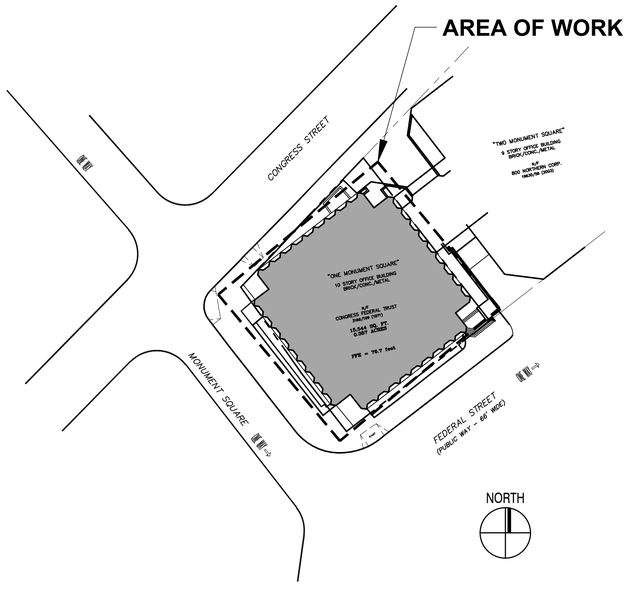
2008 BRANCH MODERNIZATION PROGRAM

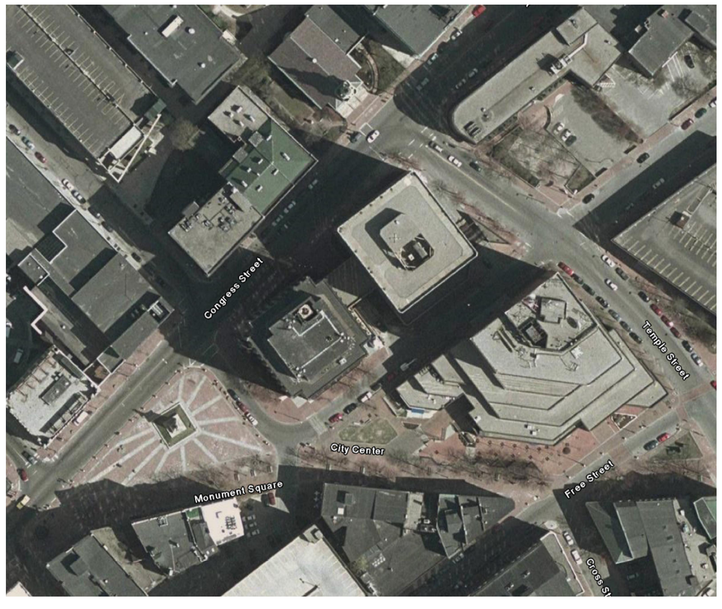
KeyBank

PID# 5056 MONUMENT SQUARE

ONE MONUMENT SQUARE
PORTLAND, ME, 04101



SITE PLAN
NO SCALE



AERIAL LOCATION
NO SCALE

JACOBS
Jacobs Engineering Group, Inc.
5757 Plaza Drive, Suite 100, Cypress CA. 90630
(714) 503-3400 FAX (714) 503-3999

Consultants:

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C&B Architects/Engineers, P.C.
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ALFRED CONSOLI JR.
Lic. #ARC2482

Client:
KeyBank
2025 ONTARIO ST, 4TH FLOOR
CLEVELAND, OHIO 44115

Project:
2008 BRANCH MODERNIZATION PROGRAM
PID# 5056
MONUMENT SQUARE
1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	AC

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:
TITLE SHEET

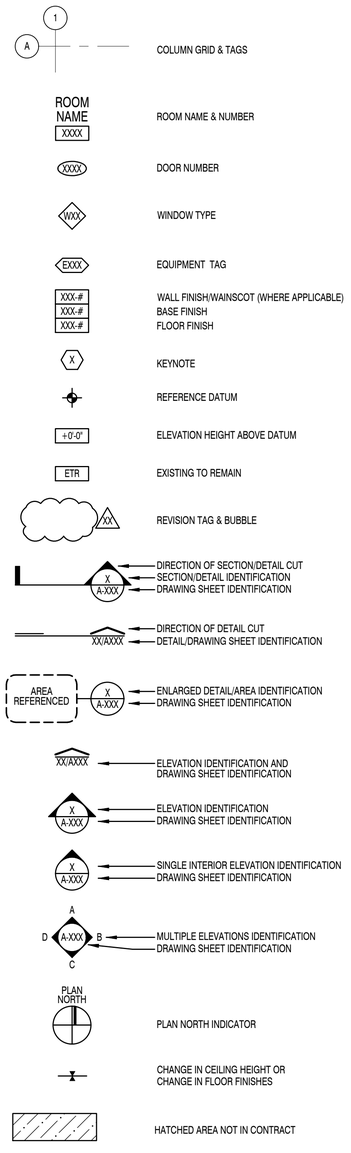
Drawing No.:
G-001

EK - J:\2008 Projects\F5W86600\Cad\KeyBank_CDs\5056 Monument Square\General\5056_G-001.dwg [5056_G-001] February 24, 2009 - 6:15pm PATELSH

ABBREVIATIONS

A	
A/C	AIR CONDITIONING
ACT	ACOUSTICAL CEILING TILE
AFF	ABOVE FINISH FLOOR
AFS	ABOVE FINISH SLAB
ALUM	ALUMINUM
ALT	ALTERNATE
ANOD	ANODIZED
APPROX	APPROXIMATE
&	AND
B	
BD	BOARD
BDLG	BUILDING
BLKG	BLOCKING
C	
CAB	CABINET
CPT	CARPET
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECT OR CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CORR	CORRIDOR
D	
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DR	DOOR
DWG	DRAWING
E	
EL	ELEVATION
EJ	EXPANSION JOINT
ELEC	ELECTRICAL
EQ	EQUAL
EQUIP	EQUIPMENT
ETR	EXISTING TO REMAIN
EXIST	EXISTING
EXT	EXTERIOR
F	
FA	FIRE ALARM
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FACE
FF&E	FURNITURE, FIXTURE AND EQUIPMENT
FIN FLR	FINISH FLOOR
FIXT	FIXTURE
FLR	FLOOR
FT	FEET
FURN	FURNITURE
G	
GA	GAUGE
GL	GLASS
GYP BD	GYPSUM BOARD
GWB	GYPSUM WALL BOARD
H	
HORIZ	HORIZONTAL
HM	HOLLOW METAL
HR	HOUR
HT	HEIGHT
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
I	
INFO	INFORMATION
INSUL	INSULATION
INT	INTERIOR
J	
JAN	JANITOR
L	
LF	LINEAR FEET (FOOT)
LAM	LAMINATE
M	
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MO	MASONRY OPENING
MTL	METAL
N	
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
O	
OC	ON CENTER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
OFF	OFFICE
OH	OPPOSITE HAND
OPT	OPTIONAL
P	
PL- #	PLASTIC LAMINATE
PREFAB	PREFABRICATED
PT	POINT
P.T.	PRESSURE TREATED
R	
RD	ROOF DRAIN
REF	REFERENCE
RF	RAISED FLOOR
S	
SAN	SANITARY
SECT	SECTION
SF	SQUARE FOOT (FEET)
SIM	SIMILAR
SS	STAINLESS STEEL
STD	STANDARD
STRUCT	STRUCTURAL
T	
THK	THICK
TO	TOP OF
TYP	TYPICAL
U	
UON	UNLESS OTHERWISE NOTED
V	
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W	
W/	WITH
WC	WATER CLOSET
WD	WOOD
WWF	WELDED WIRE FABRIC
WWR	WELDED WIRE REINFORCEMENT

ARCHITECTURAL SYMBOLS



DRAWING INDEX

CODE ANALYSIS

ALTERATION / RETROFIT OF EXISTING INTERIOR SPACE.

ALTERATIONS ARE BEING PROVIDED TO KEY BANK OCCUPIED EXISTING BUILDING.

ADDRESS:	1 MONUMENT SQUARE, PORTLAND, ME 04101
CODE:	2003 INTERNATIONAL BUILDING CODE 2006 INTERNATIONAL MECHANICAL CODE 2008 NATIONAL ELECTRIC CODE MAINE STATE PLUMBING CODE / 2000 UNIFORM PLUMBING CODE 2003 INTERNATIONAL ENERGY CONSERVATION CODE
REQUIRED INSPECTIONS:	N/A
OCCUPANCY GROUP: SECTION 304	EXISTING USE GROUP "B, BUSINESS" - BANK (OFFICES) NO CHANGE OF OCCUPANCY CLASS
HEIGHT /AREA REQ'TS:	EXISTING 10 STORY BUILDING, NO HEIGHT/AREA CHANGES (INTERIOR FIT OUT AT PORTION OF FIRST FLOOR ONLY)
CONSTRUCTION TYPE: SECTION 602.2	I B, NON-COMBUSTIBLE (TO BE VERIFIED) SPRINKLERED
EXTERIOR WALLS (EXISTING)	0 HRS FOR OVER 30' SEPARATION. 0 HRS
INTERIOR FINISHES: WALLS TABLE 803.5 SECTION 803.1 FLOORS SECTION 804.4.1	CLASS C (FLAME SPREAD 76-200) (SMOKE DEVELOPED 0-450) CLASS II (0.22WATTS/CM2 OR GREATER CRITICAL FLUX)
OCCUPANTS: TABLE 1004.1.1	ALLOWED 5,491/100SF = 55 OCC PROVIDED 10 OCC + CUSTOMERS
EGRESS WIDTH TABLE 1005.1	0.15"/OCC 55 = 8.3" 9'-0" PROVIDED (EXIST.)
ILLUMINATED EXIT SIGNS SECTION 1011	REQUIRED PROVIDED
TRAVEL DISTANCE TABLE 1016.1	200' TRAVEL DISTANCE MAX. 152'
EXIT REQUIREMENTS: NUMBER TABLE 1019.1	2 REQUIRED 2 PROVIDED (EXISTING)

CODE ANALYSIS

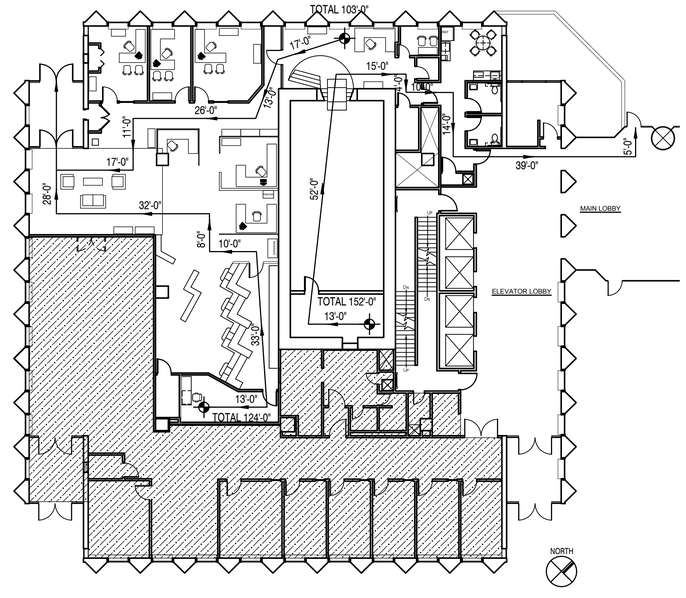
PLUMBING CALCULATIONS

APPLICABLE CODE: MAINE STATE PLUMBING CODE (2000UNIFORM PLUMBING CODE)

55 OCCUPANTS X 0.50 = 26 MALE AND 26 FEMALE

	W.C		LAV		D.F.		SERV SINK	
	REQ'D	PROV	REQ'D	PROV	REQ'D	PROV	REQ'D	PROV
MALE:	1/50	1	1/80	1				
FEMALE	1/50	1	1/80	1				
					0	0	1	1

EGRESS PLAN



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MOR	MOR	AC

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:

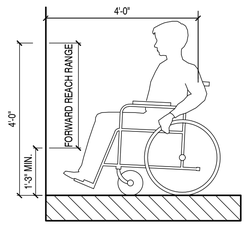
CODE ANALYSIS, EGRESS PLAN, DRAWING INDEX, SYMBOLS AND ABBREVIATIONS

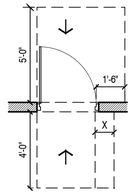
Drawing No.:

G-002

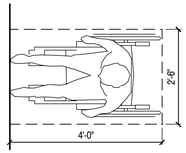
ER - J:\2008 Projects\F5W86600 Cad\KeyBank_CDs\5056 Monument Square \General\5056_G-002.dwg [5056_G-002] February 24, 2009 - 6:15pm PATELSH

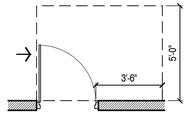
BARRIER FREE

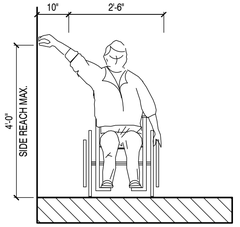


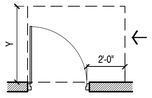


NOTE: X = 1'-0" IF DOOR HAS BOTH A CLOSER AND A LATCH

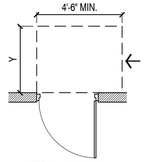




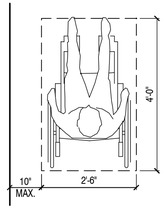


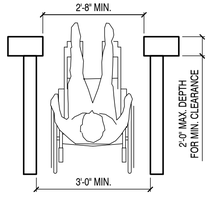


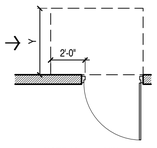
NOTE: Y= 4'-0" MIN.; Y=4'-6" MIN. IF DOOR HAS A CLOSER



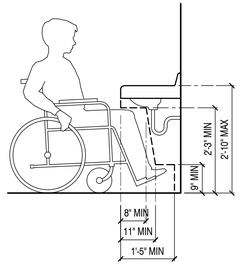
NOTE: Y= 3'-6" MIN.; Y=4'-0" MIN. IF DOOR HAS BOTH A LATCH & A CLOSER

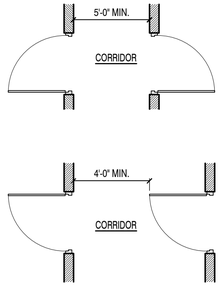




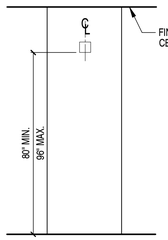


NOTE: Y= 3'-6" MIN; Y=4'-0" MIN. IF DOOR HAS A CLOSER

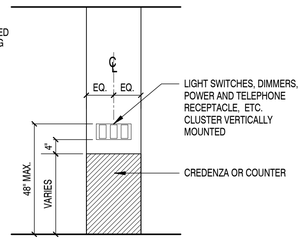




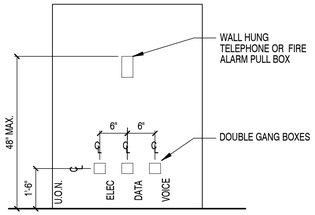
TYPICAL MOUNTING LOCATIONS



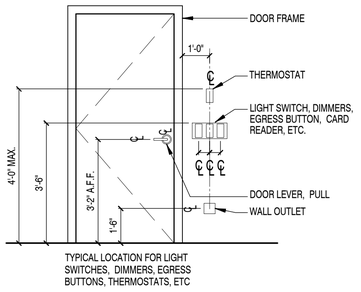
TYPICAL LOCATION FOR SINGLE WALL MOUNTED FIRE ALARM DEVICE



TYPICAL LOCATION FOR OUTLETS, SWITCHES AND THERMOSTATS, ETC. AT CREDENZA OR COUNTERTOP

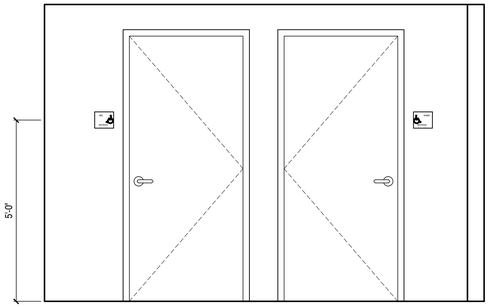


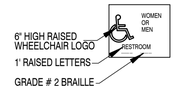
TYPICAL LOCATION FOR COMBINED OUTLETS AT VISIBLE AREAS
NOTE: PROVIDE MATCHING COVER PLATES FOR ALL SYSTEMS



TYPICAL LOCATION FOR LIGHT SWITCHES, DIMMERS, EGRESS BUTTONS, THERMOSTATS, ETC

RESTROOM ELEVATION & SIGNAGE





1 RESTROOM ELEVATION

SCALE: N.T.S.

LETTERS AND NUMBERS:
1. WIDTH TO HEIGHT RATIO BETWEEN 3 : 5 AND 1 : 1.
2. STROKE WIDTH TO HEIGHT BETWEEN 1 : 5 AND 1 : 10.
3. CONTRAST CHARACTERS AND SYMBOLS WITH BACKGROUND.
4. SANS SERIF CHARACTERS.

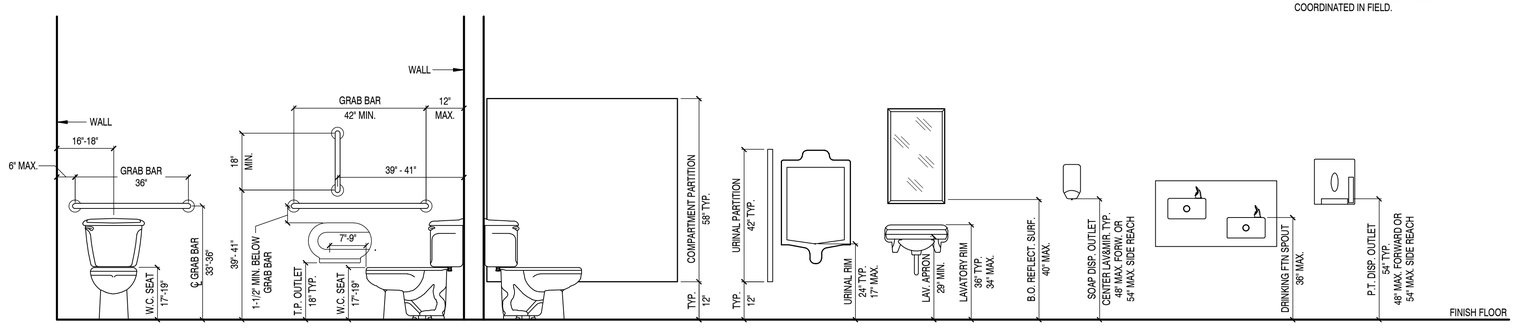
SIGNS / PICTOGRAMS
5. PICTOGRAMS/PICTORIAL SYMBOL SIGNS SHALL BE ACCOMPANIED BY THE EQUIVALENT VERBAL DESCRIPTION PLACED DIRECTLY BELOW THE PICTOGRAM. THE BORDER DIMENSION SHALL BE 6" (1.52 MM.) MINIMUM HEIGHT.
6. CHARACTERS AND BACKGROUNDS SHALL BE OF NON-GLARE CONTRASTING COLORS.
7. SIGNS/PICTOGRAMS SHALL BE INSTALLED ON THE WALL ADJACENT TO DOOR LEADING TO THE ROOM OR SPACE THEY DESCRIBE AND AT 60" A.F.F. TO SIGN CENTERLINE AND WHERE A PERSON MAY APPROACH WITHIN 3" OF SIGNAGE WITHOUT ENCOUNTERING PROTRUDING OBJECTS OR STANDING WITHIN THE DOOR SWING AREA.
8. VERTICAL CLEARANCE AT SUSPENDED SIGNS WITH MINIMUM HEAD-ROOM OF 80" REQUIRE MINIMUM 3" CHARACTER HEIGHT MEASURED BY USING UPPERCASE "X". CHARACTERS AND NUMBERS SHALL BE SIZED ACCORDING TO VIEWING DISTANCE FROM WHICH READ. LOWER CASE CHARACTERS PERMITTED.

SIGN LOCATIONS:
1. ALL ACCESSIBLE ENTRANCES IDENTIFIED WITH MINIMUM OF ONE STANDARD SIGN.
2. ADDITIONAL DIRECTIONAL SIGNS ALONG ACCESSIBLE PATH OF TRAVEL ARE REQUIRED.
3. AS PART OF THE BUILDING DIRECTORY. INTERNATIONAL SYMBOL OF ACCESSIBILITY:
4. STANDARD USED TO IDENTIFY ACCESSIBLE FACILITIES.
5. WHITE FIGURE ON BLUE BACKGROUND
6. WHEN ENFORCING AGENCY DETERMINES, IF APPROPRIATE, SPECIAL DESIGNS AND COLORS MAY BE APPROVED.

BRAILLE:
7. USE CONTRASTED GRADE 2 BRAILLE.
8. DOT DIAMETER: .059 INCHES
9. INTER- DOT SPACING: .090 INCHES
10. HORIZONTAL SEPARATION .241 INCHES BETWEEN CELLS:
11. VERTICAL SEPARATION .395 INCHES

TYPICAL BATHROOM FIXTURES MOUNTING LOCATIONS

NOTES:
1. ALL FLOOR DIMENSIONS FROM FINISHED FLOOR LINE.
2. PROVIDE WOOD BLOCKINGS, STEEL STUDS AND/OR MOUNTING PLATES AS REQUIRED AND RECOMMENDED BY MANUFACTURER FOR WALL-MOUNTED ACCESSORIES. LOCATIONS AND EXTENTS OF BLOCKING TO BE COORDINATED IN FIELD.



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Designed By:	Drawn By:	Checked By:
MOR	MOR	AC

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:

ACCESSIBILITY REQUIREMENTS

Drawing No.:

G-003

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COM*check* Software Version 3.5.3

Mechanical Compliance Certificate

2003 IECC

Report Date: 08/19/08

Data filename: J:\2008 Projects\F5W86600\Documents\7_Regulatory\DOE\5056 Monument Square\5056 COMCheck_Mech.cck

Section 1: Project Information

Project Type: Addition
Project Title : Key Bank

Construction Site:	Owner/Agent:	Designer/Contractor:
1 Monument Square Portland, ME 04101		

Section 2: General Information

Building Location (for weather data):	**Portland, Maine**
Climate Zone:	**15**
Heating Degree Days (base 65 degrees F):	**7378**
Cooling Degree Days (base 65 degrees F):	**268**

Section 3: Mechanical Systems List

Quantity	System Type & Description
1	HVAC System 1: Cooling: Split System, Capacity <54 kBtu/h, Air-Cooled Condenser / Single Zone

Section 4: Requirements Checklist

Requirements Specific To: HVAC System 1 :

☐ 1. Equipment minimum efficiency: Split System: 10.0 SEER

Generic Requirements: Must be met by all systems to which the requirement is applicable:

☐ 1. Load calculations per 2001 ASHRAE Fundamentals
☐ 2. Plant equipment and system capacity no greater than needed to meet loads
- Exception: Standby equipment automatically off when primary system is operating
- Exception: Multiple units controlled to sequence operation as a function of load

☐ 3. Minimum one temperature control device per system
☐ 4. Minimum one humidity control device per installed humidification/dehumidification system
☐ 5. Automatic Controls: Setback to 55 degrees F (heat) and 85 degrees F (cool); 7-day clock, 2-hour occupant override, 10-hour backup
- Exception: Continuously operating zones
- Exception: 2 kW demand or less, submit calculations

☐ 6. Automatic shut-off dampers on exhaust systems and supply systems with airflow >3,000 cfm
☐ 7. Outside-air source for ventilation: system capable of reducing OSA to required minimum
☐ 8. R-8 supply and return air duct insulation in unconditioned spaces R-8 supply and return air duct insulation outside the building R-8 insulation between ducts and the building exterior when ducts are part of a building assembly
- Exception: Ducts located within equipment
- Exception: Ducts with interior and exterior temperature difference not exceeding 15 degrees F.

☐ 9. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts; UL 181A or 181B tapes and mastics
- Exception: Continuously welded and locking-type longitudinal joints and seams on ducts operating at static pressures less than 2 inches w.g. pressure classification

☐ 10.Mechanical fasteners and sealants used to connect ducts and air distribution equipment
☐ 11.Hot water pipe insulation: 1 in. for pipes <=1.5 in. and 2 in. for pipes >1.5 in. Chilled water/refrigerant/brine pipe insulation: 1 in. for pipes <=1.5 in. and 1.5 in. for pipes >1.5 in. Steam pipe insulation: 1.5 in. for pipes <=1.5 in. and 3 in. for pipes >1.5 in.
- Exception: Piping within HVAC equipment
- Exception: Fluid temperatures between 55 and 105 degrees F
- Exception: Fluid not heated or cooled
- Exception: Runouts <4 ft in length

☐ 12.Operation and maintenance manual provided to building owner
☐ 13.Balancing devices provided in accordance with IMC 603.15
☐ 14.Stair and elevator shaft vents are equipped with motorized dampers

Section 5: Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2003 IECC requirements in COMcheck Version 3.5.3 and to comply with the mandatory requirements in the Requirements Checklist.

Name - Title _____ Signature _____ Date _____

COM*check* Software Version 3.5.3

Mechanical Requirements Description

2003 IECC

Report Date:

Data filename: J:\2008 Projects\F5W86600\Documents\7_Regulatory\DOE\5056 Monument Square\5056 COMCheck_Mech.cck

The following list provides more detailed descriptions of the requirements in Section 4 of the Mechanical Compliance Certificate.

Requirements Specific To: HVAC System 1 :

1. The specified heating and/or cooling equipment is covered by ASHRAE 90.1 Code and must meet the following minimum efficiency: Split System: 10.0 SEER

Generic Requirements: Must be met by all systems to which the requirement is applicable:

1. Design heating and cooling loads for the building must be determined using procedures in the ASHRAE Handbook of Fundamentals or an approved equivalent calculation procedure.
2. All equipment and systems must be sized to be no greater than needed to meet calculated loads. A single piece of equipment providing both heating and cooling must satisfy this provision for one function with the capacity for the other function as small as possible, within available equipment options.
   - Exception: The equipment and/or system capacity may be greater than calculated loads for standby purposes. Standby equipment must be automatically controlled to be off when the primary equipment and/or system is operating.
   - Exception: Multiple units of the same equipment type whose combined capacities exceed the calculated load are allowed if they are provided with controls to sequence operation of the units as the load increases or decreases.
3. Each heating or cooling system serving a single zone must have its own temperature control device.
4. Each humidification system must have its own humidity control device.
5. The system or zone control must be a programmable thermostat or other automatic control meeting the following criteria:a) capable of setting back temperature to 55 degrees F during heating and setting up to 85 degrees F during coolingb) capable of automatically setting back or shutting down systems during unoccupied hours using 7 different day schedulesc) have an accessible 2-hour occupant overrided) have a battery back-up capable of maintaining programmed settings for at least 10 hours without power.
   - Exception: A setback or shutoff control is not required on thermostats that control systems serving areas that operate continuously.
   - Exception: A setback or shutoff control is not required on systems with total energy demand of 2 kW (6,826 Btu/h) or less.
6. Outdoor-air supply systems with design airflow rates >3,000 cfm of outdoor air and all-exhaust systems must have dampers that are automatically closed while the equipment is not operating.
7. The system must supply outside ventilation air as required by Chapter 4 of the International Mechanical Code. If the ventilation system is designed to supply outdoor-air quantities exceeding minimum required levels, the system must be capable of reducing outdoor-air flow to the minimum required levels.
8. Air ducts must be insulated to the following levels:a) Supply and return air ducts for conditioned air located in unconditioned spaces (spaces neither heated nor cooled) must be insulated with a minimum of R-5. Unconditioned spaces include attics, crawl spaces, unheated basements, and unheated garages.b) Supply and return air ducts and plenums must be insulated to a minimum of R-8 when located outside the building.c) When ducts are located within exterior components (e.g., floors or roofs), minimum R-8 insulation is required only between the duct and the building exterior.
   - Exception: Duct insulation is not required on ducts located within equipment.
   - Exception: Duct insulation is not required when the design temperature difference between the interior and exterior of the duct or plenum does not exceed 15 degrees F.
9. All joints, longitudinal and transverse seams, and connections in ductwork must be securely sealed using weldments; mechanical fasteners with seals, gaskets, or mastics; mesh and mastic sealing systems; or tapes. Tapes and mastics must be listed and labeled in accordance with UL 181A or UL 181B.
   - Exception: Continuously welded and locking-type longitudinal joints and seams on ducts operating at static pressures less than 2 inches w.g. pressure classification.
10. Mechanical fasteners and seals, mastics, or gaskets must be used when connecting ducts to fans and other air distribution equipment, including multiple-zone terminal units.
11. All pipes serving space-conditioning systems must be insulated as follows: Hot water piping for heating systems: 1 in. for pipes <=1 1/2-in. nominal diameter 2 in. for pipes >1 1/2-in. nominal diameter. Chilled water, refrigerant, and brine piping systems: 1 in. insulation for pipes <=1 1/2-in. nominal diameter 1 1/2 in. insulation for pipes >1 1/2-in. nominal diameter. Steam piping: 1 1/2 in. insulation for pipes <=1 1/2-in. nominal diameter 3 in. insulation for pipes >1 1/2-in. nominal diameter.

- Exception: Pipe insulation is not required for factory-installed piping within HVAC equipment.
- Exception: Pipe insulation is not required for piping that conveys fluids having a design operating temperature range between 55 degrees F and 105 degrees F.
- Exception: Pipe insulation is not required for piping that conveys fluids that have not been heated or cooled through the use of fossil fuels or electric power.
- Exception: Pipe insulation is not required for runout piping not exceeding 4 ft in length and 1 in. in diameter between the control valve and HVAC coil.

12. Operation and maintenance documentation must be provided to the owner that includes at least the following information:a) equipment capacity (input and output) and required maintenance actionsb) equipment operation and maintenance manual(sc) HVAC system control maintenance and calibration information, including wiring diagrams, schematics, and control sequence descriptions, desired or field-determined set points must be permanently recorded on control drawings, at control devices, or, for digital control systems, in programming commentsd) complete narrative of how each system is intended to operate.
13. Each supply air outlet or diffuser and each zone terminal device (such as VAV or mixing box) must have its own balancing device. Acceptable balancing devices include adjustable dampers located within the ductwork, terminal devices, and supply air diffusers.
14. Stair and elevator shaft vents must be equipped with motorized dampers capable of being automatically closed during normal building operation and interlocked to open as required by fire and smoke detection systems. All gravity outdoor air supply and exhaust hoods, vents, and ventilators must be equipped with motorized dampers that will automatically shut when the spaces served are not in use. Exceptions: - Gravity (non-motorized) dampers are acceptable in buildings less than three stories in height above grade. - Ventilation systems serving unconditioned spaces.

