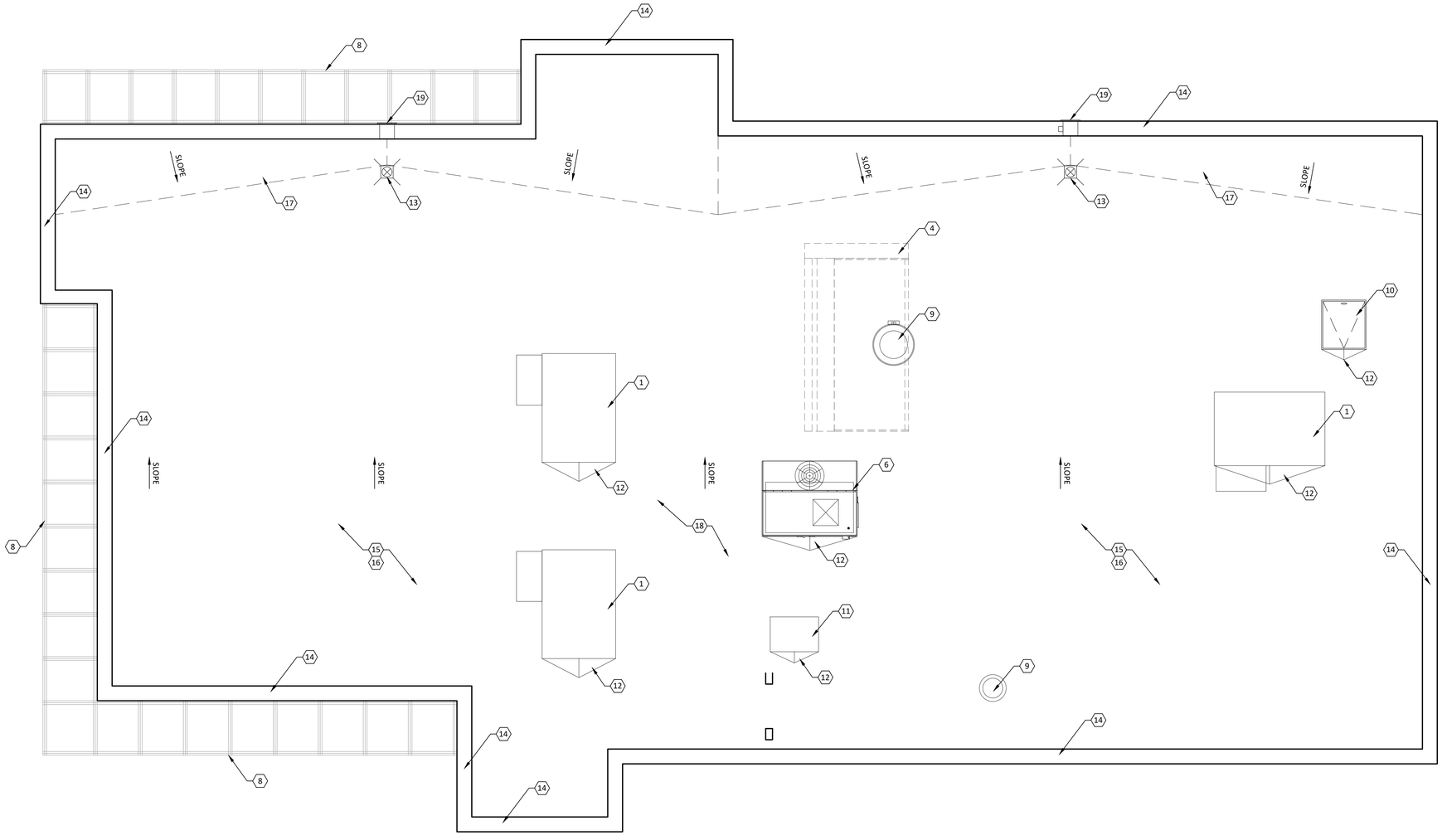
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SOUND ATTENUATION PLAN

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1 A150 ROOF PLAN
1/4" = 1'-0"

ROOF PLAN GENERAL NOTES

1. ROOF REINFORCEMENT FOR RTUS HAS BEEN DESIGNED AND INSTALLED BY THE PROPERTY OWNER UNDER A SEPARATE PERMIT. IF LOCATION OR ORIENTATION OF A UNIT MUST CHANGE, NOTIFY ARCHITECT IMMEDIATELY.
2. REFER TO MECHANICAL PLANS FOR ADDITIONAL ROOF TOP EQUIPMENT DETAILS AND NOTES.
3. CONTRACTOR TO ADJUST AS NECESSARY IN FIELD TO MAINTAIN WORKING CLEARANCES AND TO COORDINATE BEST WITH EXISTING STRUCTURAL REINFORCEMENTS MEMBERS. CONTACT ARCHITECT WITH AN DISCREPANCIES.
4. LANDLORD ROOFING CONTRACTOR TO PROVIDE ALL ROOF PENETRATIONS TO MAINTAIN WARRANTY. COORDINATE ALL ROOFTOP PENETRATIONS, FLASHING AND REPAIR WITH CAVA CONSTRUCTION MANAGER PRIOR TO COMMENCEMENT OF WORK.
5. DIMENSIONS ARE TO CENTER OF PENETRATION AND ARE FOR REFERENCE ONLY. ROOFING CONTRACTOR TO ADJUST AS NECESSARY IN FIELD. CONTACT ENGINEERING CONSULTANTS FOR ANY MAJOR MODIFICATIONS TO LAYOUT.
6. JOISTS FOR SHELL BUILDING WERE DESIGNED FOR THE RTU WEIGHTS AND PLACEMENT EXHIBITED. IF LOCATION OR ORIENTATION OF A UNIT MUST CHANGE, NOTIFY ARCHITECT IMMEDIATELY.
7. ADJUST HEIGHT OF ALL CURBS AS NEEDED FOR FLASHING CLEARANCES.
8. ROOF INSULATION TO MEET ENERGY CODE REQUIRED R-30ci AND COMPLY WITH SECTION C402.2.1 AND C402.2.2.

CODED NOTES ⬡

1. NEW ROOF TOP UNIT. REFER TO MECHANICAL DRAWINGS.
2. GC TO PROVIDE AND ASSEMBLE EQUIPMENT RAIL PRIOR TO MOUNTING CONDENSING UNITS. MAINTAIN CONTINUOUS FLASHING AND ROOF INTEGRITY THROUGHOUT.
3. PLUMBING VENTS. REFER TO PLUMBING DRAWINGS.
4. OUTLINE OF HOOD BELOW.
5. LINE OF EXISTING ROOF JOISTS BELOW, TYP. (V.I.F.)
6. NEW MAKEUP AIR UNITS. REFER TO MECHANICAL DRAWINGS.
7. NEW COMBINATION AIR INTAKE AND FLUE EXHAUST FOR WATER HEATER. REFER TO MECHANICAL DRAWINGS.
8. NEW WOOD CANOPY AND TIE RODS BY G.C. REFER TO STRUCTURAL DRAWINGS.
9. NEW EXHAUST FAN. REFER TO MECHANICAL DRAWINGS.
10. EXISTING ROOF HATCH TO REMAIN. GC TO TEST SEALS FOR LEAKAGE AND REPAIR AS NEEDED.
11. REMOTE WALK-IN COOLER CONDENSING UNIT BY KES.
12. PROVIDE TAPERED INSULATION AND CRICKETS AT ALL EQUIPMENT CURBS TO ALLOW FOR POSITIVE DRAINAGE.
13. EXISTING ROOF DRAINS: GC TO VERIFY THEY ARE IN WORKING CONDITION AND FREE OF DEBRIS.
14. PREFINISHED 20 GA. SNAP-ON ALUMINUM COPING, DYNACLAD EDGE SNAP-ON OR EQUAL AT EXISTING PARAPET
15. TEAR OFF EXISTING ROOFING SYSTEM DOWN TO THE RIGID INSULATION. EVALUATE CONDITION OF THE RIGID INSULATION FOR DAMAGE AND FOR ENERGY CODE COMPLIANCE. REPLACE RIGID INSULATION PER SPECIFICATIONS FOR DAMAGE AND CODE DEFICIENCIES. PROVIDE A NEW SINGLE PLY ROOF MEMBRANE SYSTEM PER SPECIFICATIONS. ROOF INSULATION DESIGN IS BASED ON A LEVEL ROOF STRUCTURE. FIELD VERIFICATION OF ROOF STRUCTURE SLOPE IS REQUIRED.
16. EXISTING METAL DECKING TO BE PATCHED AND REPAIRED AS REQUIRED AFTER DEMOLITION OF EXISTING ROOF EQUIPMENT.
17. TAPERED INSULATION FOR SLOPE TO ROOF DRAIN
18. NEW ROOFING SYSTEM AND TAPERED INSULATION TO ACHIEVE 3/8" PER FT SLOPE
19. SCUPPER: WATER-TIGHT PRE FINISHED ALUMINUM THROUGH-WALL DRAINAGE CHANNEL - REFER TO DETAIL 4/A505. FINISH COLOR TO COORDINATE WITH PARAPET EXTERIOR FINISH: ST-4: PAC CLAD SIERRA TAN OR EQUAL: FC-1 (BROWN: PAC-CLAD BLACK OR EQUAL (MATCH COPING) ; FC-2 (GRAY): PAC-CLAD GRANITE OR EQUAL.

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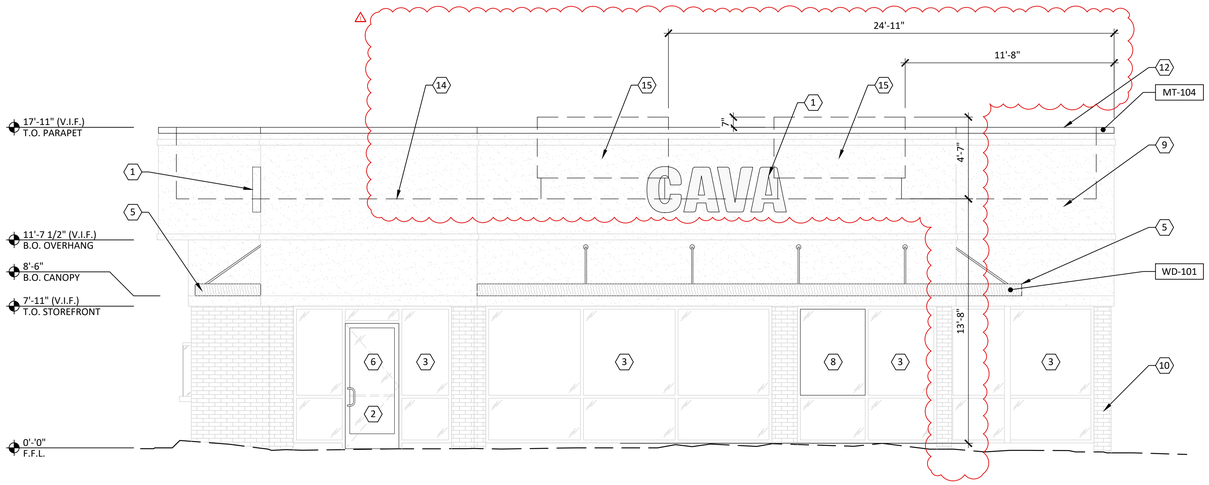
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ROOF PLAN

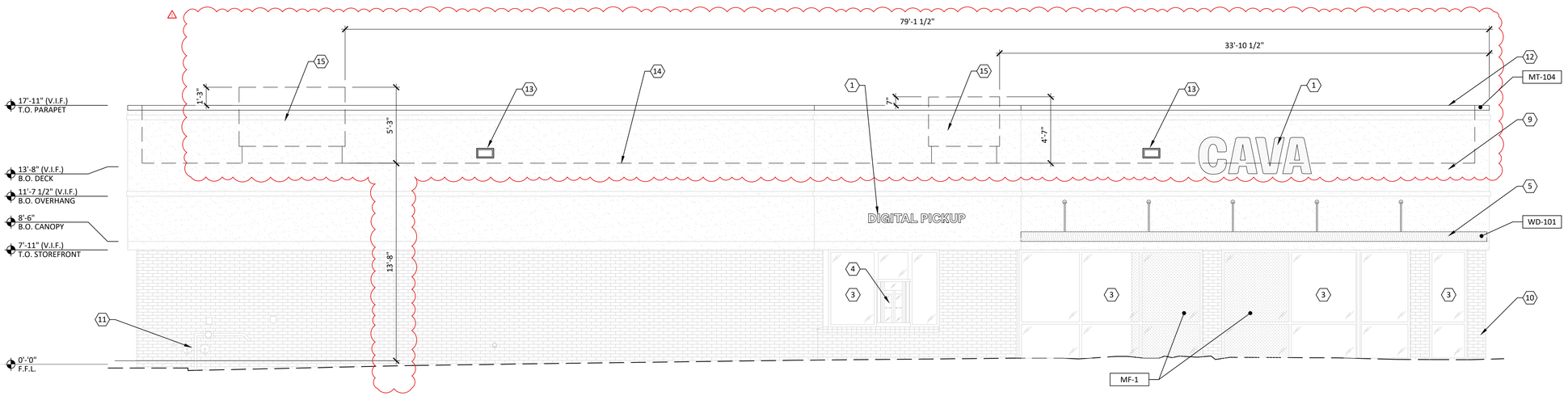
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A150

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1 A210 SOUTH ELEVATION

1/4" = 1'-0"



2 A210 WEST ELEVATION

1/4" = 1'-0"

EXT. ELEVATION CODED NOTES

1. REFERENCE SIGN SHOP DRAWINGS FOR LOCATION AND SIZE OF NEW SIGN. SIGNAGE UNDER SEPARATE PERMIT, GC TO PROVIDE BLOCKING AS NEEDED AND PULL POWER.
2. NEW DOOR VINYL BY SIGN VENDOR.
3. EXISTING STOREFRONT SYSTEM TO REMAIN.
4. EXISTING PICK UP BY CAR WINDOW TO REMAIN.
5. NEW WOOD CANOPY. REF. STRUCTURAL SHEETS FOR ADDTL. INFO.
6. NEW STOREFRONT DOOR IN EXISTING FRAME.
7. EXISTING DOOR TO REMAIN AND BE REPAINTED. NEW HARDWARE PER SCHEDULE
8. REPLACE MISSING/BROKEN GLAZING IN EXISTING STOREFRONT, IN KIND.
9. PATCH AND REPAIR EXISTING EIFS AS REQUIRED. GC TO APPLY LIMEWASH TO EIFS.
10. PATCH AND REPAIR EXISTING BRICK AS REQUIRED. GC TO APPLY LIMEWASH TO EXISTING BRICK.
11. EXISTING UTILITY METERS / CONNECTIONS TO REMAIN.
12. NEW METAL COPING AT EXISTING PARAPET.
13. SCUPPER: REFER TO ROOF PLAN
14. ROOF LINE BEYOND
15. RTU ON CURB - SEE MECHANICAL FOR ADDITIONAL INFORMATION

EXT. FINISH MATERIAL LEGEND

- EXISTING EIFS
- EXISTING BRICK
- WD-101

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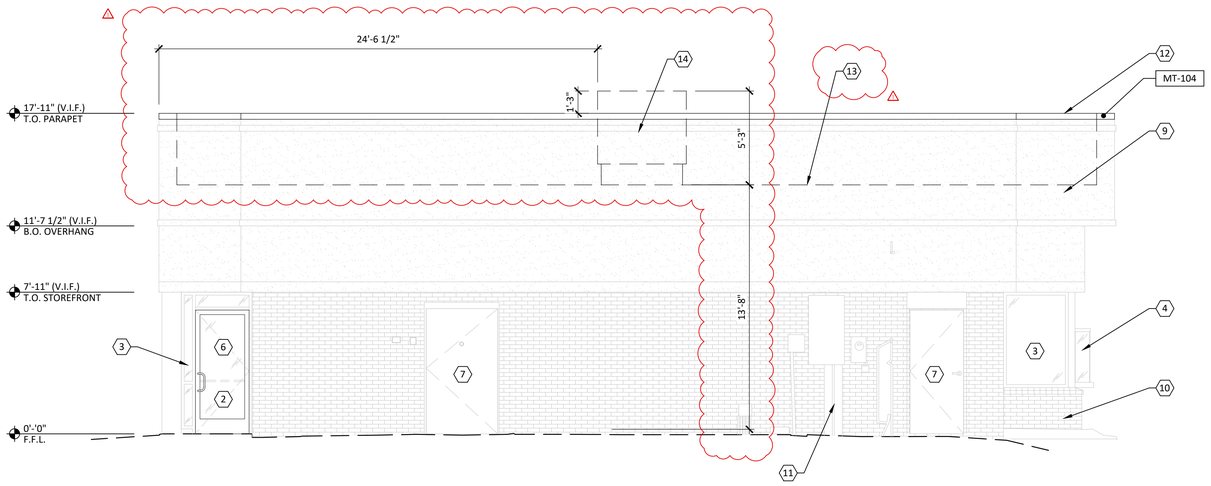
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EXTERIOR ELEVATIONS

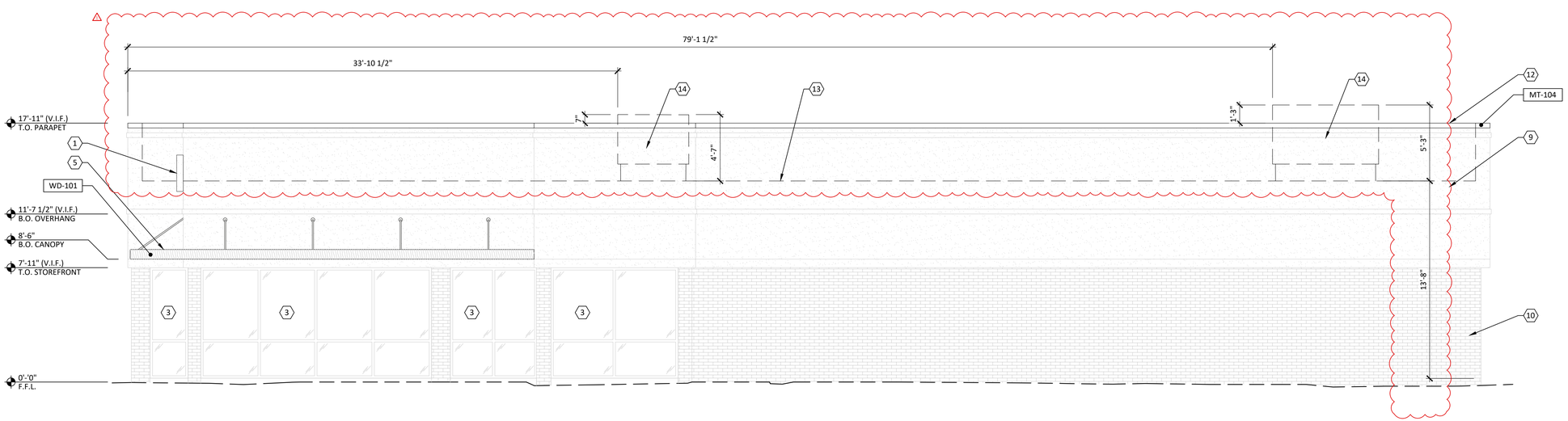
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1 A211 NORTH ELEVATION

1/4" = 1'-0"



2 A211 EAST ELEVATION

1/4" = 1'-0"

EXT. ELEVATION CODED NOTES (#)

1. REFERENCE SIGN SHOP DRAWINGS FOR LOCATION AND SIZE OF NEW SIGN. SIGNAGE UNDER SEPARATE PERMIT, GC TO PROVIDE BLOCKING AS NEEDED AND PULL POWER.
2. NEW DOOR VINYL BY SIGN VENDOR.
3. EXISTING STOREFRONT SYSTEM TO REMAIN.
4. EXISTING PICK UP BY CAR WINDOW TO REMAIN.
5. NEW WOOD CANOPY. REF. STRUCTURAL FOR ADDTL. INFO.
6. NEW STOREFRONT DOOR IN EXISTING FRAME.
7. EXISTING DOOR TO REMAIN AND BE REPAINTED. NEW HARDWARE PER SCHEDULE
8. REPLACE MISSING/BROKEN GLAZING IN EXISTING STOREFRONT, IN KIND.
9. PATCH AND REPAIR EXISTING EIFS AS REQUIRED. GC TO APPLY LIMEWASH TO EIFS.
10. PATCH AND REPAIR EXISTING BRICK AS REQUIRED. GC TO APPLY LIMEWASH TO EXISTING BRICK.
11. EXISTING UTILITY METERS / CONNECTIONS TO REMAIN.
12. NEW METAL COPING AT EXISTING PARAPET.
13. ROOF LINE BEYOND
14. RTU ON CURB - SEE MECHANICAL FOR ADDITIONAL INFORMATION

EXT. FINISH MATERIAL LEGEND

- EXISTING EIFS
- EXISTING BRICK
- WD-101

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EXTERIOR ELEVATIONS

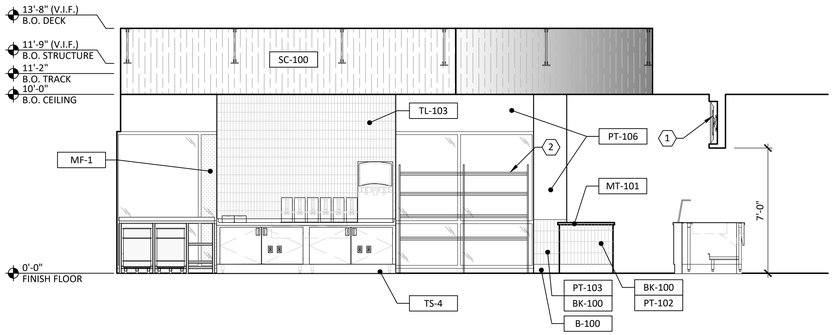
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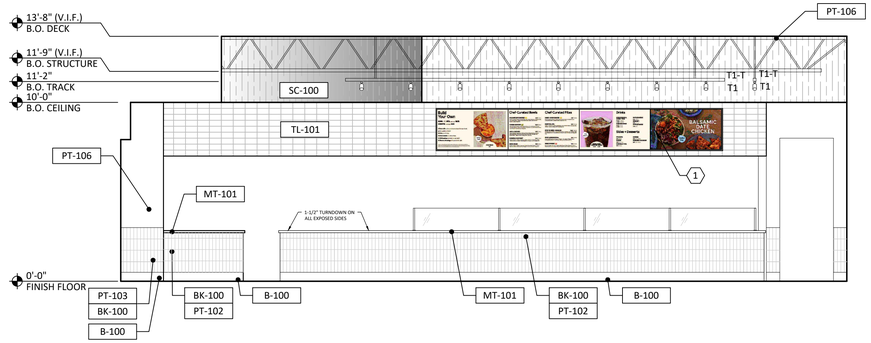
ELEVATION CODED NOTES (#)

1. MENU BOARD, REFER TO DETAIL 1/A501 .
2. PICK UP SHELF BY MILLWORKER.
3. ADA SIGNAGE PER G003 TYP.



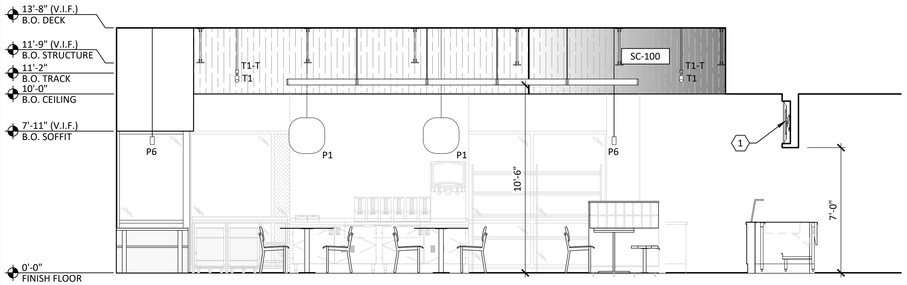
1 A220 INTERIOR ELEVATION

1/4" = 1'-0"



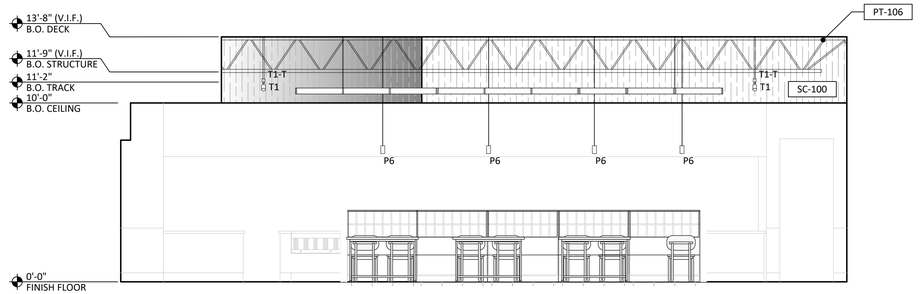
2 A220 INTERIOR ELEVATION

1/4" = 1'-0"



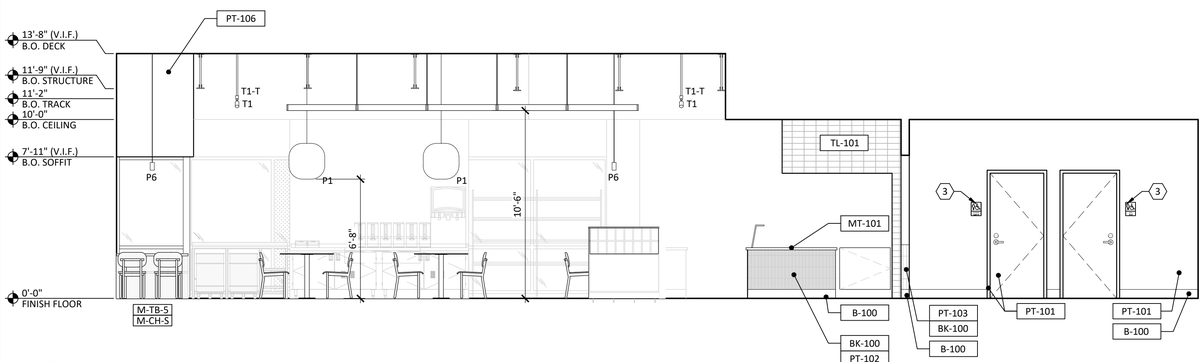
3 A220 INTERIOR ELEVATION

1/4" = 1'-0"



4 A220 INTERIOR ELEVATION

1/4" = 1'-0"



5 A220 INTERIOR ELEVATION

1/4" = 1'-0"

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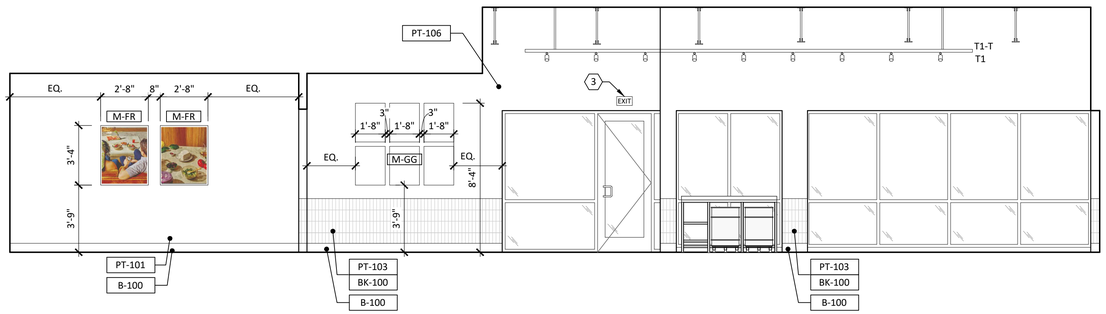
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INTERIOR ELEVATIONS

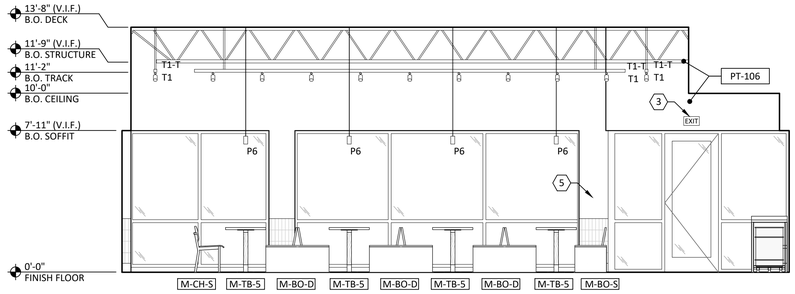
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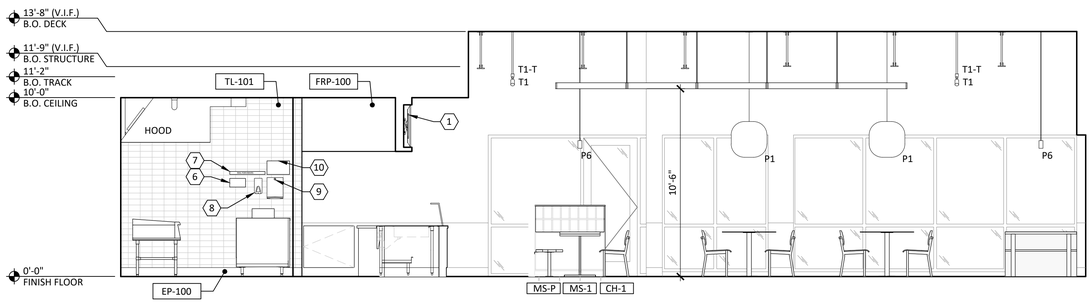
1 A221 INTERIOR ELEVATION

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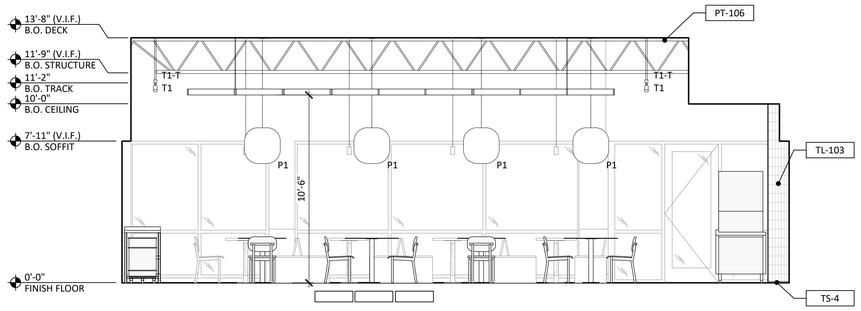
2 A221 INTERIOR ELEVATION

1/4" = 1'-0"



3 A221 INTERIOR ELEVATION

1/4" = 1'-0"



4 A221 INTERIOR ELEVATION

1/4" = 1'-0"

ELEVATION CODED NOTES (#)

1. MENU BOARD, REFER TO DETAIL 1/A501 .
2. NOT USED
3. EXIT SIGN PER RCP. MOUNTED TO J-BOX AND EXPOSED CONDUIT RUNNING FROM CEILING. VERIFY MOUNTING HEIGHT IN FIELD.
4. NOT USED
5. LOCATION FOR PERMIT/HEALTH/LICENSES AS REQ'D BY AHJ.
6. LOCATION OF TIMER.
7. LOCATION OF RAIL FOR KNIVES.
8. SOAP DISPENSER.
9. PAPER DISPENSER.
10. GLOVES.

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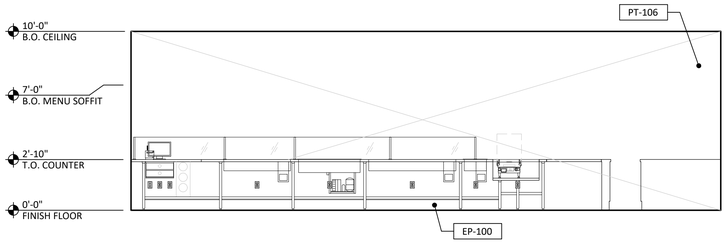
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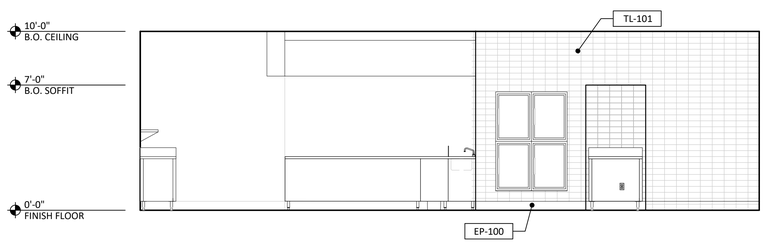
INTERIOR ELEVATIONS

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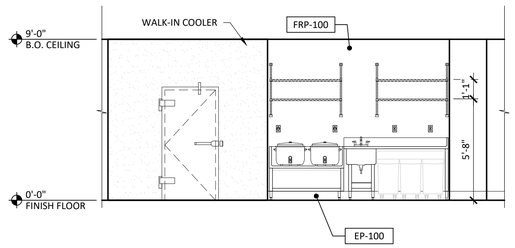
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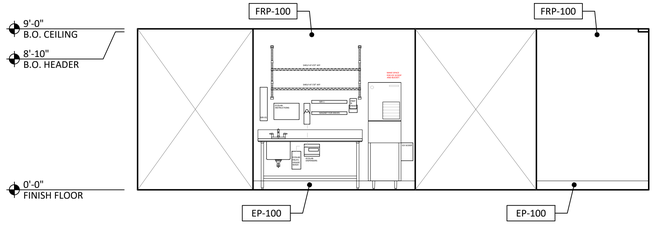
1 A222 INTERIOR ELEVATION
1/4" = 1'-0"



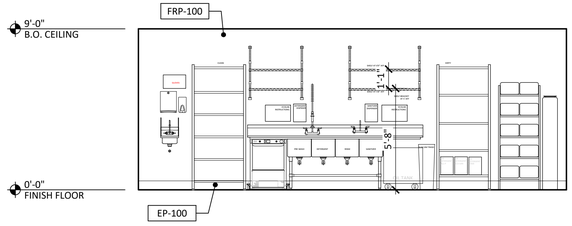
2 A222 INTERIOR ELEVATION
1/4" = 1'-0"



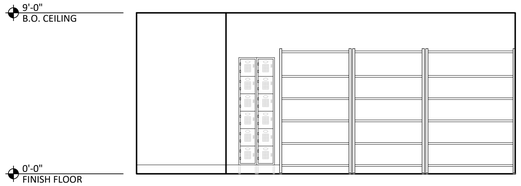
3 A222 INTERIOR ELEVATION
1/4" = 1'-0"



4 A222 INTERIOR ELEVATION
1/4" = 1'-0"



5 A222 INTERIOR ELEVATION
1/4" = 1'-0"



6 A222 INTERIOR ELEVATION
1/4" = 1'-0"

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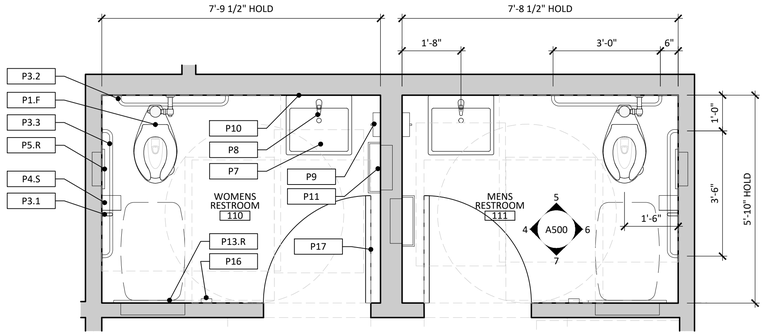
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FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

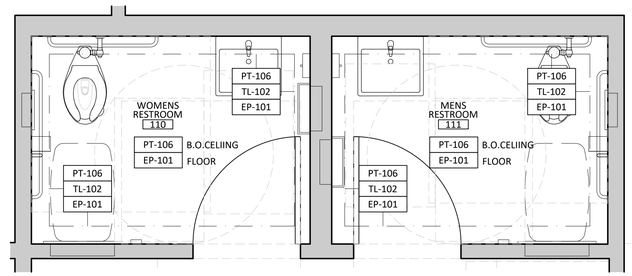
AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
1 BLDG RESPONSE	NOV 15, 2024
2 CONSTR SET	JAN 8, 2025

INTERIOR ELEVATIONS

SHEET:
A222



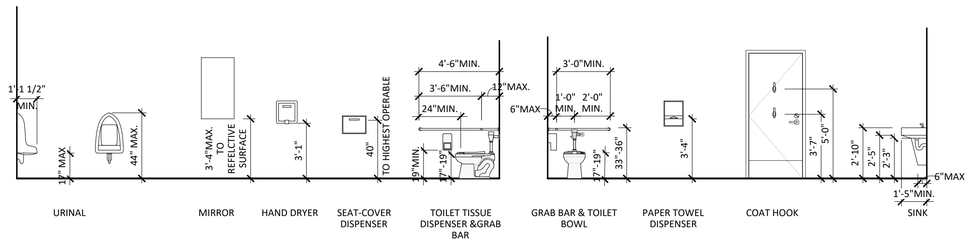


1 / A410 ENLARGED RESTROOM FLOOR PLAN

1/2" = 1'-0"

2 / A410 ENLARGED RESTROOM FINISH PLAN

1/2" = 1'-0"



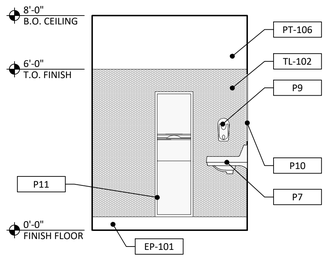
RESTROOM ACCESSORIES

MARK	DESCRIPTION	MANUF./MODEL	FINISH	MOUNTING HEIGHT
P1.F	FLOOR MOUNTED TOILET	KOHLER HIGHCLIFF ULTRA BOWL K-96057		
P3.1	18" GRAB BAR	BOBRICK B-6806 x16		T.O. BAR 4'-9"
P3.2	36" GRAB BAR	BOBRICK B-6806 x36		SEE 3/A410
P3.3	42" GRAB BAR	BOBRICK B-6806 x42		SEE 3/A410
P4.S	DOUBLE SURFACE MOUNTED TOILET PAPER DISPENSER	BOBRICK B-2888		SEE 3/A410
P5.R	RECESSED SANITARY NAPKIN DISPOSAL	BOBRICK DOME 270		SEE 3/A410
P7	WALL MOUNTED SINK	KOHLER BRENHAM K-1997-1N		SEE 3/A410
P8	FAUCET	KOHLER K-7514		
P9	SOAP DISPENSER	ECOLAB NEXA CLASSIC TF DISPENSER	BLACK	SEE 3/A410
P10	WALL HUNG MIRROR	BREY-KRAUSE T-1018-36SS 18"x30"		SEE 3/A410
P11	PAPER TOWEL DISPENSER & TRASH	BOBRICK B-3944 CLASSIC SERIES	STAINLESS STEEL	SEE 3/A410
P13.R	BABY CHANGING STATION (VERTICAL)	KOALA KARE KB311-SSRE	STAINLESS STEEL	34" TO T.O. SHELF WHEN OPEN
P16	AIR FRESHENER	TBD	BLACK	
P17	DOOR MOUNTED COAT HOOK	BOBRICK B-6827		60" TO CENTER OF HOOK 44" ADA CENTER OF HOOK
P18	URINAL	DEXTER ANTIMICROBIAL URINAL WITH MACH TRIPOINT FLUSHOMETER K-PR5452-T1DS		

PROVIDE SOLID FRT WOOD BLOCKING AS NECESSARY FOR INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS. SEE SHEET G002 & G003 FOR ACCESSIBILITY GUIDELINES.

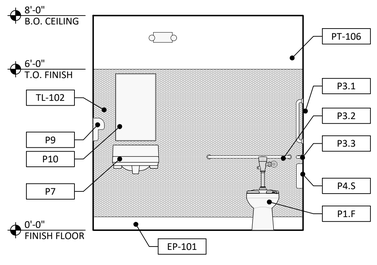
3 / A410 ACCESSIBILITY DETAILS

1/4" = 1'-0"



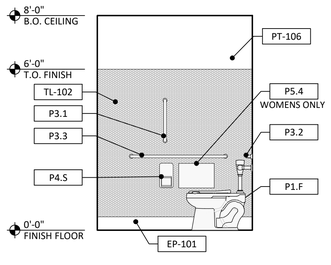
4 / A410 INTERIOR ELEVATION

3/8" = 1'-0"



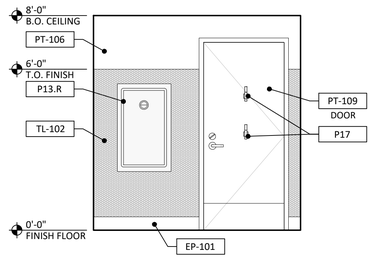
5 / A410 INTERIOR ELEVATION

3/8" = 1'-0"



6 / A410 INTERIOR ELEVATION

3/8" = 1'-0"



7 / A410 INTERIOR ELEVATION

3/8" = 1'-0"

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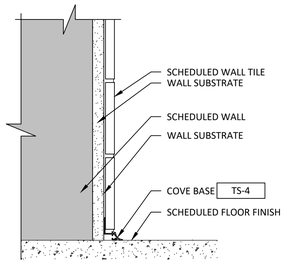
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AOR PROJECT NUMBER:
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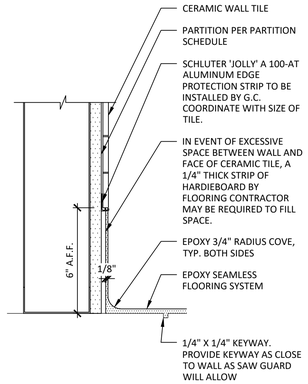
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ENLARGED RESTROOM PLANS

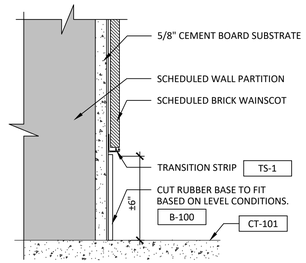
SHEET:
A410



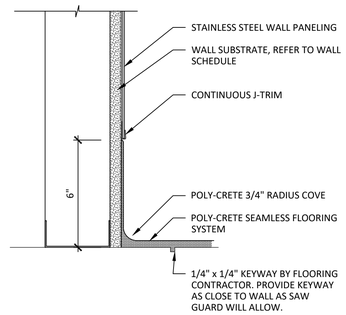
1 A500 — SCHLUTER COVE BASE
3" = 1'-0"



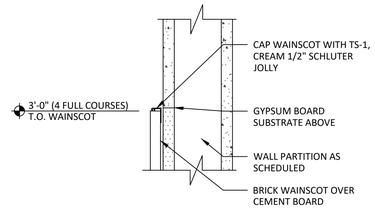
2 A500 — EPOXY FLOOR AT TILE WALL
3" = 1'-0"



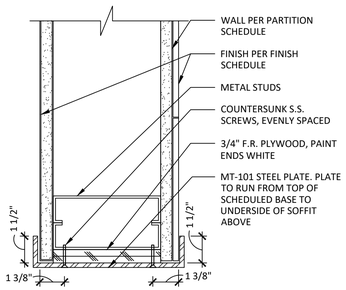
3 A500 — TYP. BASE DETAIL
3" = 1'-0"



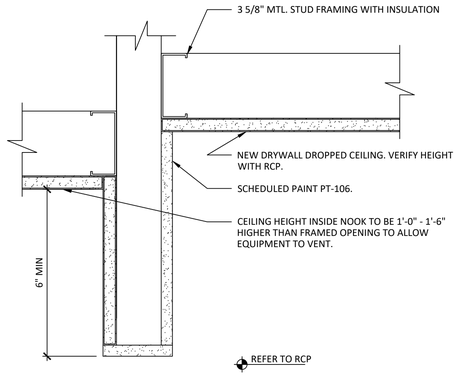
4 A500 — EPOXY FLOOR AT FRP WALL
3" = 1'-0"



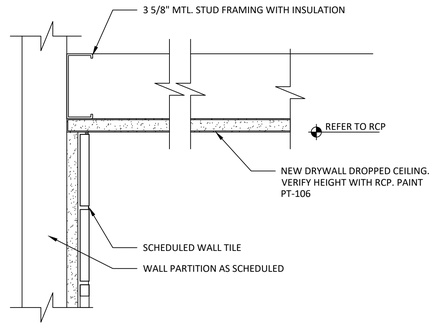
5 A500 — TOP OF WAINSCOT
3" = 1'-0"



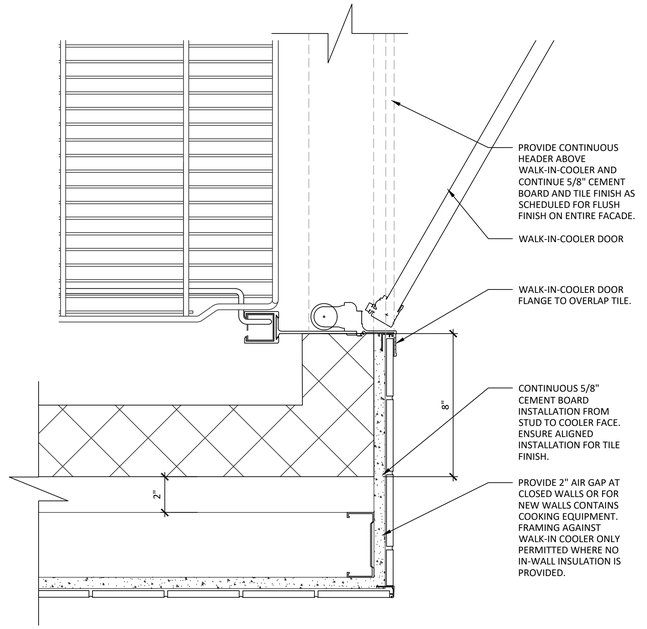
6 A500 — WALL END CAP AT BOH
3" = 1'-0"



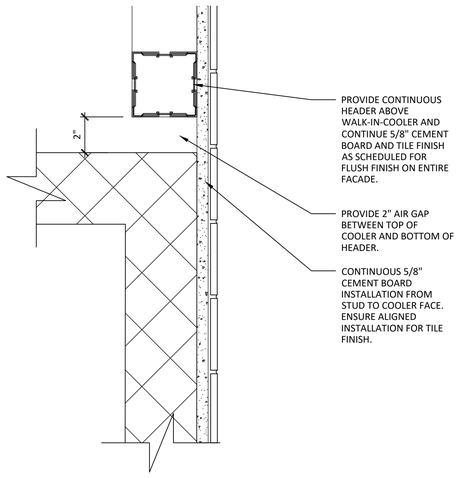
7 A500 — KITCHEN OVERHEAD PARTITION
3" = 1'-0"



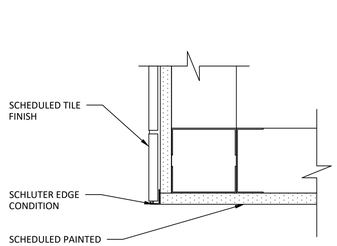
8 A500 — CEILING FINISH TRANSITION AT DETAIL
3" = 1'-0"



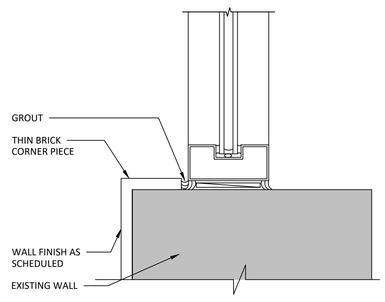
9 A500 — WALK IN COOLER PLAN DETAIL
3" = 1'-0"



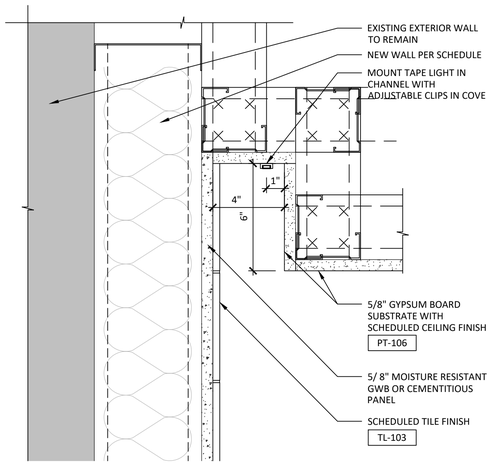
10 A500 — HEADER ABV WALK IN COOLER DETAIL
3" = 1'-0"



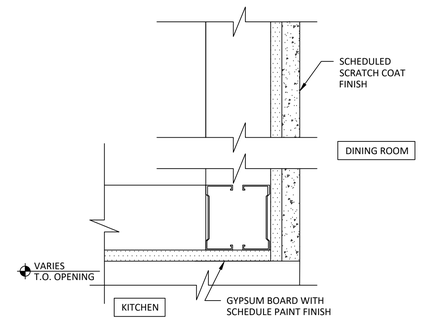
11 A500 — TILE TO GYP. TRANSITION
3" = 1'-0"



12 A500 — SILL DETAIL
3" = 1'-0"



13 A500 — COVE LIGHTING DETAIL
3" = 1'-0"



14 A500 — CEILING SOFFIT DETAIL
3" = 1'-0"

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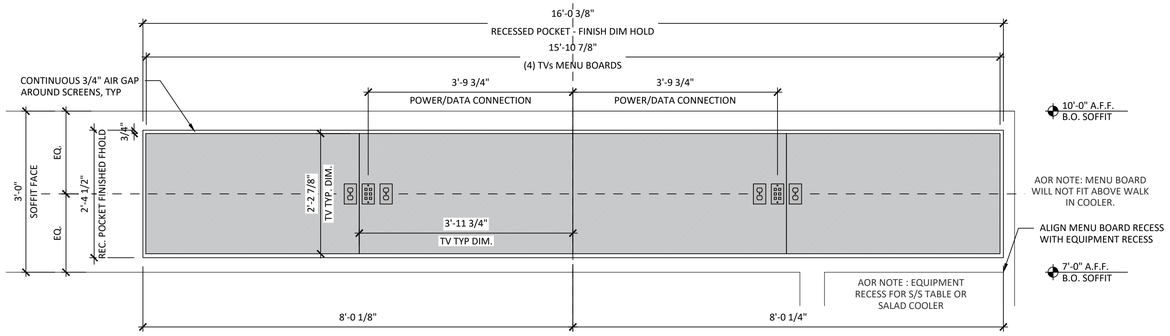
AOR PROJECT NUMBER:
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PERMIT SET	AUG 2, 2024
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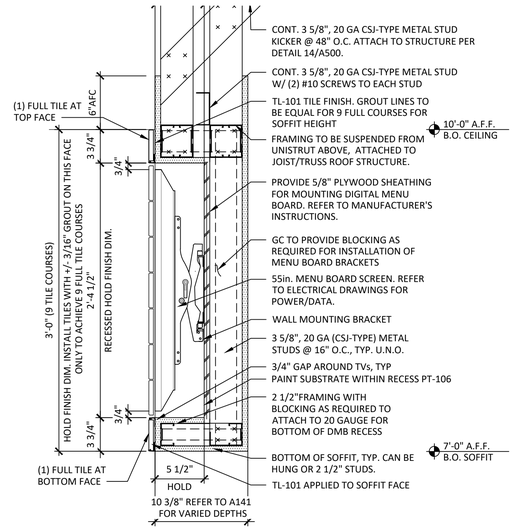
DETAILS

SHEET:
A500

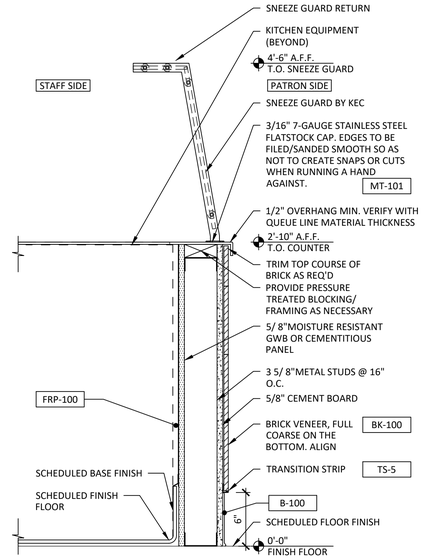
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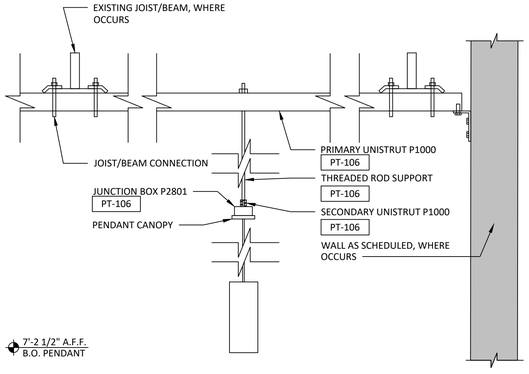
1 A501 **DIGITAL MENU BOARD**
3/4" = 1'-0"



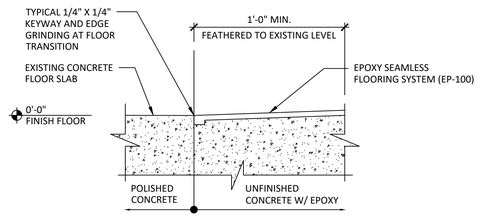
2 A501 **DIGITAL MENU BOARD : SECTION**
3/4" = 1'-0"



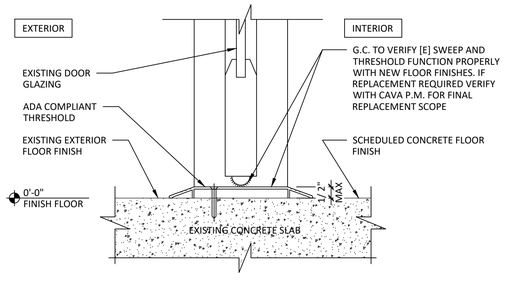
3 A501 **FOOD-LINE DETAILED SECTION**
1 1/2" = 1'-0"



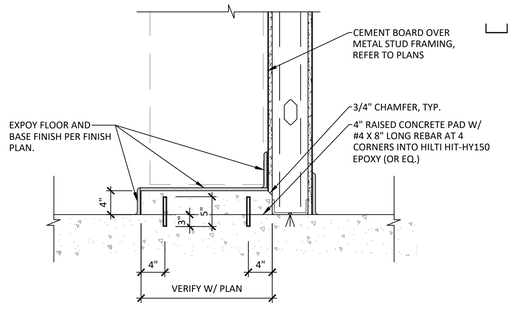
4 A501 **SUSPENDED PENDANT LIGHT DETAIL**
3" = 1'-0"



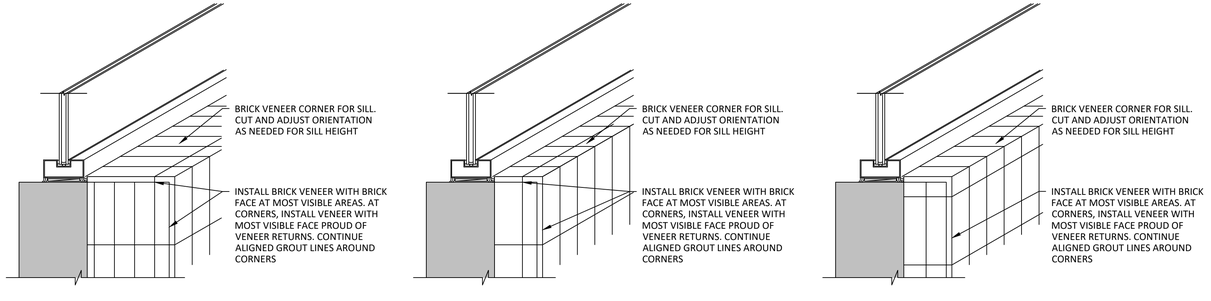
5 A501 **EPOXY TO CONCRETE**
3" = 1'-0"



6 A501 **ENTRY DOOR THRESHOLD DETAIL**
3" = 1'-0"



7 A501 **CURB DETAIL**
1" = 1'-0"



8 A501 **BRICK DETAIL : SILL AND CORNERS**
1 1/2" = 1'-0"

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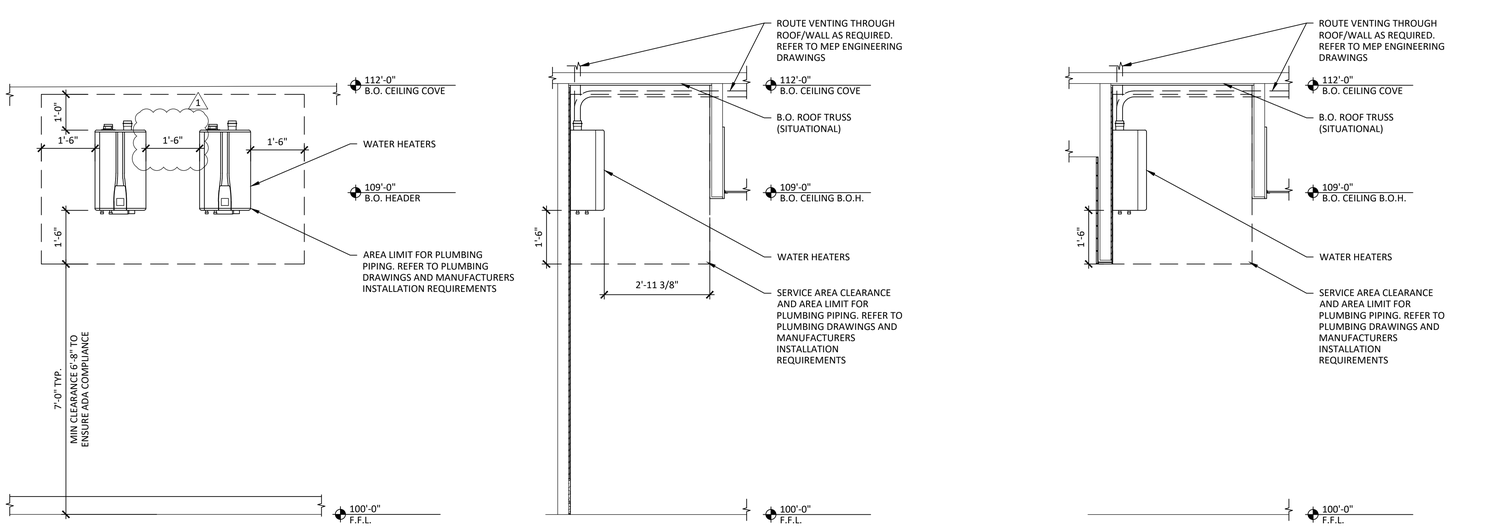
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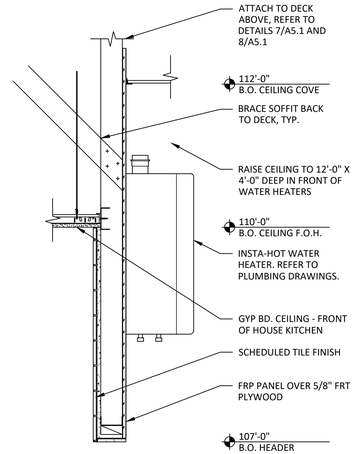
DETAILS

SHEET:
A501



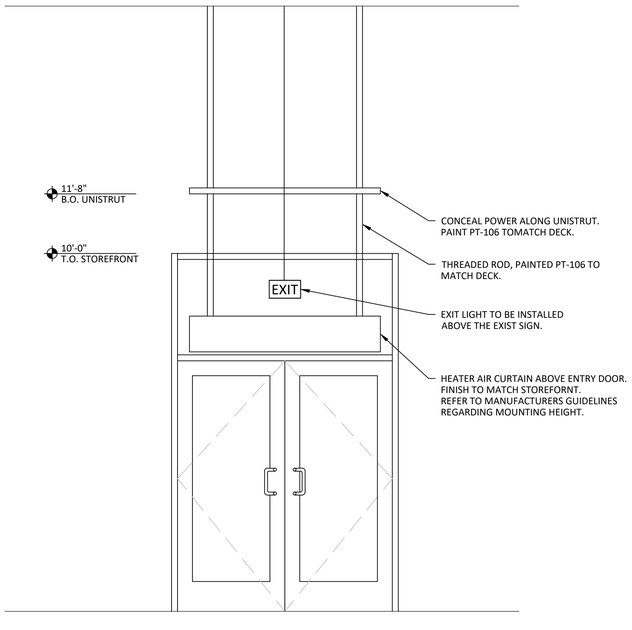
1 A502 WATER HEATER COVE ELEVATIONS

3/4" = 1'-0"



2 A502 WATER HEATER COVE DETAIL

3/4" = 1'-0"



3 A502 AIR CURTAIN MOUNTING DETAIL

4" = 1'-0"

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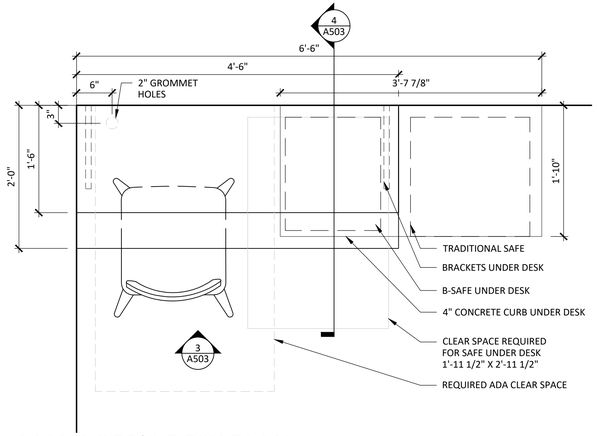
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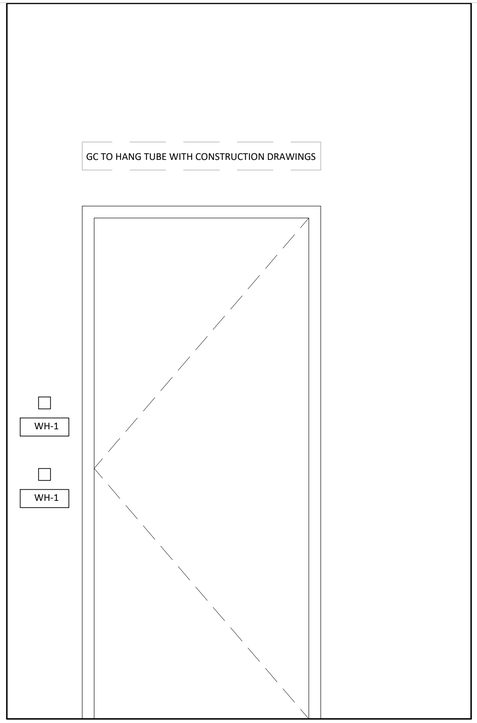
DETAILS

SHEET:
A502

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1 A503 MANAGER'S DESK PLAN
1" = 1'-0"

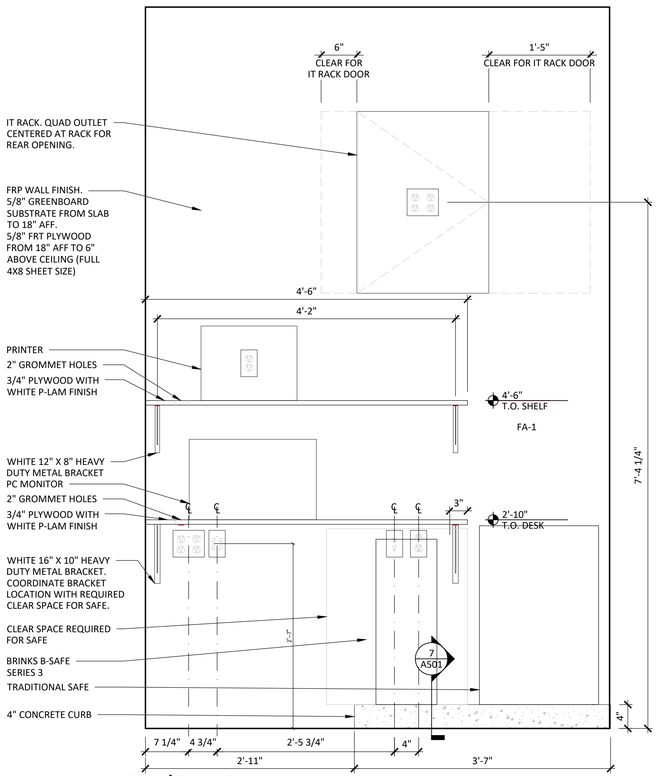


2 A503 OFFICE ELEVATION
1" = 1'-0"

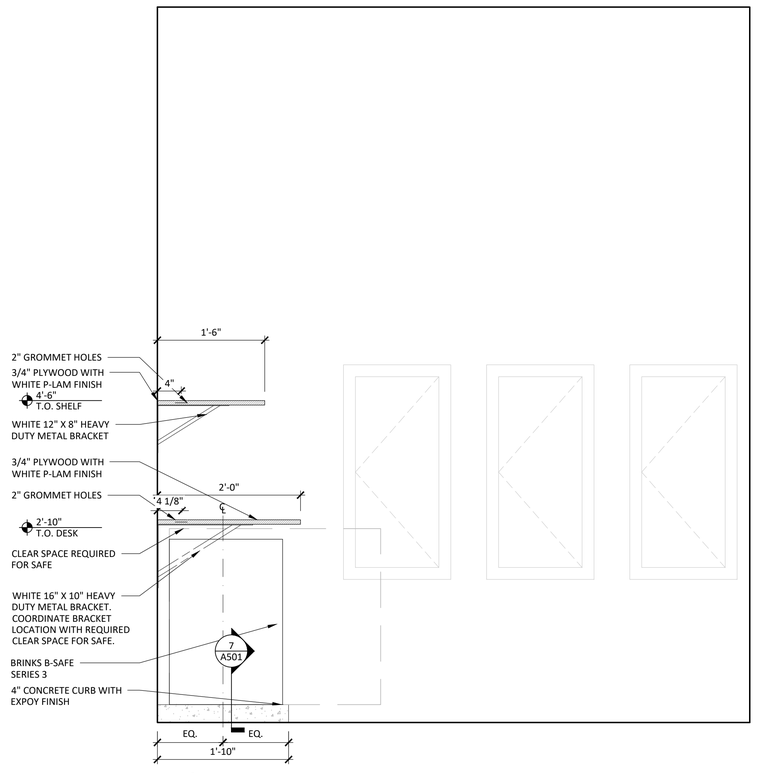
OFFICE ITEMS

MARK	MANUFACTURER DESCRIPTION	FURNISH	INSTALL	REMARKS
ITEMS				
OI-01	CORK BULLETIN BOARD	CAVA	GC	QTY. 1. 36" X 48", WOOD FRAME WITH LIGHT OAK FINISH
OI-02	WOOD CLIPBOARDS	CAVA	GC	QTY. 3. 9"X 12-1/2"
OI-03	DOCUMENT FRAMES	CAVA	GC	QTY. 6. 8-1/2" X 11"
OI-04	KEY RACK	CAVA	GC	QTY. 1. ASSORTED COLOR KEY CHAINS
OI-06	POCKET WALL FILE	CAVA	GC	QTY. 1. 7"H X 13"W X 4"D

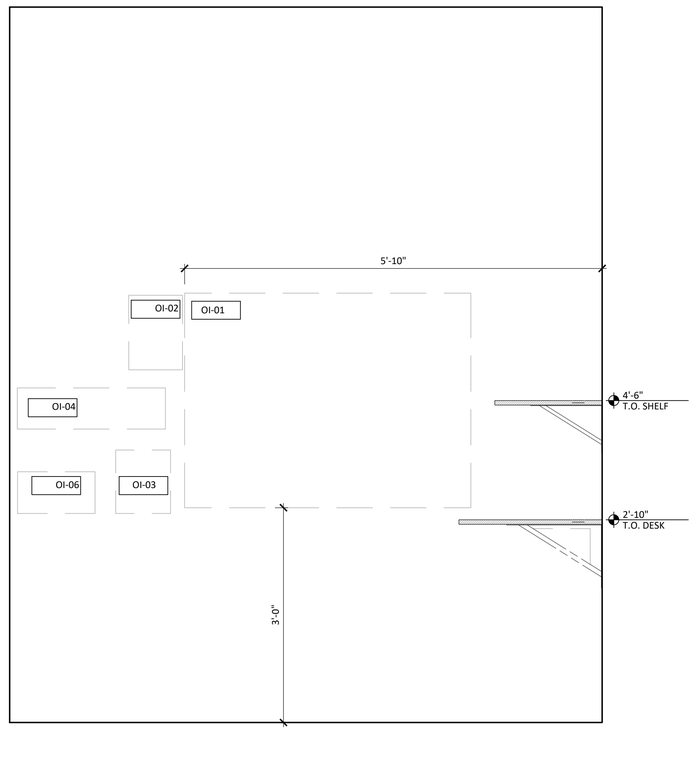
G.C. TO COORDINATE FINAL LOCATION WITH CM AND RESTAURANT MANAGER OR AREA LEADER



3 A503 MANAGER'S DESK ELEVATION
1" = 1'-0"



4 A503 MANAGER'S DESK SECTION
1" = 1'-0"



5 A503 OFFICE ITEMS ELEVATION
1 1/2" = 1'-0"

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CAVA

CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

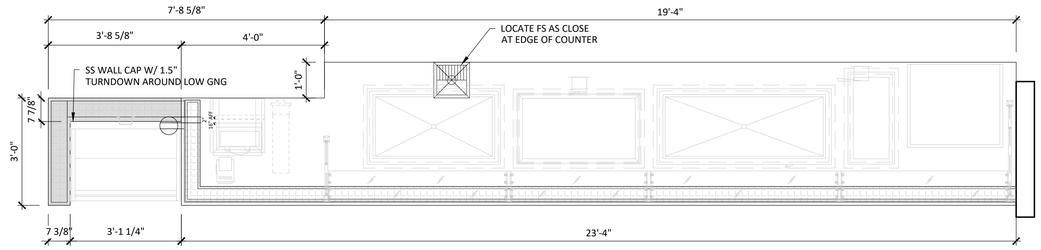
AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
1 BLDG RESPONSE	NOV 15, 2024
2 CONSTR SET	JAN 8, 2025

OFFICE DETAILS

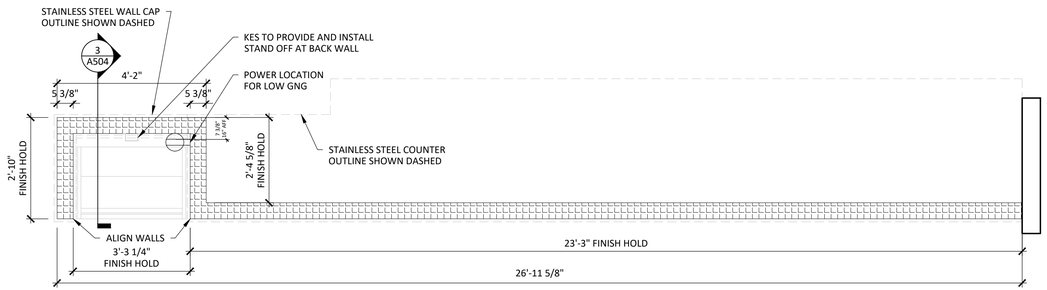
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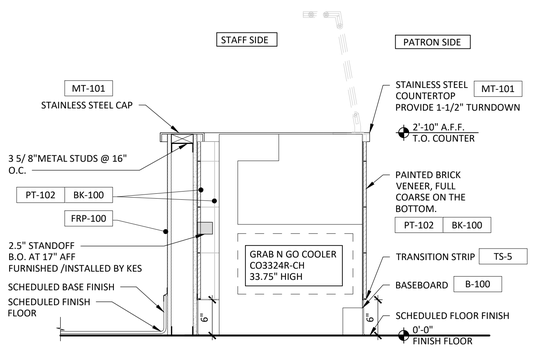
1 / A504 ENLARGED PLAN : QUEUE LINE - EQUIPMENT

1/2" = 1'-0"



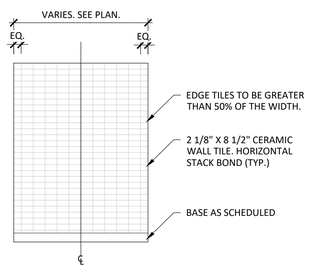
2 / A504 ENLARGED PLAN : QUEUE LINE - WALL ASSEMBLY

1/2" = 1'-0"



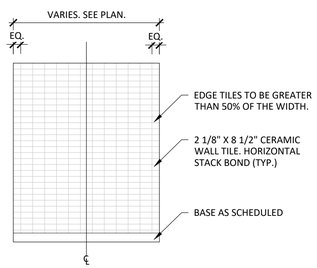
3 / A504 DETAIL SECTION : SERVING LINE

1" = 1'-0"



4 / A504 TILE CENTERED LAYOUT

1/4" = 1'-0"



5 / A504 TILE CENTERED LAYOUT

1/4" = 1'-0"

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14 Ridge Square NW #500, WASHINGTON, DC 20016

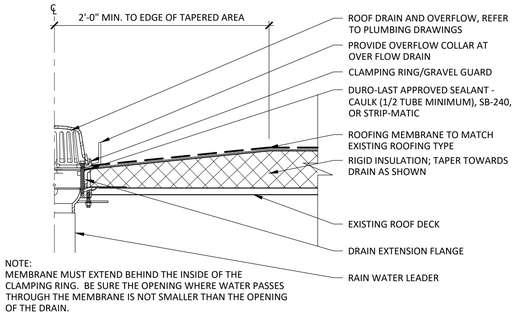
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DETAILS

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A504

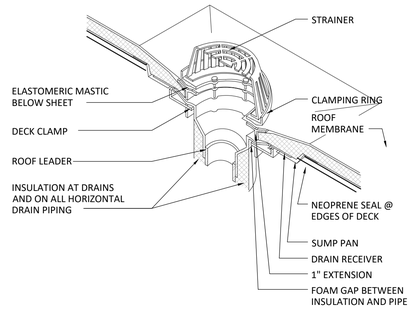
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NOTE:
MEMBRANE MUST EXTEND BEHIND THE INSIDE OF THE CLAMPING RING. BE SURE THE OPENING WHERE WATER PASSES THROUGH THE MEMBRANE IS NOT SMALLER THAN THE OPENING OF THE DRAIN.