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ALFRED CONSOLI JR.
Lic. #ARC2482

Client:

KeyBank
2025 ONTARIO ST, 4TH FLOOR
CLEVELAND, OHIO 44115

Project:

2008 BRANCH MODERNIZATION PROGRAM

PID# 5056
MONUMENT SQUARE

1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	AC

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:

ENERGY COMPLIANCE FORMS

Drawing No.:

G-004

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MATERIAL SUPPLY AND INSTALLATION MATRIX:

SUPPLIER	CATEGORY	PRODUCT/SERVICE DESCRIPTION	MAIN CONTACT	PHONE	E-MAIL	G.C. TO BUY FROM SUPPLIER	G.C. TO ORDER FROM AUTHORIZED DISTRIBUTOR	Key / C.M. TO ORDER	G.C. TO INSTALL	SUPPLIER TO INSTALL
ARMSTRONG	FLOORING	VCT (VINYL COMPOSITION TILE)	Trina Siegrist	717-396-3676	tsiegrist@armstrong.com		X		X	
ARMSTRONG	CEILING	CEILING TILE & GRIDS	Phillis Miller, Sherry Brunt Beth Rinehart	800-442-4212	armstroncsa@armstrong.com		X		X	
BENTLEY PRINCESTREET	FLOORING	MAIN CARPET FOR BRANCH	Pam Mulverhill	877-286-0001	pam.mulverhill@bentleyprincestreet.com	X			X	
BENTLEY PRINCESTREET	FLOORING	CARPET, WALK OFF MATT FOR VEST.	Pam Mulverhill	877-286-0001	pam.mulverhill@bentleyprincestreet.com	X			X	
BLUE WATER	DIGITAL MARKETING/LCD DISPLAYES	LCD MONITOR, MOUNTS & SYSTEM	Chad Hines	248-350-1155 x 481 cel 248-470-5583	chines@visual-productions.com			X		X
BRANDPARTNERS	FIXTURES, MARKETING	MARKETING FIXTURES, INTERIOR SIGNAGE	Heidi McGuigan	603-509-1569	hmcguigan@brandpartners.com			X	X	X
BRILLIANT	SIGNAGE	EXTERIOR SIGNAGE	Dan Mocny	216-741-3800	dmocny@brilliantsign.com					
CROSSVILLE	FLOORING AND WAINSCOT	RESTROOM WALL & FLOOR TILE	Sheila Wynn	865-675-0939	swynn@crossvilleinc.com	X			X	
DIEBOLD INC.	SECURITY & BANK EQUIPMENT	ALARMS, SAFES, ATMs, VAT, CCTV, UNDERCOUNTER STEEL ETC.	Debbie Halkovics	330-899-1385	deborah.halkovics@diebold.com			X		X
DOAN PYRAMID	LOW VOLTAGE CABLING	TOM KAUFHOLD	Tom Kaufhold	216-587-9510	tbd					
FLEISCHMANN OFFICE INTERIORS	FURNITURE (WESTERN REGION)	KIMBALL-CUBES, OFFICE FURNITURE, DESKS	Patti Whitman	206-826-6308	patti@sfoi.com					
GRAINGER	DRINKING FOUNTAIN, TRASH CAN & LOCKERS	DRINKING FOUNTAIN, TRASH CAN & LOCKERS	John Wanhainen	216-322-5966	john.wanhainen@grainger.com	X			X	
GRAYBAR	LIGHTING	INTERIOR & EXTERIOR BRANCH LIGHTS	Tony Morbeto	216-432-2500	anthony.morbeto@gbe.com	X			X	
GROUP2112	FURNITURE (EASTERN REGION)	KIMBALL-CUBES, OFFICE FURNITURE, DESKS	Edwina Lenet	212-584-9846	edwina.lenet@group2112.com			X		X
HARNEY WOODWORKING	MILLWORK	TELLER LINES, CASTINGS, JAMBS, HEARTH, ETC.	Brad Harbaugh	410-876-7477	bharbaugh@harneywoodworking.com			X	X	
MANNINGTON	FLOORING	MAIN LOBBY AREA PORCELAIN TILE	Joyce Holbert	800-241-2262 x 6412	joyce_holbert@mannington.com		X		X	
OHIO DESK	FURNITURE (GREAT LAKES REGION)	KIMBALL-CUBES, OFFICE FURNITURE, DESKS	Tammy Zook	216-556-8632	tzook@ohiodesk.com			X		X
SEARS	APPLIANCES	FRIDGE, MICROWAVE	Carl Cramer	1-330-854-3017	ccrame4@searshc.com					
SHERWIN WILLIAMS	PAINT	PAINT (INTERIOR)	Ryan Schneeman	216-568-1765	ryan.schneeman@sherwin.com	X			X	
SMITH CFI	FURNITURE	STEELCASE SEATING	Jessica Stitcher	503-525-3512	jessicas@smithcfi.com			X		X
SURFACE MATERIALS INC.	WALL COVERINGS	WALLPAPER	Michelle V.	800-231-3223 x 131	michellev@surfacematerials.com					

NOTE: ALL OTHER SPECIFICATIONS NOT LISTED CAN BE SOURCED AND INSTALLED BY GENERAL CONTRACTOR

SPECIFICATIONS INDEX

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SPECIFICATION INDEX

Drawing No.:

G-100

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SPECIFICATIONS

SECTION 03 3000 - CAST-IN-PLACE CONCRETE
PART 1 GENERAL
1.01 SECTION INCLUDES
A. CONCRETE FORMWORK, ELEVATED CONCRETE SLABS, FLOOR SLABS ON GRADE, FOUNDATIONS, REINFORCEMENT, CONCRETE PADS, JOINT DEVICES AND CURING.
1.02 QUALITY ASSURANCE
A. PERFORM WORK OF THIS SECTION IN ACCORDANCE WITH ACI 301 AND ACI 318.
1. MAINTAIN ONE COPY OF EACH DOCUMENT ON SITE.
B. FOLLOW RECOMMENDATIONS OF ACI 305R WHEN CONCRETING DURING HOT WEATHER.
C. FOLLOW RECOMMENDATIONS OF ACI 306R WHEN CONCRETING DURING COLD WEATHER.
PART 2 PRODUCTS
2.01 FORMWORK
A. FORMWORK DESIGN AND CONSTRUCTION: COMPLY WITH GUIDELINES OF ACI 347 TO PROVIDE FORMWORK THAT WILL PRODUCE CONCRETE COMPLYING WITH TOLERANCES OF ACI 117.
2.02 REINFORCEMENT
A. REINFORCING STEEL: ASTM A 615/A 615M GRADE 60 (420).
1. TYPE: DEFORMED UNFINISHED BILLET-STEEL BARS
B. STEEL WELDED WIRE REINFORCEMENT: ASTM A 185/A 185M, PLAIN TYPE.
C. REINFORCEMENT ACCESSORIES:
1. ANNEALED MINIMUM 16 GAGE TIE WIRE, CHAIRS, BAR SUPPORTS AND SPACERS
2. PROVIDE STAINLESS STEEL, GALVANIZED, PLASTIC, OR PLASTIC COATED STEEL COMPONENTS FOR PLACEMENT WITHIN 2 INCHES OF WEATHERING SURFACES.
2.03 CONCRETE MATERIALS
A. CEMENT: ASTM C 150, TYPE I - NORMAL PORTLAND TYPE; FINE AND COARSE AGGREGATE: ASTM C33
B. WATER: CLEAN AND NOT DETRIMENTAL TO CONCRETE.
2.04 CHEMICAL ADMIXTURES
A. DO NOT USE CHEMICALS THAT WILL RESULT IN SOLUBLE CHLORIDE IONS IN EXCESS OF 0.1 PERCENT BY WEIGHT OF CEMENT.
B. AIR ENTRAINMENT ADMIXTURE: ASTM C 260, ACCELERATING ADMIXTURE: ASTM 494C/ 494M TYPE C, RETARDING ADMIXTURE: ASTM 494C/ 494M TYPE B
2.05 ACCESSORY MATERIALS
A. UNDERSLAB VAPOR RETARDER: MULTI-LAYER, FABRIC-, CORD-, GRID-, OR ALUMINUM-REINFORCED POLYETHYLENE OR EQUIVALENT, COMPLYING WITH ASTM E 1745, CLASS A; STATED BY MANUFACTURER AS SUITABLE FOR INSTALLATION IN CONTACT WITH SOIL OR GRANULAR FILL UNDER CONCRETE SLABS. SINGLE PLY POLYETHYLENE IS PROHIBITED.
B. CHEMICAL HARDENER: FLUOSILICATE SOLUTION DESIGNED FOR DENSIFICATION OF CURED CONCRETE SLABS.
C. NON-SHRINK GROUT: ASTM C 1107/C 1107M; PREMIXED COMPOUND CONSISTING OF NON-METALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIZING AGENTS.
D. MOISTURE-RETAINING COVER: ASTM C 171; REGULAR CURING PAPER, WHITE CURING PAPER, CLEAR POLYETHYLENE, WHITE POLYETHYLENE, OR WHITE BURLAP-POLYETHYLENE SHEET
2.06 BONDING AND JOINTING PRODUCTS
A. LATEX BONDING AGENT: NON-DISPERSIBLE ACRYLIC LATEX, COMPLYING WITH ASTM C 1059 TYPE II.
B. EPOXY BONDING SYSTEM: COMPLYING WITH ASTM C 881/C 881M AND OF TYPE REQUIRED FOR SPECIFIC APPLICATION.
C. JOINT FILLER: COMPRESSIBLE ASPHALT MASTIC WITH FELT FACERS, COMPLYING WITH ASTM D 994, 1/4 INCH THICK AND 4 INCHES DEEP.
2.07 CONCRETE MIX DESIGN
A. PROPORTIONING NORMAL WEIGHT CONCRETE: COMPLY WITH ACI 211.1 RECOMMENDATIONS.
B. CONCRETE STRENGTH: ESTABLISH REQUIRED AVERAGE STRENGTH FOR EACH TYPE OF CONCRETE ON THE BASIS OF FIELD EXPERIENCE OR TRIAL MIXTURES, AS SPECIFIED IN ACI 301.
1. FOR TRIAL MIXTURES METHOD, EMPLOY INDEPENDENT TESTING AGENCY ACCEPTABLE TO ARCHITECT FOR PREPARING AND REPORTING PROPOSED MIX DESIGNS.
C. ADMIXTURES: ADD ACCEPTABLE ADMIXTURES AS RECOMMENDED IN ACI 211.1 AND AT RATES RECOMMENDED BY MANUFACTURER.
D. NORMAL WEIGHT CONCRETE:
1. COMPRESSIVE STRENGTH, WHEN TESTED IN ACCORDANCE WITH ASTM C 39/C 39M AT 28 DAYS: 3,000 PSI.
2.08 MIXING
A. ON PROJECT SITE: MIX IN DRUM TYPE BATCH MIXER, COMPLYING WITH ASTM C 685. TRANSIT MIXERS: COMPLY WITH ASTM C 94/C 94M.
PART 3 EXECUTION
3.01 CONCRETE FINISHING
A. CONCRETE SLABS: FINISH TO REQUIREMENTS OF ACI 302.1R, AND AS FOLLOWS:
1. STEEL TROWEL SURFACES THAT WILL RECEIVE CARPETING, RESILIENT FLOORING, SEAMLESS FLOORING, THIN SET QUARRY TILE, AND THIN SET CERAMIC TILE.
2. STEEL TROWEL SURFACES THAT WILL BE LEFT EXPOSED.
A. CHEMICAL HARDENER: AFTER SLAB HAS CURED, APPLY WATER-DILUTED HARDENER IN THREE COATS PER MANUFACTURER'S INSTRUCTIONS, ALLOWING 24 HOURS BETWEEN COATS.
B. IN AREAS WITH FLOOR DRAINS, MAINTAIN FLOOR ELEVATION AT WALLS; PITCH SURFACES UNIFORMLY TO DRAINS AT 1:100 NOMINAL.

SECTION 03 3000 - CAST-IN-PLACE CONCRETE (CONT.)
3.02 CURING AND PROTECTION
3.03 FIELD QUALITY CONTROL
A. PROVIDE FREE ACCESS TO CONCRETE OPERATIONS AT PROJECT SITE AND COOPERATE WITH APPOINTED FIRM.
B. SUBMIT PROPOSED MIX DESIGN OF EACH CLASS OF CONCRETE TO INSPECTION AND TESTING FIRM FOR REVIEW PRIOR TO COMMENCEMENT OF CONCRETE OPERATIONS.
C. COMPRESSIVE STRENGTH TESTS: ASTM C 39/C 39M. FOR EACH TEST, MOLD AND CURE THREE CONCRETE TEST CYLINDERS. OBTAIN TEST SAMPLES FOR EVERY 100 CU YD OR LESS OF EACH CLASS OF CONCRETE PLACED.
D. TAKE ONE ADDITIONAL TEST CYLINDER DURING COLD WEATHER CONCRETING, CURED ON JOB SITE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.
E. PERFORM ONE SLUMP TEST FOR EACH SET OF TEST CYLINDERS TAKEN, FOLLOWING PROCEDURES OF ASTM C 143/C 143M.
3.04 DEFECTIVE CONCRETE
A. TEST RESULTS: THE TESTING AGENCY SHALL REPORT TEST RESULTS IN WRITING TO KEY BANK AND CONTRACTOR WITHIN 24 HOURS OF TEST.
B. DEFECTIVE CONCRETE: CONCRETE NOT CONFORMING TO REQUIRED LINES, DETAILS, DIMENSIONS, TOLERANCES OR SPECIFIED REQUIREMENTS.
C. REPAIR OR REPLACEMENT OF DEFECTIVE CONCRETE WILL BE DETERMINED BY THE KEY BANK AND ARCHITECT. THE COST OF ADDITIONAL TESTING SHALL BE BORNE BY CONTRACTOR WHEN DEFECTIVE CONCRETE IS IDENTIFIED.
D. DO NOT PATCH, FILL, TOUCH-UP, REPAIR, OR REPLACE EXPOSED CONCRETE EXCEPT UPON EXPRESS DIRECTION OF KEY BANK AND ARCHITECT FOR EACH INDIVIDUAL AREA.

SECTION 04 2000 - UNIT MASONRY
PART 1 GENERAL
1.01 SECTION INCLUDES
A. CONCRETE BLOCK, FACING AND COMMON BRICK, MORTAR AND GROUT, REINFORCEMENT AND ANCHORAGE, FLASHINGS, LINTELS AND ACCESSORIES.
1.02 QUALITY ASSURANCE
A. COMPLY WITH PROVISIONS OF ACI 530/ASCE 5/TMS 402 AND ACI 530.1/ASCE 6/TMS 602, EXCEPT WHERE EXCEEDED BY REQUIREMENTS OF THE CONTRACT DOCUMENTS.
1.03 ENVIRONMENTAL REQUIREMENTS
A. MAINTAIN MATERIALS AND SURROUNDING AIR TEMPERATURE TO MINIMUM 40 DEGREES F PRIOR TO, DURING, AND 48 HOURS AFTER COMPLETION OF MASONRY WORK.
B. MAINTAIN MATERIALS AND SURROUNDING AIR TEMPERATURE TO MAXIMUM 90 DEGREES F PRIOR TO, DURING, AND 48 HOURS AFTER COMPLETION OF MASONRY WORK.
1.04 EXTRA MATERIALS
A. SEE SECTION 01 6000 - PRODUCT REQUIREMENTS, FOR ADDITIONAL PROVISIONS.
B. PROVIDE 30 OF EACH SIZE, COLOR, AND TYPE OF FACE BRICK UNITS FOR KEY BANK'S USE IN MAINTENANCE OF PROJECT.
PART 2 PRODUCTS
2.01 CONCRETE MASONRY UNITS
A. CONCRETE BLOCK: COMPLY WITH REFERENCED STANDARDS AND AS FOLLOWS:
1. SIZE: STANDARD UNITS WITH NOMINAL FACE DIMENSIONS OF 16 X 8 INCHES AND NOMINAL DEPTHS AS INDICATED ON THE DRAWINGS FOR SPECIFIC LOCATIONS, LOADING BEARING UNITS: ASTM C 90, NON-LOAD BEARING UNITS: ASTM C 129
2.02 BRICK UNITS
A. MANUFACTURERS:
1. BORAL BRICKS, INC: WWW.BORALBRICKS.COM.
2. ENDICOTT CLAY PRODUCTS CO: WWW.ENDICOTT.COM.
3. GLEN GERY: WWW.GLENGERY.COM
4. SUMMITVILLE: WWW.SUMMITVILLE.COM
5. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
B. FACING BRICK: ASTM C 216, TYPE FBS, GRADE SW.
1. SIZE, COLOR AND TEXTURE: TO MATCH EXISTING.
C. BUILDING (COMMON) BRICK: ASTM C 62, GRADE SW; SOLID UNITS.
1. NOMINAL SIZE: TO MATCH EXISTING.
2.03 MORTAR AND GROUT MATERIALS
A. MORTAR AND GROUT:
1. TO MATCH EXISTING MORTAR, PORTLAND CEMENT ASTM C 150 TYPE 1\
2. GLEN GREY COLORED MORTAT BLEND G-402
2.04 REINFORCEMENT AND ANCHORAGE
A. MANUFACTURERS OF JOINT REINFORCEMENT AND ANCHORS:
1. DUR-O-WAL: WWW.DUR-O-WAL.COM.
2. HOHMANN & BARNARD, INC: WWW.H-B.COM.
3. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
B. REINFORCING STEEL: TYPE AS REQUIRED; SIZE AS INDICATED ON DRAWINGS; GALVANIZED FINISH.
C. STRAP ANCHORS: BENT STEEL SHAPES CONFIGURED AS REQUIRED FOR SPECIFIC SITUATIONS, 1-1/4 IN WIDTH, 0.105 IN THICK, LENGTHS AS REQUIRED TO PROVIDE NOT MORE THAN 1 INCH AND NOT LESS THAN 1/2 INCH OF MORTAR COVERAGE FROM MASONRY FACE, CORRUGATED FOR EMBEDMENT IN MASONRY JOINT, HOT DIP GALVANIZED TO ASTM A 153/A 153M, CLASS B.
2.05 FLASHINGS
A. METAL FLASHING MATERIALS:ASTM B 370, 060 SOFT ANNEALED; 20 OZ/SQ FT THICK; NATURAL FINISH COPPER.
B. EPDM FLASHING: ASTM D 4637, TYPE I, 0.040 INCH THICK.
C. STAINLESS STEEL: ASTM A 666, TYPE 304, SOFT TEMPER; 26 GAGE (0.45 MM) THICK; FINISH 2B TO 2D.
2.06 ACCESSORIES
A. PREFORMED CONTROL JOINTS: RUBBER MATERIAL. PROVIDE WITH CORNER AND TEE ACCESSORIES, FUSED JOINTS.
B. JOINT FILLER: CLOSED CELL POLYVINYL CHLORIDE; OVERSIZED 50 PERCENT TO JOINT WIDTH; SELF EXPANDING; MAXIMUM LENGTHS AVAILABLE.
C. CAVITY MORTAR CONTROL: SEMI-RIGID POLYETHYLENE OR POLYESTER MESH PANELS, SIZED TO THICKNESS OF WALL CAVITY, AND DESIGNED TO PREVENT MORTAR DROPPINGS FROM CLOGGING WEEPS AND CAVITY VENTS AND ALLOW PROPER CAVITY DRAINAGE.
D. WEEPS: POLYETHYLENE TUBING AT 24" ON CENTER SPACING.
E. CAVITY VENTS: POLYESTER MESH.
F. CLEANING SOLUTION: NON-ACIDIC, NOT HARMFUL TO MASONRY WORK OR ADJACENT MATERIALS.
2.07 MORTAR AND GROUT MIXES
A. MORTAR FOR UNIT MASONRY: ASTM C 270, USING THE PROPORTION SPECIFICATION.
1. MASONRY BELOW GRADE AND IN CONTACT WITH EARTH: TYPE S.
2. EXTERIOR, LOADBEARING MASONRY: TYPE N.
3. EXTERIOR, NON-LOADBEARING MASONRY: TYPE N.
4. INTERIOR, LOADBEARING MASONRY: TYPE N.
5. INTERIOR, NON-LOADBEARING MASONRY: TYPE O.
B. COLORED MORTAR: PROPORTION SELECTED PIGMENTS AND OTHER INGREDIENTS TO MATCH EXISTING, WITHOUT EXCEEDING MANUFACTURER'S RECOMMENDED PIGMENT-TO-CEMENT RATIO.
C. NEW MORTAR FOR OLD BRICK: PROPORTIONED BY VOLUME ONLY; NOT MORE THAN 20 PERCENT OF THE TOTAL VOLUME OF PORTLAND CEMENT AND LIME COMBINED SHALL BE PORTLAND CEMENT.
1. SAND: MATCH ORIGINAL MORTAR AS CLOSELY AS POSSIBLE IN COLOR, SIZE, AND TEXTURE, WITHOUT USE OF OTHER ADDITIVES.
2. DO NOT USE MODERN ADDITIVES UNLESS PERMITTED IN WRITING.
3. REPOINTING MORTAR: USE PROPORTIONS FROM 1 PART LIME TO 2 PARTS SAND WITH NO PORTLAND CEMENT, UP TO 2 PARTS PORTLAND CEMENT TO 3 PARTS LIME TO 6 PARTS SAND.
4. WHITE PORTLAND CEMENT: USE FOR REPOINTING MORTAR WHERE PORTLAND CEMENT IS PERMITTED.
D. GROUT: ASTM C 476. CONSISTENCY REQUIRED TO FILL COMPLETELY VOLUMES INDICATED FOR GROUTING; FINE GROUT FOR SPACES WITH SMALLEST HORIZONTAL DIMENSION OF 2 INCHES OR LESS; COARSE GROUT FOR SPACES WITH SMALLEST HORIZONTAL DIMENSION GREATER THAN 2 INCHES.

SECTION 04 2000 - UNIT MASONRY (CONT.)
PART 3 EXECUTION
3.01 LINTELS
A. INSTALL LOOSE STEEL LINTELS OVER OPENINGS.
B. INSTALL REINFORCED UNIT MASONRY LINTELS OVER OPENINGS WHERE STEEL OR PRECAST CONCRETE LINTELS ARE NOT SCHEDULED.
1. OPENINGS TO 42 INCHES: PLACE TWO, NO. 3 REINFORCING BARS 1 INCH FROM BOTTOM WEB.
2. OPENINGS FROM 42 INCHES TO 78 INCHES: PLACE TWO, NO. 5 REINFORCING BARS 1 INCH FROM BOTTOM WEB.
3. OPENINGS OVER 78 INCHES: REINFORCE OPENINGS AS DETAILED.
4. DO NOT SPLICE REINFORCING BARS.
C. MAINTAIN MINIMUM 8 INCH BEARING ON EACH SIDE OF OPENING.
3.02 CLEANING
A. REMOVE EXCESS MORTAR AND MORTAR DROPPINGS AND REPLACE DEFECTIVE MORTAR.
B. CLEAN SOILED SURFACES WITH CLEANING SOLUTION AND NON-METALLIC TOOLS.CP

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Client:
KeyBank
2025 ONTARIO ST, 4TH FLOOR
CLEVELAND, OHIO 44115

Project:
2008 BRANCH MODERNIZATION PROGRAM
PID# 5056
MONUMENT SQUARE
1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	AC

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:
SPECIFICATIONS

Drawing No.:
G-102

EK - J:\2008 Projects\F5W86600\Cad\KeyBank_CDs\5056 Monument Square\General\5056_G-102.dwg [5056_G-102] February 24, 2009 - 6:16pm PATELSH

SPECIFICATIONS

SECTION 06 1000 - ROUGH CARPENTRY
PART 1 GENERAL
1.01 SECTION INCLUDES
A. STRUCTURAL DIMENSION LUMBER FRAMING, NON-STRUCTURAL DIMENSION LUMBER FRAMING, ROUGH OPENING FRAMING FOR DOORS, WINDOWS, AND ROOF OPENINGS, UNDERLAYMENT, ROOF-MOUNTED CURBS, ROOFING NAILERS, PRESERVATIVE TREATED WOOD MATERIALS, FIRE RETARDANT TREATED WOOD MATERIALS, COMMUNICATIONS AND ELECTRICAL ROOM MOUNTING BOARDS, CONCEALED WOOD BLOCKING, NAILERS, FURRINGS, SUPPORTS AND GROUNDS.
PART 2 PRODUCTS
2.01 GENERAL REQUIREMENTS
A. DIMENSION LUMBER: COMPLY WITH PS 20 AND REQUIREMENTS OF SPECIFIED GRADING AGENCIES.
1. SPECIES: DOUGLAS FIR-LARCH, UNLESS OTHERWISE INDICATED.
2. GRADING AGENCY: ANY GRADING AGENCY WHOSE RULES ARE APPROVED BY THE BOARD OF REVIEW, AMERICAN LUMBER STANDARD COMMITTEE (WWW.ALSC.ORG) AND WHO PROVIDES GRADING SERVICE FOR THE SPECIES AND GRADE SPECIFIED; PROVIDE LUMBER STAMPED WITH GRADE MARK UNLESS OTHERWISE INDICATED.
B. LUMBER FABRICATED FROM OLD GROWTH TIMBER IS NOT PERMITTED.
C. PROVIDE SUSTAINABLY HARVESTED WOOD; SEE SECTION 01 6000 FOR REQUIREMENTS.
D. PROVIDE WOOD HARVESTED WITHIN A 500 MILE RADIUS OF THE PROJECT SITE FOR LOCALLY-SOURCED PRODUCTS.
2.02 CONSTRUCTION PANELS
A. SUBFLOORING: APA RATED SHEATHING.
1. EXPOSURE CLASS: EXTERIOR.
2. SPAN RATING: 32/16 INCHES.
3. THICKNESS: 3/8 INCH, NOMINAL.
B. WALL SHEATHING: APA STRUCTURAL I RATED SHEATHING, EXTERIOR EXPOSURE CLASS, AND AS FOLLOWS:
1. SPAN RATING: 24/0.
2. THICKNESS: 1/2 INCH, NOMINAL.
C. WALL SHEATHING: PLYWOOD, PS 1, GRADE C-D, EXPOSURE I.
D. COMMUNICATIONS AND ELECTRICAL ROOM MOUNTING BOARDS: INTERIOR GRADE, A-D PLYWOOD ; 3/4 INCH THICK; FLAME SPREAD INDEX OF 25 OR LESS, SMOKE DEVELOPED INDEX OF 450 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
E. OTHER APPLICATIONS:
1. CONCEALED PLYWOOD: PS 1, C-C PLUGGED, EXTERIOR GRADE.
2. EXPOSED PLYWOOD: PS 1, A-D, INTERIOR GRADE.
2.03 ACCESSORIES
A. FASTENERS AND ANCHORS:
1. METAL AND FINISH: HOT-DIPPED GALVANIZED STEEL PER ASTM A 153/A 153M FOR HIGH HUMIDITY AND PRESERVATIVE-TREATED WOOD LOCATIONS, UNFINISHED STEEL ELSEWHERE.
2. DRYWALL SCREWS: BUGLE HEAD, HARDENED STEEL, POWER DRIVEN TYPE, LENGTH THREE TIMES THICKNESS OF SHEATHING.
3. ANCHORS: TOGGLE BOLT TYPE FOR ANCHORAGE TO HOLLOW MASONRY.
B. SUBFLOOR GLUE: WATERPROOF, WATER BASE, AIR CURE TYPE, CARTRIDGE DISPENSED.
2.04 FACTORY WOOD TREATMENT
A. TREATED LUMBER AND PLYWOOD: COMPLY WITH REQUIREMENTS OF AWPA U1 - USE CATEGORY SYSTEM FOR WOOD TREATMENTS DETERMINED BY USE CATEGORIES, EXPECTED SERVICE CONDITIONS, AND SPECIFIC APPLICATIONS.
1. FIRE-RETARDANT TREATED WOOD: MARK EACH PIECE OF WOOD WITH PRODUCER'S STAMP INDICATING COMPLIANCE WITH SPECIFIED REQUIREMENTS.
2. PRESERVATIVE-TREATED WOOD: PROVIDE LUMBER AND PLYWOOD MARKED OR STAMPED BY AN ALSC-ACCREDITED TESTING AGENCY, CERTIFYING LEVEL AND TYPE OF TREATMENT IN ACCORDANCE WITH AWPA STANDARDS.
PART 3 EXECUTION
3.01 BLOCKING, NAILERS, AND SUPPORTS
A. PROVIDE FRAMING AND BLOCKING MEMBERS AS INDICATED OR AS REQUIRED TO SUPPORT FINISHES, FIXTURES, SPECIALTY ITEMS, AND TRIM.
B. IN METAL STUD WALLS, PROVIDE CONTINUOUS BLOCKING AROUND DOOR AND WINDOW OPENINGS FOR ANCHORAGE OF FRAMES, SECURELY ATTACHED TO STUD FRAMING.
C. IN WALLS, PROVIDE BLOCKING ATTACHED TO STUDS AS BACKING AND SUPPORT FOR WALL-MOUNTED ITEMS, UNLESS ITEM CAN BE SECURELY FASTENED TO TWO OR MORE STUDS OR OTHER METHOD OF SUPPORT IS EXPLICITLY INDICATED.
D. SPECIFICALLY, PROVIDE THE FOLLOWING NON-STRUCTURAL FRAMING AND BLOCKING:
1. CABINETS AND SHELF SUPPORTS, WALL BRACKETS, HANDRAILS, GRAB BARS, TOILET ROOM ACCESSORIES, DOOR STOPS, WALL PANELING AND TRIM, CHALKBOARDS, BULLETIN BOARDS AND MARKER BOARDS.
3.02 ROOF-RELATED CARPENTRY
A. COORDINATE INSTALLATION OF ROOFING CARPENTRY WITH DECK CONSTRUCTION, FRAMING OF ROOF OPENINGS, AND ROOFING ASSEMBLY INSTALLATION.
B. PROVIDE PRESSURE TREATED WOOD CURBS AT ALL ROOF OPENINGS EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE. FORM CORNERS BY ALTERNATING LAPPING SIDE MEMBERS.
3.03 CLEANING
A. WASTE DISPOSAL: COMPLY WITH THE REQUIREMENTS OF LOCAL BUILDING ORDINANCES.
1. COMPLY WITH APPLICABLE REGULATIONS.
2. DO NOT BURN SCRAP ON PROJECT SITE OR BURN SCRAPS THAT HAVE BEEN PRESSURE TREATED.
3. DO NOT SEND MATERIALS TREATED WITH PENTACHLOROPHENOL, CCA, OR ACA TO CO-GENERATION FACILITIES OR "WASTE-TO-ENERGY" FACILITIES.
B. DO NOT LEAVE ANY WOOD, SHAVINGS, SAWDUST, ETC. ON THE GROUND OR BURIED IN FILL.
C. PREVENT SAWDUST AND WOOD SHAVINGS FROM ENTERING THE STORM DRAINAGE SYSTEM.