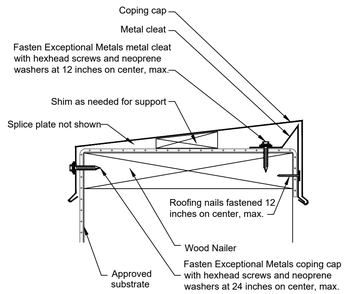
1 A505 ROOF DRAIN SECTION

1 1/2" = 1'-0"



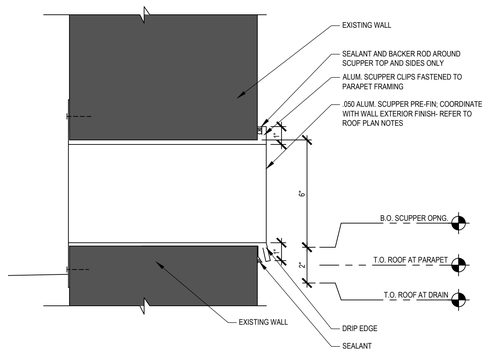
2 A505 ROOF DRAIN DETAIL

3/4" = 1'-0"



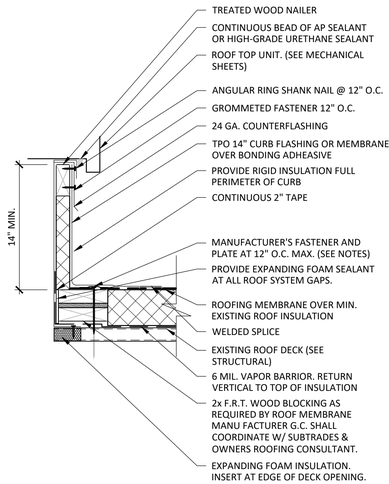
3 A505 COPING DETAIL

N.T.S.



4 A505 OVERFLOW SCUPPER DETAIL

3" = 1'-0"

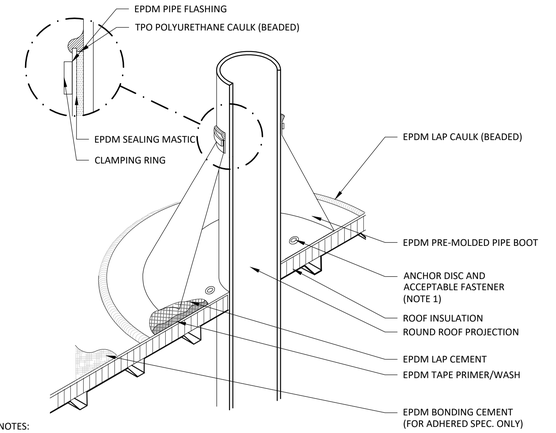


NOTES-

1. REFER TO MANUFACTURERS INSTALLATION DETAILS FOR ADDITIONAL REQUIREMENTS.
2. REFER TO MANUFACTURER'S DETAILS FOR WELD WIDTH.
3. METAL COUNTERFLASHING SHALL BE 24 GAUGE PRE-FINISHED STEEL OR .032" MIN. ALUMINUM FORMED WITH HEMMED LOWER EDGE MOUNTED TIGHTLY TO UNDERSIDE OF MECHANICAL UNIT.
4. MANUFACTURER'S FASTENERS WITH GP SEALANT OVER FASTNER HEADS. GP SEALANT ALSO REQUIRED ALONG ENTIRE EDGE OF CURB FLANGE.
5. BONDING ADHESIVE REQUIRED BETWEEN MEMBRANE AND INSULATION FOR FULLY ADHEARED SYSTEM.
6. WHEN REINFORCEMENT OF MEMBRANE IS EXPOSED, REFER TO MANUFACTURER'S DETAILS FOR CUT EDGE SEALANT APPLICATION.
7. INSTALL METAL WORK IN ACCORDANCE WITH CURRENT SMACNA RECOMMENDATIONS.

5 A505 CURB CUT DETAIL

N.T.S.



NOTES:

1. WITH MECHANICALLY FASTENED OR BALLASTED SPECIFICATIONS, MEMBRANE MUST BE MECHANICALLY ATTACHED WITH 2" (50 mm) ANCHOR DISC AND ACCEPTABLE FASTENERS (MINIMUM OF 4 PER PIPE).
2. DO NOT OVERLAP THE FLANGES FROM ADJACENT PIPE FLASHINGS.
3. ANY SEAM UNDER BOOT FLANGE TO BE TREATED AS T-JOINT.
4. BOTH SURFACES TO BE MATED MUST BE CLEANED WITH TAPE PRIMER/WASH. EPDM TAPE PRIMER/WASH MUST BE COMPLETELY DRY AND TACK FREE BEFORE APPLYING EPDM LAP CEMENT.

6 A505 BOOT DETAIL

1/2" = 1'-0"

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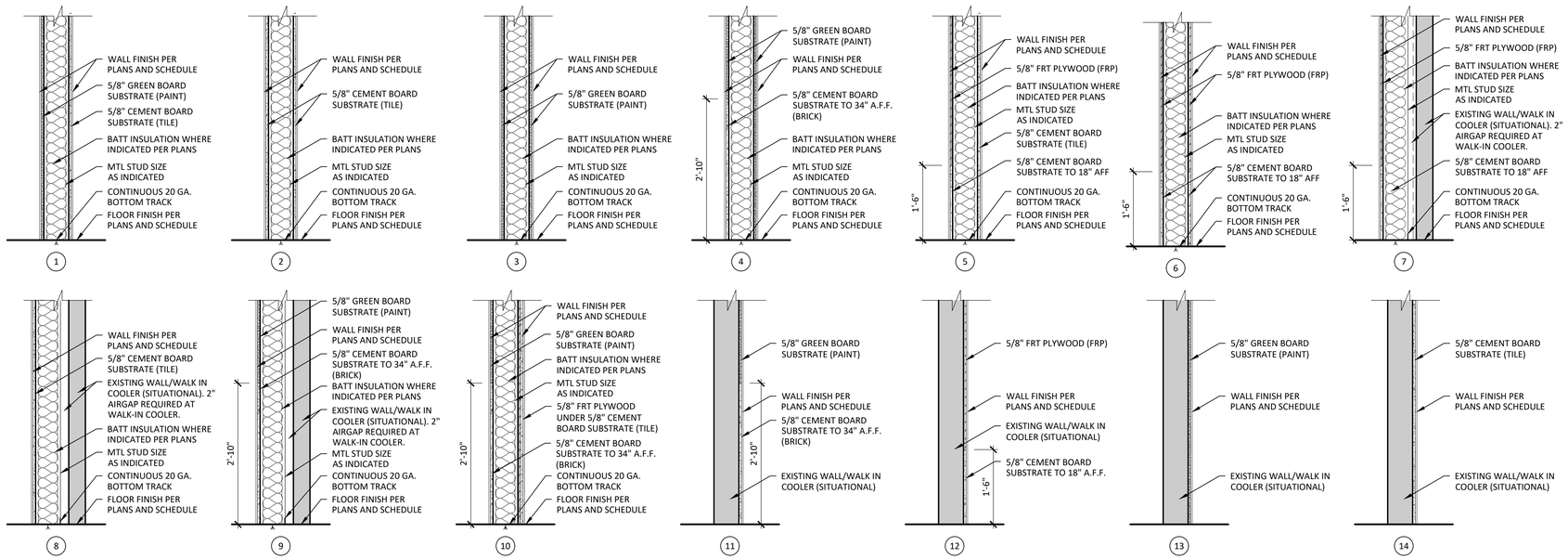
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DETAILS

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1 A600 WALL PARTITION CONSTRUCTION LEGEND

3/4" = 1'-0"

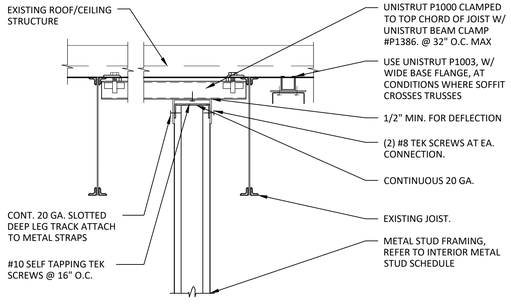
MARK	SIZE	GA.	MAT. DESIGN THICK (MILS)	TYPE	MAXIMUM UNSUPPORTED HGT AT 12" O.C.	MAXIMUM UNSUPPORTED HGT AT 16" O.C.	MAXIMUM UNSUPPORTED HGT AT 24" O.C.
A	7/8"	20	30	DRY	---	---	---
B	1 5/8"	20	30	DRY	9'-3"	8'-5"	7'-4"
C	2 1/2"	20	30	DRY	12'-9"	11'-7"	10'-2"
D	3 5/8"	20	30	DRY	17'-0"	15'-6"	13'-6"
		20	33	STR	17'-7"	16'-0"	14'-0"
		18	43	STR	19'-2"	17'-5"	15'-3"
E	6"	20	30	DRY	25'-2"	22'-11"	18'-11"
		20	33	STR	26-2"	23'-9"	20'-6"
		18	43	STR	28'-9"	26'-1"	22'-10"
		16	54	STR	30'-9"	27'-11"	24'-5"
F	8"	18	43	STR	36'-1"	32'-9"	28'-8"
		16	54	STR	38'-9"	35'-2"	30'-9"
		14	68	STR	41'-11"	38'-1"	33'-4"

1. USE GAUGE & TYPE OF STUD AS SCHEDULED, UNLESS NOTED OTHERWISE ON DRAWINGS.
2. BASED ON INTERIOR NON-STRUCTURAL, NON-COMPOSITE LIMITING WALL HEIGHT TABLES. PARTITIONS w/ ONE LAYER GYPSUM BOARD EACH SIDE (L/240 DEFLECTION - 5 PSF LOAD) PER 2012 SSMA PRODUCT TECHNICAL INFORMATION BULLETIN (ICC ESR #3064P).
3. RUNNER TRACK GAUGE TO MATCH STUD.
4. WALLS OVER 12'-0" HIGH TO BE LATERALLY BRACED VERTICAL WITH 1 1/2" (16GA) COLD-ROLLED CHANNELS CLIP ANCHORED TO METAL STUDS.
5. STND = STANDARD STUD. DRY = DRYWALL STUD. STR = STRUCTURAL STUD.
6. METAL STUD NON-STRUCTURAL WALL SYSTEMS TO FOLLOW ASTM C754 & ASTM 645.
7. MATERIAL DESIGN THICKNESS IS THE BASE METAL THICKNESS IN MILS. MINIMUM ALLOWED BASE METAL THICKNESS REPRESENTS 95% OF THE DESIGN THICKNESS.
8. DIAGONAL BRACING TO FOLLOW INTERIOR STUD SCHEDULE.
9. FRAMING THAT OCCURS BEHIND TILE AS A WALL FINISH TO BE SPACED NO MORE THAN 16" O.C.

2 A600 WALL PARTITION BRACING LEGEND

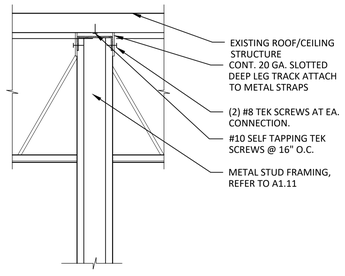
1/2" = 1'-0"

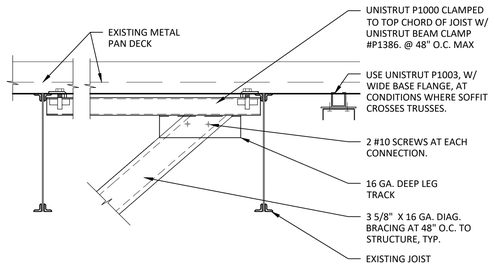
NOTE:
VERIFY THAT THE SHOWN METHOD OF ATTACHMENT IS ACCEPTABLE WITH THE ON-SITE COORDINATOR. IF NOT, CONTACT ARCHITECT FOR ALTERNATE DETAIL. METHOD SHOWN IS FOR FLOOR SUPPORTED FRAMING ONLY.

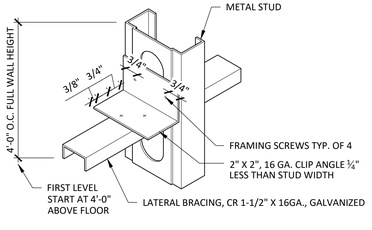


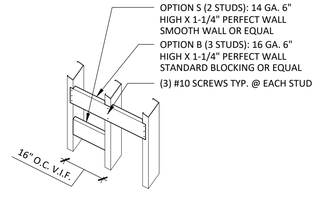
3 A600 INTERIOR METAL STUD SCHEUDLE

NO SCALE









NOTE: BLOCKING TO BE PROVIDED @ WALL MTD. ITEMS INCLUDING GRAB BARS, SHELVES, LIGHTS, CABINETS, SINKS, TOILETS ETC.

4 A600 TOP OF FULL HEIGHT WALL CONNECTION

1" = 1'-0"

5 A600 TOP OF BRACED WALL CONNECTION

1" = 1'-0"

6 A600 LATERAL PARTITION BRACING

NOT TO SCALE

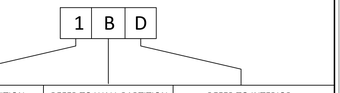
7 A600 PARTITION BLOCKING DETAIL

NOT TO SCALE

GENERAL WALL NOTES

1. ALL PARTITIONS THAT ARE TO BE BUILT TO DECK SHALL INCLUDE ANY STRUCTURE (JOISTS, BEAMS, ETC.) THAT MAY NEED TO BE FRAMED OUT IN ORDER TO PROVIDE DRYWALL TO DECK. ALL PENETRATIONS AND FLUTES IN DECK SHALL BE SEALED AS REQUIRED.
2. PROVIDE BRACING PER MANUFACTURER'S RECOMMENDATIONS IN ALL PARTITIONS THAT DO NOT EXTEND FULL HEIGHT TO THE UNDERSIDE OF THE STRUCTURE ABOVE.
3. PROVIDE A GALVANIZED STEEL SHEET DEEP LEG DEFLECTION TRACK (20 GA.), 'SLP-TRK' BY SLIPTRACK SYSTEMS, INC. AT ALL FRAMING THAT EXTENDS FROM THE SLAB TO THE UNDERSIDE OF THE STRUCTURE ABOVE. SECURE DEFLECTION TRACK TO STRUCTURE WITH FASTENERS AT 2'-0" O.C. MAXIMUM. DO NOT SECURE TRACK TO VERTICAL STUDS. PROVIDE MINIMUM OF 5/8" TO TOP OF METAL STUD.
4. ALL BOTTOM TRACK RUNNERS ARE TO BE HELD IN PLACE WITH FASTENERS AT 2'-0" O.C. MAX WITH HILTI POWER DRIVER ANCHOR ICBO #2388, .0145" DIAMETER SHANK WITH 1 1/8" MINIMUM PENETRATION.
5. PROVIDE ACOUSTICAL SEALANT AT THE INTERSECTION OF ALL GYPSUM BOARD TO DECK OR CONCRETE SLAB CONDITIONS. HOLD GYPSUM BOARD 3/8" OFF OF STRUCTURE FOR SEALANT.
6. PROVIDE HORIZONTAL BRIDGING IN ALL PARTITION FRAMING AT A MINIMUM OF 6'-0" O.C. VERTICALLY. GENERAL CONTRACTOR TO COORDINATE WITH METAL STUD MANUFACTURER TO DETERMINE IF HORIZONTAL BRIDGING IS REQUIRED FOR METAL STUD PARTITION WALLS THAT HAVE GYPSUM BOARD ON BOTH SIDES THAT EXTEND FROM FINISHED FLOOR TO UNDERSIDE OF STRUCTURE ABOVE.
7. METAL STUD NON-STRUCTURAL WALL SYSTEMS ARE TO FOLLOW ASTM C754 & ASTM C645.
8. TAPE, MUD, AND SAND GYPSUM BOARD SMOOTH READY FOR NEW FINISHES AT INTERIOR FACE OF ALL GYPSUM BOARD SURFACES. PROVIDE ASTM C840 LEVEL 4 FINISH UNLESS NOTED OTHERWISE.
9. ALL PLYWOOD BLOCKING IS TO BE FIRE RETARDANT TREATED.
10. PROVIDE COMPRESSIBLE FIRE STOPPING MATERIAL WITHIN THE DECK FLUTES AT ALL FIRE RATED PARTITIONS.
11. PROVIDE COMPRESSIBLE FIRE STOPPING MATERIAL AT THE CEILING LEVEL OF ALL PARTITIONS WITH GYPSUM BOARD NOT EXTENDING FULL HEIGHT TO THE DECK ABOVE. HOLD FIRE STOPPING IN PLACE WITH 1" WIDE (25 GA.) 1 1/2" X 1 1/2" IMPALING ANGLE ON EACH STUD TO SECURE EACH END OF THE MATERIAL.
12. PROVIDE FIRE SAFING AT ALL PARTITION/FURRING CAVITIES AT CEILING LEVELS OPEN TO CEILING PLENUMS.
13. PROVIDE 5/8" WATER RESISTANT GYPSUM BOARD AT ALL WET AREAS AS INDICATED ON DRAWINGS. TAPE, SEAL AND PREP TO ACCEPT FINISH.
14. PROVIDE BLOCKING FOR ALL DOOR STOPS.
15. ALL WOOD IN CONTACT WITH CONCRETE AND AT EXTERIOR LOCATIONS MUST BE PRESSURE TREATED MOISTURE RESISTANT WOOD.

WALL PARTITION TAG LEGEND



REFER TO WALL PARTITION CONSTRUCTION LEGEND 1/A600 (DENOTES WALL CONSTRUCTION)	REFER TO WALL PARTITION BRACING LEGEND 2/A600 (DENOTES HEIGHT OF WALL AND T/ WALL BRACING)	REFER TO INTERIOR METAL STUD SCHEDULE 3/A600 (DENOTES STUD SIZE, GAUGE, AND SPACING)

"*" DENOTES FULL HEIGHT BATT INSULATION

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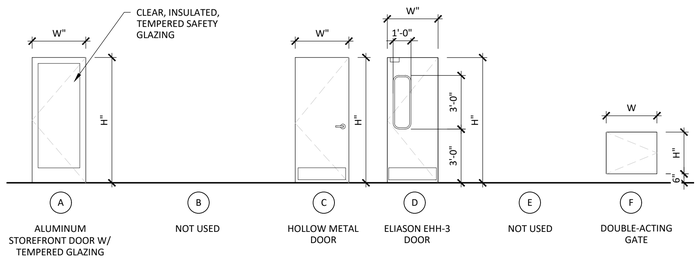
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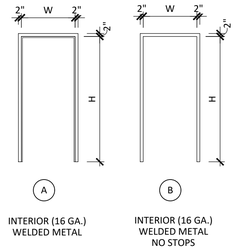
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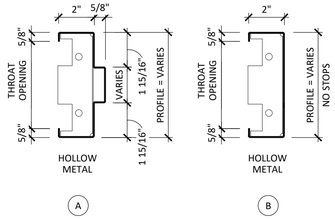
WALL PARTITION SCHEDULE

SHEET:
A600

7/2/2024 10:18 PM







1 A601 DOOR ELEVATIONS

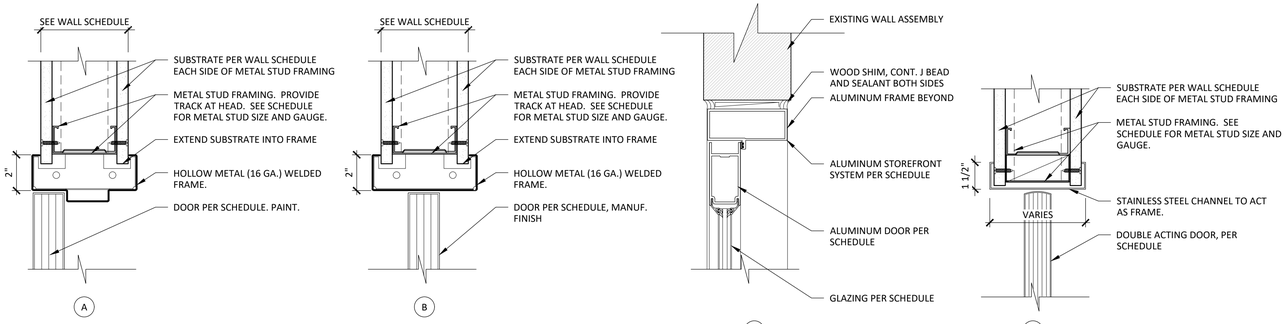
1/4" = 1'-0"

2 A601 DOOR ELEVATIONS

1/4" = 1'-0"

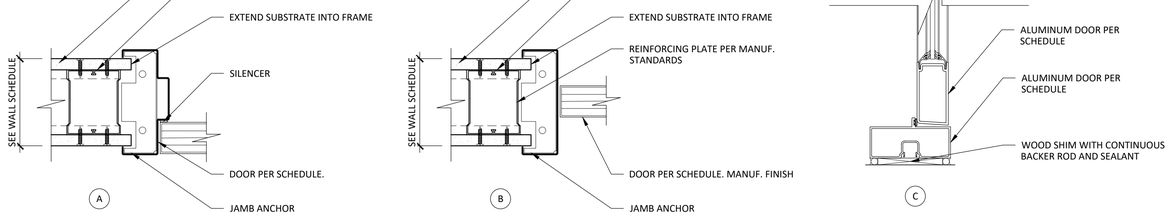
3 A601 FRAME PROFILE

3" = 1'-0"



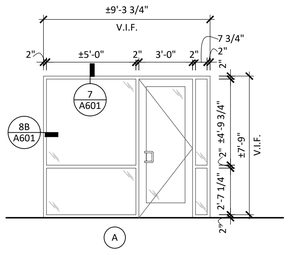
4 A601 DOOR HEAD DETAIL

3" = 1'-0"



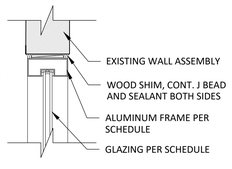
5 A601 DOOR JAMB DETAIL

3" = 1'-0"



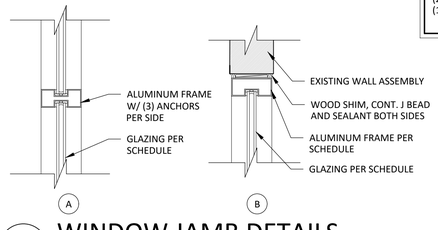
6 A601 WINDOW ELEVATIONS

1/4" = 1'-0"



7 A601 WINDOW HEAD DETAIL

1 1/2" = 1'-0"



8 A601 WINDOW JAMB DETAILS

1 1/2" = 1'-0"

DOOR AND FRAME SCHEDULE

NO.	LOCATION	DOOR SIZE	DOOR MATERIAL	DOOR FINISH	DOOR ELEV.	DOOR HARDWARE SET	FRAME PROFILE	FRAME MATERIAL	FRAME FINISH	FRAME ELEV.	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	RATING	REMARKS
104	GATE	3'-0" x 2'-4" x 1-3/4"	ALUMINUM	ALUM.	1F/A601	---	3B/A601	ALUM.	---	---	---	---	---	---	2 -6
106	BACK KITCHEN (ELIASON)	3'-0" X 7'-0" X 1"	ALUMINUM	ALUM.	1D/A601	SET #5	3B/A601	ALUM.	ALUM.	2B/A601	4B/A601	5B/A601	---	---	2-6
107	OFFICE	3'-0" X 7'-0" X 1 3/4"	H.M.	PT-109	1C/A601	SET #7	3A/A601	H.M.	PT-109	2A/A601	4A/A601	5A/A601			2-6
108	BACK KITCHEN	EXISTING	---	---	---	SET #3	---	---	---	---	---	---	---	---	1 -6
109	HALL	3'-0" X 7'-0" X 1 3/4"	H.M.	PAINT	1B/A601	SET #6	3A/A601	H.M.	PAINT	2A/A601	4A/A601	5A/A601	---	---	2 -6, 8
110	WOMEN'S RESTROOM	3'-0" X 7'-0" X 1 3/4"	H.M.	PAINT	1C/A601	SET #4	3A/A601	H.M.	PAINT	2A/A601	4A/A601	5A/A601	---	---	2 -7
111	MEN'S RESTROOM	3'-0" X 7'-0" X 1 3/4"	H.M.	PAINT	1C/A601	SET #4	3A/A601	H.M.	PAINT	2A/A601	4A/A601	5A/A601	---	---	2 -7
112A	ENTRY	3'-0" X 7'-0" X 1 3/4"	ALUMINUM	V.I.F.	1B/A601	SET #2	EXIST.	EXIST.	EXIST.	---	---	---	---	---	1 -6 & 9
112B	VESTIBULE	3'-0" X 7'-0" X 1 3/4"	ALUMINUM	V.I.F.	1B/A601	SET #2	EXIST.	EXIST.	EXIST.	---	---	---	---	---	1 -6 & 9 - 10
114A	ENTRY	3'-0" X 7'-0" X 1 3/4"	ALUMINUM	V.I.F.	1B/A601	SET #2	EXIST.	EXIST.	EXIST.	---	---	---	---	---	1 -6 & 9
114B	VESTIBULE	3'-0" X 7'-0" X 1 3/4"	ALUMINUM	HATCH EXG	1B/A601	SET #2					4C/A601	5C/A601			1 -6 & 9 - 10

REMARKS:

1. VERIFY ALL EXISTING HARDWARE IS IN GOOD CONDITION FOR RE-USE. REPAIR/REPLACE DOOR HARDWARE AS REQUIRED.
2. DOOR LOCKSETS / PASSAGE SETS SHALL BE OF THE LEVER HANDLE TYPE. HARDWARE SHALL BE MOUNTED NO HIGHER THAN 48" ABOVE FINISHED FLOOR (MOUNTED BETWEEN 44" TO 48"). PROVIDE LEVER HANDLE AT ALL HANDICAPPED ACCESSIBLE DOORS. MAXIMUM PULL FORCES FOR INTERIOR DOORS TO BE 5.0 LBS FORCE. MAXIMUM PULL FORCES FOR EXTERIOR DOORS TO BE 15.0 LBS FORCE.
3. ALL HARDWARE TO COMPLY W/ THE LATEST REQUIREMENTS OF ADAAG/ANSI.
4. KEYING SEQUENCE TO BE COORDINATED W/ TENANT.
5. G.C. TO PROVIDE FULL SUBMITTAL OF ALL DOORS AND HARDWARE PRIOR TO ORDER/PURCHASE.
6. VERIFY STOREFRONT DOOR KICKPLATE IS ADA COMPLIANT (10" MINIMUM HEIGHT). IF NONCOMPLIANT INSTALL CR LAURENCE / 10" BOTTOM DOOR RAIL ADAPTOR.
7. RESTROOM DOORS TO BE PAINTED PT-106 ON THE RESTROOM SIDE AND PT-101 ON THE HALLWAY SIDE.
8. HALLWAY DOOR TO BE PAINTED PT-101 ON HALLWAY SIDE AND PT-109 ON THE KITCHEN SIDE.
9. STOREFRONT DOOR FINISH TO MATCH EXISTING STOREFRONT.
10. DOOR SWEEP, SEAL, AND THRESHOLD NOT REQUIRED

NOTES

A. ALL EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
B. LATCHES, HANDLES, PANIC BARS AND ALL DOOR HARDWARE WILL COMPLY WITH SECTION 1008.1.10 OF THE IBC OR PER THE SPECIFICATIONS.
C. ALL DOORS TO REMAIN UNLOCKED DURING BUSINESS HOURS.
D. MAXIMUM EFFORT TO OPERATE EXTERIOR OR INTERIOR DOORS WITH CLOSERS SHALL NOT EXCEED 5 POUNDS. THIS MAY BE INCREASED TO 15 POUNDS FOR FIRE-RATED DOORS.
E. THE BOTTOM 10 INCHES OF ALL DOORS SHALL HAVE A SMOOTH, UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.
F. ALL LOCKABLE DOORS SHALL BE EQUIPPED WITH REMOVABLE CORE HARDWARE, MANUFACTURED BY "SCHLAGE". HARDWARE TO BE SUPPLIED FROM THE MANUFACTURER WITH "SCHLAGE" REMOVABLE CORE CYLINDERS WITH CONSTRUCTION MASTER-KEYING.

DOOR HARDWARE SCHEDULE

HARDWARE SET # 1 : NOT USED

QTY.	DESCRIPTION

HARDWARE SET # 2 : SINGLE STOREFRONT EXTERIOR DOOR

QTY.	DESCRIPTION
(1) DECORATIVE PULL (1) OFFSET DECORATIVE DOOR PULL (1) PANIC EXIT BAR (1) DOOR CLOSER WITH INTEGRAL STOP (4) HINGE (1) METAL THRESHOLD (1) SWEEP AND SMOKE SEAL	ROCKWOOD, PLANTEK: RM5230 (60" CTC), 315/711 BLACK ANODIZED ROCKWOOD, 1 PER LEAF, OUTSIDE FACE ONLY, 315/711 BLACK ANODIZED, ONLY TO BE USED IF KEYLOCK CYLINDER NEEDS TO BE AVOIDED. CRL JACKSON, 1095 RIM PANIC C-STRIKE CROSSBAR EXIT DEVICE TO MATCH STOREFRONT CONDITION, 1 PER LEAF - EGRESS SIDE, GC TO VERIFY SPECIFICATION WITH DOOR CRL, DCSSA: SIZE 5 SURFACE MOUNT DOOR CLOSER, BLACK FINISH, MOUNT TO TOP RAIL ON EGRESS SIDE ONLY. 1 PER LEAF. EMTEK/ASSA ABLOY, HEAVY DUTY BALL BEARING SQ CORNER HINGES #94014 4"X4", US26D BRUSHED S.S. OR EQUIVALENT, USE 4 HINGES PER DOOR, G.C. TO VERIFY HINGES SUPPORT WEIGHT OF DOOR. KN CROWDER, CT-66, BLACK KN CROWDER, 6216 ADHESIVE BACKED NEOPRENE WEATHERSTRIP, BLACK, G.C. TO SPECIFY SWEEP, IN BLACK OR GREY COLOR.

HARDWARE SET # 3 : REAR EXTERIOR DOOR

QTY.	DESCRIPTION
(1) SECURITY VIEWER (1) CONTINUOUS HINGE (1) EXIT DEVICE W/ CONCEALED VERTICAL RODS (1) CLOSER - PARALLEL ARM (1) THRESHOLD (1) EXTERIOR DOOR SWEEP (1) DRIP CAP ON FRAME (1) KICK PLATE GASKETING	DOOR SCOPE DS1000 TBD, GC TO SUBMIT PROPOSAL, SATIN STAINLESS STEEL OR EQUAL ADAMS RITE 8500 SERIES EXIT DEVICE US32 TBD, GC TO SUBMIT PROPOSAL, SATIN STAINLESS STEEL OR EQUAL TBD, GC TO SUBMIT PROPOSAL, SATIN STAINLESS STEEL OR EQUAL TBD, GC TO SUBMIT PROPOSAL, SATIN STAINLESS STEEL OR EQUAL TBD, GC TO SUBMIT PROPOSAL, SATIN STAINLESS STEEL OR EQUAL IVSES, 8400 34" X 8", S32D SATIN STAINLESS STEEL. --

HARDWARE SET # 4 : RESTROOM

QTY.	DESCRIPTION
(1) PRIVACY LOCKSET (1) CLOSER (1) LOCKSET (1) HINGE SET (1) FLOOR DOOR STOP (3) SILENCERS (2) KICKPLATE	VIZILOCK C5FS-(L/R) ADA PRIVACY DOOR LOCK LEVER HANDLE: SATIN CHROME DORMA, MODEL 7436-685 ALUM 689 SCHLAGE, MODEL BE365(CAMELOT) US32D KEYPAD SET IVES, 5BB1HW, SATIN STAINLESS OR EQUAL, HEAVY WEIGHT FULL MORTISE IVES, FS436, SATIN STAINLESS OF EQUAL IVES, SR64, GREY IVSES, 8400 34" X 8", S32D SATIN STAINLESS STEEL.

HARDWARE SET # 5 : DOUBLE ACTING

QTY.	DESCRIPTION
(1) DOOR (1) HINGE (1) BUMPER STRIPS	ELIASON EHH-3 KITCHEN PASS THROUGH, STAINLESS STEEL W/ ADA COMPLIANT VISION WINDOW ELIASON "HIDDEN HINGE" TOP & BOTTOM ASSEMBLY ELIASON, BUMPER STRIPS FOR EHH-3 DOOR, GREY OR BLACK NOTE: BOTTOM OF VIEWING PANEL/ GLAZED SURFACE TO BE LOCATED 43" MAXIMUM FROM THE FINISH FLOOR.

HARDWARE SET # 6 : BACK KITCHEN (KEYPAD LOCKSET)

QTY.	DESCRIPTION
(3) HINGE (1) CLOSER (1) LOCKSET (1) DOORSTOP (3) DOOR SILENCERS (1) KICKPLATE	HAGER, MODEL AB700 (SIZE 4-1/2" X 4-1/2") DORMA, MODEL 7436-685 ALUM 689 SCHLAGE, MODEL BE365(CAMELOT) US32D KEYPAD SET IVES, MODEL FS436, US32D IVES, MODEL SR64, GRAY (AS REQUIRED) IVSES, 8400 34" X 8", S32D SATIN STAINLESS STEEL.

HARDWARE SET # 7 : OFFICE

QTY.	DESCRIPTION
(1) OFFICE LOCKSET (1) HINGE SET (1) FLOOR DOOR STOP (3) SILENCERS (2) KICKPLATE (1) VISION WINDOW	SCHLAGE, L9453I-06A - SATIN CHROME IVES, 5BB1HW, SATIN STAINLESS OR EQUAL, HEAVY WEIGHT FULL MORTISE IVES, FS436, SATIN STAINLESS OF EQUAL IVES, SR64, GREY IVSES, 8400 34" X 8", S32D SATIN STAINLESS STEEL. BOTTOM OF VIEWING PANEL/GLAZING SURFACE TO BE LOCATED 43"MAX FROM FINISH FLOOR.

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AOR PROJECT NUMBER:
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ISSUE	DATE
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BLDG RESPONSE	NOV 15, 2024
CONSTR SET	JAN 8, 2025

DOOR, HARDWARE & WINDOW SCHEDULES

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STRUCTURAL GENERAL NOTES:

DESIGN AND LOADING

THE STRUCTURAL DESIGN OF THIS BUILDING WAS BASED ON THE DESIGN CRITERIA:

1. BUILDING CODE: 2015 INTERNATIONAL BUILDING CODE
2. FLOOR:
   LIVE LOAD: 100 PSF
3. ROOF
   LIVE LOAD: 20 PSF
   DEAD LOAD: 20 PSF
4. SNOW:
   GROUND LOAD: 20 PSF
   FLAT ROOF LOAD: 20 PSF
5. WIND:
   BASIC WIND SPEED: 115 MPH (3-SECOND GUST ULTIMATE)
   IMPORTANCE FACTOR: 1.00
   BUILDING OCCUPANCY CATEGORY: II
   WIND EXPOSURE: B
   PRESSURES PER ASCE 7-10
6. SEISMIC:
   OCCUPANCY CATEGORY: II
   IMPORTANCE FACTOR: 1.00
   SITE CLASS: D (ASSUMED)
   Ss = 0.095g, S1= 0.047g
   Sds = 0.101g, Sd1 = 0.076g
   DESIGN CATEGORY: B

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN CONFORMANCE WITH THE AISC360 "SPECIFICATION FOR STRUCTURAL STEEL". SEISMIC DESIGN OF STRUCTURAL STEEL STRUCTURES SHALL CONFORM TO AISC 341.

2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:

A.	ANCHOR RODS	F1554, GRADE 36
B.	HIGH STRENGTH STRUCTURAL BOLTS	A325-N U.N.O.
C.	STRUCTURAL SHAPES (W)	A992
D.	STRUCTURAL SHAPES (M, S, C, MC, PLATES)	A36
E.	STRUCTURAL SHAPES (HP)	A572
F.	STRUCTURAL TUBING (HSS)	A500 GRADE B
G.	STRUCTURAL ANGLES	A36

3. ALL WELDING ELECTRODES SHALL BE E70-XX. ALL SHOP AND FIELD WELDING SHALL BE MADE IN ACCORDANCE WITH A.W.S. D1.1 "CODE FOR WELDING IN BUILDING CONSTRUCTION" AND SHALL BE MADE BY CERTIFIED WELDERS.

SHOP DRAWINGS

SHOP DRAWING SUBMITTALS TO BE SUBMITTED ELECTRONICALLY.

SHOP DRAWINGS SHALL BE REVIEWED BY CONTRACTOR TO VERIFY THAT SUBMITTAL IS COMPLETE PRIOR TO SUBMITTING TO ARCHITECT/ENGINEER.

DRAWINGS CREATED BY THE ENGINEER OF RECORD CANNOT BE REPRODUCED AND/OR USED AS A SHOP DRAWING SUBMITTAL.

SHOP DRAWING SUBMITTALS SHALL INCLUDE THE FOLLOWING:

1. STRUCTURAL STEEL

MISCELLANEOUS

ALL DIMENSIONS ON STRUCTURAL DRAWINGS TO BE CHECKED AGAINST ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS BY THE GENERAL CONTRACTOR AND ANY DISCREPANCIES ARE TO BE REPORTED TO THE ARCHITECT IMMEDIATELY.

THE CONTRACTOR SHALL ASSUME RESPONSIBILITY, UNRELIEVED BY REVIEW OF SHOP DRAWINGS OR PERIODIC OBSERVATION OF CONSTRUCTION, FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS, FOR FABRICATION PROCESSES AND CONSTRUCTION TECHNIQUES, AND FOR SAFE CONDITIONS ON THE JOB SITE.

DO NOT SCALE THE DRAWINGS.

SAWN LUMBER

ALL GRADES OF LUMBER SHALL BE RATED BY THE SOUTHERN PINE INSPECTION BUREAU (SPIB), OR THE WESTERN WOOD PRODUCTS ASSOCIATION (WWPA). LUMBER GRADES SHALL BE AS FOLLOWS, WITH A MAXIMUM MOISTURE CONTENT OF 19%:

- WESTERN RED CEDAR

BOLT HEADS AND NUTS BEARING ON WOOD SHALL BE PROVIDED WITH STANDARD CUT WASHERS. ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED.

MINIMUM NAILED CONNECTIONS FOR WOOD FRAMING MEMBERS SHALL BE IN ACCORDANCE WITH THE LOCAL BUILDING CODE OR TABLE 2304.9.1 OF THE INTERNATIONAL BUILDING CODE IF NO OTHER CRITERIA IS GIVEN.

CONNECTORS SHOWN ON THE DETAILS ARE MANUFACTURED BY SIMPSON. WRITTEN APPROVAL BY ENGINEER REQUIRED FOR SUBSTITUTIONS.

TYPICAL CONNECTIONS (NEW TO NEW WOOD CONSTRUCTION)

1.	JOIST TO SILL:	(3)-8d COMMON (TOE-NAIL)
2.	TOP PLATE TO STUD:	(2)-16d COMMON (END NAIL)
3.	STUD TO SOLE PLATE:	(6)-8d COMMON (TOE NAIL)
4.	DOUBLE TOP PLATES:	(1)-16d COMMON @ 24" O.C. (FACE NAIL)
5.	LAPS OR INTERSECTIONS:	(3)-16d COMMON (FACE NAIL)
6.	BUILT-UP BEAMS:	(1)-20d COMMON @ 32" O.C. FACE NAIL T&B STAGGERED ON OPPOSITE SIDES U.N.O.

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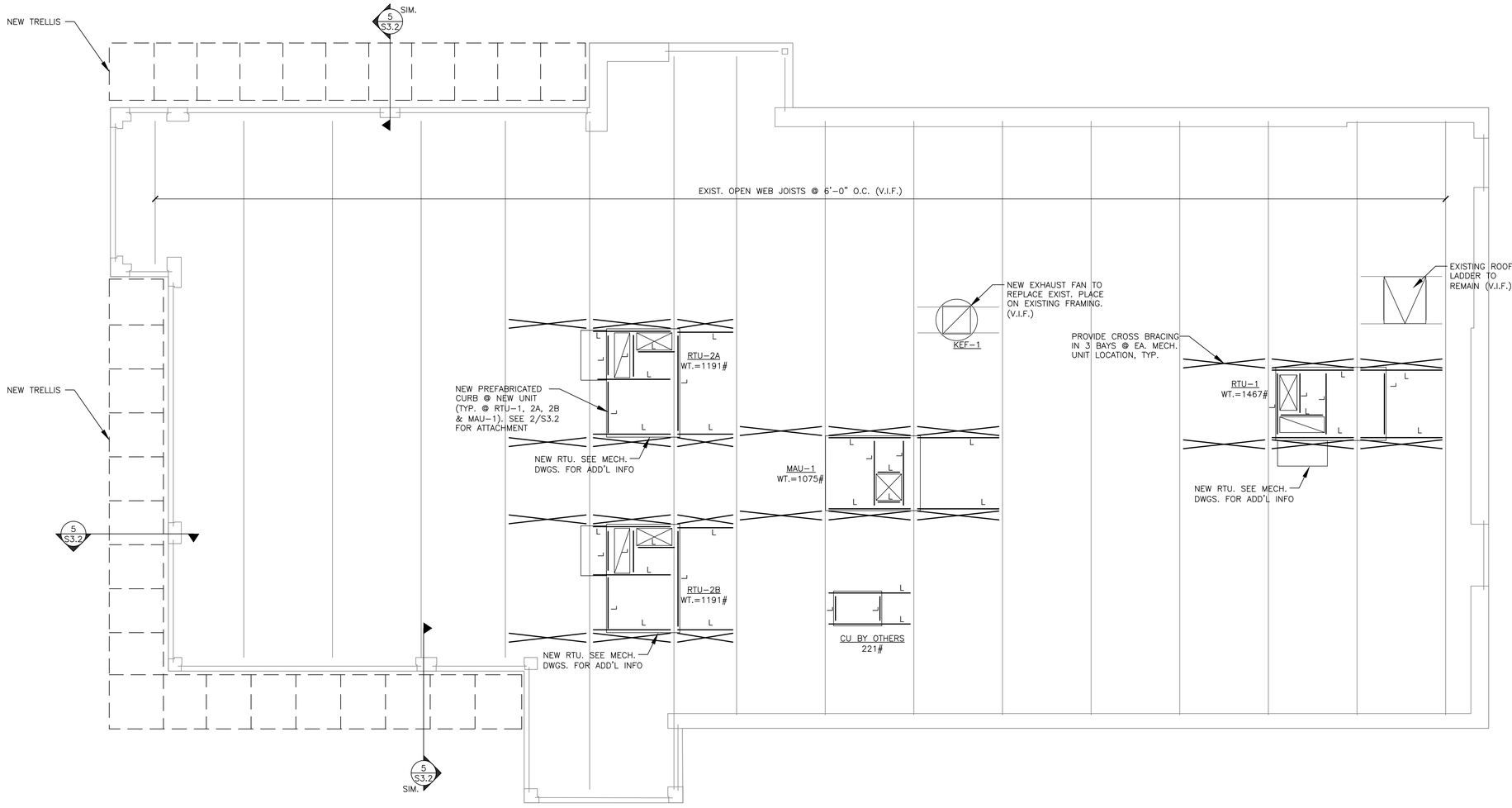
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2 CONSTR SET	JAN 8, 2025

STRUCTURAL GENERAL NOTES

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S1.0

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1 S1.2 **ROOF FRAMING PLAN**

1/4" = 1'-0"

LEGEND:

L	DENOTES ANGLE FRAMING BELOW ROOF TOP EQUIPMENT. REFER TO S3.2 FOR FRAMING REQUIREMENTS.

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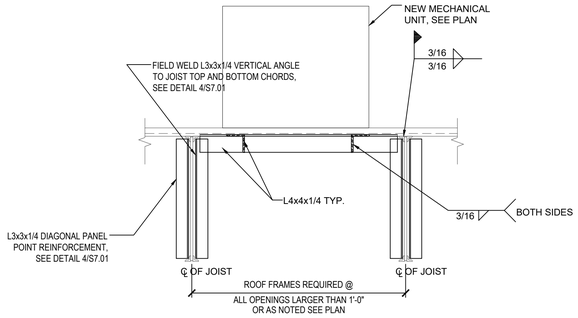
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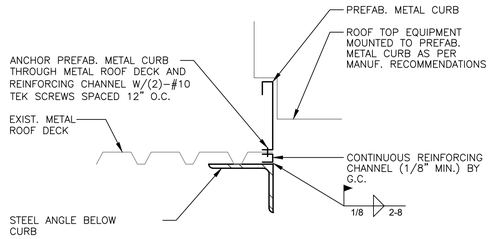
FRAMING PLAN

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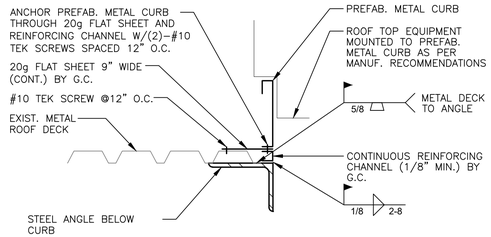
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1 S3.2 **RTU SUPPORT DETAIL**
3/4" = 1'-0"

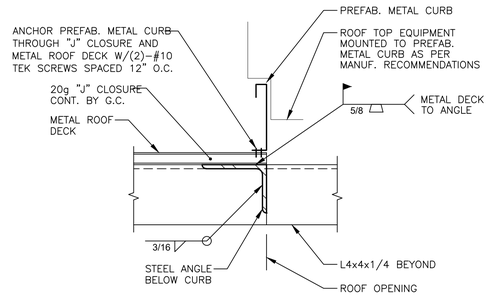


HIGH RIB CONDITION

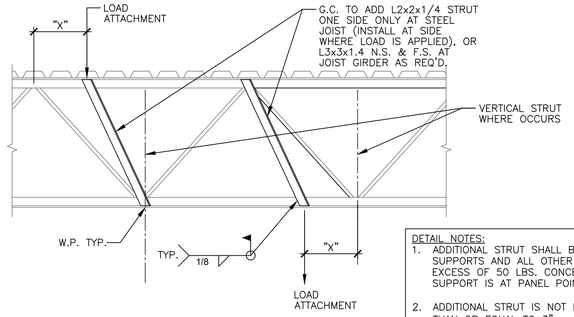


LOW RIB CONDITION

2 S3.2 **SECTION AT FRAMED OPENING**
3/4" = 1'-0"

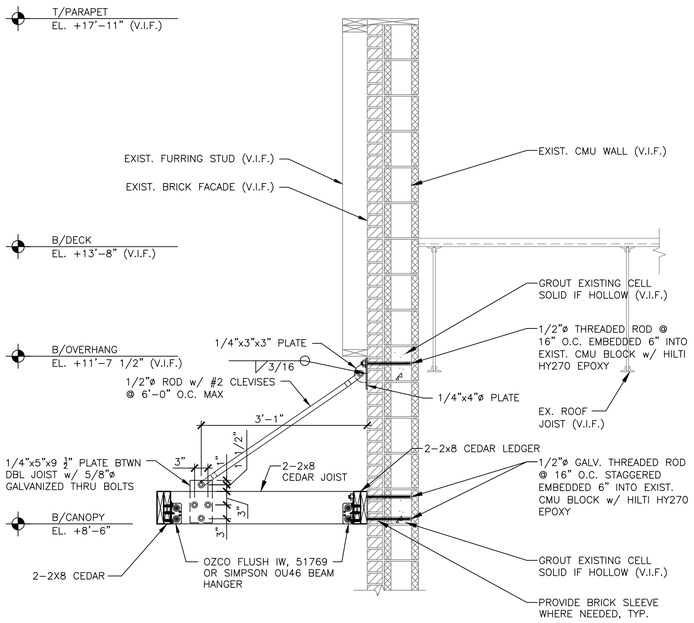


3 S3.2 **SECTION AT FRAMED OPENING**
3/4" = 1'-0"



DETAIL NOTES:
1. ADDITIONAL STRUT SHALL BE REQUIRED AT ALL HVAC UNIT SUPPORTS AND ALL OTHER ATTACHED COMPONENTS IN EXCESS OF 50 LBS. CONCENTRATED LOAD. UNLESS SUPPORT IS AT PANEL POINT OF JOIST OR JOIST GIRDER.
2. ADDITIONAL STRUT IS NOT REQUIRED IF "X" OR "Y" IS LESS THAN OR EQUAL TO 3".

4 S3.2 **JOIST LOAD STRUT DETAIL**
3/4" = 1'-0"



5 S3.2 **CANOPY ATTACHMENT DETAIL**
3/4" = 1'-0"

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SECTIONS

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S3.2

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ABBREVIATIONS

(D)	DEMOLITION	HD	HEAD
(E)	EXISTING	HGT	HEIGHT
(F)	FUTURE	HP	HORSEPOWER
(R)	RELOCATE	INV	INVERT
AAV	AIR ADMITTANCE VALVE	IW	INDIRECT WASTE
ABV	ABOVE	KEC	KITCHEN EQUIPMENT CONTRACTOR
AFF	ABOVE FINISHED FLOOR	LB	POUNDS
AFG	ABOVE FINISHED GRADE	LF	LINEAR FEET
AHJ	AUTHORITY HAVING JURISDICTION	LG	LENGTH
AUTO	AUTOMATIC	MAX	MAXIMUM
AVG	AVERAGE	MFC	MANUFACTURER
BLDG	BUILDING	MIN	MINIMUM
BOP	BOTTOM OF PIPE	MS	MOP SINK
BFP	BACKFLOW PREVENTER	N/A	NOT APPLICABLE
CA	COMPRESSED AIR	NC	NORMALLY CLOSED
CAP	CAPACITY	NO	NORMALLY OPEN
CFH	CUBIC FEET PER HOUR	NPW	NON-POTABLE WATER
CFM	CUBIC FEET PER MINUTE	NTS	NOT TO SCALE
CO	CLEANOUT	OF	OWNER FURNISHED
CONN	CONNECTION OR CONNECT	PC	PLUMBING CONTRACTOR
CONT	CONTINUATION	PD	PUMPED DISCHARGE
CU FT	CUBIC FEET	PLBG	PLUMBING
DCVA	DOUBLE CHECK VALVE ASSEMBLY	PPM	PARTS PER MILLION
DCW	DOMESTIC COLD WATER	PRS	PRESSURE
DEPT	DEPARTMENT	PRV	PRESSURE REDUCING VALVE
DHW	DOMESTIC HOT WATER	PSI	POUNDS PER SQUARE INCH
DIA	DIAMETER	PSIG	PSI GAUGE
DN	DOWN	RP	RETICULATING PUMP
DW	DIRECT WASTE	RPZ	REDUCED PRESSURE ZONE
DWG	DRAWING	SH	SHOWER
DWV	DRAIN WASTE VENT	SRD	SECONDARY ROOF DRAIN
EL	ELEVATION	STD	STANDARD
EWC	ELECTRIC WATER COOLER	STR	STRAINER
EXH	EXHAUST	TEMP	TEMPERATURE
°F	DEGREES FAHRENHEIT	TMV	THERMOSTATIC MIXING VALVE
FD	FLOOR DRAIN	TOP	TOP OF PIPE
FIN	FINISHED	TP	TRAP PRIMER
FT	FOOT OR FEET	TS	TRAP SEAL
G	GAS	TWS	TEMPERED WATER SUPPLY
GA	GAUGE	TYP	TYPICAL
GAL	GALLONS	UNO	UNLESS NOTED OTHERWISE
GC	GENERAL CONTRACTOR	UR	URINAL
GPD	GALLONS PER DAY	V	VENT
GPH	GALLONS PER HOUR	VB	VACUUM BREAKER
GPM	GALLONS PER MINUTE	VDC	VENTED DOUBLE CHECK
HB	HOSE BIBB	VTR	VENT THRU ROOF
HC	HVAC CONTRACTOR	WC	WATER CLOSET

PLUMBING LEGEND

—— (E) ——	EXISTING TO REMAIN		PETE'S PLUG
-------(D)-------	EXISTING TO BE DEMOLISHED		BALL VALVE
———SAN———	SANITARY		BUTTERFLY VALVE
———STM———	STORM (PRIMARY)		GATE VALVE (FLANGED BODY)
———OF———	OVERFLOW (SECONDARY STORM)		BALANCING VALVE
———GW———	GREASE WASTE		CHECK VALVE
— - —DNT— - —	DO NOT TAP		PLUG VALVE
—— - —— - ——	DOMESTIC COLD WATER		THERMOSTATIC MIXING VALVE
— - - —— - - —	DOMESTIC HOT WATER		PRESSURE REDUCING VALVE
——— - - - ———	DOMESTIC HOT WATER RETURN		PRESSURE GAUGE
———MG———	MEDIUM PRESSURE NATURAL GAS		RELIEF VALVE
———G———	LOW PRESSURE NATURAL GAS		SOLENOID VALVE
— — — — — — —	VENT		STRAINER
— - —FW— - —	FILTERED WATER		UNION
— — —SODA— — —	SODA CONDUIT		WATER HAMMER ARRESTER
o—	PIPE TURNED UP		THERMOMETER
—o	PIPE TURNED DOWN		CONNECT TO EXISTING
—o—	PIPE BOTTOM CONNECTION		FLOOR PENETRATION MARKER

GENERAL NOTES:

A. SUSPEND ALL HORIZONTAL SERVICE PIPING SHOWN ON THIS PROJECT SUCH AS, BUT NOT LIMITED TO, WATER, SANITARY, WASTE/VENT, STORM WATER, GAS, ETC. FROM UNDERSIDE OF ROOF AND/OR FLOOR STRUCTURE, UNLESS OTHERWISE NOTED OR INDICATED. HOLD SUCH PIPING AS HIGH AS POSSIBLE. EXTEND PIPING DOWN IN WALLS, PARTITIONS, CHASES, ETC. TO SERVE FIXTURES AND EQUIPMENT AS SHOWN ON PLANS.

B. CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS .INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SET.

C. COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. PROVIDE PIPE RISES, DROPS, AND OFFSETS AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK. IF PLUMBING CONTRACTOR FAILS TO COORDINATE WITH OTHER TRADES AND WORK IS REQUIRED TO BE ALTERED, THE PLUMBING CONTRACTOR WILL BE RESPONSIBLE FOR THE WORK AT THEIR OWN EXPENSE.

D. DRAWINGS FOR PLUMBING WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE PIPING, CONNECTIONS, FITTINGS, VALVES, OFFSETS, ETC. AND ALL MATERIALS NECESSARY FOR A COMPLETE SYSTEM. SUBMIT SHOP DRAWINGS PER THE SPECIFICATIONS.

E. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE GOVERNING CITY, INCLUDING APPLICABLE SECTIONS OF ANY INTERIM AMENDMENTS AT THE TIME OF THE PROPOSAL. PLUMBING CONTRACTOR SHALL PURCHASE ALL PERMITS ASSOCIATED WITH THE WORK. OBTAIN ALL INSPECTIONS REQUIRED BY CODE.

F. PROVIDE BACKFLOW PREVENTION DEVICES IN WATER LINES FEEDING PLUMBING FIXTURES AND/OR EQUIPMENT, AS SHOWN ON PLANS AND ELSEWHERE AS REQUIRED BY LOCAL AUTHORITIES. USE DEVICES OF APPROVED TYPE (ASSE LISTED) AND MANUFACTURER (ATMOSPHERIC VACUUM, PRESSURE VACUUM, DOUBLE CHECK, AND REDUCED PRESSURE).

G. VERIFY SERVICE CONNECTION POINTS, SIZES, ELEVATIONS, INVERTS, AND METERING LOCATIONS FOR PROJECT WITH LOCAL UTILITIES CO. AND/OR CIVIL ENGINEER. SERVICES TO INCLUDE BUT NOT LIMITED TO (DOMESTIC WATER, FIRE, SANITARY SEWER, STORM SEWER, GAS, ETC.) PRIOR TO STARTING WORK.

H. VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. IF PRESSURE AT BUILDING ENTRY PRIOR TO ALL LOCALLY REQUIRED DEVICES SUCH AS WATER METER, BACKFLOW PREVENTION DEVICES, ETC. IS LESS THAN 55 PSIG STATIC, CONTACT OWNERS REPRESENTATIVES. IF PRESSURE IS IN EXCESS OF 80 PSIG STATIC, INSTALLATION OF PRESSURE REDUCING VALVE IS REQUIRED.

I. COMPLY W/ LOCAL HEALTH DEPARTMENT REGULATIONS. OMIT ESCUTCHEONS IN FOOD SERVICE AREAS. SEAL PIPES NEATLY WITH GROUT AT WALL, FLOOR, OR CEILING PENETRATIONS. OMIT INSULATION ON EXPOSED PIPING BEHIND AND UNDER EQUIPMENT. PROVIDE CLEARANCE BEHIND AND UNDER EXPOSED PIPING AS REQUIRED BY HEALTH DEPARTMENT. WHEREVER POSSIBLE, INSTALL PIPING IN FOOD SERVICE AREAS CONCEALED. CONFORM TO HEALTH DEPARTMENT REQUIREMENTS FOR LOCATIONS OF FLOOR SINKS.

J. PROVIDE ITEMS AND WORK AS REQUIRED TO COMPLETE THE INSTALLATION OF PLUMBING SYSTEMS TO FIXTURES AND EQUIPMENT: ITEMS INCLUDE TRAPS, STRAINERS, GAUGES, GAS AND WATER PRESSURE REGULATORS, FLEXIBLE CONNECTIONS, STOP VALVES, UNIONS, ETC. PROVIDE AND CONNECT PLUMBING PIPE FROM ROUGH-INS TO ITEMS AS SHOWN, SPECIFIED AND REQUIRED.

K. VISIT THE SITE PRIOR TO SUBMITTING BID, INCLUDE ANY ADDITIONAL ITEMS REQUIRED FOR A COMPLETE & OPERATIONAL SYSTEM.

L. ALL CUTTING OF EXISTING FLOORS, EXCAVATION & BACK FILL TO BE PART OF THE PLUMBING CONTRACTOR BID.

M. COORDINATE ALL FLOOR PENETRATIONS WITH STRUCTURAL DRAWINGS. SET SLEEVES IN FLOORS AND WALLS AND ATTACHMENTS FOR HANGERS AS CONSTRUCTION PROGRESSES. ALL PENETRATIONS MUST BE SEALED AND HELD AS TIGHT TO COLUMNS OR WALLS AS POSSIBLE. EXISTING CORES SHALL BE FILLED AS REQUIRED.

N. ALL PIPING SHALL BE CONCEALED INSIDE WALLS, BELOW FLOORS OR ABOVE CEILINGS UNLESS INDICATED OTHERWISE.

O. ALL PIPING SHALL BE SLOPED AS PER THE MINIMUM GRADE REQUIRED BY CODE (UNLESS NOTED OTHERWISE) FOR EACH PARTICULAR PIPE SIZE.

P. COORDINATE UNDERGROUND PIPING WITH GRADE BEAMS AND WALL FOOTINGS.

Q. DO NOT RUN PLUMBING PIPING THROUGH ELECTRICAL ROOMS, DIRECTLY ABOVE ELECTRICAL PANELS, OR THROUGH OTHER WATER SENSITIVE AREAS.

R. ALL EQUIPMENT, PIPING, APPURTENANCES SHALL BE PROTECTED FROM DEBRIS AND DAMAGE. SENSITIVE EQUIPMENT SHALL NOT BE DELIVERED TO THE JOB SITE UNTIL SUCH TIME AS IT IS TO BE INSTALLED. PIPING ENDS SHALL BE CLOSED BY TEMPORARY MEANS WHEN PORTIONS OF THE SYSTEM ARE NOT COMPLETE.

S. LOCATE ALL VALVES WHERE THEY ARE ACCESSIBLE FOR SERVICE AND USE. WHERE ACCESS PANELS ARE REQUIRED COORDINATE SELECTION AND LOCATION WITH ARCHITECT.

T. PROVIDE TRAP PRIMER AND CONNECTION FOR ANY FLOOR DRAIN, FLOOR SINK OR HUB DRAIN NOT SUBJECT TO A REGULAR SUPPLY OF WATER FLOW.

U. ALL PENETRATIONS AT FLOORS AND RATED PARTITIONS SHALL HAVE A UL CLASSIFIED FIRE STOP SYSTEM TESTED TO ASTM E814 AND UL 1497 BY UNDERWRITERS LABORATORIES. FIRE STOP SYSTEMS SHALL BE PROSET SYSTEMS, PENSIL FIRESTOP SYSTEMS OR 3M COMPANY.

V. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL PLUMBING FIXTURES. EXACT LOCATION OF ALL FIXTURES MUST BE VERIFIED IN THE FIELD PRIOR TO INSTALLATION. FINAL LOCATION SHALL BE AS DIRECTED BY ARCHITECT.

W. PROVIDE NEW BRASS CLEAN OUT COVERS ON ALL NEW AND EXISTING PLUMBING LINE ACCESS POINTS.

X. ALL MIXING VALVES SHALL BE SET TO PROVIDE WATER AT TEMPERATURES THAT COMPLY WITH ASSE 1070 STANDARDS FOR PERFORMANCE REQUIREMENTS FOR WATER TEMPERATURE LIMITING DEVICES.

Y. VERIFY INVERT OF ALL TIE-IN POINTS INDICATED ON PLAN PRIOR TO INSTALLATION. NOTIFY ENGINEER IMMEDIATELY IF EXISTING INVERT WILL BE INSUFFICIENT.

Z. WHERE AIR ADMITTANCE VALVES SHALL BE INSTALLED PERFORM TESTING REQUIRED BY IPC SECTION 312.3. PRIOR TO INSTALLATION.

AA. CONTRACTOR IS RESPONSIBLE FOR ADHERING TO THE ENTIRETY OF THIS DRAWING SET, INCLUDING BUT NOT LIMITED TO; PLANS, ELEVATIONS, DETAILS, SCHEDULES, AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL DRAWINGS OF OTHER TRADES, INCLUDING BUT NOT LIMITED TO, ARCHITECTURAL, MECHANICAL, ELECTRICAL, CIVIL, AND STRUCTURAL.

KITCHEN EQUIPMENT SERVICE NOTES:

A. KITCHEN EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY THE KITCHEN EQUIPMENT SUPPLIER AS INDICATED BY KITCHEN EQUIPMENT DOCUMENTATION INCLUDED UNDER SEPARATE CONTRACT WITH THE DESIGN DOCUMENTATION FOR THIS PROJECT. PLUMBING ACCESSORIES, INCLUDING FAUCETS, DRAINS, VALVES, PRESSURE/FLOW REGULATORS, FILTERS, ETC., ARE FURNISHED LOOSE WITH THE KITCHEN EQUIPMENT, FOR INSTALLATION AND FINAL CONNECTION BY THE PLUMBING CONTRACTOR, UNLESS INDICATED OTHERWISE.

B. INSTALL KITCHEN EQUIPMENT PIPING AND ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS. SEE KITCHEN EQUIPMENT DOCUMENTATION FOR SPECIFIC DIRECTION AT INDIVIDUAL ITEMS.

C. SEE KITCHEN EQUIPMENT DOCUMENTATION FOR ADDITIONAL INFORMATION PERTAINING TO KITCHEN EQUIPMENT PLUMBING REQUIREMENTS, INCLUDING UTILITIES REQUIRED, CONNECTION SIZES AND ROUGH-IN LOCATIONS FOR SPECIFIC ITEMS (SUPPLY AND DRAIN). COORDINATE FINAL INSTALLATION WITH THE KITCHEN EQUIPMENT AS ACTUALLY INSTALLED. LOCATIONS OF FLOOR DRAINS, FLOOR SINKS AND OTHER ASSEMBLIES UTILIZED FOR INDIRECT DRAINAGE FROM FOOD SERVICE EQUIPMENT, ARE TO BE DETERMINED FROM THE KITCHEN EQUIPMENT LAYOUT PLANS. THE PLUMBING CONTRACTOR SHALL EXTEND PIPING BELOW COUNTERS, IN CASEWORK OR STRUCTURE AS REQUIRED FROM DROP OR RISE POINTS INDICATED ON PLANS TO EQUIPMENT CONNECTION POINTS.

D. PLUMBING SUPPLY PIPING (HW, CW, ETC.) SERVING KITCHEN EQUIPMENT PROVIDED WITH SOLENOID VALVES OR OTHER QUICK-CLOSING DEVICES SHALL HAVE A SHOCK ABSORBER FURNISHED AND INSTALLED BY THE PLUMBING CONTRACTOR AT THE TOP OF THE SUPPLY DROP OR BASE OF SUPPLY RISER INDICATED ON DRAWINGS. MULTIPLE ITEMS SERVED BY A COMMON SUPPLY DROP OR RISE MAY BE SERVED BY A SINGLE SHOCK ABSORBER, SIZED AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS FOR TYPE AND QUANTITY OF FIXTURES SERVED. WHERE QUICK CLOSING DEVICES SUPPLY PIPING IS FURNISHED WITH A BACKFLOW PREVENTER OR CHECK VALVE, THE SHOCK ABSORBER SHALL BE INSTALLED DOWNSTREAM SIDE OF THE BACKFLOW PREVENTER OR CHECK VALVE.

E. EACH KITCHEN EQUIPMENT FIXTURE AND/OR PIECE OF EQUIPMENT TO BE PROVIDED WITH INDIVIDUAL IN-LINE STOP VALVE IN EACH PLUMBING SUPPLY CONNECTED. NATURAL GAS STOPS TO BE A.G.A. LISTED (2) PIECE BALL VALVE WITH LEVER HANDLE.

F. COORDINATE INSTALLATION OF ALL ITEMS AND VERIFY CONDITIONS IN ADVANCE WITH THE KITCHEN EQUIPMENT CONTRACTOR.

G. GREASE BEARING DRAIN/WASTE PIPING FROM FIXTURES AND/OR EQUIPMENT TO INTERCEPTOR IS TO BE SLOPED AT A MINIMUM 1/4" PER LINEAR FOOT PER CODE REQUIREMENTS.

H. ALL ICE MAKING AND BEVERAGE DISPENSING EQUIPMENT (WATER FILTERS, COFFEE, JUICE, SODA, WATER, ETC.) SUPPLIED WITH CW AND/OR HW IS TO HAVE INDIVIDUAL SUPPLY PIPING PROVIDED WITH AN ISOLATION VALVE, DUAL CHECK BACKFLOW PREVENTER ASSEMBLY PER ASSE 1022 AND SHOCK ABSORBER, ARRANGED IN ORDER LISTED IN DIRECTION OF FLOW. ALL ITEMS TO BE IN ACCESSIBLE LOCATION PER THE INSPECTION/APPROVAL AUTHORITIES.

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AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
1 BLDG RESPONSE	NOV 15, 2024
2 CONSTR SET	JAN 8, 2025

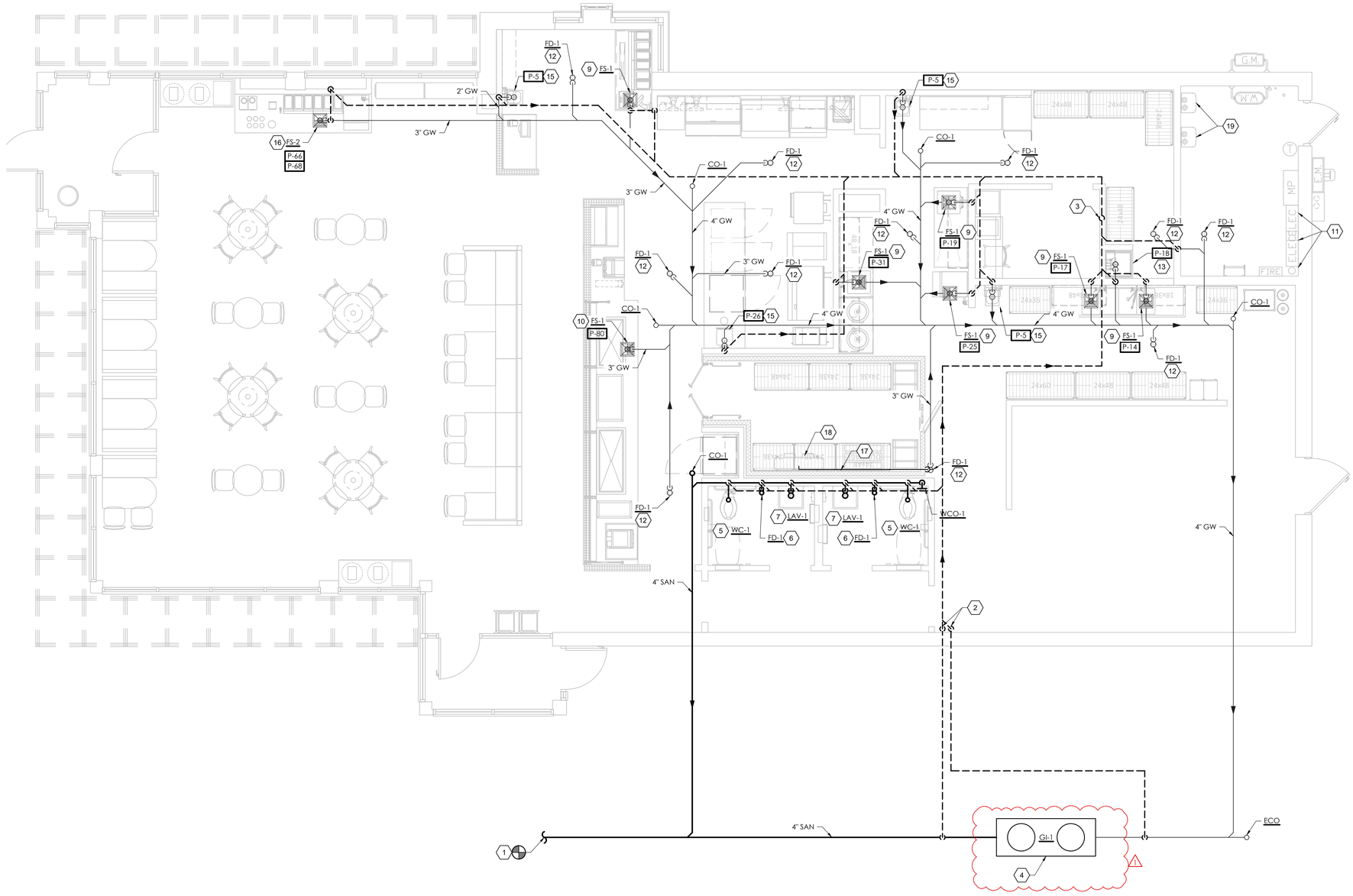
GENERAL INFORMATION
PLUMBING

SHEET:
P000

10/9/2023 3:48 PM

WASTE CONNECTION SCHEDULE

ITEM NO	QTY	EQUIPMENT CATEGORY	DIRECT DRAIN SIZE (IN)	DIRECT DRAIN AFF (IN)	INDIR DRAIN SIZE (IN)
1B	1	SINK, MOP	3"		
3A	1	EVAPORATOR COIL, COOLER			3/4"
5	3	HAND SINK, WALL MOUNTED	1 1/2"	16"	
14	1	WAREWASHER, UNDERCOUNTER, LOW TEMP			1"
17	1	SINK, SCULLERY, 4 COMPARTMENTS			(4)1-1/2"
19	1	TABLE, WORK W/ SINK			1-1/2"
25	1	ICE MAKER/BIN			3/4"
26	1	HAND SINK	1-1/2"	16"	
31	1	TABLE, CABINET BASE W/ SINK			1-1/2"
66	1	ICE DISPENSER W/ BEVERAGE HEADS			3/4"
68	1	TABLE, ENCLOSED BASE			1/2"
80	1	DROP IN, COLD PAN			1"



PLUMBING WASTE AND VENT PLAN

1/4" = 1'-0"

GENERAL NOTES:

A. CONTRACTOR SHALL FIELD VERIFY EXACT CONTINUATION AND ROUTING OF SANITARY PIPING FOR A PROPER OPERATING SYSTEM. PLUMBING CONTRACTOR SHALL FIELD VERIFY INVERT ELEVATION PRIOR TO SANITARY LINE INSTALLATION AND PRESSURE JET CLEAN SANITARY LINE AS REQUIRED. NOTIFY ARCHITECT/ENGINEER WITH ANY DISCREPANCIES IMMEDIATELY.

B. ROUTE VENT PIPING IN A NEAT AND ORDERLY FASHION IN EXPOSED AREAS.

C. REFER TO STACK DIAGRAM AND SCHEDULES FOR COMPLETE PIPE SIZING INFORMATION.

D. SMOKE ALL PLUMBING VENT PIPING PRIOR TO CLOSING WALL CAVITIES AND PRIOR TO TURN OVER.

CODED NOTES: (#)

1. ROUTE NEW 4" SANITARY WASTE PIPING BELOW GRADE AND CONNECT INTO EXISTING 6" SANITARY WASTE PIPING IN APPROXIMATE LOCATION SHOWN. FIELD VERIFY EXACT LOCATION, SIZE, DEPTH OF INVERT, AND DIRECTION OF FLOW PRIOR TO COMMENCING WORK.
2. ROUTE 3" VENT LINE FROM GREASE INTERCEPTOR UP IN WALL INTO CEILING SPACE.
3. NEW 4" VENT THROUGH ROOF.
4. NEW SCHIER GB-250 POLYETHYLENE GREASE INTERCEPTOR; VERIFY MAKE AND MODEL WITH AHJ. SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.
5. ROUTE 4" SANITARY WASTE UP FROM BELOW GRADE AND CONNECT TO WATER CLOSET, EXTEND 2" VENT UP IN WALL FROM WATER CLOSET TO CEILING SPACE.
6. ROUTE 3" SANITARY WASTE UP FROM BELOW GRADE AND CONNECT TO FLOOR DRAIN, TRANSITION TO 1-1/2" WASTE AND CONNECT TO LAVATORY. EXTEND 1-1/2" VENT UP IN WALL FROM LAVATORY TO CEILING SPACE.
7. ROUTE 2" SANITARY WASTE UP FROM BELOW GRADE AND CONNECT TO LAVATORY. EXTEND 1-1/2" VENT UP IN WALL FROM LAVATORY TO CEILING SPACE.
8. NOT USED.
9. ROUTE 3" GREASE WASTE UP FROM BELOW GRADE AND CONNECT TO FLOOR SINK, EXTEND 1-1/2" VENT UP IN WALL FROM FLOOR SINK TO CEILING SPACE.
10. ROUTE 3" GREASE WASTE UP FROM BELOW GRADE AND CONNECT TO FLOOR SINK.
11. DO NOT ROUTE PIPING OVER ELECTRICAL PANELS.
12. ROUTE 3" GREASE WASTE UP FROM BELOW GRADE AND CONNECT TO FLOOR DRAIN.
13. ROUTE 3" GREASE WASTE UP FROM BELOW GRADE AND CONNECT TO MOP SINK, EXTEND 1-1/2" VENT UP IN WALL FROM MOP SINK TO CEILING SPACE.
14. NOT USED.
15. ROUTE 2" GREASE WASTE UP FROM BELOW GRADE, TRANSITION TO 1-1/2" AND CONNECT TO HAND SINK(S). EXTEND 1-1/2" VENT UP IN WALL FROM HAND SINK(S) TO CEILING SPACE.
16. PROVIDE DRAINAGE PIPING FROM ICE MACHINE AND BEVERAGE DISPENSER TO FLOOR SINK PER MANUFACTURER'S RECOMMENDATIONS.
17. PROVIDE 3/4" COPPER CONDENSATE DRAIN PIPING FROM WALK-IN COOLER EVAPORATOR COIL AND EXTEND FULL SIZE TO FLOOR SINK WITH A MINIMUM 2" AIR GAP. ROUTE PIPING DIRECTLY TO EXTERIOR OF COOLER AS TIGHT TO CEILING AS POSSIBLE WHILE MAINTAINING PROPER SLOPE TO MINIMIZE IMPACT ON COOLER SHELVING AND STORAGE SPACE. PROVIDE CORROSION RESISTANT "STAND-OFFS" TO ALLOW 1" CLEARANCE BETWEEN WALLS AND PIPING. INSULATE TOTAL LENGTH OF DRAIN PIPING WITH 3/4" THICK FLEXIBLE CLOSED-CELL INSULATION SIMILAR TO ARMAFLEX PIPE INSULATION.
18. WALK-IN COOLER EQUIPMENT SHOWN FOR REFERENCE ONLY. EQUIPMENT AND ASSOCIATED REFRIGERANT PIPING TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
19. ROUTE 1/2" CONDENSATE DRAIN FROM WATER HEATER AND ALONG WALL OVER TO FLOOR DRAIN WITH A MINIMUM 2" AIR GAP.

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AOR PROJECT NUMBER:
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1 BLDG RESPONSE	NOV 15, 2024
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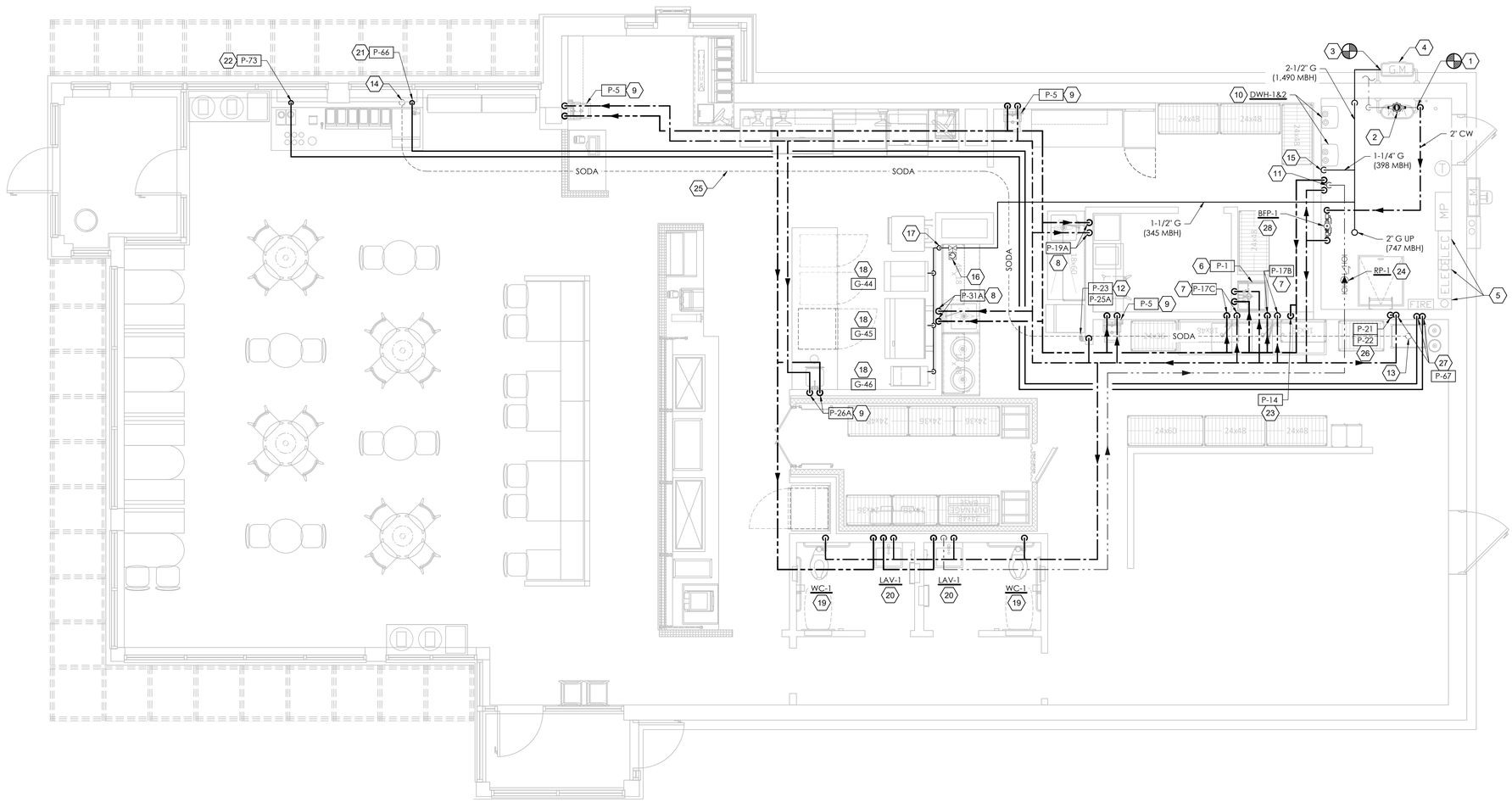
PLUMBING WASTE AND VENT PLAN

SHEET:
P101

10/8/2024 10:59 AM

WATER CONNECTION SCHEDULE

ITEM NO	QTY	EQUIPMENT CATEGORY	HOT WATER SIZE (IN)	HOT WATER AFF (IN)	COLD WATER SIZE (IN)	COLD WATER AFF (IN)	MBTUH	GAS SIZE (IN)	GAS AFF (IN)
1	1	FAUCET, SERVICE SINK	1/2"	36"	1/2"	36"			
5	3	HAND SINK, WALL MOUNTED	1/2"	18"	1/2"	18"			
14	1	WAREWASHER, UNDERCOUNTER, LOW TEMP	1/2"	18"					
17B	1	PRE-RINSE FAUCET, WALL MOUNT	1/2"	18"	1/2"	18"			
17C	1	FAUCET, WALL MOUNT	1/2"	18"	1/2"	18"			
19A	1	FAUCET, WALL MTD	1/2"	18"	1/2"	18"			
21	1	BAG-IN-BOX			1/2"				
22	1	CARBONATOR			1/2"	18"			
23	1	FILTER SYSTEM, ICEMAKER			3/8"	72"			
25A	1	ICE MAKER			1/2"				
26A	1	FAUCET, DECK MOUNT	1/2"	18"	1/2"	18"			
31A	1	FAUCET, DECK MOUNT	1/2"	18"	1/2"	18"			
44	1	RANGE, RESTAURANT, GAS					128	3/4"	18"
45	1	GRIDDLE, HEAVY DUTY, GAS					112	3/4"	18"
46	1	FRYER, DEEP FAT, GAS					105	3/4"	18"
66	1	ICE DISPENSER W/ BEVERAGE HEADS			1/2"				
67	1	FILTER SYSTEM, FOUNTAIN BEVERAGE			3/8"	18"			
73	1	WATER DISPENSER, FAUCET			1/2"	18"			



1 P201

PLUMBING WATER AND GAS PLAN

1/4" = 1'-0"

GENERAL NOTES:

A. PLUMBING CONTRACTOR SHALL PROVIDE TRAP PRIMERS TO ALL FLOOR DRAINS. REFER TO PLUMBING SCHEDULE FOR ADDITIONAL INFORMATION.

B. FURNISH AND INSTALL BRAIDED STAINLESS STEEL FAUCET CONNECTORS AT ALL EXPOSED FLEXIBLE HOSE LOCATIONS EXCEPT AT EQUIPMENT PROVIDED BY KES.

C. ROUTE PIPING IN TRUSS SPACE WHERE CEILING SPACE IS LIMITED.

D. ROUTE ALL PIPING IN EXPOSED AREAS TIGHT TO ROOF STRUCTURE, PAINT PIPING TO MATCH STRUCTURE.

E. TRAP PRIMER/VALVES TO BE IN AN ACCESSIBLE SPACE ABOVE CEILING, IF NOT PROVIDE A MINIMUM 12"X12" ACCESS PANEL, OR LARGER IF REQUIRED TO ADEQUATELY ACCESS THE TRAP PRIMER/VALVES. REFER TO DETAIL ON SHEET P401.

F. ALL PIPING AND ASSOCIATED PLUMBING EQUIPMENT FOR SODA SYSTEM SHALL BE INSTALLED BY A STATE LICENSED PLUMBING CONTRACTOR.

G. ALL GAS PIPING IN CONCEALED AREAS SHALL BE WELDED.

H. REFER TO SCHEDULE AND RISER DIAGRAMS FOR COMPLETE PIPE SIZING AND CONNECTION INFORMATION.

I. PROVIDE WALL STANDOFFS FOR WATER, ETC., PIPING BEHIND COOK LINE. PIPING SHALL TURN AND BEND AS SOON AS IT COMES OUT OF THE WALL IN A CLEAN AND NEAT MANNER.

J. OFFSET PLUMBING PIPING AS REQUIRED TO AVOID STRUCTURAL ELEMENTS AND OTHER PIPING IN WALL.

CODED NOTES: (#)

1. CONNECT NEW 2" DOMESTIC COLD WATER PIPING TO EXISTING DOMESTIC COLD WATER PIPING IN APPROXIMATE LOCATION SHOWN. FIELD VERIFY PRIOR TO COMMENCING WORK.
2. EXISTING 2" INCOMING DOMESTIC WATER SERVICE AND WATER METER TO REMAIN AND BE REUSED.
3. CONNECT NEW 2-1/2" GAS PIPING TO EXISTING GAS METER IN APPROXIMATE LOCATION SHOWN. FIELD VERIFY PRIOR TO COMMENCING WORK.
4. EXISTING GAS SERVICE TO REMAIN AND BE REUSED.
5. DO NOT ROUTE ANY PIPING ABOVE ELECTRICAL PANELS.
6. ROUTE 1/2" HOT AND COLD WATER DOWN IN WALL AND CONNECT TO MOP SINK.
7. ROUTE 1/2" HOT AND COLD WATER DOWN IN WALL AND CONNECT TO 4-COMP SINK.
8. ROUTE 1/2" HOT AND COLD WATER DOWN IN WALL AND CONNECT TO WORK SINK.
9. ROUTE 1/2" HOT AND COLD WATER DOWN IN WALL AND CONNECT TO HAND SINK. PROVIDE POINT OF USE MIXING VALVE TMV-2, ASSE 1070 COMPLIANT AND CONNECT TO HAND SINK.
10. ROUTE 1-1/4" COLD WATER, AND 3/4" HOT WATER RECIRC PIPING DOWN FROM CEILING SPACE AND CONNECT TO WATER HEATERS, EXTEND 1-1/4" HOT WATER FROM WATER HEATER UP TO CEILING SPACE. SEE 8/P401 FOR MORE INFORMATION.
11. ROUTE 3/4" HOT WATER RETURN DOWN FROM CEILING SPACE AND CONNECT INTO COLD WATER SUPPLY SERVING WATER HEATER. REFER TO WATER HEATER DETAIL FOR ADDITIONAL INFORMATION.
12. ROUTE 1/2" COLD WATER DOWN IN WALL AND CONNECT TO WATER FILTERS PROVIDED BY KEC. EXTEND FROM WATER FILTER AND CONNECT TO ICE MACHINE. CONTRACTOR SHALL PROVIDE WATTS LF9D DUAL CHECK BACKFLOW DEVICE PRIOR TO FINAL CONNECTION, ASSE 1012 COMPLIANT.
13. ROUTE 6" PVC SODA CONDUIT UP TO CEILING SPACE. PROVIDE STUB AND SEAL END OF CONDUIT. COORDINATE EXACT REQUIREMENTS WITH SODA VENDOR.
14. ROUTE 6" PVC SODA CONDUIT DOWN FROM CEILING SPACE IN CHASE TO BEVERAGE STATION. USE ONLY LONG SWEEP ELBOWS FOR DIRECTION CHANGES (ELBOWS AVAILABLE IN 45°, 22.5°, AND 11.25° RADII AS REQUIRED). INSTALL PER VENDOR'S RECOMMENDATIONS.
15. ROUTE 1-1/2" GAS DOWN FROM CEILING SPACE AND CONNECT TO WATER HEATER, PROVIDE 6" DIRT LEG, GAS SHUT OFF VALVE AND UNION PRIOR TO FINAL CONNECTION. INSTALL PER MANUFACTURERS RECOMMENDATIONS.
16. PROVIDE 1-1/2" GAS PIPING DOWN THROUGH CEILING TO MECHANICAL GAS SHUT-OFF VALVE. INSTALL MECHANICAL VALVE AND MANUAL VALVE BELOW CEILING.
17. ROUTE 1-1/2" GAS PIPING DOWN ALONG WALL AND PROVIDE 6" DIRT LEG, EXTEND ALONG WALL AT 12" A.F.F.
18. EXTEND 3/4" GAS PIPING FROM 1-1/2" GAS HEADER UP AND PROVIDE GAS SHUT OFF VALVE AND FLEXIBLE GAS HOSE. COORDINATE WITH KEC.
19. ROUTE 1-1/2" COLD WATER DOWN IN WALL AND CONNECT 1-1/4" TO WATER CLOSETS.
20. ROUTE 1/2" HOT AND COLD WATER DOWN IN WALL AND CONNECT TO LAVATORY. PROVIDE POINT OF USE MIXING VALVE TMV-2, ASSE 1070 COMPLIANT AND CONNECT TO LAVATORY.
21. ROUTE 3/8" FILTERED COLD WATER DOWN IN WALL AND CONNECT TO ICE AND BEVERAGE DISPENSER. CONTRACTOR SHALL PROVIDE WATTS SD-2 DUAL CHECK BACKFLOW DEVICE PRIOR TO FINAL CONNECTION, ASSE 1012 COMPLIANT.
22. EXTEND 3/8" FILTERED COLD WATER FROM WATER FILTER PROVIDE BY KEC AND CONNECT TO WATER DISPENSER. COORDINATE WITH KEC.
23. ROUTE 1/2" HOT WATER DOWN IN WALL AND CONNECT TO UNDERCOUNTER WAREWASHER, PROVIDE WATER PRESSURE REGULATOR AND SET LEAVING PRESSURE TO 25 PSI. INSTALL PER MANUFACTURES RECOMMENDATIONS.
24. ROUTE 1/2" HOT WATER RETURN IN CEILING SPACE AND CONNECT TO HOT WATER RETURN PUMP RP-1. PROVIDE ISOLATION VALVE BEFORE AND AFTER PUMP AND CHECK VALVE IN LINE WITH PUMP. REFER TO WATER HEATER DETAIL ON SHEET P401 FOR ADDITIONAL INFORMATION.
25. SODA CONDUIT TO BE ROUTED ABOVE CEILING. USE ONLY LONG SWEEP ELBOWS FOR DIRECTION CHANGES (ELBOWS AVAILABLE IN 90°, 45°, 22.5°, AND 11.25° RADII AS REQUIRED).
26. ROUTE 1/2" DOWN TO BAG-IN-BOX, INSTALL PER MAINE ROOT VENDOR REQUIREMENTS.
27. ROUTE 1" COLD WATER DOWN IN WALL TO WATER FILTERS, ROUTE 3/8" FILTERED WATER FROM WATER FILTERS IN CEILING SPACE OVER TO BEVERAGE ISLAND. SEE DETAIL 10/P401 FOR MORE INFORMATION.
28. CONTRACTOR TO PROVIDE 2" BACKFLOW PREVENTER ON THE DOMESTIC WATER SYSTEM IF ONE DOES NOT EXIST ON THE INCOMING SERVICE. FIELD VERIFY AND CONFIRM PRIOR TO INSTALLATION.
29. EXISTING WATER METER TO REMAIN AND BE REUSED.

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CAVA

CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
BLDG RESPONSE	NOV 15, 2024
CONSTR SET	JAN 8, 2025

PLUMBING WATER AND GAS PLAN

SHEET:
P201

8/2/2024 2:35 PM

GENERAL NOTES:

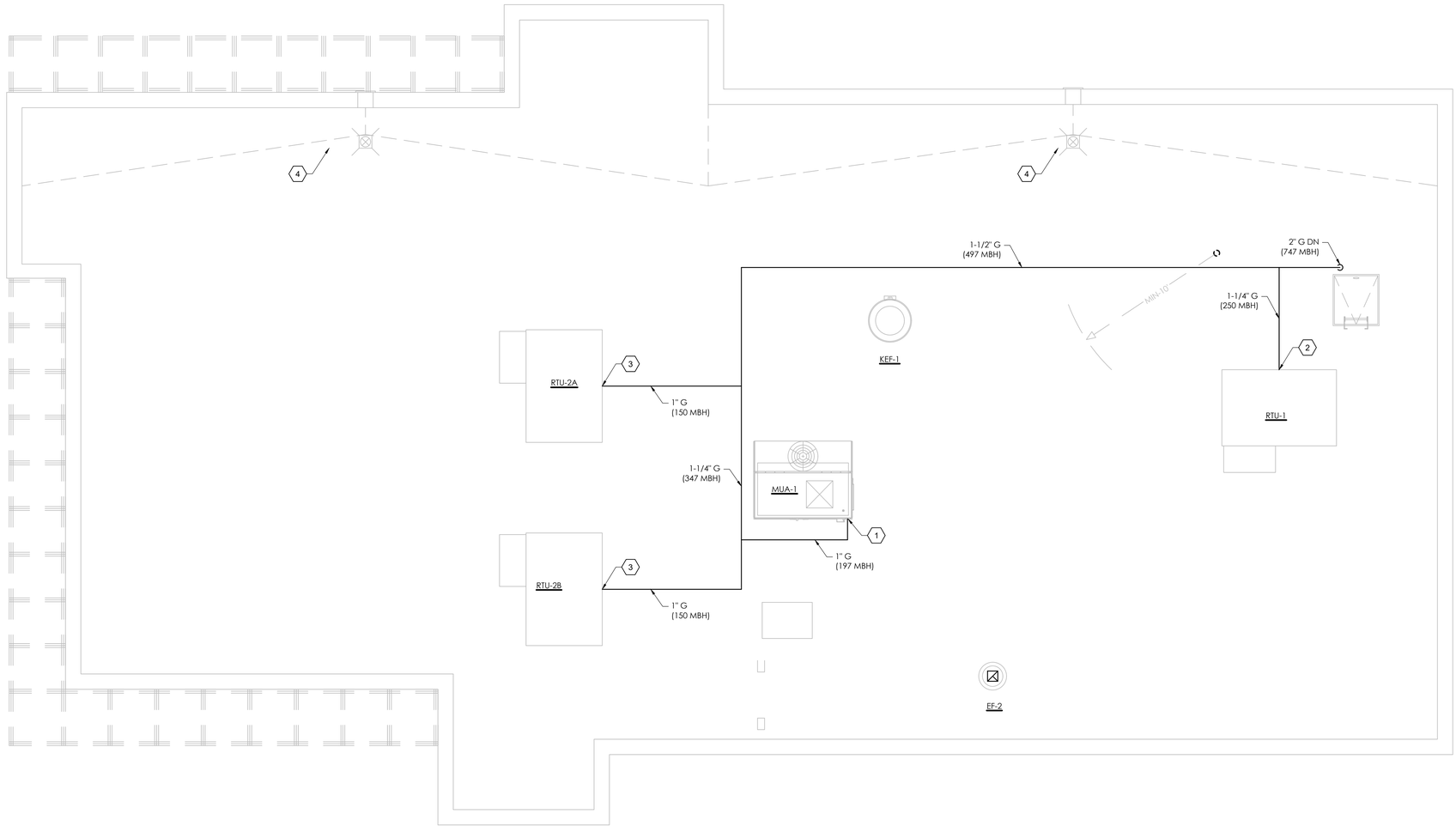
A. ALL GAS PIPING IN CONCEALED AREAS SHALL BE WELDED.

B. REFER TO SCHEDULE AND RISER DIAGRAMS FOR COMPLETE PIPE SIZING AND CONNECTION INFORMATION.

C. OFFSET PLUMBING PIPING AS REQUIRED TO AVOID STRUCTURAL ELEMENTS AND OTHER PIPING IN WALL.

CODED NOTES: (#)

1. NEW 1" GAS PIPING @ 7" W.C. TO CONNECT TO NEW MAKE UP AIR UNIT. PROVIDE 6" DIRT LEG, GAS SHUT OFF VALVE, AND UNION PRIOR TO FINAL CONNECTION.
2. NEW 1-1/4" GAS PIPING @ 7" W.C. TO CONNECT TO NEW ROOF TOP UNIT. PROVIDE 6" DIRT LEG, GAS SHUT OFF VALVE, AND UNION PRIOR TO FINAL CONNECTION
3. NEW 1" GAS PIPING @ 7" W.C. TO CONNECT TO NEW ROOF TOP UNIT. PROVIDE 6" DIRT LEG, GAS SHUT OFF VALVE, AND UNION PRIOR TO FINAL CONNECTION.
4. EXISTING STORM DRAINS TO REMAIN.



1 P301

PLUMBING ROOF PLAN

1/4" = 1'-0"

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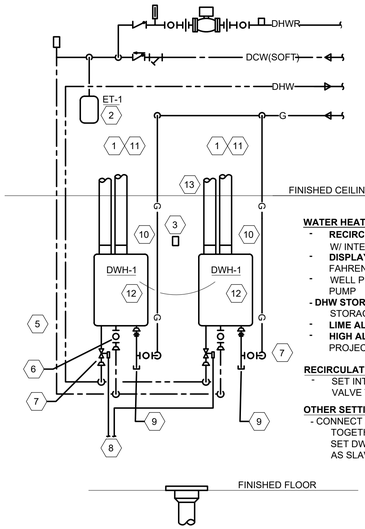
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PLUMBING ROOF PLAN

SHEET:
P301

7/10/2024 3:01 PM



WATER HEATER DIP SWITCH SETTINGS
- **RECIRCULATION MODE:** INTERNAL W/ INTELLIGENT PREHEATING.
- **DISPLAY TEMPERATURE UNIT:** FAHRENHEIT
- WELL PUMP: DO NOT USE WELL PUMP
- **DHW STORAGE TANK:** DO NOT USE STORAGE TANK
- **LIME ALARM:** 6 MONTH ALERT
- **HIGH ALTITUDE:** BASED ON PROJECT ALTITUDE.

RECIRCULATION VALVE SETTINGS
- SET INTERNAL RECIRUCLATION VALVE TO "EXT".

OTHER SETTINGS
- CONNECT WATER HEATERS TOGETHER AS A CASCADE SYSTEM. SET DWH-1 AS MASTER AND DWH-2 AS SLAVE.

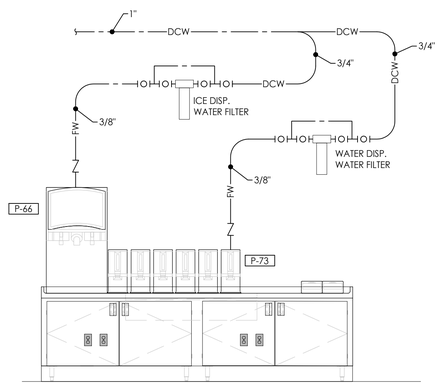
WATER HEATER DETAIL NOTES

1. PROVIDE CONCENTRIC TERMINATION KIT FOR FLUE/INTAKE TERMINATION THROUGH ROOF AS SHOWN. TYPICAL OF 2. REFERENCE DETAIL ON SHEET P401 FOR CONTINUATION.
2. PROVIDE EXPANSION TANK AS SHOWN PER MANUFACTURERS REQUIREMENTS. SUPPORT TANK FROM WALL OR STRUCTURE ABOVE.
3. PROVIDE WATER HEATER RECEPTACLE WITHIN 12" OF THE FINISHED CEILING. FASTEN CORD TIGHT TO THE WALL.
4. PROVIDE PRESSURE RELIEF VALVE. PIPE PRESSURE RELIEF VALVE TO MOP SINK P-1
5. CONCEAL HOT AND COLD WATER PIPING WITHIN THE WALL AS SHOWN. INSULATE EXPOSED AND CONCEALED HOT AND COLD WATER PIPING TO WITHIN 3" OF THE WATER HEATER.
6. INSTALL "PLUMB EASY VALVE SET" EXPOSED AT THE COLD AND HOT WATER CONNECTIONS TO THE WATER HEATER AS SHOWN.
7. IF THE COLD, HOT, OR GAS PIPE LINE SIZE AS SHOWN ON THE PLUMBING PLANS IS LARGER THAN THE WATER HEATER CONNECTION SIZES, PROVIDE REDUCERS WITHIN 6" OF THE WATER HEATER.
8. PVC/CPVC PIPE PRESSURE RELIEF VALVE DISCHARGE AND FLUE CONDENSATE DRAIN TO MOP SINK P-1. DRAIN THROUGH AN AIR
9. PROVIDE AN EXPOSED DRIP LEG AND LINE-SIZE GAS VALVE ON GAP. THE GAS SERVICE TO THE WATER HEATER.
10. ROUTE GAS PIPING EXPOSED ON SURFACE OF THE WALL.
11. PROVIDE 3" SCH.40 LISTED PVC VENT INTAKE AND 3" NAVIEN EXHAUST VENT SYSTEM PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
12. PROVIDE COMMUNICATION CABLE CONCEALED IN WALL TO CONNECT THE WATER HEATERS. INSTALL THE TWO UNITS 3" APART ON CENTER TO ENSURE THE CORD WILL REACH.
13. MOUNT HEATER IN ACCESSIBLE LOCATION WITH THE TOP OF THE WATER HEATER WITHIN 12" BELOW FINISHED CEILING AND MAINTAIN APPROPRIATE WORKING CLEARANCE AS SPECIFIED BY MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS, COORDINATE EXACT LOCATION WITH CONSTRUCTION MANAGER.
14. MAINTAIN 18" CLEARANCE FROM SIDE WALLS AND ADDITIONAL UNITS.

WATER HEATER INSTALLATION NOTES

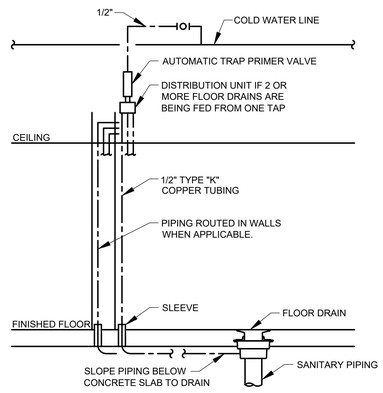
A. CLEAN INLET STRAINERS AFTER CONSTRUCTION HAS BEEN COMPLETED AND PRIOR TO TURNOVER OF THE BUILDING TO THE OWNER.
B. INSTALL PIPING WITH AS FEW ELBOWS AS POSSIBLE.
C. MAINTAIN REQUIRED CLEARANCES TO COMBUSTIBLE MATERIALS.
D. ADJUST WATER HEATER TO A SETPOINT OF 140° F.

8 WATER HEATER DETAIL
N.T.S.

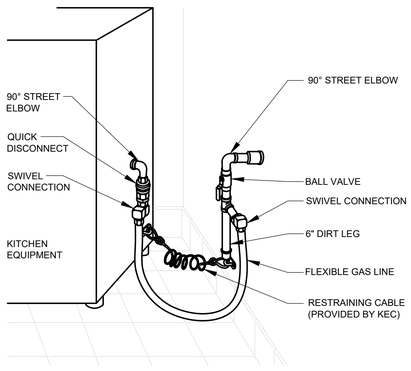


NOTES:
WATER FILTERS ARE TO BE LOCATED IN BACK OF HOUSE AREA MOUNTED BY THE BAG-IN-BOX AND CO2 SYSTEMS.

9 BEVERAGE COUNTER WATER FILTRATION
N.T.S.

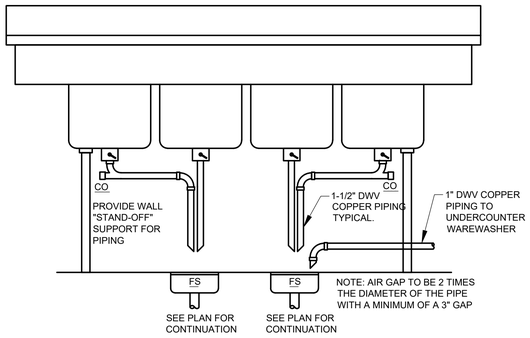


7 TRAP PRIMER DETAIL
N.T.S.

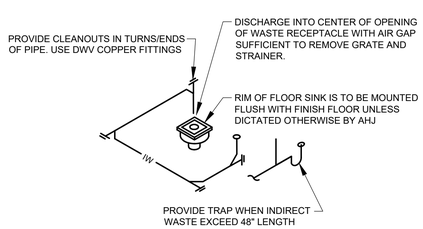


ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT ACTUAL CONDITIONS. MAKE FINAL CONNECTION TO EQUIPMENT AS RECOMMENDED BY MANUFACTURER. PROVIDE WELDED FITTINGS/JOINTS IN ANY CONCEALED, UNSLEEVED LOCATION.

4 KITCHEN GAS CONNECTION DETAIL
N.T.S.



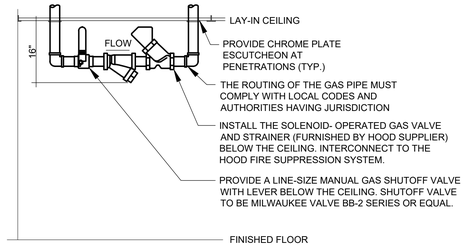
6 4 COMPARTMENT SINK DETAIL
N.T.S.



NOTE: ROUTE PIPE INCONSPICUOUSLY AND UNOBTRUSIVELY. HANG PIPE AS REQUIRED. DO NOT INSULATE INDIRECT DRAIN PIPE WHEN INSTALLED EXPOSED IN FOOD SERVICE FACILITY. REFER TO LOCAL CODES FOR FURTHER INFORMATION.

5 INDIRECT DRAIN DETAIL
N.T.S.

ALL EXPOSED GAS PIPING BELOW CEILING IS TO BE PAINTED.
COORDINATE EXACT COLOR WITH ARCHITECT.

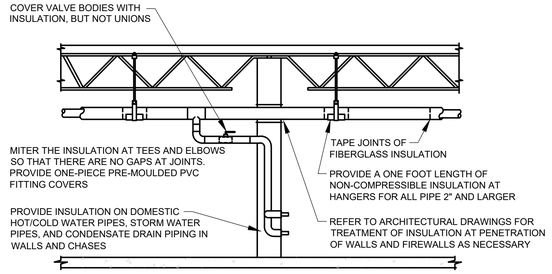


SEQUENCE OF OPERATIONS:

NORMAL MODE:
- · WHEN HOOD FAN IS ENERGIZED, SOLENOID VALVE SHALL OPEN.
- · ON A LOSS OF POWER OR IF THE FAN IS DE-ENERGIZED, THE VALVE SHALL CLOSE.

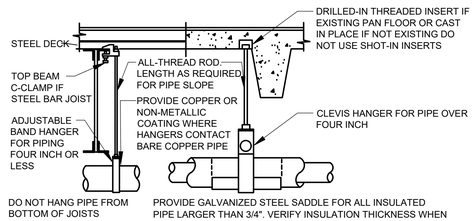
EMERGENCY MODE:
- · UPON ACTUATION OF THE FIRE SUPPRESSION SYSTEM OR A SIGNAL FROM THE FIRE ALARM, THE SOLENOID VALVE SHALL CLOSE.

3 KITCHEN GAS SHUTOFF DETAIL
N.T.S.



PROVIDE FIBERGLASS INSULATION WITH ALL-SERVICE JACKET WITH VAPOR BARRIER ON ALL COLD/HOT WATER PIPING AND CONDENSATE DRAIN PIPE. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION REGARDING INSULATION. INSTALL ALL ITEMS PER SPECIFICATIONS AND MANUFACTURERS INSTRUCTIONS. MAINTAIN VAPOR BARRIER ON COLD PIPING BY MEANS OF SEALANT AND TAPE. FLAME-SPREAD AND SMOKE-DEVELOPED INDEXES SHALL NOT EXCEED 25/50. SEAL EXPOSED ENDS OF FIBERGLASS INSULATION WITH ADHESIVE MASTIC.

2 PIPE INSULATION DETAIL
N.T.S.



PROVIDE UPPER ATTACHMENT AS REQUIRED FOR CASES NOT SHOWN HERE. DO NOT INSTALL HANGER INSIDE INSULATION OR OTHERWISE PENETRATE VAPOR BARRIER. DO NOT HANG ONE PIPE FROM ANOTHER. TRAPEZE HANGERS MAY BE USED FOR MULTIPLE PARALLEL PIPES. HANGER SPACING FOR PIPE SIZE: COPPER: 4"=12'; 3"=11'; 2-1/2"=10'; 2"=9'; 1-1/2"=8'; 1-1/4"=7'; 1"=6'; 3/4"=6'; 1/2"=5'. CAST IRON: 10' AND ONE NEAR ALL JOINTS. STEEL: 4"=14'; 3"=12'; 2-1/2"=11'; 2"=10'; 1-1/2"=9'; 1"=7'; 3/4"=6'; 1/2"=5'. LOCATE HANGERS AS CLOSE AS POSSIBLE TO TURNS AND TEES OF PIPE. PROVIDE SUPPLEMENTARY STEEL STRUTS BETWEEN JOISTS IF REQUIRED. LOCATE HANGERS TO TAKE LOAD OFF OF EQUIPMENT CONNECTIONS. ANCHOR WATER PIPE AGAINST SWAYING DUE TO CHANGES IN WATER VELOCITY. PROVIDE SEISMIC BRACING IF/AS REQUIRED BY LOCAL AUTHORITIES. CHAINS OR PERFORATED STRAP IRON OR STEEL IS NOT ACCEPTABLE. REFER TO CODES AND SPECIFICATIONS FOR FURTHER INFORMATION.

1 PIPE HANGER DETAIL
N.T.S.

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PLUMBING DETAILS

SHEET:
P401

7/10/2024 3:00 PM

PLUMBING FIXTURE SCHEDULE

FIXTURE								ACCESSORIES			DESCRIPTION
TAG	ITEM	MANUFACTURER	MODEL	DCW	DHW	DRAIN	VENT	ITEM	MANUFACTURER	MODEL	
WC-1	WATER CLOSET	KOHLER	K-96057-0	1-1/4"	- - -	4"	2"	SEAT	OLSONITE	95CTSS	ADA COMPLIANT FLOOR MOUNTED WHITE VITREOUS CHINA FLUSH VALVE WATER CLOSET WITH ELONGATED BOWL, MANUAL FLUSH VALVE, 1.6 GPF, 16-1/2" RIM HEIGHT. PROVIDE HEAVY DUTY PLASTIC OPEN FRONT SEAT LESS COVER. PROVIDE FLUSH LEVER ON WIDE SIDE OF ROOM. INSTALLATION TO COMPLY WITH ADA ACCESSIBILITY REQUIREMENTS.
								SUPPLY	MCGUIRE	2166LK	
								FLUSH VALVE	MOEN	8310M16	
LAV-1	LAVATORY	KOHLER	K-1997-1N	1/2"	1/2"	2"	1-1/2"	FAUCET	KOHLER	K7514	ADA COMPLIANT WALL MOUNTED WHITE VITREOUS CHINA LAVATORY WITH SINGLE FAUCET HOLE AND OVERFLOW. PROVIDE LEAD FREE CHROME PLATED SINGLE LEVER SINGLE HOLE FAUCET WITH 0.5 GPM FLOW RATE. PROVIDE CHROME PLATED GRID STRAINER DRAIN WITH CHROME PLATED BRASS TAILPIECE. PROVIDE CHROME PLATED BRASS P-TRAP WITH CLEANOUT, WALL BEND AND WALL FLANGE. PROVIDE CHROME PLATED BRASS LOOSE KEY ANGLE STOP WITH CHROME PLATED FLEXIBLE COPPER SUPPLY RISERS. PROVIDE CHROME FINISH ASSE 1070 LISTED UNDER-SINK THERMOSTATIC MIXING VALVE SET AT 105°F. PROVIDE MOLDED VINYL SAFETY COVERS FOR ALL EXPOSED SUPPLY AND DRAIN PIPING BELOW LAVATORY. PROVIDE RIGID IN-WALL CONCEALED LAVATORY SUPPORT SYSTEM. INSTALLATION TO COMPLY WITH ADA ACCESSIBILITY REQUIREMENTS.
								DRAIN	KOHLER	57248	
								TRAP	MCGUIRE	8912CBECO	
								SUPPLY	MCGUIRE	LF2165LK	
								TMV	WATTS	LFUSG-B-M2-SC	
								PIPING COVER	TRUEBRO	LAV-GUARD 2 E-Z	
								CARRIER	ZURN	Z1231	

PLUMBING EQUIPMENT SCHEDULE

TAG	ITEM	MANUFACTURER	MODEL NO.	COMMENTS
DWH-1	TANKLESS DOMESTIC WATER HEATER	NAVIEN	NPE-240A2	HIGH EFFICIENCY CONDENSING TANKLESS WATER HEATER, 120V/1Ø, 350 W, 3A, 95% EFFICIENCY, 5.6 GPM @ 67°F RISE, INCLUDE WITH CASCADE LINKING CABLE, PROVIDE WITH CONDENSATE NEUTRALIZER, PROVIDE WITH CONCENTRIC TERMINATION KIT.
DWH-2	TANKLESS DOMESTIC WATER HEATER	NAVIEN	NPE-240A2	HIGH EFFICIENCY CONDENSING TANKLESS WATER HEATER, 120V/1Ø, 350 W, 3A, 95% EFFICIENCY, 5.6 GPM @ 67°F RISE, INCLUDE WITH CASCADE LINKING CABLE, PROVIDE WITH CONDENSATE NEUTRALIZER, PROVIDE WITH CONCENTRIC TERMINATION KIT.
TP-1	TRAP PRIMER	PRECISION PLUMBING	PR-500	ALL BRASS BODY TRAP PRIMER VALVE, PRESSURE DROP OF 5 - 10 PSIG OPENS VALVE, OPERATING RANGE: 35 - 75 PSIG, 1/2" MALE NPT INLET CONNECTION, 1/2" FEMALE NPT OUTLET CONNECTION.
ET-1	EXPANSION TANK	RHEEM-RUUD	RRT-12	THERMAL EXPANSION TANK, MOUNT ON WALL NEAR WATER HEATER. REFER TO WATER HEATER DETAIL ON SHEET P401 FOR EXACT LOCATION.
RP-1	DOMESTIC HOT WATER RECIRCULATION PUMP	GRUNDFOS	ALPHA 15-55SF	ALL BRONZE CONSTRUCTION, LISTED FOR POTABLE WATER SERVICE AND 120 PSIG WORKING PRESSURE, 6.3 GPM AT 6 FEET OF HEAD, 115 VOLTS, 45 WATTS, SINGLE PHASE, 3250 RPM. MOUNT PUMP NEAR WATER HEATER IN ACCESSIBLE LOCATION. PUMP TO BE ON A TIMECLOCK. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
TMV-1	THERMOSTATIC MIXING VALVE	WATTS	LFL1170-M2	SET THE MIXED OUTLET WATER TEMPERATURE OF THE TMV PER ECOLAB'S RECOMMENDATIONS FOR OPTIMAL CHEMICAL MIXING.
TMV-2	THERMOSTATIC MIXING VALVE	WATTS	LFMMV-UT-M1	LEAD-FREE ASSE 1070 LISTED. PROVIDE ON ALL KITCHEN HAND SINKS. SET THE MIXED OUTLET WATER TEMPERATURE AT 110°F
BFP-1	BACKFLOR PREVENTER	WATTS	LF009M2QT	REDUCED PRESSURE BACKFLOW PREVENTER
GI-1	GREASE INTERCEPTOR	SCHIER	GB-250	PROVIDE POLYETHYLENE GREASE INTERCEPTOR: 100 GPM / 1895 LBS GREASE CAPACITY, GREASE INTERCEPTOR SIZE AS REQUIRED BY AHJ. SEE CIVIL PLAN FOR EXTERIOR GREASE INTERCEPTOR SIZE AND LOCATION. VERIFY MAKE AND MODEL WITH AHJ.

DRAIN AND CLEANOUT SCHEDULE

TAG	ITEM	MANUFACTURER	MODEL NO.	COMMENTS
FD-1	FLOOR DRAIN	SIOUX CHIEF FINISHLINE	833-23DNRB	LIGHT-DUTY CAST IRON FLOOR DRAIN WITH 6-1/2" DIA. NICKEL BRONZE STRAINER, MEMBRANE FLASHING CLAMP AND 1/2" TRAP PRIMER CONNECTION. PROVIDE OUTLET WITH P-TRAP. CLEAN AND POLISH ROUND STRAINER TOP AFTER INSTALLATION.
FS-1	FLOOR DRAIN INDIRECT WASTE RECEPTOR	SIOUX CHIEF	861-24XFI2WC	CAST IRON FLOOR RECEPTOR WITH 12" X 12" SQUARE TOP, 6" DEEP SUMP BODY, WHITE ACID RESISTANT COATED INTERIOR BODY, ACID RESISTANT COATED LOOSE SET 1/2 GRATE, AND STAINLESS STEEL DEBRIS BASKET AND MEMBRANE FLASHING CLAMP, PROVIDE OUTLET WITH P-TRAP.
FS-2	FLOOR DRAIN INDIRECT WASTE RECEPTOR	SIOUX CHIEF	861-4PCW2	PVC PLASTIC FLOOR RECEPTOR WITH 12" X 12" SQUARE TOP, 6" DEEP SUMP BODY, PVC BODY, PVC LOOSE SET 1/2 GRATE, STAINLESS STEEL DEBRIS BASKET AND MEMBRANE FLASHING CLAMP, PROVIDE OUTLET WITH P-TRAP.
CO-1	FINISHED AREA FLOOR CLEANOUT	SIOUX CHIEF FINISHLINE	834-3DNRZ	DUCTILE IRON CLEANOUT WITH GAS TIGHT POLYPROPYLENE PLUG, AND 6-1/2" DIA. ADJUSTABLE SCORIATED NICKEL BRONZE TOP.
WCO-1	FINISHED AREA WALL CLEANOUT	SIOUX CHIEF FINISHLINE	873-460	BRASS CLEANOUT PLUG WITH, STAINLESS STEEL SCREW AND STAINLESS STEEL ACCESS COVER.

GAS LOAD SUMMARY

FIXTURE TAG	FIXTURE DESCRIPTION	QUANTITY	MINIMUM GAS PRESSURE	GAS LOAD (MBH)	COMMENTS
G-44	GAS RANGE	1	3.5" W.C.	128	1
G-45	GAS GRIDDLE	1	3.5" W.C.	112	1
G-46	GAS FRYER	1	3.5" W.C.	105	1
DWH-1	WATER HEATER	1	6" W.C.	199	2
DWH-2	WATER HEATER	1	6" W.C.	199	2
RTU-1	ROOFTOP UNIT	1	4" W.C.	250	2
RTU-2A	ROOFTOP UNIT	1	4" W.C.	150	2
RTU-2B	ROOFTOP UNIT	1	4" W.C.	150	2
MUA-1	MAKE UP AIR UNIT	1	7" W.C.	197	2
			TOTAL	1490	

NOTES:
1. PROVIDE 6" DIRT LEG, UNION, SHUT-OFF VALVE, AND FLEXIBLE GAS HOSE PRIOR TO FINAL CONNECTION.
2. PROVIDE 6" DIRT LEG, UNION, AND SHUT-OFF VALVE PRIOR TO FINAL CONNECTION.

UTILITY NOTE:
GAS PIPING IS SIZED PER 2018 IFGC TABLE 402.1(1), 7" W.C. WITH A TOTAL DEVELOPED LENGTH OF 100'.

GREASE INTERCEPTOR SIZING

FIXTURE TAG	FIXTURE DESCRIPTION	QUANTITY	TAIL PIECE	DFU	TOTAL DFU	FIXTURE SERVED
P-1B	MOP SINK	1	2"	3	3	MOP SINK
P-5/P-26	HAND SINK	4	1-1/2"	1	4	HAND SINK
FS-1	FLOOR SINK	1	3"	5	5	4-COMP SINK
FS-1	FLOOR SINK	1	3"	5	5	4-COMP SINK
FS-1	FLOOR SINK	1	3"	5	5	WORK TABLE W/SINK
FS-1	FLOOR SINK	1	3"	5	5	ICE BIN / ICE MAKER
FS-1	FLOOR SINK	1	3"	5	5	WORK TABLE W/SINK
FS-1	FLOOR SINK	1	3"	5	5	HAND SINK
FS-1	FLOOR SINK	1	3"	5	5	DROP IN COLD PAN
FD-1	EMERGENCY FLOOR DRAIN	6	3"	0	0	EMERGENCY FLOOR DRAIN
					42	TOTAL

NOTES:
1. SIZING BASED ON 2018 IPC.

WATER SUPPLY FIXTURE UNIT COUNT

FIXTURE TAG	FIXTURE DESCRIPTION	QUANTITY	FIXTURE LOAD VALUE (WSFU)					
			COLD	HOT	TOTAL	COLD	HOT	TOTAL
P-1	MOP SINK FAUCET	1	2.25	2.25	3	2.25	2.25	3
P-5	HAND SINK	3	1.5	1.5	2.0	4.5	4.5	6.0
P-14	WAREWASHER	1	0	0.5	0.5	0	0.5	0.5
P-17B	4-COMP SINK FAUCET	1	3	3	4	3	3	4
P-17C	4-COMP SINK FAUCET	1	3	3	4	3	3	4
P-19A	FAUCET WALL MOUNTED	1	3	3	4	3	3	4
P-25A	ICE BIN/ICE MAKER	1	0.5	0	0.5	0.5	0	0.5
P-26A	FAUCET DECK MOUNTED	1	3	3	4	3	3	4
P-31A	FAUCET DECK MOUNTED	1	3	3	4	3	3	4
P-66	ICE DISPENSER	1	0.5	0	0.5	0.5	0	0.5
P-67	FOUNTAIN BEVERAGE	1	0.5	0	0.5	0.5	0	0.5
P-73	WATER DISPENSER	1	0.5	0	0.5	0.5	0	0.5
WC-1	WATER CLOSET FLUSH VALVE	2	10	0	10	20	0	20
LAV-1	LAVATORY	2	1.5	1.5	2.0	3	3	4
					TOTAL	46.75	25.25	55.50
					GPM	46	20	50
					PIPE SIZE	2"	1-1/4"	2"

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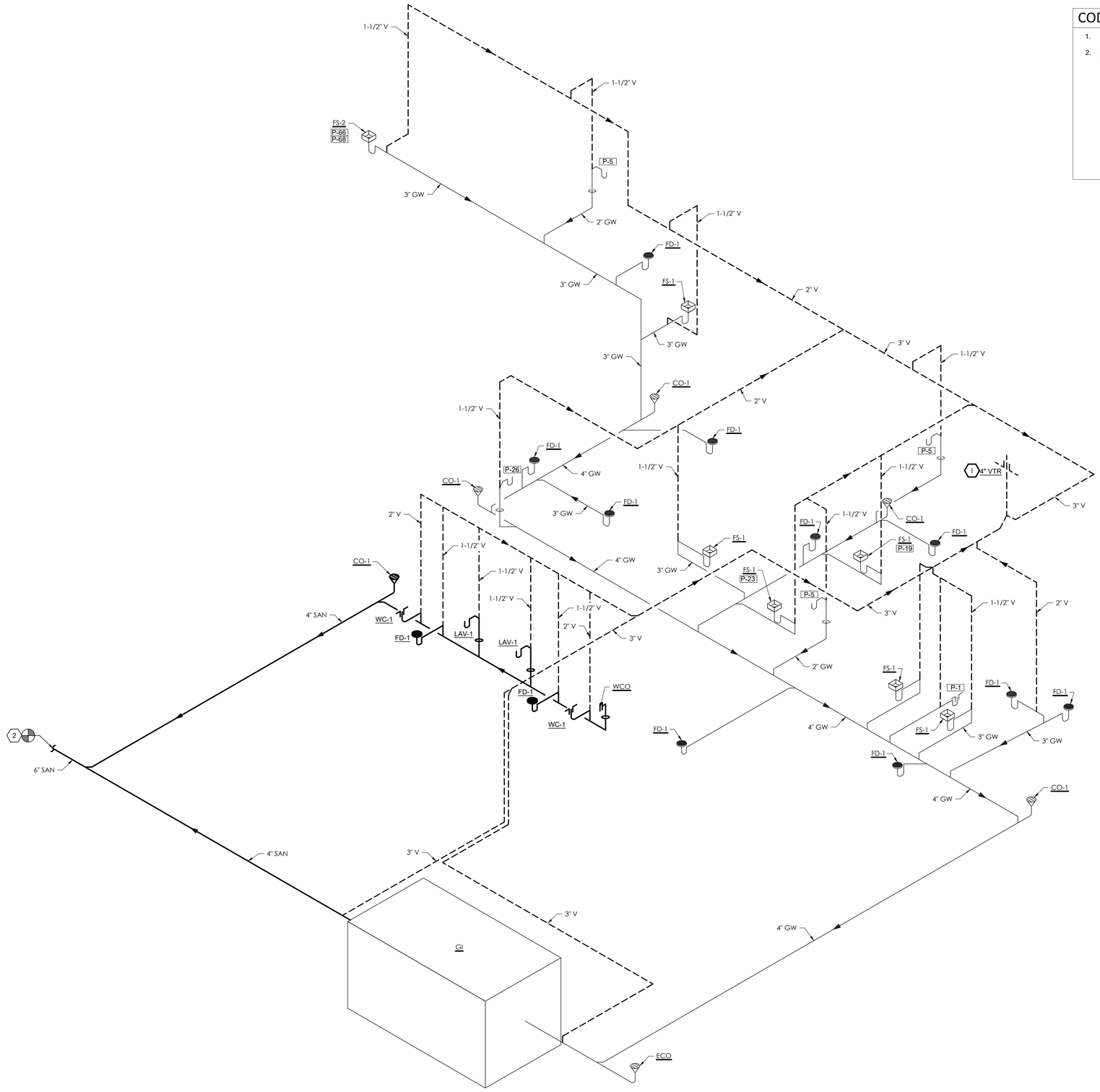
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PLUMBING SCHEDULES

SHEET:
SHEET:
P501

10/8/2024 10:59 AM



1 WASTE AND VENT RISER DIAGRAM
N.T.S.

CODED NOTES:

1. NEW 4" VENT THRU ROOF.
2. ROUTE NEW 4" SANITARY WASTE PIPING BELOW GRADE AND CONNECT INTO EXISTING 4" SANITARY WASTE PIPING. FIELD VERIFY EXACT LOCATION, SIZE, DEPTH OF INVERT, AND DIRECTION OF FLOW PRIOR TO COMMENCING WORK.

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ISSUED FOR CONSTRUCTION

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43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

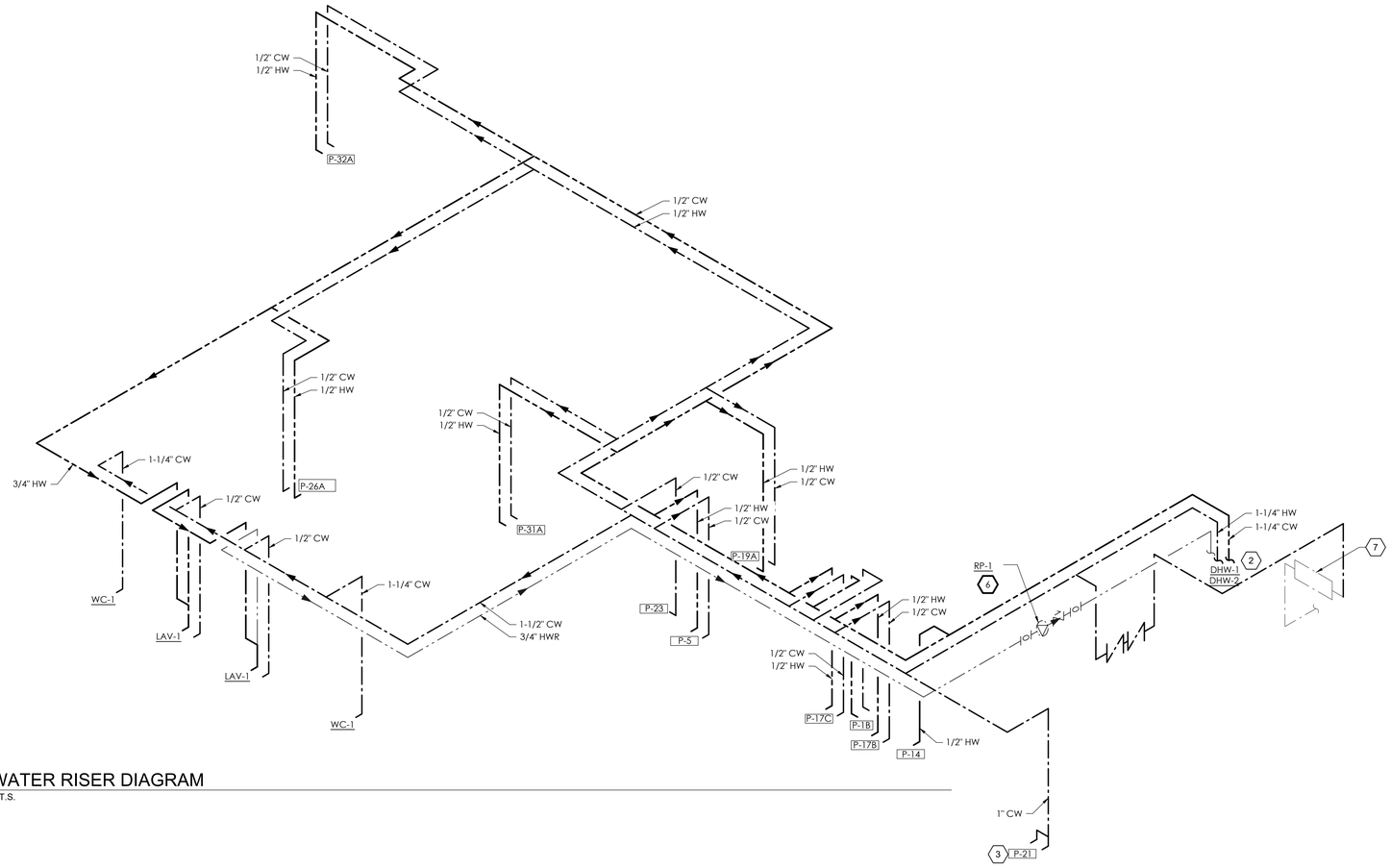
AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
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BID SET	SEP 18, 2024
1 BLDG RESPONSE	NOV 15, 2024
1 CONSTR SET	JAN 8, 2025

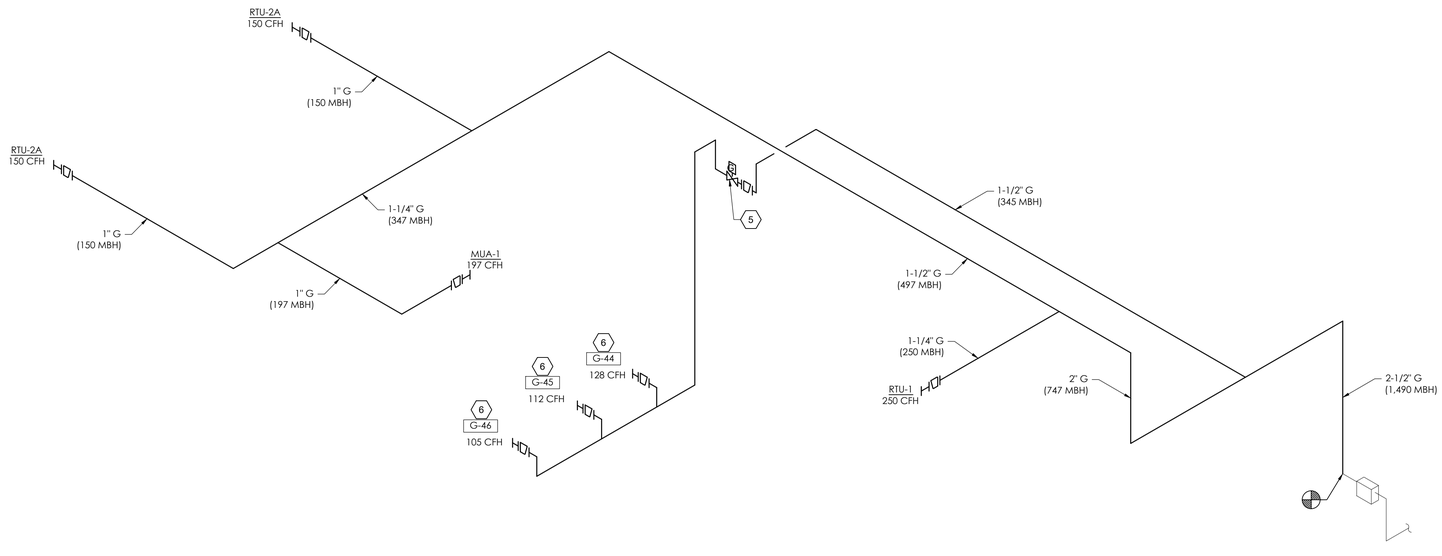
PLUMBING RISER DIAGRAMS

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1 WATER RISER DIAGRAM
N.T.S.



2 GAS RISER DIAGRAM
N.T.S.

CODED NOTES: (#)

1. ROUTE NEW 2" DOMESTIC COLD WATER IN CEILING SPACE AND CONNECT INTO EXISTING 2" COLD WATER SERVICE. FIELD VERIFY EXACT SIZE AND LOCATION PRIOR TO COMMENCING WORK.
2. PROVIDE CONNECTION TO WATER HEATER. REFER TO DETAIL ON SHEET P401.
3. ROUTE 1/2" COLD WATER DOWN AND CONNECT TO WATER FILTERS PROVIDED BY KEC. EXTEND FROM WATER FILTER AND CONNECT TO ICE, BEVERAGE, AND WATER DISPENSER. CONTRACTOR SHALL PROVIDE WATTS SD-2 BACKFLOW PREVENTION DEVICE PRIOR TO FINAL CONNECTION TO ICE AND BEVERAGE DISPENSER.
4. REFER TO WATER HEATER DETAIL FOR RECIRCULATION PUMP INSTALLATION.
5. EMERGENCY GAS SHUTOFF VALVE. REFER TO DETAIL ON SHEET P401.
6. PROVIDE CONNECTION TO KITCHEN COOKING EQUIPMENT. REFER TO DETAIL ON SHEET P401.
7. EXISTING 2" INCOMING DOMESTIC WATER SERVICE AND WATER METER TO REMAIN AND BE REUSED.

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PLUMBING RISER DIAGRAMS

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SPECIFICATIONS - DIVISION 22 - PLUMBING

SECTION 220500 - COMMON WORK RESULTS FOR PLUMBING

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. HANGERS AND SUPPORTS FOR PLUMBING PIPING EQUIPMENT:

1. STRUCTURAL PERFORMANCE: HANGERS AND SUPPORTS SHALL WITHSTAND THE EFFECTS OF GRAVITY LOADS AND STRESSES WITHIN LIMITS AND UNDER CONDITIONS INDICATED ACCORDING TO ASCE/SEI 7.
   a. DESIGN SUPPORTS FOR MULTIPLE PIPES CAPABLE OF SUPPORTING COMBINED WEIGHT OF SUPPORTED SYSTEMS, AND SYSTEM CONTENTS.
   b. DESIGN EQUIPMENT SUPPORTS CAPABLE OF SUPPORTING COMBINED OPERATING WEIGHT OF SUPPORTED EQUIPMENT AND CONNECTED SYSTEMS AND COMPONENTS.

2.2 SLEEVES AND SLEEVE SEALS

A. GALVANIZED-STEEL-PIPE SLEEVES: ASTM A 53/A 53M, TYPE E, GRADE B, SCHEDULE 40, ZINC COATED, WITH PLAIN ENDS.

B. PVC-PIPE SLEEVES: ASTM D 1785, SCHEDULE 40.

C. GALVANIZED-STEEL-SHEET SLEEVES: 0.0239-INCH MINIMUM THICKNESS; ROUND TUBE CLOSED WITH WELDED LONGITUDINAL JOINT.

2.3 GROUT

A. STANDARD: ASTM C 1107/C 1107M, GRADE B, POST-HARDENING AND VOLUME-ADJUSTING, DRY, HYDRAULIC-CEMENT GROUT.

1. CHARACTERISTICS: NONSHRINK; RECOMMENDED FOR INTERIOR AND EXTERIOR APPLICATIONS.
2. DESIGN MIX: 5000-PSI, 28-DAY COMPRESSIVE STRENGTH.
3. PACKAGING: PREMIXED AND FACTORY PACKAGED.

2.4 ESCUTCHEONS AND FLOOR PLATES

A. ONE-PIECE, DEEP-PATTERN TYPE: DEEP-DRAWN, BOX-SHAPED BRASS WITH CHROME-PLATED FINISH AND SPRING-CLIP FASTENERS.

B. ONE-PIECE, STAMPED-STEEL TYPE: WITH CHROME-PLATED FINISH AND SPRING-CLIP FASTENERS.

C. ONE-PIECE FLOOR PLATES: CAST-IRON FLANGE WITH HOLES FOR FASTENERS.

2.5 PRESSURE GAGES AND TEST PLUGS

A. DIRECT-MOUNTED, METAL-CASE, DIAL-TYPE PRESSURE GAGES:

1. STANDARD: ASME B40.100.
2. CASE: SEALED OPEN-FRONT, PRESSURE RELIEF TYPE(S); CAST ALUMINUM OR DRAWN STEEL 4-1/2-INCH NOMINAL DIAMETER.
3. MOVEMENT: MECHANICAL, WITH LINK TO PRESSURE ELEMENT AND CONNECTION TO POINTER.
4. DIAL: NONREFLECTIVE ALUMINUM WITH PERMANENTLY ETCHED SCALE MARKINGS GRADUATED IN PSI.
5. ACCURACY: GRADE A, PLUS OR MINUS 1 PERCENT OF MIDDLE HALF OF SCALE RANGE.

B. TEST PLUG: CORROSION-RESISTANT BRASS OR STAINLESS-STEEL BODY WITH TWO SELF-SEALING RUBBER CORE INSERTS AND GASKETED AND THREADED CAP, WITH EXTENDED STEM FOR UNITS TO BE INSTALLED IN INSULATED PIPING. MINIMUM PRESSURE AND TEMPERATURE RATING 500 PSIG AT 200 DEG F.

2.6 HANGERS AND SUPPORTS FOR PLUMBING PIPING EQUPMENT

A. CARBON-STEEL PIPE HANGERS AND SUPPORTS:

1. DESCRIPTION: MSS SP-58, TYPES 1 THROUGH 58, FACTORY-FABRICATED COMPONENTS.
2. GALVANIZED METALLIC COATINGS: PREGALVANIZED OR HOT DIPPED.
3. NONMETALLIC COATINGS: PLASTIC COATING, JACKET, OR LINER.
4. PADDED HANGERS: HANGER WITH FIBERGLASS OR OTHER PIPE INSULATION PAD OR CUSHION TO SUPPORT BEARING SURFACE OF PIPING.
5. HANGER RODS: CONTINUOUS-THREAD ROD, NUTS, AND WASHER MADE OF CARBON STEEL.

B. COPPER PIPE HANGERS:

1. DESCRIPTION: MSS SP-58, TYPES 1 THROUGH 58, COPPER-COATED-STEEL, FACTORY-FABRICATED COMPONENTS.
2. HANGER RODS: CONTINUOUS-THREAD ROD, NUTS, AND WASHER MADE OF COPPER-COATED STEEL.

C. FASTENER SYSTEMS:

1. MECHANICAL-EXPANSION ANCHORS: INSERT-WEDGE-TYPE, ZINC-COATED STEEL ANCHORS, FOR USE IN HARDENED PORTLAND CEMENT CONCRETE; WITH PULL-OUT, TENSION, AND SHEAR CAPACITIES APPROPRIATE FOR SUPPORTED LOADS AND BUILDING MATERIALS WHERE USED.

D. MISCELLANEOUS MATERIALS:

1. STRUCTURAL STEEL: ASTM A 36/A 36M, CARBON-STEEL PLATES, SHAPES, AND BARS; BLACK AND GALVANIZED.
2. GROUT: ASTM C 1107, FACTORY-MIXED AND -PACKAGED, DRY, HYDRAULIC-CEMENT, NONSHRINK AND NONMETALLIC GROUT; SUITABLE FOR INTERIOR AND EXTERIOR APPLICATIONS.
   a. PROPERTIES: NONSTAINING, NONCORROSIVE, AND NONGASEOUS.
   b. DESIGN MIX: 5000-PSI, 28-DAY COMPRESSIVE STRENGTH.

PART 3 - EXECUTION

3.1 GENERAL PIPING INSTALLATIONS

A. INSTALL PIPING FREE OF SAGS AND BENDS.

B. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.

C. SLEEVES:
1. INSTALL SLEEVES FOR PIPING PASSING THROUGH PENETRATIONS IN FLOORS, PARTITIONS, ROOFS, AND WALLS.
2. INSTALL SLEEVES IN CONCRETE FLOORS, CONCRETE ROOF SLABS, AND CONCRETE WALLS AS NEW SLABS AND WALLS ARE CONSTRUCTED.
   a. USE GROUT AND SEAL THE SPACE OUTSIDE OF SLEEVES IN SLABS AND WALLS WITHOUT SLEEVE-SEAL SYSTEM.
3. INSTALL SLEEVES FOR PIPES PASSING THROUGH INTERIOR PARTITIONS.
4. FIRE-BARRIER PENETRATIONS: MAINTAIN INDICATED FIRE RATING OF WALLS, PARTITIONS, CEILINGS, AND FLOORS AT PIPE PENETRATIONS. SEAL PIPE PENETRATIONS WITH FIRESTOP MATERIALS. COMPLY WITH REQUIREMENTS FOR FIRESTOPPING SPECIFIED IN SECTION 078446 "PENETRATION FIRESTOPPING."

D. ESCUTCHEONS AND FLOOR PLATES:
4. INSTALL ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FINISHED FLOORS.
5. INSTALL ESCUTCHEONS WITH ID TO CLOSELY FIT AROUND PIPE, TUBE, AND INSULATION OF PIPING AND WITH OD THAT COMPLETELY COVERS OPENING.
6. INSTALL FLOOR PLATES FOR PIPING PENETRATIONS OF EQUIPMENT-ROOM FLOORS.
7. INSTALL FLOOR PLATES WITH ID TO CLOSELY FIT AROUND PIPE, TUBE, AND INSULATION OF PIPING AND WITH OD THAT COMPLETELY COVERS OPENING.

F. METERS AND GAGES:
1. INSTALL DIRECT-MOUNTED PRESSURE GAGES IN PIPING TEES WITH PRESSURE GAGE LOCATED ON PIPE AT THE MOST READABLE POSITION.
2. INSTALL METERS AND GAGES ADJACENT TO MACHINES AND EQUIPMENT TO ALLOW SERVICE AND MAINTENANCE OF METERS, GAGES, MACHINES, AND EQUIPMENT.
3. ADJUST FACES OF METERS AND GAGES TO PROPER ANGLE FOR BEST VISIBILITY.

G. INSTALL UNIONS AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT.
H. INSTALL DIELECTRIC UNIONS AND FLANGES TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS IN GAS PIPING.
I. INSTALL DIELECTRIC COUPLING AND NIPPLE FITTINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS IN WATER PIPING.

3.2 HANGERS AND SUPPORTS

A. COMPLY WITH MSS SP-69 AND MSS SP-89. INSTALL BUILDING ATTACHMENTS WITHIN CONCRETE OR TO STRUCTURAL STEEL.

B. INSTALL HANGERS AND SUPPORTS TO ALLOW CONTROLLED THERMAL AND SEISMIC MOVEMENT OF PIPING SYSTEMS.

C. LOAD DISTRIBUTION: INSTALL HANGERS AND SUPPORTS SO PIPING LIVE AND DEAD LOADING AND STRESSES FROM MOVEMENT WILL NOT BE TRANSMITTED TO CONNECTED EQUIPMENT.

D. HORIZONTAL-PIPING HANGERS AND SUPPORTS: UNLESS OTHERWISE INDICATED AND EXCEPT AS SPECIFIED IN PIPING SYSTEM SPECIFICATION SECTIONS, INSTALL THE FOLLOWING TYPES:

1. ADJUSTABLE STEEL CLEVIS HANGERS (MSS TYPE 1): FOR SUSPENSION OF NONINSULATED OR INSULATED STATIONARY PIPES, NPS 1/2 TO NPS 30.
2. PIPE HANGERS (MSS TYPE 5): FOR SUSPENSION OF PIPES, NPS 1/2 TO NPS 4, TO ALLOW OFF-CENTER CLOSURE FOR HANGER INSTALLATION BEFORE PIPE ERECTION.
3. ADJUSTABLE STEEL BAND HANGERS (MSS TYPE 7): FOR SUSPENSION OF NONINSULATED STATIONARY PIPES, NPS 1/2 TO NPS 8.
4. ADJUSTABLE BAND HANGERS (MSS TYPE 9): FOR SUSPENSION OF NONINSULATED STATIONARY PIPES, NPS 1/2 TO NPS 8.
5. ADJUSTABLE SWIVEL-RING BAND HANGERS (MSS TYPE 10): FOR SUSPENSION OF NONINSULATED STATIONARY PIPES, NPS 1/2 TO NPS 2.

E. VERTICAL-PIPING CLAMPS: UNLESS OTHERWISE INDICATED AND EXCEPT AS SPECIFIED IN PIPING SYSTEM SPECIFICATION SECTIONS, INSTALL THE FOLLOWING TYPES:

1. EXTENSION PIPE OR RISER CLAMPS (MSS TYPE 8): FOR SUPPORT OF PIPE RISERS, NPS 3/4 TO NPS 20.
2. CARBON- OR ALLOY-STEEL RISER CLAMPS (MSS TYPE 42): FOR SUPPORT OF PIPE RISERS, NPS 3/4 TO NPS 20, IF LONGER ENDS ARE REQUIRED FOR RISER CLAMPS.

F. PIPING INSULATION SHOULD BE CONTINUOUS THROUGH HANGER ON SUPPORT. PROVIDE DOWEL ROD WITHIN HANGERS TO SUPPORT PIPING

3.3 GENERAL EQUIPMENT INSTALLATIONS

G. INSTALL EQUIPMENT TO ALLOW MAXIMUM POSSIBLE HEADROOM UNLESS SPECIFIC MOUNTING HEIGHTS ARE NOT INDICATED.

H. INSTALL EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS, UNLESS OTHERWISE INDICATED.

I. INSTALL MECHANICAL EQUIPMENT TO FACILITATE SERVICE, MAINTENANCE, AND REPAIR OR REPLACEMENT OF COMPONENTS. CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM INTERFERENCE TO OTHER INSTALLATIONS. EXTEND GREASE FITTINGS TO ACCESSIBLE LOCATIONS.