SECTION 06 2000 - FINISH CARPENTRY
PART 1 GENERAL
1.01 SECTION INCLUDES
A. FINISH CARPENTRY ITEMS, WOOD DOOR FRAMES, GLAZED FRAMES, WOOD CASINGS AND MOLDINGS.
1.02 QUALITY ASSURANCE
A. GRADE MATERIALS IN ACCORDANCE WITH THE FOLLOWING:
1. LUMBER GRADING AGENCY: CERTIFIED BY ALSC.
2. PLYWOOD: CERTIFIED BY THE AMERICAN PLYWOOD ASSOCIATION.
3. HARDWOOD LUMBER GRADING: NHLA GRADING RULES.
B. FABRICATOR QUALIFICATIONS: COMPANY SPECIALIZING IN FABRICATING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM 5 YEARS OF DOCUMENTED EXPERIENCE.
1.03 REGULATORY REQUIREMENTS
A. CONFORM TO APPLICABLE CODE FOR FIRE RETARDANT REQUIREMENTS.
PART 2 PRODUCTS
2.01 MATERIALS - GENERAL
A. UNLESS OTHERWISE INDICATED PROVIDE PRODUCTS OF QUALITY SPECIFIED BY AWI ARCHITECTURAL WOODWORK QUALITY STANDARDS ILLUSTRATED FOR PREMIUM GRADE.
2.02 LUMBER MATERIALS
A. HARDWOOD LUMBER: , SAWN, MAXIMUM MOISTURE CONTENT OF 6 PERCENT SUITABLE FOR STAIN FINISH.
2.03 SHEET MATERIALS
A. SOFTWOOD PLYWOOD EXPOSED TO VIEW; HARDWOOD FACE SPECIES AS INDICATED, PLAIN SAWN, VENEER CORE; PS 1 GRADE A-B; GLUE TYPE AS RECOMMENDED FOR APPLICATION.
2.04 ADHESIVE
A. ADHESIVE: TYPE RECOMMENDED BY LAMINATE MANUFACTURER TO SUIT APPLICATION.
2.05 FASTENERS
A. FASTENERS: OF SIZE AND TYPE TO SUIT APPLICATION; FINISH AS INDICATED IN CONCEALED AND EXPOSED LOCATIONS.
B. CONCEALED JOINT FASTENERS: THREADED STEEL.
2.06 ACCESSORIES
A. LUMBER FOR SHIMMING, BLOCKING.[].
B. SAFETY GLASS: LAMINATED GLASS COMPLYING WITH 16 CFR 1201 AND ANSI Z97.1; CLEAR; NOMINALLY 6 MM THICK.
C. STAIN AND SATIN FINISH: REFER TO FINISH SCHEDULE.
D. WOOD FILLER: SOLVENT BASE, TINTED TO MATCH SURFACE FINISH COLOR.
PART 3 EXECUTION
3.01 ERECTION TOLERANCES
A. MAXIMUM VARIATION FROM TRUE POSITION: 1/16 INCH.
B. MAXIMUM OFFSET FROM TRUE ALIGNMENT WITH ABUTTING MATERIALS: 1/32 INCH.

SECTION 06 4100 - ARCHITECTURAL WOOD CASEWORK
PART 1 GENERAL
1.01 SECTION INCLUDES
A. SPECIALLY FABRICATED CABINET UNITS, COUNTERTOPS, CABINET HARDWARE,FACTORY FINISHING AND PREPARATION FOR INSTALLING UTILITIES.
1.02 QUALITY ASSURANCE
A. PERFORM WORK IN ACCORDANCE WITH AWI/AWMAC ARCHITECTURAL WOODWORK QUALITY STANDARDS ILLUSTRATED, PREMIUM QUALITY, UNLESS OTHER QUALITY IS INDICATED FOR SPECIFIC ITEMS.
B. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM 5 YEARS OF DOCUMENTED EXPERIENCE.
C. MANUFACTURER QUALIFICATIONS: MEMBER IN GOOD STANDING OF THE ARCHITECTURAL WOODWORK INSTITUTE (AWI) OR THE ARCHITECTURAL WOODWORK MANUFACTURERS ASSOCIATION OF CANADA (AWMAC) AND FAMILIAR WITH THE AWI/AWMAC QSI.
D. QUALITY CERTIFICATION: PROVIDE INSPECTION AND QUALITY CERTIFICATION OF COMPLETED CUSTOM CABINETS IN ACCORDANCE WITH AWI/AWMAC QUALITY CERTIFICATION PROGRAM.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. AS PROVIDED BY KEY BANK
B. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
2.02 LUMBER MATERIALS
A. SOFTWOOD LUMBER: NIST PS 20; GRADED IN ACCORDANCE WITH AWI/AWMAC ARCHITECTURAL WOODWORK QUALITY STANDARDS ILLUSTRATED, GRADE II/CUSTOM; AVERAGE MOISTURE CONTENT OF 5-10 PERCENT.
B. HARDWOOD LUMBER: NHLA; GRADED IN ACCORDANCE WITH AWI/AWMAC ARCHITECTURAL WOODWORK QUALITY STANDARDS ILLUSTRATED, GRADE II/CUSTOM; AVERAGE MOISTURE CONTENT OF 5-10 PERCENT
2.03 PANEL MATERIALS
A. SOFTWOOD FACED PLYWOOD:
B. EXPOSED SURFACES: NIST PS 1; APA A-A GRADE, PLAIN-SLICED REDWOOD FACE VENEER, INTERIOR RATED ADHESIVES, CORE OF PARTICLEBOARD, MEDIUM DENSITY FIBERBOARD, OR ENGINEERED COMBINATION, THICKNESS AS INDICATED.
C. HARDWOOD FACED PLYWOOD: HPVA HP-1; GRADED IN ACCORDANCE WITH AWI/AWMAC ARCHITECTURAL WOODWORK QUALITY STANDARDS ILLUSTRATED, CORE OF PARTICLEBOARD, MEDIUM DENSITY FIBERBOARD, STRAWBOARD, OR ENGINEERED COMBINATION; TYPE OF GLUE RECOMMENDED FOR SPECIFIC APPLICATION; THICKNESS AS REQUIRED; WITH FACE VENEER
D. PARTICLEBOARD: ANSI A208.1; MEDIUM DENSITY INDUSTRIAL TYPE AS SPECIFIED IN AWI/AWMAC ARCHITECTURAL WOODWORK QUALITY STANDARDS ILLUSTRATED, COMPOSED OF WOOD CHIPS BONDED WITH INTERIOR GRADE ADHESIVE UNDER HEAT AND PRESSURE; SANDED FACES; THICKNESS AS REQUIRED; USE FOR COMPONENTS INDICATED ON DRAWINGS.
E. MEDIUM DENSITY FIBERBOARD (MDF): ANSI A208.2; TYPE AS SPECIFIED IN AWI/AWMAC ARCHITECTURAL WOODWORK QUALITY STANDARDS ILLUSTRATED; COMPOSED OF WOOD FIBERS PRESSURE BONDED WITH MOISTURE RESISTANT ADHESIVE TO SUIT APPLICATION; SANDED FACES; THICKNESS AS REQUIRED.
1. USE FOR PAINTED COMPONENTS AND CONCEALED COMPONENTS.
F. HARDWOOD EDGEBANDING: USE SOLID HARDWOOD EDGEBANDING MATCHING SPECIES, COLOR, GRAIN, AND GRADE FOR EXPOSED PORTIONS OF CABINETRY.
2.04 LAMINATE MATERIALS
A. MANUFACTURERS:
1. WILSONART INTERNATIONAL, INC: WWW.WILSONART.COM.
B. HIGH PRESSURE DECORATIVE LAMINATE (HPDL): NEMA LD 3, TYPES AS RECOMMENDED FOR SPECIFIC APPLICATIONS AND AS FOLLOWS:
1. HORIZONTAL SURFACES: HGS, 0.048 INCH NOMINAL THICKNESS, THROUGH COLOR, COLORS AS SCHEDULED, FINISH AS SCHEDULED.
2. VERTICAL SURFACES: VGS, 0.028 INCH NOMINAL THICKNESS, THROUGH COLOR, COLORS AS SCHEDULED, FINISH AS SCHEDULED.
3. FLAME RETARDANT SURFACES: HGF, 0.048 INCH NOMINAL THICKNESS, THROUGH COLOR, COLORS AS SCHEDULED, FINISH AS SCHEDULED.
4. CABINET LINER: CLS, 0.020 INCH NOMINAL THICKNESS, THROUGH COLOR, COLORS AS SCHEDULED, FINISH AS SCHEDULED.
2.05 ACCESSORIES
A. ADHESIVE: TYPE RECOMMENDED BY FABRICATOR TO SUIT APPLICATION.
B. FASTENERS: SIZE AND TYPE TO SUIT APPLICATION, THREADED CONCEALED JOINT FASTENERS, AND GROMMETS.
C. BOLTS, NUTS, WASHERS, LAGS, PINS, AND SCREWS: OF SIZE AND TYPE TO SUIT APPLICATION; GALVANIZED OR CHROME-PLATED FINISH IN CONCEALED LOCATIONS AND STAINLESS STEEL, OR CHROME-PLATED FINISH IN EXPOSED LOCATIONS.
2.06 HARDWARE
A. HARDWARE: BHMA A156.9, TYPES AS RECOMMENDED BY FABRICATOR FOR QUALITY GRADE SPECIFIED.
B. ADJUSTABLE SHELF SUPPORTS: STANDARD SIDE-MOUNTED SYSTEM USING MULTIPLE HOLES FOR PIN SUPPORTS AND COORDINATED SELF RESTS, SATIN CHROME FINISH, FOR NOMINAL 1 INCH SPACING ADJUSTMENTS.

SECTION 06 4100 - ARCHITECTURAL WOOD CASEWORK (CONT.)
C. DRAWER AND DOOR PULLS: "U" SHAPED WIRE PULL, STEEL WITH SATIN FINISH, 4 INCH CENTERS.
D. CABINET LOCKS: KEYED CYLINDER, TWO KEYS PER LOCK, STEEL WITH CHROME FINISH.
E. CATCHES.
F. DRAWER SLIDES:
1. TYPE: STANDARD EXTENSION, COMMERCIAL GRADE, SIDE MOUNTED, INTEGRAL STOP AND SELF CLOSING.
G. HINGES: EUROPEAN STYLE CONCEALED SELF-CLOSING TYPE, STEEL WITH POLISHED FINISH.
2.07 SITE FINISHING MATERIALS
A. STAIN, SHELLAC, VARNISH AND FINISHING MATERIALS: AS INDICATED ON DRAWINGS AND SECTION 099000.
B. FINISHING: SITE FINISHED AS SPECIFIED ON DRAWINGS AND SECTION 09 9000.
PART 3 EXECUTION
3.01 ADJUSTING
A. ADJUST INSTALLED WORK.
3.02 CLEANING
A. CLEAN CASEWORK, COUNTERS, SHELVES, HARDWARE, FITTINGS, AND FIXTURES.

SECTION 07 2100 - THERMAL/SOUND INSULATION
PART 1 GENERAL
1.01 SECTION INCLUDES
A. BOARD INSULATION AND INTEGRAL VAPOR RETARDER AT CAVITY WALL CONSTRUCTION, PERIMETER FOUNDATION WALL, AND UNDERSIDE OF FLOOR SLABS.
B. BATT INSULATION AND VAPOR RETARDER IN EXTERIOR WALL, CEILING, AND ROOF CONSTRUCTION.
C. BATT INSULATION FOR FILLING PERIMETER WINDOW AND DOOR SHIM SPACES AND CREVICES IN EXTERIOR WALL AND ROOF.
D. BATT SOUND INSULATION FOR INTERIOR WALLS.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. INSULATION:
1. OWENS CORNING-WWW.OWENSCORNING.CO
2. CERTAINTEED CORPORATION-WWW.CERTAINTEED.COM
3. DOW CHEMICAL COMPANY-WWW.DOWSTYROFOAM.COM
4. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
2.02 BOARD INSULATION MATERIALS
A. EXTRUDED POLYSTYRENE BOARD INSULATION: ASTM C 578, TYPE X; EXTRUDED POLYSTYRENE BOARD WITH EITHER NATURAL SKIN OR CUT CELL SURFACES; WITH THE FOLLOWING CHARACTERISTICS:
1.FLAME SPREAD INDEX: 75 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
2. SMOKE DEVELOPED INDEX: 450 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
3. BOARD THICKNESS: 1-1/2 INCHES.
B. POLYISOCYANURATE BOARD INSULATION: RIGID CELLULAR FOAM, COMPLYING WITH ASTM C 1289; TYPE I, ALUMINUM FOIL BOTH FACES; CLASS 1, NON-REINFORCED FOAM CORE.
1.FLAME SPREAD INDEX: 75 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
2. SMOKE DEVELOPED INDEX: 450 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
3. BOARD THICKNESS: 2 INCH.
2.03 BATT INSULATION MATERIALS
A. BATT INSULATION: ASTM C 665; PREFORMED BATT; FRICTION FIT, CONFORMING TO THE FOLLOWING:
1.COMBUSTIBILITY: NON-COMBUSTIBLE, WHEN TESTED IN ACCORDANCE WITH ASTM E 136, EXCEPT FOR FACING, IF ANY.
2. THICKNESS: INCH AS REQUIRED BY CODES AND INDICATED ON DRAWINGS.
3. FACING: UNFACED.
4. FACING: ALUMINUM FOIL, ONE SIDE.

SECTION 07 8400 - FIRESTOPPING
PART 1 GENERAL
1.01 SECTION INCLUDES
A. FIRESTOPPING MATERIALS.
B. FIRESTOPPING OF ALL PENETRATIONS AND INTERRUPTIONS TO FIRE RATED ASSEMBLIES, WHETHER INDICATED ON DRAWINGS OR NOT, AND OTHER OPENINGS INDICATED.
1.02 QUALITY ASSURANCE
A. FIRE TESTING: PROVIDE FIRESTOPPING ASSEMBLIES OF DESIGNS WHICH PROVIDE THE SCHEDULED FIRE RATINGS WHEN TESTED IN ACCORDANCE WITH METHODS INDICATED.
1. LISTING IN THE CURRENT-YEAR CLASSIFICATION OR CERTIFICATION BOOKS OF UL, FM, OR ITS (WARNOCK HERSEY) WILL BE CONSIDERED AS CONSTITUTING AN ACCEPTABLE TEST REPORT.
2. SUBMISSION OF ACTUAL TEST REPORTS IS REQUIRED FOR ASSEMBLIES FOR WHICH NONE OF THE ABOVE SUBSTANTIATION EXISTS.
B. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM 5 YEARS DOCUMENTED EXPERIENCE.
C. INSTALLER QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING THE WORK OF THIS SECTION AND:
1. APPROVED BY FACTORY MUTUAL RESEARCH UNDER FM STANDARD 4991, APPROVAL OF FIRESTOP CONTRACTORS.
2. WITH MINIMUM 3 YEARS DOCUMENTED EXPERIENCE INSTALLING WORK OF THIS TYPE.
3. ABLE TO SHOW AT LEAST 5 SATISFACTORILY COMPLETED PROJECTS OF COMPARABLE SIZE AND TYPE.
4. APPROVED BY FIRESTOPPING MANUFACTURER.
D. INSTALLING MECHANIC'S QUALIFICATIONS: TRAINED BY FIRESTOPPING MANUFACTURER AND ABLE TO PROVIDE EVIDENCE THEREOF.
PART 2 PRODUCTS
2.01 FIRESTOPPING ASSEMBLIES
A. FIRESTOPPING: ANY MATERIAL MEETING REQUIREMENTS.
1. FIRE RATINGS: SEE DRAWINGS FOR REQUIRED SYSTEMS AND RATINGS.
B. FIRESTOPPING AT UNINSULATED METALLIC PIPE AND CONDUIT PENETRATIONS, OF DIAMETER 4 INCHES OR LESS: ANY MATERIAL MEETING REQUIREMENTS.
C. FIRESTOPPING AT COMBUSTIBLE PIPE AND CONDUIT PENETRATIONS, OF DIAMETER 4 INCHES OR LESS: ANY MATERIAL MEETING REQUIREMENTS.
D. FIRESTOPPING AT UNINSULATED METALLIC PIPE AND CONDUIT PENETRATIONS, OF DIAMETER 4 INCHES OR LESS: ANY MATERIAL MEETING REQUIREMENTS.
E. FIRESTOPPING AT CABLE TRAY PENETRATIONS: ANY MATERIAL MEETING REQUIREMENTS.
F. FIRESTOPPING AT CABLE PENETRATIONS, NOT IN CONDUIT OR CABLE TRAY: CAULK OR PUTTY.
G. FIRESTOPPING AT CONTROL JOINTS (WITHOUT PENETRATIONS): ANY MATERIAL MEETING REQUIREMENTS.
H. FIRESTOPPING BETWEEN EDGE OF FLOOR SLAB AND CURTAIN WALL (WITHOUT PENETRATIONS): GLASS FIBER OR MINERAL FIBER SAFING INSULATION.
2.02 MATERIALS
A. FIRESTOPPING SEALANTS: PROVIDE ONLY PRODUCTS HAVING LOWER VOLATILE ORGANIC COMPOUND (VOC) CONTENT THAN REQUIRED BY SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE NO.1168.
B. ELASTOMERIC SILICONE FIRESTOPPING: SINGLE COMPONENT SILICONE ELASTOMERIC COMPOUND AND COMPATIBLE SILICONE SEALANT
C. FOAM FIRESTOPPPING: SINGLE COMPONENT FOAM COMPOUND
D. FIBRER COMPOUND FIRESTOPPING: FORMULATED COMPOUND MIXED WITH INCOMBUSTIBLE NON-ASBESTOS FIBERS
E. FIBER FIRESTOPPING: MINERAL FIBER INSULATION USED IN CONJUNCTION WITH ELASTOMERIC SURFACE SEALER FORMING AIRTIGHT BOND TO OPENING.
F. FIRESTOP DEVICES - WRAP TYPE: MECHANICAL DEVICE WITH INCOMBUSTIBLE FILLER AND SHEET STAINLESS STEEL JACKET, INTENDED TO BE INSTALLED AFTER PENETRATING ITEM HAS BEEN INSTALLED
G. FIRESTOP DEVICES - CAST-IN TYPE: SLEEVE AND SEALING MATERIAL, INTENDED TO BE CAST IN CONCRETE FLOOR FORMS OR IN CONCRETE ON METAL DECK, NOT REQUIRING ANY ADDITIONAL MATERIALS TO ACHIEVE PENETRATION SEAL
H. INTUMESCENT PUTTY: COMPOUND WHICH EXPANDS ON EXPOSURE TO SURFACE HEAT GAIN
I. PRIMERS, SLEEVES, FORMS, INSULATION, PACKING, STUFFING, AND ACCESSORIES: TYPE REQUIRED FOR TESTED ASSEMBLY DESIGN.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL MATERIALS IN MANNER DESCRIBED IN FIRE TEST REPORT AND IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, COMPLETELY CLOSING OPENINGS.
B. DO NOT COVER INSTALLED FIRESTOPPING UNTIL INSPECTED BY AUTHORITY HAVING JURISDICTION.
C. INSTALL LABELING REQUIRED BY CODE.

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SPECIFICATIONS

SECTION 07 9005 - JOINT SEALERS
PART 1 GENERAL
1.01 SECTION INCLUDES
A. SEALANTS AND JOINT BACKING, PRECOMPRESSED FOAM SEALERS, HOLLOW GASKETS.
1.02 ENVIRONMENTAL REQUIREMENTS
A. MAINTAIN TEMPERATURE AND HUMIDITY RECOMMENDED BY THE SEALANT MANUFACTURER DURING AND AFTER INSTALLATION.
1.03 WARRANTY
A. SEE SECTION 01 7800 - CLOSEOUT SUBMITTALS, FOR ADDITIONAL WARRANTY REQUIREMENTS.
B. CORRECT DEFECTIVE WORK WITHIN A FIVE YEAR PERIOD AFTER DATE OF SUBSTANTIAL COMPLETION.
C. WARRANTY: INCLUDE COVERAGE FOR INSTALLED SEALANTS AND ACCESSORIES WHICH FAIL TO ACHIEVE AIRTIGHT SEAL, EXHIBIT LOSS OF ADHESION OR COHESION, OR DO NOT CURE.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. SILICONE SEALANTS:
1. BOSTIK, INC: WWW.BOSTIK-US.COM.
2. MOMENTIVE PERFORMANCE MATERIALS, INC. (FORMERLY GE SILICONES): WWW.MOMENTIVE.COM.
3. PECORA CORPORATION: WWW.PECORA.COM.
4. BASF CONSTRUCTION CHEMICALS, INC: WWW.CHEMREX.COM.
5. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
B. POLYURETHANE SEALANTS:
1. BOSTIK, INC: WWW.BOSTIK-US.COM.
2. PECORA CORPORATION: WWW.PECORA.COM.
3. BASF CONSTRUCTION CHEMICALS, INC: WWW.CHEMREX.COM.
4. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
C. POLYSULFIDE SEALANTS:
1. PECORA CORPORATION: WWW.PECORA.COM.
2. BASF CONSTRUCTION CHEMICALS, INC: WWW.CHEMREX.COM.
3. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
D. ACRYLIC SEALANTS:
1. TREMCO, INC: WWW.TREMCOSEALANTS.COM.
2. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
E. BUTYL SEALANTS:
1. BOSTIK, INC: WWW.BOSTIK-US.COM.
2. PECORA CORPORATION: WWW.PECORA.COM.
3. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
F. PREFORMED COMPRESSIBLE FOAM SEALERS:
1. EMSEAL JOINT SYSTEMS, LTD: WWW.EMSEAL.COM.
2. SANDELL MANUFACTURING COMPANY, INC: WWW.SANDELLMFG.COM.
3. DAYTON SUPERIOR CORPORATION: WWW.DAYTONSUPERIOR.COM.
4. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
2.02 SEALANTS
A. SEALANTS AND PRIMERS - GENERAL: PROVIDE ONLY PRODUCTS HAVING LOWER VOLATILE ORGANIC COMPOUND (VOC) CONTENT THAN REQUIRED BY SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE NO.1168.
B. GENERAL PURPOSE EXTERIOR SEALANT: CONTROL, EXPANSION AND SOFT JOINTS IN MASONRY AND METAL FRAMES. POLYURETHANE; ASTM C 920, GRADE NS, CLASS 25, USES M, G, AND A; SINGLE COMPONENT
1. COLOR: STANDARD COLORS MATCHING FINISHED SURFACES.
C. GENERAL PURPOSE INTERIOR SEALANT: INTERIOR WALL AND CEILING JOINTS, JOINTS AT WINDOW OR DOOR AND WALLS. ACRYLIC EMULSION LATEX; ASTM C 834, TYPE OP, GRADE NF SINGLE COMPONENT, PAINTABLE.
D. BATHTUB/TILE SEALANT: JOINTS BETWEEN PLUMBING FIXTURES AND FLOOR OR WALL , AND KITCHEN AND BATH COUNTERTOPS. WHITE SILICONE; ASTM C 920, USES I, M AND A; SINGLE COMPONENT, MILDEW RESISTANT.
E. ACOUSTICAL SEALANT: BEAD BETWEEN TOP STUD RUNNER AND STRUCTURE AND BOTTOM STUD TRACK AND FLOOR. BUTYL OR ACRYLIC SEALANT; ASTM C 920, GRADE NS, CLASS 12-1/2, USES M AND A; SINGLE COMPONENT, SOLVENT RELEASE CURING, NON-SKINNING.
2.03 ACCESSORIES
A. PRIMER: NON-STAINING TYPE, RECOMMENDED BY SEALANT MANUFACTURER TO SUIT APPLICATION.
B. JOINT CLEANER: NON-CORROSIVE AND NON-STAINING TYPE, RECOMMENDED BY SEALANT MANUFACTURER; COMPATIBLE WITH JOINT FORMING MATERIALS.
C. JOINT BACKING: ROUND FOAM ROD COMPATIBLE WITH SEALANT; ASTM D 1667, CLOSED CELL PVC; OVERSIZED 30 TO 50 PERCENT LARGER THAN JOINT WIDTH.
D. BOND BREAKER: PRESSURE SENSITIVE TAPE RECOMMENDED BY SEALANT MANUFACTURER TO SUIT APPLICATION.

SECTION 08 1113 - HOLLOW METAL DOORS AND FRAMES
PART 1 GENERAL
1.01 SECTION INCLUDES
A. NON-FIRE-RATED STEEL DOORS AND FRAMES.
B. FIRE-RATED STEEL DOORS AND FRAMES.
C. ACCESSORIES, INCLUDING GLAZING, LOUVERS, AND MATCHING PANELS.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. STEEL DOORS AND FRAMES:
1. ASSA ABLOY CECO, CURRIES, OR FLEMING: WWW.ASSAABLOYDSS.COM.
2. WINDSOR REPUBLIC DOORS: WWW.REPUBLICDOOR.COM.
3. STEELCRAFT: WWW.STEELCRAFT.COM.
4. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
2.02 DOORS AND FRAMES
A. REQUIREMENTS FOR ALL DOORS AND FRAMES:
1. ACCESSIBILITY: COMPLY WITH ANSI//ICC A117.1.
2. DOOR TEXTURE: SMOOTH FACES.
3. GLAZED LIGHTS: NON-REMOVABLE STOPS ON NON-SECURE SIDE; SIZES AND CONFIGURATIONS AS INDICATED ON DRAWINGS.
4. HARDWARE PREPARATION: IN ACCORDANCE WITH DHI A115 SERIES, WITH REINFORCEMENT WELDED IN PLACE, IN ADDITION TO OTHER REQUIREMENTS SPECIFIED IN DOOR GRADE STANDARD.
5. GALVANIZING FOR UNITS IN WET AREAS: ALL COMPONENTS HOT-DIPPED ZINC-IRON ALLOY-COATED (GALVANNEALED), MANUFACTURER'S STANDARD COATING THICKNESS.
6. FINISH: FACTORY PRIMED, FOR FIELD FINISHING.
B. COMBINED REQUIREMENTS: IF A PARTICULAR DOOR AND FRAME UNIT IS INDICATED TO COMPLY WITH MORE THAN ONE TYPE OF REQUIREMENT, COMPLY WITH ALL THE SPECIFIED REQUIREMENTS FOR EACH TYPE; FOR INSTANCE, AN EXTERIOR DOOR THAT IS ALSO INDICATED AS BEING SOUND-RATED MUST COMPLY WITH THE REQUIREMENTS SPECIFIED FOR EXTERIOR DOORS AND FOR SOUND-RATED DOORS; WHERE TWO REQUIREMENTS CONFLICT, COMPLY WITH THE MOST STRINGENT.
2.03 STEEL DOORS
A. INTERIOR DOORS, NON-FIRE-RATED:
1. GRADE: ANSI A250.8 LEVEL 1, PHYSICAL PERFORMANCE LEVEL C, MODEL 1, FULL FLUSH.
B. INTERIOR DOORS, FIRE-RATED:
1. GRADE: ANSI A250.8 LEVEL 2, PHYSICAL PERFORMANCE LEVEL B, MODEL 1, FULL FLUSH.
2. FIRE RATING: AS INDICATED ON DOOR AND FRAME SCHEDULE, TESTED IN ACCORDANCE WITH UL 10C ("POSITIVE PRESSURE").
A. PROVIDE UNITS LISTED AND LABELED BY UL.
B. ATTACH FIRE RATING LABEL TO EACH FIRE RATED UNIT.
C. PANELS: SAME CONSTRUCTION, PERFORMANCE, AND FINISH AS DOORS.

SECTION 08 1113 - HOLLOW METAL DOORS AND FRAMES (CONT.)
2.04 STEEL FRAMES
A. GENERAL:
1. COMPLY WITH THE REQUIREMENTS OF GRADE SPECIFIED FOR CORRESPONDING DOOR.
A. ANSI A250.8 LEVEL 1 DOORS: 16 GAGE FRAMES.
2. FINISH: SAME AS FOR DOOR.
B. EXTERIOR DOOR FRAMES: FACE WELDED, SEAMLESS WITH JOINTS FILLED.
1. GALVANIZING: ALL COMPONENTS HOT-DIPPED ZINC-IRON ALLOY-COATED (GALVANNEALED) IN ACCORDANCE WITH ASTM A 653/A 653M, WITH MANUFACTURER'S STANDARD COATING THICKNESS.
2. FINISH: FACTORY PRIMED, FOR FIELD FINISHING.
3. WEATHERSTRIPPING: SEPARATE, SEE SECTION 08 7100.
C. INTERIOR DOOR FRAMES, NON-FIRE-RATED: KNOCK-DOWN TYPE.
1. TERMINATED STOPS: PROVIDE AT ALL INTERIOR DOORS; CLOSED END STOP TERMINATED 6 INCHES ABOVE FLOOR AT 45 DEGREE ANGLE.
2. FINISH: FACTORY PRIMED, FOR FIELD FINISHING.
D. INTERIOR DOOR FRAMES, FIRE-RATED: KNOCK-DOWN TYPE.
1. FIRE RATING: SAME AS DOOR, LABELED.
2. FINISH: FACTORY PRIMED, FOR FIELD FINISHING.
2.05 ACCESSORY MATERIALS
A. LOUVERS: ROLL FORMED STEEL WITH OVERLAPPING FRAME; FACTORY-PAINTED FINISH, COLOR AS SELECTED; FACTORY-INSTALLED.
1. IN FIRE-RATED DOORS: UL-LISTED FUSIBLE LINK LOUVER, SAME RATING AS DOOR.
B. GLAZING: AS SPECIFIED IN SECTION 08 8000, FACTORY INSTALLED.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFIED DOOR GRADE STANDARD AND NAAMM HMMA 840.
B. IN ADDITION, INSTALL FIRE RATED UNITS IN ACCORDANCE WITH NFPA 80.
C. COORDINATE INSTALLATION OF HARDWARE.