J. INSTALL EQUIPMENT TO ALLOW RIGHT OF WAY FOR PIPING INSTALLED AT REQUIRED SLOPE.

END OF SECTION

SECTION 220523 - GENERAL-DUTY VALVES FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. SUBMITTALS:

1. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

A. ASME COMPLIANCE: ASME B16.10 AND ASME B16.34 FOR FERROUS VALVE DIMENSIONS AND DESIGN CRITERIA.

B. NSF COMPLIANCE: NSF 61 FOR VALVE MATERIALS FOR POTABLE-WATER SERVICE.

2.2 GENERAL-DUTY VALVES

A. VALVE SIZES: SAME AS UPSTREAM PIPING UNLESS OTHERWISE INDICATED.

B. VALVES IN INSULATED PIPING: WITH 2-INCH STEM EXTENSIONS.

C. END CONNECTIONS: THREADS SHALL COMPLY WITH ANSI B1.20.1. FLANGES SHALL COMPLY WITH ANSI B16.24 FOR BRONZE VALVES. SOLDER-JOINT CONNECTIONS SHALL COMPLY WITH ANSI B16.18.

D. ONE-PIECE, COPPER-ALLOY BALL VALVES: LEAD FREE BRONZE BODY WITH CHROME-PLATED BRASS BALL, MTFE SEATS, AND 600-PSIG MINIMUM CWP RATING.

E. TWO-PIECE, COPPER-ALLOY BALL VALVES: LEAD FREE BRONZE BODY WITH FULL-PORT, CHROME-PLATED BRASS BALL; RPTFE SEATS; AND 600-PSIG MINIMUM CWP RATING AND BLOWOUT-PROOF STEM.

F. LEAD FREE BRONZE, SWING CHECK VALVES: CLASS 125, BRONZE BODY WITH BRONZE DISC AND SEAT.

PART 3 - EXECUTION

3.1 INSTALLATION

A. USE BALL VALVES FOR SHUTOFF DUTY AND FOR THROTTLING DUTY.

B. LOCATE VALVES FOR EASY ACCESS AND PROVIDE SEPARATE SUPPORT WHERE NECESSARY.

C. INSTALL VALVES FOR EACH FIXTURE AND ITEM OF EQUIPMENT.

D. INSTALL VALVES IN HORIZONTAL PIPING WITH STEM AT OR ABOVE CENTER OF PIPE.

E. INSTALL VALVES IN A POSITION TO ALLOW FULL STEM MOVEMENT.

F. INSTALL CHECK VALVES FOR PROPER DIRECTION OF FLOW IN HORIZONTAL POSITION WITH HINGE PIN LEVEL.

END OF SECTION

SECTION 220700 - PLUMBING INSULATION

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. INSULATION INSTALLED INDOORS: FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS ACCORDING TO ASTM E 84.

2.2 INSULATION MATERIALS

A. MINERAL-FIBER, PREFORMED PIPE INSULATION: COMPLY WITH ASTM C 547, TYPE I, GRADE A, WITH FACTORY-APPLIED ASJ.

1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
   a. JOHNS MANVILLE; MICRO-LOK.
   b. KNAUF INSULATION; 1000-DEGREE PIPE INSULATION.
   c. OWENS CORNING; FIBERGLAS PIPE INSULATION.
2. TYPE I, 850 DEG F MATERIALS: MINERAL OR GLASS FIBERS BONDED WITH A THERMOSETTING RESIN. COMPLY WITH ASTM C 547, TYPE I, GRADE A, WITH FACTORY-APPLIED ASJ. FACTORY-APPLIED JACKET REQUIREMENTS ARE SPECIFIED IN "FACTORY-APPLIED JACKETS" ARTICLE.

B. PROTECTIVE SHIELDING PIPE COVERS:

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
   a. MCGUIRE MANUFACTURING.
   b. PLUMBEREX.
   c. TRUEBRO; A BRAND OF IPS CORPORATION.
   d. ZURN INDUSTRIES, LLC; TUBULAR BRASS PLUMBING PRODUCTS OPERATION.
2. DESCRIPTION: MANUFACTURED PLASTIC WRAPS FOR COVERING PLUMBING FIXTURE HOT- AND COLD-WATER SUPPLIES AND TRAP AND DRAIN PIPING. COMPLY WITH AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS.

2.3 ADHESIVES

A. MINERAL-FIBER ADHESIVE: COMPLY WITH MIL-A-3316C, CLASS 2, GRADE A.

1. FOR INDOOR APPLICATIONS, ADHESIVE SHALL HAVE A VOC CONTENT OF 80 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).
2. ADHESIVE SHALL COMPLY WITH THE TESTING AND PRODUCT REQUIREMENTS OF THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES' "STANDARD PRACTICE FOR THE TESTING OF VOLATILE ORGANIC EMISSIONS FROM VARIOUS SOURCES USING SMALL-SCALE ENVIRONMENTAL CHAMBERS."

2.4 MASTICS

A. VAPOR-BARRIER MASTIC: WATER BASED; SUITABLE FOR INDOOR USE ON BELOW AMBIENT SERVICES.

1. FOR INDOOR APPLICATIONS, USE MASTICS THAT HAVE A VOC CONTENT OF 50 G/L OR LESS.
2. WATER-VAPOR PERMEANCE: ASTM E 96/E 96M, PROCEDURE B, 0.013 PERM AT 43-MIL DRY FILM THICKNESS.
3. SERVICE TEMPERATURE RANGE: MINUS 20 TO PLUS 180 DEG F.
4. SOLIDS CONTENT: ASTM D 1644, 58 PERCENT BY VOLUME AND 70 PERCENT BY WEIGHT.
5. COLOR: WHITE.

B. BREATHER MASTIC: WATER BASED; SUITABLE FOR INDOOR AND OUTDOOR USE ON ABOVE AMBIENT SERVICES.

1. WATER-VAPOR PERMEANCE: ASTM F 1249, 1.8 PERMS AT 0.0625-INCH DRY FILM THICKNESS.
2. SERVICE TEMPERATURE RANGE: MINUS 20 TO PLUS 180 DEG F.
3. SOLIDS CONTENT: 60 PERCENT BY VOLUME AND 66 PERCENT BY WEIGHT.
4. COLOR: WHITE.

2.5 SEALANTS

A. JOINT SEALANTS:

1. MATERIALS SHALL BE COMPATIBLE WITH INSULATION MATERIALS, JACKETS, AND SUBSTRATES.
2. PERMANENTLY FLEXIBLE, ELASTOMERIC SEALANT.
3. SERVICE TEMPERATURE RANGE: MINUS 100 TO PLUS 300 DEG F.
4. COLOR: WHITE OR GRAY.
5. FOR INDOOR APPLICATIONS, SEALANTS SHALL HAVE A VOC CONTENT OF 420 G/L OR LESS.

B. ASJ FLASHING SEALANTS:

1. MATERIALS SHALL BE COMPATIBLE WITH INSULATION MATERIALS, JACKETS, AND SUBSTRATES.
2. FIRE- AND WATER-RESISTANT, FLEXIBLE, ELASTOMERIC SEALANT.
3. SERVICE TEMPERATURE RANGE: MINUS 40 TO PLUS 250 DEG F.
4. COLOR: WHITE.
5. FOR INDOOR APPLICATIONS, SEALANTS SHALL HAVE A VOC CONTENT OF 420 G/L OR LESS.

2.6 FACTORY-APPLIED JACKETS

A. INSULATION SYSTEM SCHEDULES INDICATE FACTORY-APPLIED JACKETS ON VARIOUS APPLICATIONS. WHEN FACTORY-APPLIED JACKETS ARE INDICATED, COMPLY WITH THE FOLLOWING:

1. ASJ: WHITE, KRAFT-PAPER, FIBERGLASS-REINFORCED SCRIM WITH ALUMINUM-FOIL BACKING; COMPLYING WITH ASTM C 1136, TYPE I.

2.7 TAPES

A. ASJ TAPE: WHITE VAPOR-RETARDER TAPE MATCHING FACTORY-APPLIED JACKET WITH ACRYLIC ADHESIVE, COMPLYING WITH ASTM C 1136.

1. WIDTH: 3 INCHES.
2. THICKNESS: 11.5 MILS.
3. ADHESION: 90 OUNCES FORCE/INCH IN WIDTH.
4. ELONGATION: 2 PERCENT.
5. TENSILE STRENGTH: 40 LBF/INCH IN WIDTH.
6. ASJ TAPE DISKS AND SQUARES: PRECUT DISKS OR SQUARES OF ASJ TAPE.

PART 3 - EXECUTION

3.1 PIPE INSULATION INSTALLATION

A. COMPLY WITH REQUIREMENTS OF THE MIDWEST INSULATION CONTRACTORS ASSOCIATION'S "NATIONAL COMMERCIAL & INDUSTRIAL INSULATION STANDARDS" FOR INSULATION INSTALLATION ON PIPES AND EQUIPMENT

B. INSULATION INSTALLATION AT INTERIOR WALL AND PARTITION PENETRATIONS (THAT ARE NOT FIRE RATED): INSTALL INSULATION CONTINUOUSLY THROUGH WALLS AND PARTITIONS.

C. INSULATION INSTALLATION AT FIRE-RATED WALL, PARTITION, AND FLOOR PENETRATIONS: INSTALL INSULATION CONTINUOUSLY THROUGH PENETRATIONS. SEAL PENETRATIONS. COMPLY WITH REQUIREMENTS IN SECTION 078400.

D. MINERAL-FIBER INSULATION INSTALLATION:

1. INSULATION INSTALLATION ON STRAIGHT PIPES AND TUBES: WHERE VAPOR BARRIERS ARE INDICATED, SEAL LONGITUDINAL SEAMS, END JOINTS, AND PROTRUSIONS WITH VAPOR-BARRIER MASTIC AND JOINT SEALANT.
2. FOR INSULATION WITH FACTORY-APPLIED JACKETS ON ABOVE AMBIENT SURFACES, SECURE LAPS WITH OUTWARD CLINCHED STAPLES AT 6 INCHES O.C.
3. FOR INSULATION WITH FACTORY-APPLIED JACKETS ON BELOW AMBIENT SURFACES, DO NOT STAPLE LONGITUDINAL TABS BUT SECURE TABS WITH ADDITIONAL ADHESIVE AS RECOMMENDED BY INSULATION MATERIAL MANUFACTURER AND SEAL WITH VAPOR-BARRIER MASTIC AND FLASHING SEALANT.

E. INTERIOR PIPING SYSTEM APPLICATIONS: INSULATE THE FOLLOWING PIPING SYSTEMS:

1. DOMESTIC HOT WATER.
2. RECIRCULATED DOMESTIC HOT WATER.
3. EXPOSED WATER SUPPLIES AND SANITARY DRAINS OF FIXTURES FOR PEOPLE WITH DISABILITIES.

F. DO NOT APPLY INSULATION TO THE FOLLOWING SYSTEMS, MATERIALS, AND EQUIPMENT:

1. FLEXIBLE CONNECTORS.
2. SANITARY DRAINAGE AND VENT PIPING.
3. DRAINAGE PIPING LOCATED IN CRAWLSPACES UNLESS OTHERWISE INDICATED.
4. PIPING SPECIALTIES, INCLUDING AIR CHAMBERS, UNIONS, STRAINERS, CHECK VALVES, PLUG VALVES, AND FLOW REGULATORS.

3.2 INDOOR PIPING INSULATION SCHEDULE

A. DOMESTIC COLD WATER:

1. NPS 1 AND SMALLER: INSULATION SHALL BE THE FOLLOWING:
   a. MINERAL-FIBER, PREFORMED PIPE INSULATION, TYPE I: 1/2 INCH THICK.
2. NPS 1-1/4 AND LARGER: INSULATION SHALL BE THE FOLLOWING:
   a. MINERAL-FIBER, PREFORMED PIPE INSULATION, TYPE I: 1 INCH THICK.

B. DOMESTIC HOT AND RECIRCULATED HOT WATER:

1. NPS 2 AND SMALLER: INSULATION SHALL BE THE FOLLOWING:
   a. MINERAL-FIBER, PREFORMED PIPE INSULATION, TYPE I: 1 INCH THICK.

C. EXPOSED SANITARY DRAINS, DOMESTIC WATER, DOMESTIC HOT WATER, AND STOPS FOR PLUMBING FIXTURES FOR PEOPLE WITH DISABILITIES:

1. ALL PIPE SIZES: INSULATION SHALL BE THE FOLLOWING:
   a. PROTECTIVE SHIELDING PIPING COVERS.
   b. MANUFACTURED PLASTIC WRAPS FOR COVERING PLUMBING FIXTURE HOT- AND COLD-WATER SUPPLIES AND TRAP AND DRAIN PIPING. COMPLY WITH AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS.

D. PROTECTION OF INSULATION: FOR ALL PIPE INSULATION EXPOSED WITHIN 10 FEET ABOVE FINISHED FLOOR, FINISH WITH JOHNS-MANVILLE ZESTON 2000 PVC JACKET PIPING AND FITTING COVERS.

END OF SECTION

SECTION 221116 - DOMESTIC WATER PIPING

PART 2 - PRODUCTS

2.1 PREFORMANCE REQUIREMENTS

A. POTABLE-WATER PIPING AND COMPONENTS SHALL COMPLY WITH NSF 14 AND NSF 61.

2.2 PIPE AND FITTINGS

A. HARD COPPER TUBING: ASTM B 88, TYPE L, WATER TUBE, DRAWN TEMPER WITH WROUGHT-COPPER, SOLDER-JOINT FITTINGS. FURNISH WROUGHT-COPPER FITTINGS IF INDICATED.

1. COPPER UNIONS: CAST-COPPER-ALLOY, HEXAGONAL-STOCK BODY, WITH BALL-AND-SOCKET, METAL-TO-METAL SEATING SURFACES AND SOLDER-JOINT OR THREADED ENDS.
2. JOINING MATERIALS: USE ASTM B 813, WATER-FLUSHABLE, LEAD-FREE FLUX; ASTM B 32, LEAD-FREE-ALLOY SOLDER.

B. SOFT COPPER TUBING: ASTM B 88, TYPES K, WATER TUBE, ANNEALED TEMPER WITH COPPER PRESSURE FITTINGS, CAST-COPPER-ALLOY OR WROUGHT-COPPER, SOLDER-JOINT FITTINGS. FURNISH WROUGHT-COPPER FITTINGS IF INDICATED.

1. JOINING MATERIALS: USE ASTM B 813, WATER-FLUSHABLE, LEAD-FREE FLUX; ASTM B 32, LEAD-FREE-ALLOY SOLDER.

C. SPECIAL-DUTY VALVES

1. COMPLY WITH REQUIREMENTS IN SECTION 220523 "GENERAL-DUTY VALVES FOR PLUMBING PIPING" FOR GENERAL-DUTY METAL VALVES.
2. 2.COMPLY WITH REQUIREMENTS IN SECTION 221119 "DOMESTIC WATER PIPING SPECIALTIES" FOR BALANCING VALVES, DRAIN VALVES, BACKFLOW PREVENTERS, AND VACUUM BREAKERS

D. TRANSITION FITTINGS: MANUFACTURED PIPING COUPLING OR SPECIFIED PIPING SYSTEM FITTING. SAME SIZE AS PIPES TO BE JOINED AND PRESSURE RATING AT LEAST EQUAL TO PIPES TO BE JOINED:

E. FLEXIBLE CONNECTORS: STAINLESS-STEEL, CORRUGATED-METAL TUBING WITH WIRE-BRAID COVERING. WORKING-PRESSURE RATING A MINIMUM OF 200 PSIG.

PART 3 - EXECUTION

3.1 INSTALLATION

A. COMPLY WITH REQUIREMENTS IN SECTION 220500 "COMMON WORK RESULTS FOR PLUMBING" FOR BASIC PIPING INSTALLATION REQUIREMENTS.

B. INSTALL WALL PENETRATION SYSTEM AT EACH SERVICE PIPE PENETRATION THROUGH FOUNDATION WALL. MAKE INSTALLATION WATERTIGHT. COMPLY WITH REQUIREMENTS IN SECTION 220500 "COMMON WORK RESULTS FOR PLUMBING" FOR WALL PENETRATION SYSTEMS.

C. INSTALL SHUTOFF VALVE, HOSE-END DRAIN VALVE, STRAINER, PRESSURE GAGE, AND TEST TEE WITH VALVE, INSIDE THE BUILDING AT EACH DOMESTIC WATER SERVICE ENTRANCE.

D. INSTALL DOMESTIC WATER PIPING WITHOUT PITCH FOR HORIZONTAL PIPING AND PLUMB FOR VERTICAL PIPING.

E. SUPPORT VERTICAL PIPING AT EACH FLOOR.

3.2 INSPECTING AND CLEANING

A. INSPECT AND TEST PIPING SYSTEMS AS FOLLOWS:

1. FILL DOMESTIC WATER PIPING. CHECK COMPONENTS TO DETERMINE THAT THEY ARE NOT AIR BOUND AND THAT PIPING IS FULL OF WATER.
2. TEST FOR LEAKS AND DEFECTS IN NEW PIPING AND PARTS OF EXISTING PIPING THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED.

B. CLEAN AND DISINFECT POTABLE DOMESTIC WATER PIPING BY FILLING SYSTEM WITH WATER/CHLORINE SOLUTION WITH AT LEAST 50 PPM OF CHLORINE. ISOLATE WITH VALVES AND ALLOW TO STAND FOR 24 HOURS. FLUSH SYSTEM WITH CLEAN, POTABLE WATER UNTIL NO CHLORINE IS IN WATER COMING FROM SYSTEM AFTER THE STANDING TIME.

3.3 PIPING SCHEDULE

A. ABOVEGROUND DISTRIBUTION PIPING: TYPE L HARD COPPER TUBING.

B. BELOWGROUND DISTRIBUTION PIPING: TYPE K SOFT COPPER TUBING.

3.4 VALVE SCHEDULE

A. DRAWINGS INDICATE VALVE TYPES TO BE USED. WHERE SPECIFIC VALVE TYPES ARE NOT INDICATED, THE FOLLOWING REQUIREMENTS APPLY:

1. SHUTOFF DUTY: USE BRONZE BALL VALVES FOR PIPING NPS 2 AND SMALLER.
2. THROTTLING DUTY: USE BRONZE BALL VALVES FOR PIPING NPS 2 AND SMALLER.
3. HOT-WATER-PIPING, BALANCING DUTY: MEMORY-STOP BALANCING VALVES.
4. DRAIN DUTY: HOSE-END DRAIN VALVES.

B. INSTALL BALL VALVES CLOSE TO MAIN ON EACH BRANCH AND RISER SERVING TWO OR MORE PLUMBING FIXTURES OR EQUIPMENT CONNECTIONS AND WHERE INDICATED.

C. INSTALL BALL VALVES ON INLET TO EACH PLUMBING EQUIPMENT ITEM, ON EACH SUPPLY TO EACH PLUMBING FIXTURE NOT HAVING STOPS ON SUPPLIES, AND ELSEWHERE AS INDICATED.

D. INSTALL DRAIN VALVE AT BASE OF EACH RISER, AT LOW POINTS OF HORIZONTAL RUNS, AND WHERE REQUIRED TO DRAIN WATER DISTRIBUTION PIPING SYSTEM.

E. INSTALL SWING CHECK VALVE ON DISCHARGE SIDE OF EACH PUMP AND ELSEWHERE AS INDICATED.

F. INSTALL BALL VALVES IN EACH HOT-WATER CIRCULATING LOOP AND DISCHARGE SIDE OF EACH PUMP.

END OF SECTION

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CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
1 BLDG RESPONSE	NOV 15, 2024
2 CONSTR SET	JAN 8, 2025

PLUMBING SPECIFICATIONS

SHEET:
P701

9/29/2023 5:53 PM

SPECIFICATIONS - DIVISION 22 - PLUMBING (CONTINUED)

SECTION 221119 - DOMESTIC WATER PIPING SPECIALTIES

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR PIPING SPECIALTIES

A. POTABLE-WATER PIPING AND COMPONENTS SHALL COMPLY WITH NSF 61AND NSF 14.

2.2 PERFORMANCE REQUIREMENTS

A. MINIMUM WORKING PRESSURE FOR DOMESTIC WATER PIPING SPECIALTIES: 125 PSIG UNLESS OTHERWISE INDICATED.

2.3 MANUFACTURED UNITS

A. PIPE-APPLIED, ATMOSPHERIC-TYPE VACUUM BREAKERS:

1. STANDARD: ASSE 1001.
2. SIZE: NPS 1/4 TO NPS 3, AS REQUIRED TO MATCH CONNECTED PIPING.
3. BODY: BRONZE.
4. INLET AND OUTLET CONNECTIONS: THREADED.
5. FINISH: CHROME PLATED.

B. HOSE-CONNECTION VACUUM BREAKERS:

1. STANDARD: ASSE 1011.
2. BODY: BRONZE, NONREMOVABLE, WITH MANUAL DRAIN.
3. OUTLET CONNECTION: GARDEN-HOSE THREADED COMPLYING WITH ASME B1.20.7.
4. FINISH: CHROME OR NICKEL PLATED BRONZE.

C. REDUCED-PRESSURE-PRINCIPLE BACKFLOW PREVENTERS:

1. STANDARD: ASSE 1013.
2. OPERATION: CONTINUOUS-PRESSURE APPLICATIONS.
3. PRESSURE LOSS: 12 PSIG MAXIMUM, THROUGH MIDDLE THIRD OF FLOW RANGE.
4. BODY: LEAD FREE BRONZE OR STAINLESS STEEL FOR NPS 2 AND SMALLER.
5. END CONNECTIONS: THREADED FOR NPS 2 AND SMALLER.
6. CONFIGURATION: DESIGNED FOR HORIZONTAL, STRAIGHT-THROUGH FLOW.
7. ACCESSORIES:
   a. VALVES NPS 2 AND SMALLER: BALL TYPE WITH THREADED ENDS ON INLET AND OUTLET.
   b. AIR-GAP FITTING: ASME A112.1.2, MATCHING BACKFLOW-PREVENTER CONNECTION.

D. WATER REGULATORS:

1. STANDARD: ASSE 1003.
2. PRESSURE RATING: INITIAL WORKING PRESSURE OF 150 PSIG.
3. DESIGN OUTLET PRESSURE SETTING: 60 PSIG.
4. BODY: LEAD FREE BRONZE WITH CHROME-PLATED FINISH FOR NPS 2 AND SMALLER.
5. END CONNECTIONS: THREADED FOR NPS 2 AND SMALLER.

E. MEMORY-STOP BALANCING VALVES:

1. STANDARD: MSS SP-110 FOR TWO-PIECE, COPPER-ALLOY BALL VALVES.
2. PRESSURE RATING: 400-PSIG MINIMUM CWP.
3. SIZE: NPS 2 OR SMALLER.
4. BODY: LEAD FREE COPPER ALLOY.
5. PORT: FULL PORT.
6. BALL: CHROME-PLATED BRASS.
7. SEATS AND SEALS: REPLACEABLE.
8. END CONNECTIONS: SOLDER JOINT OR THREADED.
9. HANDLE: VINYL-COVERED STEEL WITH MEMORY-SETTING DEVICE.

F. THERMOSTATIC, WATER MIXING VALVES:

1. STANDARD: ASSE 1017.
2. PRESSURE RATING: 125 PSIG MINIMUM UNLESS OTHERWISE INDICATED.
3. TYPE: EXPOSED-MOUNTED, THERMOSTATICALLY CONTROLLED, WATER MIXING VALVE.
4. MATERIAL: LEAD FREE BRONZE BODY WITH CORROSION-RESISTANT INTERIOR COMPONENTS.
5. CONNECTIONS: THREADED OR UNION INLETS AND OUTLET.
6. ACCESSORIES: MANUAL TEMPERATURE CONTROL, CHECK STOPS ON HOT- AND COLD-WATER SUPPLIES, AND ADJUSTABLE, TEMPERATURE-CONTROL HANDLE.
7. TEMPERED-WATER SETTING: AS SPECIFIED ON DRAWINGS.
8. PRESSURE DROP AT DESIGN FLOW RATE: NOT EXCEED 15 PSIG.
9. VALVE FINISH: CHROME PLATED.

G. Y-PATTERN STRAINERS:

1. PRESSURE RATING: 125 PSIG MINIMUM UNLESS OTHERWISE INDICATED.
2. BODY: LEAD FREE BRONZE FOR NPS 2 AND SMALLER.
3. END CONNECTIONS: THREADED FOR NPS 2 AND SMALLER.
4. SCREEN: STAINLESS STEEL WITH ROUND PERFORATIONS UNLESS OTHERWISE INDICATED.
5. PERFORATION SIZE:
   a. STRAINERS NPS 2 AND SMALLER: 0.020 INCH.
6. DRAIN: PIPE PLUG.

H. HOSE BIBBS:

1. STANDARD: ASME A112.18.1 FOR SEDIMENT FAUCETS.
2. BODY MATERIAL: BRONZE.
3. SEAT: BRONZE, REPLACEABLE.
4. SUPPLY CONNECTIONS: NPS 3/4 THREADED OR SOLDER-JOINT INLET.
5. OUTLET CONNECTION: GARDEN-HOSE THREAD COMPLYING WITH ASME B1.20.7.
6. PRESSURE RATING: 125 PSIG.
7. VACUUM BREAKER: INTEGRAL, NONREMOVABLE, DRAINABLE, HOSE-CONNECTION VACUUM BREAKER COMPLYING WITH ASSE 1011.
8. FINISH FOR EQUIPMENT ROOMS: ROUGH BRONZE, OR CHROME OR NICKEL PLATED.
9. FINISH FOR SERVICE AREAS: CHROME OR NICKEL PLATED.
10. FINISH FOR FINISHED ROOMS: CHROME OR NICKEL PLATED.
11. OPERATION FOR EQUIPMENT ROOMS: WHEEL HANDLE OR OPERATING KEY.
12. OPERATION FOR SERVICE AREAS: OPERATING KEY.
13. OPERATION FOR FINISHED ROOMS: OPERATING KEY.
14. INCLUDE OPERATING KEY WITH EACH OPERATING-KEY HOSE BIBB.
15. INCLUDE INTEGRAL WALL FLANGE WITH EACH CHROME- OR NICKEL-PLATED HOSE BIBB.

I. NONFREEZE WALL HYDRANTS:

1. STANDARD: ASME A112.21.3M FOR CONCEALED OR EXPOSED-OUTLET, SELF-DRAINING WALL HYDRANTS.
2. PRESSURE RATING: 125 PSIG.
3. OPERATION: LOOSE KEY.
4. CASING AND OPERATING ROD: OF LENGTH REQUIRED TO MATCH WALL THICKNESS. INCLUDE WALL CLAMP.
5. INLET: NPS 3/4.
6. OUTLET: CONCEALED, WITH INTEGRAL VACUUM BREAKER AND GARDEN-HOSE THREAD COMPLYING WITH ASME B1.20.7.
7. BOX: DEEP, FLUSH MOUNTED WITH COVER.
8. BOX AND COVER FINISH: CHROME PLATED.
9. OUTLET: EXPOSED, WITH INTEGRAL VACUUM BREAKER AND GARDEN-HOSE THREAD COMPLYING WITH ASME B1.20.7.
10. NOZZLE AND WALL-PLATE FINISH: POLISHED NICKEL BRONZE.
11. OPERATING KEYS: ONE WITH EACH WALL HYDRANT.

J. BALL-VALVE-TYPE, HOSE-END DRAIN VALVES:

1. STANDARD: MSS SP-110 FOR STANDARD-PORT, TWO-PIECE BALL VALVES.
2. PRESSURE RATING: 400-PSIG MINIMUM CWP.
3. SIZE: NPS 3/4.
4. BODY: COPPER ALLOY.
5. BALL: CHROME-PLATED BRASS.
6. SEATS AND SEALS: REPLACEABLE.
7. HANDLE: VINYL-COVERED STEEL.
8. INLET: THREADED OR SOLDER JOINT.
9. OUTLET: THREADED, SHORT NIPPLE WITH GARDEN-HOSE THREAD COMPLYING WITH ASME B1.20.7 AND CAP WITH BRASS CHAIN.

K. WATER-HAMMER ARRESTERS:

1. STANDARD: ASSE 1010 OR PDI-WH 201.
2. TYPE: COPPER TUBE WITH PISTON.
3. SIZE: ASSE 1010, SIZES AA AND A THROUGH F, OR PDI-WH 201, SIZES A THROUGH F.

L. SUPPLY-TYPE, TRAP-SEAL PRIMER DEVICE:

1. STANDARD: ASSE 1018
2. PRESSURE RATING: 125 PSIG MINIMUM.
3. BODY: BRONZE.
4. INLET AND OUTLET CONNECTIONS: NPS 1/2 THREADED, UNION, OR SOLDER JOINT.
5. GRAVITY DRAIN OUTLET CONNECTION: NPS 1/2 THREADED OR SOLDER JOINT.
6. FINISH: CHROME PLATED, OR ROUGH BRONZE FOR UNITS USED WITH PIPE OR TUBE THAT IS NOT CHROME FINISHED.

PART 3 - EXECUTION

3.1 INSTALLATION

A. INSTALL BACKFLOW PREVENTERS IN EACH WATER SUPPLY TO MECHANICAL EQUIPMENT AND SYSTEMS AND TO OTHER EQUIPMENT AND WATER SYSTEMS THAT MAY BE SOURCES OF CONTAMINATION. COMPLY WITH AUTHORITIES HAVING JURISDICTION.

B. INSTALL WATER REGULATORS WITH INLET AND OUTLET SHUTOFF VALVES. INSTALL PRESSURE GAGES ON INLET AND OUTLET.

C. INSTALL BALANCING VALVES IN LOCATIONS WHERE THEY CAN EASILY BE ADJUSTED.

D. INSTALL TEMPERATURE-ACTUATED, WATER MIXING VALVES WITH CHECK STOPS OR SHUTOFF VALVES ON INLETS AND WITH SHUTOFF VALVE ON OUTLET.

E. INSTALL Y-PATTERN STRAINERS FOR WATER ON SUPPLY SIDE OF EACH CONTROL VALVE, WATER PRESSURE-REDUCING VALVE, SOLENOID VALVE AND PUMP.

F. INSTALL WATER-HAMMER ARRESTERS IN WATER PIPING ACCORDING TO PDI-WH 201.

G. INSTALL SUPPLY-TYPE, TRAP-SEAL PRIMER VALVES WITH OUTLET PIPING PITCHED DOWN TOWARD DRAIN TRAP A MINIMUM OF 1 PERCENT, AND CONNECT TO FLOOR-DRAIN BODY, TRAP, OR INLET FITTING. ADJUST VALVE FOR PROPER FLOW.

3.2 FIELD QUALITY CONTROL

A. PERFORM THE FOLLOWING TESTS AND INSPECTIONS:

1. TEST EACH PRESSURE VACUUM BREAKER, REDUCED-PRESSURE-PRINCIPLE BACKFLOW PREVENTER, AND DOUBLE-CHECK BACKFLOW-PREVENTION ASSEMBLY ACCORDING TO AUTHORITIES HAVING JURISDICTION AND THE DEVICE'S REFERENCE STANDARD.
2. DOMESTIC WATER PIPING SPECIALTIES WILL BE CONSIDERED DEFECTIVE IF THEY DO NOT PASS TESTS AND INSPECTIONS.
3. PREPARE TEST AND INSPECTION REPORTS.

END OF SECTION 221119

SECTION 221123 - DOMESTIC WATER PUMPS

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIRMENTS

A. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.

B. COMPLY WITH UL 778 FOR MOTOR-OPERATED WATER PUMPS.

2.2 DOMESTIC WATER PUMPS

A. HOT WATER CIRCULATOR PUMP, RP-1:

1. BASIS-OF-DESIGN PRODUCT: GRUNDFOS ALPHA 15-55SF, AS INDICATED ON DRAWINGS.
2. CASING: STAINLESS STEEL WITH COMPANION-FLANGE CONNECTIONS.
3. MOTOR: AUTOMATIC ADJUSTABLE, WET-ROTOR, PERMANENT MAGNET.

2.3 MOTORS

A. COMPLY WITH NEMA DESIGNATION, TEMPERATURE RATING, SERVICE FACTOR, ENCLOSURE TYPE, AND EFFICIENCY REQUIREMENTS FOR MOTORS.

B. MOTOR SIZES: MINIMUM SIZE AS INDICATED. IF NOT INDICATED, LARGE ENOUGH SO DRIVEN LOAD WILL NOT REQUIRE MOTOR TO OPERATE IN SERVICE FACTOR RANGE ABOVE 1.0.

2.4 CONTROLS

A. TIMERS: ELECTRIC, FOR CONTROL OF HOT-WATER CIRCULATION PUMP.

1. TYPE: PROGRAMMABLE, SEVEN-DAY CLOCK WITH MANUAL OVERRIDE ON-OFF SWITCH.
2. PROGRAMMABLE SEQUENCE OF OPERATION: UP TO TWO ON-OFF CYCLES EACH DAY FOR SEVEN DAYS.

PART 3 - EXECUTION

3.1 INSTALLATION

A. INSTALL PUMPS WITH ACCESS FOR PERIODIC MAINTENANCE, INCLUDING REMOVAL OF MOTORS, IMPELLERS, COUPLINGS, AND ACCESSORIES.

B. SUPPORT PUMPS AND PIPING SO WEIGHT OF PIPING IS NOT SUPPORTED BY PUMP VOLUTE.

C. INSTALL ELECTRICAL CONNECTIONS FOR POWER, CONTROLS, AND DEVICES.

D. SUSPEND IN-LINE PUMPS INDEPENDENT FROM PIPING. USE CONTINUOUS-THREAD HANGER RODS AND VIBRATION ISOLATION HANGERS. FABRICATE BRACKETS OR SUPPORTS AS REQUIRED FOR PUMPS.

E. CONNECT PIPING WITH VALVES THAT ARE AT LEAST THE SAME SIZE AS PIPING CONNECTING TO PUMPS.

F. INSTALL SUCTION AND DISCHARGE PIPE SIZES EQUAL TO OR GREATER THAN DIAMETER OF PUMP NOZZLES.

G. INSTALL SHUTOFF VALVE AND STRAINER ON SUCTION SIDE OF PUMPS.

H. INSTALL NONSLAM CHECK VALVE AND THROTTLING VALVE ON DISCHARGE SIDE OF PUMPS.

I. INSTALL THERMOSTATS IN HOT-WATER RETURN PIPING.

J. INSTALL TEST PLUGS ON SUCTION AND DISCHARGE OF EACH PUMP. INSTALL AT INTEGRAL PRESSURE GAGE TAPPINGS WHERE PROVIDED.

END OF SECTION

SECTION 221316 - SANITARY WASTE AND VENT PIPING

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. COMPONENTS AND INSTALLATION SHALL BE CAPABLE OF WITHSTANDING THE FOLLOWING MINIMUM WORKING PRESSURE UNLESS OTHERWISE INDICATED:

1. SOIL, WASTE, AND VENT PIPING: 10-FOOT HEAD OF WATER.

B. PIPING MATERIALS SHALL BEAR LABEL, STAMP, OR OTHER MARKINGS OF SPECIFIED TESTING AGENCY.

C. COMPLY WITH NSF/ANSI 14, "PLASTICS PIPING SYSTEMS COMPONENTS AND RELATED MATERIALS," FOR PLASTIC PIPING COMPONENTS.

2.2 PIPES AND FITTINGS

A. COPPER DRAINAGE TUBE AND FITTINGS: ASTM B 306, TYPE DWV DRAWN TEMPER WITH ASME B16.23, CAST COPPER OR ASME B16.29, WROUGHT COPPER, SOLDER-JOINT FITTINGS.

1. COPPER FLANGES: ASME B16.24, CLASS 150, CAST COPPER WITH SOLDER-JOINT END.
   a. FLANGE GASKET MATERIALS: ASME B16.21, FULL-FACE, FLAT, NONMETALLIC, ASBESTOS-FREE, 1/8-INCH MAXIMUM THICKNESS UNLESS THICKNESS OR SPECIFIC MATERIAL IS INDICATED.
   b. FLANGE BOLTS AND NUTS: ASME B18.2.1, CARBON STEEL UNLESS OTHERWISE INDICATED.
2. SOLDER: ASTM B 32, LEAD FREE WITH ASTM B 813, WATER-FLUSHABLE FLUX.

B. HUB-AND-SPIGOT CAST-IRON SOIL PIPE AND FITTINGS: ASTM A 74, SERVICE CLASS; ASTM C 564 RUBBER GASKETS.

C. HUBLESS CAST-IRON SOIL PIPE AND FITTINGS: ASTM A 888 OR CISPI 301, WITH ASTM C 1277 SHIELDED COUPLINGS.

D. PVC PLASTIC, DWV PIPE AND FITTINGS: ASTM D 2665, SCHEDULE 40, PLAIN ENDS WITH PVC SOCKET-TYPE, DWV PIPE FITTINGS.

1. ADHESIVE PRIMER: ASTM F 656.
   a. ADHESIVE PRIMER SHALL HAVE A VOC CONTENT OF 550 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).
2. SOLVENT CEMENT: ASTM D 2564.
   a. PVC SOLVENT CEMENT SHALL HAVE A VOC CONTENT OF 510 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).

PART 3 - EXECUTION

3.1 PIPING INSTALLATION

A. INSTALL CAST-IRON SOIL PIPING ACCORDING TO CISPI'S "CAST IRON SOIL PIPE AND FITTINGS HANDBOOK," CHAPTER IV, "INSTALLATION OF CAST IRON SOIL PIPE AND FITTINGS."

B. INSTALL WALL PENETRATION SYSTEM AT EACH PIPE PENETRATION THROUGH FOUNDATION WALL. MAKE INSTALLATION WATERTIGHT. COMPLY WITH REQUIREMENTS IN SECTION 220513 "COMMON WORK RESULTS FOR PLUMBING" FOR WALL PENETRATION SYSTEMS.

1. SLEEVES ARE NOT REQUIRED FOR CAST-IRON SOIL PIPING PASSING THROUGH CONCRETE SLABS-ON-GRADE IF SLAB IS WITHOUT MEMBRANE WATERPROOFING.

D. MAKE CHANGES IN DIRECTION FOR SOIL AND WASTE DRAINAGE AND VENT PIPING USING APPROPRIATE BRANCHES, BENDS, AND LONG-SWEEP BENDS. SANITARY TEES AND SHORT-SWEEP 1/4 BENDS MAY BE USED ON VERTICAL STACKS IF CHANGE IN DIRECTION OF FLOW IS FROM HORIZONTAL TO VERTICAL. USE LONG-TURN, DOUBLE Y-BRANCH AND 1/8-BEND FITTINGS IF TWO FIXTURES ARE INSTALLED BACK TO BACK OR SIDE BY SIDE WITH COMMON DRAIN PIPE. STRAIGHT TEES, ELBOWS, AND CROSSES MAY BE USED ON VENT LINES. DO NOT CHANGE DIRECTION OF FLOW MORE THAN 90 DEGREES. USE PROPER SIZE OF STANDARD INCREASERS AND REDUCERS IF PIPES OF DIFFERENT SIZES ARE CONNECTED. REDUCING SIZE OF DRAINAGE PIPING IN DIRECTION OF FLOW IS PROHIBITED.

E. LAY BURIED BUILDING DRAINAGE PIPING BEGINNING AT LOW POINT OF EACH SYSTEM. INSTALL TRUE TO GRADES AND ALIGNMENT INDICATED, WITH UNBROKEN CONTINUITY OF INVERT. PLACE HUB ENDS OF PIPING UPSTREAM. INSTALL REQUIRED GASKETS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS FOR USE OF LUBRICANTS, CEMENTS, AND OTHER INSTALLATION REQUIREMENTS. MAINTAIN SWAB IN PIPING AND PULL PAST EACH JOINT AS COMPLETED.

F. INSTALL SOIL AND WASTE DRAINAGE AND VENT PIPING AT THE FOLLOWING MINIMUM SLOPES, UNLESS OTHERWISE INDICATED:

1. HORIZONTAL SANITARY DRAINAGE PIPING: 2 PERCENT DOWNWARD IN DIRECTION OF FLOW FOR PIPING NPS 2-1/2 AND SMALLER; 1 PERCENT DOWNWARD IN DIRECTION OF FLOW FOR PIPING NPS 3 AND LARGER.
2. VENT PIPING: ALL VENT AND BRANCH VENT PIPING SHALL BE GRADED AND CONNECTED TO DRAIN BACK TOWARD VERTICAL FIXTURE VENT OR TOWARD VENT STACK.

G. INSTALL PVC SOIL AND WASTE DRAINAGE AND VENT PIPING ACCORDING TO ASTM D 2665.

H. INSTALL UNDERGROUND PVC SOIL AND WASTE DRAINAGE PIPING ACCORDING TO ASTM D 2321.

I. DO NOT ENCLOSE, COVER, OR PUT PIPING INTO OPERATION UNTIL IT IS INSPECTED AND APPROVED BY AUTHORITIES HAVING JURISDICTION.

J. COMPLY WITH REQUIREMENTS IN SECTION 220513 "COMMON WORK RESULTS FOR PLUMBING" FOR BASIC PIPING JOINT CONSTRUCTION.

K. SOLDERED JOINTS: USE ASTM B 813, WATER-FLUSHABLE, LEAD-FREE FLUX; ASTM B 32, LEAD-FREE-ALLOY SOLDER; AND ASTM B 828 PROCEDURE UNLESS OTHERWISE INDICATED.

L. COMPLY WITH REQUIREMENTS IN SECTION 220513 "COMMON WORK RESULTS FOR PLUMBING" FOR PIPE HANGER AND SUPPORT DEVICES.

3.2 PIPE SCHEDULE

A. ABOVEGROUND APPLICATIONS: HUBLESS, CAST-IRON SOIL PIPE AND FITTINGS, HUB-AND-SPIGOT, CAST-IRON SOIL PIPE AND FITTINGS, PVC PLASTIC, DWV PIPE AND FITTINGS WITH SOLVENT-CEMENTED JOINTS, COPPER DRAINAGE TUBE AND FITTINGS WITH SOLDERED JOINTS. PVC PLASTIC PIPE AND FITTINGS SHALL NOT BE PERMITTED FOR INSTALLATION IN RETURN AIR PLENUMS OR LOCATIONS EXPOSED TO RETURN AIR PLENUMS. ANY EXPOSED SEWER WASTE PIPE SHALL NOT BE PLASTIC OF ANY KIND.

B. BELOWGROUND APPLICATIONS: HUB-AND-SPIGOT, CAST-IRON SOIL PIPE AND FITTINGS, PVC PLASTIC, DWV PIPE AND DRAINAGE-PATTERN FITTINGS WITH CEMENTED JOINTS.

END OF SECTION

SECTION 221319 - SANITARY WASTE PIPING SPECIALTIES

PART 1 GENERAL

1.1 SECTION REQUIREMENTS

A. SUBMITTALS:

1. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
   a. INCLUDE RATED CAPACITIES, OPERATING CHARACTERISTICS, AND ACCESSORIES FOR GREASE INTERCEPTORS.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. DRAINAGE PIPING SPECIALTIES SHALL BEAR LABEL, STAMP, OR OTHER MARKINGS OF SPECIFIED TESTING AGENCY.

2.2 MANUFACTURED UNITS - AS INDICATED ON DRAWINGS

A. FLOOR CLEANOUTS: PER STANDARD ASME A112.36.2M-2002.

B. FLOOR DRAINS: PER STANDARD ASME A112.6.3-2001.

C. CAST IRON FLOOR SINKS: PER STANDARD ASME A112.6.7-2001.

D. PVC PLASTIC FLOOR SINKS: PER STANDARD ASME A112.6.7-2001.

PART 3 - EXECUTION

3.1 INSTALLATION

A. INSTALL CLEANOUTS AT GRADE AND EXTEND TO WHERE BUILDING SANITARY DRAINS CONNECT TO BUILDING SANITARY SEWERS.

B. INSTALL FLOOR DRAINS AT LOW POINTS OF SURFACE AREAS TO BE DRAINED. SET GRATES OF DRAINS FLUSH WITH FINISHED FLOOR UNLESS OTHERWISE INDICATED.

1. INSTALL FLOOR-DRAIN FLASHING COLLAR OR FLANGE SO NO LEAKAGE OCCURS BETWEEN DRAIN AND ADJOINING FLOORING. MAINTAIN INTEGRITY OF WATERPROOF MEMBRANES WHERE PENETRATED.
2. INSTALL INDIVIDUAL TRAPS FOR FLOOR DRAINS CONNECTED TO SANITARY BUILDING DRAIN, UNLESS OTHERWISE INDICATED.

END OF SECTION

SECTION 22 34 00 - FUEL-FIRED, DOMESTIC WATER HEATERS

PART 1 - GENERAL

1.1 QUALITY ASSURANCE

A. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.

B. NSF COMPLIANCE: FABRICATE AND LABEL EQUIPMENT COMPONENTS THAT WILL BE IN CONTACT WITH POTABLE WATER TO COMPLY WITH NSF 61, "DRINKING WATER SYSTEM COMPONENTS - HEALTH EFFECTS."

1.2 COORDINATION

A. COORDINATE SIZES AND LOCATIONS OF CONCRETE BASES WITH ACTUAL EQUIPMENT PROVIDED.

1.3 WARRANTY

A. SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF FUEL-FIRED, DOMESTIC-WATER HEATERS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.

1. FAILURES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
   a. STRUCTURAL FAILURES INCLUDING STORAGE TANK AND SUPPORTS.
   b. FAULTY OPERATION OF CONTROLS.
   c. DETERIORATION OF METALS, METAL FINISHES, AND OTHER MATERIALS BEYOND NORMAL USE.
2. WARRANTY PERIODS: FROM DATE OF SUBSTANTIAL COMPLETION.
   a. COMMERCIAL, GAS-FIRED, TANKLESS, DOMESTIC-WATER HEATERS:
      1) PARTS: THREE YEARS.
      2) HEAT EXCHANGER: EIGHT YEARS.

PART 2 - PRODUCTS

1. AS SCHEDULED ON PLUMBING SCHEDULES.

2.2 DOMESTIC WATER HEATER ACCESSORIES

B. GAS SHUTOFF VALVES: ANSI Z21.15/CSA 9.1-M, MANUALLY OPERATED. FURNISH FOR INSTALLATION IN PIPING.

C. GAS PRESSURE REGULATORS: ANSI Z21.18/CSA 6.3, APPLIANCE TYPE. INCLUDE 1/2-PSIG PRESSURE RATING AS REQUIRED TO MATCH GAS SUPPLY.

D. AUTOMATIC GAS VALVES: ANSI Z21.21/CSA 6.5, APPLIANCE, ELECTRICALLY OPERATED, ON-OFF AUTOMATIC VALVE.

E. COMBINATION TEMPERATURE-AND-PRESSURE RELIEF VALVES: INCLUDE RELIEVING CAPACITY AT LEAST AS GREAT AS HEAT INPUT, AND INCLUDE PRESSURE SETTING LESS THAN DOMESTIC-WATER HEATER WORKING-PRESSURE RATING. SELECT RELIEF VALVES WITH SENSING ELEMENT THAT EXTENDS INTO STORAGE TANK.

1. GAS-FIRED, DOMESTIC-WATER HEATERS: ANSI Z21.22/CSA 4.4-M.

2.3 SOURCE QUALITY CONTROL

A. HYDROSTATICALLY TEST COMMERCIAL DOMESTIC-WATER HEATERS TO MINIMUM OF ONE AND ONE-HALF TIMES PRESSURE RATING BEFORE SHIPMENT.

B. DOMESTIC-WATER HEATERS WILL BE CONSIDERED DEFECTIVE IF THEY DO NOT PASS TESTS AND INSPECTIONS.

PREPARE TEST AND INSPECTION REPORTS.

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AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
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PLUMBING SPECIFICATIONS

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SPECIFICATIONS - DIVISION 22 - PLUMBING (CONTINUED)

PART 3 - EXECUTION

3.1 DOMESTIC WATER HEATER INSTALLATION

A. INSTALL GAS-FIRED, DOMESTIC-WATER HEATERS ACCORDING TO NFPA 54.

1. INSTALL GAS SHUTOFF VALVES ON GAS SUPPLY PIPING TO GAS-FIRED, DOMESTIC-WATER HEATERS WITHOUT SHUTOFF VALVES.
2. INSTALL GAS PRESSURE REGULATORS ON GAS SUPPLIES TO GAS-FIRED, DOMESTIC-WATER HEATERS WITHOUT GAS PRESSURE REGULATORS IF GAS PRESSURE REGULATORS ARE REQUIRED TO REDUCE GAS PRESSURE AT BURNER.
3. INSTALL AUTOMATIC GAS VALVES ON GAS SUPPLIES TO GAS-FIRED, DOMESTIC-WATER HEATERS IF REQUIRED FOR OPERATION OF SAFETY CONTROL.

B. INSTALL COMBINATION TEMPERATURE-AND-PRESSURE RELIEF VALVES IN TOP PORTION OF STORAGE TANKS. USE RELIEF VALVES WITH SENSING ELEMENTS THAT EXTEND INTO TANKS. EXTEND COMMERCIAL WATER-HEATER RELIEF-VALVE OUTLET, WITH DRAIN PIPING SAME AS DOMESTIC-WATER PIPING IN CONTINUOUS DOWNWARD PITCH, AND DISCHARGE BY POSITIVE AIR GAP ONTO CLOSEST FLOOR DRAIN.

C. INSTALL WATER-HEATER DRAIN PIPING AS INDIRECT WASTE TO SPILL BY POSITIVE AIR GAP INTO OPEN DRAINS OR OVER FLOOR DRAINS. INSTALL HOSE-END DRAIN VALVES AT LOW POINTS IN WATER PIPING FOR DOMESTIC-WATER HEATERS THAT DO NOT HAVE TANK DRAINS.

3.2 FIELD QUALITY CONTROL

A. PERFORM TESTS AND INSPECTIONS.

1. MANUFACTURER'S FIELD SERVICE: ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO INSPECT COMPONENTS, ASSEMBLIES, AND EQUIPMENT INSTALLATIONS, INCLUDING CONNECTIONS, AND TO ASSIST IN TESTING.
2. LEAK TEST: AFTER INSTALLATION, CHARGE SYSTEM AND TEST FOR LEAKS. REPAIR LEAKS AND RETEST UNTIL NO LEAKS EXIST.
3. OPERATIONAL TEST: AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, START UNITS TO CONFIRM PROPER OPERATION.
4. TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.

B. DOMESTIC-WATER HEATERS WILL BE CONSIDERED DEFECTIVE IF THEY DO NOT PASS TESTS AND INSPECTIONS.

C. PREPARE TEST AND INSPECTION REPORTS.

END OF SECTION

SECTION 224000 - PLUMBING FIXTURES

PART 1 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. REGULATORY REQUIREMENTS: COMPLY WITH REQUIREMENTS IN ICC A117.1, "ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES", PUBLIC LAW 90-480, "ARCHITECTURAL BARRIERS ACT"; AND PUBLIC LAW 101-336, "AMERICANS WITH DISABILITIES ACT" FOR PLUMBING FIXTURES FOR PEOPLE WITH DISABILITIES.

B. REGULATORY REQUIREMENTS: COMPLY WITH REQUIREMENTS IN PUBLIC LAW 102-486, "ENERGY POLICY ACT," ABOUT WATER FLOW AND CONSUMPTION RATES FOR PLUMBING FIXTURES.

C. NSF STANDARD: COMPLY WITH NSF 61, "DRINKING WATER SYSTEM COMPONENTS - HEALTH EFFECTS," FOR FIXTURE MATERIALS THAT WILL BE IN CONTACT WITH POTABLE WATER.

D. FIXTURES SHALL BE PROVIDED AS SCHEDULED ON THE DRAWINGS.

PART 2 - EXECUTION

3.1 INSTALLATIONS

A. INSTALL FITTING INSULATION KITS ON FIXTURES FOR PEOPLE WITH DISABILITIES.

B. INSTALL FIXTURES WITH FLANGES AND GASKET SEALS.

C. INSTALL TANKS FOR ACCESSIBLE, TANK-TYPE WATER CLOSETS WITH LEVER HANDLE MOUNTED ON WIDE SIDE OF COMPARTMENT.

D. FASTEN WALL-HANGING PLUMBING FIXTURES SECURELY TO SUPPORTS ATTACHED TO BUILDING SUBSTRATE WHEN SUPPORTS ARE SPECIFIED, AND TO BUILDING WALL CONSTRUCTION WHERE NO SUPPORT IS INDICATED.

E. FASTEN FLOOR-MOUNTED FIXTURES TO SUBSTRATE. FASTEN FIXTURES HAVING HOLES FOR SECURING FIXTURE TO WALL CONSTRUCTION, TO REINFORCEMENT BUILT INTO WALLS.

F. FASTEN WALL-MOUNTED FITTINGS TO REINFORCEMENT BUILT INTO WALLS.

G. FASTEN COUNTER-MOUNTING PLUMBING FIXTURES TO CASEWORK.

H. SECURE SUPPLIES TO SUPPORTS OR SUBSTRATE WITHIN PIPE SPACE BEHIND FIXTURE.

I. SET MOP BASINS IN LEVELING BED OF CEMENT GROUT.

J. INSTALL INDIVIDUAL SUPPLY INLETS, SUPPLY STOPS, SUPPLY RISERS, AND TUBULAR BRASS TRAPS WITH CLEANOUTS AT FIXTURE. ALL ABOVE FLOOR FIXTURE TRAPS DIRECTLY CONNECTED TO SANITARY WASTE SYSTEMS SHALL BE CHROME PLATED 17 GAUGE SEAMLESS TUBULAR CAST BRASS P-TRAPS WITH CLEANOUTS.

K. INSTALL WATER-SUPPLY STOP VALVES IN ACCESSIBLE LOCATIONS.

L. INSTALL TRAPS ON FIXTURE OUTLETS. OMIT TRAPS ON FIXTURES HAVING INTEGRAL TRAPS. OMIT TRAPS ON INDIRECT WASTES UNLESS OTHERWISE INDICATED.

M. INSTALL ESCUTCHEONS AT WALL, FLOOR, AND CEILING PENETRATIONS IN EXPOSED, FINISHED LOCATIONS AND WITHIN CABINETS AND MILLWORK. USE DEEP-PATTERN ESCUTCHEONS WHERE REQUIRED TO CONCEAL PROTRUDING PIPE FITTINGS.

N. SEAL JOINTS BETWEEN FIXTURES AND WALLS, FLOORS, AND COUNTERS USING SANITARY-TYPE, ONE-PART, MILDEW-RESISTANT, SILICONE SEALANT. MATCH SEALANT COLOR TO FIXTURE COLOR.

O. INSTALL PIPING CONNECTIONS BETWEEN PLUMBING FIXTURES AND PIPING SYSTEMS AND PLUMBING EQUIPMENT. INSTALL INSULATION ON SUPPLIES AND DRAINS OF FIXTURES FOR PEOPLE WITH DISABILITIES.

END OF SECTION

SECTION 226316 - FACILITY NATURAL-GAS PIPING

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. MINIMUM OPERATING-PRESSURE RATINGS:

1. PIPING AND VALVES: 100 PSIG MINIMUM UNLESS OTHERWISE INDICATED.

B. NATURAL-GAS SYSTEM PRESSURE WITHIN BUILDING: ONE DISTRIBUTION PRESSURE. 14" W.C., BUT NOT MORE THAN 2.0 PSIG.

2.2 PIPES, TUBES, AND FITTINGS

A. STEEL PIPE: ASTM A 53/A 53M, BLACK STEEL, SCHEDULE 40, TYPE E OR S, GRADE B.

1. MALLEABLE-IRON THREADED FITTINGS: ASME B16.3, CLASS 150, STANDARD PATTERN.
2. WROUGHT-STEEL WELDING FITTINGS: ASTM A 234/A 234M FOR BUTT WELDING AND SOCKET WELDING.
3. UNIONS: ASME B16.39, CLASS 150, MALLEABLE IRON WITH BRASS-TO-IRON SEAT, GROUND JOINT, AND THREADED ENDS.
4. PROTECTIVE COATING FOR UNDERGROUND PIPING: FACTORY-APPLIED, THREE-LAYER COATING OF EPOXY, ADHESIVE, AND PE.

B. CORRUGATED, STAINLESS-STEEL TUBING: COMPLY WITH ANSI/IAS LC 1; INCLUDE FLAME-RETARDANT PE COATING, COPPER-ALLOY THREADED ENDS, AND STRIKER PLATES.

2.3 SPECIALTIES

A. APPLIANCE FLEXIBLE CONNECTORS:

1. INDOOR, FIXED-APPLIANCE FLEXIBLE CONNECTORS: COMPLY WITH ANSI Z21.24.
2. INDOOR, MOVABLE-APPLIANCE FLEXIBLE CONNECTORS: COMPLY WITH ANSI Z21.69.
3. OUTDOOR, APPLIANCE FLEXIBLE CONNECTORS: COMPLY WITH ANSI Z21.75.
4. CORRUGATED STAINLESS-STEEL TUBING WITH POLYMER COATING.

B. STRAINERS: ASTM A 126, CLASS B, CAST-IRON BODY, Y-PATTERN, FULL SIZE OF CONNECTING PIPING, CWP RATING OF 125 PSIG. INCLUDE 40-MESH STARTUP STRAINER, AND PERFORATED STAINLESS-STEEL BASKET.

C. WEATHERPROOF VENT CAP: CAST- OR MALLEABLE-IRON INCREASER FITTING WITH CORROSION-RESISTANT WIRE SCREEN, WITH FREE AREA AT LEAST EQUAL TO CROSS-SECTIONAL AREA OF CONNECTING PIPE AND THREADED-END CONNECTION.

2.4 VALVES

A. GENERAL REQUIREMENTS FOR METALLIC MANUAL GAS SHUTOFF VALVES: COMPLY WITH ASME B16.33.

1. CWP RATING: 125 PSIG.

B. ONE-PIECE, BRONZE BALL VALVE WITH BRONZE TRIM: MSS SP-110.

1. BODY: BRONZE, COMPLYING WITH ASTM B 584.
2. BALL: CHROME-PLATED BRASS.
3. STEM: BRONZE; BLOWOUT PROOF.
4. SEATS: REINFORCED TFE; BLOWOUT PROOF.
5. PACKING: SEPARATE PACKNUT WITH ADJUSTABLE STEM PACKING THREADED ENDS.
6. CWP RATING: 600 PSIG.
7. LISTING: VALVES NPS 1 AND SMALLER SHALL BE LISTED AND LABELED BY AN NRTL ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
8. SERVICE: SUITABLE FOR NATURAL-GAS SERVICE WITH "WOG" INDICATED ON VALVE BODY.

C. TWO-PIECE, FULL-PORT, BRONZE BALL VALVES WITH BRONZE TRIM: MSS SP-110.

1. BODY: BRONZE, COMPLYING WITH ASTM B 584.
2. BALL: CHROME-PLATED BRONZE.
3. STEM: BRONZE; BLOWOUT PROOF.
4. SEATS: REINFORCED TFE; BLOWOUT PROOF.
5. PACKING: THREADED BODY PACKNUT DESIGN WITH ADJUSTABLE STEM PACKING.
6. CWP RATING: 600 PSIG.
7. LISTING: VALVES NPS 1 AND SMALLER SHALL BE LISTED AND LABELED BY AN NRTL ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
8. SERVICE: SUITABLE FOR NATURAL-GAS SERVICE WITH "WOG" INDICATED ON VALVE BODY.

D. BRONZE PLUG VALVES: MSS SP-78.

1. BODY: BRONZE, COMPLYING WITH ASTM B 584.
2. PLUG: BRONZE.
3. OPERATOR: SQUARE HEAD OR LUG TYPE WITH TAMPERPROOF FEATURE WHERE INDICATED.
4. PRESSURE CLASS: 125 PSIG.
5. LISTING: VALVES NPS 1 AND SMALLER SHALL BE LISTED AND LABELED BY AN NRTL ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
6. SERVICE: SUITABLE FOR NATURAL-GAS SERVICE WITH "WOG" INDICATED ON VALVE BODY.

E. CAST-IRON, NONLUBRICATED PLUG VALVES: MSS SP-78.

1. BODY: CAST IRON, COMPLYING WITH ASTM A 126, CLASS B.
2. PLUG: BRONZE OR NICKEL-PLATED CAST IRON.
3. SEAT: COATED WITH THERMOPLASTIC.
4. STEM SEAL: COMPATIBLE WITH NATURAL GAS.
5. OPERATOR: SQUARE HEAD OR LUG TYPE WITH TAMPERPROOF FEATURE WHERE INDICATED.
6. PRESSURE CLASS: 125 PSIG.
7. LISTING: VALVES NPS 1 AND SMALLER SHALL BE LISTED AND LABELED BY AN NRTL ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
8. SERVICE: SUITABLE FOR NATURAL-GAS SERVICE WITH "WOG" INDICATED ON VALVE BODY.

F. ELECTRICALLY OPERATED, AUTOMATIC GAS VALVES: COMPLY WITH UL 429.

2.5 PRESSURE REGULATORS

A. GENERAL REQUIREMENTS: SINGLE STAGE, STEEL JACKETED, AND CORROSION RESISTANT. INCLUDE ELEVATION COMPENSATOR.

B. LINE PRESSURE REGULATORS: ANSI Z21.80; 2-PSIG MAXIMUM INLET PRESSURE. FACTORY- OR FIELD-INSTALLED, STAINLESS-STEEL SCREEN IN VENT OPENING IF NOT CONNECTED TO VENT PIPING.

C. APPLIANCE PRESSURE REGULATORS: ANSI Z21.18; 2-PSIG MAXIMUM INLET PRESSURE. REGULATOR MAY INCLUDE VENT LIMITING DEVICE, INSTEAD OF VENT CONNECTION, IF APPROVED BY AUTHORITIES HAVING JURISDICTION.

PART 3 - EXECUTION

3.1 OUTDOOR PIPING INSTALLATION

A. INSTALL SHUTOFF VALVE, DOWNSTREAM FROM GAS METER, OUTSIDE BUILDING AT GAS SERVICE ENTRANCE.

B. INSTALL WALL PENETRATION SYSTEM AT EACH SERVICE PIPE PENETRATION THROUGH EXTERIOR WALL. MAKE INSTALLATION WATERTIGHT.

3.2 INDOOR PIPING INSTALLATION

A. INSTALL PIPING IN CONCEALED LOCATIONS UNLESS OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS.

B. INSTALL ESCUTCHEONS AT PENETRATIONS OF INTERIOR WALLS, CEILINGS, AND FLOORS.

C. FIRE-BARRIER PENETRATIONS: MAINTAIN INDICATED FIRE RATING OF WALLS, PARTITIONS, CEILINGS, AND FLOORS AT PIPE PENETRATIONS. SEAL PIPE PENETRATIONS WITH FIRESTOP MATERIALS. COMPLY WITH REQUIREMENTS IN SECTION 078413 "PENETRATION FIRESTOPPING."

D. INSTALL GAS STOPS FOR SHUTOFF TO APPLIANCES WITH LOW-PRESSURE GAS SUPPLY.

E. INSTALL NATURAL-GAS PIPING AT UNIFORM GRADE OF 2 PERCENT DOWN TOWARD DRIP AND SEDIMENT TRAPS.

F. USE ECCENTRIC REDUCER FITTINGS TO MAKE REDUCTIONS IN PIPE SIZES. INSTALL FITTINGS WITH LEVEL SIDE DOWN.

G. CONNECT BRANCH PIPING FROM TOP OR SIDE OF HORIZONTAL PIPING.

H. INSTALL UNIONS IN PIPES NPS 2 AND SMALLER, ADJACENT TO EACH VALVE, AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. UNIONS ARE NOT REQUIRED AT FLANGED CONNECTIONS.

I. INSTALL STRAINER ON INLET OF EACH LINE PRESSURE REGULATOR AND AUTOMATIC OR ELECTRICALLY OPERATED VALVE.

J. INSTALL PRESSURE GAGE PLUG UPSTREAM AND DOWNSTREAM FROM EACH LINE REGULATOR.

K. CONNECT GAS PIPING TO EQUIPMENT AND APPLIANCES WITH SHUTOFF VALVES AND UNIONS. INSTALL GAS VALVE UPSTREAM FROM AND WITHIN 72 INCHES OF EACH APPLIANCE USING GAS. INSTALL UNION OR FLANGED CONNECTIONS DOWNSTREAM FROM VALVES.

L. EXTEND RELIEF VENT CONNECTIONS FOR SERVICE REGULATORS, LINE REGULATORS, AND OVERPRESSURE PROTECTION DEVICES TO THE OUTDOORS AND TERMINATE WITH WEATHERPROOF VENT CAP.

M. DO NOT USE NATURAL-GAS PIPING AS GROUNDING ELECTRODE.

3.3 PIPING JOINT CONSTRUCTION

A. THREADED JOINTS: THREAD PIPE WITH TAPERED PIPE THREADS COMPLYING WITH ASME B1.20.1.

B. WELDED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS D10.12M/D10.12, USING QUALIFIED PROCESSES AND WELDING OPERATORS.

C. JOINTS IN STEEL PIPING WITH PROTECTIVE COATING: APPLY JOINT COVER KITS TO PIPE AFTER JOINING TO COVER, SEAL, AND PROTECT JOINTS.

D. FLANGED JOINTS: INSTALL GASKET MATERIAL, SIZE, TYPE, AND THICKNESS APPROPRIATE FOR NATURAL-GAS SERVICE. INSTALL GASKET CONCENTRICALLY POSITIONED.

3.4 VALVE INSTALLATION

A. INSTALL MANUAL GAS SHUTOFF VALVE FOR EACH GAS APPLIANCE AHEAD OF CORRUGATED STAINLESS-STEEL TUBING, ALUMINUM, OR COPPER CONNECTOR.

B. INSTALL REGULATORS AND OVERPRESSURE PROTECTION DEVICES WITH MAINTENANCE ACCESS SPACE ADEQUATE FOR SERVICING AND TESTING.

3.5 OUTDOOR PIPING SCHEDULE

A. ABOVEGROUND NATURAL-GAS PIPING SHALL BE THE FOLLOWING:

1. STEEL PIPE WITH MALLEABLE-IRON FITTINGS AND THREADED JOINTS. COAT PIPE AND FITTINGS WITH PROTECTIVE COATING FOR STEEL PIPING.
2. STEEL PIPING TO BE PROVIDED WITH ONE COAT OF PRIMER AND TWO COATS OF WEATHER RESISTANT FINISH PAINT. FINISH COLOR TO BE YELLOW, UNLESS ANOTHER COLOR IS REQUIRED BY THE LANDLORD/GAS UTILITY PROVIDER AND/OR REVIEW, INSPECTION AND APPROVAL AUTHORITIES.

3.6 INDOOR PIPING SCHEDULE FOR SYSTEM PRESSURES MORE THAN 7" W.C. AND LESS THAN 5 PSIG.

A. ABOVEGROUND, BRANCH PIPING NPS 1 AND SMALLER SHALL BE THE FOLLOWING:

1. CORRUGATED STAINLESS-STEEL TUBING WITH MECHANICAL FITTINGS HAVING SOCKET OR THREADED ENDS TO MATCH ADJACENT PIPING.
2. STEEL PIPE WITH MALLEABLE-IRON FITTINGS AND THREADED JOINTS.

B. ABOVEGROUND, DISTRIBUTION PIPING SHALL BE THE FOLLOWING:

1. STEEL PIPE WITH MALLEABLE-IRON FITTINGS AND THREADED JOINTS.

END OF SECTION

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PLUMBING SPECIFICATIONS

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MECHANICAL LEGEND

SUPPLY DUCT UP	PIPING DOWN
SUPPLY DUCT DOWN	PIPING UP
RETURN DUCT UP	TURNING VANES
RETURN DUCT DOWN	VOLUME DAMPER
FIRE DAMPER	CONDENSATE DRAIN
SMOKE DAMPER	MOTORIZED DAMPER
COMB. FIRE/SMOKE DAMPER	REMOTE ANNUNCIATOR
BACKDRAFT DAMPER	REMOTE TEMP. SENSOR
SMOKE DETECTOR	THERMOSTAT
SPIN-IN WITH VOLUME DAMPER	HUMIDISTAT
45° RETURN DUCT TAP WITH VOL. DAMPER	FLEX DUCT
DIFFUSER	LINEAR DIFFUSER WITH FLEX CONNECTION
DIFFUSER WITH FLEX CONNECTION	ROUND DUCT UP
GRILLE/REGISTER	ROUND DUCT DOWN
SIDEWALL GRILLE/ REGISTER/ DIFFUSER	REDUCER

ABBREVIATIONS

(A)	EXISTING TO BE ABANDONED	FPI	FINS PER INCH
(D)	EXISTING TO BE DEMOLISHED	GC	GENERAL TRADES CONTRACTOR
(E)	EXISTING TO REMAIN	ID	INNER DIAMETER
(F)	FUTURE	LAT	LEAVING AIR TEMPERATURE
(R)	EXISTING TO BE RELOCATED	LWT	LEAVING WATER TEMPERATURE
AAV	AUTOMATIC AIR VENT	MAU	MAKEUP AIR UNIT
AFF	ABOVE FINISHED FLOOR	MC	MECHANICAL CONTRACTOR
AHJ	AUTHORITY HAVING JURISDICTION	MFR	MANUFACTURER
AMB	AMBIENT	N/A	NOT APPLICABLE
APD	AIR PRESSURE DROP	NC	NORMALLY CLOSED
BAS	BUILDING AUTOMATIC SYSTEM	NO	NORMALLY OPEN
BFP	BACKFLOW PREVENTER	NTS	NOT TO SCALE
BLDG	BUILDING	OA	OUTSIDE AIR
BOB	BOTTOM OF BEAM	OD	OUTSIDE DIAMETER
BOD	BOTTOM OF DUCT	PD	PRESSURE DROP
BOP	BOTTOM OF PIPE	PRV	PRESSURE REDUCING VALVE
BOS	BOTTOM OF STRUCTURE	RA	RETURN AIR
CL	CENTER LINE	REL	RELIEF AIR
DB	DRY BULB	RTU	ROOFTOP UNIT
DIA	DIAMETER	SA	SUPPLY AIR
DN	DOWN	SCC	SENSIBLE COOLING CAPACITY
EA	EXHAUST AIR	SP	STATIC PRESSURE
EAT	ENTERING AIR TEMPERATURE	TCP	TEMPERATURE CONTROL PANEL
EC	ELECTRICAL CONTRACTOR	TSP	TOTAL STATIC PRESSURE
EF	EXHAUST FAN	TYP	TYPICAL
EFF	EFFICIENCY	UNO	UNLESS NOTED OTHERWISE
EG	ETHYLENE GLYCOL	VFD	VARIABLE FREQUENCY DRIVE
ESP	EXTERNAL STATIC PRESSURE	WB	WET BULB
EWT	ENTERING WATER TEMPERATURE	WG	WATER GAUGE
EXH	EXHAUST	WPD	WATER PRESSURE DROP

GENERAL NOTES:

A. ALL WORK TO BE PERFORMED TO MEET ALL STATE, CITY & LOCAL CODE REQUIREMENTS.

B. ALL WALL PATCHING TO BE BY GC.

C. MC IS TO COORDINATE WITH OTHER TRADES BEFORE INSTALLING DUCTWORK. IF THE MC FAILS TO COORDINATE WITH OTHER TRADES AND THE WORK MUST BE ALTERED THE MC WILL CHANGE IT AT HIS OWN EXPENSE.

D. COORDINATE THE EXACT LOCATION OF ALL GRILLES, REGISTERS & DIFFUSER WITH ARCHITECTURAL REFLECTED CEILING PLAN.

E. MECHANICAL CONTRACTOR IS TO VISIT THE SITE PRIOR TO SUBMITTING A BID & INCLUDE IN THE BID ANY ITEMS NECESSARY FOR A COMPLETE & OPERATIONAL SYSTEM.

F. DRAWINGS ARE SCHEMATIC IN NATURE & MC IS TO INCLUDE ANY ITEMS REQUIRED FOR A COMPLETE & OPERATIONAL SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

G. MC TO FURNISH ALL PERMITS REQUIRED FOR HIS PORTION OF THE WORK.

H. MC TO COORDINATE WITH ELECTRICAL CONTRACTOR CONCERNING ELECTRICAL REQUIREMENTS BEFORE ORDERING ANY EQUIPMENT.

I. CONTRACTOR IS RESPONSIBLE FOR ADHERING TO THE ENTIRETY OF THIS DRAWING SET, INCLUDING BUT NOT LIMITED TO; PLANS, ELEVATIONS, DETAILS, SCHEDULES, AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL DRAWINGS OF OTHER TRADES, INCLUDING BUT NOT LIMITED TO, ARCHITECTURAL, PLUMBING, ELECTRICAL, CIVIL, AND STRUCTURAL.

J. ALL CUTTING AND PATCHING OF ROOF IS TO BE BY GC.

SEQUENCE OF OPERATION

A. PROVIDE STAND ALONE OR APPLICATION SPECIFIC CONTROLLERS AS REQUIRED TO PERFORM THE FOLLOWING SEQUENCES OF OPERATIONS.

B. PACKAGED ROOFTOP UNITS

1. UNIT SHALL CONSIST OF SUPPLY AIR FAN, FILTERS, DX COOLING COIL, GAS-FIRED HEAT SECTION, AND A 7-DAY PROGRAMMABLE THERMOSTAT.
2. PROVIDE AN OVERRIDE SWITCH TO OPERATE THE UNIT DURING UNOCCUPIED HOURS. THIS SWITCH SHALL BE PART OF THE PROGRAMMABLE THERMOSTAT. OVERRIDE SWITCH ALLOWS THE UNIT TO OPERATE FOR TWO HOURS (ADJUSTABLE).
3. OCCUPIED MODE: BASED ON THE ROOFTOP UNIT'S HOURS OF OCCUPANCY, START THE UNIT AT THE BEGINNING OF OCCUPANCY AND SHUT DOWN THE UNIT AT THE END OF OCCUPANCY (NOTE: OUTSIDE AIR DAMPER WITHIN THE RTU SHALL OPEN AND THEN THE RTU SHALL START). THE UNIT SHALL START EARLIER AS DETERMINED BY THE PROGRAM FOR EARLY WARM-UP OR COOL DOWN. ON A SYSTEM STARTUP, THE RTU FAN SHALL START AND RUN CONTINUOUSLY AND THE INTERNAL FACTORY CONTROLS SHALL BE ENABLED. BASED ON THE SPACE TEMPERATURE SENSOR, THE UNIT SHALL CYCLE THE HEATING/COOLING TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.
   - 3.1. ECONOMIZER MODE: WHEN ENTHALPY OF OA IS BELOW 28 BTU/LB, ECONOMIZER MODE SHALL BE ENABLED. ECONOMIZER MODE SHALL LINEARLY MODULATE OUTDOOR AIR CFM FROM MINIMUM OA CFM TO 100% BASED ON ENTHALPY READINGS.
   - 3.2. HUMIDITY CONTROL (WHEN NEEDED BASED ON CLIMATE): UPON DETECTION OF RELATIVE HUMIDITY ABOVE 55%, THE UNIT SHALL CYCLE INTO DEHUMIDIFICATION MODE IF NOT ALREADY IN COOLING.
4. UNOCCUPIED MODE: THE RTU INTERNAL OA DAMPERS SHALL REMAINED CLOSED WHEN THE BUILDING IS NOT OCCUPIED. THE RTU SHALL STOP HEATING/COOLING AND THE FAN SHALL STOP. IF THE SPACE TEMPERATURE FALLS BELOW 60 DEGREE F (ADJUSTABLE), THE UNIT SHALL START AND HEAT UNTIL THE SPACE TEMPERATURE IS 64 DEGREE F (ADJUSTABLE) AND THEN SHUTDOWN. IF THE SPACE TEMPERATURE RISES ABOVE 85 DEGREE F (ADJUSTABLE), THE UNIT SHALL START AND COOL UNTIL THE SPACE TEMPERATURE IS 80 DEGREE F (ADJUSTABLE) AND THEN SHUTDOWN.
5. UPON DETECTION OF SMOKE BY UNIT SMOKE DETECTOR BOTH RTUS SHALL SHUT DOWN AND AN ALARM SHALL BE SENT TO THE FIRE ALARM CONTROL PANEL (WHERE APPLICABLE). LOCAL REMOTE ANNUNCIATORS SHALL ALSO BE ACTIVATED.

C. KITCHEN HOOD EXHAUST FAN (KEF-1)
- 1.1. THE KITCHEN HOOD EXHAUST FAN SHALL BE ENABLED WHEN ANY COOKING APPLIANCE LOCATED UNDER ITS RESPECTIVE HOOD, IS IN USE.

D. MAKE UP AIR UNIT
- 1.1. THE MAKE UP AIR UNIT SHALL BE ENABLED WHEN THE KITCHEN HOOD EXHUAST FAN (KEF-1) IS ENERGIZED. THE INTERNAL MOTORIZED DAMPER WITHIN WITH MAU-1 SHALL OPEN AND THE FAN SHALL RUN. IF OA IS LESS THAN 65° (ADJ.), THE MAU-1 GAS-FIRED HEAT SECTION SHALL BE ENABLED TO MAINTAIN A MINIMUM OF 65°.
- 1.2. WHEN KEF-1 IS OFF, MAU-1 SHALL BE DE-ENERGIZED AND THE INTERNAL MOTORIZED DAMPER SHALL CLOSE.

E. ANSUL SYSTEM ACTIVATION
- 1.1. UPON ACTIVATION OF ANSUL SYSTEM, SHUT DOWN MAU-1, RTU-1 AND RTU-2. PROVIDE RELAYS, CONTACTS, INTERLOCKS, TRANSFORMERS AND ALL ASSOCIATED WIRING TO ACCOMPLISH SEQUENCE. MAU-1 IS ALREADY PREWIRED TO SHUT DOWN IN HOOD CONTROL PANEL. MECHANICAL CONTRACTOR SHALL INTERLOCK RTU-1 AND RTU-2 TO ALSO SHUT DOWN.

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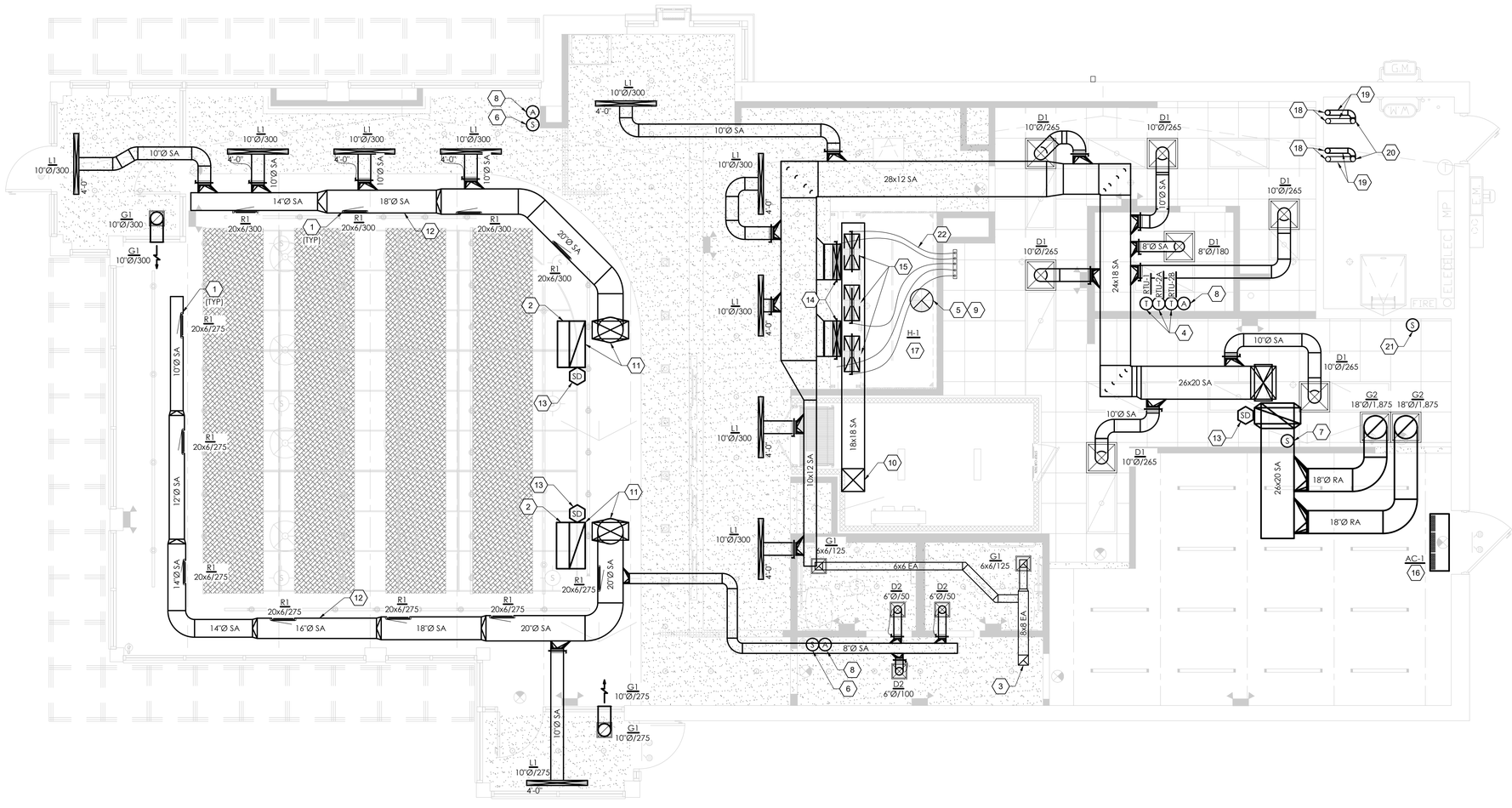
AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
BLDG RESPONSE	NOV 15, 2024
CONSTR SET	JAN 8, 2025

GENERAL INFORMATION
MECHANICAL

SHEET:
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GENERAL NOTES:

A. DO NOT PENETRATE KITCHEN EXHAUST HOODS OR DUCTWORK WITH ANY TYPE OF FASTENING ASSEMBLY (I.E. SCREWS, RIVETS).

B. IF NOT PAINTED, ALL DUCTWORK SHALL HAVE A GASKET SEAL.

C. EXPOSED DUCTWORK IN THE DINING AREA SHALL BE MADE OF ELECTRO-GALVANIZED STEEL (PAINTLOCK). SEE MECHANICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

D. GC TO PROVIDE ACCESS PANELS IN HARD LID CEILINGS FOR ACCESS TO DUCT MOUNTED SMOKE DETECTORS, SENSOR, BALANCING DAMPERS, ETC. LOCATION OF ACCESS PANEL TO BE CENTERED IN LINE WITH LIGHT FIXTURES AND DIFFUSERS. COORDINATE ACCESS PANEL LOCATIONS WITH ARCHITECTURAL SHEETS.

CODED NOTES: (#)

1. MOUNT REGISTER AT 15° ANGLE ON SIDE OF DUCT. ADJUST DIFFUSER BLADES TO 45° PATTERN. BALANCE AIR SCOOP TO CFM INDICATED.
2. ROUTE RETURN DUCT AND PROVIDE FULL METAL ANGLE WITH BIRD SCREEN. OPENING SHALL BE AT BOTTOM OF JOIST LOCATION, FIELD VERIFY.
3. 8x8 EXHAUST DUCT UP THROUGH ROOF.
4. INSTALL LED TOUCHSCREEN 24/7 PROGRAMMABLE THERMOSTAT (WITH CONTROLS LOCKED BY CODE) MOUNTED AT 48" AFF. COORDINATE EXACT LOCATION WITH OWNER.
5. ROUTE 18" Ø CUSTOM FABRICATED TYPE 1 KITCHEN EXHAUST DUCT UP THROUGH ROOF ABOVE AND CONNECT TO KITCHEN EXHAUST FAN, REFER TO SHEET M201 FOR CONTINUATION. COORDINATE WITH KES AND CAPTIVE AIRE DRAWINGS. SEAL WEATHER TIGHT.
6. REMOTE TEMPERATURE AVERAGING SENSOR MOUNTED AT 48" AFF FOR RTU-2A & 2B. WIRE BACK TO THERMOSTAT AT MANAGERS DESK.
7. REMOTE TEMPERATURE SENSOR MOUNTED WITHIN RETURN DUCT FOR RTU-1. WIRE BACK TO THERMOSTAT AT MANAGERS DESK.
8. PROVIDE AUDIO/VISUAL REMOTE SMOKE DETECTOR ANNUNCIATOR WITH REMOTE KEY OPERATED RESET FOR SMOKE DETECTOR MOUNTED AT 48" AFF. ALIGN ANNUNCIATOR WITH THERMOSTAT OR SENSOR WHERE APPLICABLE.
9. ROUTE 18" Ø CUSTOM FABRICATED TYPE 1 KITCHEN EXHAUST DUCT DOWN FROM CEILING SPACE AND CONNECT TO HOOD. COORDINATE WITH KES AND CAPTIVE AIRE DRAWINGS. CONTRACTOR SHALL PROVIDE CLEANOUT EVERY 20' AND AT EVERY CHANGE OF DIRECTION IN TYPE 1 EXHAUST DUCT.
10. ROUTE 18"X18" MAKE UP AIR DUCT UP THROUGH ROOF ABOVE AND CONNECT TO MAKE UP AIR UNIT, REFER TO SHEET M201 FOR CONTINUATION. COORDINATE WITH KES AND HOOD DRAWINGS. SEAL WEATHER TIGHT.
11. NEW SUPPLY AND RETURN DUCT DROPS THROUGH ROOF. CONNECT NEW DUCTWORK IN APPROXIMATE LOCATION SHOWN. FIELD VERIFY EXACT LOCATION PRIOR TO COMMENCING WORK.
12. MOUNT SPIRAL DUCT TIGHT TO BOTTOM OF STRUCTURE. CONTRACTOR TO PROVIDE AND INSTALL DUCT MOUNTED SUPPLY GRILLES IN LOCATIONS SHOWN. FIELD VERIFY AND COORDINATE WITH EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
13. PROVIDE DUCT MOUNTED SMOKE DETECTOR IN RETURN AIR DUCT. UPON DETECTION OF SMOKE UNIT SHALL DE-ENERGIZE.
14. ROUTE 24"X8" SUPPLY AIR DUCT DOWN FROM CEILING SPACE AND CONNECT TO SUPPLY AIR PLENUM ON HOOD. PROVIDE BALANCING DAMPER AND BALANCE TO 390 CFM. REFER TO KES AND CAPTIVE AIRE DRAWINGS FOR ADDITIONAL INFORMATION.
15. ROUTE 28"X12" MAKEUP AIR DUCT DOWN FROM CEILING SPACE AND CONNECT TO MAKE UP AIR PLENUM ON HOOD. CONNECT TO EXISTING 18x18 OUTDOOR AIR DUCT PROVIDED BY LANDLORD. PROVIDE BALANCING DAMPER AND BALANCE TO 658 CFM. REFER TO KES AND CAPTIVE AIRE DRAWINGS FOR ADDITIONAL INFORMATION.
16. PROVIDE AIR CURTAIN ABOVE ENTRANCE DOOR. INSTALL PER MANUFACTURES RECOMMENDATIONS.
17. TYPE 1 GREASE EXHAUST HOOD, REFER TO KES AND HOOD DRAWINGS FOR ADDITIONAL INFORMATION.
18. ROUTE 3" COMBUSTION AIR AND FLUE DOWN FROM CEILING SPACE AND CONNECT TO WATER HEATER, INSTALLATION SHALL BE PER MANUFACTURERS RECOMMENDATIONS.
19. EXTEND 3" COMBUSTION AIR AND FLUE IN CEILING SPACE. FIELD VERIFY EXACT ROUTING.
20. EXTEND 3" COMBUSTION AIR AND FLUE UP TO CONCENTRIC VENT THROUGH ROOF ABOVE, REFER TO SHEET M201 FOR ADDITIONAL INFORMATION.
21. PROVIDE CO2 MEASUREMENT SPECIALISTS RAD-0102-6 REMOTE CO2 STORAGE SAFETY ALARM (OR EQUAL), INSTALL PER MANUFACTURER'S RECOMMENDATIONS
22. PROVIDE CABLE OPERATED REMOTE BALANCING DAMPER, TYPICAL FOR BALANCING DAMPERS IN HARD CEILING APPLICATIONS.

MECHANICAL PLAN

1/4" = 1'-0"

7/10/2024 3:00 PM

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MECHANICAL PLAN

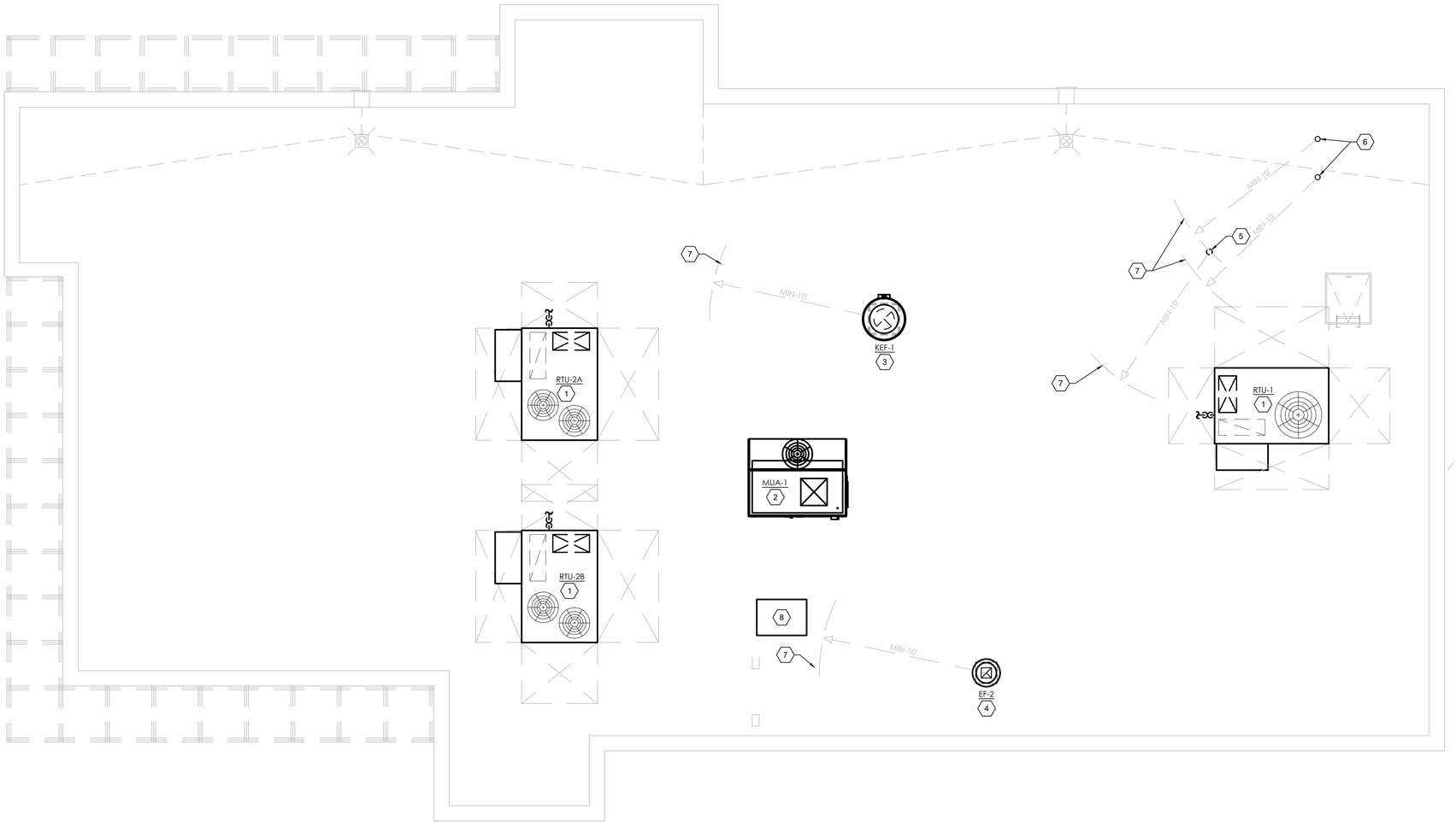
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M101

GENERAL NOTES:

A. DO NOT PENETRATE KITCHEN EXHAUST HOODS OR DUCTWORK WITH ANY TYPE OF FASTENING ASSEMBLY (I.E. SCREWS, RIVETS).

CODED NOTES: ⟨#⟩

1. NEW ROOF MOUNTED ROOF TOP UNIT AND MANUFACTURERS ROOF CURB BY MECHANICAL CONTRACTOR. INSTALL UNIT AND CURB LEVEL TO ENSURE PROPER SLOPE FOR CONDENSATE DRAINAGE.
2. INSTALL NEW MAKE-UP AIR UNIT ON MANUFACTURERS ROOF CURB. CONTRACTOR SHALL CUT, PATCH, FLASH, AND AND COUNTER FLASH AROUND ROOF CURB TO MAINTAIN ANY APPLICABLE ROOF WARRANTY.
3. INSTALL NEW HOOD EXHAUST FAN ON MANUFACTURERS ROOF CURB. ENSURE LOCATION IS A MINIMUM OF 10' - 0" FROM ANY OUTSIDE AIR INTAKES. CONTRACTOR SHALL CUT, PATCH, FLASH, AND AND COUNTER FLASH AROUND ROOF CURB TO MAINTAIN ANY APPLICABLE ROOF WARRANTY.
4. INSTALL NEW RESTROOM EXHAUST FAN ON NEW ROOF CURB. ENSURE LOCATION IS A MINIMUM OF 10' - 0" FROM ANY OUTSIDE AIR INTAKES.
5. NEW 4" VENT THROUGH ROOF, CONTRACTOR SHALL ENSURE LOCATION IS A MINIMUM OF 10' - 0" FROM ANY OUTSIDE AIR INTAKES.
6. NEW COMBINATION AIR INTAKE AND FLUE EXHAUST FOR WATER HEATER, INSTALL PER MANUFACTURERS RECOMMENDATIONS, CONTRACTOR SHALL ENSURE LOCATION IS A MINIMUM OF 10' - 0" FROM ANY OUTSIDE AIR INTAKES.
7. ENSURE TO MAINTAIN 10'-0" CLEARANCE TO OUTSIDE AIR INTAKES.
8. NEW WALK-IN COOLER CONDENSING UNIT MOUNTED ON ROOF, SEE KES PLANS FOR MORE INFORMATION.



1 M201 MECHANICAL ROOF PLAN
1/4" = 1'-0"

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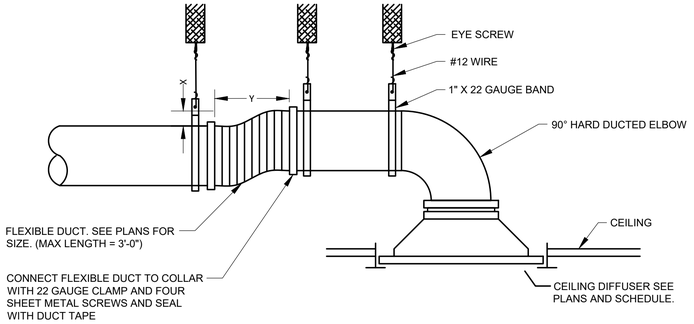
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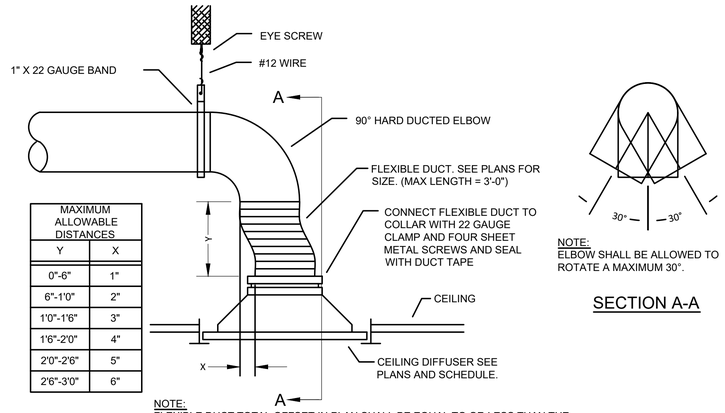
MECHANICAL ROOF PLAN

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LIMITED CEILING SPACE



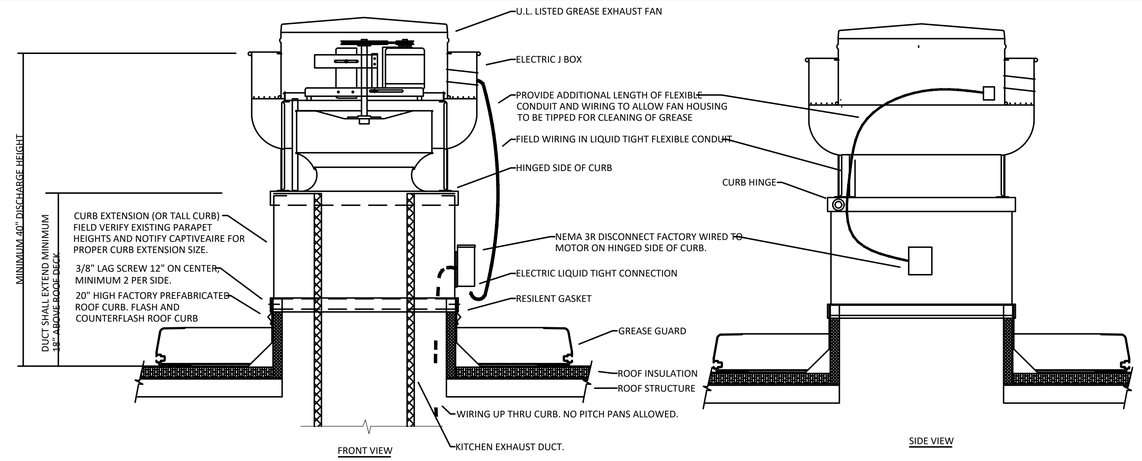
MAXIMUM ALLOWABLE DISTANCES	
Y	X
0"-6"	1"
6"-1'0"	2"
1'0"-1'6"	3"
1'6"-2'0"	4"
2'0"-2'6"	5"
2'6"-3'0"	6"

NOTE:
FLEXIBLE DUCT TOTAL OFFSET IN PLAN SHALL BE EQUAL TO OR LESS THAN THE VALUE SHOWN IN THIS DETAIL (IN ANY DIRECTION).

NOTE:
ELBOW SHALL BE ALLOWED TO ROTATE A MAXIMUM 30°.

SECTION A-A

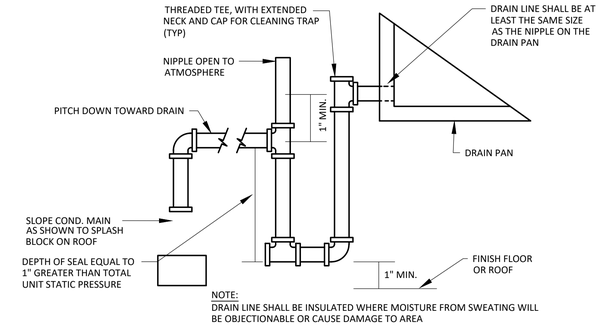
5 CEILING DIFFUSER DETAIL
N.T.S.



NOTES:

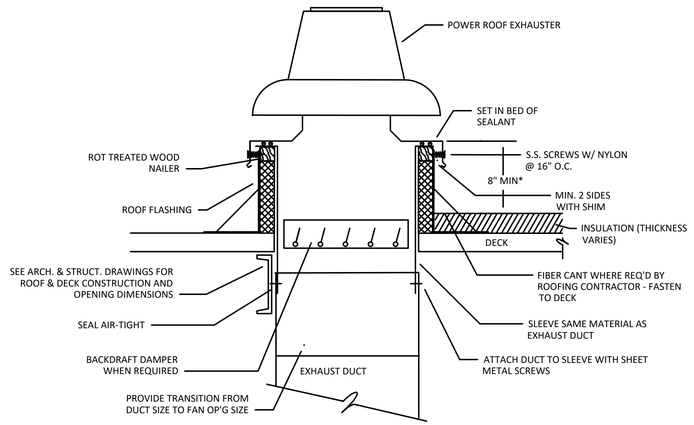
1. INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA 96 REQUIREMENTS.
2. CUT AND PATCH EXISTING ROOFING AS REQUIRED FOR NEW CURB INSTALLATION (CONFIRM IF BY LL BASED ON WORK LETTER).
3. CURB SHALL BE TAPERED TYPE AND MATCH THE PITCH OF THE ROOF.
4. CONTRACTOR TO PROVIDE TREATED WOOD BLOCKINGS AND SHIM FLAT ROOF CURB TILL LEVEL FOR ALL EXHAUST FANS AND TO ACHIEVE ROOF CURB HEIGHTS. PROVIDE ROOF CURB EXTENSION IF REQUIRED.

3 GREASE EXHAUST FAN DETAIL
N.T.S.



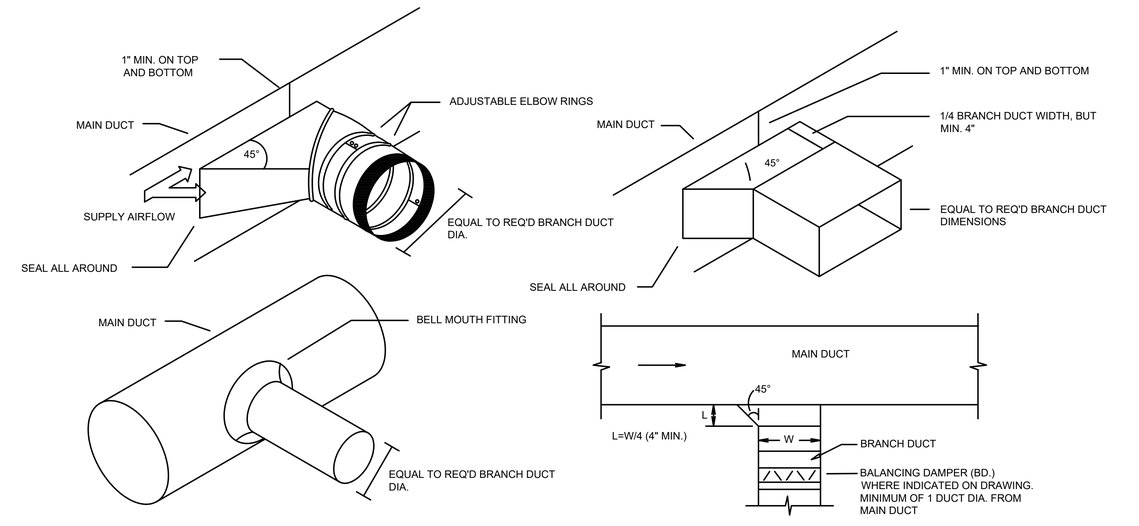
NOTE:
DRAIN LINE SHALL BE INSULATED WHERE MOISTURE FROM SWEATING WILL BE OBJECTIONABLE OR CAUSE DAMAGE TO AREA

2 CONDENSATE DRAIN DETAIL
N.T.S



* MECH CONTRACTOR TO VERIFY INSULATION THICKNESS W/ GENERAL CONTRACTOR.

1 GENERAL EXHAUST FAN DETAIL
N.T.S.



4 DUCT BRANCH DETAIL
N.T.S.

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MECHANICAL DETAILS

SHEET:
M401

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ROOFTOP UNIT SCHEDULE

OUTSIDE AIR CONDITIONS: SUMMER DB/WB: 90.2°F/73.8°F, WINTER DB: 0°F

TAG	MANUFACTURER	MODEL	TONS	AIRFLOW				HEATING (MBH)				COOLING (MBH)			COOLING DESIGN AMBIENT (95°F)	ELECTRICAL			WEIGHT (LBS)	NOTES
				CFM	OA MIN	ESP	MOTOR HP	INPUT	OUTPUT	STAGES	AFUE %	TOTAL	SENS.	EER/IEER		MCA	MOCP	VOLT/PH		
RTU-1	CARRIER	48GCFN12	10.0	4,000	305	1.20	5	200 / 250	164 /205	2	82	123.2	91.1	11.4/17.2	80°F DB / 67°F WB	62	80	208/3	1,467	1,2,3
RTU-2A	CARRIER	48GCFN07	6.0	2,400	360	1.00	3	115 / 150	96 / 123	2	82	74.4	54.7	12.2/17.5	80°F DB / 67°F WB	41	50	208/3	1,191	1,2,3
RTU-2B	CARRIER	48GCFN07	6.0	2,400	360	1.00	3	115 / 150	96 / 123	2	82	74.4	54.7	12.2/17.5	80°F DB / 67°F WB	41	50	208/3	1,191	1,2,3

NOTES:
1. PROVIDE WITH 14" ROOF CURB.
2. PROVIDE WITH ENTHALPY CONTROLLED 100% MODULATING ECONOMIZER, POWERED EXHAUST, AND SMOKE DETECTOR IN RETURN AIR DUCT.
3. PROVIDE WITH HONEYWELL VISIONPRO 8000 TOUCHSCREEN PROGRAMMABLE THERMOSTAT, MODEL TH8320. INTERLOCK WITH REMOTE TEMPERATURE SENSOR.

MAKEUP AIR UNIT SCHEDULE

TAG	MANUFACTURER	MODEL	TONS	AIRFLOW				FAN ELECTRICAL			HEATING (MBH)				COOLING (MBH)			COOLING DESIGN AMBIENT	WEIGHT (LBS)	NOTES
				CFM	OA MIN	ESP	MOTOR HP	MCA	MOCP	VOLT/PH	INPUT	OUTPUT	STAGES	AFUE %	TOTAL	SENS.	EER/IEER			
MUA-1	ECONAIR	EARTU1-I.200-15-5T-MPU	5.0	2,163	2,163	0.5	2	28.4	30	208/3	197	160	1	92	66.0	27.9	--/17.9	82°F EDB / 75°F EWB	1,075	1

NOTES:
1. REFER TO KES AND HOOD DRAWINGS FOR ADDITIONAL INFORMATION.

KITCHEN HOOD SCHEDULE

UNIT DATA					LIGHTS		MISCELLANEOUS		NOTES
TAG	MODEL	HOOD LENGTH	MAX. COOKING TEMP	TOTAL EXHAUST CFM	QTY	TYPE	FIRE SUPP. SYSTEM	HANGING WEIGHT (LBS)	
H-1	6030 EX-2-ACPSP-F	11'-7"	600°F	2,606	6	L55 SERIES E26	YES	1,249	1

NOTES:
1. REFER TO KES AND HOOD DRAWINGS FOR ADDITIONAL INFORMATION.

AIR BALANCE SCHEDULE

TAG	SUPPLY CFM	RETURN CFM	OUTDOOR AIR CFM	EXHAUST CFM	
RTU-1	4,000	3,750	305	- - -	
RTU-2A	2,400	2,050	360	- - -	
RTU-2B	2,400	2,050	360	- - -	BUILDING PRESSURE
MAU-1	2,163	- - -	2,163	- - -	
KEF-1	- - -	- - -	- - -	2,606	
EF-2	- - -	- - -	- - -	250	
TOTAL	10,963	7,850	3,188	2,856	332 CFM

EXHAUST FAN SCHEDULE

TAG	MANUFACTURER	MODEL	FUNCTION	FAN TYPE	CFM	ESP	DAMPER	BELT OR DIRECT	SONES RATING	HP	VOLT	PHASE	NOTES
KEF-1	CAPTIVEAIRE	DU85HFA	HOOD EXHAUST	UPBLAST	2,381	1.0	- - -	DIRECT	17.3	1.0	115	1	1
EF-2	GREENHECK	G-080-VG	RESTROOM EXHAUST	DOWNBLAST	250	0.3	BDD	DIRECT	7.25	0.05	115	1	2-3

NOTES:
1. FAN SHALL BE INTERLOCKED WITH HOOD CONTROLS. REFER TO KES AND CAPTIVEAIRE DRAWINGS FOR ADDITIONAL INFORMATION.
2. FAN SHALL OPERATE DURING OCCUPIED HOURS.
3. PROVIDE VARIABLE SPEED CONTROLLER FOR ALL DIRECT DRIVE FANS, TEST AND BALANCE CONTRACTOR SHALL MARK BALANCED POSITION ON CONTROLLER.

AIR CURTAIN SCHEDULE

TAG	MANUFACTURER	MODEL	NOZZLE WIDTH	SERVICE	CFM	MOTOR HP	VOLT/PH	WEIGHT (LBS)	NOTES
AC-1	BERNER	AE08-E-1048A	48"	BACK OF HOUSE	1,289	(1) 1/5	120/1	59	1-2

NOTES:
1. PROVIDE WITH INTEGRAL DISCONNECT SWITCH AND WALL MOUNTING BRACKET.
2. COORDINATE COLOR WITH ARCHITECT.

GRILLES, REGISTERS, AND DIFFUSERS SCHEDULE

TAG-NECK SIZE
CFM

D = DIFFUSER G = GRILLE
R = RESISTER

TAG	FUCTION	MODEL	MANUFACTURER	FACE SIZE	FRAME TYPE	MATERIAL	FINISH	BALANCE DAMPER	MAX N.C.	COMMENTS	NOTES
D1	SUPPLY	PAS	TITUS	24" X 24"	LAY-IN	STEEL	WHITE	- - -	25	- - -	1-7
D2	SUPPLY	OMNI	TITUS	12" X 12"	SURFACE	STEEL	WHITE	- - -	25	- - -	1,3-7
R1	SUPPLY	S300FS	TITUS	20" X 6"	DUCT	ALUMINUM	WHITE	AIR SCOOP	25	- - -	4-5 & 7
L1	SUPPLY	FL-20-22	TITUS	48" X 4.75"	SURFACE	ALUMINUM	WHITE	- - -	25	1 SLOT, 2" SLOT WIDTH	3-7
G1	RETURN/EXHAUST	350RL	TITUS	12" X 12"	SURFACE	STEEL	WHITE	- - -	25	- - -	3-7
G2	RETURN	350RL	TITUS	24" X 24"	LAY-IN	STEEL	WHITE	- - -	25	- - -	3-7
G3	RETURN	350RL	TITUS	48" X 24"	SURFACE	STEEL	WHITE	- - -	25	- - -	3-7
G4	RETURN	350RL	TITUS	48" X 24"	SURFACE	STEEL	WHITE	- - -	25	- - -	3-7

NOTES:
1. SUPPLY DIFFUSERS TO BE INSULATED VIA FACTORY SYSTEM.
2. WITH NO INTERNAL DEFLECTOR
3. BORDER TYPES SHALL BE COMPATIBLE WITH ARCHITECTURAL CEILING TYPE FOR THE ROOM IN WHICH THE AIR DEVICE IS LOCATED.
4. SEE HVAC PLANS FOR LOCATION AND AIR QUANTITIES OF EACH AIR DEVICE.
5. PROVIDE WITH OPPOSED BLADE DAMPER AS NECESSARY IF CEILING DOES NOT ALLOW FOR ACCESS.
6. PROVIDE LAY-IN MODULE AS NECESSARY.
7. PROVIDE TRANSITION AS NECESSARY.

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2 CONSTR SET	JAN 8, 2025

MECHANICAL SCHEDULES

SHEET:
M501

7/26/2024 10:18 AM

SPECIFICATIONS - DIVISION 23 - HVAC

SECTION 230500 - GENERAL MECHANICAL REQUIREMENTS:

HVAC SUBCONTRACTOR SHALL PROVIDE AT BID TIME A BID TO PROVIDE PREVENTATIVE MAINTENANCE SERVICES FOR ONE YEAR.

FURNISH TO THE OWNER ALL OPERATING & MAINTENANCE MANUALS, RECORD DRAWINGS, TEST & BALANCE REPORT. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER REPRESENTATIVES FOR EMPLOYEE TRAINING REQUIREMENTS FOR ALL EQUIPMENT.

MECHANICAL CONTRACTOR SHALL SUBMIT COMPLIANCE CHECKLIST TO BUILDING OFFICIAL UPON SUBSTANTIAL COMPLETION OF PROJECT. PROVIDE EQUIPMENT INDICATED ON THE DRAWINGS, AND AS REQUIRED FOR A COMPLETE FUNCTIONING SYSTEM.

DEFINITIONS:
FURNISH MEANS TO SUPPLY AND DELIVER TO PROJECT SITE, READY FOR INSTALLATION.
INSTALL MEANS TO PLACE IN POSITION AND MAKE CONNECTIONS FOR SERVICE OR USE.
PROVIDE MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE.

WARRANTY:
PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION. CONTRACTOR SHALL INCLUDE ONE YEAR WARRANTY ON OWNER FURNISHED EQUIPMENT. CONTRACTOR SHALL INCLUDE COSTS FOR RECEIVING, HANDLING, STORAGE, AND HOISTING OF OWNER FURNISHED EQUIPMENT.

COORDINATION:
COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE.

DUCT DIMENSIONS:
UNLESS OTHERWISE NOTED, DUCT DIMENSIONS ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS.

TESTING AND BALANCING:
THE OWNER SHALL CONTRACT DIRECTLY WITH SUPERIOR INC. TO PROVIDE A THIRD PARTY TEST AND BALANCE OF THE HVAC SYSTEM. THE GC IS RESPONSIBLE FOR SCHEDULING THE TEST AND BALANCE. CONTACT SUPERIOR INC. (ERIC HOLCOMB) @ (800) 222-1819 AND (615) 479-1578 FOR COORDINATION AND SCHEDULING. IF THE SITE IS NOT READY WHEN SUPERIOR INC. ARRIVES AT THE SCHEDULED TIME, ALL COSTS REQUIRED FOR SUPERIOR TO RETURN TO THE SITE SHALL BE THE GC'S RESPONSIBILITY. TEST AND ADJUST ALL MECHANICAL SYSTEMS AND EQUIPMENT TO ASSURE PROPER BALANCE AND OPERATION. PERFORM TESTS IN ACCORDANCE WITH NBC AND ASHRAE STANDARDS. ELIMINATE NOISE AND VIBRATION, AND ASSURE PROPER FUNCTION OF CONTROLS. SUBMIT COMPLETED TEST AND BALANCE REPORT TO OWNER'S REPRESENTATIVE. BALANCING CONTRACTOR SHALL BE AN INDEPENDENT CERTIFIED TEST AND BALANCE CONTRACTOR, WITH NBC CERTIFICATION. BALANCE ALL SYSTEMS TO WITHIN 5% OF AIR FLOWS INDICATED ON THE DRAWINGS, AND REPORT ALL DISCREPANCIES TO HVAC INSTALLER FOR CORRECTION. MARK FINAL BALANCE POSITIONS ON DAMPERS WITH PERMANENT MARKER.

MAKE-UP AIR UNIT:
UNIT SHALL HAVE AN INTEGRAL DISCHARGE THERMOSTAT LINKED TO THE INTERNAL CONTROLS. THE HEATER SHALL BE SET TO MAINTAIN DUCT SUPPLY TEMPERATURE AT NO LESS THAN 65 DEG. F. (ADJ.).
HIGH LIMIT SWITCH SET TO 180 DEG. F.
INTAKE AIR SENSOR SET TO 10 DEG. F. (ADJ.) LOWER THAN DISCHARGE AIR SENSOR.

TEMPERATURE CONTROLS:
PROVIDE PROGRAMMABLE THERMOSTATS WITH REMOTE TEMPERATURE SENSORS AND REMOTE HUMIDISTATS COMPATIBLE WITH ROOFTOP UNIT. CONTROL WIRING SHALL BE INSTALLED IN CONDUIT. THERMOSTAT SHALL MEET SETPOINT ADJUSTMENT FOR UNOCCUPIED MODE: HEATING DOWN TO 55 DEGREES AND COOLING UP TO 85 DEGREES. PROVIDE INTERLOCK CONTROL WIRING BETWEEN HOOD EXHAUST FANS AND ROOFTOP UNITS.

END OF SECTION

SECTION 230593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. SUBMITTALS:

1. CERTIFIED TAB REPORTS.

B. TAB FIRM QUALIFICATIONS: NBC CERTIFIED.

C. TAB REPORT FORMS: STANDARD TAB CONTRACTOR'S FORMS APPROVED BY ARCHITECT.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 EXAMINATION

A. EXAMINE THE CONTRACT DOCUMENTS TO BECOME FAMILIAR WITH PROJECT REQUIREMENTS AND TO DISCOVER CONDITIONS IN SYSTEMS' DESIGNS THAT MAY PRECLUDE PROPER TAB OF SYSTEMS AND EQUIPMENT.

B. EXAMINE THE APPROVED SUBMITTALS FOR HVAC SYSTEMS AND EQUIPMENT.

C. EXAMINE SYSTEMS FOR INSTALLED BALANCING DEVICES, SUCH AS TEST PORTS, GAGE COCKS, THERMOMETER WELLS, FLOW-CONTROL DEVICES, BALANCING VALVES AND FITTINGS, AND MANUAL VOLUME DAMPERS. VERIFY THAT LOCATIONS OF THESE BALANCING DEVICES ARE ACCESSIBLE.

D. EXAMINE SYSTEM AND EQUIPMENT INSTALLATIONS AND VERIFY THAT FIELD QUALITY-CONTROL TESTING, CLEANING, AND ADJUSTING SPECIFIED IN INDIVIDUAL SECTIONS HAVE BEEN PERFORMED.

E. EXAMINE HVAC EQUIPMENT AND FILTERS AND VERIFY THAT BEARINGS ARE GREASED, BELTS ARE ALIGNED AND TIGHT, AND EQUIPMENT WITH FUNCTIONING CONTROLS IS READY FOR OPERATION.

F. EXAMINE TERMINAL UNITS, SUCH AS VARIABLE-AIR-VOLUME BOXES, AND VERIFY THAT THEY ARE ACCESSIBLE AND THEIR CONTROLS ARE CONNECTED AND FUNCTIONING.

G. EXAMINE AUTOMATIC TEMPERATURE SYSTEM COMPONENTS TO VERIFY THE FOLLOWING:

1. DAMPERS, VALVES, AND OTHER CONTROLLED DEVICES ARE OPERATED BY THE INTENDED CONTROLLER.
2. DAMPERS AND VALVES ARE IN THE POSITION INDICATED BY THE CONTROLLER.
3. INTEGRITY OF DAMPERS AND VALVES FOR FREE AND FULL OPERATION AND FOR TIGHTNESS OF FULLY CLOSED THIS INCLUDES DAMPERS IN MULTIZONE UNITS, MIXING BOXES, AND AND FULLY OPEN POSITIONS. VARIABLE-AIR-VOLUME TERMINALS.
4. AUTOMATIC MODULATING AND SHUTOFF VALVES, INCLUDING TWO-WAY VALVES AND THREE-WAY MIXING AND DIVERTING VALVES, ARE PROPERLY CONNECTED.
5. THERMOSTATS AND HUMIDISTATS ARE LOCATED TO AVOID ADVERSE EFFECTS OF SUNLIGHT, DRAFTS, AND COLD WALLS.
6. SENSORS ARE LOCATED TO SENSE ONLY THE INTENDED CONDITIONS.
7. SEQUENCE OF OPERATION FOR CONTROL MODES IS ACCORDING TO THE CONTRACT DOCUMENTS.
8. CONTROLLER SET POINTS ARE SET AT INDICATED VALUES.
9. INTERLOCKED SYSTEMS ARE OPERATING.
10. CHANGEOVER FROM HEATING TO COOLING MODE OCCURS ACCORDING TO INDICATED VALUES.

H. REPORT DEFICIENCIES DISCOVERED BEFORE AND DURING PERFORMANCE OF TEST AND BALANCE PROCEDURES.

3.2 GENERAL PROCEDURES FOR TESTING AND BALANCING

A. PERFORM TESTING AND BALANCING PROCEDURES ON EACH SYSTEM ACCORDING TO THE PROCEDURES CONTAINED IN AABC'S "NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE", NBC, ASHRAE 111, NEBB'S "PROCEDURAL STANDARDS FOR TESTING, ADJUSTING, AND BALANCING OF ENVIRONMENTAL SYSTEMS" OR SMACNA'S "HVAC SYSTEMS - TESTING, ADJUSTING, AND BALANCING" AND IN THIS SECTION.

B. CUT INSULATION, DUCTS, PIPES, AND EQUIPMENT CABINETS FOR INSTALLATION OF TEST PROBES TO THE MINIMUM EXTENT NECESSARY FOR TAB PROCEDURES. AFTER TESTING AND BALANCING, PATCH PROBE HOLES IN DUCTS WITH SAME MATERIAL AND THICKNESS AS USED TO CONSTRUCT DUCTS. INSTALL AND JOIN NEW INSULATION THAT MATCHES REMOVED MATERIALS. RESTORE INSULATION, COVERINGS, VAPOR BARRIER, AND FINISH.

C. MARK EQUIPMENT AND BALANCING DEVICES, INCLUDING DAMPER-CONTROL POSITIONS, VALVE POSITION INDICATORS, FAN-SPEED-CONTROL LEVERS, AND SIMILAR CONTROLS AND DEVICES, WITH PAINT OR OTHER SUITABLE, PERMANENT IDENTIFICATION MATERIAL TO SHOW FINAL SETTINGS.

3.3 GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

A. PREPARE SCHEMATIC DIAGRAMS OF SYSTEMS' "AS-BUILT" DUCT LAYOUTS.

B. FOR VARIABLE-AIR-VOLUME SYSTEMS, DEVELOP A PLAN TO SIMULATE DIVERSITY.

C. DETERMINE THE BEST LOCATIONS IN MAIN AND BRANCH DUCTS FOR ACCURATE DUCT AIRFLOW MEASUREMENTS.

D. VERIFY THAT MOTOR STARTERS ARE EQUIPPED WITH PROPERLY SIZED THERMAL PROTECTION.

E. CHECK FOR AIRFLOW BLOCKAGES.

F. CHECK CONDENSATE DRAINS FOR PROPER CONNECTIONS AND FUNCTIONING.

G. CHECK FOR PROPER SEALING OF AIR-HANDLING UNIT COMPONENTS.

H. CHECK FOR PROPER SEALING OF AIR DUCT SYSTEM.

3.4 TOLERANCES

A. SET HVAC SYSTEM AIRFLOW AND WATER FLOW RATES WITHIN THE FOLLOWING TOLERANCES:

1. SUPPLY, RETURN, AND EXHAUST FANS AND EQUIPMENT WITH FANS: PLUS OR MINUS 5 PERCENT.

2. AIR OUTLETS AND INLETS: PLUS OR MINUS 10 PERCENT.

END OF SECTION

SECTION 230700 - HVAC INSULATION

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. QUALITY ASSURANCE: LABELED WITH MAXIMUM FLAME-SPREAD INDEX OF 25 AND MAXIMUM SMOKE-DEVELOPED INDEX OF 50 ACCORDING TO ASTM E 84.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. SURFACE-BURNING CHARACTERISTICS:

1. INDOOR INSULATION AND RELATED MATERIALS: TO BE FACTORY LABELED DESIGNATING MAXIMUM FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS ACCORDING TO ASTM E 84.

2.2 INSULATION MATERIALS

A. FLEXIBLE ELASTOMERIC: CLOSED-CELL, SPONGE- OR EXPANDED-RUBBER MATERIALS. COMPLY WITH ASTM C 534, TYPE I FOR TUBULAR MATERIALS AND TYPE II FOR SHEET MATERIALS.

B. MINERAL-FIBER BLANKET INSULATION: COMPLY WITH ASTM C 553, TYPE II AND ASTM C 1290, TYPE I.

1. FSK JACKET: ALUMINUM-FOIL, FIBERGLASS-REINFORCED SCRIM WITH KRAFT-PAPER BACKING; COMPLYING WITH ASTM C 1136, TYPE II.

2. FSK TAPE: FOIL-FACE, VAPOR-RETARDER TAPE MATCHING FACTORY-APPLIED JACKET WITH ACRYLIC ADHESIVE; COMPLYING WITH ASTM C 1136.

C. MINERAL-FIBER, PIPE AND TANK INSULATION: COMPLYING WITH ASTM C 1393, TYPE II OR TYPE IIIA CATEGORY 2, OR WITH PROPERTIES SIMILAR TO ASTM C 612, TYPE IB; AND HAVING FACTORY-APPLIED ASJ JACKET. NOMINAL DENSITY IS 2.5 LB/CU. FT. OR MORE. THERMAL CONDUCTIVITY (K-VALUE) AT 100 DEG F IS 0.29 BTU X IN./H X SQ. FT. X DEG F OR LESS.

1. ASJ: WHITE, KRAFT-PAPER, FIBERGLASS-REINFORCED SCRIM WITH ALUMINUM-FOIL BACKING; COMPLYING WITH ASTM C 1136, TYPE I.

2. ASJ TAPE: WHITE VAPOR-RETARDER TAPE MATCHING FACTORY-APPLIED JACKET WITH ACRYLIC ADHESIVE, COMPLYING WITH ASTM C 1136.

D. FLEXIBLE ELASTOMERIC ADHESIVE: COMPLY WITH MIL-A-24179A, TYPE II, CLASS I.

E. MINERAL-FIBER ADHESIVE: COMPLY WITH MIL-A-3316C, CLASS 2, GRADE A.

F. VAPOR-BARRIER MASTIC: WATER BASED; SUITABLE FOR INDOOR AND OUTDOOR USE ON BELOW AMBIENT SERVICES; COMPLY WITH MIL-PRF-19565C, TYPE II.

PART 3 - EXECUTION

3.1 INSULATION INSTALLATION

A. COMPLY WITH REQUIREMENTS OF THE MIDWEST INSULATION CONTRACTORS ASSOCIATION'S "NATIONAL COMMERCIAL & INDUSTRIAL INSULATION STANDARDS" FOR INSULATION INSTALLATION ON PIPES AND EQUIPMENT.

B. INSULATION INSTALLATION AT INTERIOR WALL AND PARTITION PENETRATIONS (THAT ARE NOT FIRE RATED): INSTALL INSULATION CONTINUOUSLY THROUGH WALLS AND PARTITIONS.

C. INSULATION INSTALLATION AT FIRE-RATED WALL, PARTITION, AND FLOOR PENETRATIONS: INSTALL INSULATION CONTINUOUSLY THROUGH PENETRATIONS. SEAL PENETRATIONS. COMPLY WITH REQUIREMENTS IN SECTION 078400.

D. FLEXIBLE ELASTOMERIC INSULATION INSTALLATION:

1. SEAL LONGITUDINAL SEAMS AND END JOINTS WITH ADHESIVE TO ELIMINATE OPENINGS IN INSULATION THAT ALLOW PASSAGE OF AIR TO SURFACE BEING INSULATED.

2. INSULATION INSTALLATION ON PIPE FITTINGS AND ELBOWS: INSTALL MITERED SECTIONS OF PIPE INSULATION. SECURE INSULATION MATERIALS AND SEAL SEAMS WITH ADHESIVE TO ELIMINATE OPENINGS IN INSULATION THAT ALLOW PASSAGE OF AIR TO SURFACE BEING INSULATED.

E. MINERAL-FIBER INSULATION INSTALLATION:

1. INSULATION INSTALLATION ON STRAIGHT PIPES AND TUBES: WHERE VAPOR BARRIERS ARE INDICATED, SEAL LONGITUDINAL SEAMS, END JOINTS, AND PROTRUSIONS WITH VAPOR-BARRIER MASTIC AND JOINT SEALANT.

2. FOR INSULATION WITH FACTORY-APPLIED JACKETS ON ABOVE AMBIENT SURFACES, SECURE LAPS WITH OUTWARD CLINCHED STAPLES AT 6 INCHES O.C.

3. FOR INSULATION WITH FACTORY-APPLIED JACKETS ON BELOW AMBIENT SURFACES, DO NOT STAPLE LONGITUDINAL TABS BUT SECURE TABS WITH ADDITIONAL ADHESIVE AS RECOMMENDED BY INSULATION MATERIAL MANUFACTURER AND SEAL WITH VAPOR-BARRIER MASTIC AND FLASHING SEALANT.
4. BLANKET INSULATION INSTALLATION ON DUCTS AND PLENUMS: SECURE WITH ADHESIVE AND INSULATION PINS.
5. FOR DUCTS AND PLENUMS WITH SURFACE TEMPERATURES BELOW AMBIENT, INSTALL A CONTINUOUS UNBROKEN VAPOR BARRIER

F. PLENUMS AND DUCTS REQUIRING INSULATION:

1. CONCEALED SUPPLY AIR.

2. CONCEALED AND EXPOSED OUTDOOR AIR.

3. CONCEALED AND EXPOSED RETURN AIR LOCATED IN NONCONDITIONED SPACE.

3.2 DUCT AND PLENUM INSULATION SCHEDULE

RETAIN " ONE OF" OPTION IN PARAGRAPHS IN THIS ARTICLE TO ALLOW CONTRACTOR TO SELECT PIPING MATERIALS FROM THOSE RETAINED.

A. CONCEALED DUCT INSULATION SHALL BE 1-1/2" THICK MINERAL-FIBER BLANKET WITH A 1.5-LB/CU. FT. NOMINAL DENSITY.

3.3 HVAC PIPING INSULATION SCHEDULE

A. CONDENSATE PIPING: INSULATION SHALL BE 1" THICK FLEXIBLE ELASTOMERIC.

B. REFRIGERANT PIPING: INSULATION SHALL BE 1" THICK FLEXIBLE ELASTOMERIC.

END OF SECTION

SECTION 232300 - REFRIGERANT PIPING

PART 2 - PRODUCTS

2.1 TUBES AND FITTINGS

A. COPPER TUBE: ASTM B 88, TYPE K OR TYPE L, ANNEALED OR DRAWN-TEMPER TUBING AND WROUGHT-COPPER FITTINGS WITH BRAZED OR SOLDERED JOINTS.

B. WROUGHT-COPPER FITTINGS AND UNIONS: ASME B16.22.

C. SOLDER FILLER METALS: ASTM B 32. USE 95-5 TIN ANTIMONY OR ALLOY HB SOLDER TO JOIN COPPER SOCKET FITTINGS ON COPPER PIPE.

D. BRAZING FILLER METALS: AWS A5.8.

2.2 VALVES AND SPECIALTIES

A. AS REQUIRED BY THE KITCHEN EQUIPMENT MANUFACTURER.

PART 3 - EXECUTION

3.1 INSTALLATION

A. INSTALL REFRIGERANT PIPING AND CHARGE WITH REFRIGERANT ACCORDING TO ASHRAE 15.

B. INSTALL REFRIGERANT PIPING AS REQUIRED BY THE KITCHEN EQUIPMENT MANUFACTURER.

END OF SECTION

SECTION 233100 - HVAC DUCTS AND CASINGS

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."

B. STRUCTURAL PERFORMANCE: DUCT HANGERS AND SUPPORTS SHALL WITHSTAND THE EFFECTS OF GRAVITY LOADS AND STRESSES WITHIN LIMITS AND UNDER CONDITIONS DESCRIBED IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE".

C. COMPLY WITH NFPA 96 FOR DUCTS CONNECTED TO COMMERCIAL KITCHEN HOODS.

2.2 DUCTS

A. ELECTROGALVANIZED-STEEL SHEET: ASTM A 879

1. PAINTLOK/PAINTLOCK OR EQUAL.

B. GENERAL DUCTWORK SHALL BE GALVANIZED STEEL, ASTM A653/A635M, CONSTRUCTED TO THE GAUGE AND CORRESPONDING REINFORCING SCHEDULE AS INDICATED IN THE LATEST EDITION OF SMACNA.

C. TYPE 1 KITCHEN EXHAUST DUCTWORK

1. FACTORY-BUILT COMMERCIAL KITCHEN GREASE DUCT:

a. INSTALL REDUCED CLEARANCE, ROUND, DOUBLE-WALL GREASE DUCT AS SPECIFIED MEETING UL 1978 REQUIREMENTS. REFER TO KITCHEN EQUIPMENT SUPPLIER DRAWINGS FOR REQUIREMENTS.

b. DUCTWORK AND FITTINGS FURNISHED BY OWNER FOR INSTALLATION BY THIS CONTRACTOR.

c. NO FIRE WRAP SHALL BE REQUIRED FOR THIS INSTALLATION.

D. TYPE 2 KITCHEN EXHAUST DUCTWORK: 18 GAUGE ALUMINUM OR STAINLESS STEEL. SEAMS SHALL BE CONTINUOUSLY WELDED LIQUID TIGHT.

E. JOINT AND SEAM TAPE, AND SEALANT: COMPLY WITH UL 181A. PROVIDE POLYMERIC RUBBER TYPE SEALANT FOR USE ON BOTH INTERIOR LOCATED DUCTWORK AND DUCTWORK EXPOSED TO OUTDOOR CONDITIONS. SEALER SHALL HAVE HIGH BONDING STRENGTH FOR SURE, FIRST TIME SEALING OF JOINTS IN LOW, MEDIUM, AND HIGH PRESSURE DUCT SYSTEMS. SEALER SHALL BE HIGH IN SOLID CONTENT. PROVIDE A TWO PART TAPE SEALING SYSTEM, CONSISTING OF WOVEN FIBER TAPE IMPREGNATED WITH A GYPSUM MINERAL COMPOUND, AND A MODIFIED ACRYLIC/SILICONE ACTIVATOR THAT REACTS EXOTHERMICALLY WITH THE TAPE. TWO PART TAPE SEALING SYSTEM MUST BE RATED FOR BOTH INDOOR AND OUTDOOR APPLICATION. TAPE SHALL NOT CONTAIN ASBESTOS.

F. METAL DUCT FABRICATION: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."

2.3 ACCESSORIES

A. VOLUME DAMPERS AND CONTROL DAMPERS: SINGLE-BLADE AND MULTIPLE OPPOSED-BLADE DAMPERS, STANDARD LEAKAGE RATING, HEAVY DUTY, AND SUITABLE FOR HORIZONTAL OR VERTICAL APPLICATIONS; FACTORY FABRICATED AND COMPLETE WITH REQUIRED HARDWARE AND ACCESSORIES.

2. ROUND VOLUME DAMPERS: PROVIDE MINIMUM 20 GAUGE GALVANIZED STEEL FRAME AND BLADES, MINIMUM 3/8" SQUARE STEEL AXLE, MOLDED SYNTHETIC BEARINGS, WITH LOCKING POSITION REGULATOR. REGULATOR SHALL BE POSITIONED WITH SHEET METAL BRACKET BEYOND DUCT COVERING. WHERE POSITIONING REGULATOR IS NOT ACCESSIBLE, PROVIDE COUPLING AND EXTENSION ROD WITH REGULATOR FOR CEILING OR WALL INSTALLATION, AS REQUIRED.

3. RECTANGULAR VOLUME DAMPERS: PROVIDE MINIMUM 16 GAUGE GALVANIZED STEEL CHANNEL FRAME, 16 GAUGE GALVANIZED STEEL BLADES, MINIMUM ½" HEXAGONAL AXLE, BOLDED SYNTHETIC BEARINGS, WITH 3/8" SQUARE PLATED STEEL CONTROL SHAFT. LINKAGES SHALL BE CONCEALED IN THE FRAME. OPERATING SHAFT SHALL EXTEND BEYOND FRAME AND DUCT TO A LOCKING QUADRANT WITH ADJUSTABLE LEVER. MAXIMUM BLADE WIDTH SHALL NOT EXCEED 6".

B. FLEXIBLE DUCT CONNECTORS: FLAME-RETARDED OR NONCOMBUSTIBLE FABRICS, COATINGS, AND ADHESIVES COMPLYING WITH UL 181, CLASS 1. CONNECTOR TO BE 30 OUNCE, NEOPRENE COATED, FIBERGLASS FABRIC.

C. FLEXIBLE DUCTS: FACTORY ASSEMBLED, UL 181, CLASS 1, WITH 1-1/2-INCH THICK (R-5 MIN.), 1 PCF FIBERGLASS INSULATION AND REINFORCED OUTER PROTECTIVE COVER/VAPOR BARRIER. FLEXIBLE DUCT SHALL MEET NFPA 90A WITH FLAME SPREAD UNDER 25, SMOKE DEVELOPED UNDER 50, AND SHALL BE RATED FOR MINIMUM 2-INCH WG PRESSURE AND 0 TO 250ºF TEMPERATURE. PROVIDE SCREW-OPERATED METAL ADJUSTABLE CLAMPING DEVICES. USE TWIST-LOCK CONICAL TAP COLLARS AT CONNECTIONS INTO SHEET METAL DUCTWORK. MAXIMUM EXTENDED LENGTH OF FLEXIBLE DUCT SHALL NOT EXCEED 5 FEET.

D. TURNING VANES: PROVIDE FABRICATED TURNING VANES AND VANE RUNNERS, CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS". PROVIDE TURNING VANES CONSTRUCTED OF CURVED BLADES, SUPPORTED WITH BARS PERPENDICULAR TO BLADES, AND SET INTO SIDE STRIPS SUITABLE FOR MOUNTING IN DUCTWORK. FOLLOW SMACNA GUIDELINES FOR SPACING SUPPORT, AND CONSTRUCTION. ALL BLADES SHALL BE DOUBLE THICKNESS AIRFOIL TYPE.

E. BIRD SCREENS AND FRAMES: PROVIDE BIRD SCREENS THAT CONFORM TO ASTM E 2016, NO. 2 MESH, ALUMINUM OR STAINLESS STEEL. PROVIDE "MEDIUM-LIGHT" RATED ALUMINUM SCREENS. PROVIDE "LIGHT" RATES STAINLESS STEEL SCREENS.

F. DUCT-MOUNTED ACCESS DOORS: FABRICATE ACCESS PANELS ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE"; FIGURES 2-10, "DUCT ACCESS DOORS AND PANELS," AND 2-11, "ACCESS PANELS - ROUND DUCT."

PART 3 - EXECUTION

3.1 INSTALLATION

A. INSTALL DUCTWORK, ACCESSORIES, AND SUPPORTS ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" UNLESS OTHERWISE INDICATED.

B. SEAL DUCTS TO THE FOLLOWING SEAL CLASSES ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE": 1-INCH WG, SEAL CLASS A.

C. AVOID PASSING THROUGH OR ABOVE ELECTRICAL EQUIPMENT SPACES AND ENCLOSURES.

D. CLEAN DUCT SYSTEMS BEFORE TESTING, ADJUSTING, AND BALANCING.

3.2 DUCTWORK SCHEDULE

A. EXPOSED DUCTWORK IN ARCHITECTURALLY FINISHED SPACES- ELECTRO-GALVANIZED STEEL SHEET.

B. CONCEALED DUCTWORK AND DUCTWORK IN UNFINISHED ARCHITECTURAL SPACES- GALVANIZED STEEL.

END OF SECTION

SECTION 233423 - HVAC EXHAUST FANS

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. PRODUCTS SHALL BE LICENSED TO USE THE AMCA-CERTIFIED RATINGS SEAL.

B. EXHAUST FANS SHALL COMPLY WITH UL 705. TYPE 1 FANS SHALL ALSO COMPLY WITH UL 762.

C. TYPE 1 FANS TO BE DESIGNED FOR HIGH HEAT OPERATION AT 300°F.

D. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.

2.2 CENTRIFUGAL VENTILATORS

A. HOUSING: REMOVABLE, SPUN-ALUMINUM, DOME TOP AND OUTLET BAFFLE; SQUARE, ONE-PIECE, ALUMINUM BASE WITH VENTURI INLET CONE.

1. UPBLAST UNITS: ALUMINUM DISCHARGE BAFFLE TO DIRECT DISCHARGE AIR UPWARD, WITH RAIN AND SNOW DRAINS.

B. FAN WHEELS: ALUMINUM HUB AND WHEEL WITH BACKWARD-INCLINED BLADES.

C. BELT-DRIVEN DRIVE ASSEMBLY: RESILIENTLY MOUNTED TO HOUSING.

1. FAN SHAFT: TURNED, GROUND, AND POLISHED STEEL; KEYED TO WHEEL HUB.

2. SHAFT BEARINGS: PERMANENTLY LUBRICATED, PERMANENTLY SEALED, SELF-ALIGNING BALL BEARINGS.

3. PULLEYS: CAST-IRON, ADJUSTABLE-PITCH MOTOR PULLEY.

4. FAN AND MOTOR ISOLATED FROM EXHAUST AIRSTREAM.

D. ACCESSORIES:

1. DISCONNECT SWITCH: NON-FUSIBLE TYPE, WITH THERMAL-OVERLOAD PROTECTION, FACTORY WIRED THROUGH AN INTERNAL ALUMINUM CONDUIT.

2. BIRD SCREENS: REMOVABLE, 1/2-INCH MESH, ALUMINUM OR BRASS WIRE.

3. DAMPERS: COUNTERBALANCED, PARALLEL-BLADE, BACKDRAFT DAMPERS MOUNTED IN CURB BASE; FACTORY SET TO CLOSE WHEN FAN STOPS.

4. MOTORIZED DAMPERS: PARALLEL-BLADE DAMPERS MOUNTED IN CURB BASE WITH ELECTRIC ACTUATOR; WIRED TO CLOSE WHEN FAN STOPS.

E. ROOF CURBS: 20 GAUGE GALVANIZED STEEL; MITERED AND WELDED CORNERS; 1-1/2-INCH THICK, RIGID, FIBERGLASS INSULATION ADHERED TO INSIDE WALLS; AND 1-1/2-INCH WOOD NAILER. SIZE AS REQUIRED TO SUIT ROOF OPENING AND FAN BASE.

1. CONFIGURATION: SELF-FLASHING WITHOUT A CANT STRIP, WITH MOUNTING FLANGE.

2. OVERALL HEIGHT: 12 INCHES FOR GENERAL EXHAUST FANS; 20 INCHES FOR KITCHEN EXHAUST FANS.

3. PITCH MOUNTING: MANUFACTURE CURB FOR ROOF SLOPE.

4. MOUNTING PEDESTAL: GALVANIZED STEEL WITH REMOVABLE ACCESS PANEL.

5. TYPE 1 ROOF CURBS TO BE VENTED TYPE.

6. TYPE 1 AND TYPE 2 ROOF CURBS TO BE HINGED TYPE.

F. CAPACITIES AND CHARACTERISTICS:

1. SEE SCHEDULE.

G. MOTORS
A.A. COMPLY WITH NEMA DESIGNATION, TEMPERATURE RATING, SERVICE FACTOR, ENCLOSURE TYPE, AND EFFICIENCY REQUIREMENTS FOR MOTORS.
1.1. MOTOR SIZES: MINIMUM SIZE AS INDICATED. IF NOT INDICATED, LARGE ENOUGH SO DRIVEN LOAD WILL NOT REQUIRE MOTOR TO OPERATE IN SERVICE FACTOR RANGE ABOVE 1.0.
A.B. ENCLOSURE TYPE: TOTALLY ENCLOSED, FAN COOLED.

PART 3 - EXECUTION

3.1 INSTALLATION

A. INSTALL UNITS WITH CLEARANCES FOR SERVICE AND MAINTENANCE.

B. ROOF-MOUNTED UNITS: INSTALL ROOF CURB ON ROOF STRUCTURE, ACCORDING TO ARI GUIDELINE B. INSTALL AND SECURE ROOF-MOUNTED FANS ON CURBS, AND COORDINATE ROOF PENETRATIONS AND FLASHING WITH ROOF CONSTRUCTION.

END OF SECTION

SECTION 233713 - DIFFUSERS, REGISTERS, AND GRILLES

PART 1 - GENERAL

PART 2 - PRODUCTS

2.1 DIFFUSERS, REGISTERS, AND GRILLES:

A. REFER TO SCHEDULES FOR FINISH TYPE, COLOR, MATERIAL, AND MOUNTING.

PART 3 - EXECUTION

3.1 INSTALLATION

A. INSTALL DIFFUSERS, REGISTERS, AND GRILLES LEVEL AND PLUMB.

B. CEILING-MOUNTED OUTLETS AND INLETS: DRAWINGS INDICATE GENERAL ARRANGEMENT OF DUCTS, FITTINGS, AND ACCESSORIES. MAKE FINAL LOCATIONS WHERE INDICATED, AS MUCH AS PRACTICAL. FOR UNITS INSTALLED IN LAY-IN CEILING PANELS, LOCATE UNITS IN THE CENTER OF PANEL UNLESS OTHERWISE INDICATED. WHERE ARCHITECTURAL FEATURES OR OTHER ITEMS CONFLICT WITH INSTALLATION, NOTIFY ARCHITECT FOR A DETERMINATION OF FINAL LOCATION.

C. AFTER INSTALLATION, ADJUST DIFFUSERS, REGISTERS, AND GRILLES TO AIR PATTERNS INDICATED, OR AS DIRECTED, BEFORE STARTING AIR BALANCING.

2. END OF SECTION

9/20/2023 3:35 PM

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ISSUED FOR CONSTRUCTION

CAVA

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FOR
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AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
1 BLDG RESPONSE	NOV 15, 2024
1 CONSTR SET	JAN 8, 2025

MECHANICAL SPECIFICATIONS

SHEET:
M701

SPECIFICATIONS - DIVISION 23 - HVAC (CONTINUED)

SECTION 237339 - DIRECT-FIRED MAKE-UP AIR UNIT

PART 2 - PRODUCTS

2.1 PACKAGED UNITS

A. FACTORY-ASSEMBLED, PREWIRED, SELF-CONTAINED UNIT CONSISTING OF CABINET, SUPPLY FAN, CONTROLS, FILTERS, AND DIRECT-FIRED GAS FURNACE TO BE INSTALLED OUTSIDE THE BUILDING.

2.2 CABINET

A. CABINET: GALVANIZED-STEEL PANELS WITH LIFTING LUGS. CABINET SHALL BE FULLY WEATHERIZED FOR OUTDOOR INSTALLATION., HEAT-RESISTANT, BAKED-ENAMEL FINISH. VERTICAL-PATTERN, GALVANIZED-STEEL DISCHARGE PLENUM WITH DIFFUSERS INCORPORATING INDIVIDUALLY ADJUSTABLE VANES.

B. ROOF CURB: FULL-PERIMETER CURB OF SHEET METAL, MINIMUM 20 INCHES HIGH, WITH WOOD NAILER, NEOPRENE SEALING STRIP, AND WELDED Z-BAR FLASHING.

C. OUTDOOR-AIR INTAKE: GALVANIZED-STEEL HOOD WITH RAIN BAFFLES, BIRD SCREEN, AND FINISH TO MATCH CABINET; AND SIZED TO SUPPLY 100 PERCENT OUTDOOR AIR. GALVANIZED-STEEL, OPPOSED-BLADE MOTORIZED DAMPERS WITH VINYL BLADE SEALS AND STAINLESS-STEEL JAMB SEAL.