SECTION 08 1416 - FLUSH WOOD DOORS
PART 1 GENERAL
1.01 SECTION INCLUDES
A. FLUSH WOOD DOORS; FLUSH CONFIGURATION; FIRE RATED, NON-RATED, AND ACOUSTICAL.
1.02 QUALITY ASSURANCE
A. MANUFACTURER: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM 5 YEARS OF DOCUMENTED EXPERIENCE.
B. INSTALLED FIRE RATED DOOR AND TRANSOM PANEL ASSEMBLY: CONFORM TO NFPA 80 FOR FIRE RATED CLASS AS INDICATED.
1.03 WARRANTY
A. PROVIDE ADDITIONAL WARRANTY REQUIREMENTS WITH CLOSEOUT SUBMITTALS FOR KEY BANK CONSIDERATION.
B. INTERIOR DOORS: PROVIDE MANUFACTURER'S WARRANTY FOR THE LIFE OF THE INSTALLATION.
C. INCLUDE COVERAGE FOR DELAMINATION OF VENEER, WARPING BEYOND SPECIFIED INSTALLATION TOLERANCES, DEFECTIVE MATERIALS, AND TELEGRAPHING CORE CONSTRUCTION.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. WOOD VENEER FACED DOORS:
1. ASSA ABLOY GRAHAM: WWW.GRAHAMDOORS.COM.
2. EGGERS INDUSTRIES: WWW.EGGERSINDUSTRIES.COM.
3. HALEY BROTHERS: WWW.HALEYBROS.COM.
4. MARSHFIELD DOOR SYSTEMS: WWW.MARSHFIELDDOORS.COM.
5. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
2.02 DOORS AND PANELS
A. ALL DOORS: SEE DRAWINGS FOR LOCATIONS AND ADDITIONAL REQUIREMENTS.
1. QUALITY LEVEL: PREMIUM GRADE, IN ACCORDANCE WITH AWI/AWMAC ARCHITECTURAL WOODWORK QUALITY STANDARDS ILLUSTRATED, SECTION 1300.
2. WOOD VENEER FACED DOORS: 5-PLY UNLESS OTHERWISE INDICATED.
B. INTERIOR DOORS: 1-3/4 INCHES THICK UNLESS OTHERWISE INDICATED; FLUSH CONSTRUCTION.
1. PROVIDE SOLID CORE DOORS AT ALL LOCATIONS.
2. FIRE RATED DOORS: TESTED TO RATINGS INDICATED ON DRAWINGS IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE ("POSITIVE PRESSURE"); UL OR WH (ITS) LABELED WITHOUT ANY VISIBLE SEALS WHEN DOOR IS OPEN.
3. WOOD VENEER FACING WITH FACTORY TRANSPARENT FINISH WHERE INDICATED ON DRAWINGS.
2.03 DOOR AND PANEL CORES
A. FIRE RATED DOORS: MINERAL CORE, TYPE FD, PLIES AND FACES AS INDICATED ABOVE; WITH CORE BLOCKING AS REQUIRED TO PROVIDE ADEQUATE ANCHORAGE OF HARDWARE WITHOUT THROUGH-BOLTING.
B. SOUND RETARDANT DOORS: EQUIVALENT TO TYPE PC CONSTRUCTION WITH CORE AS REQUIRED TO ACHIEVE RATING SPECIFIED; PLIES AND FACES AS INDICATED ABOVE.
2.04 DOOR FACINGS
A. WOOD VENEER FACING FOR TRANSPARENT FINISH: SPECIES AS SPECIFIED ABOVE, VENEER GRADE AS SPECIFIED BY QUALITY STANDARD, PLAIN SLICED, BOOK VENEER MATCH, RUNNING ASSEMBLY MATCH; UNLESS OTHERWISE INDICATED.
1. VERTICAL EDGES: ANY OPTION ALLOWED BY QUALITY STANDARD FOR GRADE.
2. PAIRS: PAIR MATCH EACH PAIR; SET MATCH PAIRS WITHIN 10 FEET OF EACH OTHER WHEN DOORS ARE CLOSED.
2.05 ACCESSORIES
A. WOOD LOUVERS:
1. MATERIAL AND FINISH: SAME AS DOOR.
2. LOUVER BLADE: FLUSH LOUVER.
B. GLAZING STOPS: WOOD, OF SAME SPECIES AS DOOR FACING, BUTTED CORNERS; PREPARED FOR COUNTERSINK STYLE TAMPER PROOF SCREWS.
2.06 DOOR CONSTRUCTION
A. FABRICATE DOORS IN ACCORDANCE WITH DOOR QUALITY STANDARD SPECIFIED.
B. CORES CONSTRUCTED WITH STILES AND RAILS:
1. PROVIDE SOLID BLOCKS AT LOCK EDGE FOR HARDWARE REINFORCEMENT.
C. FIT DOOR EDGE TRIM TO EDGE OF STILES AFTER APPLYING VENEER FACING.
D. FACTORY MACHINE DOORS FOR HARDWARE OTHER THAN SURFACE-MOUNTED HARDWARE, IN ACCORDANCE WITH HARDWARE REQUIREMENTS AND DIMENSIONS.
E. FACTORY FIT DOORS FOR FRAME OPENING DIMENSIONS IDENTIFIED ON SHOP DRAWINGS, WITH EDGE CLEARANCES IN ACCORDANCE WITH SPECIFIED QUALITY STANDARD.
F. PROVIDE EDGE CLEARANCES IN ACCORDANCE WITH AWI QUALITY STANDARDS ILLUSTRATED SECTION 1700.
2.07 FACTORY FINISHING - WOOD VENEER DOORS
A. FACTORY FINISH DOORS IN ACCORDANCE WITH SPECIFIED QUALITY STANDARD:
1. TRANSPARENT FINISH: TRANSPARENT CATALYZED POLYURETHANE, PREMIUM QUALITY, LOW LUSTER SHEEN.
B. FACTORY FINISH DOORS IN ACCORDANCE WITH APPROVED SAMPLE.
C. SEAL DOOR TOP EDGE WITH COLOR SEALER TO MATCH DOOR FACING.

SECTION 08 1416 - FLUSH WOOD DOORS (CONT.)
PART 3 EXECUTION
3.01 INSTALLATION TOLERANCES
A. CONFORM TO SPECIFIED QUALITY STANDARD FOR FIT AND CLEARANCE TOLERANCES.
B. CONFORM TO SPECIFIED QUALITY STANDARD FOR MAXIMUM DIAGONAL DISTORTION.
C. MAXIMUM DIAGONAL DISTORTION (WARP): 1/8 INCH MEASURED WITH STRAIGHT EDGE OR TAUT STRING, CORNER TO CORNER, OVER AN IMAGINARY 36 BY 84 INCHES SURFACE AREA.
D. MAXIMUM VERTICAL DISTORTION (BOW): 1/8 INCH MEASURED WITH STRAIGHT EDGE OR TAUT STRING, TOP TO BOTTOM, OVER AN IMAGINARY 36 BY 84 INCHES SURFACE AREA.
E. MAXIMUM WIDTH DISTORTION (CUP): 1/8 INCH MEASURED WITH STRAIGHT EDGE OR TAUT STRING, EDGE TO EDGE, OVER AN IMAGINARY 36 BY 84 INCHES SURFACE AREA.
3.02 ADJUSTING
A. ADJUST DOORS FOR SMOOTH AND BALANCED DOOR MOVEMENT.
B. ADJUST CLOSURES FOR FULL CLOSURE.

SECTION 08 3100 - ACCESS DOORS AND PANELS
PART 1 GENERAL
1.01 SECTION INCLUDES
A. ACCESS DOOR AND FRAME UNITS, FIRE-RATED, IN WALL, AND CEILING LOCATIONS.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. ACCESS DOORS:
1. ACUDOR PRODUCTS INC: WWW.ACUDOR.COM.
2. KARP ASSOCIATES, INC: WWW.KARPINC.COM.
3. MILCOR INC: WWW.MILCORINC.COM.
4. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
2.02 ACCESS DOORS AND PANELS
A. ALL UNITS: FACTORY FABRICATED, FULLY ASSEMBLED UNITS WITH CORNER JOINTS WELDED, FILLED, AND GROUND FLUSH; SQUARE AND WITHOUT RACK OR WARP; COORDINATE REQUIREMENTS WITH ASSEMBLIES UNITS ARE TO BE INSTALLED IN.
B. FLOOR UNITS: DESIGN TO SUPPORT LIVE LOAD OF 100 LB/SQ FT WITH DEFLECTION NOT TO EXCEED 1/180 OF SPAN.
C. UNITS IN FIRE RATED ASSEMBLIES: FIRE RATING EQUIVALENT TO THE FIRE RATED ASSEMBLY IN WHICH THEY ARE TO BE INSTALLED.
1. PROVIDE PRODUCTS LISTED AND LABELED BY UL OR ITS (WARNOCK HERSEY) AS SUITABLE FOR THE PURPOSE SPECIFIED AND INDICATED.
2. PROVIDE CERTIFICATE OF COMPLIANCE FROM AUTHORITY HAVING JURISDICTION INDICATING APPROVAL OF FIRE RATED DOORS.
2.03 WALL AND CEILING UNITS
A. DOOR AND FRAME UNITS: FORMED STEEL.
1. FRAMES AND FLANGES: 0.058 INCH STEEL.
2. DOOR PANELS: 0.070 INCH DOUBLE SHEET WITH INTEGRAL NON-COMBUSTIBLE INSULATION FILLER.
3. HARDWARE:
A. HINGE: 175 DEGREE STAINLESS STEEL PIANO HINGE WITH REMOVABLE PIN.
B. LOCK: CYLINDER LOCK WITH LATCH, TWO KEYS FOR EACH UNIT.
4. GALVANIZED, HOT DIPPED FINISH.
5. PRIME COAT WITH ALKYD PRIMER.
6. FINISH: ONE COAT BAKED ENAMEL, COLOR TO MATCH ADJACENT SURFACE

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Project:
2008 BRANCH MODERNIZATION PROGRAM
PID# 5056
MONUMENT SQUARE
1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	AC

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:
SPECIFICATIONS

Drawing No.:
G-104

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SPECIFICATIONS

SECTION 08 7100 - DOOR HARDWARE
PART 1 GENERAL
1.01 SECTION INCLUDES
A. HARDWARE FOR WOOD AND HOLLOW STEEL NON AND FIRE DOORS, ELECTRICALLY OPERATED AND CONTROLLED HARDWARE, THRESHOLDS, WEATHERSTRIPPING, SEALS, CLOSURES, GASKETS, STOPS AND SILENCERS.
1.02 QUALITY ASSURANCE
A. STANDARDS FOR FIRE-RATED DOORS: MAINTAIN ONE COPY OF EACH REFERENCED STANDARD ON SITE, FOR USE BY ARCHITECT AND CONTRACTOR.
B. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM 5 YEARS OF DOCUMENTED EXPERIENCE.
C. HARDWARE SUPPLIER QUALIFICATIONS: COMPANY SPECIALIZING IN SUPPLYING COMMERCIAL DOOR HARDWARE WITH 5 YEARS OF EXPERIENCE.
1.03 DELIVERY, STORAGE, AND PROTECTION
A. PACKAGE HARDWARE ITEMS INDIVIDUALLY; LABEL AND IDENTIFY EACH PACKAGE WITH DOOR OPENING CODE TO MATCH HARDWARE SCHEDULE.
1.04 COORDINATION
A. COORDINATE THE WORK WITH OTHER DIRECTLY AFFECTED SECTIONS INVOLVING MANUFACTURE OR FABRICATION OF INTERNAL REINFORCEMENT FOR DOOR HARDWARE.
B. SEQUENCE INSTALLATION TO ENSURE UTILITY CONNECTIONS ARE ACHIEVED IN AN ORDERLY AND EXPEDITIOUS MANNER.
C. COORDINATE KEY BANK'S KEYING REQUIREMENTS DURING THE COURSE OF THE WORK.
1.05 WARRANTY
A. SEE SECTION 01 7800 - CLOSEOUT SUBMITTALS, FOR ADDITIONAL WARRANTY REQUIREMENTS.
B. PROVIDE MINIMUM FIVE YEAR WARRANTY FOR DOOR CLOSURES, EXIT DEVICES AND LOCKSETS.
1.06 MAINTENANCE PRODUCTS
A. PROVIDE SPECIAL WRENCHES AND TOOLS APPLICABLE TO EACH DIFFERENT OR SPECIAL HARDWARE COMPONENT.
B. PROVIDE MAINTENANCE TOOLS AND ACCESSORIES SUPPLIED BY HARDWARE COMPONENT MANUFACTURER.
1.07 EXTRA MATERIALS
A. PROVIDE TEN EXTRA KEY LOCK CYLINDERS FOR EACH MASTER KEYED GROUP.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. SEE DOOR AND HARDWARE SCHEDULE DRAWING ON A-601 FOR HARDWARE MANUFACTURERS INFORMATION.
B. SUBSTITUTIONS: NOT PERMITTED.
2.02 GENERAL REQUIREMENTS FOR DOOR HARDWARE PRODUCTS
A. PROVIDE PRODUCTS THAT COMPLY WITH THE FOLLOWING:
1. APPLICABLE PROVISIONS OF FEDERAL, STATE, AND LOCAL CODES.
2. APPLICABLE PROVISIONS OF NFPA 101, LIFE SAFETY CODE.
3. FIRE-RATED DOORS: NFPA 80.
4. ALL HARDWARE ON FIRE-RATED DOORS: LISTED AND CLASSIFIED BY UL AS SUITABLE FOR THE PURPOSE SPECIFIED AND INDICATED.
5. PRODUCTS REQUIRING ELECTRICAL CONNECTION: LISTED AND CLASSIFIED BY UL AS SUITABLE FOR THE PURPOSE SPECIFIED AND INDICATED.
B. FINISHES: IDENTIFIED IN SCHEDULE ON DRAWINGS.
2.03 KEYING
A. DOOR LOCKS: GRAND MASTER KEYED.
1. KEY TO EXISTING KEYING SYSTEM.
B. SUPPLY KEYS IN THE FOLLOWING QUANTITIES:
1. PROVIDE THE NUMBER MASTER KEYS,GRAND MASTER KEYS,CONTROL KEYS, KEYS FOR EACH LOCK, AND EXTRA CYLINDER CORES PER KEY BANK REQUIREMENTS.
PART 3 EXECUTION
3.01 FIELD QUALITY CONTROL
A. FIELD INSPECTION AND TESTING WILL BE PERFORMED UNDER PROVISIONS OF SECTION 01 4000.
3.02 ADJUSTING
A. ADJUST WORK UNDER PROVISIONS OF SECTION 01 7000.
B. ADJUST HARDWARE FOR SMOOTH OPERATION.
3.03 PROTECTION OF FINISHED WORK
A. PROTECT FINISHED WORK UNDER PROVISIONS OF SECTION 01 7000.
B. DO NOT PERMIT ADJACENT WORK TO DAMAGE HARDWARE OR FINISH.
3.04 SCHEDULE - ON ARCHITECTURAL DRAWINGS.

SECTION 08 8000 - GLAZING
PART 1 GENERAL
1.01 SECTION INCLUDES
A. GLASS, GAZING COMPOUNDS AND ACCESSORIES.
1.02 QUALITY ASSURANCE
A. PERFORM WORK IN ACCORDANCE WITH GANA GLAZING MANUAL AND FGMA SEALANT MANUAL FOR GLAZING INSTALLATION METHODS.
B. INSTALLER QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING THE WORK OF THIS SECTION WITH MINIMUM 5 YEARS DOCUMENTED EXPERIENCE.
1.03 WARRANTY
A. SEE SECTION 01 7800 - CLOSEOUT SUBMITTALS, FOR ADDITIONAL WARRANTY REQUIREMENTS.
B. PROVIDE A FIVE (5) YEAR WARRANTY TO INCLUDE COVERAGE FOR SEALED GLASS UNITS FROM SEAL FAILURE, INTERPANE DUSTING OR MISTING, AND REPLACEMENT OF SAME.
C. PROVIDE A FIVE (5) YEAR WARRANTY TO INCLUDE COVERAGE FOR DELAMINATION OF LAMINATED GLASS AND REPLACEMENT OF SAME.
1.04 MAINTENANCE PRODUCTS
A. PROVIDE TWO OF EACH GLASS SIZE AND EACH GLASS TYPE, OF INSULATED GLASS UNITS.
PART 2 PRODUCTS
2.01 EXTERIOR GLAZING ASSEMBLIES
A. STRUCTURAL DESIGN CRITERIA: SELECT TYPE AND THICKNESS TO WITHSTAND DEAD LOADS AND WIND LOADS ACTING NORMAL TO PLANE OF GLASS AT DESIGN PRESSURES CALCULATED IN ACCORDANCE WITH ASCE 7.
1. USE THE PROCEDURE SPECIFIED IN ASTM E 1300 TO DETERMINE GLASS TYPE AND THICKNESS
2. LIMIT GLASS DEFLECTION TO 1/200 OR FLEXURE LIMIT OF GLASS, WHICHEVER IS LESS, WITH FULL RECOVERY OF GLAZING MATERIALS.
3. THICKNESSES LISTED ARE MINIMUM.
2.02 FLAT GLASS MATERIALS
A. MANUFACTURERS:
1. ACH GLASS/VERSALUX: WWW.VERSALUXGLASS.COM.
2. AFG INDUSTRIES, INC: WWW.AFGGLASS.COM.
3. PILKINGTON BUILDING PRODUCTS NORTH AMERICA: WWW.PILKINGTON.COM.
4. PPG INDUSTRIES, INC: WWW.PPG.COM.
5. SUBSTITUTIONS: REFER TO SECTION 01 6000 - PRODUCT REQUIREMENTS.
B. CLEAR FLOAT GLASS: CLEAR, FULLY TEMPERED.
1. COMPLY WITH ASTM C 1036, TYPE I, TRANSPARENT FLAT, CLASS 1 CLEAR, QUALITY Q3 (GLAZING SELECT).
C. SAFETY GLASS: CLEAR; FULLY TEMPERED WITH HORIZONTAL TEMPERING.
1. LAMINATED WITH 0.030 INCH THICK PLASTIC INTERLAYER; COMPLY WITH ASTM C 1172
2. COMPLY WITH ASTM C 1036, TYPE I, TRANSPARENT FLAT, CLASS 1 CLEAR, QUALITY Q3 (GLAZING SELECT) AND ASTM C 1048.
3. COMPLY WITH 16 CFR 1201 TEST REQUIREMENTS FOR CATEGORY II.
4. WHERE GLAZING IS TO BE INSTALLED IN FIRE-RATED PARTITION, PROVIDE GLAZING THAT IS ALSO FIRE-PROTECTION RATED IN ACCORDANCE WITH APPLICABLE CODE.
5. PROVIDE THIS TYPE OF GLAZING AS INDICATED ON DRAWINGS AND AT LOCATIONS REQUIRED BY CODE.
A. GLAZED LITES IN DOORS EXCEPT FIRE DOORS.
B. GLAZED SIDELIGHTS TO DOORS.
D. LOW E GLASS: FLOAT TYPE, HEAT STRENGTHENED, CLEAR.
1. COATING ON INNER SURFACE.
E. WIRED GLASS: CLEAR, SQUARE PATTERN.
1. STAINLESS STEEL WIRE IN SQUARE MESH PATTERN.
2.03 SEALED INSULATING GLASS MATERIALS
A. MANUFACTURERS:
1. CARDINAL GLASS INDUSTRIES: WWW.CARDINALCORP.COM.
2. GUARDIAN INDUSTRIES CORPORATION: WWW.GUARDIAN.COM.
3. VIRACON, APOGEE ENTERPRISES, INC: WWW.VIRACON.COM.
4. SUBSTITUTIONS: REFER TO SECTION 01 6000 - PRODUCT REQUIREMENTS.
B. INSULATED GLASS UNITS: DOUBLE PANE WITH GLASS TO ELASTOMER EDGE SEAL.
1. DURABILITY: CERTIFIED BY AN INDEPENDENT TESTING AGENCY TO COMPLY WITH ASTM E 2190.
2. PURGE INTERPANE SPACE WITH DRY HERMETIC AIR.
C. EDGE SEAL MATERIAL: COLOR TO MATCH.
2.04 GLAZING COMPOUNDS
A. MANUFACTURERS:
1. BOSTIK, INC: WWW.BOSTIK-US.COM.
2. MOMENTIVE PERFORMANCE MATERIALS, INC. (FORMERLY GE SILICONES): WWW.MOMENTIVE.COM.
3. PECORA CORPORATION: WWW.PECORA.COM.
4. BASF CONSTRUCTION CHEMICALS, INC: WWW.CHEMREX.COM.
5. SUBSTITUTIONS: REFER TO SECTION 01 6000 - PRODUCT REQUIREMENTS.
2.05 GLAZING ACCESSORIES
A. SETTING BLOCKS: NEOPRENE, 80 TO 90 SHORE A DUROMETER HARDNESS, ASTM C 864 OPTION I. LENGTH OF 0.1 INCH FOR EACH SQUARE FOOT OF GLAZING OR MINIMUM 4 INCH X WIDTH OF GLAZING RABBET SPACE MINUS 1/16 INCH X HEIGHT TO SUIT GLAZING METHOD AND PANE WEIGHT AND AREA.
B. SPACER SHIMS: NEOPRENE, 50 TO 60 SHORE A DUROMETER HARDNESS, ASTM C 864 OPTION I. MINIMUM 3 INCH LONG X ONE HALF THE HEIGHT OF THE GLAZING STOP X THICKNESS TO SUIT APPLICATION, SELF ADHESIVE ON ONE FACE.
C. GLAZING TAPE: PREFORMED BUTYL COMPOUND WITH INTEGRAL RESILIENT TUBE SPACING DEVICE; 10 TO 15 SHORE A DUROMETER HARDNESS; COILED ON RELEASE PAPER; BLACK COLOR.
D. GLAZING GASKETS: RESILIENT SILICONE EXTRUDED SHAPE TO SUIT GLAZING CHANNEL RETAINING SLOT; ASTM C 864 OPTION I; COLOR.
PART 3 EXECUTION
3.01 PREPARATION
A. INSTALL SEALANTS IN ACCORDANCE WITH ASTM C 1193 AND FGMA SEALANT MANUAL.
B. INSTALL SEALANT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3.02 CLEANING
A. REMOVE GLAZING MATERIALS FROM FINISH SURFACES.
B. REMOVE LABELS AFTER WORK IS COMPLETE.
C. CLEAN GLASS AND ADJACENT SURFACES.
3.03 PROTECTION OF FINISHED WORK.

SECTION 09 2116 - GYPSUM BOARD ASSEMBLIES
PART 1 GENERAL
1.01 SECTION INCLUDES
A. METAL STUD WALL FRAMING, METAL CHANNEL CEILING FRAMING, SHAFT WALL SYSTEM, FIRE RATED AREA SEPARATION WALLS, ACOUSTIC INSULATION, GYPSUM SHEATHING, CEMENTITIOUS BACKER BOARD, GYPSUM WALL BOARD, GLASS MAT FACED GYPSUM BOARD, JOINT TREATMENT AND ACCESSORIES.
1.02 QUALITY ASSURANCE
A. INSTALLER QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING GYPSUM BOARD APPLICATION AND FINISHING, WITH MINIMUM 5 YEARS OF DOCUMENTED EXPERIENCE.
PART 2 PRODUCTS
2.01 GYPSUM BOARD ASSEMBLIES
A. PROVIDE COMPLETED ASSEMBLIES COMPLYING WITH ASTM C 840 AND GA-216.
B. INTERIOR PARTITIONS INDICATED AS ACOUSTIC: PROVIDE COMPLETED ASSEMBLIES WITH THE FOLLOWING CHARACTERISTICS:
1. ACOUSTIC ATTENUATION: STC OF 45-49 CALCULATED IN ACCORDANCE WITH ASTM E 413, BASED ON TESTS CONDUCTED IN ACCORDANCE WITH ASTM E 90.
C. SHAFT WALLS AT HVAC SHAFTS: PROVIDE COMPLETED ASSEMBLIES WITH THE FOLLOWING CHARACTERISTICS:
1. AIR PRESSURE WITHIN SHAFT: SUSTAINED LOADS OF 5 LBF/SQ FT WITH MAXIMUM MID-SPAN DEFLECTION OF L/240.
2. ACOUSTIC ATTENUATION: STC OF 35-39 CALCULATED IN ACCORDANCE WITH ASTM E 413, BASED ON TESTS CONDUCTED IN ACCORDANCE WITH ASTM E 90.
D. SHAFT WALLS AT ELEVATOR SHAFTS: PROVIDE COMPLETED ASSEMBLIES WITH THE FOLLOWING CHARACTERISTICS:
1. AIR PRESSURE WITHIN SHAFT: INTERMITTENT LOADS OF 5 LBF/SQ FT WITH MAXIMUM MID-SPAN DEFLECTION OF L/240.
2. ACOUSTIC ATTENUATION: STC OF 35-39 CALCULATED IN ACCORDANCE WITH ASTM E 413, BASED ON TESTS CONDUCTED IN ACCORDANCE WITH ASTM E 90.
E. FIRE RATED ASSEMBLIES: PROVIDE COMPLETED ASSEMBLIES WITH THE FOLLOWING CHARACTERISTICS:
1. FIRE RATED PARTITIONS: UL LISTED ASSEMBLY NO.1 AND 2 HOUR FIRE RATING.
2. FIRE RATED CEILINGS AND SOFFITS: UL LISTED ASSEMBLY NO.1 AND 2 HOUR FIRE RATING.
3. FIRE RATED STRUCTURAL COLUMN FRAMING: UL LISTED ASSEMBLY NO.1 AND 2 HOUR FIRE RATING.
4. FIRE RATED STRUCTURAL BEAM FRAMING: UL LISTED ASSEMBLY NO.1 AND 2 HOUR FIRE RATING.
5. FIRE RATED SHAFT WALLS: UL LISTED ASSEMBLY NO.1 AND 2 HOUR FIRE RATING.
6. FIRE RATED AREA SEPARATION WALLS: UL LISTED ASSEMBLY NO.1 AND 2 HOUR FIRE RATING.
7. ICC IBC ITEM NUMBERS: COMPLY WITH APPLICABLE REQUIREMENTS OF ICC IBC FOR THE PARTICULAR ASSEMBLY.
8. UL ASSEMBLY NUMBERS: PROVIDE CONSTRUCTION EQUIVALENT TO THAT LISTED FOR THE PARTICULAR ASSEMBLY IN THE CURRENT UL FIRE RESISTANCE DIRECTORY.
2.02 METAL FRAMING MATERIALS
A. MANUFACTURERS - METAL FRAMING, CONNECTORS, AND ACCESSORIES:
1. CLARK WESTERN BUILDING SYSTEMS: WWW.CLARKWESTERN.COM.
2. DIETRICH METAL FRAMING: WWW.DIETRICHINDUSTRIES.COM.
3. MARINO-WARE: WWW.MARINOWARE.COM.
4. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
B. NON-LOADBEARING FRAMING SYSTEM COMPONENTS: ASTM C 645; GALVANIZED SHEET STEEL, OF SIZE AND PROPERTIES NECESSARY TO COMPLY WITH ASTM C 754 FOR THE SPACING INDICATED, WITH MAXIMUM DEFLECTION OF WALL FRAMING OF L/240 AT 5 PSF.
1. STUDS: "C" SHAPED WITH FLAT OR FORMED WEBS WITH KNURLED FACES, RUNNERS: U SHAPED, CEILING CHANNELS: C SHAPED, FURRING: HAT SHAPED 7/8" DEEP SECTIONS.
C. SHAFT WALL STUDS AND ACCESSORIES: ASTM C 645; GALVANIZED SHEET STEEL, OF SIZE AND PROPERTIES NECESSARY TO COMPLY WITH ASTM C 754 AND SPECIFIED PERFORMANCE REQUIREMENTS.
D. CEILING HANGERS: TYPE AND SIZE AS SPECIFIED IN ASTM C 754 FOR SPACING REQUIRED.
E. PARTITION HEAD TO STRUCTURE CONNECTIONS: PROVIDE MECHANICAL ANCHORAGE DEVICES THAT ACCOMMODATE DEFLECTION USING SLOTTED HOLES, SCREWS AND ANTI-FRICTION BUSHINGS, PREVENTING ROTATION OF STUDS WHILE MAINTAINING STRUCTURAL PERFORMANCE OF PARTITION.
1. STRUCTURAL PERFORMANCE: MAINTAIN LATERAL LOAD RESISTANCE AND VERTICAL MOVEMENT CAPACITY REQUIRED BY APPLICABLE CODE, WHEN EVALUATED IN ACCORDANCE WITH AISI NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS.
2. MATERIAL: ASTM A 653/A 653M STEEL SHEET, SS GRADE 50/340, WITH G60/Z180 HOT DIPPED GALVANIZED COATING.
2.03 GYPSUM BOARD MATERIALS
A. MANUFACTURERS:
1. CERTAINTEED CORPORATION: WWW.CERTAINTEED.COM.
2. G-P GYPSUM CORPORATION: WWW.GP.COM/GYPSUM.
3. NATIONAL GYPSUM COMPANY: WWW.NATIONALGYPSUM.COM.
4. USG: WWW.USG.COM.
5. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
B. GYPSUM WALLBOARD: ASTM C 1396/C 1396M. SIZES TO MINIMIZE JOINTS IN PLACE; ENDS SQUARE CUT.
1. REGULAR TYPE:
A. APPLICATION: USE FOR VERTICAL SURFACES, UNLESS OTHERWISE INDICATED.
B. THICKNESS: 5/8 INCH W/ TAPERED EDGES.
2. FIRE RESISTANT TYPE: COMPLYING WITH TYPE X REQUIREMENTS; UL OR WH RATED.
A. AT ASSEMBLIES INDICATED WITH FIRE-RATING: USE TYPE REQUIRED BY INDICATED TESTED ASSEMBLY; IF NO TESTED ASSEMBLY IS INDICATED, USE TYPE X.
B. OTHER APPLICATIONS: USE AT ALL VERTICAL SURFACES, UNLESS OTHERWISE INDICATED.
C. THICKNESS: 5/8 INCH W/ TAPERED EDGES.
3. CEILING BOARD: SPECIAL SAG-RESISTANT TYPE.
A. APPLICATION: CEILINGS, UNLESS OTHERWISE INDICATED 1/2 THICKNESS W/ TAPERED EDGES.
4. ABUSE-RESISTANT TYPE: GYPSUM WALLBOARD ESPECIALLY FORMULATED FOR INCREASED IMPACT RESISTANCE, WITH ENHANCED GYPSUM CORE AND HEAVY DUTY FACE AND BACK PAPER.
A. APPLICATION: HIGH-TRAFFIC AREAS INDICATED 1/2 OR 5/8 THICKNESS AS INDICATED WITH REGULAR OR TYPE X CORE AS INDICATED.
C. WATER-RESISTANT GYPSUM BACKING BOARD: ASTM C 1396/C 1396M; ENDS SQUARE CUT.
1. APPLICATION: VERTICAL SURFACES BEHIND THINSET TILE, EXCEPT IN WET AREAS 5/8" W/ REGULAR OR TYPE X CORE AS INDICATED.
D. EXTERIOR GYPSUM SOFFIT BOARD: ASTM C 1396/C 1396M; SIZES TO MINIMIZE JOINTS IN PLACE; ENDS SQUARE CUT.
1. APPLICATION: CEILINGS AND SOFFITS IN PROTECTED EXTERIOR AREAS, UNLESS OTHERWISE INDICATED.
2. 5/8" THICKNESS REGULAR AND TYPE X, AS INDICATED.