D. FILTERS: COMPLY WITH NFPA 90A; 1 INCH THICK.

2.3 SUPPLY-AIR FAN

A. FAN: CENTRIFUGAL, RATED ACCORDING TO AMCA 210; STATICALLY AND DYNAMICALLY BALANCED, GALVANIZED STEEL; MOUNTED ON SOLID-STEEL SHAFT.

B. MOTOR: TOTALLY ENCLOSED, SINGLE SPEED MOTOR.

C. DRIVE: V-BELT DRIVE WITH MATCHING FAN PULLEY AND ADJUSTABLE MOTOR SHEAVES AND BELT ASSEMBLY.

D. GAS PRESSURE GAUGE: 2-1/2 INCH DIAMETER AND 1/4 INCH THREAD SIZE.

2.4 DIRECT-FIRED GAS FURNACE

A. DESCRIPTION: FACTORY ASSEMBLED, PIPED, AND WIRED; AND COMPLYING WITH ANSI Z83.4, ANSI Z83.18, AND NFPA 54. CAST-IRON BURNER WITH STAINLESS-STEEL MIXING PLATES. SINGLE-STAGE CONTROL VALVE. FUEL: NATURAL GAS.

B. SAFETY CONTROLS: AIRFLOW PROVING SWITCH; HIGH-TEMPERATURE LIMIT; SAFETY LOCKOUT; REDUNDANT, AUTOMATIC, MAIN GAS VALVES; ELECTRIC PILOT VALVE; MODULATING TEMPERATURE CONTROL VALVE; MAIN AND PILOT GAS REGULATORS; MAIN AND PILOT MANUAL SHUTOFF VALVES; MAIN AND PILOT PRESSURE TAPS; AND HIGH-LOW GAS PRESSURE SWITCHES TO COMPLY WITH ANSI STANDARDS.

2.5 CONTROLS

A. FACTORY-WIRED, FUSE-PROTECTED CONTROL TRANSFORMER, CONNECTION FOR POWER SUPPLY AND FIELD-WIRED UNIT TO REMOTE CONTROL PANEL.

1. FAN CONTROL: INTERLOCK FAN TO START WITH EXHAUST FAN(S) AND WITH RTU COOLING CYCLE.

2. OUTDOOR-AIR DAMPER CONTROL: OUTDOOR-AIR DAMPER OPENS WHEN SUPPLY FAN STARTS, AND CLOSES WHEN FAN STOPS.

3. TEMPERATURE CONTROL: OPERATES GAS VALVE TO MAINTAIN SUPPLY-AIR TEMPERATURE.

2.6 INSTALLATION

A. INSTALL GAS-FIRED UNITS ACCORDING TO NFPA 54.

B. INSTALL ROOF CURB ON ROOF STRUCTURE, ACCORDING TO ARI GUIDELINE B OR NRCA'S "LOW-SLOPE MEMBRANE ROOFING CONSTRUCTION DETAILS MANUAL."

C. CONNECT GAS PIPING WITH SHUTOFF VALVE AND UNION AND WITH SUFFICIENT CLEARANCE FOR BURNER REMOVAL AND SERVICE.

D. DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF DUCTS. CONNECT SUPPLY DUCTS TO DIRECT-FIRED MAU WITH FLEXIBLE DUCT CONNECTORS; FLEXIBLE DUCT CONNECTORS ARE SPECIFIED IN SECTION 233100 "HVAC DUCTS AND CASINGS."

END OF SECTION

SECTION 237413 - PACKAGED ROOFTOP UNITS

1.1 SUMMARY

A. THIS SECTION INCLUDES PACKAGED, ROOFTOP UNITS WITH THE FOLLOWING COMPONENTS AND ACCESSORIES:

1. DIRECT-EXPANSION COOLING.

2. HUMIDITY CONTROL WITH HOT-GAS REHEAT (OPTIONAL)

3. GAS FURNACE.

4. ECONOMIZER OUTDOOR-AND RETURN-AIR DAMPER SECTION.

5. INTEGRAL, SPACE TEMPERATURE CONTROLS.

6. ROOF CURBS.

1.2 SECTION REQUIREMENTS

A. SUBMITTALS:

1. PRODUCT DATA: INCLUDE MANUFACTURER'S TECHNICAL DATA FOR EACH RTU, INCLUDING RATED CAPACITIES, DIMENSIONS, REQUIRED CLEARANCES, CHARACTERISTICS, FURNISHED SPECIALTIES, AND ACCESSORIES.

PART 2 - PRODUCTS

2.1 CASING

A. GENERAL FABRICATION REQUIREMENTS FOR CASINGS: FORMED AND REINFORCED INSULATED PANELS, FABRICATED TO ALLOW REMOVAL FOR ACCESS TO INTERNAL PARTS AND COMPONENTS, WITH JOINTS BETWEEN SECTIONS SEALED.

B. EXTERIOR CASING MATERIAL: GALVANIZED STEEL WITH FACTORY-PAINTED FINISH, WITH PITCHED ROOF PANELS AND KNOCKOUTS WITH GROMMET SEALS FOR ELECTRICAL AND PIPING CONNECTIONS AND LIFTING LUGS.

1. CASING THICKNESS: 16 GAUGE THICK.

C. CASING INSULATION AND ADHESIVE: COMPLY WITH NFPA 90A.

1. MATERIALS: ASTM C 1071, TYPE I.

2. THICKNESS: 1/2 INCH

3. LINER MATERIALS SHALL HAVE AIR-STREAM SURFACE INSULATED WITH A MINIMUM 1/2-IN. THICK, MINIMUM 1 1/2 LB DENSITY, FLEXIBLE FIBERGLASS INSULATION BONDED WITH A PHENOLIC BINDER, NEOPRENE COATED ON THE AIR SIDE.

4. LINER ADHESIVE: COMPLY WITH ASTM C 916, TYPE I.

D. UNIT SHALL HAVE A THRU-THE-BASE GAS AND ELECTRICAL CONNECTIONS.

2.2 FANS

OPTION A OR B:

A. DIRECT-DRIVEN SUPPLY-AIR FANS: DOUBLE WIDTH, BACKWARD INCLINED, CENTRIFUGAL; WITH PERMANENTLY LUBRICATED, MOTOR RESILIENTLY MOUNTED IN THE FAN INLET. ALUMINUM OR PAINTED-STEEL WHEELS, AND GALVANIZED- OR PAINTED-STEEL FAN SCROLLS.

B. BELT-DRIVEN SUPPLY-AIR FANS: DOUBLE WIDTH, FORWARD CURVED, CENTRIFUGAL; WITH PERMANENTLY LUBRICATED, SINGLE-SPEED MOTOR INSTALLED ON AN ADJUSTABLE FAN BASE RESILIENTLY MOUNTED IN THE CASING. ALUMINUM OR PAINTED-STEEL WHEELS, AND GALVANIZED- OR PAINTED-STEEL FAN SCROLLS.

C. CONDENSER-COIL FAN: DIRECT DRIVE, PROPELLER, MOUNTED ON SHAFT OF PERMANENTLY LUBRICATED MOTOR WITH THERMAL OVERLOAD PROTECTION.

D. POWER EXHAUST: FORWARD CURVED, SHAFT MOUNTED ON PERMANENTLY LUBRICATED MOTOR.

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2.3 COILS

A. SUPPLY-AIR REFRIGERANT COIL:

1. ALUMINUM-PLATE FIN AND SEAMLESS INTERNALLY GROOVED COPPER TUBE IN STEEL CASING WITH EQUALIZING-TYPE VERTICAL DISTRIBUTOR.

2. POLYMER STRIP SHALL PREVENT ALL COPPER COIL FROM CONTACTING STEEL COIL FRAME OR CONDENSATE PAN.

3. CATHODIC EPOXY COATING.

4. CONDENSATE DRAIN PAN: GALVANIZED STEEL WITH CORROSION-RESISTANT COATING FORMED WITH PITCH AND DRAIN CONNECTIONS.

B. OUTDOOR-AIR REFRIGERANT COIL:

1. ALUMINUM-PLATE FIN AND SEAMLESS INTERNALLY GROOVED COPPER TUBE IN STEEL CASING WITH EQUALIZING-TYPE VERTICAL DISTRIBUTOR.

2. POLYMER STRIP SHALL PREVENT ALL COPPER COIL FROM CONTACTING STEEL COIL FRAME OR CONDENSATE PAN.

3. CATHODIC EPOXY COATING.

C. HOT-GAS REHEAT REFRIGERANT COIL (OPTIONAL):

1. ALUMINUM-PLATE FIN AND SEAMLESS INTERNALLY GROOVED COPPER TUBE IN STEEL CASING WITH EQUALIZING-TYPE VERTICAL DISTRIBUTOR.

2. POLYMER STRIP SHALL PREVENT ALL COPPER COIL FROM CONTACTING STEEL COIL FRAME OR CONDENSATE PAN.

3. CATHODIC EPOXY COATING.

2.4 REFRIGERANT CIRCUIT COMPONENTS

A. NUMBER OF REFRIGERANT CIRCUITS: TWO

B. COMPRESSOR: HERMETIC, SCROLL, MOUNTED ON VIBRATION ISOLATORS; WITH INTERNAL OVERCURRENT AND HIGH-TEMPERATURE PROTECTION, INTERNAL PRESSURE RELIEF AND CRANKCASE HEATER.

C. REFRIGERATION SPECIALTIES:

1. REFRIGERANT: R-410A

2. EXPANSION VALVE WITH REPLACEABLE THERMOSTATIC ELEMENT.

3. REFRIGERANT FILTER/DRYER.

4. MANUAL-RESET HIGH-PRESSURE SAFETY SWITCH.

5. AUTOMATIC-RESET LOW-PRESSURE SAFETY SWITCH.

6. MINIMUM OFF-TIME RELAY.

7. AUTOMATIC-RESET COMPRESSOR MOTOR THERMAL OVERLOAD.

8. BRASS SERVICE VALVES INSTALLED IN COMPRESSOR SUCTION AND LIQUID LINES.

9. LOW-AMBIENT KIT HIGH-PRESSURE SENSOR.

10. HOT-GAS REHEAT SOLENOID VALVE WITH A REPLACEABLE MAGNETIC COIL.

2.5 AIR FILTRATION

A. PROVIDE 2" THROW-AWAY FIBERGLASS FILTERS.

2.6 GAS FURNACE

A. BURNERS: IN-SHOT TYPE CONSTRUCTED OF ALUMINUM-COATED STEEL.

1. FUEL: NATURAL GAS.

2. IGNITION: DIRECT SPARK IGNITION (DSI).

VERIFY AVAILABILITY OF HIGH-ALTITUDE FEATURE WITH MANUFACTURERS.

3. HIGH-ALTITUDE KIT: FOR PROJECT ELEVATIONS MORE THAN 2,000 FEET ABOVE SEA LEVEL.

B. HEAT-EXCHANGER AND DRAIN PAN: STAINLESS STEEL.

C. INDUCED DRAFT COMBUSTION BLOWER.

D. SAFETY CONTROLS:

1. GAS CONTROL VALVE: TWO STAGE.

2. GAS TRAIN: SINGLE-BODY, REGULATED, REDUNDANT, 24-V AC GAS VALVE ASSEMBLY CONTAINING PILOT SOLENOID VALVE, PILOT FILTER, PRESSURE REGULATOR, PILOT SHUTOFF, AND MANUAL SHUTOFF.

2.7 DAMPERS

A. OUTDOOR AND RETURN AIR MIXING DAMPERS: PARALLEL OR OPPOSED-BLADE GALVANIZED-STEEL DAMPERS MECHANICALLY FASTENED TO CADMIUM PLATED FOR GALVANIZED-STEEL OPERATING ROD IN REINFORCED CABINET. CONNECT OPERATING RODS WITH COMMON LINKAGE AND INTERCONNECT LINKAGES SO DAMPERS OPERATE SIMULTANEOUSLY.

1. DAMPER MOTOR: MODULATING WITH ADJUSTABLE MINIMUM POSITION.

2. RELIEF AIR DAMPER: GRAVITY ACTUATED, WITH BIRD SCREEN AND HOOD.

2.8 ELECTRICAL POWER CONNECTION

A. PROVIDE FOR SINGLE CONNECTION OF POWER TO UNIT WITH UNIT-MOUNTED DISCONNECT SWITCH ACCESSIBLE FROM OUTSIDE UNIT AND CONTROL-CIRCUIT TRANSFORMER WITH BUILT-IN OVERCURRENT PROTECTION.

2.9 CONTROLS

A. BASIC UNIT CONTROLS:

1. CONTROL-VOLTAGE TRANSFORMER.

2. WALL-MOUNTED THERMOSTAT OR SENSOR WITH THE FOLLOWING FEATURES:
   a. HEAT-COOL-OFF SWITCH.
   b. FAN ON-AUTO SWITCH.
   c. FAN-SPEED SWITCH.
   d. AUTOMATIC CHANGEOVER.
   e. ADJUSTABLE DEADBAND.
   f. EXPOSED SET POINT.
   g. EXPOSED INDICATION.
   h. DEGREE F INDICATION.
   i. UNOCCUPIED-PERIOD-OVERRIDE PUSH BUTTON.
   j. DATA ENTRY AND ACCESS PORT TO INPUT TEMPERATURE AND HUMIDITY SET POINTS, OCCUPIED AND UNOCCUPIED PERIODS, AND OUTPUT ROOM TEMPERATURE AND HUMIDITY, SUPPLY-AIR TEMPERATURE, OPERATING MODE, AND STATUS.

3. WALL-MOUNTED HUMIDISTAT OR SENSOR WITH THE FOLLOWING FEATURES:
   a. EXPOSED SET POINT.
   b. EXPOSED INDICATION.

4. REMOTE WALL-MOUNTED ANNUNCIATOR PANEL WITH KEYED ACCESS FOR EACH UNIT:
   a. LIGHTS TO INDICATE POWER ON, UNIT ALARM OR FAILURE, SMOKE DETECTION.

B. DDC CONTROLLER:

1. CONTROLLER SHALL HAVE VOLATILE-MEMORY BACKUP.

2. SAFETY CONTROL OPERATION:
   a. SMOKE DETECTORS: STOP FAN AND CLOSE OUTDOOR-AIR DAMPER IF SMOKE IS DETECTED. PROVIDE ADDITIONAL CONTACTS FOR ALARM INTERFACE TO FIRE ALARM CONTROL PANEL.
   b. FIRE ALARM CONTROL PANEL INTERFACE WHERE APPLICABLE.
   c. LOW-DISCHARGE TEMPERATURE: STOP FAN AND CLOSE OUTDOOR-AIR DAMPER IF SUPPLY AIR TEMPERATURE IS LESS THAN 40°F.
   RETAIN FIRST SUBPARAGRAPH BELOW FOR AIR-TO-AIR HEAT-PUMP FEATURE.
   d. DEFROST CONTROL FOR CONDENSER COIL: PRESSURE DIFFERENTIAL SWITCH TO INITIATE DEFROST SEQUENCE.

3. UNIT SHALL BE CAPABLE OF DIRECT COMMUNICATION WITH GENERIC OPEN PROTOCOL SUCH AS BACNET MS/TP, LONTALK, OR MODUS. THIS WILL ALLOW THE UNIT TO INTEGRATE WITH A FACILITY ENERGY MANAGEMENT SYSTEM.

4. SCHEDULED OPERATION: OCCUPIED AND UNOCCUPIED PERIODS ON SEVEN-DAY CLOCK WITH A MINIMUM OF FOUR PROGRAMMABLE PERIODS PER DAY.

5. UNOCCUPIED PERIOD:
   a. HEATING SETBACK: 10°F.
   b. COOLING SETBACK: SYSTEM OFF.
   c. OVERRIDE OPERATION: TWO HOURS.

6. SUPPLY FAN OPERATION:
   a. OCCUPIED PERIODS: RUN FAN CONTINUOUSLY.
   b. UNOCCUPIED PERIODS: CYCLE FAN TO MAINTAIN SETBACK TEMPERATURE.

7. REFRIGERANT CIRCUIT OPERATION:
   a. OCCUPIED PERIODS: CYCLE OR STAGE COMPRESSORS, AND OPERATE HOT-GAS BYPASS TO MATCH COMPRESSOR OUTPUT TO COOLING LOAD TO MAINTAIN ROOM TEMPERATURE AND HUMIDITY. CYCLE CONDENSER FANS TO MAINTAIN MAXIMUM HOT-GAS PRESSURE. OPERATE LOW-AMBIENT CONTROL KIT TO MAINTAIN MINIMUM HOT-GAS PRESSURE.
   b. UNOCCUPIED PERIODS: CYCLE COMPRESSORS AND CONDENSER FANS FOR HEATING TO MAINTAIN SETBACK TEMPERATURE.

8. HOT-GAS REHEAT-COIL OPERATION (OPTIONAL):
   a. OCCUPIED PERIODS: HUMIDISTAT OPENS HOT-GAS VALVE TO PROVIDE HOT-GAS REHEAT, AND CYCLES COMPRESSOR.
   b. UNOCCUPIED PERIODS: REHEAT NOT REQUIRED.

9. GAS FURNACE OPERATION:
   a. OCCUPIED PERIODS: STAGE BURNER TO MAINTAIN ROOM TEMPERATURE.
   b. UNOCCUPIED PERIODS: CYCLE BURNER TO MAINTAIN SETBACK TEMPERATURE.

10. FIXED MINIMUM OUTDOOR-AIR DAMPER OPERATION:
    a. OCCUPIED PERIODS: OPEN TO 25 PERCENT.
    b. UNOCCUPIED PERIODS: CLOSE THE OUTDOOR-AIR DAMPER.

11. ECONOMIZER OUTDOOR-AIR DAMPER OPERATION:
    a. OCCUPIED PERIODS: OPEN TO 25 PERCENT FIXED MINIMUM INTAKE, AND MAXIMUM 100 PERCENT OF THE FAN CAPACITY TO COMPLY WITH ASHRAE CYCLE II. CONTROLLER SHALL PERMIT AIR-SIDE ECONOMIZER OPERATION WHEN OUTDOOR AIR IS LESS THAN 60 ° F. USE MIXED-AIR TEMPERATURE AND SELECT BETWEEN OUTDOOR-AIR AND RETURN-AIR ENTHALPY TO ADJUST MIXING DAMPERS DURING ECONOMIZER CYCLE OPERATION, LOCK OUT COOLING.
    b. UNOCCUPIED PERIODS: CLOSE OUTDOOR-AIR DAMPER AND OPEN RETURN-AIR DAMPER.

2.10 ACCESSORIES

A. DUPLEX, 115-V, GROUND-FAULT-INTERRUPTER OUTLET WITH 15-A OVERCURRENT PROTECTION. INCLUDE TRANSFORMER IF REQUIRED.

B. LOW-AMBIENT KIT STAGED DOWN TO 0°F.

C. FILTER DIFFERENTIAL PRESSURE SWITCH WITH SENSOR TUBING ON EITHER SIDE OF FILTER. SET FOR FINAL FILTER PRESSURE LOSS.

D. HAIL GUARDS OF GALVANIZED STEEL, PAINTED TO MATCH CASING.

E. DUCT MOUNTED SMOKE DETECTOR IN RETURN AIR STREAM CAPABLE OF SHUTTING DOWN THE UNIT IN THE PRESENCE OF SMOKE DETECTION.

2.11 ROOF CURBS

A. MATERIALS: GALVANIZED STEEL WITH CORROSION-PROTECTION COATING, WATERTIGHT GASKETS, AND FACTORY-INSTALLED WOOD NAILER; COMPLYING WITH NRCA STANDARDS.

1. CURB INSULATION AND ADHESIVE: COMPLY WITH NFPA 90A OR NFPA 90B.
   a. MATERIALS: ASTM C 1071, TYPE I OR II.
   b. THICKNESS: 1-1/2 INCHES.

2. APPLICATION: FACTORY APPLIED WITH ADHESIVE AND MECHANICAL FASTENERS TO THE INTERNAL SURFACE OF CURB.
   a. LINER ADHESIVE: COMPLY WITH ASTM C 916, TYPE I.
   b. MECHANICAL FASTENERS: GALVANIZED STEEL, SUITABLE FOR ADHESIVE ATTACHMENT, MECHANICAL ATTACHMENT, OR WELDING ATTACHMENT TO DUCT WITHOUT DAMAGING LINER WHEN APPLIED AS RECOMMENDED BY MANUFACTURER AND WITHOUT CAUSING LEAKAGE IN CABINET.
   c. LINER MATERIALS SHALL HAVE AIR-STREAM SURFACE INSULATED WITH A MINIMUM 1/2-IN. THICK, MINIMUM 1 1/2 LB DENSITY, FLEXIBLE FIBERGLASS INSULATION BONDED WITH A PHENOLIC BINDER, NEOPRENE COATED ON THE AIR SIDE.
   d. LINER ADHESIVE: COMPLY WITH ASTM C 916, TYPE I.

B. CURB HEIGHT: 14 INCHES TYPICAL UNO. PROVIDE 24 INCH CURB IN AREAS WITH EXPECTED HEAVY SNOWFALL.

PART 3 - EXECUTION

3.1 EXAMINATION

A. EXAMINE SUBSTRATES, AREAS, AND CONDITIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE OF RTUS.

B. EXAMINE ROUGHING-IN FOR RTUS TO VERIFY ACTUAL LOCATIONS OF PIPING AND DUCT CONNECTIONS BEFORE EQUIPMENT INSTALLATION.

C. EXAMINE ROOFS FOR SUITABLE CONDITIONS WHERE RTUS WILL BE INSTALLED.

D. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 INSTALLATION

A. ROOF CURB: INSTALL ON ROOF STRUCTURE, LEVEL AND SECURE. INSTALL RTUS ON CURBS AND COORDINATE ROOF PENETRATIONS AND FLASHING WITH ROOF CONSTRUCTION. RTUS TO UPPER CURB RAIL, AND SECURE CURB BASE TO ROOF FRAMING OR CONCRETE BASE WITH ANCHOR BOLTS.

3.3 CONNECTIONS

A. . THE FOLLOWING ARE SPECIFIC CONNECTION REQUIREMENTS:

1. INSTALL DUCTS TO TERMINATION AT TOP OF ROOF CURB.

2. REMOVE ROOF DECKING ONLY AS REQUIRED FOR PASSAGE OF DUCTS. DO NOT CUT OUT DECKING UNDER ENTIRE ROOF CURB.

3.4 COORDINATION

A. CONTRACTOR TO COORDINATE WITH KITCHEN EQUIPMENT SUPPLIER TO ENSURE THAT THE RTUS ARE COORDINATED WITH THE KITCHEN EQUIPMENT, PARTICULARLY THE EXHAUST HOODS AND THE MAKE-UP AIR UNIT, TO PROPERLY PRESSURIZE THE BUILDING/SPACE.

B. CONTRACTOR TO ENSURE THAT ALL THERMOSTATS AND SENSORS ARE COMPATIBLE WITH THE RTU CONTROLS.

3.5 FIELD QUALITY CONTROL

A. MANUFACTURER'S FIELD SERVICE: ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO INSPECT, TEST, AND ADJUST COMPONENTS, ASSEMBLIES, AND EQUIPMENT INSTALLATIONS, INCLUDING CONNECTIONS. REPORT RESULTS IN WRITING.

B. PERFORM TESTS AND INSPECTIONS AND PREPARE TEST REPORTS.

1. MANUFACTURER'S FIELD SERVICE: ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO INSPECT COMPONENTS, ASSEMBLIES, AND EQUIPMENT INSTALLATIONS, INCLUDING CONNECTIONS, AND TO ASSIST IN TESTING. REPORT RESULTS IN WRITING.

C. TESTS AND INSPECTIONS:

1. AFTER INSTALLING RTUS AND AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, TEST UNITS FOR COMPLIANCE WITH REQUIREMENTS.

2. OPERATIONAL TEST: AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, START UNITS TO CONFIRM PROPER MOTOR ROTATION AND UNIT OPERATION.

3. TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.

D. REMOVE AND REPLACE MALFUNCTIONING UNITS AND RETEST AS SPECIFIED ABOVE.

3.6 STARTUP SERVICE

A. ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO PERFORM STARTUP SERVICE.

B. COMPLETE INSTALLATION AND STARTUP CHECKS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND DO THE FOLLOWING:

1. INSPECT FOR VISIBLE DAMAGE TO UNIT CASING, FURNACE COMBUSTION CHAMBER, COMPRESSOR, COILS, AND FANS.

2. VERIFY THAT LABELS ARE CLEARLY VISIBLE, CLEARANCES HAVE BEEN PROVIDED FOR SERVICING, CONTROLS ARE CONNECTED AND OPERABLE, AND FILTERS ARE INSTALLED.

3. CLEAN CONDENSER COIL AND FURNACE AND INSPECT FOR CONSTRUCTION DEBRIS.

4. REMOVE PACKING FROM VIBRATION ISOLATORS.

5. VERIFY LUBRICATION ON FAN AND MOTOR BEARINGS.

6. INSPECT FAN-WHEEL ROTATION FOR MOVEMENT IN CORRECT DIRECTION WITHOUT VIBRATION AND BINDING.

7. ADJUST FAN BELTS TO PROPER ALIGNMENT AND TENSION.

8. START UNIT ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
   a. INSPECT AND RECORD PERFORMANCE OF INTERLOCKS AND PROTECTIVE DEVICES; VERIFY SEQUENCES.

10. OPERATE UNIT FOR AN INITIAL PERIOD AS RECOMMENDED OR REQUIRED BY MANUFACTURER.

11. PERFORM THE FOLLOWING OPERATIONS FOR BOTH MINIMUM AND MAXIMUM FIRING. ADJUST BURNER FOR PEAK EFFICIENCY.
    a. MEASURE GAS PRESSURE ON MANIFOLD.
    b. INSPECT OPERATION OF POWER VENTS.
    c. MEASURE SUPPLY-AIR TEMPERATURE AND VOLUME WHEN BURNER IS AT MAXIMUM FIRING RATE AND WHEN BURNER IS OFF. CALCULATE USEFUL HEAT TO SUPPLY AIR.

20. ADJUST AND INSPECT HIGH-TEMPERATURE LIMITS.

21. INSPECT OUTDOOR-AIR DAMPERS FOR PROPER STROKE AND INTERLOCK WITH RETURN-AIR DAMPERS.

22. INSPECT CONTROLS FOR CORRECT SEQUENCING OF HEATING, MIXING DAMPERS, REFRIGERATION, AND NORMAL AND EMERGENCY SHUTDOWN.

23. SIMULATE MAXIMUM COOLING DEMAND AND INSPECT THE FOLLOWING:
    a. COMPRESSOR REFRIGERANT SUCTION AND HOT-GAS PRESSURES.
    b. SHORT CIRCUITING OF AIR THROUGH CONDENSER COIL OR FROM CONDENSER FANS TO OUTDOOR-AIR INTAKE.

27. VERIFY OPERATION OF REMOTE PANEL INCLUDING PILOT-LIGHT OPERATION AND FAILURE MODES. INSPECT THE FOLLOWING:
    a. HIGH-TEMPERATURE LIMIT ON GAS-FIRED HEAT EXCHANGER.
    b. LOW-TEMPERATURE SAFETY OPERATION.
    c. FILTER HIGH-PRESSURE DIFFERENTIAL ALARM.
    d. ECONOMIZER TO MINIMUM OUTDOOR-AIR CHANGEOVER.
    e. RELIEF-AIR FAN OPERATION.
    f. SMOKE ALARMS.

28. AFTER STARTUP AND PERFORMANCE TESTING AND PRIOR TO SUBSTANTIAL COMPLETION, REPLACE EXISTING FILTERS WITH NEW FILTERS.

3.7 CLEANING AND ADJUSTING

A. OCCUPANCY ADJUSTMENTS: WHEN REQUESTED WITHIN 12 MONTHS OF DATE OF SUBSTANTIAL COMPLETION, PROVIDE ON-SITE ASSISTANCE IN ADJUSTING SYSTEM TO SUIT ACTUAL OCCUPIED CONDITIONS. PROVIDE UP TO TWO VISITS TO SITE DURING OTHER-THAN-NORMAL OCCUPANCY HOURS FOR THIS PURPOSE.

B. AFTER COMPLETING SYSTEM INSTALLATION AND TESTING, ADJUSTING, AND BALANCING RTU AND AIR-DISTRIBUTION SYSTEMS, CLEAN FILTER HOUSINGS AND INSTALL NEW FILTERS.

CORE STATES GROUP
135 Water Street
Suite 201
Naperville, IL 60540
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core-states.com

ISSUED FOR CONSTRUCTION

CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
1 BLDG RESPONSE	NOV 15, 2024
2 CONSTR SET	JAN 8, 2025

MECHANICAL SPECIFICATIONS

SHEET:
M702

9/20/2023 4:00 PM

ELECTRICAL LEGEND

DETAIL	DESCRIPTION
	20A SIMPLEX RECEPTACLE
	20A DUPLEX RECEPTACLE
	20A DUPLEX RECEPTACLE ABOVE COUNTER
GFI	20A DUPLEX RECEPTACLE - GFCI
GFI	20A DUPLEX RECEPTACLE - GFCI, ABOVE COUNTER
	20A SPLIT RECEPTACLE
WP/GFI	20A DUPLEX RECEPTACLE - WITH WEATHERPROOF COVER & GFCI
	20A DOUBLE DUPLEX RECEPTACLE
	20A DUPLEX RECEPTACLE IN CEILING
IG	DUPLEX RECEPTACLE - 20A, 125V, WITH ISOLATED GROUND
A-1	BRANCH CIRCUIT HOME-RUN WITH CIRCUIT NUMBER
	FLOOR MOUNTED 20A DUPLEX RECEPTACLE
	SPECIAL RECEPTACLE (SEE PLANS FOR TYPE)
J	JUNCTION BOX
	MOTOR (THREE PHASE & SINGLE PHASE)
TC	TIME CLOCK
V	VOLUME CONTROL
P	PULL BOX - SIZE & TYPE AS REQUIRED
	TELEPHONE / DATA OUTLET
TV	TV CABLE OUTLET
	DISCONNECT - NON FUSED
	DISCONNECT - FUSED
M	UTILITY METER
	ELECTRICAL PANEL

LIGHTING LEGEND

TAG	DESCRIPTION
	INTERIOR RECESSED DOWNLIGHT
	INTERIOR RECESSED DOWNLIGHT
	PENDANT
	PENDANT
	PENDANT
	TRACK LIGHT
	VANITY LIGHT
	WALL SCONCE
	2X4 LAY-IN TROFFER
	2X4 NIGHT LIGHT
	2X4 EMERGENCY LIGHT
	EXIT/EMERGENCY LIGHT W/ BATTERY PACK AND DUAL HEADS
	EXIT/EMERGENCY LIGHT WITH BATTERY PACK
	EXIT LIGHT (CEILING MOUNTED)
	REMOTE EMERGENCY HEADS
	EMERGENCY BATTERY PACK AND DUAL HEADS
	DIMMER SWITCH EQUAL TO LUTRON NOVA SERIES T
	TOGGLE (ON/OFF) SWITCH SINGLE POLE SWITCH WITH COVER PLATE
	TOGGLE SWITCH 2 POLE SWITCH WITH COVER PLATE
	TOGGLE SWITCH 3 WAY SWITCH WITH COVER PLATE
PC	PHOTOCELL
S	WALL MOUNTED OCCUPANCY SENSOR
S	CEILING MOUNTED OCCUPANCY SENSOR SENSORSWITCH MODEL #CMR 9 2P
D	CEILING MOUNTED DAYLIGHT SENSOR WITH POWER PACK

GENERAL NOTES:

A. ALL WORK TO COMPLY TO ALL STATE, LOCAL, NEC, & NFPA CODES.

B. ELECTRICAL CONTRACTOR TO VISIT THE SITE PRIOR TO SUBMITTING A BID & INCLUDE IN THEIR BID ANY ITEM ANY ITEMS NECESSARY FOR A COMPLETE & OPERATIONAL SYSTEM.

C. DRAWINGS ARE SCHEMATIC IN NATURE. ELECTRICAL CONTRACTOR IS TO ADD ANY ITEMS THAT ARE REQUIRED FOR A COMPLETE & OPERATIONAL SYSTEM IN THEIR PROPOSAL.

D. ELECTRICAL CONTRACTOR IS TO COORDINATE THEIR INSTALLATION WITH THE OTHER TRADES. IF A CONFLICT OCCURS AND IT IS DUE TO THE ELECTRICAL CONTRACTOR'S LACK OF COORDINATION, ALL WORK INVOLVED IN RESOLVING THE CONFLICT WILL BE AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.

E. LIGHT FIXTURES & LAMPS ARE FURNISHED BY OWNER EXCEPT AS NOTED ON THE LIGHT FIXTURE SCHEDULE. FIXTURE INSTALLATION SHALL BE BY THE ELECTRICAL CONTRACTOR ACCORDING TO LOCAL CODE AUTHORITY. THE ELECTRICAL CONTRACTOR SHALL REVIEW MATERIALS AT THE TIME OF DELIVERY AND IMMEDIATELY REPORT ANY DAMAGE OR MISSING PIECES.

F. DATA CABLE TO BE FURNISHED AND INSTALLED BY OWNER.

G. CONTRACTOR IS RESPONSIBLE FOR ADHERING TO THE ENTIRETY OF THIS DRAWING SET, INCLUDING BUT NOT LIMITED TO; PLANS, ELEVATIONS, DETAILS, SCHEDULES, AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL DRAWINGS OF OTHER TRADES, INCLUDING BUT NOT LIMITED TO, ARCHITECTURAL, MECHANICAL, PLUMBING, HOOD SUPPLIER, CIVIL, AND STRUCTURAL.

H. IF FIRE MARSHALL REQUIRES HORN STROBE, ELECTRICIAN TO RUN POWER & GC TO INSTALL. COORD INSTALL WITH CM.

ABBREVIATIONS

(A)	EXISTING TO BE ABANDONED	JB	JUNCTION BOX
(D)	EXISTING TO BE DEMOLISHED	KVA	KILOVOLT AMPERE
(E)	EXISTING TO REMAIN	KW	KILOWATT
(F)	FUTURE	LTG	LIGHTING OR LIGHT
(R)	EXISTING TO BE RELOCATED	LRA	LOCKED ROTOR AMPS
A	AMPERE	MCA	MAXIMUM CURRENT AMPACITY
AC	ALTERNATING CURRENT OR AIR CONDITIONER	MCB	MAIN CIRCUIT BREAKER
AFF	ABOVE FINISHED FLOOR	MCC	MOTOR CONTROL CENTER
AFG	ABOVE FINISHED GRADE	MDP	MAIN DISTRIBUTION PANEL
AHJ	AUTHORITY HAVING JURISDICTION	MLO	MAIN LUGS ONLY
AIC	AMPS INTERRUPTING CAPACITY	MOCP	MAXIMUM OVERCURRENT PROTECTION
ANNC	ANNUNCIATOR	MSB	MAIN SWITCHBOARD
AWG	AMERICAN WIRE GAUGE	MH	METAL HALIDE
BPS	BOLTED PRESSURE SWITCH	MTS	MANUAL TRANSFER SWITCH
C	CONDUIT	NAC	NOTIFICATION APPLIANCE CIRCUIT
CB	CIRCUIT BREAKER	NEC	NATIONAL ELECTRIC CODE
CCTV	CLOSER CIRCUIT TELEVISION	NC	NORMALLY CLOSED
CKT	CIRCUIT	NO	NORMALLY OPEN
CM	CONSTRUCTION MANAGER	NF	NON-FUSED
DC	DIRECT CURRENT	OCC	OCCUPANCY
DP	DISTRIBUTION PANELBOARD	PA	PUBLIC ADDRESS
DTT	DOUBLE TWIN TUBE	PB	PULL BOX OR PUSH BUTTON
EB	ELECTRONIC BALLAST	PVC	POLYVINYL CHLORIDE (PLASTIC PIPE)
EC	ELECTRICAL CONTRACTOR	PWR	POWER
EM	EMERGENCY	RECPT	RECEPTACLE
EMT	ELECTRICAL METAL TUBING	STP	SHIELDED, TWISTED PAIR
EWC	ELECTRIC WATER COOLER	TC	TIME CLOCK
FA	FIRE ALARM	TRT	TRIPLE TUBE
FLA	FULL LOAD AMPS	TYP	TYPICAL
G	GROUND	UNO	UNLESS NOTED OTHERWISE
GC	GENERAL TRADES CONTRACTOR	UTP	UNSHIELDED, TWISTED PAIR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	V	VOLT
GEN	GENERATOR	W	WATT
HOA	HAND-OFF-AUTOMATIC	WAP	WIRELESS ACCESS POINT
HP	HORSEPOWER	WH	WATTHOUR
HPC	HIGH PRESSURE CONTACT SWITCH	WP	WEATHERPROOF, NEMA 3R UNO
HZ	HERTZ	XFMR	TRANSFORMER
IG	ISOLATED GROUND	Z	IMPEDANCE
IMC	INTERMEDIATE METAL CONDUIT	Φ	PHASE
INCD	INCANDESCENT		
KEC	KITCHEN EQUIPMENT CONTRACTOR		

LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	MODEL NUMBER	LAMP/SOURCE	MOUNTING	FINISH	CTT	DRIVER	COMMENTS	VOLTS	WATTS
R4	ROUND DOWNLIGHT	CONTECH LIGHTING	K4SA3-27KC-MVD-F	LED ENGINE	RECESSED	WHITE	2700K	0-10V DIMMING	ORDER W/CTR1W-P TRIM	120	20
R1	2X4 LED FLAT PANEL	CONTECH LIGHTING	RDA4L12712D2FX1BLK-P	LED ENGINE	RECESSED	WHITE	4000K	0-10V DIMMING	37 DEGREE BEAMS	120	10
A1	2X4 LED FLAT PANEL	NORA LIGHTING	NPDBL-E24/334W	LED ENGINE	CEILING	WHITE	3000K	TRIAC DIMMING		120	45
H1	HOOD BULBS	BULBRITE	CANOPY HOOD E26 BASE LED BULB	LED BULB	HOOD	CLEAR GLOBE	2700K	N/A	(6) TOTAL BULBS. MUST BE UL LISTED AND CSA CERTIFIED FOR USE IN COMMERCIAL COOKING HOODS W/ THERMAL SHOCK RESISTANT GLOBE	120	6
P1	DECORATIVE PENDANT	RBW LIGHTING	MP-S-27-10-TRIAC-120	LED ENGINE	CEILING	WHITE	2700K	TRIAC DIMMING	PHASE DIMMING	120	9
P6	PENDANT	CONTECH LIGHTING	CTL9051FCF27CD-P	LED ENGINE	CEILING	WHITE	2700K	TRIAC DIMMING		120	9
TL	LED TAPE	WAC LIGHTING	INVISIBLE PRO 2 LED-TX24	LED ENGINE	SURFACE	WHITE	2700K	DIMMABLE	15' TRACK W/ EN-2460-RB2-T REMOTE AND LED T-CH ALUMINUM CHANNEL	120	4/FT
T1	TRACK SYSTEM	CONTECH LIGHTING	CTL603-P TRACK HEADS W/LED PAR20 6.5 DIM WHITE FINISH BULBS AND LT SERIES TRACK	LED ENGINE	TRACK	WHITE	2700K	DIMMING	8' TRACK(S) IN WHITE FINISH W/ ALL POWER AND CONNECTION COMPONENTS INCLUDING: LT-P (TRACK). LA-10-P (TRACK END FEED). LA-2-P (TRACK I-CONNECTOR). SUSPENSION COMPONENTS BY ELECTRICAL CONTRACTOR.	120	7
EMF	EXIT SIGN (FOH)	CONTECH LIGHTING	REXA-MF-G-EM-P	LED ENGINE	UNIVERSAL	WHITE	2700K	N/A	GREEN LETTERS FOR FRONT OF HOUSE ONLY	120	2.5
EMB	EXIT SIGN (BOH)	NORA LIGHTING	NX-603-LED/G	LED ENGINE	UNIVERSAL	WHITE	2700K	N/A	GREEN LETTERS FOR BACK OF HOUSE ONLY	120	2.5
EM2	EXTERIOR EMERGENCY LIGHT	DUAL-LITE	PG-B-HTR	LED ENGINE	WALL	BLACK	2700K	N/A		120	2.5
EME	EMERGENCY LIGHT	CONTECH LIGHTING	EL2HALEDEM-P	LED ENGINE	UNIVERSAL	WHITE	2700K	N/A	MOUNT ABOVE BRICK AND TILE FINISHES ABOVE WALL	120	2.5
B1	4' LED STRIP LIGHT	ETI	ST-4FT-4900LM-50K-MV-LVD-EM	LED ENGINE	SUSPENDED	WHITE	5000K	0-10V DIMMING		120	33
A2	2X2 LED FLAT PANEL	NORA LIGHTING	NPDBL-E24/334W	LED ENGINE	CEILING	WHITE	3000K	TRIAC DIMMING		120	30

FIXTURES PACKAGE SUPPLIED BY ILLUMINATE LIGHTING DESIGN. CALL MR. BILLY MARCHETTI, 781-873-7979
NOTES:
1. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR MOUNTING REQUIREMENTS OF ALL LIGHT FIXTURES
2. PROVIDE ALL COMPONENTS FOR A FULLY FUNCTIONING SYSTEM
3. COORDINATE WITH OWNERS REP FOR AIMING OF TRACK HEADS
4. VERIFY SUSPENSION LENGTH/MOUNTING HEIGHT OF SUSPENDED FIXTURES WITH ARCHITECTURAL PLANS AND IN FIELD WITH OWNER REPRESENTATIVE

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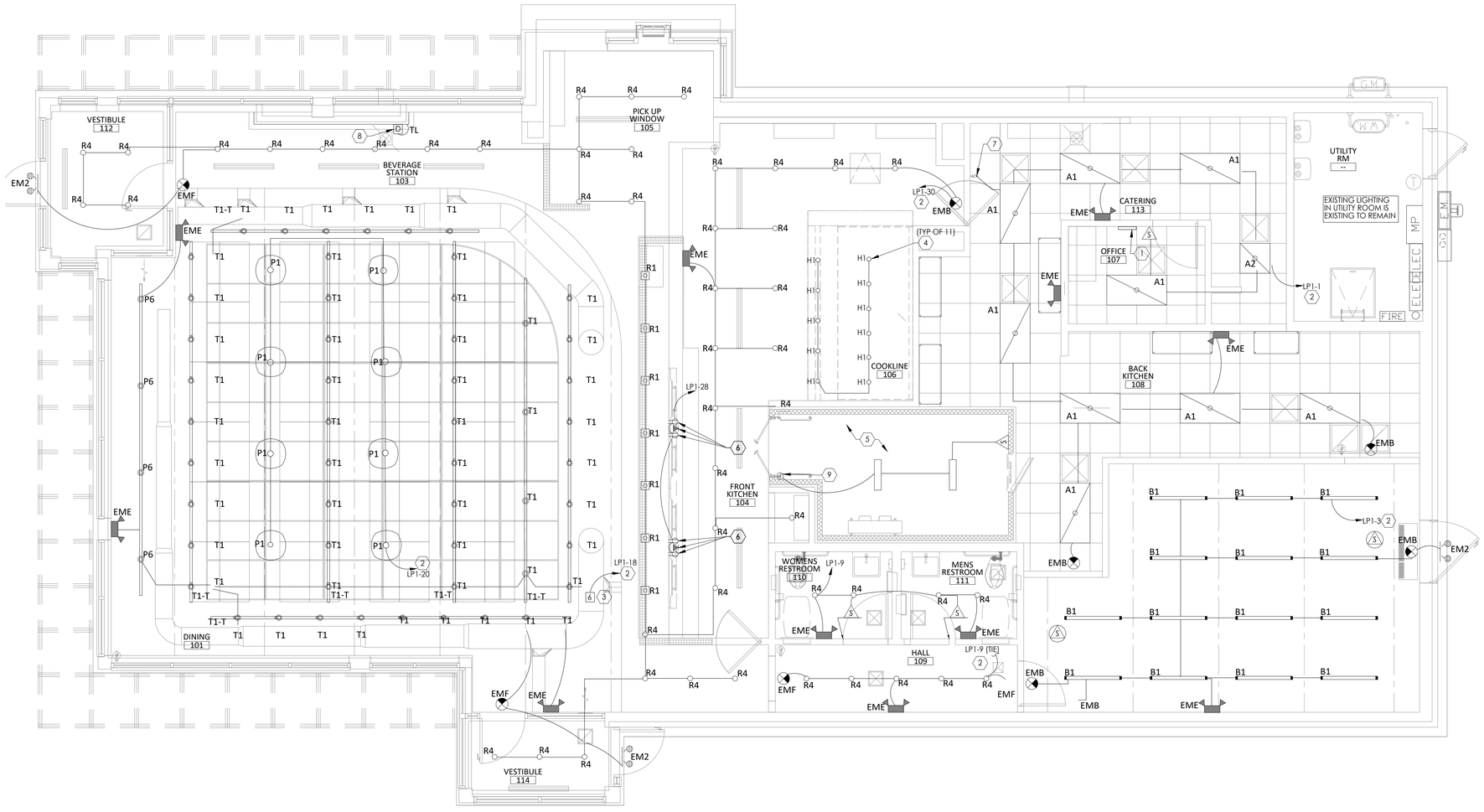
AOR PROJECT NUMBER:
CAV.38002

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PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
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CONSTR SET	JAN 8, 2025

GENERAL INFORMATION
ELECTRICAL

SHEET:
E000

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

GENERAL NOTES:

A. ALL LUMINAIRES AND LAMPS (INCLUDING SHATTER SHIELDS OR PROTECTED LAMPS FOR NON LENSED FIXTURES ABOVE FOOD PREPARATION, WORK AND STORAGE AREAS) AND INVERTERS ARE FURNISHED BY OWNER AND INSTALLED BY EC UNO. COORDINATE SHIPPING AND STORAGE WITH OWNER PRIOR TO CONSTRUCTION.

B. ALL EMERGENCY AND EXIT LIGHTING TO BE CONNECTED TO LOCAL LIGHTING CIRCUIT AHEAD OF SWITCHING.

C. FIELD ADJUST AND AIM ALL MENUBOARD AND GRAPHICS TRACK LIGHTING FOR OPTIMUM COVERAGE.

D. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR LUMINAIRE PLACEMENT DIMENSIONS AND MTG HEIGHTS.

E. MC CABLE SHALL ONLY BE USED ABOVE ACCESSIBLE CEILINGS.

F. "STRAIGHT" LINES INDICATE LUMINAIRES ARE TO BE CONTROLLED TOGETHER WHILE "ARC'D" LINES INDICATE A COMMON BRANCH CIRCUIT.

G. GC TO CONTACT LIGHTING VENDOR TO REQUEST/CONFIRM LATEST LIGHTING CONTROLS DOCUMENTATION. REFER TO LIGHT FIXTURE SCHEDULE FOR CONTACT INFORMATION.

H. STANDARD OCC SENSOR TO BE SENSORWORX SWX-121-WH.

CODED NOTES: (#)

1. PLACE LIGHTING CONTROL PANEL, TOUCH PAD, INTERFACE, AND 4-BUTTON SCENE SWITCH ADJACENT TO MANAGER'S DESK. REFER TO LIGHTING CONTROL VENDOR DRAWINGS FOR COMPLETE CONTROL AND WIRING DETAILS.
2. ROUTE CIRCUIT THROUGH LIGHTING CONTROL PANEL FOR CONTROL. REFER TO CONTROL SCHEDULE AND DIAGRAMS ON LIGHTING CONTROL VENDOR DRAWINGS FOR COMPLETE DETAILS.
3. TRACK MOUNTED CURRENT LIMITER. AMPERAGE AS INDICATED (TYP.).
4. HOOD BULBS SUPPLIED BY LIGHTING VENDOR. EC TO INSTALL HOOD BULBS AND MAKE FINAL CONNECTION. WIRE WITH HOOD CONTROL PANEL. REFER TO POWER PLAN, SHEET E200 FOR HOOD CONTROL PANEL CIRCUIT.
5. LIGHTING IN W.I.C. PROVIDED BY KEC ((2) KASON 1810 LED), SHOWN FOR REFERENCE ONLY. EC TO INSTALL AND MAKE FINAL CONNECTION. REFER TO POWER PLAN, SHEET E200 FOR CIRCUIT. COORDINATE W/ W.I.C. VENDOR DRAWINGS.
6. REFER TO DIGITAL MENUBOARD DETAIL ON ARCHITECTURAL PLANS FOR DATA/POWER LOCATIONS. COORDINATE WITH VENDOR DRAWINGS FOR COMPLETE WIRING/CONTROL DETAILS.
7. ON/OFF SWITCH - 2 BUTTON. REFER TO LIGHTING CONTROL VENDOR DRAWINGS FOR COMPLETE CONTROL AND WIRING DETAILS.
8. DRIVER FOR TAPE LIGHT. INSTALL ABOVE ACCESSIBLE CEILING.
9. PROVIDE POWER FOR LED LIGHTS AT DISPLAY DOOR. COORDINATE W/ W.I.C. VENDOR DRAWINGS.

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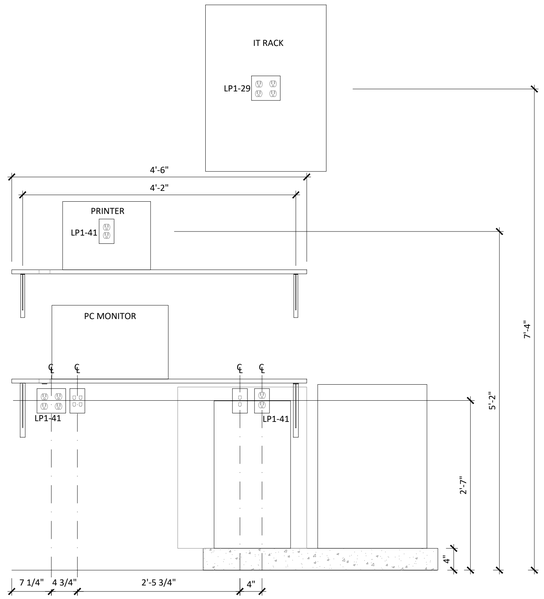
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LIGHTING PLAN

SHEET:
E100

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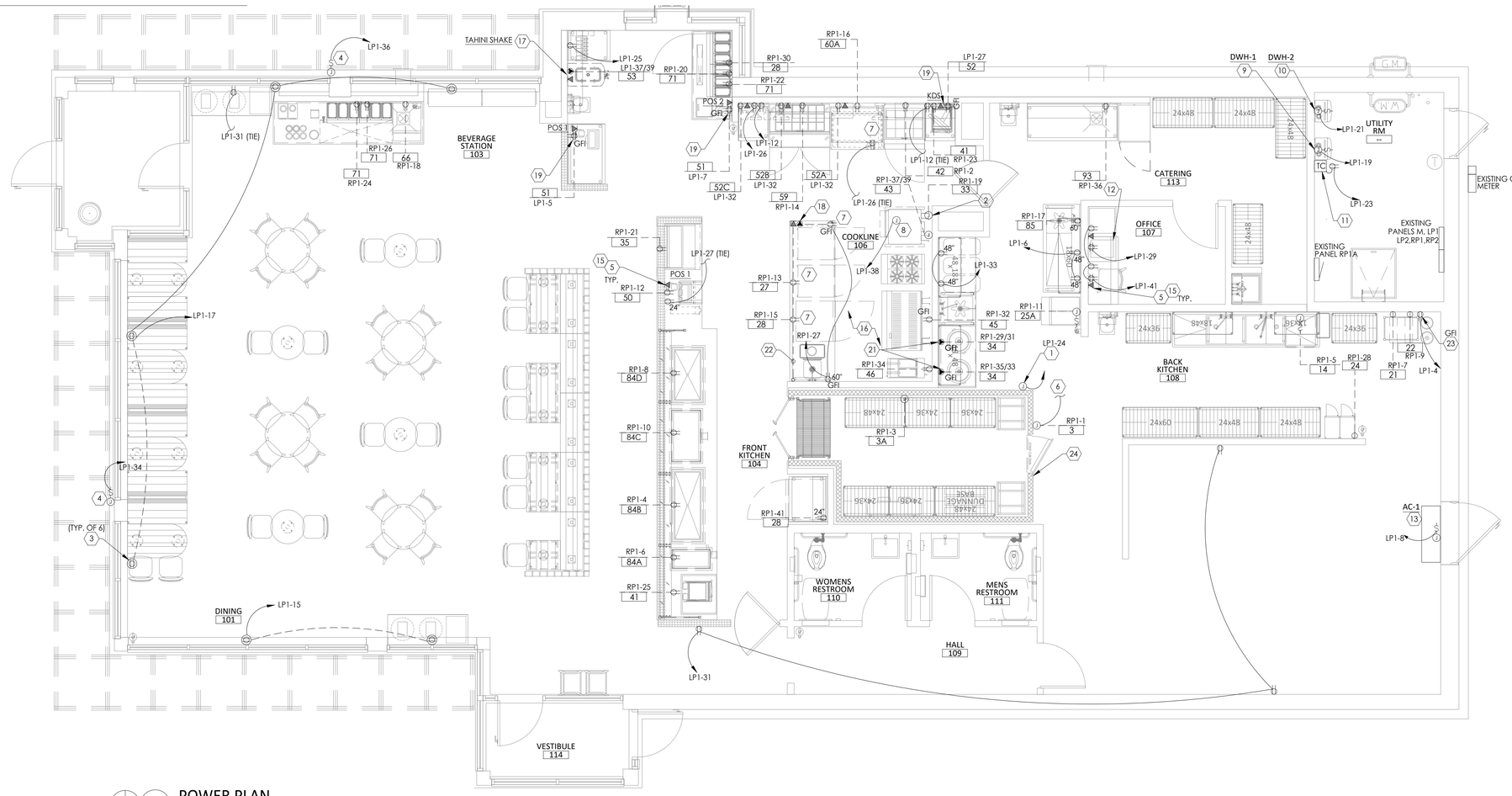


2 MANAGER'S DESK DETAIL

N.T.S.

CODED NOTES: (#)

1. STANDARD 1.5" DEEP SINGLE GANG JUNCTION BOX FOR ANSUL PULL STATION A MINIMUM OF 10'-0" FROM HOOD. NOT TO EXCEED 25'-0" FROM THE HOOD ON THE EXIT PATH. REFER TO ANSUL PULL STATION DETAIL, SHEET E401.
2. HOOD CONTROL PANEL BY KITCHEN EQUIPMENT SUPPLIER. EC TO MAKE FINAL CONNECTION TO TERMINALS IN CONTROL PANEL. CONTAINS STARTERS (FURNISHED WITH PANEL) FOR HOOD EXHAUST AND MAKE UP AIR FANS.
3. SHOW WINDOW RECEPTACLES TO BE CENTERED ON STOREFRONT WINDOWS (NO MORE THAN 18" ABOVE THE WINDOW). ROUTE CIRCUIT THRU NON DIM RELAY IN LIGHTING CONTROL PANEL FOR CONTROL. REFER TO LIGHTING CONTROL VENDOR DRAWINGS FOR DETAILS.
4. EXTERIOR SIGNAGE: COORDINATE FINAL MOUNTING HEIGHT AND LOCATION WITH CONSTRUCTION MANAGER PRIOR TO ROUGH-IN. IF SIGN DOES NOT COME EQUIPPED WITH DISCONNECT, FURNISH AND INSTALL DISCONNECT ON REAR OF SIGN. ROUTE THRU NON DIM RELAY IN LIGHTING CONTROL PANEL FOR CONTROL. REFER TO LIGHTING CONTROL VENDOR DRAWINGS FOR DETAILS.COORDINATE WITH SIGNAGE VENDOR. (SIGNAGE IS TBD BASED ON PROJECT SPECIFIC REQUIREMENTS.)
5. TELEPHONE/DATA JUNCTION BOX: RUN 3/4" EMPTY COND W/ PULL STRING TO ACESSIBLE CLG SPACE AND STUB. FACEPLATE AND CABLE BY VENDOR. (TYP.)
6. CONNECT TO LIGHT FIXTURES FURNISHED BY KEC, INSTALLED BY EC. COORDINATE FINAL LOCATION WITH COOLER LAYOUT PRIOR TO INSTALLATION.
7. FIXTURE MOUNTED RECEPTACLE. ROUTE POWER FROM NEAREST FULL HEIGHT WALL.
8. JUNCTION BOX ABOVE CEILING FOR GAS SOLENOID VALVE.
9. DHW-1 (ELECTRIC): 0.35 KW, 120V. MAKE FINAL CONNECTION.
10. DHW-2 (ELECTRIC): 0.35 KW, 120V. MAKE FINAL CONNECTION.
11. DUPLEX RCPT AND TIME CLOCK FOR RECIRC PUMP (EQ. TO INTERMATIC 101.)
12. REFER TO MANAGER'S DESK DETAIL ON THIS SHEET FOR MOUNTING HEIGHTS. ALL RECEPTACLES AT DESK TO HAVE INTEGRATED USB PORTS.
13. AC-1: 1/5 HP, 120V. MAKE FINAL CONNECTION. PROVIDE DISCONNECTING MEANS AS REQUIRED. COORDINATE FINAL LOCATION AND EXACT REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. REFER TO MECHANICAL SCHEDULES FOR ADDITIONAL INFORMATION.
14. NOT USED.
15. PROVIDE 4 GANG DATA JB.
16. VERIFY ELEC REQUIREMENTS OF KITCH EQUIP UNDER HOOD WITH MANUFACTURER'S SPECS. PROVIDE WATER GREASE RESISTANT COVERS WITH CORD ACCESS FOR RCPTS AS NEEDED. WIRE ALL ELECTRICAL EQUIP UNDER HOOD THRU CONTACTORS FOR SHUT DOWN CONTROL. REFER TO DETAIL 1/E401.
17. TAHINI SHAKE MACHINE: 22 MCA, 208V/1PH. PROVIDE (2) #10 CU AWG & (1) #10 CU AWG GND. IN 3/4" CONDUIT FROM 30A/2P BREAKER IN PANEL TO NEMA L6-30R RECEPTACLE AT 16" A.F.F. PROVIDE ADJACENT 3 GANG DATA JB AT 60" A.F.F.
18. TAHINI SHAKE MACHINE: 22 MCA, 208V/1PH. PROVIDE (2) #10 CU AWG & (1) #10 CU AWG GND. IN 3/4" CONDUIT FROM 30A/2P BREAKER IN PANEL TO NEMA L6-30R RECEPTACLE. PROVIDE ADJACENT DATA JB WITH 3 DATA PORTS FOR SHAKE KDS/PRINTER. MOUNT RECEPTS AT 20" A.F.F. ON INSIDE FACE OF UPPER RIGHT CORNER END PANEL OF SS TABLE AS SHOWN.
19. PROVIDE 4 GANG DATA JB AND DOUBLE DUPLEX POWER RCPT AT 60" A.F.F. FOR KDS/PRINTER.
20. PROVIDE DUPLEX RECEPT ABOVE DRIVE THRU WINDOW FOR AIR CURTAIN. COORDINATE FINAL LOCATION AND EXACT REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. REFER TO MECHANICAL SCHEDULES FOR ADDITIONAL INFORMATION.
21. PROVIDE RECEPTS FOR RICE COOKERS AT 48" A.F.F. W/ WEATHERPROOF COVERS.
22. ROUTE MC CABLE THROUGH ISLAND TO RECEPTACLES MOUNTED ON INTERIOR OF ISLAND.
23. PROVIDE RECEPT FOR CO2 DETECTOR. REFER TO SHEET M101 FOR SPECIFICATION. COORDINATE INSTALLATION OF DETECTOR WITH MANUFACTURER'S DRAWINGS.
24. GC TO INSTALL THERMOMETER SENSOR FOR W.I.C. AWAY FROM DOOR OPENING. COORDINATE WITH W.I.C. VENDOR DRAWINGS.



1 POWER PLAN

1/4" = 1'-0"

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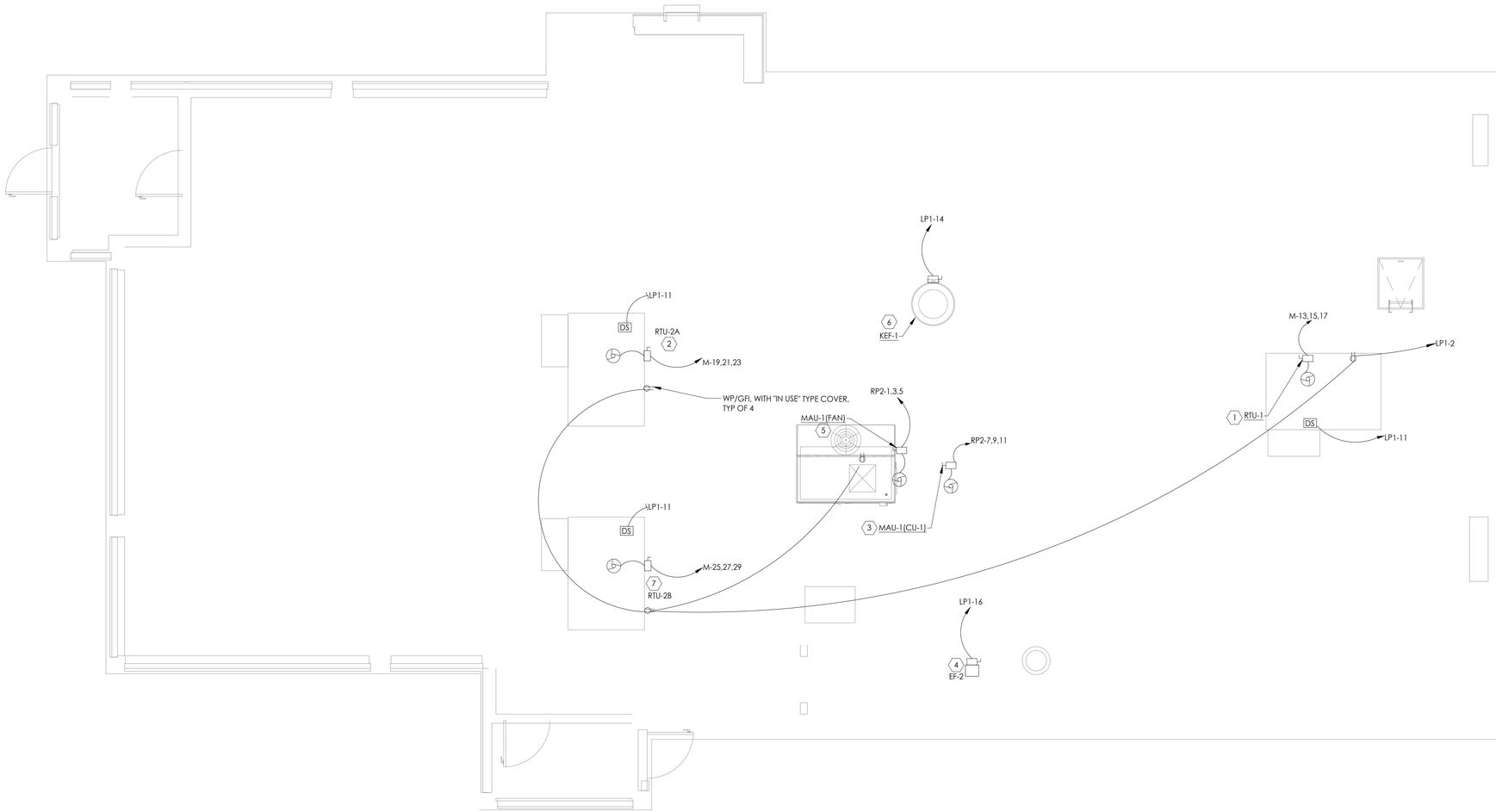
POWER PLAN

SHEET:
E200

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CODED NOTES:

1. RTU-1: 62 MCA, 208V/3PH. PROVIDE (3)#4 CU AWG & (1)#8 CU AWG GND. IN 1" CONDUIT FROM 80A/3P BREAKER THRU 100A/3P NEMA 3R NON FUSED DISC SWITCH TO UNIT. MAKE FINAL CONNECTION.
2. RTU-2A: 41 MCA, 208V/3PH. PROVIDE (3)#8 CU AWG & (1)#10 CU AWG GND. IN 3/4" CONDUIT FROM 50A/3P BREAKER THRU 60A/3P NEMA 3R NON FUSED DISC SWITCH TO UNIT. MAKE FINAL CONNECTION.
3. MAU-1 (CU-1): 11.9 MCA, 208V/3PH. PROVIDE (3)#12 CU AWG & (1)#12 CU AWG GND. IN 3/4" CONDUIT FROM 20A/3P BREAKER THRU 30A/3P NEMA 3R NON FUSED DISC SWITCH TO UNIT. MAKE FINAL CONNECTION.
4. EF-2: ROUTE CIRCUIT THRU TIMECLOCK SO THAT FAN IS OPERATIONAL DURING OCCUPIED HOURS.
5. MAU-1 (FAN): 7.7 MCA, 208V/3PH. PROVIDE (3)#12 CU AWG & (1)#12 CU AWG GND. IN 3/4" CONDUIT FROM 15A/3P BREAKER THRU HOOD CONTROL PANEL THRU 30A/3P NEMA 3R NON FUSED DISC SWITCH TO UNIT. MAKE FINAL CONNECTION.
6. KEF-1: 1 HP, 120V. PROVIDE (2)#12 CU AWG & (1)#12 CU AWG GND. IN 3/4" CONDUIT FROM 20A/1P BREAKER THRU HOOD CONTROL PANEL THRU 30A/1P NEMA 3R NON FUSED DISC SWITCH TO UNIT. MAKE FINAL CONNECTION.
7. RTU-2B 41 MCA, 208V/3PH. PROVIDE (3)#8 CU AWG & (1)#10 CU AWG GND. IN 3/4" CONDUIT FROM 50A/3P BREAKER THRU 60A/3P NEMA 3R NON FUSED DISC SWITCH TO UNIT. MAKE FINAL CONNECTION.



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

1/8/2025 3:14 PM

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ROOF POWER PLAN

SHEET:
E201

CODED NOTES: (#)

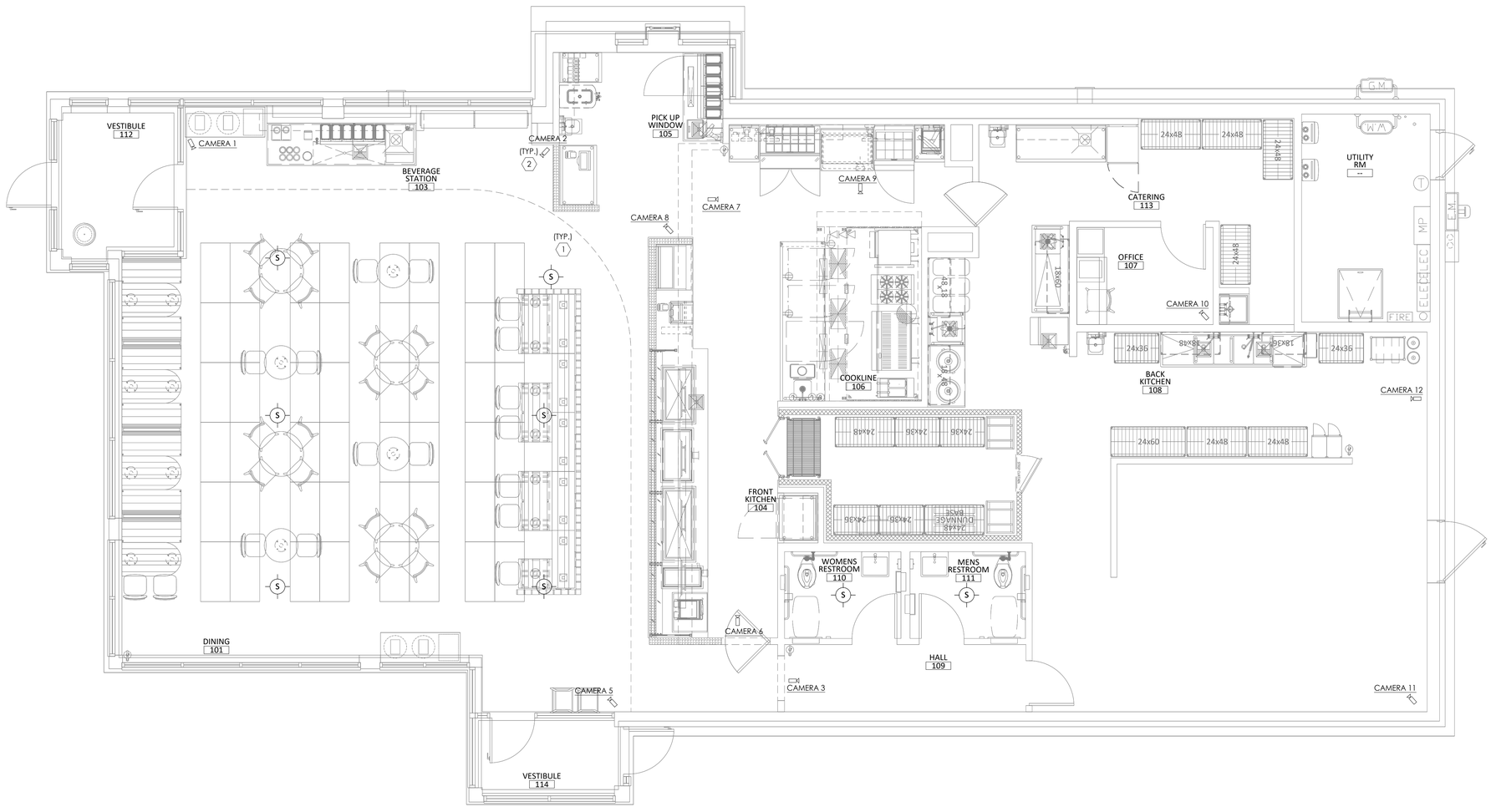
1. SPEAKER: WHITE FINISH FOR INTERIOR SPEAKERS, BLACK FINISH FOR EXTERIOR. B.O. SPEAKER AT 11'-8" AFF. PROVIDE SUPPORTS FOR SPEAKERS IN OPEN CEILINGS. OWNER VENDOR TO PROVIDE FIXTURE AND WIRING. COORDINATE WITH LOW VOLTAGE VENDOR (TYP.).
2. CAMERA: CAMERAS TO ALL ALIGN ON FACE OF SOFFIT. OWNER VENDOR TO PROVIDE FIXTURE AND WIRING. COORDINATE WITH LOW VOLTAGE VENDOR (TYP.).

CAMERA SCHEDULE:

CAM 1	FRONT ENTRANCE	CAM 8	PICK UP WINDOW
CAM 2	DINING	CAM 9	COOKLINE
CAM 3	HALLWAY/RESTROOMS	CAM 10	MANAGER'S DESK
CAM 4	QUEUE	CAM 11	BACK ENTRANCE & WIC DOOR
CAM 5	DINING	CAM 12	BACK OF HOUSE ENTRY
CAM 6	FRONT KITCHEN	CAM 13	LOCKERS AREA
CAM 7	SERVE LINE		

DATA CABLE SCHEDULE:

POS 1	4 CABLES
POS 2	2 CABLES
KDS	3 CABLES
MENUBOARDS	10 CABLES
SHAKES	3 CABLES
MANAGERS DESK	4 CABLES
AP/CELL	2 CABLES



1 LOW VOLTAGE PLAN
1/4" = 1'-0"

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LOW VOLTAGE PLAN

SHEET:
E202

1/8/2025 3:14 PM

PANELBOARD: M (EXISTING)

BUS AMPS: 600A
MAIN SIZE/TYPE: 600A MCB
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SERVES: FIRST FLOOR
LOCATION: UTILITY ROOM — EQUIPMENT GROUND BUS — MOUNTING: SURFACE

CKT NO.	DESCRIPTION	VA/PHASE A	VA/PHASE B	VA/PHASE C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VA/PHASE A	VA/PHASE B	VA/PHASE C	DESCRIPTION	CKT NO.
1														not usable space	2
3	main switch				-	600	3	-	-	-				not usable space	4
5														not usable space	6
7		9,644												not usable space	8
9	panel lp1		7,560		-	200	3	-	-	-				not usable space	10
11				7,200										not usable space	12
13		7,445									2,354				14
15	RTU-1		7,445		4	80	3	3	100			2,354		panel rp2	16
17				7,445									2,354		18
19		4,923									7,000				20
21	RTU-2A		4,923		8	50	3	3	100			6,000		panel lp2	22
23				4,923									5,000		24
25		4,923													26
27	RTU-2B		4,923		8	50	3	3	20					SPARE	28
29				4,923											30
SUBTOTAL		26,935	24,851	24,491							9,354	8,354	7,354	SUBTOTAL	

		LOAD	CONN. VA	DF	LOAD	CONN. VA	DF
TOTAL PHASE A - VA	36,289	COOLING		0	REFRIGERATION		1.00
AMPS	302	HEATING	52,573	1.00	SIGN/DISPLAY	2,400	1.25
TOTAL PHASE B - VA	33,205	LIGHTING	3,002	1.25	KITCHEN	4,576	0.65
AMPS	277	RECEPTACLES	4,860	1.0/.5	EXISTING	18,200	1.00
TOTAL PHASE C - VA	31,845	MOTORS	3,336	1.00	LARGE MOTOR		1.25
AMPS	265	SUPP HEAT		1.00	SHOW WINDOW	2,550	1.25
TOTAL PNLBD - VA	101,339	MISC EQUIP	9,842	1.00	LTG TRACK		1.00
AMPS	281						

TOTAL DEMAND
101,725 VA
282 A

CIRCUITS SHOWN IN LOWERCASE ARE EXISTING TO REMAIN.

PANELBOARD: RP1 (EXISTING)

BUS AMPS: 150A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SERVES: CAVA
LOCATION: UTILITY ROOM — EQUIPMENT GROUND BUS — MOUNTING: SURFACE

	CKT NO.	DESCRIPTION	VA/PHASE A	VA/PHASE B	VA/PHASE C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VA/PHASE A	VA/PHASE B	VA/PHASE C	DESCRIPTION	CKT NO.	
	1	3 - WALK-IN COOLER LIGHTS	120			12	20	1	1	20	12	300			42- PREP FRIDGE	2	GFI
	3	3A - EVAPORATOR COIL		240		12	20	1	1	20	12		660		84B- REFRIG COLD PANS	4	GFI
GFI	5	14 - WAREWASHER			1,440	12	20	1	1	20	12			1,800	84A- DROP-IN HOT WELL	6	GFI
GFI	7	21 - BAG N BOX	1,800			12	20	1	1	20	12	780			84D- REFRIG COLD PANS	8	GFI
GFI	9	22- CARBONATOR		1,800		12	20	1	1	20	12		600		84C- DROP-IN HOT WELLS	10	GFI
GFI	11	25A - ICE MAKER			1,596	12	20	1	1	20	12			1,800	50- POS SYSTEM #1	12	GFI
GFI	13	27 - WARMING CABINET	1,080			12	20	1	1	20	12	420			59- REACH IN FRIDGE	14	GFI
GFI	15	28 - UNDERCOUNTER FRIDGE		300		12	20	1	1	20	12		1,800		60A- HOT WELL	16	GFI
GFI	17	85- PREP AND PRINT			200	12	20	1	1	20	12			600	66- ICE DISPENSER	18	GFI
	19	33 - EXHAUST HOOD CONTROL PNL	600			12	20	1	1	20	12	720			71- COLD BEV. DISPENERS	20	GFI
GFI	21	36- SELF SERVICE FRIDGE		1,920		12	20	1	1	20	12		720		71- COLD BEV. DISPENERS	22	GFI
GFI	23	41- PANINI PRESS/GRILL			1,800	12	20	1	1	20	12			720	71- COLD BEV. DISPENERS	24	GFI
GFI	25	41- PANINI PRESS/GRILL	1,800			12	20	1	1	20	12	720			71- COLD BEV. DISPENERS	26	GFI
GFI	27	KITCHEN RECEPTS		360		12	20	1	1	20	12		200		24- BOOSTER PUMP	28	GFI
GFI	29	34- RICE COOKER			1,872	12	20	2	1	20	12			1,920	28-UNDERCOUNTER FRIDGE	30	GFI
	31		1,872						1	20	12	720			45- GRIDDLE	32	GFI
GFI	33	34- RICE COOKER		1,872		12	20	2	1	20	12		720		46-FRYER	34	GFI
	35				1,872				1	20	12			1,920	93-HEATED HOLDING CABINET	36	GFI
GFI	37	43- CONVECTION OVEN	4,992			6	50	2									38
	39			4,992					3	60					panel rp1a		40
GFI	41	28 - UNDERCOUNTER FRIDGE			300	12	20	1									42
SUBTOTAL			12,264	11,484	9,080							3,660	4,700	8,760	SUBTOTAL		

		LOAD	CONN. VA	DF	LOAD	CONN. VA	DF
TOTAL PHASE A - VA	15,924	COOLING	240	1.00	REFRIGERATION		1.00
AMPS	133	HEATING		0	SIGN/DISPLAY		1.25
TOTAL PHASE B - VA	16,184	LIGHTING		1.25	KITCHEN	47,228	0.65
AMPS	135	RECEPTACLES	2,360	1.0/.5	EXISTING		1.00
TOTAL PHASE C - VA	17,840	MOTORS		1.00	LARGE MOTOR		1.25
AMPS	149	SUPP HEAT		1.00	SHOW WINDOW		1.25
TOTAL PNLBD - VA	49,948	MISC EQUIP	120	1.00	LTG TRACK		1.00
AMPS	139						

TOTAL DEMAND
33,418 VA
93 A

CIRCUITS SHOWN IN LOWERCASE ARE EXISTING TO REMAIN.
GFI - GFI BREAKER

PANELBOARD: LP1 (EXISTING)

BUS AMPS: 225A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SERVES: CAVA
LOCATION: UTILITY ROOM — EQUIPMENT GROUND BUS — MOUNTING: SURFACE

	CKT NO.	DESCRIPTION	VA/PHASE A	VA/PHASE B	VA/PHASE C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VA/PHASE A	VA/PHASE B	VA/PHASE C	DESCRIPTION	CKT NO.	
	1	KITCHEN/OFFICE,UTILITY LTS	570			12	20	1	1	20	12	720			RTU RECEPTS	2	
	3	STORAGE LIGHTS		462		12	20	1	1	20	12		200		CO2 DETECTOR	4	
GFI	5	POS 1			360	12	20	1	1	20	12			360	KITCHEN CONV. RECEPTS	6	GFI
GFI	7	POS 2	360			12	20	1	1	20	12	696			AC-1	8	
	9	HALL/RESTROOM LIGHTS		180		12	20	1	1	20	-				SPARE	10	
	11	SMOKE DETECTOR			540	12	20	1	1	20	12			360	KITCHEN RECEPTS	12	GFI
	13	SPARE				12	20	1	1	20	12	1,920			KEF-1	14	
	15	SHOW WINDOW RCPT		1,200		12	20	1	1	20	12		360		EF-2	16	
	17	SHOW WINDOW RCPT			1,350	12	20	1	1	20	12			720	TRACK LIGHTS DINING	18	
	19	DHW-1	350			12	20	1	1	20	12	120			PENDANT LIGHTS DINING	20	
	21	DWH-2		350		12	20	1	1	20			200		alarm panel	22	
GFI	23	RECIRC PUMP			180	12	20	1	1	20	12			100	ANSUL PULL STATION	24	
GFI	25	SHAKE PRINTER	180			12	20	1	1	20	12	360			PRINTER KDS	26	
GFI	27	PRINTER/KDS		360		12	20	1	1	20	12		400		DIGITAL MENU BOARDS	28	
	29	IT RACK			360	12	20	1	1	20	12			950	DOWNLIGHTS KIT/DINING/VEST	30	
	31	CONV. RECEPTS	540			12	20	1	1	20	12	1,440			PRINTER KDS,MAKE 1,2/EXPO	32	
GFI	33	KITCHEN RECEPTS		360		12	20	1	1	20	12		1,200		SIGNAGE	34	
	35	SPARE					20	1	1	20	12			1,200	SIGNAGE	36	
GFI	37	53-SHAKE MACHINE	2,288			10	30	2	1	20	12	100			GAS SOLENOID VALVE	38	
	39			2,288					1						space	40	
	41	MANAGER DESK RECEPTS			720	12	20	1	1						space	42	
SUBTOTAL			4,288	5,200	3,510							5,356	2,360	3,690	SUBTOTAL		

		LOAD	CONN. VA	DF	LOAD	CONN. VA	DF
TOTAL PHASE A - VA	9,644	COOLING		0	REFRIGERATION		1.00
AMPS	80	HEATING	700	1.00	SIGN/DISPLAY	2,400	1.25
TOTAL PHASE B - VA	7,560	LIGHTING	3,002	1.25	KITCHEN	4,576	0.65
AMPS	63	RECEPTACLES	4,860	1.0/.5	EXISTING	200	1.00
TOTAL PHASE C - VA	7,200	MOTORS	3,336	1.00	LARGE MOTOR		1.25
AMPS	60	SUPP HEAT		1.00	SHOW WINDOW	2,550	1.25
TOTAL PNLBD - VA	24,404	MISC EQUIP	2,780	1.00	LTG TRACK		1.00
AMPS	68						

TOTAL DEMAND
24,790 VA
69 A

CIRCUITS SHOWN IN LOWERCASE ARE EXISTING TO REMAIN.
GFI - GFI BREAKER

PANELBOARD: RP2 (EXISTING)

BUS AMPS: 100A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SERVES: CAVA
LOCATION: UTILITY ROOM — EQUIPMENT GROUND BUS — MOUNTING: SURFACE

CKT NO.	DESCRIPTION	VA/PHASE A	VA/PHASE B	VA/PHASE C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VA/PHASE A	VA/PHASE B	VA/PHASE C	DESCRIPTION	CKT NO.
1		925													2
3	MAU-1 FAN		925		12	15	3	3	20					SPARE	4
5				925											6
7		1,429						1	20					SPARE	8
9	MAU-1 CU-1		1,429		12	20	3	1	20					SPARE	10
11				1,429				1	20					SPARE	12
13								1	20					SPARE	14
15	SPARE					30	3	1	20					SPARE	16
17								1	20					SPARE	18
19	space						1	1						space	20
21	space						1	1						space	22
23	space						1	1						space	24
25	space						1	1						space	26
27	space						1	1						space	28
29	SPARE					20	1	1						space	30
SUBTOTAL		2,354	2,354	2,354										SUBTOTAL	

		LOAD	CONN. VA	DF	LOAD	CONN. VA	DF
TOTAL PHASE A - VA	2,354	COOLING		1.00	REFRIGERATION		1.00
AMPS	20	HEATING		0	SIGN/DISPLAY		1.25
TOTAL PHASE B - VA	2,354	LIGHTING		1.25	KITCHEN		0.65
AMPS	20	RECEPTACLES		1.0/.5	EXISTING		1.00
TOTAL PHASE C - VA	2,354	MOTORS		1.00	LARGE MOTOR		1.25
AMPS	20	SUPP HEAT		1.00	SHOW WINDOW		1.25
TOTAL PNLBD - VA	7,062	MISC EQUIP	7,062	1.00	LTG TRACK		1.00
AMPS	20						

TOTAL DEMAND
7,062 VA
20 A

CIRCUITS SHOWN IN LOWERCASE ARE EXISTING TO REMAIN.

PANELBOARD: LP2 (EXISTING)

BUS AMPS: 100A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SERVES: CAVA
LOCATION: UTILITY ROOM — EQUIPMENT GROUND BUS — MOUNTING: SURFACE

CKT NO.	DESCRIPTION	VA/PHASE A	VA/PHASE B	VA/PHASE C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VA/PHASE A	VA/PHASE B	VA/PHASE C	DESCRIPTION	CKT NO.
1	gooseneck lights	1,000				20	1	1	20		1,000			site lighting	2
3	site lighting		1,000			20	2	2	20			1,000		site lighting	4
5				1,000									1,000		6
7	space							1	20		1,000			site lighting	8
9	site lighting		1,000			30	2	1						space	10
11				1,000				1						space	12
13	pylon sign	1,000				20	1	1	20		1,000			awning	14
15	space							1	20			1,000		awning	16
17	space							1	20				1,000	awning	18
19	outdoor signage	1,000				20	1	1	20		1,000			awning	20
21	outdoor signage		1,000			20	1	1	20			1,000		awning	22
23	space							1						space	24
25	space							1						space	26
27	space							1						space	28
29	space							1	20				1,000	goosneck lights	30
31	space							1						space	32
33	space							1						space	34
35	space							1						space	36
37	space							1						space	38
39	space							1						space	40
41	space							1						space	42
SUBTOTAL		3,000	3,000	2,000							4,000	3,000	3,000	SUBTOTAL	

		LOAD	CONN. VA	DF	LOAD	CONN. VA	DF
TOTAL PHASE A - VA	7,000	COOLING		1.00	REFRIGERATION		1.00
AMPS	58	HEATING		0	SIGN/DISPLAY		1.25
TOTAL PHASE B - VA	6,000	LIGHTING		1.25	KITCHEN		0.65
AMPS	50	RECEPTACLES		1.0/.5	EXISTING	18,000	1.00
TOTAL PHASE C - VA	5,000	MOTORS		1.00	LARGE MOTOR		1.25
AMPS	42	SUPP HEAT		1.00	SHOW WINDOW		1.25
TOTAL PNLBD - VA	18,000	MISC EQUIP		1.00	LTG TRACK		1.00
AMPS	50						

TOTAL DEMAND
18,000 VA
50 A

CIRCUITS SHOWN IN LOWERCASE ARE EXISTING TO REMAIN.

PANELBOARD: RP1A (EXISTING)

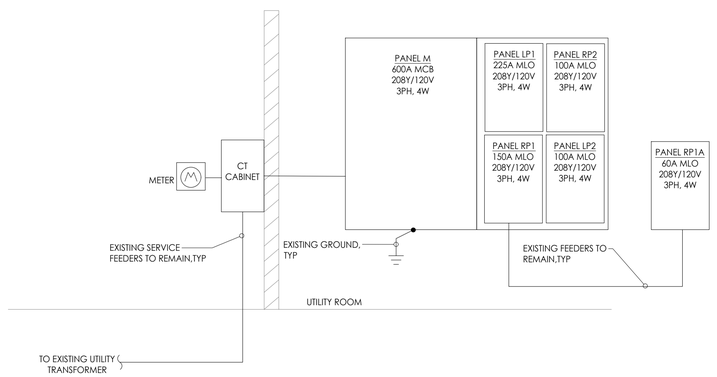
BUS AMPS: 60A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SERVES: CAVA
LOCATION: UTILITY ROOM — EQUIPMENT GROUND BUS — MOUNTING: SURFACE

CKT NO.	DESCRIPTION	VA/PHASE A	VA/PHASE B	VA/PHASE C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VA/PHASE A	VA/PHASE B	VA/PHASE C	DESCRIPTION	CKT NO.
1	SPARE					20	2	2	30					SPARE	2
3															4
5	SPARE					40	2	2	30					SPARE	6
7															8
9	SPARE					20	2	2	30					SPARE	10
11															12
SUBTOTAL														SUBTOTAL	

		LOAD	CONN. VA	DF	LOAD	CONN. VA	DF
TOTAL PHASE A - VA		COOLING		1.00	REFRIGERATION		1.00
AMPS		HEATING		0	SIGN/DISPLAY		1.25
TOTAL PHASE B - VA		LIGHTING		1.25	KITCHEN		0.65
AMPS		RECEPTACLES		1.0/.5	EXISTING		1.00
TOTAL PHASE C - VA		MOTORS		1.00	LARGE MOTOR		1.25
AMPS		SUPP HEAT		1.00	SHOW WINDOW		1.25
TOTAL PNLBD - VA		MISC EQUIP		1.00	LTG TRACK		1.00
AMPS							

TOTAL DEMAND

CIRCUITS SHOWN IN LOWERCASE ARE EXISTING TO REMAIN.



1 ONE LINE DIAGRAM
N.T.S.

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135 Water Street
Suite 201
Naperville, IL 60540
312.788.4545
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ISSUED FOR CONSTRUCTION

CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
1 BLDG RESPONSE	NOV 15, 2024
2 CONSTR SET	JAN 8, 2025

SCHEDULES
ELECTRICAL

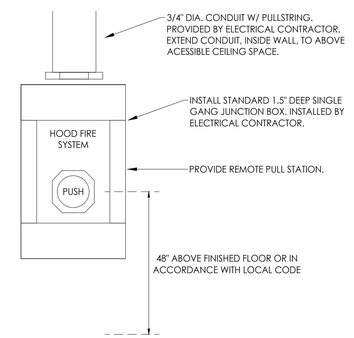
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E301

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ELECTRICAL SCHEDULE

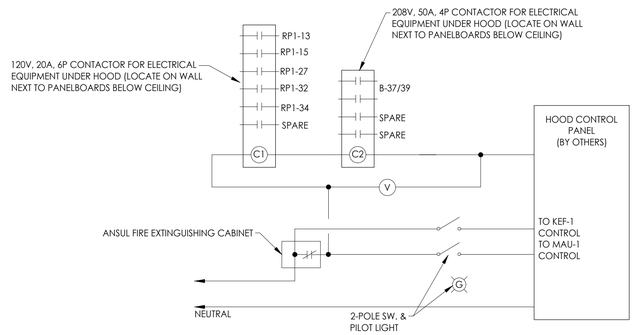
ITEM NO.	QTY	EQUIPMENT CATEGORY	PLUG	DIRECT	NEMA	ELECTRICAL AFF (IN.)	AMPS	KW	HP	VOLTS	PHASE	ELEC. REMARKS
3	1	REFRIGERATOR, WALK-IN COOLER		X		DN	2.0			120	1	ELECTRIC DOWN FROM ABOVE, FOR WALK-IN LIGHTS
3A	1	EVAPORATOR COIL, COOLER		X		DN	2.0			115	1	ELECTRIC DOWN FROM ABOVE
3B	1	CONDENSING UNIT, COOLER		X			15.0			208	1	
14	1	WAREWASHER, UNDERCOUNTER, LOW-TEMP		X		16"	12.0		1.0	115	1	BY VENDOR, VERIFY UTILITIES
21	1	BAG-N-BOX		X		16"	15.0			120	1	**********BY VENDOR, VERIFY UTILITIES
22	1	CARBONATOR	X			88""	6.5			120	1	BY VENDOR, VERIFY UTILITIES
24	1	BOOSTER PUMP	X		5-20P	88"	1.3					BY VENDOR, VERIFY UTILITIES
25A	1	ICE MAKER		X		60"	13.3			120	1	
27	1	UNDERCOUNTER HOT HOLDING (750-S)	X		5-15P		9.0	1.1		120	1	PLUGS INTO FIXTURE MTD. RECPT. LOCATED IN ITEM #26
28	2	UNDERCOUNTER REFRIGERATOR (ETBR1)	X		5-15P		2.5		0.2	115	1	PLUGS INTO FIXTURE MTD. RECPT. LOCATED IN ITEM #26
33	1	EXHAUST HOOD		X		DN	5.0			120	1	COORDINATE WITH HOOD VENDOR DRAWINGS
34	2	RICE COOKER (57155)	X		6-20P	48"	18.0			208	1	
35	1	DISPLAY REFRIGERATED CASE	X		5-20P	24"	12.0			120	1	
41	2	PANINI GRILL	X		5-20P	16"	18.0			120	1	
42	1	REFRIGERATOR, SANDWICH/SALAD PREP (SW32N12M)	X		5-15P	16"	2.5		0.2	120	1	W/RECESSED PLUG
43	1	CONVECTION OVEN, ELECTRIC	X			16"	48.0			208	1	
45	1	GROOVED GRIDDLE, GAS	X		5-15P	16"	0.1			120	1	********COORDINATE REQUIREMENTS W/OWNER
46	1	FRYERS, GAS	X				1.0			120	1	**********COORDINATE REQUIREMENTS W/OWNER AND MANUFACTURER
50	1	POS 1	X		5-15P	16"	3.0			120	1	BY VENDOR, VERIFY UTILITIES, DATA LINE INCLUDED
51	1	POS 2	X		5-15P	16"	3.0			120	1	BY VENDOR, VERIFY UTILITIES, DATA LINE INCLUDED
52	1	KDS	X		5-15P	60"	3.0			120	1	BY VENDOR, VERIFY UTILITIES, DATA LINE INCLUDED
52A	1	MAKE 1	X		5-15P	60"	3.0			120	1	BY VENDOR, VERIFY UTILITIES, DATA LINE INCLUDED
52B	1	MAKE 2	X		5-15P	60"	5.0			120	1	BY VENDOR, VERIFY UTILITIES, DATA LINE INCLUDED
52C	1	EXPO	X		5-15P	60"	5.0			120	1	BY VENDOR, VERIFY UTILITIES, DATA LINE INCLUDED
53	1	SHAKE MACHINE	X		L6-30P	60"	22.0			208	1	COORDINATE REQUIREMENTS W/MANUFACTURER FOR CORD AND RECEPTACLE SPECIFICATIONS
59	1	REFRIGERATOR, SANDWICH/SALAD PREP	X		5-15P	16"	3.5			120	1	
60A	1	HOT WELL (300-HW/D6)	X		5-20P	16"	15.0			120	1	
66	1	ICE DISPENSER W/ BEVERAGE HEADS	X			16"	5.0			120	1	BEVERAGE DISP., BY VENDOR, VERIFY UTILITIES
71	4	COLD BEVERAGE DISPENSER (D35-3)	X		5-15P	16"	8.5			120	1	
72	1	COMPACT UNDERCOUNTER REFRIGERATOR (24)	X		5-15P	16"	2.0			120	1	
84A	1	HOT WELL, DROP-IN W/ TEMPLATES	X		5-15P	16"	5.0			120	1	
84B	1	COLD PAN, REFRIGERATED W/ TEMPLATES	X		5-20P	16"	7.0			120	1	
84C	1	HOT WELL, DROP-IN W/ TEMPLATES	X		5-15P	16"	15.0			120	1	
84D	1	COLD PAN, REFRIGERATED W/ TEMPLATES	X		5-15P	16"	5.5			120	1	
85	1	PREP N PRINT	X		5-15P	60"	2.0			120	1	

ELECTRICAL CONTRACTOR TO VERIFY ALL ELECTRICAL POINTS OF INTERCONNECTION (TYPE AND HEIGHT) PRIOR TO ROUGH-IN.



NOTE: COORDINATE EXACT LOCATION WITH AUTHORITY HAVING JURISDICTION, FIRE INSPECTOR AND ARCHITECT PRIOR TO ROUGH-IN.

2 ANSUL PULL STATION DETAIL
N.T.S.



NOTES:
1. ELECTRICAL CONTRACTOR SHALL PROVIDE CONTACTORS AND ALL INTERLOCK WIRING. COORDINATE EXACT TERMINATION REQUIREMENTS WITHIN HOOD CONTROL PANEL AND ANSUL CABINET WITH HOOD MANUFACTURER.

1 EXHAUST HOOD SHUT-DOWN WIRING DIAGRAM
N.T.S.

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ISSUED FOR CONSTRUCTION

CAVA

CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
BLDG RESPONSE	NOV 15, 2024
CONSTR SET	JAN 8, 2025

ELECTRICAL SCHEDULES & DETAILS

SHEET:
E401

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SPECIFICATIONS - DIVISION 26 - ELECTRICAL

SECTION 26 00 01 - GENERAL ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTAL CONDITIONS AND DIVISION-1 SPECIFICATION SECTIONS, APPLY TO WORK OF DIVISION 26 SECTIONS.

B. E-SERIES DRAWINGS APPLY TO WORK OF DIVISION 26 SECTIONS AND VICE VERSA.

1.2 GENERAL STANDARDS

A. PROVIDE WORK IN COMPLIANCE WITH APPLICABLE PROVISIONS OF THE FOLLOWING STANDARDS. PROVIDE UL LISTING AND UL LABEL FOR ALL ELECTRICAL MATERIALS, EQUIPMENT, LUMINAIRES, DEVICES, ETC. IN CASES WHERE UL LISTING AND/OR LABELING IS NOT AVAILABLE FOR A PARTICULAR PRODUCT, PROVIDE EQUIVALENT LISTING AND LABELING FROM ANOTHER THIRD PARTY NATIONALLY RECOGNIZED CERTIFICATION LABORATORY, SUBJECT TO APPROVAL BY LOCAL ELECTRICAL INSPECTOR AND AUTHORITIES HAVING JURISDICTION.

B. PROVIDE WORK IN STRICT ACCORDANCE WITH THE LATEST EDITION OF APPLICABLE CODES INCLUDING (BUT NOT LIMITED TO) THE FOLLOWING CODES AND STANDARDS.
1. NATIONAL ELECTRICAL CODE (NEC), NFPA 70.
2. LIFE SAFETY CODE, NFPA 101.
3. OTHER PROVISIONS OF NFPA AS APPLICABLE.
4. LOCAL ELECTRICAL CODES.
5. LOCAL UTILITY COMPANY REQUIREMENTS.
6. ADA/ADAAG REQUIREMENTS.
7. ASME.
8. INTERNATIONAL BUILDING CODE.
9. INTERNATIONAL ENERGY CONSERVATION CODE.

1.3 MATERIALS AND EQUIPMENT

A. UNLESS SPECIFICALLY INDICATED OTHERWISE PROVIDE (FURNISH AND INSTALL) ALL SPECIFIED AND DRAWN EQUIPMENT, RACEWAY, BOXES, LUMINAIRES, CONTROLS, WIRING, CABLING, SUPPORTS AND OTHER MATERIALS AS REQUIRED TO RENDER ALL ELECTRICAL AND ELECTRICALLY OPERATED EQUIPMENT, LUMINAIRES, DEVICES, ETC. FULLY OPERATIONAL. UNLESS SPECIFICALLY INDICATED OTHERWISE PROVIDE (FURNISH AND INSTALL) ALL MATERIALS THAT ARE SPECIFIED UNDER DIVISION 26. DISCREPANCIES OR UNCERTAINTIES PERCEIVED BY A BIDDER, OR OTHER QUESTIONABLE INTERPRETATIONS BY A BIDDER, ARE SUBJECT TO FINAL INTERPRETATIONS AND DECISIONS BY THE OWNER'S REPRESENTATIVE UNLESS ADDRESSED BEFORE BIDDING BY ADDENDUM OR UNLESS QUALIFIED OR EXCEPTED WITHIN BIDS.

B. PROVIDE MATERIALS THAT ARE NEW, FULL WEIGHT, OF THE BEST QUALITY. PROVIDE SIMILAR MATERIALS THAT ARE OF THE SAME TYPE AND MANUFACTURER. PROVIDE MATERIALS, APPARATUS AND EQUIPMENT WITH UNDERWRITER'S LABORATORY, INC. LABEL WHERE REGULARLY SUPPLIED.

C. MAINTAIN SAFETY AND GOOD CONDITION OF THE MATERIALS AND EQUIPMENT INSTALLED UNTIL FINAL ACCEPTANCE BY THE OWNER. STORE MATERIALS TO PREVENT DAMAGE AND WEATHERING PRIOR TO INSTALLATION.

D. WHEN SEVERAL MATERIALS, PRODUCTS OR ITEMS OF EQUIPMENT ARE SPECIFIED BY NAME FOR ONE USE, SELECT ONE OF THOSE SPECIFIED.

END OF SECTION

SECTION 26 00 01 - BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 GENERAL

A. FURNISH AND INSTALL ALL LABOR AND MATERIAL, TOOLS AND EQUIPMENT NECESSARY TO RENDER ALL SYSTEMS COMPLETE AND OPERATIONAL, AND READY FOR TURNOVER TO OWNER.

1.2 HEIGHT OF BOXES

A. CONTRACTOR TO VERIFY THE EXACT MOUNTING HEIGHTS (AND LOCATIONS) OF OUTLETS IN THE FIELD WITH RELATION TO ARCHITECTURAL DETAIL AND EQUIPMENT BEING SERVED. COORDINATE OUTLET LOCATION WITH EQUIPMENT, WITH FURNITURE PLANS AND WITH ARCHITECTURAL ELEVATION PLANS. WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, CONTACT THE OWNER'S REPRESENTATIVE FOR DIRECTION.

B. PRIOR TO ROUGH-IN, COORDINATE FINAL MOUNTING HEIGHTS OF SYSTEM OUTLET BOXES IN FIELD WITH OWNER'S REPRESENTATIVE. INSTALL BOXES AT HEIGHTS AS FOLLOWS, TO CENTER OF BOX, UNLESS DIRECTED OTHERWISE IN FIELD OR OTHERWISE NOTED ON E-SERIES DRAWINGS OR ARCHITECTURAL PLANS. HEIGHT OF BOXES DIMENSIONED FROM CEILING APPLY TO ROOMS HAVING CEILINGS 9' OR LESS; IN ROOMS HAVING HIGHER CEILINGS, LOCATE THESE AS DIRECTED IN THE FIELD.

SWITCHES - COUNTERS	44" (FIELD VERIFY & MATCH COUNTER RECEPT. HEIGHTS)
SWITCHES - ELSEWHERE	48" TO TOP OF OUTLET BOX
OCCUPANCY SENSORS - WALLBOX SWITCHES	48" TO TOP OF OUTLET BOX
OCCUPANCY SENSORS - ELSEWHERE	AS RECOMMENDED BY MANUFACTURER
RECEPTACLES - COUNTERS	44" (FIELD VERIFY)
RECEPTACLES - ELSEWHERE	18"
DISCONNECTS	46"
CIRCUIT BREAKER PANELBOARDS	72" TO TOP OF PANEL UNLESS SPECIAL CIRCUMSTANCES ARE INDICATED OR OTHERWISE APPLY
WALL MOUNTED LUMINAIRES	AS NOTED ON PLANS OR AS DIRECTED BY ARCHITECT
CONTROL STATIONS	46"
FIRE ALARM MANUAL PULL STATIONS	46" TO TOP OF OPERATING HANDLE
FIRE ALARM AUDIO/VISUAL ANNUNCIATORS	80" TO BOTTOM OF OUTLET BOX
TELEPHONE OUTLETS - DESK PHONE	18"
TELEPHONE OUTLETS - WALL PHONE	46"
DATA OUTLETS	18" TO TOP OF OUTLET BOX.

1.3 ELECTRICAL INSTALLATIONS

A. INSTALL WORK CONDUIT, WIRING, OUTLET BOX TYPE WORK IN FINISHED AREAS CONCEALED, SUCH WORK INSTALLED IN UNFINISHED AREAS MAY BE EXPOSED AT THE DISCRETION OF THE OWNER'S REPRESENTATIVE.

B. VERIFY DIMENSIONS BY FIELD MEASUREMENTS, TAKE MEASUREMENTS AND BE RESPONSIBLE FOR EXACT SIZE AND LOCATIONS OF OPENINGS REQUIRED FOR THE INSTALLATION OF WORK. FIGURED DIMENSIONS ARE REASONABLY ACCURATE AND SHOULD GOVERN IN SETTING OUT WORK. WHERE DETAILED METHOD OF INSTALLATION IS NOT INDICATED OR WHERE VARIATIONS EXIST BETWEEN DESCRIBED WORK AND APPROVED PRACTICE, FOLLOW DIRECTION OF THE OWNER'S REPRESENTATIVE.

C. PROVIDE BRANCH SUBFEEDER CIRCUITS AS SHOWN ON THE PLANS. THE SYMBOLS USED TO INDICATE THE PURPOSE OF WHICH THE VARIOUS OUTLETS ARE INTENDED ARE IDENTIFIED IN THE ELECTRIC LEGEND. WHERE OUTLETS ARE INDICATED BY LETTERS ON PLANS, PROVIDE CORRESPONDING SWITCHES TO CONTROL THEM.

D. PROVIDE NO WIRE SIZE SMALLER THAN NO. 12 FOR BRANCH CIRCUITS UNLESS OTHERWISE NOTED ON PLANS FOR CONTROL CIRCUITS. PROVIDE LARGER SIZES WHERE REQUIRED BY PREVAILING CODES OR INDICATED ON CONTRACT DOCUMENTS. PROVIDE NEUTRAL CONDUCTOR FOR ALL MULTI-POLE FEEDERS. PROVIDE NEUTRAL CONDUCTOR(S) FOR ALL MULTI-POLE FEEDERS AND BRANCH CIRCUITS UNLESS THIS CONTRACTOR DETERMINES IN FIELD THAT THE AFFECTED LOAD(S) WILL NEVER HAVE NEED FOR A NEUTRAL CONDUCTOR AND NEC DOES NOT MANDATE OTHERWISE.

1.4 COORDINATION

A. PLANS ARE DIAGRAMMATIC INDICATING DESIGN INTENT AND INDICATING REQUIRED SIZE, POINTS OF TERMINATION AND, IN SOME CASES, SUGGESTED ROUTES OF RACEWAYS, ETC. HOWEVER, IT IS NOT INTENDED THAT DRAWINGS INDICATE FULLY COORDINATED CONDUIT ROUTING, NECESSARY OFFSETS, ETC. THE DRAWINGS ARE AN OUTLINE TO INDICATE THE APPROXIMATE LOCATION AND ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, OUTLETS, RACEWAYS, CABLES, ETC. INSTALL PIPING, CONDUIT, RACEWAYS, CABLE ASSEMBLIES, ETC. AS STRAIGHT AS POSSIBLE AND SYMMETRICAL (PERPENDICULAR TO OR PARALLEL WITH) WITH ARCHITECTURAL ITEMS. WORK IN AND ON THE BUILDING INSTALLED DIAGONAL TO BUILDING MEMBERS IS PROHIBITED.

B. CONSULT THE PLANS OF OTHER TRADES BEFORE INSTALLING WORK SO THAT WORK WILL NOT INTERFERE WITH THOSE.

C. PARTICIPATE IN COORDINATION EFFORTS AND IN PREPARATION OF COORDINATION DRAWINGS PRIOR TO FABRICATION OR INSTALLATION OF EQUIPMENT, MATERIALS, ETC. COORDINATE ACTUAL CLEARANCES OF INSTALLED EQUIPMENT. COORDINATE EXACT LOCATION OF ELECTRICAL OUTLETS, LIGHTING FIXTURES, CONDUITS, RACEWAYS, EQUIPMENT, CABLE ASSEMBLIES, APPLICABLE DEVICES, ETC. WELL IN ADVANCE OF INSTALLATION SO THERE WILL BE NO INTERFERENCES AT INSTALLATION BETWEEN THE VARIOUS TRADES.

D. ENSURE THAT WORK AND WORKING CLEARANCES IN ELECTRICAL ROOMS AND SIMILAR SPACES COMPLIES WITH NEC ARTICLE 110. THIS ALSO APPLIES TO FINALIZING LOCATIONS OF DISCONNECTS, STARTERS, CONTACTORS AND OTHER ELECTRICALLY OPERATED EQUIPMENT THAT MAY REQUIRE TESTING OR MAINTENANCE WHILE ENERGIZED.

E. COORDINATE AND CORRECT CONFLICTS IN EQUIPMENT AND MATERIALS PRIOR TO INSTALLATION. IF A CONFLICT CANNOT BE RESOLVED, REFER THE MATTER TO THE OWNER'S REPRESENTATIVE FOR A FINAL DECISION AS TO METHOD AND MATERIAL.

1.5 IDENTIFICATION

A. CABLE AND CONDUCTOR IDENTIFICATION
1. PROVIDE MANUFACTURER'S STANDARD VINYL-CLOTH SELF-ADHESIVE CONDUCTOR MARKERS OF WRAP-AROUND TYPE, EITHER PRE-NUMBERED PLASTIC COATED TYPE, OR WRITE-ON TYPE WITH CLEAR PLASTIC SELF-ADHESIVE COVER FLAP; NUMBERED TO SHOW CIRCUIT IDENTIFICATION. PROVIDE ON CONDUCTORS. PROVIDE COLOR CODED INSULATION FOR CONDUCTORS. PROVIDE COLOR CODED JACKETS FOR CABLES. MATCH COLOR SCHEMES WITH MARKING SYSTEM USED IN SUBMITTALS, CONTRACT DOCUMENTS, INDUSTRY STANDARDS, ETC. APPLY CABLE/CONDUCTOR IDENTIFICATION ON EACH CABLE IN EACH BOX/ENCLOSURE/CABINET FOR CABLES THAT ARE NOT AVAILABLE WITH COLOR CODED INSULATION OR JACKETS.

2. USE THE FOLLOWING INSULATION COLOR CODE FOR POWER SYSTEM AND VOLTAGE IDENTIFICATION. THIS APPLIES TO BOTH FEEDER AND BRANCH CIRCUIT WIRING. DO NOT INTERCHANGE COLORS. THE USE OF SCOTCH COLOR CODING TAPES FOR PHASE IDENTIFICATION MAY BE USED ON FEEDER CABLES ONLY (#4 AWG AND LARGER).

a. 480Y/277V SYSTEM BROWN, ORANGE, YELLOW & GRAY (NEUT.)
b. 208Y/120V SYSTEM: BLACK, RED, BLUE & WHITE (NEUTRAL)
c. 240V DELTA SYSTEM: BLACK, RED & BLUE
d. 120/240V SYSTEM: BLACK, RED & WHITE (NEUTRAL)
e. ELECTRONIC GROUND: GREEN WITH YELLOW TRACER (NEUTRAL)
f. EQUIPMENT GROUNDING: GREEN

C. RACEWAY IDENTIFICATION
1. PROVIDE MANUFACTURER'S STANDARD SELF-ADHESIVE VINYL TAPE NOT LESS THAN 3 MILS THICK BY 1-1/2" WIDE, UNLESS OTHERWISE INDICATED OR REQUIRED BY GOVERNING REGULATIONS PROVIDE BLACK LETTERING ON ORANGE BASE WITH MINIMUM 1/2" HIGH LETTERING, AS A MINIMUM, NEATLY INSTALL MARKERS AT EACH AND EVERY ENTRY POINT TO ROOMS, JUNCTION BOXES, PULL BOXES, EQUIPMENT CONNECTIONS, ETC. DO NOT INSTALL THESE MARKERS ON EXPOSED RACEWAYS IN FINISHED AREAS THAT WILL BE OCCUPIED.

D. EMERGENCY SYSTEMS
1. PROVIDE PERMANENT IDENTIFICATION FOR BOXES, ENCLOSURES, ETC. THAT ARE ASSOCIATED WITH EMERGENCY SYSTEM WORK. PAINT AND IDENTIFY EMERGENCY SYSTEM PULL BOXES, JUNCTION BOXES, AND OTHER ACCESS/PULL POINTS (BOXES AND COVERS) IN ACCORDANCE WITH NEC. PROVIDE EMERGENCY SYSTEM EQUIPMENT PANELBOARDS, CABINETS, ENCLOSURES, ETC. WITH RED MECHANICALLY FASTENED ENGRAVED NAMEPLATES WITH THE FIRST LINE OF TEXT TO READ "EMERGENCY CIRCUITS" AND THE REMAINING LINES TO INCLUDE THE NECESSARY DESCRIPTIVE TEXT.

E. FIRE ALARM SYSTEMS
1. PROVIDE PERMANENT IDENTIFICATION FOR BOXES, ENCLOSURES, ETC. THAT ARE ASSOCIATED WITH FIRE ALARM SYSTEM WORK. PAINT AND IDENTIFY FIRE ALARM SYSTEM PULL BOXES, JUNCTION BOXES, AND OTHER ACCESS/PULL POINTS (BOXES AND COVERS) IN ACCORDANCE WITH NEC/NFPA. PROVIDE FIRE ALARM SYSTEM CONTROL PANEL EQUIPMENT CABINETS, ENCLOSURES, ETC. WITH RED MECHANICALLY FASTENED ENGRAVED NAMEPLATES WITH THE FIRST LINE OF TEXT TO READ "FIRE ALARM" AND THE REMAINING LINES TO INCLUDE THE NECESSARY DESCRIPTIVE TEXT.

F. KITCHEN EQUIPMENT RECEPTACLES
1. LABEL EACH RECEPTACLE FOR PROPER DEDICATED EQUIPMENT INDICATED.

FIRE ALARM SYSTEMS

1.6 CUTTING, PATCHING AND SEALING

E. GENERAL
1. PROVIDE CUTTING AND PATCHING FOR THE ADMISSION OF WORK. PERFORM CUTTING, FITTING, AND PATCHING FOR ELECTRICAL EQUIPMENT AND MATERIALS AS REQUIRED TO:
a. UNCOVER WORK TO PROVIDE FOR INSTALLATION OF ILL-TIMED WORK.
b. REMOVE AND REPLACE DEFECTIVE WORK.
c. REMOVE AND REPLACE WORK NOT CONFORMING TO REQUIREMENTS OF THE CONTRACT DOCUMENTS.
d. REMOVE SAMPLES OF INSTALLED WORK AS SPECIFIED FOR TESTING.
e. INSTALL EQUIPMENT AND MATERIALS IN EXISTING BUILDINGS.
2. PATCH SURFACES AND BUILDING COMPONENTS USING NEW MATERIALS MATCHING EXISTING MATERIALS AS APPLICABLE AND USING EXPERIENCED INSTALLERS.

B. GROUT
1. PROVIDE NON-SHRINK, NONMETALLIC GROUT, PREMIXED, FACTORY-PACKAGED, NONSTAINING, NONCORROSIVE, NONGASEOUS GROUT, RECOMMENDED FOR INTERIOR AND EXTERIOR APPLICATIONS.

C. GENERAL FIRE STOPPING MATERIAL APPLICATION
1. FIRE STOPPING REQUIREMENTS/LOCATIONS ARE NOT INDICATED ON ELECTRICAL DRAWINGS. REVIEW ARCHITECTURAL AND OTHER DRAWINGS TO DETERMINE FIRE/SMOKE RATED WALLS AND FLOORS AND RATING REQUIREMENTS OF SAME. PROVIDE REQUIRED FIRE STOPPING WORK ASSOCIATED WITH ELECTRICALLY RELATED PENETRATIONS. PROVIDE FIRE STOP PILLOWS, PUTTY OR SEALANT, AS APPLICABLE, WITH MINIMUM UL CLASSIFICATION FOR 3 HOUR FIRE AND COLD SIDE TEMPERATURE RATINGS.

END OF SECTION

SECTION 26 05 01 - EXISTING CONDITIONS AND DEMOLITION

PART 1 - GENERAL

1.1 RELATED WORK

A. WHERE THE TERM "DEMOLITION" IS USED HEREIN, INTERPRET IT TO MEAN "DEMOLITION" OR "SELECTIVE DEMOLITION" AS APPLICABLE..

B. EXISTING ELECTRICAL WORK IS SHOWN TO A LIMITED EXTENT ON DRAWINGS AND IS SHOWN FOR GENERAL PLANNING REFERENCE ONLY. LOCATIONS AND INFORMATION WERE DERIVED FROM CURSORY VISUAL OBSERVATIONS OR FROM PORTIONS OF DOCUMENTS THAT WERE PREPARED FOR PREVIOUSLY INSTALLED WORK (NOT FROM RECORD DRAWINGS OR "AS-BUILTS").

C. HOLD ROUTING OF NEW RACEWAYS IN EXISTING BUILDINGS AS TIGHTLY AS POSSIBLE TO THE STRUCTURE ABOVE. OBTAIN APPROVAL OF OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

1.2 AFFECT ON ADJACENT OCCUPIED AREAS

A. MAINTAIN EXISTING ELECTRICAL SERVICE AND FEEDERS TO OCCUPIED AREAS AND OPERATIONAL FACILITIES, UNLESS OTHERWISE INDICATED, OR WHEN AUTHORIZED OTHERWISE IN WRITING BY OWNER'S REPRESENTATIVE. PROVIDE TEMPORARY SERVICE DURING INTERRUPTIONS TO EXISTING FACILITIES. SCHEDULE MOMENTARY OUTAGES WHEN NECESSARY FOR REPLACING EXISTING WIRING SYSTEMS WITH NEW WIRING SYSTEMS. WHEN THAT "CUTTING-OVER" HAS BEEN SUCCESSFULLY ACCOMPLISHED, REMOVE RELATED WIRING THAT HAS BEEN ABANDONED.

1.3 GENERAL DEMOLITION

A. PROVIDE ELECTRICAL DEMOLITION WORK AS REQUIRED TO ACCOMMODATE PROJECT DEMOLITION AND AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION.

B. PERFORM CUTTING AND PATCHING REQUIRED FOR DEMOLITION.

END OF SECTION

SECTION 26 05 19 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 GENERAL

A. PROVIDE WIRE AND CABLE SUITABLE FOR THE TEMPERATURE, CONDITIONS, AND LOCATION WHERE INSTALLED.

1.2 CONDUCTORS

A. PROVIDE COPPER CONDUCTOR MATERIAL FOR WIRES AND CABLES UNLESS SPECIFICALLY INDICATED OTHERWISE ON SINGLE-LINE DIAGRAM ON DRAWINGS.

B. CONDUCTOR SIZES INDICATED ARE BASED ON COPPER UNLESS SPECIFICALLY INDICATED OTHERWISE ON SINGLE-LINE DIAGRAM ON DRAWINGS.

C. PROVIDE MINIMUM #12 AWG CONDUCTOR SIZE.

D. STRANDED OR SOLID CONDUCTORS MAY BE USED FOR TYPE MC CABLE CONDUCTORS THAT ARE #10 AWG OR LESS WHERE PERMITTED BY PREVAILING CODES AND AUTHORITIES HAVING JURISDICTION. PROVIDE STRANDED CONDUCTORS FOR ALL OTHER APPLICATIONS.

E. PROVIDE THE FOLLOWING MINIMUM WIRE SIZES BASED ON DISTANCES FROM PANEL TO FIRST DEVICE OF A 15 OR 20 AMPERE GENERAL LIGHTING OR RECEPTACLE BRANCH CIRCUIT. IN ADDITION TO UPSIZING CONDUCTORS AS REQUIRED FOR VOLTAGE DROP, PROVIDE MINIMUM #10 AWG CONDUCTORS TO THE LAST DEVICE FOR BRANCH CIRCUITS MORE THAN 150 FEET IN LENGTH.

DISTANCE	AWG WIRE SIZES
UP TO 60 FEET	#12
61 TO 90 FEET	#10
91 TO 150 FEET	#8
151 TO 240 FEET	#6

F. PROVIDE THE FOLLOWING MINIMUM AWG CONDUCTOR SIZES FOR GENERAL BRANCH CIRCUITING, BASED ON USING COPPER CONDUCTORS. WHERE APPLICABLE INCREASE AS REQUIRED TO ACCOMMODATE VOLTAGE DROP AND TO ACCOMMODATE SPECIAL CONDITIONS. DO NOT DERATE ANY GROUNDED (NEUTRAL) CONDUCTORS.

	EQUIPMENT GROUNDING	
SOURCE BREAKER/FUSE	AWG WIRE SIZE	AWG WIRE SIZE
15 AMPERE	#14	#14
20 AMPERE	#12	#12
25 AMPERE	#10	#10
30 AMPERE	#10	#10
35 AMPERE	# 8	#10
40 AMPERE	# 8	#10
45 AMPERE	# 8	#10
50 AMPERE	# 6	#10
60 AMPERE	# 6	#10
70 AMPERE	# 4	#8
80 AMPERE	# 4	#8
90 AMPERE	# 2	#8
100 AMPERE	# 2	#8

G. PROVIDE CONDUCTOR INSULATION RATED AT 600VAC AND 90 DEGREES C. PROVIDE THHN/THWN INSULATION FOR CONDUCTORS SIZE 500 KCMIL AND LARGER, AND FOR CONDUCTORS # 8 AWG AND SMALLER. PROVIDE THW OR THHN/THWN INSULATION FOR OTHER SIZES AS APPROPRIATE FOR THE LOCATIONS WHERE INSTALLED.

H. PROVIDE XHHW-2 INSULATION FOR WIRING BELOW GRADE AND FOR WIRING SUBJECT TO MOISTURE CONDITIONS.

I. PROVIDE DEDICATED PARITY SIZED GROUNDED (NEUTRAL) CONDUCTOR FOR EACH BRANCH CIRCUIT PHASE CONDUCTOR FED FROM 15 AMPERE AND 20 AMPERE BRANCH CIRCUIT BREAKERS.

J. PROVIDE GROUNDED (NEUTRAL) CONDUCTOR(S) FOR ALL MULTI-POLE FEEDERS UNLESS INDICATED OTHERWISE ON POWER DISTRIBUTION SINGLE-LINE DIAGRAM.

K. PROVIDE GROUNDED (NEUTRAL) CONDUCTOR(S) FOR ALL MULTI-POLE BRANCH CIRCUITS.

1.3 TYPE AC/MC CABLES

A. PROVIDE TYPE AC/MC CABLES THAT ARE MINIMUM 90 DEGREES C RATED, WITH COMPONENTS AND FITTINGS LISTED FOR GROUNDING, AND COMPLIANT WITH THE FOLLOWING.
1. UL STD.4 AND UL STD. 83.
2. ANSI E119 AND E814.
3. NEC ARTICLES 250 AND 333.

B. PROVIDE CABLE FORMED FROM CONTINUOUS LENGTH OF SPIRALLY WOUND, INTERLOCKED ZINC-COATED OR GALVANIZED (INSIDE & OUTSIDE) STRIP STEEL. PROVIDE CABLES WITH FULL PARITY SIZED GREEN INSULATED EQUIPMENT GROUND CONDUCTOR.

C. PROVIDE COMPATIBLE STEEL FITTINGS WITH INTEGRAL RED PLASTIC INSULATED THROAT BUSHINGS, COMPLIANT WITH NEC 350-5.

D. TYPE AC/MC CABLE MAY BE UTILIZED ONLY IF NEC APPROVED AND IF APPROVED BY LOCAL AUTHORITY HAVING JURISDICTION AND IF INCLUDED IN THE LIMITED APPLICATIONS DEFINED BELOW.
1. PROVIDE FOR NEW 15 THROUGH 20 AMPERE BRANCH CIRCUIT WORK. THIS APPLIES ONLY UNDER ALL OF THE FOLLOWING CIRCUMSTANCES AND CONDITIONS.
a. PROVIDE ONLY WHERE CONCEALED (INSTALL WIRING FOR EXPOSED APPLICATIONS IN RACEWAY).
b. ALL EQUIPMENT WIRING SHALL BE IN CONDUIT.
c. ROUTE CABLES PERPENDICULAR AND PARALLEL TO THE BUILDING ARCHITECTURAL LINES, SURFACES, AND STRUCTURAL MEMBERS, KEEPING OFFSETS TO A MINIMUM AND FOLLOWING SURFACE CONTOURS WHERE POSSIBLE. MAINTAIN A UNIFORM ELEVATION FOR CABLE RUNS WHEREVER POSSIBLE. SUPPORT AND ANCHOR CABLES AT MAXIMUM 4 FOOT INTERVALS AND WITHIN 12" OF BOX OR OUTLET IN A MANNER THAT PREVENTS SAGGING. INSTALL CABLES IN A MANNER THAT PREVENTS OVERHEATING. FASTEN CABLES DIRECTLY TO THE STRUCTURE USING FACTORY CLAMPS AND CLIPS SPECIFICALLY DESIGNED FOR THE RESPECTIVE CABLE (CADDY OR EQUAL).
d. PROVIDE ONLY WHERE INSTALLED FOR NORMAL UTILITY CIRCUITS. INSTALL WIRING FOR EMERGENCY SYSTEM CIRCUITS IN STEEL CONDUIT, NO EXCEPTIONS.

1.4 THE USE OF NM/NMS CABLE IS PROHIBITED.

PART 2 - EXECUTION

2.1 INSTALLATION

A. PROVIDE GROUNDED ("NEUTRAL") CONDUCTOR IN ALL LIGHTING CONTROL DEVICE (SWITCH, DIMMER, OCCUPANCY SENSOR, ETC.) WALL OUTLET BOXES, EVEN IF NOT IMMEDIATELY USED.

B. CONNECT WIRES #6 AWG AND LARGER TO PANELS AND APPARATUS BY MEANS OF APPROVED LUGS OR CONNECTORS LARGE ENOUGH TO ENCLOSE ALL STRANDS OF THE CONDUCTORS. PROVIDE SOLDERLESS TYPE CONNECTORS.

C. PROVIDE FACTORY SPLICE KITS (U.L. APPROVED FOR SUBMERSION IN WATER AND DIRECT BURIAL) FOR WIRE SPLICING IN OUTDOOR GRADE, OR SLAB ON GRADE, JUNCTION BOXES.

END OF SECTION

SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. THIS SECTION INCLUDES GROUNDING AND BONDING REQUIREMENTS FOR ELECTRICAL AND TELECOMMUNICATIONS SYSTEMS, CIRCUITS, AND EQUIPMENT.

B. PROVIDE THE FOLLOWING MINIMUM REQUIREMENTS FOR GROUNDING.
1. NFPA: - COMPONENTS AND INSTALLATION SHALL COMPLY WITH NFPA 70, "NATIONAL ELECTRICAL CODE" (NEC).
2. UL - COMPLY WITH UL 467, "GROUNDING AND BONDING EQUIPMENT."
3. ANSI/TIA/EIA-607, "COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS.

PART 2 - PRODUCTS

2.1 MATERIALS

A. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE GROUNDING AND BONDING PRODUCT MANUFACTURERS OF THE INSTALLER'S CHOICE UNLESS NOTED OTHERWISE.

B. EXCEPT AS OTHERWISE INDICATED, PROVIDE COPPER ELECTRICAL GROUNDING AND BONDING SYSTEMS AND MATERIALS WITH ASSEMBLY OF MATERIALS INCLUDING BUT NOT LIMITED TO CABLES/WIRES, CONNECTORS, SOLDERLESS LUG TERMINALS, GROUNDING ELECTRODES AND PLATE ELECTRODES, BONDING JUMPER BRAID, AND ADDITIONAL ACCESSORIES NEEDED FOR A COMPLETE INSTALLATION, WHERE MATERIALS OR COMPONENTS ARE NOT INDICATED, PROVIDE PRODUCTS THAT COMPLY WITH NEC, UL, AND IEEE REQUIREMENTS, AND WITH ESTABLISHED INDUSTRY STANDARDS FOR THOSE APPLICATIONS INDICATED. UTILIZE COMPATIBLE METALLIC MATERIALS THROUGHOUT SYSTEM TO ELIMINATE GALVANIC ACTION.

C. PROVIDE STEEL GROUNDING ELECTRODES WITH COPPER WELDED EXTERIOR, AND 3/4" DIAMETER BY 10 FEET LENGTH. PROVIDE SHEET COPPER PLATE ELECTRODES THAT ARE 20-GAGE BY 36" BY 36", WITH CABLE ATTACHMENTS (MINIMUM QUANTITY OF 2), SIZED FOR CABLES AS NECESSARY TO FULFILL PROJECT GROUNDING REQUIREMENTS. PROVIDE COPPER GROUND PLATES WHERE GROUND RODS CANNOT BE USED. PROVIDE CONNECTIONS TO GROUND ELECTRODES AT A POINT NOT LESS THAN 1 FOOT BELOW GRADE LEVEL, AND NOT LESS THAN 2 FEET AWAY FROM FOOTINGS AND FOUNDATIONS. WELD GROUNDING CONDUCTORS TO UNDERGROUND GROUNDING ELECTRODES WHERE MECHANICAL CONNECTIONS CAN NOT, OR SHOULD NOT, BE UTILIZED.

PART 3 - EXECUTION

3.1 INSTALLATION

A. TERMINATE FEEDER AND BRANCH CIRCUIT INSULATED EQUIPMENT GROUNDING CONDUCTORS WITH GROUNDING LUG, BUS, OR BUSHING. ROUTE GROUNDING CONNECTIONS AND CONDUCTORS TO GROUND AND PROTECTIVE DEVICES IN SHORTEST AND STRAIGHTEST PATHS AS POSSIBLE TO MINIMIZE TRANSIENT VOLTAGE RISES.

B. INSTALL CLAMP-ON CONNECTORS ON CLEAN METAL CONTACT SURFACES, TO ENSURE ELECTRICAL CONDUCTIVITY AND CIRCUIT INTEGRITY.

C. PROVIDE CORROSION-RESISTANT FINISH TO FIELD-CONNECTIONS, TO PLACES WHERE FACTORY APPLIED PROTECTIVE COATINGS HAVE BEEN DAMAGED, AND WHERE SUBJECT TO CORROSIVE ACTION.

D. ROUTE GROUND CONDUCTORS USED FOR BONDING IN PROTECTIVE CONDUIT SLEEVES. PROVIDE BOTH ENDS OF THESE CONDUIT SLEEVES WITH GROUND BUSHINGS, AND BOND GROUND BUSHINGS TO ENCLOSURES AND GROUND TERMINATIONS AT BOTH ENDS USING JUMPERS. SIZE GROUND JUMPER CONDUCTORS THE SAME AS THE RESPECTIVE GROUND CONDUCTOR THAT IS BEING PROTECTED WITHIN THE RESPECTIVE CONDUIT.

E. PROVIDE CORROSION-RESISTANT FINISH TO BURIED METALLIC GROUNDING AND BONDING PRODUCTS.

F. TERMINATE GROUND ELECTRODE CONDUCTORS WITH TWO-HOLE COMPRESSION LUGS. TERMINATE BONDING JUMPER CONDUCTORS WITH ONE-HOLE COMPRESSION LUGS.

G. INSTALL BRAIDED TYPE BONDING JUMPERS WITH GROUND CLAMPS ON VALVED WATER PIPING WHERE SUCH PIPING PENETRATES EXTERIOR WALLS AND FIRE WALLS. INSTALL WATER PIPE CONNECTOR FITTINGS SO THAT THEY MAKE CONTACT WITH THE WATER PIPE FOR A MINIMUM DISTANCE OF 1-1/2 INCHES (MEASURED ALONG THE AXIS), AND HAVE A MINIMUM CONTACT SURFACE AREA OF 3 SQUARE INCHES.

H. EQUALIZE (BOND TOGETHER) GROUND POTENTIALS ASSOCIATED WITH THE ELECTRICAL DISTRIBUTION SYSTEM, SEPARATELY DERIVED SYSTEMS, STEEL STRUCTURAL SYSTEMS, AND WATER SERVICES PER NEC AND AS APPLICABLE.

I. SERVICE ENTRANCE GROUNDING REQUIREMENTS
1. PROVIDE A PARITY SIZED INSULATED GROUNDED CONDUCTOR (NEUTRAL) FOR EACH SET OF SERVICE ENTRANCE FEEDER PHASE/LINE CONDUCTORS, TERMINATED AND BONDED TO SERVICE EQUIPMENT. THIS APPLIES WHETHER OR NOT DOWNSTREAM LOADS REQUIRE A NEUTRAL CONDUCTOR. INSTALL THESE NEUTRAL CONDUCTORS UNSPLICED AND UNBROKEN.
2. CONNECT GROUNDING ELECTRODE CONDUCTORS TO 1-INCH DIAMETER, OR GREATER, METALLIC COLD WATER PIPE AT SERVICE ENTRANCE USING A SUITABLY SIZED GROUND CLAMP. PROVIDE CONNECTIONS TO FLANGED PIPING AT STREET SIDE OF FLANGE. GROUND ELECTRICAL SERVICE SYSTEM NEUTRAL AT SERVICE ENTRANCE EQUIPMENT TO GROUNDING ELECTRODES. INSTALL BRAIDED TYPE BONDING JUMPERS WITH CODE-SIZED GROUND CLAMPS ON WATER METER PIPING TO ELECTRICALLY BYPASS WATER METERS AND WATER SERVICE ENTRANCE VALVES.
3. CONTACT AHJ ELECTRICAL INSPECTOR IN ADVANCE OF INSTALLING SERVICE GROUNDING WORK. DETERMINE LOCALLY APPROVED METHODS THAT MUST BE USED FOR RE-BAR GROUNDING THAT THE AHJ CONSIDERS COMPLIANT WITH NATIONAL ELECTRICAL CODE ARTICLE 250.52.
4. UPON COMPLETION OF INSTALLATION OF ELECTRICAL GROUNDING AND BONDING SYSTEMS, TEST GROUND RESISTANCE WITH GROUND RESISTANCE TESTER. WHERE TESTS SHOW RESISTANCE-TO-GROUND IS OVER 3 OHMS, TAKE APPROPRIATE ACTION TO REDUCE RESISTANCE TO 3 OHMS, OR LESS, BY DRIVING ADDITIONAL

SPECIFICATIONS - DIVISION 26 - ELECTRICAL (CONTINUED)

SECTION 26 05 33 - RACEWAYS FOR ELECTRICAL SYSTEMS (CONTINUED)

G. PROVIDE CONDUIT FITTINGS WITH INSULATED THROATS, OR PLASTIC BUSHINGS FOR CONDUITS 2" AND LARGER WHERE INSULATED THROATS ARE NOT READILY AVAILABLE.

H. PROVIDE MAXIMUM OF 40 PERCENT FILL FOR RACEWAYS, OR A THRESHOLD OF LESS IF REQUIRED BY NEC.

PART 2 - PRODUCTS

2.1 ELECTRICAL METALLIC TUBING (EMT)

A. PROVIDE GALVANIZED OR ZINC COATED STEEL EMT COMPLIANT WITH FS WW-C-563, ANSI C80.3 AND UL 797.

B. PROVIDE EMT FOR ABOVE-GRADE CONDUIT, EXCEPT WHERE INDICATED OTHERWISE HEREIN, UNDER OTHER DIVISION 26 SECTIONS, OR ON DRAWINGS.

2.2 STEEL RIGID METAL CONDUIT (RMC)

A. PROVIDE RIGID STEEL, HEAVY WALL, FULL WEIGHT, ZINC-COATED, THREADED TYPE (GALVANIZED AFTER CUTTING/THREADING) CONDUIT CONFORMING TO ANSI C80.1 AND UL 6. PROVIDE ZINC COATING FUSED TO INSIDE AND OUTSIDE WALLS OF CONDUIT.

B. PROVIDE GALVANIZED OR ZINC COATED STEEL THREADED FITTINGS.

C. PROVIDE FOR THE FOLLOWING APPLICATIONS.
1. CONDUIT INSTALLED EMBEDDED IN CONCRETE, OR MASONRY.
2. CONDUITS (GROUNDED) THAT TURN UP FROM BELOW GRADE OR BELOW SLAB, EXCLUDING THE 90 DEGREE FITTINGS THAT CONNECT TO HORIZONTAL CONDUITS BELOW GRADE OR SLAB.
3. OTHER APPLICATIONS AS INDICATED IN PROJECT MANUAL OR ON DRAWINGS, AS REQUIRED BY NEC, OR AS OTHERWISE REQUIRED FOR SPECIAL PHYSICAL PROTECTION (I.E. NEARBY VEHICULAR/EQUIPMENT TRAFFIC, SITE MAINTENANCE EQUIPMENT, ETC.).

2.3 PVC COATED STEEL RIGID METAL CONDUIT (PVC/RMC)

A. PROVIDE RIGID STEEL, HEAVY WALL, FULL WEIGHT, THREADED TYPE (GALVANIZED AFTER CUTTING/THREADING INSIDE AND OUT) PVC COATED CONDUIT CONFORMING TO UL 6 STANDARD FOR SAFETY, RIGID METAL CONDUIT, AND UL514B STANDARD FOR SAFETY, FITTINGS FOR CONDUIT AND OUTLET BOXES

B. THE PVC COATED GALVANIZED RIGID CONDUIT MUST BE ETL VERIFIED TO THE INTERTEK ETL SEMKO HIGH TEMPERATURE H2O PVC COATING ADHESION TEST PROCEDURE FOR 200 HOURS. THE PVC COATED GALVANIZED RIGID CONDUIT MUST BEAR THE ETL VERIFIED PVC-001 LABEL TO SIGNIFY COMPLIANCE TO THE ADHESION PERFORMANCE STANDARD.

C. PROVIDE FOR APPLICATIONS SPECIFICALLY DESIGNATED ON DRAWINGS.

2.4 FLEXIBLE METAL CONDUIT (FMC)

A. PROVIDE FLEXIBLE METAL CONDUIT COMPLIANT WITH FS WW-C-566 AND UL 1, AND FORMED FROM CONTINUOUS LENGTH OF SPIRALLY WOUND, INTERLOCKED ZINC-COATED OR GALVANIZED (INSIDE & OUTSIDE) STRIP STEEL. PROVIDE CONDUIT FITTINGS FOR USE WITH FLEXIBLE STEEL CONDUIT OF THREADLESS HINGED CLAMP TYPE, WITH INSULATED THROATS. PROVIDE STRAIGHT TERMINAL CONNECTORS CONSISTING OF ONE PIECE BODY, FEMALE END WITH CLAMP AND DEEP SLOTTED MACHINE SCREW FOR SECURING CONDUIT, AND MALE THREADED END WITH LOCKNUT. DO NOT USE 45 DEGREE OR 90 DEGREE TERMINAL ANGLE CONNECTORS FOR FLEXIBLE OR WATER-TIGHT FLEXIBLE METAL CONDUIT IN LOCATIONS THAT WILL NOT BE FULLY ACCESSIBLE AFTER COMPLETION OF CONSTRUCTION. PROVIDE FULL SIZE GREEN INSULATED GROUND WIRE FOR ALL APPLICATIONS, REGARDLESS OF LENGTH. PROVIDE FLEXIBLE METAL CONDUIT FOR THE FOLLOWING CONDITIONS AS APPLICABLE.
1. PROVIDE FOR FINAL 72 INCHES FROM OUTLET/JUNCTION BOXES TO RECESSED LUMINAIRES THAT ARE LOCATED IN ACCESSIBLE CEILING SYSTEMS. OPTIONALLY, TYPE AC/MC CABLE MAY BE USED FOR "FIXTURE WHIPS" (REFER TO SECTION 26 05 19).
2. PROVIDE FOR FINAL 24-72 INCHES OF CONNECTION TO INDOOR EQUIPMENT THAT IS SUBJECT TO MOVEMENT OR VIBRATION. LEAVE SUFFICIENT SLACK IN FLEXIBLE CONDUIT TO PERMIT MOVEMENT FROM VIBRATION WITHOUT ADVERSELY AFFECTING CONDUITS AND CONNECTIONS.

PART 3 - EXECUTION

A. GENERAL
1. PROVIDE CONDUIT, TUBING AND FITTINGS OF TYPES, GRADES, SIZES AND WEIGHTS (WALL THICKNESSES) FOR APPLICATIONS AS NEEDED TO RENDER ELECTRICAL WORK FULLY OPERATIONAL..
2. PROPERLY SUPPORT AND ANCHOR RACEWAYS FOR THEIR ENTIRE LENGTH USING STRUCTURAL MATERIALS. DO NOT SPAN ANY SPACE UNSUPPORTED.

END OF SECTION

SECTION 26 05 34 - BOXES AND FITTINGS FOR ELECTRICAL SYSTEMS

PART 1 - PRODUCTS

1.1 INDOOR BOXES

A. PROVIDE MINIMUM SIZE OF 4 INCHES SQUARE BY 1-1/2 INCHES DEEP FOR OUTLET BOXES AND JUNCTION BOXES. PROVIDE OUTLET BOX ACCESSORIES AS REQUIRED FOR EACH INSTALLATION, INCLUDING BOX SUPPORTS, MOUNTING EARS AND BRACKETS, WALLBOARD HANGERS, BOX EXTENSION RINGS, FIXTURE STUDS, CABLE CLAMPS, AND METAL STRAPS FOR SUPPORTING OUTLET BOXES, WHICH ARE COMPATIBLE WITH OUTLET BOXES BEING USED TO FULFILL INSTALLATION REQUIREMENTS FOR INDIVIDUAL WIRING SITUATIONS. PROVIDE WITH STAINLESS STEEL NUTS, BOLTS, SCREWS AND WASHERS.

1.2 FIRE WALLS, FIRE BARRIERS, SMOKE BARRIER WALLS AND FIRE PARTITIONS

A. STEEL OUTLET BOXES THAT DO NOT EXCEED 16 SQUARE INCHES IN AREA MAY BE USED IN FIRE WALLS, FIRE BARRIERS, SMOKE BARRIER WALLS, AND FIRE PARTITIONS ONLY IF THE TOTAL AREA OF SUCH OPENINGS DOES NOT EXCEED 100 SQUARE INCHES FOR ANY 100 SQUARE FEET OF WALL AREA.

B. PROVIDE A MINIMUM OF 24 INCHES OF SEPARATION BETWEEN OUTLET BOXES ON OPPOSITE SIDES OF A COMMON WALL.

C. PROVIDE OUTLET BOXES, EQUIPMENT BACK-BOXES, ETC. IN FIRE WALLS, FIRE BARRIERS, SMOKE BARRIER WALLS, AND FIRE PARTITIONS THAT ARE OF THE TYPE TESTED FOR USE IN FIRE-RESISTANCE-RATED ASSEMBLIES. INSTALL IN ACCORDANCE WITH THE TESTED ASSEMBLY, AND WITH THE INSTRUCTIONS INCLUDED IN THE LISTING.

1.3 DAMP AND WET LOCATION OUTLET BOXES AND COVERS

A. PROVIDE CORROSION-RESISTANT WEATHERTIGHT/RAINTIGHT OUTLET WIRING BOXES, OF TYPES, SHAPES AND SIZES, INCLUDING DEPTH OF BOXES, WITH THREADED CONDUIT HOLES FOR FASTENING ELECTRICAL CONDUIT, SUITABLY CONFIGURED FOR EACH APPLICATION, INCLUDING FACE PLATE GASKETS AND CORROSION-RESISTANT PLUGS AND FASTENERS. PROVIDE WEATHERTIGHT OUTLETS FOR INTERIOR AND EXTERIOR LOCATIONS EXPOSED TO WEATHER OR MOISTURE, I.E. IN DAMP OR WET LOCATIONS.

B. PROVIDE MINIMAL PROFILE ASSEMBLIES THAT ARE RATED NEMA 3R WHILE IN USE AND THAT EMPLOY RECESSED BOX AND COVER DESIGN, EQUAL TO THOMAS & BETTS "RED DOT" SERIES. PROVIDE TRIM COLOR(S) AS DIRECTED BY ARCHITECT.

PART 2 - EXECUTION

2.1 INSTALLATION

A. INSTALL ELECTRICAL BOXES IN THOSE LOCATIONS THAT ENSURE ACCESSIBILITY TO ENCLOSED ELECTRICAL WIRING.

B. DO NOT INSTALL ALUMINUM PRODUCTS IN CONCRETE.

C. CONSIDER THE OUTLET, JUNCTION, AND PULL BOX LOCATIONS INDICATED ON DRAWINGS APPROXIMATE. STUDY THE GENERAL CONSTRUCTION WITH RELATION TO SPACES AND EQUIPMENT SURROUNDING EACH OUTLET, AND NEATLY INSTALL OUTLETS ACCORDINGLY.

END OF SECTION

SECTION 26 05 80 - MECHANICAL EQUIPMENT

PART 1 - GENERAL

1.1 RELATED WORK

A. PROVIDE ALL NECESSARY ELECTRICALLY RELATED WORK AS REQUIRED TO RENDER ALL MECHANICAL EQUIPMENT (INCLUDING PLUMBING, HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT) FULLY OPERATIONAL AND FULLY COMPLIANT WITH NEC. THIS INCLUDES, PRIOR TO ORDERING MATERIALS OR COMMENCING WITH ROUGH-IN, REVIEWING EQUIPMENT SUBMITTAL DATA AND COORDINATING WITH INSTALLING CONTRACTORS TO ENSURE THE CORRECT SIZE, RATING AND QUANTITY OF CONDUCTORS ARE PROVIDED.

PART 2 - EXECUTION

2.1 INSTALLATION

A. GENERAL
1. PROVIDE DISCONNECT SWITCH AHEAD OF ALL EQUIPMENT, INCLUDING CONTROLS, UNLESS THE MECHANICAL EQUIPMENT COMES WITH INTEGRAL NEC-COMPLIANT DISCONNECT(S). PROVIDE NEMA 3R ENCLOSURES WHERE INSTALLED OUTDOORS AND WHERE INSTALLED INDOORS IN AREAS SUBJECT TO MOISTURE. GROUND METAL FRAMES OF EQUIPMENT BY CONNECTING FRAMES TO THE GROUNDED METAL RACEWAY OR TO A FULL SIZE GREEN GROUND CONDUCTOR OR BOTH. PROVIDE THE NECESSARY ELECTRICAL CONNECTIONS BETWEEN THE SPECIFIED EQUIPMENT AND THE JUNCTION BOX NEAR EQUIPMENT WITH FLEXIBLE METALLIC CONDUIT (LIQUID-TIGHT OUTDOORS) AND MATCHED CONNECTORS (SEE SECTION 26 05 33). WHERE MECHANICAL EQUIPMENT LUGS CANNOT ACCOMMODATE CONDUCTOR SIZES SHOWN ON DRAWINGS, PROVIDE ILSCO CLEARTAP INSULATED MULTI-TAP CONNECTORS.
2. SIZES, ELECTRICAL RATINGS, ETC. OF EQUIPMENT AND WIRING SHOWN ON DRAWINGS ARE BASED ON THE RESPECTIVE EQUIPMENT DESIGN BASE MANUFACTURERS. IF DIFFERENT MANUFACTURER(S) OR MODEL(S) ARE ACTUALLY SUPPLIED, PROVIDE NECESSARY COORDINATION IN FIELD (PRIOR TO ORDERING MATERIALS AND PRIOR TO ROUGH-IN) AND PROVIDE THE NECESSARY SIZE OF RELATED ELECTRICAL EQUIPMENT, WIRING, CONDUIT, ETC.
3. PRIOR TO FURNISHING SUBMITTALS AND PRIOR TO ROUGH-IN, DETERMINE EXACT ELECTRICALLY RELATED CHARACTERISTICS, LOADS, VOLTAGES, DISCONNECT AND STARTER REQUIREMENTS, LOCATIONS, MOUNTING HEIGHTS, CONNECTION POINTS, ETC. OF MECHANICAL EQUIPMENT.

B. HACR BREAKERS
1. COORDINATE IN FIELD WITH THE RESPECTIVE TRADES AND DETERMINE CASE BY CASE, WHICH EQUIPMENT IS FACTORY LISTED FOR USE WITH HEATING AND AIR CONDITIONING RATED (HACR) BREAKERS, IN AN EFFORT TO MINIMIZE REQUIREMENTS FOR STOCKING OF FUSES BY THE OWNER. UTILIZE HACR BREAKERS AT THE SOURCE PANELBOARDS AS THE NEC REQUIRED OVERCURRENT PROTECTION WHEREVER POSSIBLE (IN LIEU OF FUSING LOCAL DISCONNECT SWITCHES).