SECTION 09 2116 - GYPSUM BOARD ASSEMBLIES (CONT.)
E. GYPSUM SHAFTWALL OR COREBOARD: ASTM C 1396/C 1396M; TYPE X CORE; SIZES TO MINIMIZE JOINTS IN PLACE; 1 INCH THICK; SQUARE, TONGUE AND GROOVE, OR DOUBLE BEVELED EDGES, ENDS SQUARE CUT.
2.04 FIBERGLASS REINFORCED BOARD MATERIALS
A. GLASS MAT GYPSUM BOARD: GYPSUM PANELS WITH MOISTURE-RESISTANT CORE AND COATED INORGANIC FIBERGLASS MAT BACK SURFACE DESIGNED TO RESIST GROWTH OF MOLD AND MILDEW, PER ASTM D 3273.
1. PAPER-FACED BOARD: COMPLY WITH PERFORMANCE REQUIREMENTS OF ASTM C 1396/C 1396M FOR GYPSUM WALLBOARD AND ASTM C 1177/C 1177M FOR SHEATHING; TAPERED LONG EDGES.
A. STANDARD TYPE: THICKNESS 5/8 INCH.
2.05 ACCESSORIES
A. ACOUSTIC INSULATION: ASTM C 665; PREFORMED GLASS FIBER, FRICTION FIT TYPE, UNFACED. THICKNESS: 4 INCH.
B. ACOUSTIC SEALANT: NON-HARDENING, NON-SKINNING, FOR USE IN CONJUNCTION WITH GYPSUM BOARD.
C. ACOUSTIC SEALANT: AS SPECIFIED IN SECTION 07 9005.
D. DEMISING WALL SECURITY MESH: PRODUCT: DRAMEX, WWW.DRAMEX.COM, 1/2" FLATTENED EXPANDED METAL MESH WITH 3/4" #16 F. SECURELY FASTENED TO DEMISING WALL STEEL STUDS FOR ENTIRE AREA OF WALL FROM FLOOR TO UNDERSIDE OF ROOF OR FLOOR DECK ABOVE. PROVIDE 5/8" GYPSUM BOARD FINISH OVER MESH.
E. FINISHING ACCESSORIES: ASTM C 1047, GALVANIZED STEEL OR ROLLED ZINC, UNLESS OTHERWISE INDICATED.
1. TYPES: AS DETAILED OR REQUIRED FOR FINISHED APPEARANCE.
2. SPECIAL SHAPES: IN ADDITION TO CONVENTIONAL CORNER BEAD AND CONTROL JOINTS, PROVIDE U-BEAD AT EXPOSED PANEL EDGES.
F. JOINT MATERIALS: ASTM C 475 AND AS RECOMMENDED BY GYPSUM BOARD MANUFACTURER FOR PROJECT CONDITIONS.
1. TAPE: 2 INCH WIDE, COATED GLASS FIBER TAPE FOR JOINTS AND CORNERS, EXCEPT AS OTHERWISE INDICATED.
2. READY-MIXED VINYL-BASED JOINT COMPOUND.
G. SCREWS: ASTM C 1002; SELF-PIERCING TAPPING TYPE; CADMIUM-PLATED FOR EXTERIOR LOCATIONS.
H. SCREWS: ASTM C 954; STEEL DRILL SCREWS FOR APPLICATION OF GYPSUM BOARD TO LOADBEARING STEEL STUDS.
I. ANCHORAGE TO SUBSTRATE: TIE WIRE, NAILS, SCREWS, AND OTHER METAL SUPPORTS, OF TYPE AND SIZE TO SUIT APPLICATION; TO RIGIDLY SECURE MATERIALS IN PLACE.
J. ADHESIVE FOR ATTACHMENT TO WOOD: ASTM C 557.
PART 3 EXECUTION
3.01 SHAFT WALL INSTALLATION
A. SHAFT WALL FRAMING: INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
1. INSTALL STUDS AT SPACING REQUIRED TO MEET PERFORMANCE REQUIREMENTS.
B. SHAFT WALL LINERS: CUT PANELS TO ACCURATE DIMENSION AND INSTALL SEQUENTIALLY BETWEEN SPECIAL FRICTION STUDS.
3.02 FRAMING INSTALLATION
A. METAL FRAMING: INSTALL IN ACCORDANCE WITH ASTM C 754 AND MANUFACTURER'S INSTRUCTIONS.
B. SUSPENDED CEILINGS AND SOFFITS: SPACE FRAMING AND FURRING MEMBERS AS INDICATED.
1. LATERALLY BRACE ENTIRE SUSPENSION SYSTEM.
2. INSTALL BRACING AS REQUIRED AT EXTERIOR LOCATIONS TO RESIST WIND UPLIFT.
C. STUDS: SPACE STUDS AS PERMITTED BY STANDARD.
1. EXTEND PARTITION FRAMING TO STRUCTURE WHERE INDICATED AND TO CEILING IN OTHER LOCATIONS.
2. PARTITIONS TERMINATING AT CEILING: ATTACH CEILING RUNNER SECURELY TO CEILING TRACK IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. PARTITIONS TERMINATING AT STRUCTURE: ATTACH TOP RUNNER TO STRUCTURE, MAINTAIN CLEARANCE BETWEEN TOP OF STUDS AND STRUCTURE, AND CONNECT STUDS TO TRACK USING SPECIFIED MECHANICAL DEVICES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS; VERIFY FREE MOVEMENT OF TOP OF STUD CONNECTIONS; DO NOT LEAVE STUDS UNATTACHED TO TRACK.
D. OPENINGS: REINFORCE OPENINGS AS REQUIRED FOR WEIGHT OF DOORS OR OPERABLE PANELS, USING NOT LESS THAN DOUBLE STUDS AT JAMBS.
E. STANDARD WALL FURRING: INSTALL AT CONCRETE WALLS SCHEDULED TO RECEIVE GYPSUM BOARD, NOT MORE THAN 4 INCHES FROM FLOOR AND CEILING LINES AND ABUTTING WALLS. SECURE IN PLACE ON ALTERNATE CHANNEL FLANGES AT MAXIMUM 24 INCHES ON CENTER.
F. ACOUSTIC FURRING: INSTALL RESILIENT CHANNELS AT MAXIMUM 24 INCHES ON CENTER. LOCATE JOINTS OVER FRAMING MEMBERS.
G. FURRING FOR FIRE RATINGS: INSTALL AS REQUIRED FOR FIRE RESISTANCE RATINGS INDICATED AND TO GA-600 REQUIREMENTS.
H. BLOCKING: INSTALL WOOD BLOCKING FOR SUPPORT OF FRAMED OPENINGS, WALL MOUNTED CABINETS, PLUMBING FIXTURES, TOILET PARTITIONS, TOILET ACCESSORIES, WALL MOUNTED DOOR HARDWARE.
3.03 TOLERANCES
A. MAXIMUM VARIATION OF FINISHED GYPSUM BOARD SURFACE FROM TRUE FLATNESS: 1/8 INCH IN 10 FEET IN ANY DIRECTION.

SECTION 09 2300 - GYPSUM PLASTERING
PART 1 GENERAL
1.01 SECTION INCLUDES
A. GYPSUM PLASTER OVER GYPSUM LATH, METAL LATH, AND CONCRETE, GYPSUM LATH.
1.02 QUALITY ASSURANCE
A. PERFORM WORK IN ACCORDANCE WITH ASTM C 842 AND GA-600.
B. CONFORM TO APPLICABLE CODE FOR FIRE RATED ASSEMBLIES AS INDICATED ON DRAWINGS.
1. FIRE RATED PARTITIONS: LISTED ASSEMBLY BY UL,1 AND 2 HOUR FIRE RATING.
2. FIRE RATED CEILING AND SOFFITS: LISTED ASSEMBLY BY UL,1 AND 2 HOUR FIRE RATING.
3. FIRE RATED STRUCTURAL COLUMN FRAMING: LISTED ASSEMBLY BY UL,1 AND 2 HOUR FIRE RATING.
4. FIRE RATED STRUCTURAL BEAM FRAMING: LISTED ASSEMBLY BY UL,1 AND 2 HOUR FIRE RATING.
5. FIRE RATED SHAFT WALL REQUIREMENTS: LISTED ASSEMBLY BY UL,1 AND 2 HOUR FIRE RATING.
6. COORDINATE COMPONENTS OF FIRE RATED ASSEMBLIES WITH MATERIALS SPECIFIED FOR SUPPORT OF PLASTER IN OTHER SECTIONS.
C. INSTALLER QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING THE WORK OF THIS SECTION WITH MINIMUM 5 YEARS OF EXPERIENCE.
1.03 ENVIRONMENTAL REQUIREMENTS
A. DO NOT APPLY PLASTER WHEN SUBSTRATE OR AMBIENT AIR TEMPERATURE IS UNDER 50 DEGREES F OR OVER 80 DEGREES F.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. GYPSUM PLASTER:
1. NATIONAL GYPSUM COMPANY: WWW.NATIONALGYPSUM.COM.
2. USG: WWW.USG.COM.
3. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
2.02 PLASTER MATERIALS
A. GYPSUM NEAT PLASTER: ASTM C 28; FIBER
B. READY-MIXED GYPSUM PLASTER: ASTM C 28; MILL-MIXED TYPE, REQUIRING ONLY THE ADDITION OF WATER. FOR APPLICATION TO MONOLITHIC CONCRETE, PROVIDE BONDING TYPE.
C. WOOD-FIBER GYPSUM PLASTER: ASTM C 28.
D. GYPSUM KEENE'S CEMENT: ASTM C 61/C 61M.
E. LIME: ASTM C 206, TYPE S; SPECIAL FINISHING HYDRATED LIME.
F. READY-MIXED FINISHING PLASTER: GYPSUM/LIME PUTTY TYPE, ASTM C 28; MIXTURE OF GAUGING PLASTER AND LIME.
G. READY-MIXED FINISHING PLASTER: KEENE'S CEMENT/LIME PUTTY TYPE; ASTM C 61/C 61M AND C 206.
H. READY-MIXED FINISHING PLASTER: SAND FLOAT TYPE; ASTM C 28 AND C 35; PREPARED MIXTURE OF GYPSUM PLASTER AND SAND.
I. WATER: CLEAN, FRESH, POTABLE AND FREE OF MINERAL OR ORGANIC MATTER WHICH CAN AFFECT PLASTER.
J. BONDING AGENT: ASTM C 631; TYPE RECOMMENDED FOR BONDING PLASTER TO CONCRETE SURFACES.
2.03 METAL LATH AND FURRING
A. BEADS, SCREEDS, AND JOINT ACCESSORIES: ZINC OR GALVANIZED STEEL.
2.04 GYPSUM LATH AND ACCESSORIES
A. GYPSUM LATH: ASTM C 1396/C 1396M, STANDARD TYPE.
1. THICKNESS: 3/8 INCH.
B. BEADS, SCREEDS, JOINT ACCESSORIES, AND OTHER TRIM: DEPTH GOVERNED BY PLASTER THICKNESS, MAXIMUM POSSIBLE LENGTHS.
1. MATERIAL: FORMED GALVANIZED SHEET STEEL OR ZINC, EXPANDED METAL FLANGES.
C. CORNER MESH: FORMED SHEET STEEL, MINIMUM 0.018 INCH THICK, PERFORATED FLANGES SHAPED TO PERMIT COMPLETE EMBEDDING IN PLASTER, MINIMUM 2 INCH SIZE; GALVANIZED.
D. STRIP MESH: EXPANDED METAL LATH, MINIMUM 0.018 INCH THICK, 2 INCH WIDE X 24 INCH LONG; GALVANIZED.
E. FASTENERS: SCREWS, NAILS, STAPLES, OR OTHER APPROVED METAL SUPPORTS, OF TYPE AND SIZE TO SUIT APPLICATION, TO RIGIDLY SECURE ACCESSORIES IN PLACE.
F. ACOUSTIC SEALANT: AS SPECIFIED IN SECTION 07 9005.
2.05 PLASTER MIXES
A. OVER GYPSUM LATH: TWO-COAT APPLICATION, READY-MIXED PLASTER, MIXED AND PROPORTIONED IN ACCORDANCE WITH ASTM C 842 AND MANUFACTURER'S INSTRUCTIONS.
B. OVER OTHER SOLID BASES: TWO-COAT APPLICATION, READY-MIXED PLASTER, MIXED AND PROPORTIONED IN ACCORDANCE WITH ASTM C 842 AND MANUFACTURER'S INSTRUCTIONS.
C. OVER METAL LATH: THREE-COAT APPLICATION, READY-MIXED PLASTER, MIXED AND PROPORTIONED IN ACCORDANCE WITH ASTM C 842 AND MANUFACTURER'S INSTRUCTIONS.
D. READY-MIXED PLASTER MATERIALS: MIX IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
PART 3 EXECUTION
3.01 PLASTERING
A. APPLY GYPSUM PLASTER IN ACCORDANCE WITH ASTM C842 AND MANUFACTURER'S INSTRUCTIONS.
B. THICKNESS OF PLASTER INCLUDING FINISH COAT:
1. OVER METAL LATH: 5/8 INCH.
2. OVER GYPSUM LATH: 1/2 INCH.
3. DIRECT TO UNIT MASONRY: 5/8 INCH.
4. FINISH COAT APPLIED DIRECT TO CONCRETE: 3/16 INCH, MAXIMUM.
3.02 ERECTION TOLERANCES
A. MAXIMUM VARIATION FROM TRUE FLATNESS: 1/8 INCH IN 10 FEET.

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Project:
2008 BRANCH MODERNIZATION PROGRAM
PID# 5056
MONUMENT SQUARE
1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
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Project No.: F5W86602

Scale: AS NOTED

Sheet Title:
SPECIFICATIONS

Drawing No.:
G-105

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SPECIFICATIONS

SECTION 09 3000 - TILING
PART 1 GENERAL
1.01 SECTION INCLUDES
A. TILE FOR FLOOR AND WALL APPLICATIONS, CEMENTITIOUS BACKER BOARD, STONE THRESHOLD, ACCESSORIES AND TRIM.
1.02 QUALITY ASSURANCE
A. MAINTAIN ONE COPY OF TCA HANDBOOK AND ANSI A108 SERIES/A118 SERIES ON SITE.
B. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE TYPES OF PRODUCTS SPECIFIED IN THIS SECTION, WITH MINIMUM 5 YEARS OF DOCUMENTED EXPERIENCE.
C. INSTALLER QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING TILE INSTALLATION, WITH MINIMUM OF 5 YEARS OF DOCUMENTED EXPERIENCE.
1.03 DELIVERY, STORAGE, AND HANDLING
A. PROTECT ADHESIVES FROM FREEZING OR OVERHEATING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
1.04 ENVIRONMENTAL REQUIREMENTS
A. DO NOT INSTALL ADHESIVES IN AN UNVENTILATED ENVIRONMENT.
B. MAINTAIN AMBIENT AND SUBSTRATE TEMPERATURE OF 50 DEGREES F DURING INSTALLATION OF MORTAR MATERIALS.
1.05 EXTRA MATERIALS
A. PROVIDE 10 SQ. FT OF EACH SIZE, COLOR, AND SURFACE FINISH OF TILE SPECIFIED.
PART 2 PRODUCTS
2.01 TILE
A. MANUFACTURERS: ALL PRODUCTS BY THE SAME MANUFACTURER.
1. AMERICAN OLEAN: WWW.AMERICANOLEAN.COM.
2. DAL-TILE CORPORATION: WWW.DALTILE.COM.
3. SUMMITVILLE TILES, INC: WWW.SUMMITVILLE.COM.
4. CROSSVILLE:WWW.CROSSVILLE.COM
5. MANNINGTON: www.MANNINGTON.COM (OR LIZ KUHNER @ 440-933-9225)
6. SUBSTITUTIONS: PER KEY BANK APPROVED EQUAL AND SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
B. CERAMIC MOSAIC TILE: ANSI A137.1, AND AS FOLLOWS:
1. RESTROOM FLOOR TILE MANUFACTURED BY CROSSVILLE.
2. MOISTURE ABSORPTION 0 TO 0.5 PERCENT, 3 INCH SQUARE X 1/4 INCH UNGLAZED W/ SQUARE EDGE.
3. COLORS: A235 SAHARA DUNE W/ COVE BASE TO MATCH.
C. GLAZED WALL TILE: ANSI A137.1, AND AS FOLLOWS:
1. RESTROOM WALL TILE TO 48 " AFF MANUFACTURED BY CROSSVILLE OR APPROVED EQUIVALENT PRODUCT.
2. MOISTURE ABSORPTION 3.0 TO 7.0 PERCENT, 3 INCH SQUARE X 1/4 INCH HIGH GLOSS W/ CUSHIONED EDGES.
3. COLORS: A235 SAHARA DUNE W/ WAINSCOT BULL NOSE TRIM TILE TO MATCH WALL.
D. UNGLAZED CUSTOMER AREA FLOOR TILE: ANSI A137.1, AND AS FOLLOWS:
1. CUSTOMER AREA FLOOR TILE MANUFACTURED BY MANNINGTON OR BANK APPROVED EQUAL.
2. SIZE AND SHAPE: #CR1T24 12"X24"
3. COLORS: CARMEL BEIGE.
4. GROUT: ACCUCOLOR PREMIUM SANDED; COLOR PARCHMENT #991, WITH 1/8" GROUT JOINTS.
5. BASE: NO TILE BASE. COORDINATE FOR WOOD WALL BASE.
2.02 TRIM AND ACCESSORIES
A. CERAMIC TRIM: RESTROOMS- MATCHING BULLNOSE, DOUBLE BULLNOSE, COVE BASE, AND COVE CERAMIC SHAPES IN SIZES COORDINATED WITH FIELD TILE.
1. MANUFACTURER: SAME AS FOR TILE.
B. NON-CERAMIC TRIM: SATIN NATURAL ANODIZED EXTRUDED ALUMINUM, STYLE AND DIMENSIONS TO SUIT APPLICATION, FOR SETTING USING TILE MORTAR OR ADHESIVE.
1. APPLICATIONS: USE IN THE FOLLOWING LOCATIONS:
A. OPEN EDGES OF FLOOR TILE, TRANSITION BETWEEN FLOOR FINISHES OF DIFFERENT HEIGHTS, THRESHOLDS AT DOOR OPENINGS, FLOOR TO WALL JOINTS, BORDERS AND OTHER TRIM AS INDICATED ON DRAWINGS.
2. MANUFACTURER:
A. SCHLUTER-SYSTEMS: WWW.SCHLUTER.COM.
B. CERAMIC TOOL CO. SEE FINISH SPECIFICATIONS ON DRAWINGS.
C. JOHNSONITE: SEE FINISH SPECIFICATION ON DRAWINGS.
D. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
C. THRESHOLDS: MARBLE, WHITE, HONED FINISH; 2 INCHES WIDE BY FULL WIDTH OF WALL OR FRAME OPENING; 1/2 INCH THICK THICK; BEVELED ONE LONG EDGE WITH RADIUS CORNERS ON TOP SIDE; WITHOUT HOLES, CRACKS, OR OPEN SEAMS.
1. APPLICATIONS: PROVIDE AT THE FOLLOWING LOCATIONS:
A. AT RESTROOM DOORWAYS WHERE TILE TERMINATES.
2.03 ADHESIVE MATERIALS
A. MANUFACTURERS:
1. BONSAL: WWW.BONSAL.COM.
2. BOSTIK, INC: WWW.BOSTIK-US.COM.
3. MAPEI CORPORATION: WWW.MAPEI.COM.
4. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
B. ORGANIC ADHESIVE: ANSI A136.1, THINSET BOND TYPE; USE TYPE I IN AREAS SUBJECT TO PROLONGED MOISTURE EXPOSURE.
C. EPOXY ADHESIVE: ANSI A118.3., THINSET BOND TYPE.
D. TILE SETTING ADHESIVE: ELASTOMERIC, WATERPROOF, LIQUID APPLIED, .
2.04 MORTAR MATERIALS
A. MANUFACTURERS:
1. BONSAL: WWW.BONSAL.COM.
2. BOSTIK, INC: WWW.BOSTIK-US.COM.
3. CUSTOM BUILDING PRODUCTS: WWW.CUSTOMBUILDINGPRODUCTS.COM.
4. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
2.05 GROUT MATERIALS
A. MANUFACTURERS:
1. BONSAL: WWW.BONSAL.COM.
2. BOSTIK, INC: WWW.BOSTIK-US.COM.
3. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
B. STANDARD GROUT: ANY TYPE SPECIFIED IN ANSI A118.6 OR A118.7.
C. FURAN GROUT: ANSI A118.5, FURAN RESIN TYPE, COLOR AS SELECTED.
D. SILICONE RUBBER GROUT: SILICONE SEALANT, MOISTURE AND MILDEW RESISTANT TYPE.
PART 3 EXECUTION
3.01 EXAMINATION
3.02 INSTALLATION - GENERAL
A. INSTALL TILE AND THRESHOLDS 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. DO NOT INTERRUPT TILE PATTERN THROUGH OPENINGS.
C. CUT AND FIT TILE TO PENETRATIONS THROUGH TILE, LEAVING SEALANT JOINT SPACE. FORM 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.
F. INSTALL NON-CERAMIC TRIM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
G. INSTALL THRESHOLDS WHERE INDICATED.
H. SOUND TILE AFTER SETTING. REPLACE HOLLOW SOUNDING UNITS.
I. KEEP EXPANSION JOINTS FREE OF ADHESIVE OR GROUT. APPLY SEALANT TO JOINTS.

SECTION 09 3000 - TILING (CONT.)
J. ALLOW TILE TO SET FOR A MINIMUM OF 48 HOURS PRIOR TO GROUTING.
K. GROUT TILE JOINTS. USE STANDARD GROUT UNLESS OTHERWISE INDICATED.
L. APPLY SEALANT TO JUNCTION OF TILE AND DISSIMILAR MATERIALS AND JUNCTION OF DISSIMILAR PLANES.
3.03 CLEANING
A. CLEAN TILE AND GROUT SURFACES.
3.04 PROTECTION OF FINISHED WORK
A. DO NOT PERMIT TRAFFIC OVER FINISHED FLOOR SURFACE FOR 4 DAYS AFTER INSTALLATION.
3.05 SCHEDULE: REFER TO ROOM FINISH PLAN, SCHEDULE AND SPECIFICATION DRAWING.

SECTION 09 5100 - ACOUSTICAL CEILINGS
PART 1 GENERAL
1.01 SECTION INCLUDES
A. SUSPENDED METAL GRID CEILING SYSTEM, ACOUSTICAL UNITS AND INSULATION ABOVE CEILINGS.
1.02 QUALITY ASSURANCE
A. FIRE-RESISTIVE ASSEMBLIES: COMPLETE ASSEMBLY LISTED AND CLASSIFIED BY UL FOR THE FIRE RESISTANCE INDICATED.
B. SUSPENSION SYSTEM MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM 5 YEARS DOCUMENTED EXPERIENCE.
C. ACOUSTICAL UNIT MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM 5 YEARS DOCUMENTED EXPERIENCE.
1.03 EXTRA MATERIALS
A. SEE SECTION 01 6000 - PRODUCT REQUIREMENTS, FOR ADDITIONAL PROVISIONS.
B. PROVIDE 20SF OF EACH TYPE OF ACOUSTICAL UNIT FOR KEY BANK'S USE IN MAINTENANCE OF PROJECT.
PART 2 PRODUCTS
2.01 ACOUSTICAL UNITS
A. MANUFACTURERS:
1. ARMSTRONG WORLD INDUSTRIES, INC: WWW.ARMSTRONG.COM.
2. SUBSTITUTIONS: NOT PERMITTED OR PER KEY BANK FOR APPROVAL AND SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
B. ACOUSTICAL UNITS - GENERAL: ASTM E 1264, CLASS A.
1. UNITS FOR INSTALLATION IN FIRE-RATED SUSPENSION SYSTEM: LISTED AND CLASSIFIED FOR THE FIRE-RESISTIVE ASSEMBLY THE SUSPENSION SYSTEM IS A PART OF .
C. ACOUSTICAL TILE (GREEN BRANCH RANKING): ARMSTRONG DUNE - ITEM #1775. PAINTED MINERAL FIBER, ASTM E 1264 TYPE III, WITH THE FOLLOWING CHARACTERISTICS:
1. SIZE: 24 X 24 INCHES (300 X 300 MM).
2. THICKNESS: 5/8 INCHES.
3. COMPOSITION: WET-FORMED MINERAL FIBER.
4. DENSITY: 0.75 LBS/SF.
5. LIGHT REFLECTANCE: 0.83 PERCENT, DETERMINED AS SPECIFIED IN ASTM E 1264.
6. NRC RANGE: 0.50, DETERMINED AS SPECIFIED IN ASTM E 1264.
7. CEILING ATTENUATION CLASS (CAC): 35, DETERMINED AS SPECIFIED IN ASTM E 1264.
8. JOINT: BEVELED TEGULAR.
9. SURFACE COLOR: WHITE.
10. SUSPENSION SYSTEM: SUPRAFINE 9/16" EXPOSED TEE GRID. WHITE.
D. ACOUSTICAL TILE (YELLOW BRANCH RANKING): ARMSTRONG DUNE- ITEM #1774 PAINTED MINERAL FIBER, ASTM E 1264 TYPE III, WITH THE FOLLOWING CHARACTERISTICS:
1. SIZE: 24 X 24 INCHES (300 X 300 MM).
2. THICKNESS: 5/8 INCHES.
3. COMPOSITION: WET-FORMED MINERAL FIBER.
4. DENSITY: 0.75 LBS/SF.
5. LIGHT REFLECTANCE: 0.83 PERCENT, DETERMINED AS SPECIFIED IN ASTM E 1264.
6. NRC RANGE: 0.50, DETERMINED AS SPECIFIED IN ASTM E 1264.
7. CEILING ATTENUATION CLASS (CAC): 35, DETERMINED AS SPECIFIED IN ASTM E 1264.
8. JOINT: ANGLED TEGULAR.
9. SURFACE COLOR: WHITE OR FACTORY FINISH
10. SUSPENSION SYSTEM: SUPRAFINE 15/16" EXPOSED TEE GRID. WHITE.
E. ACOUSTICAL TILE (YELLOW BRANCH RANKING): ARMSTRONG DUNE (SECOND LOOK) - ITEM #2712. PAINTED MINERAL FIBER, ASTM E 1264 TYPE III, WITH THE FOLLOWING CHARACTERISTICS:
1. SIZE: 24 X 48 INCHES (300 X 600 MM).
2. THICKNESS: 3/4 INCHES.
3. COMPOSITION: WET-FORMED MINERAL FIBER.
4. DENSITY: 0.75 LBS/SF.
5. LIGHT REFLECTANCE: 0.83 PERCENT, DETERMINED AS SPECIFIED IN ASTM E 1264.
6. NRC RANGE: 0.50, DETERMINED AS SPECIFIED IN ASTM E 1264.
7. CEILING ATTENUATION CLASS (CAC): 35, DETERMINED AS SPECIFIED IN ASTM E 1264.
8. JOINT: ANGLED TEGULAR.
9. SURFACE COLOR: WHITE OR FACTORY FINISH
10. SUSPENSION SYSTEM: SUPRAFINE 15/16" EXPOSED TEE GRID. WHITE.
2.02 ACCESSORIES
A. SUPPORT CHANNELS AND HANGERS: GALVANIZED STEEL; SIZE AND TYPE TO SUIT APPLICATION, SEISMIC REQUIREMENTS, AND CEILING SYSTEM FLATNESS REQUIREMENT SPECIFIED.
B. PERIMETER MOLDINGS: SAME MATERIAL AND FINISH AS GRID.
1.AT EXPOSED GRID: PROVIDE L-SHAPED MOLDING FOR MOUNTING AT SAME ELEVATION AS FACE OF GRID.
C. ACOUSTICAL INSULATION: SPECIFIED IN SECTION 07 2100.
1.THICKNESS: 4 INCH.
D. GYPSUM BOARD: FIRE RATED TYPE; 5/8 INCH THICK, ENDS AND EDGES SQUARE, PAPER FACED.
E. TOUCH-UP PAINT: TYPE AND COLOR TO MATCH ACOUSTICAL AND GRID UNITS
PART 3 EXECUTION
3.01 INSTALLATION - SUSPENSION SYSTEM
A. INSTALL SUSPENSION SYSTEM IN ACCORDANCE WITH ASTM C 636/C 636M, ASTM E 580/E 580M, AND MANUFACTURER'S INSTRUCTIONS AND AS SUPPLEMENTED IN THIS SECTION.
B. RIGIDLY SECURE SYSTEM, INCLUDING INTEGRAL MECHANICAL AND ELECTRICAL COMPONENTS, FOR MAXIMUM DEFLECTION OF 1:360.
C. HANG SUSPENSION SYSTEM INDEPENDENT OF WALLS, COLUMNS, DUCTS, PIPES AND CONDUIT. WHERE CARRYING MEMBERS ARE SPLICED, AVOID VISIBLE DISPLACEMENT OF FACE PLANE OF ADJACENT MEMBERS.
D. WHERE DUCTS OR OTHER EQUIPMENT PREVENT THE REGULAR SPACING OF HANGERS, REINFORCE THE NEAREST AFFECTED HANGERS AND RELATED CARRYING CHANNELS TO SPAN THE EXTRA DISTANCE.
E. SUPPORT FIXTURE LOADS USING SUPPLEMENTARY HANGERS LOCATED WITHIN 6 INCHES OF EACH CORNER, OR SUPPORT COMPONENTS INDEPENDENTLY.
F. PERIMETER MOLDING: INSTALL AT INTERSECTION OF CEILING AND VERTICAL SURFACES AND AT JUNCTIONS WITH OTHER INTERRUPTIONS.
G. INSTALL LIGHT FIXTURE BOXES CONSTRUCTED OF GYPSUM BOARD ABOVE LIGHT FIXTURES IN ACCORDANCE WITH FIRE RATED ASSEMBLY REQUIREMENTS AND LIGHT FIXTURE VENTILATION REQUIREMENTS.

SECTION 09 5100 - ACOUSTICAL CEILINGS (CONT.)
3.02 INSTALLATION - ACOUSTICAL UNITS
A. INSTALL ACOUSTICAL UNITS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. CUTTING ACOUSTICAL UNITS:
1. MAKE FIELD CUT EDGES OF SAME PROFILE AS FACTORY EDGES.
C. INSTALL HOLD-DOWN CLIPS ON EACH PANEL TO RETAIN PANELS TIGHT TO GRID SYSTEM; COMPLY WITH FIRE RATING REQUIREMENTS.
D. INSTALL HOLD-DOWN CLIPS ON PANELS WITHIN 20 FT OF AN EXTERIOR DOOR.
3.03 ERECTION TOLERANCES
A. MAXIMUM VARIATION FROM FLAT AND LEVEL SURFACE: 1/8 INCH IN 10 FEET.
B. MAXIMUM VARIATION FROM PLUMB OF GRID MEMBERS CAUSED BY ECCENTRIC LOADS: 2 DEGREES.

SECTION 09 6500 - RESILIENT FLOORING
PART 1 GENERAL
1.01 SECTION INCLUDES
A. RESILIENT TILE FLOORING, BASE AND STAIR ACCESSORIES .
1.02 ENVIRONMENTAL REQUIREMENTS
A. MAINTAIN TEMPERATURE IN STORAGE AREA BETWEEN 55 DEGREES F AND 90 DEGREES F.
B. STORE MATERIALS FOR NOT LESS THAN 48 HOURS PRIOR TO INSTALLATION IN AREA OF INSTALLATION AT A TEMPERATURE OF 70 DEGREES F TO ACHIEVE TEMPERATURE STABILITY. THEREAFTER, MAINTAIN CONDITIONS ABOVE 55 DEGREES F.
1.03 EXTRA MATERIALS
A. SEE SECTION 01 6000 - PRODUCT REQUIREMENTS, FOR ADDITIONAL PROVISIONS.
B. PROVIDE 20 SQ. FT OF FLOORING, AND 5 PERCENT OF INSTALLED STAIR MATERIALS OF EACH TYPE AND COLOR SPECIFIED.
PART 2 PRODUCTS
2.01 MATERIALS - VCT TILE
A. VINYL COMPOSITION TILE: HOMOGENEOUS, WITH COLOR EXTENDING THROUGHOUT THICKNESS.
1. MINIMUM REQUIREMENTS: COMPLY WITH ASTM F 1066, OF CLASS CORRESPONDING TO TYPE SPECIFIED.
2. CRITICAL RADIANT FLUX (CRF): MINIMUM 0.45 WATT PER SQUARE CENTIMETER, WHEN TESTED IN ACCORDANCE WITH ASTM E 648 OR NFPA 253.
3. SIZE: 12 X 12, 0.125 INCHES THICK.
4. PATTERN: TYPE V-4, COLOR: 51809 DESERT BEIGE .
5. MANUFACTURERS:
A. ARMSTRONG WORLD INDUSTRIES, INC; PRODUCT IMPERIAL TEXTURE STANDARD EXCELON TILE: WWW.ARMSTRONG.COM.
B. SUBSTITUTIONS: PER KEY BANK APPROVAL AND SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
2.02 MATERIALS - STAIR COVERING
A. STAIR TREADS: RUBBER; FULL WIDTH AND DEPTH OF STAIR TREAD IN ONE PIECE; TAPERED THICKNESS; NOSING NOT LESS THAN 1-5/8 INCH DEEP.
1. MINIMUM REQUIREMENTS: COMPLY WITH FS RR-T-650 REQUIREMENTS CORRESPONDING TO TYPE SPECIFIED.
2. NOMINAL THICKNESS: 0.1875 INCH SQUARE NOSING
3. STYLE: NO.500 RECTANGULAR DESIGN, COLOR: BROWN.
4. MANUFACTURERS:
A. RC MUSSON RUBBER CO.; PRODUCT ____: WWW.MUSSON.COM.
B. SUBSTITUTIONS: PER KEY BANK APPROVAL AND SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
2.03 MATERIALS - BASE
A. RESILIENT BASE: ASTM F 1861, TYPE TS RUBBER, VULCANIZED THERMOSET; TOP SET STYLE B, COVE, AND AS FOLLOWS:
1. HEIGHT: 4 INCH, THICKNESS 0.125 INCHES.
2. COLOR: JOHNSONITE COLOR #DC-22 PEARL SATIN FINISH.
2.04 ACCESSORIES
A. SUBFLOOR FILLER: WHITE PREMIX LATEX; TYPE RECOMMENDED BY ADHESIVE MATERIAL MANUFACTURER.
B. PRIMERS, ADHESIVES, AND SEAMING MATERIALS: WATERPROOF; TYPES RECOMMENDED BY FLOORING MANUFACTURER.
1. PROVIDE ONLY PRODUCTS HAVING LOWER VOLATILE ORGANIC COMPOUND (VOC) CONTENT THAN REQUIRED BY THE MORE STRINGENT OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE NO.1168 AND THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT REGULATION 8, RULE 51.
C. EDGE STRIPS: METAL.
1. PRODUCT: CLEAR ANODIZED ALUMINUM MANUFACTURED BY CERAMIC TOOL CO..CARPET TO STONE TRIM #CTC38CT,
2. PRODUCT: RUBBER, MANUFACTURED BY JOHNSONITE. CARPET TO VCT, TRIM #CTA-XX-D.
3. PRODUCT: ALUMINUM AND RUBBER MANUFACTURED BY CERAMIC TOOL CO. OR JOHNSONITE. CARPET TO STONE. CTC CARPET TRIM #CTC38 WITH JOHNSONITE #CTA-XX-K. COLOR-CLEAR ANODIZED ALUMINUM AND SISAL #130. NOTE: CONTRACTOR TO VERIFY ALUMINUM TRIM EDGE FOR MATERIAL TRANSITION.
D. FILLER FOR COVED BASE: PLASTIC
E. SEALER AND WAX: TYPES RECOMMENDED BY FLOORING MANUFACTURER.
PART 3 EXECUTION
3.01 PREPARATION
3.02 CLEANING
A. REMOVE EXCESS ADHESIVE FROM FLOOR, BASE, AND WALL SURFACES WITHOUT DAMAGE.
B. CLEAN, SEAL, AND WAX RESILIENT FLOORING PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS
3.03 PROTECTION OF FINISHED WORK
A. PROHIBIT TRAFFIC ON RESILIENT FLOORING FOR 48 HOURS AFTER INSTALLATION.
3.04 SCHEDULE: REFER TO ROOM FINNISH PLAN AND SCHEDULE ON DRAWINGS.