C. DISCONNECT SWITCH AND STARTER LOCATIONS
1. LOCATIONS OF DISCONNECTS AND STARTERS SHOWN ON DRAWINGS ARE INDICATED FOR SCHEMATIC PURPOSES ONLY. DETERMINE EXACT LOCATIONS IN FIELD SO THAT THEY ARE COMPLIANT WITH NEC ARTICLE 110 REQUIREMENTS FOR PANELBOARDS.
2. COMMERCIAL KITCHEN EXHAUST HOODS AND RELATED FAN EQUIPMENT
a. SEE DETAILS ON DRAWINGS.
b. REFER TO FOOD SERVICE DRAWINGS, FOOD SERVICE SPECIFICATIONS AND MANUFACTURER'S SUBMITTALS FOR SPECIFIC INFORMATION. FIELD COORDINATE WORK WITH AFFECTED ENTITIES.
c. PROVIDE INTERLOCK WIRING AND CONNECTIONS TO AND FROM THE VARIOUS EQUIPMENT AND CONTROLS.
d. PROVIDE CONTROL WIRING FROM THE FAN UNITS TO RESPECTIVE REMOTE DUCT STATS.
e. PROVIDE AUXILIARY CONTROL CIRCUIT WIRING FROM THE FACTORY MICRO-SWITCH IN THE HOOD FIRE SUPPRESSION SYSTEMS TO RESPECTIVE DEDICATED FIRE ALARM SYSTEM MONITOR MODULES TO INITIATE ALARM SIGNAL WHEN RESPECTIVE HOOD FIRE PROTECTION SYSTEM IS ACTIVATED.
f. PROVIDE AUXILIARY CONTROL CIRCUIT WIRING FROM THE FACTORY MICRO-SWITCH IN THE HOOD FIRE SUPPRESSION SYSTEM TO CONTACTOR CONTROL COIL(S).
g. PROVIDE EMPTY OCTAGON BOX FOR MECHANICAL MANUAL PULL STATION (AND INSTALL PULL STATION) FOR EACH HOOD FIRE PROTECTION SYSTEM (MOUNTED AT 48" ABOVE FINISHED FLOOR TO TOP OF OUTLET BOX) WITH (1) 1/2" EMPTY CONDUIT ROUTED UP AND OVER TO HOOD AS DIRECTED BY HOOD INSTALLER IN FIELD (W/SWEEP 90'S). FIELD VERIFY LOCATION.
h. PROVIDE INTERLOCK CONTROL WIRING BETWEEN GAS SOLENOID SHUT OFF VALVES AND RESPECTIVE KITCHEN HOOD FIRE SUPPRESSION SYSTEM. COORDINATE WITH AFFECTED INSTALLERS.

END OF SECTION

SECTION 26 24 16 - PANELBOARDS

PART 1 - GENERAL

1.1 RELATED WORK

A. TYPES OF PANELBOARDS AND ENCLOSURES REQUIRED FOR THE PROJECT INCLUDE THE FOLLOWING.
1. POWER-DISTRIBUTION PANELBOARDS.
2. GENERAL USE PANELBOARDS.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PANELBOARD PRODUCTS OF ONE OF THE FOLLOWING (FOR EACH TYPE AND RATING OF PANELBOARD AND ENCLOSURE):
1. SQUARE D COMPANY.
2. GENERAL ELECTRIC COMPANY.
3. SIEMENS/ITE.
4. EATON.

2.2 GENERAL REQUIREMENTS

A. EXCEPT AS OTHERWISE INDICATED, PROVIDE PANELBOARDS, ENCLOSURES AND ANCILLARY COMPONENTS, OF TYPES, SIZES, AND RATINGS INDICATED, WHICH COMPLY WITH MANUFACTURER'S STANDARD MATERIALS; WITH THE DESIGN AND CONSTRUCTION IN ACCORDANCE WITH PUBLISHED PRODUCT INFORMATION.

B. PROVIDE PANELBOARDS WITH PROPER NUMBER OF UNIT PANELBOARD DEVICES AS REQUIRED FOR COMPLETE INSTALLATION. WHERE TYPES, SIZES, OR RATINGS ARE NOT INDICATED, COMPLY WITH NEC, UL AND ESTABLISHED INDUSTRY STANDARDS FOR THOSE APPLICATIONS INDICATED.

C. PROVIDE PANELBOARDS THAT ARE NEW AND MANUFACTURER'S LATEST STANDARD CATALOG DESIGN.

D. PROVIDE PANELBOARDS THAT BEAR UL LABELS FOR THEIR SPECIFIC APPLICATIONS.

E. PROVIDE PANELBOARDS SUITABLE FOR SERVICE VOLTAGE WITH NUMBER OF BRANCH CIRCUITS OF CAPACITY SCHEDULED.

F. PROVIDE PANELBOARDS, AND SECTIONS THEREOF IF APPLICABLE, WITH MAIN-LUGS-ONLY OF CAPACITY EQUAL TO, OR GREATER THAN, THE RATING OR SETTING OF THE OVERCURRENT PROTECTIVE DEVICE NEXT BACK ON THE LINE.

G. PROVIDE PANELBOARD BRANCHES AS SCHEDULED ON THE DRAWINGS.

H. PROVIDE CIRCUIT BREAKER PANELBOARD BUS ASSEMBLIES WITH DISTRIBUTED (SEQUENCE) TYPE BUSSING THROUGHOUT, SO THAT ANY TWO ADJACENT SINGLE-POLE BREAKERS, OR SPACES, ARE REPLACEABLE BY A TWO-POLE INTERNAL COMMON TRIP BREAKER, AND SO THAT ANY THREE ADJACENT SINGLE-POLE BREAKERS, OR SPACES, ARE REPLACEABLE BY A THREE-POLE INTERNAL COMMON TRIP BREAKER. THIS APPLIES FOR BRANCH BREAKERS SIZED 15 AMP THROUGH 70 AMP INCLUSIVE, WITHOUT DISTURBING ANY OTHER BREAKER.

I. PROVIDE PANELBOARDS THAT ARE UL LISTED AND LABELED FOR USE AS SERVICE ENTRANCE EQUIPMENT.

J. PROVIDE DEAD-FRONT SAFETY TYPE PANELBOARDS AS INDICATED, WITH PANELBOARD SWITCHING AND PROTECTIVE DEVICES IN QUANTITIES, RATINGS, TYPES, AND WITH ARRANGEMENT SHOWN. PROVIDE WITH ANTI-TURN SOLDERLESS PRESSURE TYPE MAIN LUG CONNECTORS APPROVED FOR USE WITH COPPER OR ALUMINUM CONDUCTORS.

K. PROVIDE FULL-SIZED (100 PERCENT) NEUTRAL BUS. PROVIDE SUITABLE LUGS ON NEUTRAL BUS FOR OUTGOING FEEDERS REQUIRING NEUTRAL CONNECTIONS.

L. PROVIDE PANELBOARDS WITH BARE UNINSULATED GROUNDING BARS SUITABLE FOR BOLTING TO ENCLOSURES.

2.3 GENERAL USE CIRCUIT BREAKER PANELBOARDS

A. PROVIDE 208Y/120V THREE-PHASE GENERAL USE PANELBOARDS EQUAL TO SQUARE D NQOD WITH BOLT-ON BRANCH BREAKERS.

B. PROVIDE 120/240V SINGLE-PHASE GENERAL USE PANELBOARDS EQUAL TO SQUARE D NQOD WITH BOLT-ON BRANCH BREAKERS.

C. PROVIDE 240V THREE-PHASE DELTA GENERAL USE PANELBOARDS EQUAL TO SQUARE D NQOD WITH BOLT-ON BRANCH BREAKERS.

D. PROVIDE 480Y/277V THREE-PHASE GENERAL USE PANELBOARDS EQUAL TO SQUARE D NF WITH BOLT-ON BRANCH BREAKERS.

2.4 BUSSING

A. PROVIDE COPPER BUSSING.

2.5 CIRCUIT BREAKER PANELBOARD ENCLOSURES

A. PROVIDE GALVANIZED SHEET STEEL CABINET TYPE ENCLOSURES, IN SIZES AND NEMA TYPES AS INDICATED, CODE-GAGE, MINIMUM 16-GAGE THICKNESS.

B. PROVIDE BOXES WITH CODE-COMPLIANT SIDE AND END GUTTERS (MINIMUM 4 INCHES), AND OF CODE GAUGE GALVANIZED STEEL. PROVIDE BOXES THAT ARE 20 INCHES WIDE MINIMUM, AND 5-3/4 INCHES DEEP MINIMUM. PROVIDE BOXES WITH MULTIPLE KNOCKOUTS AND WIRING GUTTERS.

C. PROVIDE PANELBOARD TRIMS THAT ARE FLUSH OR SURFACE AS REQUIRED FOR RESPECTIVE APPLICATION, THAT ARE CONSTRUCTED OF CODE GAUGE STEEL, THAT ARE FINISHED WITH RUST INHIBITING PRIME COAT AND THEN FACTORY APPLIED HOT SPRAY LACQUER OR BAKED-ON ENAMEL, AND THAT ARE FACTORY PAINTED MANUFACTURER'S STANDARD LIGHT GRAY. PROVIDE TRIMS COMPLETE WITH CONCEALED HINGES AND CONCEALED TRIM CLAMPS. PROVIDE DOORS WITH FLUSH CHROMIUM PLATED COMBINATION CYLINDER LOCK AND CATCH, AND WITH DIRECTORY SUITABLE FOR CLEAR PLASTIC. PROVIDE LOCKS THAT ARE KEYED ALIKE.

D. PROVIDE ENCLOSURES THAT ARE FABRICATED BY SAME MANUFACTURER AS PANELBOARDS, WHICH MATE AND MATCH PROPERLY WITH PANELBOARDS TO BE ENCLOSED.

2.6 MOLDED CASE CIRCUIT BREAKERS

A. PROVIDE FACTORY-ASSEMBLED, MOLDED-CASE CIRCUIT BREAKERS OF FRAME SIZES, CHARACTERISTICS, AND RATINGS INCLUDING RMS SYMMETRICAL INTERRUPTING RATINGS REQUIRED FOR EACH APPLICATION. PROVIDE BREAKERS WITH PERMANENT THERMAL AND INSTANTANEOUS MAGNETIC TRIP, WITH FAULT-CURRENT LIMITING PROTECTION, AND WITH AMPERE RATINGS AS INDICATED.

B. PROVIDE COORDINATED SERIES-RATED CIRCUIT BREAKERS AS APPLICABLE THROUGHOUT, ACCOMMODATING RESPECTIVE AVAILABLE FAULT CURRENT.

C. PROVIDE BREAKERS THAT ARE DESIGNED TO BE MOUNTED AND OPERATED IN ANY PHYSICAL POSITION, AND TO BE OPERATED IN A MINIMUM AMBIENT TEMPERATURE OF 40 DEGREES C. PROVIDE BREAKERS WITH MECHANICAL SCREW TYPE REMOVABLE CONNECTOR LUGS, AL/CU RATED.

D. PROVIDE BRANCH CIRCUIT BREAKERS THAT ARE FULL AMBIENT COMPENSATED THERMAL MAGNETIC MOLDED CASE TYPE, WITH QUICK-MAKE AND QUICK-BREAK ACTION, AND WITH POSITIVE HANDLE TRIP INDICATION (ON BOTH MANUAL AND AUTOMATIC OPERATION). PROVIDE BREAKERS OF THE OVER-THE-CENTER TOGGLE OPERATING TYPE WITH THE HANDLE GOING TO A POSITION BETWEEN "ON" AND "OFF" TO INDICATE AUTOMATIC TRIPPING.

E. PROVIDE BOLT-ON BRANCH BREAKERS.

F. PROVIDE FULL SIZE CIRCUIT BREAKERS. DO NOT PROVIDE "TANDEM" OR "SPLIT" BREAKERS.

2.7 FAULT CURRENT RATINGS

A. PROVIDE ELECTRICAL DISTRIBUTION RELATED EQUIPMENT WITH APPROPRIATELY BRACED BUSSING AND PROPERLY RATED BREAKERS, FUSES, ETC. FOR THE AVAILABLE FAULT CURRENTS.

B. IN EXISTING BUILDINGS WHERE FAULT CURRENT VALUES ARE NOT INDICATED ON DRAWINGS, COORDINATE WITH EXISTING "UPSTREAM" DISTRIBUTION EQUIPMENT, AND PROVIDE EQUIPMENT AIC RATINGS THAT MEET OR EXCEED SAME.

PART 3 - EXECUTION

3.1 INSTALLATION

A. PROVIDE ENCLOSURES FASTENED FIRMLY TO WALLS AND STRUCTURAL SURFACES, ENSURING THAT THEY ARE PERMANENTLY AND MECHANICALLY ANCHORED.

B. PROVIDE NEATLY TYPEWRITTEN CIRCUIT DIRECTORY CARD FOR EACH PANELBOARD UPON COMPLETION OF INSTALLATION WORK, INCLUDE THE ACTUAL ROOM NAMES/NUMBERS THAT ARE SELECTED FOR INTERIOR SIGNAGE/DESIGNATION.

C. SCHEDULING SHOWN ON DRAWINGS IS SHOWN TO INDICATE FEEDER AND BRANCH CIRCUITING REQUIREMENTS. DETERMINE EXACT NUMBERING SEQUENCE OF CIRCUITS IN FIELD AFTER PERFORMING FINAL BALANCING.

END OF SECTION

SECTION 26 27 26 - WIRING DEVICES

PART 1 - GENERAL

1.1 SUMMARY

A. PROVIDE WIRING DEVICES, IN TYPES, CHARACTERISTICS, GRADES, COLORS, AND ELECTRICAL RATINGS FOR APPLICATIONS INDICATED WHICH ARE UL LISTED AND WHICH COMPLY WITH NEMA WD 1 AND OTHER APPLICABLE UL AND NEMA STANDARDS. VERIFY COLOR SELECTIONS WITH OWNER'S REPRESENTATIVE.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING.

SWITCHES: LEVITON, HUBBELL, BRYANT, PASS & SEYMOUR, COOPER
DIMMERS: LUTRON
RECEPTACLES: LEVITON, HUBBELL, BRYANT, PASS & SEYMOUR, COOPER
WALL PLATES: LEVITON, HUBBELL, BRYANT, PASS & SEYMOUR, COOPER

2.2 WIRING DEVICE COLORS

A. PROVIDE WHITE COLOR FOR ALL NORMAL UTILITY WIRING DEVICES UNLESS NOTED BELOW:
1. PROVIDE STAINLESS STEEL FOR ALL RECEPTACLES, JUNCTIONS BOXES, AND SWITCHPLATES INSTALLED IN THE KITCHEN WORK AREA AND PREP/STORAGE ROOMS WHERE STAINLESS STEEL OR TILE IS THE WALL FINISH.
2. PROVIDE BLACK FOR ALL RECEPTACLES AND JUNCTION BOXES INSTALLED WHERE THE WALL OR CEILING FINISH IS BLACK IN COLOR.

2.3 SPECIFICATION GRADE RECEPTACLES

A. STANDARD SPECIFICATION GRADE DUPLEX/SINGLE RECEPTACLES
5. PROVIDE DUPLEX RECEPTACLES EQUAL TO LEVITON #5342 SERIES. FOR RECEPTACLE CIRCUITS PROTECTED WITH 15A BREAKERS, PROVIDE NEMA 5-15R EQUIVALENTS. PROVIDE RECEPTACLES EQUAL TO LEVITON #5361 SERIES FOR SIMPLEX (SINGLE) APPLICATIONS.

B. GROUND-FAULT INTERRUPTER SPECIFICATION GRADE RECEPTACLES
1. PROVIDE GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLES EQUAL TO LEVITON #8898 SERIES, FOR RECEPTACLE CIRCUITS PROTECTED WITH 15A BREAKERS, PROVIDE NEMA 5-15R EQUIVALENTS.
2. RECEPTACLES INDICATED AS GFI MAY BE GFI-PROTECTED BY AN UPSTREAM GFI RECEPTACLE ON THE SAME CIRCUIT ONLY IF LOCATED IN THE SAME ROOM. OTHERWISE PROVIDE A SEPARATE GFI RECEPTACLE FOR EACH ONE SHOWN.

C. ISOLATED GROUND SPECIFICATION GRADE RECEPTACLES
1. PROVIDE DUPLEX ISOLATED GROUND RECEPTACLES EQUAL TO LEVITON #5362-IG. PROVIDE SIMPLEX (SINGLE) ISOLATED GROUND RECEPTACLES EQUAL TO LEVITON #5361-IG. FOR RECEPTACLE CIRCUITS PROTECTED WITH 15A BREAKERS, PROVIDE NEMA 5-15R EQUIVALENTS. PROVIDE DEDICATED INSULATED ISOLATED GROUND CONDUCTORS (GREEN WITH YELLOW TRACER) FOR EACH APPLICATION.

D. WEATHER RESISTANT GFCI RECEPTACLES
1. PROVIDE DUPLEX WEATHER RESISTANT RECEPTACLES EQUAL TO LEVITON # W7899 SERIES. FOR RECEPTACLE CIRCUITS PROTECTED WITH 15A BREAKERS, PROVIDE NEMA 5-15R EQUIVALENTS.

2.4 WIRING DEVICE ACCESSORIES

A. WALL PLATES
1. PROVIDE SINGLE AND COMBINATION, OF TYPES, SIZES, AND WITH GANGING AND CUTOUTS AS REQUIRED TO ACCOMMODATE EACH APPLICATION. PROVIDE PLATES WHICH MATE AND MATCH WITH WIRING DEVICES TO WHICH ATTACHED. PROVIDE METAL SCREWS FOR SECURING PLATES TO DEVICES WITH SCREW HEADS COLORED TO MATCH FINISH OF PLATES. PROVIDE WALL PLATE COLOR TO MATCH WIRING DEVICES UNLESS SPECIFICALLY INDICATED OTHERWISE.
2. PROVIDE STANDARD SIZE WALL PLATES. DO NOT PROVIDE "MIDWAY", "OVERSIZED" ["JUMBO"] OR "EXTRA DEEP" WALL PLATES.
3. PROVIDE COMMERCIAL SPECIFICATION GRADE THERMOPLASTIC WALL PLATES IN FINISHED AREAS.
4. PROVIDE STAINLESS STEEL FOR ALL COVER PLATES ON WALLS FEATURING FINISH TL-101 AND FRP.
5. PROVIDE BLACK COVER PLATES IN RESTROOMS AND HALLWAYS.
6. PROVIDE WHITE COVER PLATES AT AREAS WITH FINISH PT-106, FINISH PT-107, AND BRICK WAINSCOT.

PART 3 - EXECUTION

3.1 INSTALLATION

A. PROVIDE GROUNDED ("NEUTRAL") CONDUCTOR IN ALL LIGHTING CONTROL DEVICE (SWITCH, DIMMER, OCCUPANCY SENSOR, ETC.) WALL OUTLET BOXES, EVEN IF NOT IMMEDIATELY USED.

B. INSTALL RECEPTACLES SO THAT THE GROUND PIN IS ORIENTED IN A CONSISTENT MANNER THROUGHOUT THE FACILITY, SO THAT THE ORIENTATION IS COMPLIANT WITH ALL PREVAILING CODES AND REGULATIONS, AND SO THAT THE ORIENTATION IS ACCEPTABLE TO THE ELECTRICAL INSPECTOR.

END OF SECTION

SECTION 26 27 40 - DISCONNECTS, STARTERS, CONTACTORS

PART 1 - GENERAL

1.1 RELATED WORK

A. PROVIDE NEMA STANDARD EQUIPMENT, INCLUDING THOSE INCORPORATED AS AN INTEGRAL PART OF A FACTORY/SHOP PRE-FABRICATED PIECE OF EQUIPMENT. DO NOT USE IEC STANDARDS FOR EQUIPMENT.

B. PROVIDE UNITS AS INDICATED ON DRAWINGS AND AS INDICATED UNDER DIVISION 26 SECTIONS.

PART 2 - PRODUCTS

2.1 MATERIALS

A. DISCONNECT SWITCHES
7. PROVIDE DISCONNECT SWITCHES EQUAL TO SQUARE D TYPE HD, HEAVY DUTY, SAFETY TYPE, QUICK MAKE AND QUICK BREAK AND EXTERNALLY OPERATED.
8. PROVIDE FUSIBLE DISCONNECTS UNLESS NOTED OTHERWISE ON DRAWINGS OR DIRECTED OTHERWISE IN FIELD.
9. PROVIDE DISCONNECT SWITCHES BRACED FOR 200,000 A.I.C.
10. PROVIDE UNITS WITH FUSES OF CLASSES AND CURRENT RATINGS INDICATED, AND UL LISTED FOR USE AS SERVICE EQUIPMENT UNDER UL STANDARD 98 OR 869. SEE SECTION "FUSES" FOR FUSE SPECIFICATIONS. WHERE CURRENT LIMITING FUSES ARE INDICATED, PROVIDE SWITCHES WITH NON-INTERCHANGEABLE FEATURE SUITABLE ONLY FOR CURRENT LIMITING TYPE FUSES.
11. INSTALL DISCONNECT SWITCHES WITHIN SIGHT OF CONTROLLER POSITION UNLESS OTHERWISE INDICATED.

PART 3 - EXECUTION

3.1 INSTALLATION

A. PROVIDE UNITS WITH HORSEPOWER RATINGS SUITABLE TO THE LOADS. SIZE UNITS ACCORDING TO LOAD BEING SERVED OR AS NOTED ON DRAWINGS, WHICHEVER REQUIREMENT IS LARGER. INSTALL OVERLOADS AND FUSES AS NECESSARY TO FULFILL REQUIREMENTS OF EACH APPLICATION.

B. FURNISH ADDITIONAL FUSES/OVERLOADS AMOUNTING TO 10 PERCENT OF FUSES PROVIDED, BUT NOT LESS THAN ONE SET OF 3 OF EACH KIND, FOR REQUIRED TYPES AND RATINGS.

C. PROVIDE NEMA 3R ENCLOSURES FOR UNITS THAT ARE INSTALLED OUTDOORS, IN MOIST AREAS, AND IN OTHER ATMOSPHERES SUBJECT TO SIMILAR MOISTURE OR EXPOSURE.

END OF SECTION

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ISSUED FOR CONSTRUCTION

CAVA

CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER:
CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
1 BLDG RESPONSE	NOV 15, 2024
2 CONSTR SET	JAN 8, 2025

SPECIFICATIONS
ELECTRICAL

SHEET:
E702

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*ROD AND NUTS TO BE SUPPLIED BY INSTALLING CONTRACTOR HANGING ANGLE IS PRE-PUNCHED AT FACTORY

HANGING ANGLE DETAILS

HOOD STYLE / MODEL	450 DEGREES cfm/ft.	600 DEGREES cfm/ft.	700 DEGREES cfm/ft.
CANOPY EX-2	150	200	250
CANOPY EX-2 W/ END PANELS	105	140	175
SLOPED ESX-2	228	294	–
ISLAND EX-2WI	269	300	350
ISLAND EXI	346	422	475

ETL HOOD LISTING DETAIL

EXHAUST CFM = LENGTH OF HOOD X CFM/LIN.FT. (LOAD)

SUPPLY CFM = EXHAUST CFM X PERCENTAGE REQUIRED

TOTAL DUCT AREA (sq. in.) = 144 X $\frac{\text{CFM}}{\text{FPM(*)}}$

DUCT LENGTH = $\frac{\text{TOTAL DUCT AREA}}{\text{DUCT WIDTH}}$

*ECON-AIR VENTILATOR DUCT SIZES ARE CALCULATED USING AN EXHAUST VELOCITY OF 1500-1800 FPM AND A SUPPLY VELOCITY OF 1000 FPM.

CALCULATIONS UTILIZED

ECON-AIR HOODS BUILT IN COMPLIANCE WITH:

ETL LISTED & 3054804-001 & 3054804-002

UL STANDARD 710

intertek

BUILT IN ACCORDANCE WITH NFPA No. 96

Listed under ETL File number 3054804-001/002

BUILDING CODES

ECON-AIR HOODS HAVE OPTIONAL CLEARANCE REDUCTION SYSTEMS AVAILABLE AS FOLLOWS:

MATERIAL	CLEARANCE REDUCTION SYSTEM
NON-COMBUSTIBLE	NONE REQUIRED
LIMITED-COMBUSTIBLE	3" UNINSULATED STANDOFF
COMBUSTIBLE	1" INSULATED STANDOFF

CLEARANCE TO COMBUSTIBLES

INSTALLATION

1. ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS.
2. ALL PLUMBING "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.
3. HANGING BRACKETS LOCATED AND WELDED AS SHOWN ON PLANS. ALL OTHER HANGER MATERIALS PROVIDED BY INSTALLING CONTRACTORS.
4. ALL CONNECTIONS FROM ECON-AIR HOOD PER MECHANICAL CONTRACTOR'S PLANS.
5. COOKING EQUIPMENT TO SHUT OFF IN EVENT OF FIRE.
6. EXHAUST FANS TO TURN ON IN EVENT OF FIRE.
7. ALL LIGHT FIXTURES SHOWN INSTALLED BY ECON-AIR ARE FACTORY PREWIRED. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES ARE BY ELECTRICAL CONTRACTOR.
8. LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTORS.
9. SEISMIC RESTRAINTS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
10. INSTALLING CONTRACTORS ASSUME ALL RELATED REPONSIBILITY FOR VERIFICATION OF DIMENSIONAL DATA CONTAINED ON THESE DOCUMENTS FOR ACCURACY, INTEGRATION, AND ADMINISTRATION OF CODE REQUIREMENTS IN EFFECT PRIOR TO ANY RELEASE FOR PRODUCTION OF EQUIPMENT SHOWN.

BALANCE

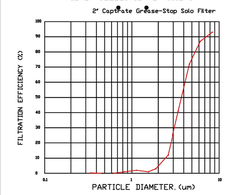
11. KITCHEN HOODS MUST BE BALANCED WITH KITCHEN.
12. KITCHEN SHALL BE NEGATIVE WITH RESPECT TO DINING AREA.
13. RESTAURANT SHALL BE POSITIVE WITH RESPECT TO AMBIENT PRESSURE.

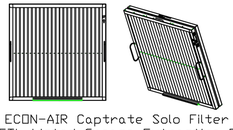
ADDITIONAL

14. WRITTEN HOOD DIMENSIONS HAVE PRECEDENCE OVER SCALE.
15. SIGNED AND "APPROVED" COPIES OF THIS DOCUMENT MUST BE RECEIVED BY THE FACTORY PRIOR TO COMMENCEMENT OF FABRICATION.

GENERAL NOTES

FILTER COLLECTION EFFICIENCY





ECON-AIR Captrate Solo Filter
ETL Listed Grease Extracting Filters
Made From 430 Stainless Steel

FILTER DETAIL

FOR QUESTIONS, CALL THE
Maryland Office
REGION 32
PHONE: (800) 988 - 0881
EMAIL: arturo.meza@econair.com

PATENT NUMBERS

AC-PSP (UNITED STATES) - US PATENT 7963830 B2.
AC-PSP WALL (CANADA) - CA PATENT 2820509.
AC-PSP ISLAND (CANADA) - CA PATENT 2520330.

HOOD INFORMATION – JOB#6892316

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S) WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP	MUA CFM	AC CFM	HOOD CONSTRUCTION	HOOD CONFIG END TO END	ROW
1	33	6030 EX-2-ACPSP-F	ECON-AIR	11' 7"	600 DEG	I	HEAVY	225	2606			4"	18"	2606	1475	-0.725"	2163	728	430 SS WHERE EXPOSED	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S) TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	SIZE	FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
1	33	CAPTRATE SOLO FILTER	8	20"	16"	85% SEE FILTER SPEC	6	L55 SERIES E26	NO	LEFT	12"x60"x30"	TANK FS	4.0/4.0	DCV-1111	1 LIGHT 1 FAN	YES	1249 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1	33	FIELD WRAPPER 10.00" HIGH FRONT, LEFT.
		RIGHT END STANDOFF (FINISHED) 1" WIDE 60" LONG INSULATED.
		INSULATION FOR BACK OF HOOD.
		LEFT WIDE VERTICAL END PANEL 42" TOP WIDTH, 36" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.
		RIGHT WALL AS END PANEL.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S) WIDTH	LENG	DIA	CFM	SP
1	33	Front	152"	24"	6"	MUA	12"	28"		721	0.196"
						MUA	12"	28"		721	0.196"
						MUA	12"	28"		721	0.196"
						AC	6"	28"		364	0.090"
						AC	6"	28"		364	0.090"

GREASE DUCT & CHIMNEY SPECIFICATIONS:
PROVIDE GREASE DUCT EQUAL TO ECON-AIR MODEL "EDW"
ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "EDW"
IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING
CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "EDW"
DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER
THE MANUFACTURES INSTALLATION GUIDE.
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER.
PER MANUFACTURES LISTING MODEL "EDW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE
SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12".
DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE
ACCUMULATION IN HORIZONTAL RUNS.

IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE
UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY
EQUAL TO ECON-AIR MODEL "EDW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430
STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

ECON-AIR RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

CLEARANCE TO COMBUSTIBLES

HOODS #	SURFACE	*CLEARANCE
1	TOP	18"
	FRONT	0"
	BACK	0"
	LEFT	0"
	RIGHT	0"

- *0" CLEARANCE TO COMBUSTIBLES CONFORMS TO UL710 STANDARD.
- HOOD MOUNTED UTILITY CABINETS REQUIRE 36" SERVICE CLEARANCE.

VERIFY CEILING HEIGHT

__' - __"

HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

Approved as Noted ☐
Approved with NO Exception Taken ☐
Revise and Resubmit ☐

SIGNATURE _____

Your Title _____ Date _____

HVAC DISTRIBUTION NOTE

IT IS RECOMMENDED NOT TO INSTALL HIGH VELOCITY DIFFUSERS OR HVAC RETURNS WITHIN TEN (10) FEET OF THE EXHAUST HOOD. PERFORATED DIFFUSERS ARE RECOMMENDED.

EXHAUST HOOD DETAILS

REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		

econ-air
www.econair.com
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Cava - Canton, MI
43450 Ford Road,
Canton, MI, 48187

DATE: 7/1/2024

DWG.#: 6892316

DRAWN BY: AM-32

SCALE: NTS

MASTER DRAWING

SHEET NO. 1

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FOR REFERENCE ONLY

CAVA - CANTON MI
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CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

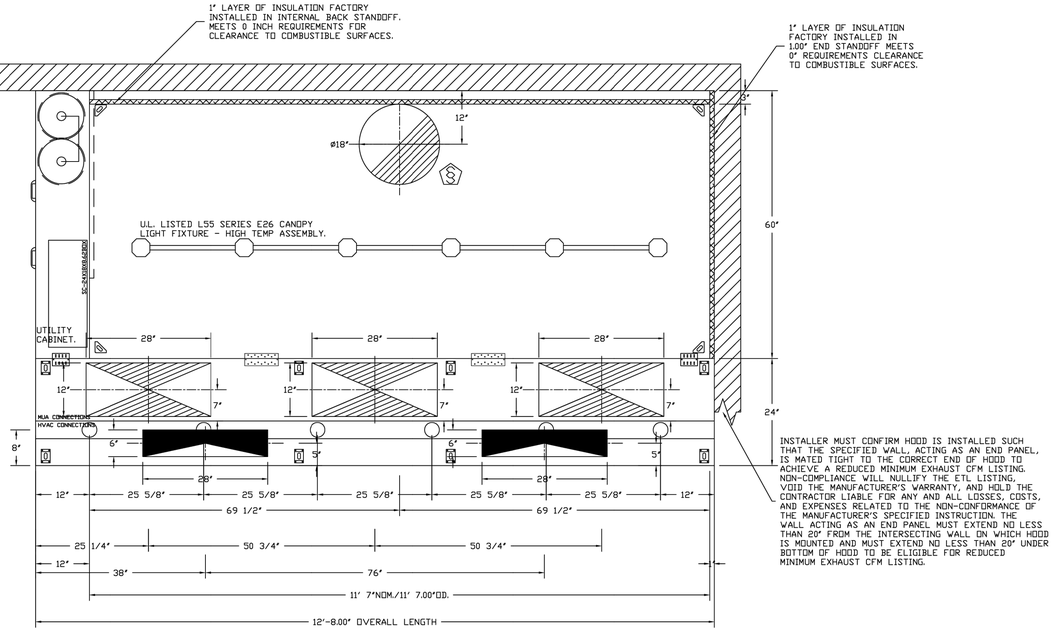
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HOOD DETAILS

SHEET: H000

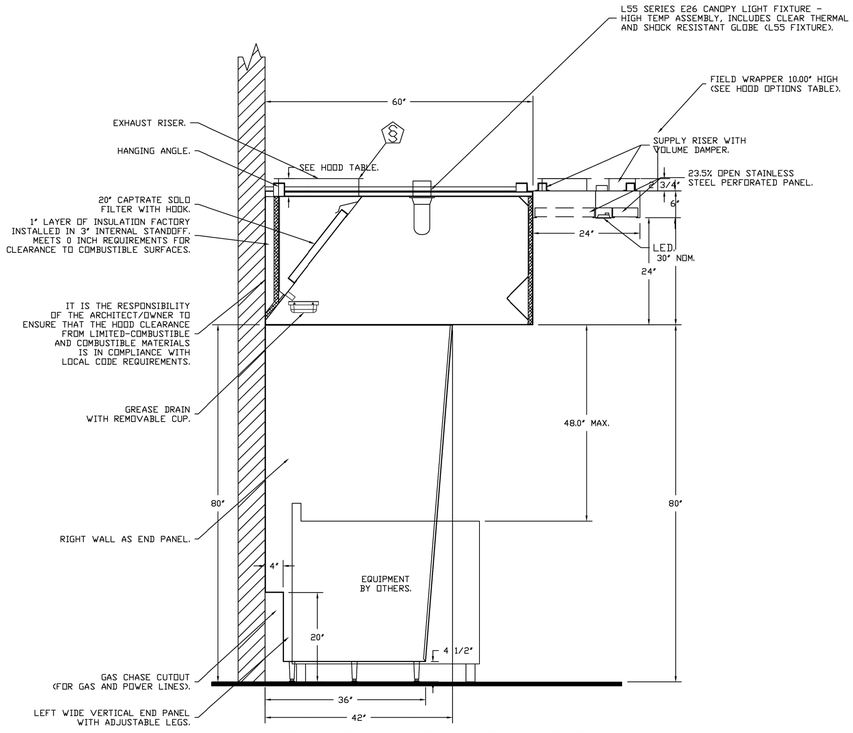
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PLAN VIEW – HOOD #1 (33)
11' 7.00" LONG 6030EX-2-ACPSP-F

ACPSP SHIPS LOOSE FOR FIELD INSTALLATION

LIGHTING FOR ACPSP JOB # 6892316 - HOOD #1
INPUT: 120V AC, 1 PHASE, 50/60HZ, 3.5 WATTS PER LIGHT.
TO CONTROL LIGHTS WITH HOOD LIGHT SWITCH, WIRE PER HOOD ELECTRICAL CONTROL PANEL SCHEMATIC.
TO CONTROL LIGHTS WITH BUILDING LIGHT SWITCH, WIRE BLACK AND WHITE WIRE TO A 120VAC SERVICE.
END TO END ACPSPS REQUIRE 120VAC FIELD WIRING FROM J-BOX TO J-BOX. REPLACE LIGHTS WITH LED LIGHTS ONLY.



SECTION VIEW – MODEL 6030EX-2-ACPSP-F
HOOD – #1 (33)

econ·air
www.econair.com
Maryland Office
... PHONE: (800) 988 - 0881 FAX: 9192275931 EMAIL: arturo.meza@econair.com

REVISIONS		
	DESCRIPTION	DATE:
1		
2		
3		
4		

Cava - Canton, MI
43450 Ford Road,
Canton, MI, 48187

DATE: 7/1/2024

DWG.#: 6892316

DRAWN BY: AM-32

SCALE: NTS

MASTER DRAWING

SHEET NO. 2

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312.788.3455
core-states.com

FOR REFERENCE ONLY

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CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

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HOOD DETAILS

SHEET: H001

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FIRE SYSTEM INFORMATION – JOB#6892316

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0	40	37	FIRE CABINET LEFT	LEFT, HOOD 1

NOTES
- FIELD PIPE DROPS AS SHOWN
  PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- FIELD INSTALLED DROP: FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
- SHIP LOOSE DROP: FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
- IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS.

- OL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS

JOB #: 6892316.
JOB NAME: CAVA - CANTON, MI.

SYSTEM SIZE: TANK-SP-2 DESIGN FP: 37. MAXIMUM FP: 40.
HOOD # 1 11' 7.00" LONG x 60" WIDE x 30" HIGH.
RISER # 1 SIZE: 18" DIA.
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.

- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

LEGEND – FIRE CABINET TANK SYSTEM

1 4 GALLON TANK.
2 PRIMARY ACTUATOR RELEASE.
3 SECONDARY ACTUATOR RELEASE.
4 PRESSURE SUPERVISION SWITCH.
5 PRIMARY HOSE ASSEMBLY.
6 SECONDARY HOSE ASSEMBLY.
7 REMOTE MANUAL ACTUATION DEVICE.

CUSTOMER APPROVAL TO MANUFACTURE:	
Approved as Noted	☐
Approved with NO Exception Taken	☐
Revise and Resubmit	☐
SIGNATURE	
Your Title	Date

VERIFY MAKE/MODEL OF ALL COOKING APPLIANCES BENEATH HOOD PRIOR TO FABRICATION. CHANGES TO COOKING EQUIPMENT SPECIFICATION MAY RESULT IN ADDITIONAL FIRE SUPPRESSION SYSTEM INSTALLATION CHARGES.

SPECIFICATIONS

ELECTRIC WET CHEMICAL (CAS-EWC) SPECIFICATION

THE CORE ELECTRIC WET CHEMICAL (EWC) FIRE SUPPRESSION SYSTEM IS A HYBRID FIRE SUPPRESSION SYSTEM FOR USE IN COMMERCIAL KITCHENS.

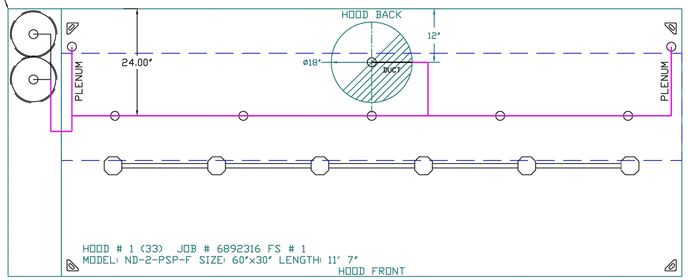
THE CORE EWC MICROPROCESSOR-BASED CONTROL BOARD, PCBCORE BOARD, IS ETL LISTED UNDER REPORT NUMBER 101196419NYM-001 TO THE UL STANDARD 864 AND CAN/ULC-S527-11. THE COREPCB IS DESIGNED TO CONTROL A 24VDC-BASED, LISTED UL 300 WET CHEMICAL RESTAURANT FIRE SUPPRESSION SYSTEM. THE COREPCB CONTROLS PROVIDE ALL NECESSARY MONITORING, TIMING AND SUPERVISION FUNCTIONS REQUIRED FOR THE RELIABLE OPERATION OF THE WET CHEMICAL FIRE SUPPRESSION SYSTEM. ALL DEVICES THAT ARE CRITICAL FOR PROPER OPERATION ARE SUPERVISED AND INCLUDE AN ELECTRIC THERMAL DETECTOR(S) AND MANUAL PULL STATION(S)/MANUAL ACTUATION DEVICE(S). THE COREPCB CONTROL BOARD ALSO SUPERVISES FAULTS WITHIN THE SYSTEM AND WILL ALERT THE USER OF SPECIFIC CONDITION.

THE SYSTEM IS CAPABLE OF AUTOMATIC DETECTION AND ACTIVATION AND/OR REMOTE MANUAL ACTIVATION. THE DETECTION PORTION OF THE FIRE SUPPRESSION SYSTEM ALLOWS FOR AUTOMATIC DETECTION BY MEANS OF AN ELECTRIC THERMAL DETECTOR(S) LOCATED IN THE HOOD DUCT CONNECTION(S). A PULL STATION/MANUAL ACTUATION DEVICE IS ALSO PROVIDED TO ALLOW FOR MANUAL ACTIVATION OF THE FIRE SYSTEM.

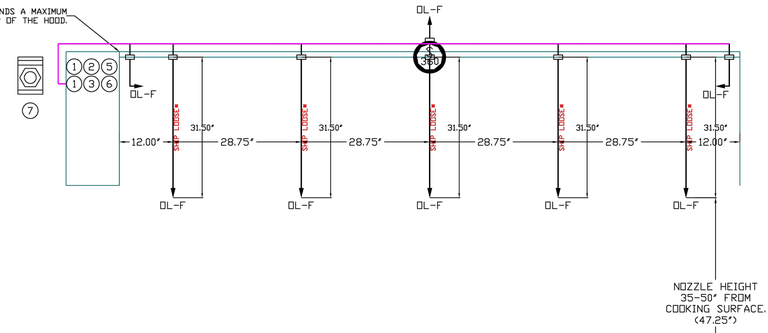
WITH THE ELECTRIC THERMAL DETECTION, A BATTERY BACKUP SYSTEM IS PROVIDED. THE BACKUP BATTERY SYSTEM POWERS THE COREPCB BOARD CONTROLS INCLUDING THE AUTOMATIC DETECTION, PULL STATION/MANUAL ACTUATION DEVICE CIRCUITS, AS WELL AS SUPERVISES THOSE DEVICES AND ANY AUXILIARY SUPERVISORY EQUIPMENT IN THE EVENT OF A LOSS OF POWER TO THE BUILDING.

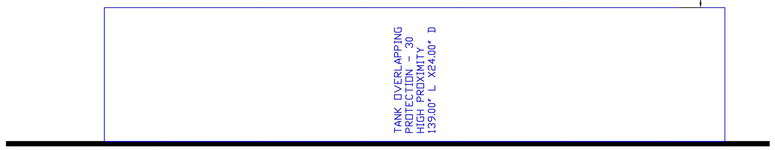
UPON A FIRE CONDITION, THE ELECTRIC THERMAL DETECTOR CONTACTS WILL CLOSE AND SEND A SUPERVISED SIGNAL TO THE COREPCB BOARD. THE COREPCB BOARD THEN SENDS A SIGNAL TO THE 24VDC REGULATED RELEASE SOLENOID, WHICH WILL SIGNAL PRESSURIZED AGENT TAKES TO PROPEL THE WET CHEMICAL AGENT INTO THE DISTRIBUTION LINES TOWARDS THE DISCHARGE NOZZLES.

– SYSTEM REQUIRES A MINIMUM OF 7 FT OF EQUIVALENT PIPE LENGTH BETWEEN TANK AND NEAREST APPLIANCE NOZZLE FOR MOST APPLIANCES. EACH 90 DEGREE ELBOW ADDS 1.3 FT OF EQUIVALENT LENGTH. SEE MANUAL FOR DETAILS



FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.





FIRE SUPPRESSION SYSTEM DETAILS

REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		

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. . . PHONE: (800) 988 - 0881 FAX: 9192275931 EMAIL: arturo.meza@econair.com

Cava - Canton, MI
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Canton, MI, 48187

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SCALE: NTS
MASTER DRAWING
SHEET NO. 3

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HOOD DETAILS

SHEET: H002

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EXHAUST FAN INFORMATION – JOB#6892316

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	KEF-1	1	EADU180H	ECON-AIR	2606	1.500	1252	ODP,PREMIUM	2.000	1.3520	3	208	7.2	602 FPM	215	17.5

DOAS/RTU FAN SCHEDULE – JOB#6892316

FAN INFORMATION										ELECTRICAL INFORMATION					COOLING INFORMATION										REHEAT INFORMATION					GAS HEAT INFORMATION					NOTES
FAN UNIT NO	TAG	QTY	DOAS/RTU MODEL #	MANUFACTURER	BLOWER	RETURN AIR CFM	MAX OUTSIDE AIR CFM	TOTAL CFM	WEIGHT (LBS)	ESP	HP	PHASE	VOLT	MCA	MOCP	OUTSIDE AIR		MIXED AIR		LEAVING AIR		CAPACITY		IEER	ISMRE	DISCHARGE		CAPACITY		MOISTURE REMOVAL RATE	GAS TYPE	INPUT BTUs	OUTPUT BTUs	TEMP RISE	REQUIRED INPUT GAS PRESSURE	
																DB	WB	DB	WB	DB	WB	DP	TOTAL	SENS.			DB	WB	DESIRED	MAX						
2	MUA-1	1	EARTU1-1.200-15-5T-MPU	ECON-AIR	15P-1	0	2163	2163	1190	0.500	2.00	3	208	28.4A	30A	81.9°F	75.9°F	81.9°F	75.9°F	69.8°F	67.9°F	67.1°F	66.0 MBH	27.9 MBH	17.9	6.1	90.0°F	73.7°F	47.3 MBH	0.2 MBH	34.4 LBS/HR	NATURAL	196968	159544	62°F	7 IN. W.C. – 14 IN. W.C.	1,2,3,4,5,6,7,8,9,10,11,12,13,14

NOTES:
1. INVERTER SCROLL COMPRESSOR WITH INTEGRATED OIL SENSOR. DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL
2. DIRECT DRIVE PLENUM BLOWER. BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE
3. INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER
4. REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE
5. EC MOTOR CONDENSING FANS
6. ELECTRONIC EXPANSION VALVE. TXV NOT ACCEPTABLE
7. SUCTION LINE ACCUMULATOR
8. FACTORY COMMISSIONING WITH 5 YEAR PARTS WARRANTY, 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER
9. AVERAGING INTAKE, EVAP AND DISCHARGE TEMPERATURE SENSORS (DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT)
10. 81% EFFICIENT FURNACE, WITH MODULATING INDUCER TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE. 6:1 TURNDOWN WITH NG AND 5:1 TURNDOWN WITH LP
11. SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE
12. FULLY MODULATING HOT GAS REHEAT
13. 1" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-4.3 INSULATION-MINIMUM 24GA EXTERIOR W/ 18GA BASE
14. DOWN DISCHARGE/NO RETURN

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	KEF-1	1	GREASE BOX
		1	FAN BASE CERAMIC SEAL – DU/DR180HFA – INSTALLED AT PLANT – FOR GREASE DUCTS
		1	2 YEAR PARTS WARRANTY
2	MUA-1	1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE
		1	TOTAL CFM MONITORING
		1	INTAKE FIRESTAT SET TO 135°F
		1	FREEZESTAT
		1	DISCHARGE FIRESTAT SET TO 240°F
		1	SHIP LOOSE GAS STRAINER 3/4"
		1	CASLINK BUILDING MONITORING SYSTEM – INTERNET OR CELLULAR CONNECTION REQUIRED
		1	2" MERV 13 FILTERS FOR RTU1 (QTY. 4)
		1	2" MERV 8 FILTERS FOR RTU1 (QTY. 4)
		1	RTU1 DOWN DISCHARGE
		1	RTU1 CURB DUCT HANGER
		1	5 TON MODULATING COOLING OPTION, 208/230V. R410A REFRIGERANT, VARIABLE SPEED COMPRESSOR, DL ECM CONDENSING FAN
		1	COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK – ALARM SUPPLIED BY OTHERS
		1	120V FIRE INPUT
		1	SINGLE POINT ELECTRICAL CONNECTION FOR RTU. 750VA TRANSFORMER USED. IF A NON-DCV PREWIRE CONTROLS THIS UNIT, THE #28, #47, "MA", OR "E2" PREWIRE OPTION MUST BE SELECTED. DOES NOT PROVIDE SUPPLY STARTER IN PREWIRE
		1	RTU1 NO RETURN – 100% OA – MPU
		1	RTU FIXED 100% OA INTAKE CONTROL
		1	UNIT MOUNTED VFD CONFIGURED FOR DCV
		1	LOAD REACTOR MOUNTED IN FAN
		1	IBT ONLY REHEAT
		1	5 YEAR ENTIRE UNIT PARTS WARRANTY, 10 YEAR ENTIRE UNIT PARTS WARRANTY WITH REMOTE MONITORING AND CAPTIVEAIRE SERVICE CONTRACT, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY (SEE ADDITIONAL DETAILS)

FAN ACCESSORIES

FAN UNIT NO	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	KEF-1	YES						

CURB ASSEMBLIES

NO	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	KEF-1	34 LBS	CURB	26.500"W X 26.500"L X 26.000"H VENTED HINGED.
2	# 2	MUA-1	103 LBS	CURB	41.000"W X 71.000"L X 20.000"H INSULATED.

HMI SCHEDULE				
UNIT NUMBER	HMI #	HMI LOCATION	TEMP AVERAGING	MODBUS ADDRESS
FAN #2	HMI #1 – UNIT HMI # 1	MOUNTED IN UNIT	NOT AVERAGED	55
FAN #2	HMI #2 – SPACE HMI # 1	KITCHEN	AVERAGED	56

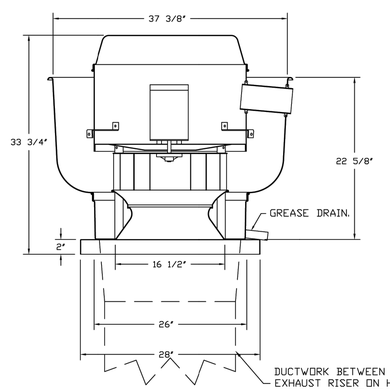
CUSTOMER APPROVAL TO MANUFACTURE:

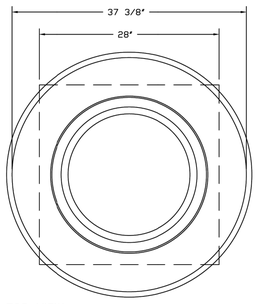
Approved as Noted ☐
Approved with NO Exception Taken ☐
Revise and Resubmit ☐
SIGNATURE _____
Your Title _____ Date _____

NOTES

DRAWING CONTAINS IMPORTANT INFORMATION FOR COORDINATION WITH M/E/P ENGINEER

FAN #1 EADU180H – EXHAUST FAN (KEF-1)





TOP VIEW

FEATURES:

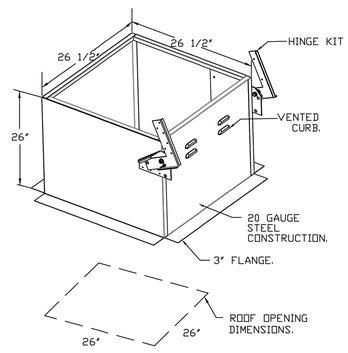
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS

- GREASE BOX.
- FAN BASE CERAMIC SEAL – DU/DR180HFA – INSTALLED AT PLANT – FOR GREASE DUCTS.
- 2 YEAR PARTS WARRANTY.



KITCHEN FAN DETAILS

REVISIONS

	DESCRIPTION	DATE:
△		
△		
△		
△		

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Cava - Canton, MI
43450 Ford Road,
Canton, MI, 48187

DATE: 7/1/2024

DWG.#: 6892316

DRAWN BY: AM-32

SCALE: NTS

MASTER DRAWING

SHEET NO. 4

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CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER: CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
△ BLDG RESPONSE	NOV 15, 2024
△ CONSTR SET	JAN 8, 2025

HOOD DETAILS

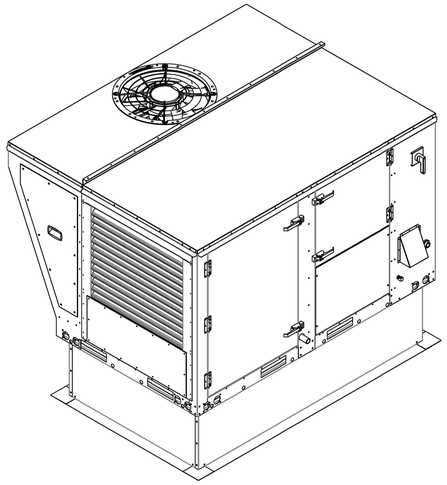
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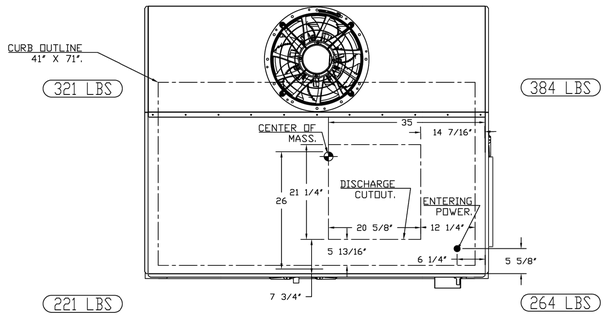
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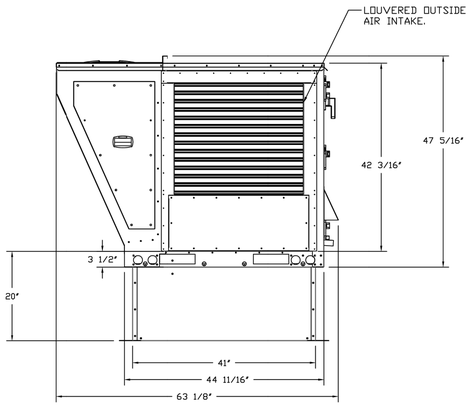
FAN #2 EARTU1-I.200-15-5T-MPU - HEATER (MUA-1)

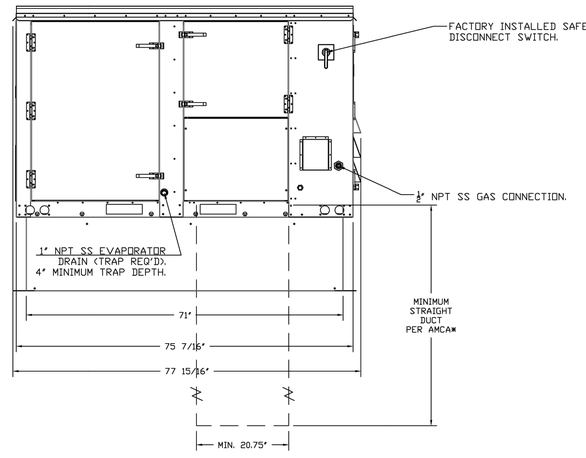
NOTES:
1. DO NOT OBSTRUCT OUTSIDE AIR INLET, OUTSIDE AIR COIL OR OUTSIDE AIR FAN.
2. ( ) DENOTES CORNER WEIGHT.
3. ROOF OPENING MUST BE 2" SMALLER THAN CURB DIMENSIONS IN BOTH DIRECTIONS.
4. CONNECTION FROM BREAKER TO UNITS SAFETY DISCONNECT SWITCH TO BE COPPER WIRE ONLY.

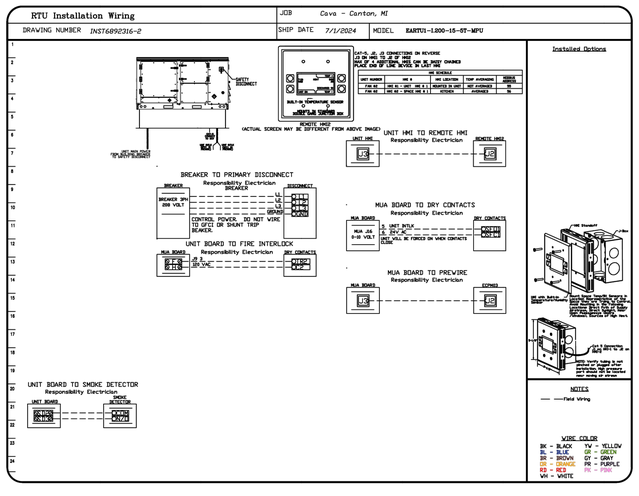
*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT.
SUGGESTED STRAIGHT DUCT SIZE IS 20.75" x 21.5".

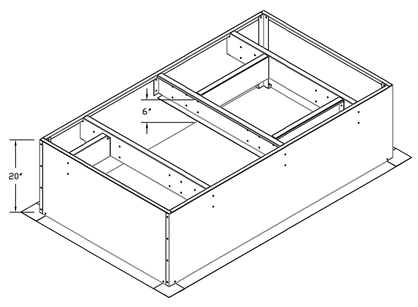


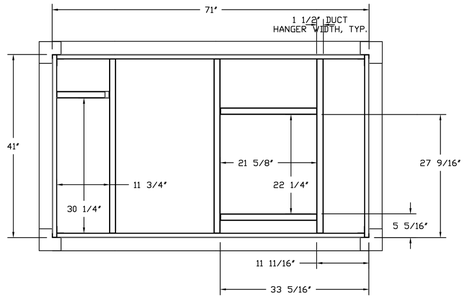












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	DESCRIPTION	DATE:
1		
2		
3		
4		

Cava - Canton, MI
43450 Ford Road,
Canton, MI, 48187

DATE: 7/1/2024

DWG.#: 6892316

DRAWN BY: AM-32

SCALE: NTS

MASTER DRAWING

SHEET NO. 5

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FOR REFERENCE ONLY

CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER: CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
BLDG RESPONSE	NOV 15, 2024
CONSTR SET	JAN 8, 2025

HOOD DETAILS

SHEET: H004

9/18/2024 11:09 AM

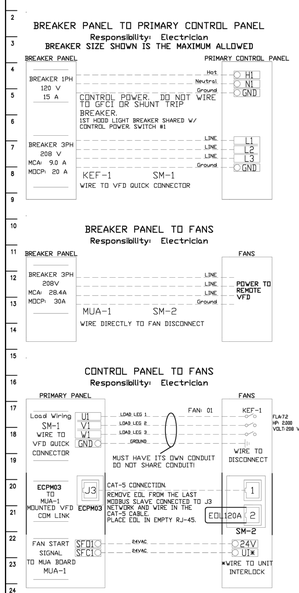
ELECTRICAL PACKAGE – JOB#6892316

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		FAN TAG	TYPE	Φ	HP	VOLT	FLA
1		DCV-1111	UTILITY CABINET LEFT	UTILITY CABINET LEFT	1 LIGHT	SMART CONTROLS DCV	KEF-1	EXHAUST	3	2.000	208	7.2
				HOOD # 1	1 FAN		MUA-1	SUPPLY	3	2.000	208	6.1

JOB NO 6892316 | MODEL NUMBER DCV-1111 | JOB NAME Cava – Canton, MI | DRAWN BY | DATE 7/1/2024 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-1

DESCRIPTION OF OPERATION: Demand Control Ventilation, w/ control for 1 Exhaust Fan, 1 Supply Fan, Exhaust on in fire, Lights out in fire, Fans modulate based on duct temperature. INVERTER DUTY 3 PHASE MOTOR REQUIRES FOR USE WITH VFD. Room temperature sensor shipped loose for field installation.Verify distance between VFD and Motor; additional cost could apply if distance exceeds 50 feet.

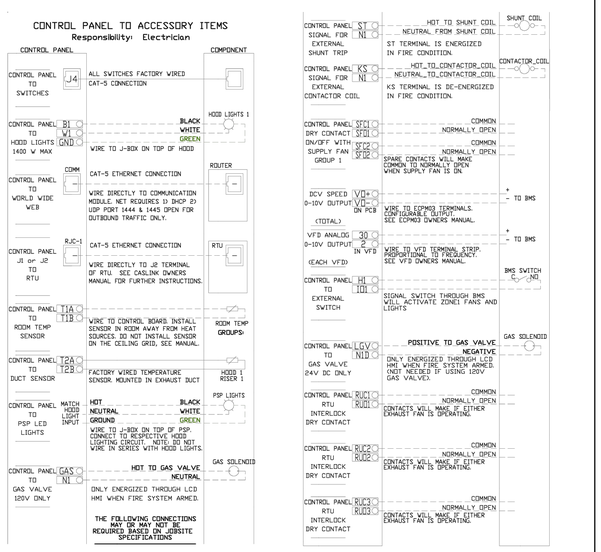
BREAKER PANEL TO PRIMARY CONTROL PANEL
Responsibility: Electrician
BREAKER SIZE SHOWN IS THE MAXIMUM ALLOWED



BREAKER PANEL TO FANS
Responsibility: Electrician

CONTROL PANEL TO FANS
Responsibility: Electrician

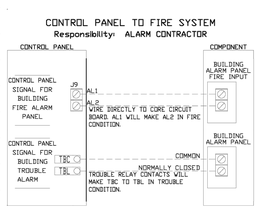
CONTROL PANEL TO ACCESSORY ITEMS
Responsibility: Electrician



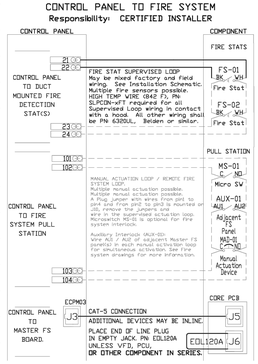
JOB NO 6892316 | MODEL NUMBER DCV-1111 | JOB NAME Cava – Canton, MI | DRAWN BY | DATE 7/1/2024 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-2

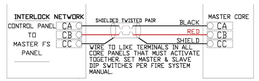
DESCRIPTION OF OPERATION: Demand Control Ventilation, w/ control for 1 Exhaust Fan, 1 Supply Fan, Exhaust on in fire, Lights out in fire, Fans modulate based on duct temperature. INVERTER DUTY 3 PHASE MOTOR REQUIRES FOR USE WITH VFD. Room temperature sensor shipped loose for field installation.Verify distance between VFD and Motor; additional cost could apply if distance exceeds 50 feet.

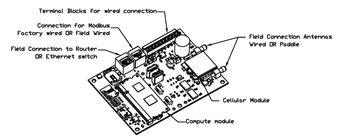
CONTROL PANEL TO FIRE SYSTEM
Responsibility: ALARM CONTRACTOR



CONTROL PANEL TO FIRE SYSTEM
Responsibility: CERTIFIED INSTALLER







CASlink Monitor and Control

– Hood control panel to support communications to cloud–based Building Management System.
– Hood Control Panel to allow cloud–based Building Management System to monitor real time parameters outlined as MONITOR in the points list.
– Hood Control Panel to allow cloud–based Building Management System to control parameters outlined as CONTROL in the points list.
– Hood Control Panel to allow cloud–based Building Management System to implement SYSTEM ECONOMIZER control strategies for fully integrated Building Management.

MONITORING AND CONTROL POINTS LIST

DCV Packages	*Function*
Room Temperature	*MONITOR*
Duct Temperature(s)	*MONITOR*
MUA Discharge Temperature	*MONITOR*
Kitchen RTU Discharge Temperature	*MONITOR*
Fan Speed	*MONITOR*
Fan Amperage	*MONITOR*
Fan Power	*MONITOR*
VFD Faults	*MONITOR*
Controller Faults	*MONITOR*
Fan Faults	*MONITOR*
Fan Status	*MONITOR*
PCU Faults	*MONITOR*
PCU Filter Clog Percentages	*MONITOR*
Fire Condition	*MONITOR*
CORE Fire System	*MONITOR*
Building Pressures	*MONITOR*
Prep Time Button	*MONITOR & CONTROL*
Fans Button	*MONITOR & CONTROL*
Lights Button	*MONITOR & CONTROL*
Wash Button	*MONITOR & CONTROL*

SC Packages	*Function*
Room Temperature(s)	*MONITOR*
Duct Temperature(s)	*MONITOR*
MUA Discharge Temperature	*MONITOR*
Kitchen RTU Discharge Temperature	*MONITOR*
Controller Faults	*MONITOR*
Fan Faults	*MONITOR*
Fan Status	*MONITOR*
PCU Faults	*MONITOR*
PCU Filter Clog Percentages	*MONITOR*
Fire Condition	*MONITOR*
CORE Fire System	*MONITOR*
Building Pressures	*MONITOR*
Fans Button(s)	*MONITOR & CONTROL*
Lights Button(s)	*MONITOR & CONTROL*
Wash Button	*MONITOR & CONTROL*

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Cava – Canton, MI
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DATE: 7/1/2024
DWG.#: 6892316
DRAWN BY: AM-32
SCALE: NTS
MASTER DRAWING
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FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER: CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
⚠1 BLDG RESPONSE	NOV 15, 2024
⚠2 CONSTR SET	JAN 8, 2025

HOOD DETAILS

SHEET: H005

9/18/2024 11:09 AM

JOB NO	MODEL NUMBER	DRAWN BY	SCHEMATIC TYPE	DESCRIPTION OF OPERATION:
6892316	DCV-1111		INSTALL	Fire System #1 TANK FS - 48/48.
	JOB NAME Cava - Canton, MI	DATE 7/1/2024	DWG NO ECP #1-3	

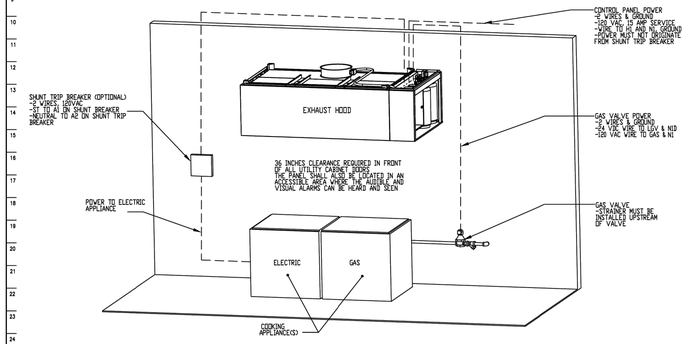
TANK PROTECTION ELECTRICAL DETAIL

02/10/2021 Rev. 2

FS-1: MASTER

ELECTRICIAN:
1. WIRE MAIN CONTROL PANEL PER INCLUDED SCHEMATIC
2. WIRE ALL FANS PER INCLUDED SCHEMATIC
3. WIRE SHUNT TRIP BREAKER (OPTIONAL)
4. WIRE UBS APPLIANCE KILL SWITCH, IF EQUIPPED (OPTIONAL)
5. WIRE GAS VALVE

ELECTRICAL CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
SHUNT TRIP BREAKER (OPTIONAL)	ST & N1	BREAKER COIL (A1 & A2)	120 VAC	< 4 AMPS	ST TO A1 ON SHUNT BREAKER COIL, AND NEUTRAL TO A2 ON SHUNT TRIP BREAKER COIL
CONTROL PANEL POWER	H1 & N1 + GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
UBS APPLIANCE KILL SWITCH (OPTIONAL)	KTS & N1	KTS & N1	120 VAC	< 4 AMPS	KILL SWITCH TERMINALS MUST BE IN SERIES WITH OTHER KILL SWITCHES
REMOTE 120VAC ANSUL AUTOMAN (OPTIONAL)	AU1, AU2	SOLENOID	120 VAC	< 6 AMPS	120V TO AU1, AU2 TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL
GAS VALVE	LGV & N1 (IF 24 VDC) GAS & N1 (IF 120 VAC)	RED/RED/GREEN	24 VDC OR 120 VAC	< 1.0 AMPS	IF 24 VDC - 3 WIRES & GROUND: 24V TO RED, LGV TO RED, AND GREEN TO GROUND IF 120 VAC - 3 WIRES & GROUND: GAS TO RED, N1 TO RED, AND GREEN TO GROUND



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

JOB NO	MODEL NUMBER	DRAWN BY	SCHEMATIC TYPE	DESCRIPTION OF OPERATION:
6892316	DCV-1111		INSTALL	Fire System #1 TANK FS - 48/48.
	JOB NAME Cava - Canton, MI	DATE 7/1/2024	DWG NO ECP #1-4	

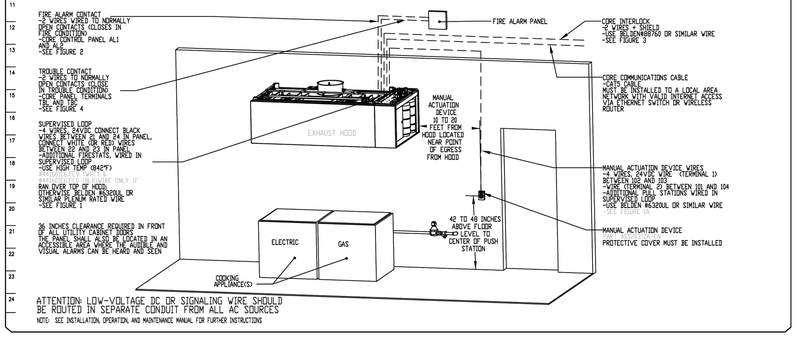
TANK PROTECTION LOW-VOLTAGE DETAIL

10/01/2023 Rev. 3

FS-1: MASTER

ALARM CONTRACTOR:
1. WIRE MANUAL ACTUATION DEVICE(S), REMOTE FIRESTAT(S), CORE INTERLOCK(S), FIRE SENSOR(S) AND FIRE ALARM CONTACTS
2. COMPLETE FINAL WORKUP IF SYSTEM
3. VERIFY FINAL FIRE SYSTEM TEST

ALARM CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION ON DEVICE	VOLTAGE	AMPERAGE	COMMENTS
MANUAL ACTUATION DEVICE(S)	101 AND 104 102 AND 103	1 & 2	24 VDC	< 1.0 AMPS	WIRE MANUAL ACTUATION DEVICE TERMINAL 1 BETWEEN CORE PANEL TERMINALS 102 AND 103 WIRE MANUAL ACTUATION DEVICE TERMINAL 2 BETWEEN CORE PANEL TERMINALS 101 AND 104 JUMPER 101 TO 104 AND 102 TO 103 IF NO MANUAL ACTUATION DEVICE IS INSTALLED
MANUAL ACTUATION DEVICE COVER	N/A	N/A	N/A	N/A	MANUAL ACTUATION DEVICE COVER MUST BE INSTALLED -USE BELDEN #63801 OR SIMILAR
REMOTE FIRESTAT SENSOR(S)	21 AND 24 22 AND 23	BLACK AND WHITE	24 VDC	< 1.0 AMPS	WIRE FIRE SENSOR BLACK WIRE BETWEEN CORE PANEL TERMINALS 22 AND 23 WIRE FIRE SENSOR BLACK WIRE BETWEEN HOOD CORE PANEL TERMINALS 21 AND 24 HIGH TEMP (400°F) #A4480R10F10 (QTY 1 #A4480R10F10 FOR EACH DUCT ONLY IF RAN OF HOOD; OTHERWISE BELDEN #63801 FOR SIMILAR PLENUM RATED WIRE) SEE FIGURE 1
FIRE ALARM CONTACT	AL1, AL2	VARIES	50V MAX (AC/DC)	UP TO 1 AMP	FIRE ALARM RELAY CONTACTS FOR BUILDING FIRE ALARM LOCATED IN THE CORE ELECTRICAL CONTROL PANEL
CORE INTERLOCK(S)	CA, CB, CC	CA, CB, CC	RS-485 COMMUNICATIONS SIGNAL		CORE SYSTEM (1) CA - TO CORE SYSTEM (2) CA, CORE SYSTEM (1) CB - TO CORE SYSTEM (2) CB CORE SYSTEM (1) CC - TO CORE SYSTEM (2) CC. USE BELDEN 8870G OR SIMILAR WIRE
TROUBLE CONTACT	TBC, TBL, TDK	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO TBL & TBC NORMALLY OPEN CONTACT, CLOSES IN TROUBLE CONDITION
CORE COMMUNICATIONS CABLE	RJ-45 Jack	INTERNET CONNECTION	SIGNAL	<1.0 AMPS	TYPICAL CONNECTION CAT5 CABLE TO LOCAL AREA NETWORK VIA ETHERNET SWITCH OR WIRELESS ROUTER WITH VALID INTERNET CONNECTION



ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

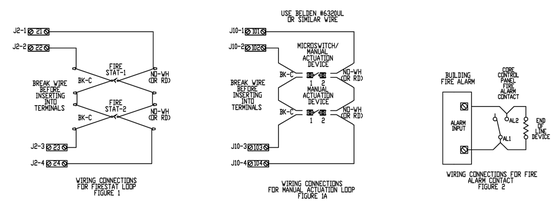
NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

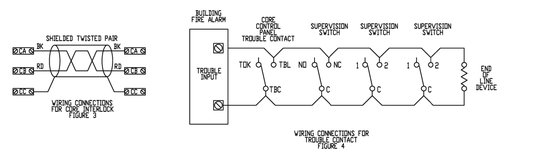
JOB NO	MODEL NUMBER	DRAWN BY	SCHEMATIC TYPE	DESCRIPTION OF OPERATION:
6892316	DCV-1111		INSTALL	Fire System #1 TANK FS - 48/48.
	JOB NAME Cava - Canton, MI	DATE 7/1/2024	DWG NO ECP #1-5	

TANK PROTECTION LOW-VOLTAGE FIGURES

10/01/2023 Rev. 17

FS-1: MASTER





ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

9/18/2024 11:09 AM

econ·air
www.econair.com
Maryland Office
. . . PHONE: (800) 988 - 0881 FAX: 9192275931 EMAIL: arturo.meza@econair.com

REVISIONS		
	DESCRIPTION	DATE:
1		
2		
3		
4		

Cava - Canton, MI
43450 Ford Road,
Canton, MI, 48187

DATE: 7/1/2024

DWG.#: 6892316

DRAWN BY: AM-32

SCALE: NTS

MASTER DRAWING

SHEET NO. 7

CORE STATES GROUP
135 Water Street
Suite 201
Naperville, IL 60540
312.714.4545
core-states.com

FOR REFERENCE ONLY

CAVA - CANTON MI
43450 FORD ROAD
CANTON, MI 48187
FOR
CAVA
14 Ridge Square NW #500, WASHINGTON, DC 20016

AOR PROJECT NUMBER: CAV.38002

ISSUE	DATE
PERMIT SET	AUG 2, 2024
BID SET	SEP 18, 2024
1 BLDG RESPONSE	NOV 15, 2024
2 CONSTR SET	JAN 8, 2025

HOOD DETAILS

SHEET: H006