SECTION 09 6813 - TILE CARPETING
PART 1 GENERAL
1.01 SECTION INCLUDES
A. CARPET TILE, FULLY ADHERED, REMOVAL OF EXISTING CARPET TILE.
1.02 QUALITY ASSURANCE
A. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING SPECIFIED CARPET TILE WITH MINIMUM 5 YEARS DOCUMENTED EXPERIENCE.
B. INSTALLER QUALIFICATIONS: COMPANY SPECIALIZING IN INSTALLING CARPET WITH MINIMUM 5 YEARS DOCUMENTED EXPERIENCE.
1.03 EXTRA MATERIALS
A. SEE SECTION 01 6000 - PRODUCT REQUIREMENTS, FOR ADDITIONAL PROVISIONS.
B. PROVIDE 40 SQ. FT OF TILE CARPET, OF EACH TYPE, COLOR, AND PATTERN SPECIFIED.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. OTHER ACCEPTABLE MANUFACTURERS:
1. BENTLEY PRINCE STREET; PRODUCT NEW DEMOGRAPHIC: WWW.BENTLEYPRINCESTREET.COM.
2. SUBSTITUTIONS: NOT PERMITTED.
2.02 MATERIALS
A. CARPET TILE:, MANUFACTURED IN ONE COLOR DYE LOT.
1. PRODUCT: NEW DEMOGRAPHIC MANUFACTURED BY BENTLEY PRINCE STREET.
2. TILE SIZE: 18 X 18 INCH OR PER MANUFACTURERS STANDARD.
3. THICKNESS: PER MANUFACTURER, COLOR: CUSTOM # KR333 WITH KR362.
4. CRITICAL RADIANT FLUX: MINIMUM OF 0.22 WATTS/SQ CM, WHEN TESTED IN ACCORDANCE WITH ASTM E 648 OR NFPA 253.
5. SURFACE FLAMMABILITY IGNITION: PASS ASTM D 2859 (THE "PILL TEST").
6. VOC CONTENT: PROVIDE CRI GREEN LABEL PLUS CERTIFIED PRODUCT; IN LIEU OF LABELING, INDEPENDENT TEST REPORT SHOWING COMPLIANCE IS ACCEPTABLE.
7. MAX. ELECTROSTATIC CHARGE: 3 KV. AT 20 PERCENT RELATIVE HUMIDITY.
2.03 ACCESSORIES
A. SUB-FLOOR FILLER: WHITE PREMIX LATEX; TYPE RECOMMENDED BY FLOORING MATERIAL MANUFACTURER.
B. EDGE STRIPS: BETWEEN CARPET AND STONE-CLEAR ANODIZED ALUMINUM STRIP- CERAMIC TOOL CO. #CTC38CT, BETWEEN CARPET AND VCT-JOHNSONITE RUBBER STRIP # CTA-XX-D BURNT UMBER 63 COLOR.
C. ADHESIVES: ACCEPTABLE TO CARPET MANUFACTURERS, COMPATIBLE WITH MATERIALS BEING ADHERED; MAXIMUM VOC OF 50 G/L; CRI GREEN LABEL CERTIFIED; IN LIEU OF LABELED PRODUCT, INDEPENDENT TEST REPORT SHOWING COMPLIANCE IS ACCEPTABLE.
PART 3 EXECUTION
3.01 PREPARATION
A. REMOVE EXISTING CARPET TILE AND ALL OTHER EXISTING FINISH FLOOR.
B. REMOVE SUB-FLOOR RIDGES AND BUMPS. FILL MINOR OR LOCAL LOW SPOTS, CRACKS, JOINTS, HOLES, AND OTHER DEFECTS WITH SUB-FLOOR FILLER.
C. APPLY, TROWEL, AND FLOAT FILLER TO ACHIEVE SMOOTH, FLAT, HARD SURFACE. PROHIBIT TRAFFIC UNTIL FILLER IS CURED.
D. VACUUM CLEAN SUBSTRATE.
3.02 INSTALLATION
A. INSTALL CARPET TILE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND CRI 104.
B. BLEND CARPET FROM DIFFERENT CARTONS TO ENSURE MINIMAL VARIATION IN COLOR MATCH.
C. CUT CARPET TILE CLEAN. FIT CARPET TIGHT TO INTERSECTION WITH VERTICAL SURFACES WITHOUT GAPS.
D. LAY CARPET TILE IN SQUARE PATTERN, WITH PILE DIRECTION PARALLEL TO NEXT UNIT, SET PARALLEL TO BUILDING LINES.
E. LOCATE CHANGE OF COLOR OR PATTERN BETWEEN ROOMS UNDER DOOR CENTERLINE.
F. FULLY ADHERE CARPET TILE TO SUBSTRATE.
G. TRIM CARPET TILE NEATLY AT WALLS AND AROUND INTERRUPTIONS.
H. COMPLETE INSTALLATION OF EDGE STRIPS, CONCEALING EXPOSED EDGES.
3.03 CLEANING
A. REMOVE EXCESS ADHESIVE WITHOUT DAMAGE, FROM FLOOR, BASE, AND WALL SURFACES.
B. CLEAN AND VACUUM CARPET SURFACES.

SECTION 09 9000 - PAINTING AND COATING
PART 1 GENERAL
1.01 SECTION INCLUDES
A. SURFACE PREPARATION, FIELD APPLICATION OF PAINTS, STAINS, VARNISHES AND OTHER COATINGS.
1.02 QUALITY ASSURANCE
A. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM 5 YEARS DOCUMENTED EXPERIENCE.
B. APPLICATOR QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING THE WORK OF THIS SECTION WITH MINIMUM YEARS EXPERIENCE AND WITH MINIMUM 5 YEARS DOCUMENTED EXPERIENCE.
1.03 MOCK-UP
A. SEE SECTION 01 4000 - QUALITY REQUIREMENTS, FOR GENERAL REQUIREMENTS FOR MOCK-UP.
B. PROVIDE PANEL, ENTIRE WALL FULL HEIGHT , ILLUSTRATING SPECIAL COATING COLOR, TEXTURE, AND FINISH.
C. MOCK-UP MAY REMAIN AS PART OF THE WORK.
1.04 EXTRA MATERIALS
A. SEE SECTION 01 6000 - PRODUCT REQUIREMENTS, FOR ADDITIONAL PROVISIONS.
B. SUPPLY 1 GALLON OF EACH COLOR; STORE WHERE DIRECTED.
C. LABEL EACH CONTAINER WITH COLOR IN ADDITION TO THE MANUFACTURER'S LABEL.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. INTERIOR PAINTS: SHERWIN-WILLIAMS
B. EXTERIOR PAINTS: SHERWIN-WILLIAMS
C. SUBSTITUTIONS: PER KEY BANK APPROVAL AND SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
2.02 PAINTS AND COATINGS - GENERAL
A. PAINTS AND COATINGS: READY MIXED, EXCEPT FIELD-CATALYZED COATINGS. PREPARE PIGMENTS:
1. TO A SOFT PASTE CONSISTENCY, CAPABLE OF BEING READILY AND UNIFORMLY DISPERSED TO A HOMOGENEOUS COATING, FOR GOOD FLOW AND BRUSHING PROPERTIES AND CAPABLE OF DRYING OR CURING FREE OF STREAKS OR SAGS.
B. VOLATILE ORGANIC COMPOUND (VOC) CONTENT:
1.PROVIDE COATINGS THAT COMPLY WITH THE MOST STRINGENT REQUIREMENTS SPECIFIED IN THE FOLLOWING:
A. 40 CFR 59, SUBPART D-NATIONAL VOLATILE ORGANIC COMPOUND EMISSION STANDARDS FOR ARCHITECTURAL COATINGS.
B. OZONE TRANSPORT COMMISSION (OTC) MODEL RULE, ARCHITECTURAL, INDUSTRIAL, AND MAINTENANCE COATINGS; WWW.OTCAIR.ORG.
C. ARCHITECTURAL COATINGS VOC LIMITS OF STATE IN WHICH THE PROJECT IS LOCATED.
D. USGBC LEED RATING SYSTEM FOR INTERIOR WALL AND CEILING FINISH (ALL COATS), ANTI-CORROSIVE PAINTS ON INTERIOR FERROUS METAL, CLEAR WOOD STAINS AND FINISHES, SANDING SEALERS, OTHER SEALERS, SHELLAC, AND FLOOR COATINGS.
2. DETERMINATION OF VOC CONTENT: TESTING AND CALCULATION IN ACCORDANCE WITH 40 CFR 59, SUBPART D (EPA METHOD 24), EXCLUSIVE OF COLORANTS ADDED TO A TINT BASE AND WATER ADDED AT PROJECT SITE; OR OTHER METHOD ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
C. FLAMMABILITY: COMPLY WITH APPLICABLE CODE FOR SURFACE BURNING CHARACTERISTICS.
2.03 PAINT SYSTEMS - EXTERIOR (REFER TO SITE AND BUILDING ELEVATION DRAWINGS)
A. PAINT - WOOD, OPAQUE, LATEX, 3 COAT:
1. ONE COAT OF LATEX PRIMER SEALER.
2. SEMI-GLOSS: TWO COATS OF LATEX ENAMEL; .
B. PAINT - MASONRY/CONCRETE, OPAQUE, LATEX, 3 COAT:
1. ONE COAT OF BLOCK FILLER.
2. SEMI-GLOSS: TWO COATS OF LATEX ENAMEL.
C. PAINT - GYPSUM BOARD AND PLASTER, OPAQUE, LATEX, 2 COAT:
1. ONE COAT OF LATEX PRIMER SEALER.
2. FLAT: ONE COAT OF LATEX.
D. PAINT - FERROUS METALS, PRIMED, LATEX, 2 COAT:
1. TOUCH-UP WITH RUST-INHIBITIVE PRIMER RECOMMENDED BY TOP COAT MANUFACTURE.
2. SEMI-GLOSS: TWO COATS LATEX ENAMEL.
E. PAINT - GALVANIZED METALS, LATEX, 3 COAT:
1. ONE COAT GALVANIZE PRIMER
2. SEMI-GLOSS: TWO COATS OF LATEX ENAMEL.
F . PAINT - PAVEMENT MARKING PAINT;
1. ONE COAT, WITH REFLECTIVE PARTICLES.
2.04 PAINT SYSTEMS - INTERIOR (REFER TO FINISH SPECIFICATION DRAWINGS).
A. PAINT - GYPSUM BOARD / PLASTER, LATEX, 3 COAT:
1. ONE COAT OF ALKYLYD PRIMER SEALER,
2. EGGSHELL: WALLS - TWO COATS OF LATEX ENAMEL;.
3. FLAT: CEILINGS - COATS OF LATEX ENAMEL

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Project:
2008 BRANCH MODERNIZATION PROGRAM
PID# 5056
MONUMENT SQUARE
1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	AC

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:
SPECIFICATIONS

Drawing No.:
G-106

EK - J:\2008 Projects\F5W86600 Cert\KeyBank_CDs\5056 Monument Square\General\5056_G-106.dwg [5056_G-106] February 24, 2009 - 6:16pm PATELSH

SPECIFICATIONS

SECTION 10 2800 - TOILET, BATH, AND LAUNDRY ACCESSORIES
PART 1 GENERAL
1.01 SECTION INCLUDES
A. ACCESSORIES FOR TOILET ROOMS AND GRAB BARS.
1.02 COORDINATION
A. COORDINATE THE WORK WITH THE PLACEMENT OF INTERNAL WALL REINFORCEMENT, CONCEALED CEILING SUPPORTS, AND REINFORCEMENT OF TOILET PARTITIONS TO RECEIVE ANCHOR ATTACHMENTS.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. PRODUCTS LISTED ARE MADE BY BOBRICK.
B. OTHER ACCEPTABLE MANUFACTURERS:
1. BOBRICK: BOBRICK.COM.
2. AMERICAN SPECIALTIES, INC: WWW.AMERICANSPECIALTIES.COM.
3. BRADLEY CORPORATION: WWW.BRADLEYCORP.COM.
4. SUBSTITUTIONS: PER KEY BANK APPROVAL AND SECTION 01 6000 - PRODUCT REQUIREMENTS.
C. ALL ITEMS OF EACH TYPE TO BE MADE BY THE SAME MANUFACTURER.
2.02 MATERIALS
A. ACCESSORIES - GENERAL: SHOP ASSEMBLED, FREE OF DENTS AND SCRATCHES AND PACKAGED COMPLETE WITH ANCHORS AND FITTINGS, STEEL ANCHOR PLATES, ADAPTERS, AND ANCHOR COMPONENTS FOR INSTALLATION.
1. GRIND WELDED JOINTS SMOOTH.
2. FABRICATE UNITS MADE OF METAL SHEET OF SEAMLESS SHEETS, WITH FLAT SURFACES.
B. KEYS: PROVIDE KEYS FOR EACH ACCESSORY TO KEY BANK; MASTER KEY ALL LOCKABLE ACCESSORIES.
C. STAINLESS STEEL SHEET: ASTM A 666, TYPE 304.
D. STAINLESS STEEL TUBING: ASTM A 269, TYPE 304 OR 316.
E. GALVANIZED SHEET STEEL: HOT-DIPPED GALVANIZED STEEL SHEET, ASTM A 653/A 653M, WITH G90/Z275 COATING.
F. MIRROR GLASS: FLOAT GLASS, ASTM C 1036 TYPE I, CLASS 1, QUALITY Q2, WITH SILVERING, COPPER COATING, AND SUITABLE PROTECTIVE ORGANIC COATING TO COPPER BACKING IN ACCORDANCE WITH GSA CID A-A-3002.
G. ADHESIVE: TWO COMPONENT EPOXY TYPE, WATERPROOF.
H. FASTENERS, SCREWS, AND BOLTS: HOT DIP GALVANIZED, TAMPER-PROOF, SECURITY TYPE.
I. EXPANSION SHIELDS: FIBER, LEAD, OR RUBBER AS RECOMMENDED BY ACCESSORY MANUFACTURER FOR COMPONENT AND SUBSTRATE.
J. PRIMER:.
2.03 FINISHES
A. STAINLESS STEEL: NO. 4 SATIN BRUSHED FINISH, UNLESS OTHERWISE NOTED.
B. CHROME/NICKEL PLATING: ASTM B 456, SC 2, SATIN FINISH, UNLESS OTHERWISE NOTED.
2.04 TOILET ROOM ACCESSORIES
A. TOILET PAPER DISPENSER: DOUBLE ROLL, SURFACE MOUNTED BRACKET TYPE, STAINLESS STEEL, SPINDLELESS TYPE FOR TENSION SPRING DELIVERY DESIGNED TO PREVENT THEFT OF TISSUE ROLL.
1. PRODUCT: B-4288 CONTURA MANUFACTURED BY BOBRICK.
B. MIRROR UNIT: STAINLESS STEEL FRAME W/ CONCEALED HANGERS, SURFACE-MOUNTED,.
1. SIZE: 18" WIDE X 30" HIGH.
2. PRODUCT: B-165-1830 MANUFACTURED BY BOBRICK.
C. TRIMLINE RECESSED WASTE RECEPTACLE AND PAPER TOWEL DISPENSER: STAINLESS STEEL, SEAMLESS LOWER DOOR WITH TUMBLER LOCK .
1. LINER: REMOVABLE SEAMLESS RIGID MOLDED PLASTIC RECEPTACLE.
2. MINIMUM CAPACITY: 300 C-FOLD OR 400 MULTI-FOLD TOWELS
3. PRODUCT: B-36903 MANUFACTURED BY BOBRICK.
D. SEAT COVER DISPENSER: STAINLESS STEEL, SURFACE-MOUNTED, RELOADING BY CONCEALED OPENING AT BASE, TUMBLER LOCK.
1. MINIMUM CAPACITY: 250 SEAT COVERS, EACH SIDE.
2. PRODUCT: B-4221 MANUFACTURED BY BOBRICK.
E. GRAB BARS: STAINLESS STEEL, 1-1/4 INCHES OUTSIDE DIAMETER, MINIMUM 0.05 INCH WALL THICKNESS, NONSLIP GRASPING SURFACE FINISH, CONCEALED FLANGE MOUNTING; 1-1/2 INCHES CLEARANCE BETWEEN WALL AND INSIDE OF GRAB BAR.
1. LENGTH: 36 INCHES AND 42 INCHES.
2. LENGTH AND CONFIGURATION: AS INDICATED ON DRAWINGS.
3. PRODUCT: B-6206 MANUFACTURED BY BOBRICK.
F. MOP AND BROOM HOLDER: 0.05 INCH THICK STAINLESS STEEL, TYPE 304, HAT-SHAPED CHANNEL. HOLDER W/ 3 SPRING LOADED RUBBER CAM HOLDERS, 4 SS HOOKS ANS SHELF (MIN 34 INCHES LONG)
1. PRODUCT: B-239 MANUFACTURED BY BOBRICK.
G. SOAP DISPENSER: VERTICAL TANK WITH PUSH BUTTON, SURFACE MOUNTED.
1. CAPACITY: 40 FL-OZ..
2. PRODUCT: B-2111 MANUFACTURED BY BOBRICK.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL ACCESSORIES IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS.
B. INSTALL PLUMB AND LEVEL, SECURELY AND RIGIDLY ANCHORED TO SUBSTRATE.
C. MOUNTING HEIGHTS AND LOCATIONS: AS REQUIRED BY ACCESSIBILITY REGULATIONS AND AS INDICATED ON DRAWINGS.

SECTION 10 4400 - FIRE PROTECTION SPECIALTIES
PART 1 GENERAL
1.01 SECTION INCLUDES
A. FIRE EXTINGUISHERS.
B. FIRE EXTINGUISHER CABINETS.
C. ACCESSORIES.
1.02 REFERENCES
A. NFPA 10 - STANDARD FOR PORTABLE FIRE EXTINGUISHERS; NATIONAL FIRE PROTECTION ASSOCIATION; 2007.
B. UL (FPED) - FIRE PROTECTION EQUIPMENT DIRECTORY; UNDERWRITERS LABORATORIES INC.; CURRENT EDITION.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. FIRE EXTINGUISHERS, CABINETS AND ACCESSORIES:
1. JL INDUSTRIES, INC: WWW.JLINDUSTRIES.COM.
2. LARSEN'S MANUFACTURING CO: WWW.LARSENSMFG.COM.
3. POTTER-ROEMER: WWW.POTTERROEMER.COM.
4. SUBSTITUTIONS: SEE SECTION 01 6000 - PRODUCT REQUIREMENTS.
2.02 FIRE EXTINGUISHERS
A. FIRE EXTINGUISHERS - GENERAL: COMPLY WITH PRODUCT REQUIREMENTS OF NFPA 10 AND APPLICABLE CODES, WHICHEVER IS MORE STRINGENT.
1. PROVIDE EXTINGUISHERS LABELED BY UNDERWRITERS LABORATORIES INC. FOR THE PURPOSE SPECIFIED AND INDICATED.
B. DRY CHEMICAL TYPE FIRE EXTINGUISHERS: STAINLESS STEEL TANK, WITH PRESSURE GAGE.
1. CLASS B:C.
2. SIZE 10.
C. CARBON DIOXIDE TYPE FIRE EXTINGUISHERS: STAINLESS STEEL TANK, WITH PRESSURE GAGE.
2.03 FIRE EXTINGUISHER CABINETS
A. METAL: FORMED PRIMED STEEL SHEET; 0.036 INCH THICK BASE METAL.
B. DOOR: 0.036 INCH THICK, REINFORCED FOR FLATNESS AND RIGIDITY; LATCH. HINGE DOORS FOR 180 DEGREE OPENING WITH TWO BUTT HINGE. PROVIDE NYLON CATCH.
C. DOOR GLAZING: GLASS, CLEAR, 1/8 INCH THICK FLOAT. SET IN RESILIENT CHANNEL GASKET GLAZING.
D. CABINET MOUNTING HARDWARE: APPROPRIATE TO CABINET. PRE-DRILL FOR ANCHORS.
E. WELD, FILL, AND GRIND COMPONENTS SMOOTH.
F. FINISH OF CABINET EXTERIOR TRIM AND DOOR: PRIMED FOR FIELD PAINT FINISH.
G. FINISH OF CABINET INTERIOR: WHITE ENAMEL.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. INSTALL CABINETS PLUMB AND LEVEL IN WALL OPENINGS. FROM FINISHED FLOOR TO INSIDE BOTTOM OF CABINET PER BUILDING CODE REQUIREMENTS.
C. POSITION CABINET SIGNAGE AT AS REQUIRED BY CODES.
3.02 SCHEDULES: REFER TO FLOOR PLAN DRAWING FOR LOCATIONS.

SECTION 11 3100 - RESIDENTIAL APPLIANCES
PART 1 GENERAL
1.01 SECTION INCLUDES
A. KITCHEN APPLIANCES.
1.02 REFERENCES
A. UL (EAUED) - ELECTRICAL APPLIANCE AND UTILIZATION EQUIPMENT DIRECTORY; UNDERWRITERS LABORATORIES INC.; CURRENT EDITION.
1.03 QUALITY ASSURANCE
A. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING PRODUCTS SPECIFIED IN THIS SECTION, WITH NOT LESS THAN 5 YEARS OF DOCUMENTED EXPERIENCE.
B. ELECTRIC APPLIANCES: LISTED AND LABELED BY UL AND COMPLYING WITH NEMA STANDARDS.
1.04 WARRANTY
A. SEE SECTION 01 7800 - CLOSEOUT SUBMITTALS, FOR ADDITIONAL WARRANTY REQUIREMENTS.
B. PROVIDE FIVE (5) YEAR MANUFACTURER WARRANTY ON REFRIGERATION SYSTEM OF REFRIGERATORS.
C. PROVIDE TEN (10) YEAR MANUFACTURER WARRANTY ON MAGNETRON TUBE OF MICROWAVE OVENS.
PART 2 PRODUCTS
2.01 KITCHEN APPLIANCES (SEARS)
A. REFRIGERATOR: FREE-STANDING, SIDE-BY-SIDE, FROST-FREE.
1. CAPACITY: 46-95872- 6 CUBIC FT; COMPACT UNIT
46-62042- 10 CUBIC FT
46-60532- 15 CUBIC FT
46-60732- 17 CUBIC FT
46-60892- 18 CUBIC FT
46-67172- 21 CUBIC FT (STANDARD)
2. ENERGY USAGE: ENERGY STAR RATED
3. FEATURES: INCLUDE GLASS SHELVES AND LIGHT IN FREEZER COMPARTMENT AND WATER DISPENSER.
4. FINISH: PORCELAIN ENAMELED STEEL, COLOR WHITE.
5. MANUFACTURERS:
A. KENMORE : WWW.KENMORE.COM.
B. SUBSTITUTIONS: NOT PERMITTED OR PER KEY BANL APPROVAL.
B. MICROWAVE: COUNTERTOP.
1. CAPACITY: 20-63252- 1.2 CUBIC FT
20-66312- 1.6 CUBIC FT
2. POWER: 1200 WATTS.
3. FEATURES: INCLUDE TURNTABLE AND 2-SPEED EXHAUST FAN.
4. FINISH: COLOR: WHITE.
5. MANUFACTURERS:
A. KENMORE : #20-66321 WWW.KENMORE.COM.
B. SUBSTITUTIONS: NOT PERMITTED OR PER KEY BANL APPROVAL.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3.02 ADJUSTING
A. ADJUST OPERATING EQUIPMENT TO EFFICIENT OPERATION.
3.03 CLEANING
A. REMOVE PACKING MATERIALS FROM EQUIPMENT.
B. WASH AND CLEAN EQUIPMENT.

SECTION 12 4813 - ENTRANCE FLOOR MATS AND FRAMES
PART 1 GENERAL
1.01 SECTION INCLUDES
A. CARPET MAT AND RECESSED FRAME.
1.02 PROJECT CONDITIONS
A. VERIFY THAT FIELD MEASUREMENTS ARE AS INDICATED.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. FLOOR MATS: (WALK-OFF MATS IN VESTIBULE AREAS)
1. BENTLEY PRICE STREET: WWW.BENTLEYPRICESTREET.COM.
2. SUBSTITUTIONS: NOT PERMITTED.
2.02 MATERIALS
A. CARPET MAT: CUT NYLON PILE PERMANENTLY BONDED TO VINYL BACKING; WITH BROWN MATCHING VINYL BORDER ON ALL EDGES; COLOR AS SELECTED.
B. STYLE AND COLOR: DECO TUFT- CHOCOLATE[] GAGE INCH BEVELED.
C. RECESSED FRAME: THICK ZINC EXPOSED TOP STRIP, ZINC COATED STEEL CONCEALED BOTTOM STRIP, DEEP, WITH ANCHORING FEATURES.
2.03 FABRICATION
A. CONSTRUCT RECESSED MAT FRAMES SQUARE, TIGHT JOINTS AT CORNERS, RIGID. COAT SURFACES WITH PROTECTIVE COATING WHERE IN CONTACT WITH CEMENTITIOUS MATERIALS.
B. FABRICATE MATS IN SINGLE UNIT SIZES; FABRICATE MULTIPLE MATS WHERE INDICATED.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL MAT FRAMES TO ACHIEVE FLUSH PLANE WITH FINISHED FLOOR SURFACE.
B. INSTALL MATS IN FLOOR RECESS FLUSH WITH FINISH FLOOR AFTER CLEANING OF FINISH FLOORING.
3.02 INSTALLATION TOLERANCES
A. MAXIMUM GAP FORMED AT RECESSED FRAME FROM MAT SIZE: 1/4 INCH.

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Project:
2008 BRANCH MODERNIZATION PROGRAM
PID# 5056
MONUMENT SQUARE
1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	AC

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:
SPECIFICATIONS

Drawing No.:
G-107

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SPECIFICATIONS

SECTION 21 0500 - COMMON WORK RESULTS FOR FIRE SUPPRESSION
PART 1 GENERAL

1.01 SECTION INCLUDES
A. PIPE, FITTINGS, VALVES, AND CONNECTIONS FOR SPRINKLER SYSTEMS.
PART 2 PRODUCTS

2.01 GENERAL SYSTEM AND PRODUCT REQUIREMENTS
A. SPRINKLER SYSTEMS: CONFORM WORK TO NFPA 13.

2.02 ABOVE GROUND PIPING
A. STEEL PIPE: ASTM A 53 SCHEDULE 40, BLACK.
1. MALLEABLE IRON FITTINGS: ASME B16.3, THREADED FITTINGS.

2.03 PIPE HANGERS AND SUPPORTS
A. HANGERS FOR PIPE SIZES 1/2 TO 1-1/2 INCH: MALLEABLE IRON, ADJUSTABLE SWIVEL, SPLIT RING.
B. HANGERS FOR PIPE SIZES 2 INCHES AND OVER: CARBON STEEL, ADJUSTABLE, CLEVIS.

2.04 DRAIN VALVES
A. BALL VALVE:
1. BRASS WITH CAP AND CHAIN, 3/4 INCH HOSE THREAD.

PART 3 EXECUTION

3.01 INSTALLATION
A. INSTALL SPRINKLER SYSTEM AND SERVICE MAIN PIPING, HANGERS, AND SUPPORTS IN ACCORDANCE WITH NFPA 13.
B. ROUTE PIPING IN ORDERLY MANNER, PLUMB AND PARALLEL TO BUILDING STRUCTURE. MAINTAIN GRADIENT.
C. INSTALL PIPING TO CONSERVE BUILDING SPACE, TO NOT INTERFERE WITH USE OF SPACE AND OTHER WORK.
D. SLEEVE PIPES PASSING THROUGH PARTITIONS, WALLS, AND FLOORS.
E. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT.
F. PIPE HANGERS AND SUPPORTS:
1. INSTALL HANGERS TO PROVIDE MINIMUM 1/2 INCH SPACE BETWEEN FINISHED COVERING AND ADJACENT WORK.
2. PLACE HANGERS WITHIN 12 INCHES OF EACH HORIZONTAL ELBOW.
3. USE HANGERS WITH 1-1/2 INCH MINIMUM VERTICAL ADJUSTMENT. DESIGN HANGERS FOR PIPE MOVEMENT WITHOUT DISENGAGEMENT OF SUPPORTED PIPE.
G. SLOPE PIPING AND ARRANGE SYSTEMS TO DRAIN AT LOW POINTS. USE ECCENTRIC REDUCERS TO MAINTAIN TOP OF PIPE LEVEL.
H. PROVIDE DRAIN VALVES AT LOW POINTS OF PIPING.

SECTION 21 1300 - FIRE-SUPPRESSION SPRINKLER SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES
A. WET-PIPE SPRINKLER SYSTEM.
B. SYSTEM DESIGN, INSTALLATION, AND CERTIFICATION.

1.02 REFERENCES
A. NFPA 13 - STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS; NATIONAL FIRE PROTECTION ASSOCIATION; 2007.
B. UL (FPED) - FIRE PROTECTION EQUIPMENT DIRECTORY; UNDERWRITERS LABORATORIES INC.; CURRENT EDITION.

1.03 SUBMITTALS

A. PRODUCT DATA: PROVIDE DATA ON SPRINKLERS, VALVES, AND SPECIALTIES, INCLUDING MANUFACTURERS CATALOG INFORMATION. SUBMIT PERFORMANCE RATINGS, ROUGH-IN DETAILS, WEIGHTS, SUPPORT REQUIREMENTS, AND PIPING CONNECTIONS.

B. SHOP DRAWINGS:
1. INDICATE HYDRAULIC CALCULATIONS, DETAILED PIPE LAYOUT, HANGERS AND SUPPORTS, SPRINKLERS, COMPONENTS AND ACCESSORIES. INDICATE SYSTEM CONTROLS.
2. SUBMIT SHOP DRAWINGS TO AUTHORITY HAVING JURISDICTION FOR APPROVAL. SUBMIT PROOF OF APPROVAL TO ARCHITECT.

1.04 QUALITY ASSURANCE

A. CONFORM TO UL REQUIREMENTS.
B. DESIGN SYSTEM UNDER DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER EXPERIENCED IN DESIGN OF THIS TYPE OF WORK AND LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED.

PART 2 PRODUCTS

2.01 MANUFACTURERS
A. VIKING
B. RELIABLE
C. GEM

2.02 SPRINKLER SYSTEM REQUIREMENTS

A. SPRINKLER SYSTEM: PROVIDE COVERAGE FOR BUILDING AREAS NOTED.
B. OCCUPANCY: LIGHT HAZARD; COMPLY WITH NFPA 13.
C. WATER SUPPLY: DETERMINE VOLUME AND PRESSURE FROM WATER FLOW TEST DATA.

2.03 SPRINKLERS

A. SUSPENDED CEILING TYPE: CONCEALED PENDANT TYPE WITH MATCHING PUSH ON COVER PLATE.
1. FINISH: CHROME PLATED.
2. COVER PLATE: ENAMEL, COLOR WHITE.
3. FUSIBLE LINK: FUSIBLE SOLDER LINK TYPE TEMPERATURE RATED FOR SPECIFIC AREA HAZARD.

PART 3 EXECUTION

3.01 INSTALLATION
A. INSTALL IN ACCORDANCE WITH REFERENCED NFPA DESIGN AND INSTALLATION STANDARD.
B. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
C. PLACE PIPE RUNS TO MINIMIZE OBSTRUCTION TO OTHER WORK.
D. PLACE PIPING IN CONCEALED SPACES ABOVE FINISHED CEILINGS.
E. CENTER SPRINKLERS IN TWO DIRECTIONS IN CEILING TILE AND PROVIDE PIPING OFFSETS AS REQUIRED.
F. FLUSH ENTIRE PIPING SYSTEM OF FOREIGN MATTER.
G. HYDROSTATICALLY TEST ENTIRE SYSTEM.
H. REQUIRE TEST BE WITNESSED BY FIRE MARSHALL.

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Project No.: F5W86602

Scale: AS NOTED

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SPECIFICATIONS

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G-108

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SPECIFICATIONS

SECTION 22 0553 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT
PART 1 GENERAL
1.01 SECTION INCLUDES
A. TAGS.
B. STENCILS.
C. PIPE MARKERS.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. BRADY CORPORATION
B. CHAMPION AMERICA, INC
C. SETON IDENTIFICATION PRODUCTS
2.02 TAGS
A. PLASTIC TAGS: LAMINATED THREE-LAYER PLASTIC WITH ENGRAVED BLACK LETTERS ON LIGHT CONTRASTING BACKGROUND COLOR. TAG SIZE MINIMUM 1-1/2 INCH DIAMETER.
B. METAL TAGS: BRASS WITH STAMPED LETTERS; TAG SIZE MINIMUM 1-1/2 INCH DIAMETER WITH SMOOTH EDGES.
2.03 STENCILS
A. STENCILS: WITH CLEAN CUT SYMBOLS AND LETTERS OF FOLLOWING SIZE:
1. 3/4 TO 1-1/4 INCH OUTSIDE DIAMETER OF INSULATION OR PIPE: 8 INCH LONG COLOR FIELD, 1/2 INCH HIGH LETTERS.
2. 1-1/2 TO 2 INCH OUTSIDE DIAMETER OF INSULATION OR PIPE: 8 INCH LONG COLOR FIELD, 3/4 INCH HIGH LETTERS.
2.04 PIPE MARKERS
A. COLOR: CONFORM TO ASME A13.1.
B. PLASTIC PIPE MARKERS: FACTORY FABRICATED, FLEXIBLE, SEMI- RIGID PLASTIC, PREFORMED TO FIT AROUND PIPE OR PIPE COVERING; MINIMUM INFORMATION INDICATING FLOW DIRECTION ARROW AND IDENTIFICATION OF FLUID BEING CONVEYED.
C. PLASTIC TAPE PIPE MARKERS: FLEXIBLE, VINYL FILM TAPE WITH PRESSURE SENSITIVE ADHESIVE BACKING AND PRINTED MARKINGS.
D. UNDERGROUND PLASTIC PIPE MARKERS: BRIGHT COLORED CONTINUOUSLY PRINTED PLASTIC RIBBON TAPE, MINIMUM 6 INCHES WIDE BY 4 MIL THICK, MANUFACTURED FOR DIRECT BURIAL SERVICE.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL TAGS WITH CORROSION RESISTANT CHAIN.
B. INSTALL PLASTIC PIPE MARKERS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
C. INSTALL PLASTIC TAPE PIPE MARKERS COMPLETE AROUND PIPE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
D. INSTALL UNDERGROUND PLASTIC PIPE MARKERS 6 TO 8 INCHES BELOW FINISHED GRADE, DIRECTLY ABOVE BURIED PIPE.
E. IDENTIFY VALVES IN MAIN AND BRANCH PIPING WITH TAGS.
F. IDENTIFY PIPING, CONCEALED OR EXPOSED, WITH PLASTIC PIPE MARKERS. USE TAGS ON PIPING 3/4 INCH DIAMETER AND SMALLER. IDENTIFY SERVICE, FLOW DIRECTION, AND PRESSURE. INSTALL IN CLEAR VIEW AND ALIGN WITH AXIS OF PIPING. LOCATE IDENTIFICATION NOT TO EXCEED 20 FEET ON STRAIGHT RUNS INCLUDING RISERS AND DROPS, ADJACENT TO EACH VALVE AND TEE, AT EACH SIDE OF PENETRATION OF STRUCTURE OR ENCLOSURE, AND AT EACH OBSTRUCTION.

SECTION 22 0719 - PLUMBING PIPING INSULATION
PART 1 GENERAL
1.01 SECTION INCLUDES
A. PIPING INSULATION.
B. JACKETS AND ACCESSORIES.
PART 2 PRODUCTS
2.01 REQUIREMENTS FOR ALL PRODUCTS OF THIS SECTION
A. SURFACE BURNING CHARACTERISTICS: FLAME SPREAD/SMOKE DEVELOPED INDEX OF 25/50, MAXIMUM, WHEN TESTED IN ACCORDANCE WITH ASTM E 84, NFPA 255, OR UL 723.
2.02 GLASS FIBER
A. MANUFACTURERS:
1. KNAUF FIBER GLASS
2. JOHNS MANVILLE CORPORATION
3. OWENS CORNING CORP
B. INSULATION: ASTM C 547 AND ASTM C 795; RIGID MOLDED, NONCOMBUSTIBLE.
1. 'K' VALUE: ASTM C 177, 0.24 AT 75 DEGREES F.
2. MAXIMUM SERVICE TEMPERATURE: 850 DEGREES F.
3. MAXIMUM MOISTURE ABSORPTION: 0.2 PERCENT BY VOLUME.
C. VAPOR BARRIER JACKET: WHITE KRAFT PAPER WITH GLASS FIBER YARN, BONDED TO ALUMINIZED FILM; MOISTURE VAPOR TRANSMISSION WHEN TESTED IN ACCORDANCE WITH ASTM E 96/E 96M OF 0.02 PERM-INCHES.
D. TIE WIRE: 0.048 INCH STAINLESS STEEL WITH TWISTED ENDS ON MAXIMUM 12 INCH CENTERS.
E. VAPOR BARRIER LAP ADHESIVE:
1. COMPATIBLE WITH INSULATION.
2.03 JACKETS
A. PVC PLASTIC.
1. MANUFACTURERS:
A. JOHNS MANVILLE CORPORATION
2. JACKET: ONE PIECE MOLDED TYPE FITTING COVERS AND SHEET MATERIAL, OFF-WHITE COLOR.
A. MINIMUM SERVICE TEMPERATURE: 0 DEGREES F.
B. MAXIMUM SERVICE TEMPERATURE: 150 DEGREES F.
C. MOISTURE VAPOR PERMEABILITY: 0.002 PERM INCH, MAXIMUM, WHEN TESTED IN ACCORDANCE WITH ASTM E 96/E 96M.
D. THICKNESS: 10 MIL.
E. CONNECTIONS: BRUSH ON WELDING ADHESIVE.
3. COVERING ADHESIVE MASTIC;
A. COMPATIBLE WITH INSULATION.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. GLASS FIBER INSULATED PIPES CONVEYING DOMESTIC COLD WATER AND SANITARY:
1. PROVIDE VAPOR BARRIER JACKETS, FACTORY-APPLIED OR FIELD-APPLIED. SECURE WITH SELF-SEALING LONGITUDINAL LAPS AND BUTT STRIPS WITH PRESSURE SENSITIVE ADHESIVE. SECURE WITH OUTWARD CLINCH EXPANDING STAPLES AND VAPOR BARRIER MASTIC.
2. INSULATE FITTINGS, JOINTS, AND VALVES WITH MOLDED INSULATION OF LIKE MATERIAL AND THICKNESS AS ADJACENT PIPE. FINISH WITH GLASS CLOTH AND VAPOR BARRIER ADHESIVE OR PVC FITTING COVERS.
C. GLASS FIBER INSULATED PIPES CONVEYING DOMESTIC HOT WATER:
1. PROVIDE STANDARD JACKETS, WITH OR WITHOUT VAPOR BARRIER, FACTORY-APPLIED OR FIELD-APPLIED. SECURE WITH SELF-SEALING LONGITUDINAL LAPS AND BUTT STRIPS WITH PRESSURE SENSITIVE ADHESIVE. SECURE WITH OUTWARD CLINCH EXPANDING STAPLES.
2. INSULATE FITTINGS, JOINTS, AND VALVES WITH INSULATION OF LIKE MATERIAL AND THICKNESS AS ADJOINING PIPE. FINISH WITH GLASS CLOTH AND ADHESIVE OR PVC FITTING COVERS.
D. CONTINUE INSULATION THROUGH WALLS, SLEEVES, PIPE HANGERS, AND OTHER PIPE PENETRATIONS. FINISH AT SUPPORTS, PROTRUSIONS, AND INTERRUPTIONS.

SECTION 22 1005 - PLUMBING PIPING
PART 1 GENERAL
1.01 SECTION INCLUDES
A. PIPE, PIPE FITTINGS, VALVES, AND CONNECTIONS FOR PIPING SYSTEMS.
1. SANITARY SEWER.
2. DOMESTIC WATER.
3. GAS.
4. VENT.
PART 2 PRODUCTS
2.01 SANITARY SEWER AND VENT PIPING, BURIED UNDER AND WITHIN 5 FEET OF BUILDING
A. CAST IRON PIPE: CISPI 301, HUBLESS.
1. FITTINGS: CAST IRON.
2. JOINTS: CISPI 310, NEOPRENE GASKET AND STAINLESS STEEL CLAMP AND SHIELD ASSEMBLIES.
2.02 SANITARY SEWER PIPING, ABOVE GRADE
A. CAST IRON PIPE: CISPI 301, HUBLESS, SERVICE WEIGHT.
1. FITTINGS: CAST IRON.
2. JOINTS: CISPI 310, NEOPRENE GASKETS AND STAINLESS STEEL CLAMP-AND-SHIELD ASSEMBLIES.
2.03 WATER PIPING, ABOVE GRADE
A. COPPER TUBE: ASTM B 88 (ASTM B 88M), TYPE K (A), DRAWN (H).
1. FITTINGS: ASME B16.18, CAST COPPER ALLOY OR ASME B16.22, WROUGHT COPPER AND BRONZE.
2. JOINTS: ASTM B 32, ALLOY SN95 SOLDER.
2.04 NATURAL GAS PIPING, ABOVE GRADE
A. STEEL PIPE: ASTM A 53/A 53M SCHEDULE 40 BLACK.
1. FITTINGS: ASME B16.3, MALLEABLE IRON, OR ASTM A 234/A 234M, WROUGHT STEEL WELDING TYPE.
2. JOINTS: NFPA 54, THREADED OR WELDED TO ASME B31.1.
2.05 VENT PIPING ABOVE GRADE
A. PVC PIPE: ASTM D 2665 OR ASTM D 3034.
1. FITTINGS: PVC.
2. JOINTS: SOLVENT WELDED, WITH ASTM D 2564 SOLVENT CEMENT.
2.06 FLANGES, UNIONS, AND COUPLINGS
A. UNIONS FOR PIPE SIZES 3 INCHES AND UNDER:
1. FERROUS PIPE: CLASS 150 MALLEABLE IRON THREADED UNIONS.
2. COPPER TUBE AND PIPE: CLASS 150 BRONZE UNIONS WITH SOLDERED JOINTS.
B. DIELECTRIC CONNECTIONS: UNION WITH GALVANIZED OR PLATED STEEL THREADED END, COPPER SOLDER END, WATER IMPERVIOUS ISOLATION BARRIER.
2.07 PIPE HANGERS AND SUPPORTS
A. PLUMBING PIPING - DRAIN, WASTE, AND VENT:
1. CONFORM TO ASME B31.9.
2. HANGERS FOR PIPE SIZES 1/2 INCH TO 1-1/2 INCHES: MALLEABLE IRON, ADJUSTABLE SWIVEL, SPLIT RING.
3. HANGERS FOR PIPE SIZES 2 INCHES AND OVER: CARBON STEEL, ADJUSTABLE, CLEVIS.
4. WALL SUPPORT FOR PIPE SIZES TO 3 INCHES: CAST IRON HOOK.
5. WALL SUPPORT FOR PIPE SIZES 4 INCHES AND OVER: WELDED STEEL BRACKET AND WROUGHT STEEL CLAMP.
6. VERTICAL SUPPORT: STEEL RISER CLAMP.
7. FLOOR SUPPORT: CAST IRON ADJUSTABLE PIPE SADDLE, LOCK NUT, NIPPLE, FLOOR FLANGE, AND CONCRETE PIER OR STEEL SUPPORT.
8. COPPER PIPE SUPPORT: CARBON STEEL RING, ADJUSTABLE, COPPER PLATED.
B. PLUMBING PIPING - WATER:
1. CONFORM TO ASME B31.9.
2. HANGERS FOR PIPE SIZES 1/2 INCH TO 1-1/2 INCHES: MALLEABLE IRON, ADJUSTABLE SWIVEL, SPLIT RING.
3. WALL SUPPORT FOR PIPE SIZES TO 3 INCHES: CAST IRON HOOK.
2.08 GATE VALVES
A. MANUFACTURERS:
1. CONBRACO INDUSTRIES
2. NIBCO, INC
3. MILWAUKEE VALVE COMPANY
B. UP TO AND INCLUDING 3 INCHES:
1. MSS SP-80, CLASS 125, BRONZE BODY, BRONZE TRIM, RISING STEM, HANDWHEEL, INSIDE SCREW, SOLID WEDGE DISC, SOLDER ENDS.
2.09 BALL VALVES
A. MANUFACTURERS:
1. CONBRACO INDUSTRIES
2. NIBCO, INC
3. MILWAUKEE VALVE COMPANY
B. CONSTRUCTION, 4 INCHES AND SMALLER: MSS SP-110, CLASS 150, 400 PSI CWP, BRONZE, TWO PIECE BODY, CHROME PLATED BRASS BALL, REGULAR PORT, TEFLON SEATS AND STUFFING BOX RING, BLOW-OUT PROOF STEM, LEVER HANDLE WITH BALANCING STOPS, SOLDER ENDS WITH UNION.
2.10 RELIEF VALVES
A. TEMPERATURE AND PRESSURE RELIEF:
1. MANUFACTURERS:
A. CLA-VAL CO
B. HENRY TECHNOLOGIES
C. WATTS REGULATOR COMPANY
2. AGA Z21.22 CERTIFIED, BRONZE BODY, TEFLON SEAT, STAINLESS STEEL STEM AND SPRINGS, AUTOMATIC, DIRECT PRESSURE ACTUATED, TEMPERATURE RELIEF MAXIMUM 210 DEGREES F, CAPACITY ASME (BPV IV) CERTIFIED AND LABELLED.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. PROVIDE NON-CONDUCTING DIELECTRIC CONNECTIONS WHEREVER JOINTING DISSIMILAR METALS.
C. ROUTE PIPING IN ORDERLY MANNER AND MAINTAIN GRADIENT. ROUTE PARALLEL AND PERPENDICULAR TO WALLS.
D. INSTALL PIPING TO MAINTAIN HEADROOM, CONSERVE SPACE, AND NOT INTERFERE WITH USE OF SPACE.
E. PROVIDE CLEARANCE IN HANGERS AND FROM STRUCTURE AND OTHER EQUIPMENT FOR INSTALLATION OF INSULATION AND ACCESS TO VALVES AND FITTINGS. REFER TO SECTION 22 0719.
F. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL, NOT INVERTED.
G. INSTALL WATER PIPING TO ASME B31.9.
H. PROVIDE MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION OF PIPING AND EQUIPMENT AND AS SHOWN IN DETAILS.
I. COORDINATE PIPING SUPPORTED FROM STRUCTURAL STEEL . MAKE ALL ATTACHMENTS TO TOP PANEL OF STEEL BAR JOISTS. PROVIDE BEAM CLAMPS MEETING MSS STANDARDS. DO NOT WELD ATTACHMENTS TO STRUCTURAL MEMBERS. DO NOT USE C-CLAMPS FOR ATTACHMENTS. DRILLING OF STRUCTURAL STEEL FOR ATTACHMENTS IN NOT PERMITTED.
J. DO NOT SUPPORT PLUMBING EQUIPMENT OR PIPING FROM THE METAL ROOF DECK.
K. RUN SOIL WASTE AND VENT PIPING WITH 2% MINIMUM SLOPE UNLESS OTHERWISE NOTED. HORIZONTAL VENT PIPING SHALL BE SLOPED TO DRIP BACK TO THE SOIL OR WASTE PIPE BY GRAVITY.
L. ALL HOT, COLD & RECICULATING DOMESTIC WATER PIPING SHALL BE MINIMUM 1/2" AND INSULATED VAPOR PROOF.
M. HORIZONTAL BRANCH CONNECTIONS SHALL NOT BE MADE WITHIN 10 PIPE DIAMETERS DOWNSTREAM OF A STACK. LONG SWEEP FITTINGS SHALL BE USED AT THE BASE OF STACKS TO MINIMIZE HYDRAULIC JUMP.
N. PIPE HANGERS AND SUPPORTS:
1. INSTALL IN ACCORDANCE WITH ASME B31.9.
2. SUPPORT HORIZONTAL PIPING AS SCHEDULED.
3. INSTALL HANGERS TO PROVIDE MINIMUM 1/2 INCH SPACE BETWEEN FINISHED COVERING AND ADJACENT WORK.
4. PLACE HANGERS WITHIN 12 INCHES OF EACH HORIZONTAL ELBOW.
5. USE HANGERS WITH 1-1/2 INCH MINIMUM VERTICAL ADJUSTMENT. DESIGN HANGERS FOR PIPE MOVEMENT WITHOUT DISENGAGEMENT OF SUPPORTED PIPE.

SECTION 22 1005 - PLUMBING PIPING (CONT.)
6. WHERE SEVERAL PIPES CAN BE INSTALLED IN PARALLEL AND AT SAME ELEVATION, PROVIDE MULTIPLE OR TRAPEZE HANGERS.
7. PROVIDE COPPER PLATED HANGERS AND SUPPORTS FOR COPPER PIPING.
8. SUPPORT HORIZONTAL CAST IRON SANITARY PIPING AT EVERY JOINT AND NOT MORE THAN SIX FEET.
3.02 APPLICATION
A. INSTALL UNIONS DOWNSTREAM OF VALVES AND AT EQUIPMENT OR APPARATUS CONNECTIONS.
B. INSTALL GATE OR BALL VALVES FOR SHUT-OFF AND TO ISOLATE EQUIPMENT, PART OF SYSTEMS, OR VERTICAL RISERS.
3.03 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM
A. PRIOR TO STARTING WORK, VERIFY SYSTEM IS COMPLETE, FLUSHED AND CLEAN.
B. ENSURE PH OF WATER TO BE TREATED IS BETWEEN 7.4 AND 7.6 BY ADDING ALKALI (CAUSTIC SODA OR SODA ASH) OR ACID (HYDROCHLORIC).
C. INJECT DISINFECTANT, FREE CHLORINE IN LIQUID, POWDER, TABLET OR GAS FORM, THROUGHOUT SYSTEM TO OBTAIN 50 TO 80 MG/L RESIDUAL.
D. BLEED WATER FROM OUTLETS TO ENSURE DISTRIBUTION AND TEST FOR DISINFECTANT RESIDUAL AT MINIMUM 15 PERCENT OF OUTLETS.
E. MAINTAIN DISINFECTANT IN SYSTEM FOR 24 HOURS.
F. IF FINAL DISINFECTANT RESIDUAL TESTS LESS THAN 25 MG/L, REPEAT TREATMENT.
G. FLUSH DISINFECTANT FROM SYSTEM UNTIL RESIDUAL EQUAL TO THAT OF INCOMING WATER OR 1.0 MG/L.
H. TAKE SAMPLES NO SOONER THAN 24 HOURS AFTER FLUSHING, FROM 10 PERCENT OF OUTLETS AND FROM WATER ENTRY, AND ANALYZE IN ACCORDANCE WITH AWWA C651.
3.04 SCHEDULES
A. PIPE HANGER SPACING:
1. METAL PIPING:
A. PIPE SIZE: 1/2 INCHES TO 1-1/4 INCHES:
1) MAXIMUM HANGER SPACING: 6.5 FT.
2) HANGER ROD DIAMETER: 3/8 INCHES.
B. PIPE SIZE: 1-1/2 INCHES TO 2 INCHES:
1) MAXIMUM HANGER SPACING: 10 FT.
2) HANGER ROD DIAMETER: 3/8 INCHES.

SECTION 22 1006 - PLUMBING PIPING SPECIALTIES
PART 1 GENERAL
1.01 SECTION INCLUDES
A. CLEANOUTS.
PART 2 PRODUCTS
2.01 CLEANOUTS
A. MANUFACTURERS:
1. JAY R. SMITH MANUFACTURING COMPANY
2. JOSAM COMPANY
3. ZURN INDUSTRIES, INC
B. CLEANOUTS AT INTERIOR FINISHED FLOOR AREAS:
1. LACQUERED CAST IRON BODY WITH ANCHOR FLANGE, REVERSIBLE CLAMPING COLLAR, THREADED TOP ASSEMBLY, AND ROUND GASKETED SCORED COVER IN SERVICE AREAS AND ROUND GASKETED DEPRESSED COVER TO ACCEPT FLOOR FINISH IN FINISHED FLOOR AREAS.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. EXTEND CLEANOUTS TO FINISHED FLOOR. LUBRICATE THREADED CLEANOUT PLUGS WITH MIXTURE OF GRAPHITE AND LINSEED OIL. ENSURE CLEARANCE AT CLEANOUT FOR RODDING OF DRAINAGE SYSTEM.
C. INSTALL FLOOR CLEANOUTS AT ELEVATION TO ACCOMMODATE FINISHED FLOOR.
D. CLEANOUTS SHALL MEET THE PLUMBING CODE REQUIREMENTS. CLEANOUTS SHALL BE PROVIDED EVERY 75' FOR 4" & SMALLER 100' FOR 5" & LARGER, AT THE BASE OF ALL SANITARY & STORM STACKS & AT CHANGES IN DIRECTION OF MORE THEN 45 DEGREES EXCEPT NOT MORE THAN ONE IN EVERY 40' OF RUN AND AS SHOWN ON DRAWINGS.

SECTION 22 3000 - PLUMBING EQUIPMENT
PART 1 GENERAL
1.01 SECTION INCLUDES
A. WATER HEATERS.
PART 2 PRODUCTS
2.01 WATER HEATER MANUFACTURERS
A. A.O. SMITH WATER PRODUCTS CO
B. BOCK WATER HEATERS, INC
C. RHEEM MANUFACTURING COMPANY
2.02 COMMERCIAL ELECTRIC WATER HEATERS
A. TYPE: FACTORY-ASSEMBLED AND WIRED, ELECTRIC, VERTICAL STORAGE.
B. TANK: GLASS LINED WELDED STEEL; 4 INCH DIAMETER INSPECTION PORT, THERMALLY INSULATED WITH MINIMUM 2 INCHES GLASS FIBER ENCASED IN CORROSION-RESISTANT STEEL JACKET; BAKED-ON ENAMEL FINISH.
C. CONTROLS: AUTOMATIC IMMERSION WATER THERMOSTAT; EXTERNALLY ADJUSTABLE TEMPERATURE RANGE FROM 60 TO 180 DEGREES F, FLANGED OR SCREW-IN NICHROME ELEMENTS, HIGH TEMPERATURE LIMIT THERMOSTAT.
D. ACCESSORIES: BRASS WATER CONNECTIONS AND DIP TUBE, DRAIN VALVE, MAGNESIUM ANODE, AND ASME RATED TEMPERATURE AND PRESSURE RELIEF VALVE.
E. HEATING ELEMENTS: FLANGE-MOUNTED IMMERSION ELEMENTS; INDIVIDUAL ELEMENTS SHEATHED WITH INCOLOY CORROSION-RESISTANT METAL ALLOY, RATED LESS THAN 75 WATTS PER SQUARE INCH.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL PLUMBING EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, AS REQUIRED BY CODE, AND COMPLYING WITH CONDITIONS OF CERTIFICATION, IF ANY.
B. COORDINATE WITH PLUMBING PIPING AND RELATED ELECTRICAL WORK TO ACHIEVE OPERATING SYSTEM.

SECTION 22 4000 - PLUMBING FIXTURES
PART 1 GENERAL
1.01 SECTION INCLUDES
A. WATER CLOSETS.
B. LAVATORIES AND FAUCETS.
C. SINKS AND FAUCETS.
D. SERVICE SINKS AND FAUCETS.
E. DRINKING FOUNTAINS.
PART 2 PRODUCTS
2.01 TANK TYPE WATER CLOSETS (P-1)
A. WATER CLOSET MANUFACTURERS:
1. AMERICAN STANDARD INC
2. ELJER
3. KOHLER COMPANY
4. OR APPROVED EQUAL
B. BOWL:
1. ASME A112.19.2; FLOOR MOUNTED, SIPHON JET, VITREOUS CHINA, 16.5 INCHES HIGH, CLOSE-COUPLED CLOSET COMBINATION WITH ELONGATED RIM, INSULATED VITREOUS CHINA CLOSET TANK WITH FITTINGS AND LEVER FLUSHING VALVE, BOLT CAPS.
C. SEAT MANUFACTURERS:
1. AMERICAN STANDARD INC
2. CHURCH SEAT COMPANY
3. OLSONITE
D. SEAT:
1. SOLID WHITE PLASTIC, OPEN FRONT, BRASS BOLTS, WITH COVER.

SECTION 22 4000 - PLUMBING FIXTURES (CONT.)
2.02 LAVATORIES (P-2)
A. MANUFACTURERS:
1. AMERICAN STANDARD INC
2. ELJER
3. KOHLER COMPANY
4. OR APPROVED EQUAL
B. VITREOUS CHINA WALL HUNG BASIN:
1. ASME A112.19.2; VITREOUS CHINA WALL HUNG LAVATORY 20 X 18 1/4" INCH MINIMUM, WITH RECTANGULAR BASIN WITH SPLASH LIP, REAR OVERFLOW, AND SOAP DEPRESSION.
A. DRILLING CENTERS: 4 INCH.
C. SUPPLY FAUCET MANUFACTURERS:
1. DELTA FAUCET
2. ELJER
3. KOHLER COMPANY
4. OR APPROVED EQUAL
D. SUPPLY FAUCET:
1. ASME A112.18.1; CHROME PLATED COMBINATION SUPPLY FITTING WITH OPEN GRID STRAINER, WATER ECONOMY AERATOR WITH MAXIMUM 2.0 GPM FLOW, SINGLE LEVER HANDLE.
E. ACCESSORIES:
1. CHROME PLATED 17 GAGE BRASS P-TRAP WITH CLEAN-OUT PLUG AND ARM WITH ESCUTCHEON.
2. OFFSET WASTE WITH PERFORATED OPEN STRAINER.
3. FLEXIBLE SUPPLIES.
4. CARRIER:
A. MANUFACTURERS:
1) JOSAM COMPANY
2) SLOAN VALVE COMPANY
3) ZURN INDUSTRIES, INC
B. ASME A112.6.1M; CAST IRON AND STEEL FRAME WITH TUBULAR LEGS, LUGS FOR FLOOR AND WALL ATTACHMENT, CONCEALED ARM SUPPORTS, BEARING PLATE AND STUDS.
2.03 SINKS (P-5)
A. MANUFACTURERS:
1. ELKAY
2. ELJER
3. KOHLER COMPANY
4. OR APPROVED EQUAL
B. SINGLE COMPARTMENT BOWL:
1. ASME A112.19.3; 19 1/2" X 19" X 5 1/2" INCH OUTSIDE DIMENSIONS, 18 GAGE THICK, TYPE 304 STAINLESS STEEL, SELF RIMMING AND UNDERCOATED, WITH LEDGE BACK DRILLED FOR TRIM.
A. DRAIN: 1-1/2 INCH CHROMED BRASS DRAIN.
C. SUPPLY FAUCET:
1. ASME A112.18.1; CHROME PLATED COMBINATION SUPPLY FITTING WITH OPEN GRID STRAINER, WATER ECONOMY AERATOR WITH MAXIMUM 2.0 GPM FLOW, SINGLE LEVER HANDLE.
D. ACCESSORIES: CHROME PLATED 17 GAGE BRASS P-TRAP WITH CLEAN-OUT PLUG AND ARM WITH ESCUTCHEON, WHEEL HANDLE STOP, FLEXIBLE SUPPLIES.
2.04 DRINKING FOUNTAINS (P-3)
A. MANUFACTURERS:
1. ELKAY MANUFACTURING COMPANY
2. HALSEY TAYLOR
3. HAWS CORPORATION
4. OR APPROVED EQUAL
B. FOUNTAIN:
1. 18 GAGE TYPE 304 STAINLESS STEEL FULLY EXPOSED TWO-LEVEL FOUNTAIN BASINS WITH LOWER BASIN ON THE RIGHT.
2. 16 GAUGE TYPE 304 STAINLESS STEEL TUBULAR SUPPORT ARMS.
3. ADA COMPLIANT WITH SAFETY BUBBLERS, VANDAL RESISTANT PUSH BUTTONS, AND VALVE AND IN-LINE FLOW REGULATOR.
C. ACCESSORIES: CHROME PLATED 17 GAGE BRASS P-TRAP WITH CLEAN-OUT PLUG AND ARM WITH ESCUTCHEON, WHEEL HANDLE STOP, FLEXIBLE SUPPLIES.
2.05 SERVICE SINKS (P-4)
A. MANUFACTURERS:
1. KOHLER
2. ELKAY MANUFACTURING COMPANY
3. CRANE
4. OR APPROVED EQUAL
B. BOWL:
1. ASME A112.19.1M; 28" X 28" X 13" INCH DEEP, CAST IRON SERVICE SINK, WITH ACID RESISTANT ENAMEL FINISH, CHROME PLATED STRAINER, COATED WIRE RIM GUARD, CAST IRON P-TRAP WITH ADJUSTABLE FLOOR FLANGE.
C. FAUCET AND TRIM:
1. ASME A112.18.1 EXPOSED WALL TYPE SUPPLY WITH CROSS HANDLES, SPOUT WALL BRACE, VACUUM BREAKER, HOSE END SPOUT, STRAINERS, ECCENTRIC ADJUSTABLE INLETS, INTEGRAL SCREWDRIVER STOPS WITH COVERING CAPS AND ADJUSTABLE THREADED WALL FLANGES.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL EACH FIXTURE WITH TRAP, EASILY REMOVABLE FOR SERVICING AND CLEANING.
B. PROVIDE CHROME PLATED RIGID OR FLEXIBLE SUPPLIES TO FIXTURES WITH LOOSE KEY STOPS, REDUCERS, AND ESCUTCHEONS.
C. INSTALL COMPONENTS LEVEL AND PLUMB.
D. SEAL FIXTURES TO WALL AND FLOOR SURFACES WITH SEALANT, COLOR TO MATCH FIXTURE.
E. SOLIDLY ATTACH WATER CLOSETS TO FLOOR WITH LAG SCREWS. LEAD FLASHING IS NOT INTENDED TO HOLD FIXTURE IN PLACE.
F. ALL FIXTURES TO BE PROVIDED WITH TRAPS INCLUDING FLOOR DRAINS & OPEN HUBS.
G. WHERE FIXTURE TRAP ARMS (FROM TRAP TO VENT) EXCEED THE MAXIMUM LENGTH PERMITTED BY CODE, INCREASE FIXTURE TRAP ARM PIPE SIZE IN ACCORDANCE WITH THE PLUMBING CODE OF NEW YORK STATE.
3.02 INTERFACE WITH WORK OF OTHER SECTIONS
A. REVIEW MILLWORK SHOP DRAWINGS. CONFIRM LOCATION AND SIZE OF FIXTURES AND OPENINGS BEFORE ROUGH-IN AND INSTALLATION.
3.03 ADJUSTING
A. ADJUST STOPS OR VALVES FOR INTENDED WATER FLOW RATE TO FIXTURES WITHOUT SPLASHING, NOISE, OR OVERFLOW.
3.04 CLEANING AND PROTECTION
A. CLEAN PLUMBING FIXTURES AND EQUIPMENT.

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Project:
2008 BRANCH MODERNIZATION PROGRAM
PID# 5056
MONUMENT SQUARE
1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	AC

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:
SPECIFICATIONS

Drawing No.:
G-109

EK - J:\2008 Projects\F5W86600\Cad\KeyBank_CDs\5056 Monument Square\General\5056_G-109.dwg [5056_G-109] February 24, 2009 - 6:16pm PATELSH

SPECIFICATIONS

SECTION 23 0553 - IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. NAMEPLATES.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. BRADY CORPORATION

B. CHAMPION AMERICA, INC

C. SETON IDENTIFICATION PRODUCTS

2.02 NAMEPLATES

A. DESCRIPTION: LAMINATED THREE-LAYER PLASTIC WITH ENGRAVED LETTERS.

1. LETTER COLOR: WHITE.
2. LETTER HEIGHT: 1/4 INCH.
3. BACKGROUND COLOR: BLACK.

PART 3 EXECUTION

3.01 INSTALLATION

A. INSTALL PLASTIC NAMEPLATES WITH CORROSIVE-RESISTANT MECHANICAL FASTENERS, OR ADHESIVE. APPLY WITH SUFFICIENT ADHESIVE TO ENSURE PERMANENT ADHESION AND SEAL WITH CLEAR LACQUER.

B. IDENTIFY ROOF TOP UNITS, AIR CONDITIONERS, CONDENSING UNITS, BASEBOARD HEATERS, CONDENSATE PUMPS AND EXHAUST FANS WITH PLASTIC NAMEPLATES.

C. IDENTIFY THERMOSTATS RELATING TO UNITS CONTROLLED WITH NAMEPLATES.

SECTION 23 0593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 GENERAL

1.01 SECTION INCLUDES

A. TESTING, ADJUSTMENT, AND BALANCING OF AIR SYSTEMS.

B. MEASUREMENT OF FINAL OPERATING CONDITION OF HVAC SYSTEMS.

C. SOUND MEASUREMENT OF EQUIPMENT OPERATING CONDITIONS.

D. VIBRATION MEASUREMENT OF EQUIPMENT OPERATING CONDITIONS.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. PERFORM TOTAL SYSTEM BALANCE IN ACCORDANCE WITH ONE OF THE FOLLOWING:

1. AABC MN-1, AABC NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE.
2. NEBB PROCEDURAL STANDARDS FOR TESTING ADJUSTING BALANCING OF ENVIRONMENTAL SYSTEMS.
3. SMACNA HVAC SYSTEMS TESTING, ADJUSTING, AND BALANCING.

B. BEGIN WORK AFTER COMPLETION OF SYSTEMS TO BE TESTED, ADJUSTED, OR BALANCED AND COMPLETE WORK PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT.

C. WHERE HVAC SYSTEMS AND/OR COMPONENTS INTERFACE WITH LIFE SAFETY SYSTEMS, INCLUDING FIRE AND SMOKE DETECTION, ALARM, AND CONTROL, COORDINATE SCHEDULING AND TESTING AND INSPECTION PROCEDURES WITH THE AUTHORITIES HAVING JURISDICTION.

D. TAB AGENCY QUALIFICATIONS:

1. COMPANY SPECIALIZING IN THE TESTING, ADJUSTING, AND BALANCING OF SYSTEMS SPECIFIED IN THIS SECTION.
2. HAVING MINIMUM OF THREE YEARS DOCUMENTED EXPERIENCE.
3. CERTIFIED BY ONE OF THE FOLLOWING:
   A. AABC, ASSOCIATED AIR BALANCE COUNCIL: UPON COMPLETION SUBMIT AABC NATIONAL PERFORMANCE GUARANTY.
   B. NEBB, NATIONAL ENVIRONMENTAL BALANCING BUREAU
   C. TABB, THE TESTING, ADJUSTING, AND BALANCING BUREAU OF NATIONAL ENERGY MANAGEMENT INSTITUTE

E. TAB SUPERVISOR AND TECHNICIAN QUALIFICATIONS: CERTIFIED BY SAME ORGANIZATION AS TAB AGENCY.

F. SUBMIT A COPY OF THE TEST RESULTS TO THE OWNERS REPRESENTATIVE FOR REVIEW.

3.02 EXAMINATION

A. VERIFY THAT SYSTEMS ARE COMPLETE AND OPERABLE BEFORE COMMENCING WORK. ENSURE THE FOLLOWING CONDITIONS:

1. SYSTEMS ARE STARTED AND OPERATING IN A SAFE AND NORMAL CONDITION.
2. PROPER THERMAL OVERLOAD PROTECTION IS IN PLACE FOR ELECTRICAL EQUIPMENT.
3. FINAL FILTERS ARE CLEAN AND IN PLACE. IF REQUIRED, INSTALL TEMPORARY MEDIA IN ADDITION TO FINAL FILTERS.
4. DUCT SYSTEMS ARE CLEAN OF DEBRIS.
5. FANS ARE ROTATING CORRECTLY.
6. AIR OUTLETS ARE INSTALLED AND CONNECTED.
7. DUCT SYSTEM LEAKAGE IS MINIMIZED.

3.03 INSTALLATION TOLERANCES

A. AIR HANDLING SYSTEMS: ADJUST TO WITHIN PLUS OR MINUS 5 PERCENT OF DESIGN FOR SUPPLY SYSTEMS AND PLUS OR MINUS 10 PERCENT OF DESIGN FOR RETURN AND EXHAUST SYSTEMS.

B. AIR OUTLETS AND INLETS: ADJUST TOTAL TO WITHIN PLUS 10 PERCENT AND MINUS 5 PERCENT OF DESIGN TO SPACE. ADJUST OUTLETS AND INLETS IN SPACE TO WITHIN PLUS OR MINUS 10 PERCENT OF DESIGN.

3.04 RECORDING AND ADJUSTING

A. ENSURE RECORDED DATA REPRESENTS ACTUAL MEASURED OR OBSERVED CONDITIONS.

B. PERMANENTLY MARK SETTINGS OF VALVES, DAMPERS, AND OTHER ADJUSTMENT DEVICES ALLOWING SETTINGS TO BE RESTORED. SET AND LOCK MEMORY STOPS.

C. AFTER ADJUSTMENT, TAKE MEASUREMENTS TO VERIFY BALANCE HAS NOT BEEN DISRUPTED OR THAT SUCH DISRUPTION HAS BEEN RECTIFIED.

D. LEAVE SYSTEMS IN PROPER WORKING ORDER, REPLACING BELT GUARDS, CLOSING ACCESS DOORS, CLOSING DOORS TO ELECTRICAL SWITCH BOXES, AND RESTORING THERMOSTATS TO SPECIFIED SETTINGS.

3.05 AIR SYSTEM PROCEDURE

A. ADJUST AIR HANDLING AND DISTRIBUTION SYSTEMS TO PROVIDE REQUIRED OR DESIGN SUPPLY, RETURN, AND EXHAUST AIR QUANTITIES.

B. MAKE AIR QUANTITY MEASUREMENTS IN DUCTS BY PITOT TUBE TRAVERSE OF ENTIRE CROSS SECTIONAL AREA OF DUCT.

C. MEASURE AIR QUANTITIES AT AIR INLETS AND OUTLETS.

D. ADJUST DISTRIBUTION SYSTEM TO OBTAIN UNIFORM SPACE TEMPERATURES FREE FROM OBJECTIONABLE DRAFTS AND NOISE.

E. USE VOLUME CONTROL DEVICES TO REGULATE AIR QUANTITIES ONLY TO EXTEND THAT ADJUSTMENTS DO NOT CREATE OBJECTIONABLE AIR MOTION OR SOUND LEVELS. EFFECT VOLUME CONTROL BY DUCT INTERNAL DEVICES SUCH AS DAMPERS AND SPLITTERS.

F. PROVIDE SYSTEM SCHEMATIC WITH REQUIRED AND ACTUAL AIR QUANTITIES RECORDED AT EACH OUTLET OR INLET.

G. MEASURE STATIC AIR PRESSURE CONDITIONS ON AIR SUPPLY UNITS, INCLUDING FILTER AND COIL PRESSURE DROPS, AND TOTAL PRESSURE ACROSS THE FAN. MAKE ALLOWANCES FOR 50 PERCENT LOADING OF FILTERS.

H. ADJUST OUTSIDE AIR AUTOMATIC DAMPERS, OUTSIDE AIR, RETURN AIR, AND EXHAUST DAMPERS FOR DESIGN CONDITIONS.

3.06 SCOPE

A. TEST, ADJUST, AND BALANCE THE FOLLOWING:

1. PACKAGED ROOF TOP HEATING/COOLING UNITS
2. SMALL SPLIT SYSTEMS
3. FANS
4. AIR INLETS AND OUTLETS

SECTION 23 0593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC (CONT.)

3.07 MINIMUM DATA TO BE REPORTED

A. ELECTRIC MOTORS:

1. MANUFACTURER
2. HP/BHP
3. PHASE, VOLTAGE, AMPERAGE; NAMEPLATE, ACTUAL
4. RPM

B. V-BELT DRIVES:

1. IDENTIFICATION/LOCATION
2. DRIVEN SHEAVE, DIAMETER AND RPM
3. BELT, SIZE AND QUANTITY
4. MOTOR SHEAVE DIAMETER AND RPM

C. AIR MOVING EQUIPMENT:

1. LOCATION
2. MANUFACTURER
3. MODEL NUMBER
4. AIR FLOW, SPECIFIED AND ACTUAL
5. RETURN AIR FLOW, SPECIFIED AND ACTUAL
6. OUTSIDE AIR FLOW, SPECIFIED AND ACTUAL
7. TOTAL STATIC PRESSURE (TOTAL EXTERNAL), SPECIFIED AND ACTUAL
8. SHEAVE MAKE/SIZE/BORE
9. FAN RPM

D. EXHAUST FANS:

1. MANUFACTURER
2. MODEL NUMBER
3. AIR FLOW, SPECIFIED AND ACTUAL
4. TOTAL STATIC PRESSURE (TOTAL EXTERNAL), SPECIFIED AND ACTUAL
5. SHEAVE MAKE/SIZE/BORE
6. FAN RPM

E. DUCT TRAVERSES:

1. DUCT SIZE
2. DESIGN VELOCITY
3. DESIGN AIR FLOW
4. TEST VELOCITY
5. TEST AIR FLOW
6. DUCT STATIC PRESSURE

F. DUCT INLETS AND OUTLETS

1. SIZE
2. DESIGN AIRFLOW
3. TEST AIRFLOW

G. DUCT LEAK TESTS:

1. DUCT DESIGN OPERATING PRESSURE
2. DUCT DESIGN TEST STATIC PRESSURE
3. DUCT CAPACITY, AIR FLOW

H. AIR DISTRIBUTION TESTS:

1. AIR TERMINAL NUMBER
2. ROOM NUMBER/LOCATION
3. DESIGN VELOCITY
4. DESIGN AIR FLOW
5. TEST (FINAL) VELOCITY
6. TEST (FINAL) AIR FLOW
7. PERCENT OF DESIGN AIR FLOW

I. SOUND LEVEL REPORTS:

1. LOCATION
2. OCTAVE BANDS - EQUIPMENT OFF
3. OCTAVE BANDS - EQUIPMENT ON

J. VIBRATION TESTS:

1. LOCATION OF POINTS:
   A. FAN BEARING, DRIVE END
   B. FAN BEARING, OPPOSITE END
   C. MOTOR BEARING, DRIVE END
   D. MOTOR BEARING, OPPOSITE END
   E. DUCT AFTER FLEXIBLE CONNECTION (DISCHARGE)
   F. DUCT AFTER FLEXIBLE CONNECTION (SUCTION)

SECTION 23 0713 - DUCT INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. DUCT INSULATION.

B. DUCT LINER.

PART 2 PRODUCTS

2.01 REQUIREMENTS FOR ALL PRODUCTS OF THIS SECTION

A. SURFACE BURNING CHARACTERISTICS: FLAME SPREAD/SMOKE DEVELOPED INDEX OF 25/50, MAXIMUM, WHEN TESTED IN ACCORDANCE WITH ASTM E 84, NFPA 255, OR UL 723.

2.02 GLASS FIBER, FLEXIBLE

A. MANUFACTURER:

1. KNAUF FIBER GLASS
2. JOHNS MANVILLE CORPORATION
3. OWENS CORNING CORP

B. INSULATION: ASTM C 553; FLEXIBLE, NONCOMBUSTIBLE BLANKET.

1. 'K' VALUE: 0.36 AT 75 DEGREES F, WHEN TESTED IN ACCORDANCE WITH ASTM C 518.
2. MAXIMUM SERVICE TEMPERATURE: 450 DEGREES F.
3. MAXIMUM WATER VAPOR SORPTION: 5.0 PERCENT BY WEIGHT.

C. VAPOR BARRIER JACKET:

1. KRAFT PAPER WITH GLASS FIBER YARN AND BONDED TO ALUMINIZED FILM.
2. MOISTURE VAPOR PERMEABILITY: 0.02 PERM INCH, WHEN TESTED IN ACCORDANCE WITH ASTM E 96/E 96M.
3. SECURE WITH PRESSURE SENSITIVE TAPE.

D. VAPOR BARRIER TAPE:

1. KRAFT PAPER REINFORCED WITH GLASS FIBER YARN AND BONDED TO ALUMINIZED FILM, WITH PRESSURE SENSITIVE RUBBER BASED ADHESIVE.

E. TIE WIRE: ANNEALED STEEL, 16 GAGE.

2.03 DUCT LINER

A. MANUFACTURERS:

1. KNAUF FIBER GLASS
2. JOHNS MANVILLE CORPORATION
3. OWENS CORNING CORP

B. INSULATION: INCOMBUSTIBLE GLASS FIBER COMPLYING WITH ASTM C 1071; RIGID BOARD; IMPREGNATED SURFACE AND EDGES COATED WITH POLY VINYL ACETATE POLYMER, OR ACRYLIC POLYMER SHOWN TO BE FUNGUS AND BACTERIA RESISTANT BY TESTING TO ASTM G 21.

1. APPARENT THERMAL CONDUCTIVITY: MAXIMUM OF 0.31 AT 75 DEGREES F.
2. SERVICE TEMPERATURE: UP TO 250 DEGREES F.
3. RATED VELOCITY ON COATED AIR SIDE FOR AIR EROSION: 5,000 FPM, MINIMUM.
4. MINIMUM NOISE REDUCTION COEFFICIENTS:
   A. 1 INCH THICKNESS: 0.45.

C. ADHESIVE: WATERPROOF, FIRE-RETARDANT TYPE.

D. LINER FASTENERS: GALVANIZED STEEL, SELF-ADHESIVE PAD WITH INTEGRAL HEAD.

PART 3 EXECUTION

3.01 INSTALLATION

A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. INSULATED DUCTS CONVEYING AIR BELOW AMBIENT TEMPERATURE:

1. PROVIDE INSULATION WITH VAPOR BARRIER JACKETS.
2. FINISH WITH TAPE AND VAPOR BARRIER JACKET.
3. INSULATE ENTIRE SYSTEM INCLUDING FITTINGS, JOINTS, FLANGES, FIRE DAMPERS, FLEXIBLE CONNECTIONS, AND EXPANSION JOINTS.

C. INSULATED DUCTS CONVEYING AIR ABOVE AMBIENT TEMPERATURE:

1. PROVIDE WITH STANDARD VAPOR BARRIER JACKET.
2. INSULATE FITTINGS AND JOINTS. WHERE SERVICE ACCESS IS REQUIRED, BEVEL AND SEAL ENDS OF INSULATION.

SECTION 23 0713 - DUCT INSULATION (CONT.)

D. EXTERNAL DUCT INSULATION APPLICATION:

1. SECURE INSULATION WITH VAPOR BARRIER WITH WIRES AND SEAL JACKET JOINTS WITH VAPOR BARRIER ADHESIVE OR TAPE TO MATCH JACKET.
2. SECURE INSULATION WITHOUT VAPOR BARRIER WITH STAPLES, TAPE, OR WIRES.
3. INSTALL WITHOUT SAG ON UNDERSIDE OF DUCT. USE ADHESIVE OR MECHANICAL FASTENERS WHERE NECESSARY TO PREVENT SAGGING. LIFT DUCT OFF TRAPEZE HANGERS AND INSERT SPACERS.
4. SEAL VAPOR BARRIER PENETRATIONS BY MECHANICAL FASTENERS WITH VAPOR BARRIER ADHESIVE.
5. STOP AND POINT INSULATION AROUND ACCESS DOORS AND DAMPER OPERATORS TO ALLOW OPERATION WITHOUT DISTURBING WRAPPING.

E. DUCT AND PLENUM LINER APPLICATION:

1. ADHERE INSULATION WITH ADHESIVE FOR 100 PERCENT COVERAGE.
2. DUCT DIMENSIONS INDICATED ARE NET INSIDE DIMENSIONS REQUIRED FOR AIR FLOW. INCREASE DUCT SIZE TO ALLOW FOR INSULATION THICKNESS.

SECTION 23 0719 - HVAC PIPING INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. PIPING INSULATION.

PART 2 PRODUCTS

2.01 REQUIREMENTS FOR ALL PRODUCTS OF THIS SECTION

A. SURFACE BURNING CHARACTERISTICS: FLAME SPREAD/SMOKE DEVELOPED INDEX OF 25/50, MAXIMUM, WHEN TESTED IN ACCORDANCE WITH ASTM E 84, NFPA 255, OR UL 723.

2.02 GLASS FIBER

A. MANUFACTURERS:

1. KNAUF FIBER GLASS; MODEL ______: WWW.KNAUFUSA.COM.
2. JOHNS MANVILLE CORPORATION; MODEL ______: WWW.JM.COM.
3. OWENS CORNING CORP; MODEL ______: WWW.OWENSCORNING.COM.

B. INSULATION: ASTM C 547 AND ASTM C 795; RIGID MOLDED, NONCOMBUSTIBLE.

1. 'K' VALUE: ASTM C 177, 0.24 AT 75 DEGREES F.
2. MAXIMUM SERVICE TEMPERATURE: 850 DEGREES F.
3. MAXIMUM MOISTURE ABSORPTION: 0.2 PERCENT BY VOLUME.

C. VAPOR BARRIER JACKET: WHITE KRAFT PAPER WITH GLASS FIBER YARN, BONDED TO ALUMINIZED FILM; MOISTURE VAPOR TRANSMISSION WHEN TESTED IN ACCORDANCE WITH ASTM E 96/E 96M OF 0.02 PERM-INCHES.

2.03 FLEXIBLE ELASTOMERIC CELLULAR INSULATION

A. MANUFACTURER:

1. ARMACELL INTERNATIONAL

B. INSULATION: PREFORMED FLEXIBLE ELASTOMERIC CELLULAR RUBBER INSULATION COMPLYING WITH ASTM C 534 GRADE 3; USE MOLDED TUBULAR MATERIAL WHEREVER POSSIBLE.

1. MINIMUM SERVICE TEMPERATURE: -40 DEGREES F.
2. MAXIMUM SERVICE TEMPERATURE: 220 DEGREES F.
3. CONNECTION: WATERPROOF VAPOR BARRIER ADHESIVE.

C. ELASTOMERIC FOAM ADHESIVE: AIR DRIED, CONTACT ADHESIVE, COMPATIBLE WITH INSULATION.

PART 3 EXECUTION

3.01 INSTALLATION

A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. EXPOSED PIPING: LOCATE INSULATION AND COVER SEAMS IN LEAST VISIBLE LOCATIONS.

C. GLASS FIBER INSULATED PIPES CONVEYING FLUIDS ABOVE AMBIENT TEMPERATURE:

1. PROVIDE STANDARD JACKETS, WITH OR WITHOUT VAPOR BARRIER, FACTORY-APPLIED OR FIELD-APPLIED. SECURE WITH SELF-SEALING LONGITUDINAL LAPS AND BUTT STRIPS WITH PRESSURE SENSITIVE ADHESIVE. SECURE WITH OUTWARD CLINCH EXPANDING STAPLES.
2. INSULATE FITTINGS, JOINTS, AND VALVES WITH INSULATION OF LIKE MATERIAL AND THICKNESS AS ADJOINING PIPE. FINISH WITH GLASS CLOTH AND ADHESIVE OR PVC FITTING COVERS.

D. CONTINUE INSULATION THROUGH WALLS, SLEEVES, PIPE HANGERS, AND OTHER PIPE PENETRATIONS. FINISH AT SUPPORTS, PROTRUSIONS, AND INTERRUPTIONS.

SECTION 23 0913 - INSTRUMENTATION AND CONTROL DEVICES FOR HVAC

PART 1 GENERAL

1.01 SECTION INCLUDES

A. CONTROL VALVES.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. HONEYWELL.

B. OTHER ACCEPTABLE MANUFACTURERS:

1. JOHNSON CONTROLS.
2. SIEMENS.

2.02 EQUIPMENT - GENERAL

A. PRODUCTS REQUIRING ELECTRICAL CONNECTION: LISTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES INC., AS SUITABLE FOR THE PURPOSE SPECIFIED AND INDICATED.

2.03 CONTROL VALVES

A. GLOBE PATTERN:

1. UP TO 2 INCHES: BRONZE BODY, BRONZE TRIM, RISING STEM, RENEWABLE COMPOSITION DISC, SCREWED ENDS WITH BACKSEATING CAPACITY REPACKABLE UNDER PRESSURE.
2. HYDRONIC SYSTEMS:
   A. RATE FOR SERVICE PRESSURE OF 125 PSIG AT 250 DEGREES F.
   B. REPLACEABLE PLUGS AND SEATS OF STAINLESS STEEL.
   C. SIZE FOR 3 PSIG MAXIMUM PRESSURE DROP AT DESIGN FLOW RATE.
   D. TWO WAY VALVES SHALL HAVE EQUAL PERCENTAGE CHARACTERISTICS.

B. ELECTRONIC OPERATORS:

1. SPRING RETURN VALVE ACTUATOR, FLOATING CONTROL, NORMALLY OPEN.
2. ELECTRICAL INPUT SIGNAL: 0-10 VOLTS DC
3. OPERATING TEMPERATURE RANGE: 32 TO 122 DEGREES FAHRENHEIT.

PART 3 EXECUTION

3.01 EXAMINATION

A. VERIFY THAT SYSTEMS ARE READY TO RECEIVE WORK.

B. COORDINATE INSTALLATION OF SYSTEM COMPONENTS WITH INSTALLATION OF MECHANICAL SYSTEMS EQUIPMENT SUCH AS AIR HANDLING UNITS AND AIR TERMINAL UNITS.

3.02 INSTALLATION

A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. CHECK AND VERIFY LOCATION OF THERMOSTATS WITH PLANS AND ROOM DETAILS BEFORE INSTALLATION. LOCATE 60 INCHES ABOVE FLOOR. ALIGN WITH LIGHTING SWITCHES AND THERMOSTATS. REFER TO SECTION 26 2726.

C. PROVIDE CONDUIT AND ELECTRICAL WIRING IN ACCORDANCE WITH SECTION 26 2717. ELECTRICAL MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH APPROPRIATE REQUIREMENTS OF DIVISION 26.

SECTION 23 2113 - HYDRONIC PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. PIPE AND PIPE FITTINGS FOR:

1. HEATING WATER PIPING SYSTEM.

B. VALVES:

1. BALL VALVES.

PART 2 PRODUCTS

2.01 HEATING WATER PIPING, ABOVE GROUND

A. COPPER TUBE: ASTM B 88 (ASTM B 88M), TYPE K (A), DRAWN.

1. FITTINGS: ASME B16.18, CAST BRASS, OR ASME B16.22, SOLDER WROUGHT COPPER.
2. TEE CONNECTIONS: MECHANICALLY EXTRACTED COLLARS WITH NOTCHED AND DIMPLED BRANCH TUBE.

SECTION 23 2113 - HYDRONIC PIPING (CONT.)

3. JOINTS: SOLDER, LEAD FREE, 95-5 TIN-ANTIMONY, OR TIN AND SILVER.

2.02 PIPE HANGERS AND SUPPORTS

A. CONFORM TO ASME B31.9.

B. HANGERS FOR PIPE SIZES 1/2 TO 1-1/2 INCH: MALLEABLE IRON, ADJUSTABLE SWIVEL, SPLIT RING.

C. VERTICAL SUPPORT: STEEL RISER CLAMP.

D. COPPER PIPE SUPPORT: CARBON STEEL RING, ADJUSTABLE, COPPER PLATED.

E. HANGER RODS: MILD STEEL THREADED BOTH ENDS, THREADED ONE END, OR CONTINUOUS THREADED.

2.03 UNIONS, FLANGES, AND COUPLINGS

A. UNIONS FOR PIPE 2 INCHES AND UNDER:

1. COPPER PIPE: BRONZE, SOLDERED JOINTS.

2.04 BALL VALVES

A. MANUFACTURERS:

1. CONBRACO INDUSTRIES; MODEL ______: WWW.CONBRACO.COM.
2. NIBCO, INC; MODEL ______: WWW.NIBCO.COM.
3. MILWAUKEE VALVE COMPANY; MODEL ______: WWW.MILWAUKEEVALVE.COM.

B. UP TO AND INCLUDING 2 INCHES:

1. BRONZE ONE PIECE BODY, CHROME PLATED BRASS BALL, TEFLON SEATS AND STUFFING BOX RING, LEVER HANDLE WITH BALANCING STOPS, SOLDER ENDS WITH UNION.

PART 3 EXECUTION

3.01 INSTALLATION

A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. ROUTE PIPING IN ORDERLY MANNER, PARALLEL TO BUILDING STRUCTURE, AND MAINTAIN GRADIENT.

C. INSTALL PIPING TO CONSERVE BUILDING SPACE AND TO AVOID INTERFERE WITH USE OF SPACE.

D. GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS.

E. SLOPE PIPING AND ARRANGE TO DRAIN AT LOW POINTS.

F. PIPE HANGERS AND SUPPORTS:

1. INSTALL IN ACCORDANCE WITH ASME B31.9.
2. SUPPORT HORIZONTAL PIPING AS SCHEDULED.
3. PLACE HANGERS WITHIN 12 INCHES OF EACH HORIZONTAL ELBOW.

3.02 SCHEDULES

A. HANGER SPACING FOR COPPER TUBING.

1. 1/2 INCH AND 3/4 INCH: MAXIMUM SPAN, 5 FEET; MINIMUM ROD SIZE, 1/4 INCH.
2. 1 INCH: MAXIMUM SPAN, 6 FEET; MINIMUM ROD SIZE, 1/4 INCH.
3. 1-1/2 INCH AND 2 INCH: MAXIMUM SPAN, 8 FEET; MINIMUM ROD SIZE, 3/8 INCH.

SECTION 23 2300 - REFRIGERANT PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. PIPING.

PART 2 PRODUCTS

2.01 PIPING

A. COPPER TUBE: ASTM B 280, H58 HARD DRAWN OR O60 SOFT ANNEALED.

1. FITTINGS: ASME B16.22 WROUGHT COPPER.
2. JOINTS: BRAZE, AWS A5.8 BCUP SILVER/PHOSPHORUS/COPPER ALLOY.

B. PIPE SUPPORTS AND ANCHORS:

1. CONFORM TO ASME B31.5.
2. HANGERS FOR PIPE SIZES 1/2 TO 1-1/2 INCH: MALLEABLE IRON ADJUSTABLE SWIVEL, SPLIT RING.
3. WALL SUPPORT FOR PIPE SIZES TO 3 INCHES: CAST IRON HOOK.
4. COPPER PIPE SUPPORT: CARBON STEEL RING, ADJUSTABLE, COPPER PLATED.
5. HANGER RODS: MILD STEEL THREADED BOTH ENDS, THREADED ONE END, OR CONTINUOUS THREADED.

PART 3 EXECUTION

3.01 INSTALLATION

A. INSTALL REFRIGERATION SPECIALTIES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. ROUTE PIPING IN ORDERLY MANNER, WITH PLUMBING PARALLEL TO BUILDING STRUCTURE, AND MAINTAIN GRADIENT.

C. INSTALL PIPING TO CONSERVE BUILDING SPACE AND AVOID INTERFERENCE WITH USE OF SPACE.

D. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT.

E. PIPE HANGERS AND SUPPORTS:

1. INSTALL IN ACCORDANCE WITH ASME B31.5.
2. SUPPORT HORIZONTAL PIPING AS SCHEDULED.
3. INSTALL HANGERS TO PROVIDE MINIMUM 1/2 INCH SPACE BETWEEN FINISHED COVERING AND ADJACENT WORK.
4. PLACE HANGERS WITHIN 12 INCHES OF EACH HORIZONTAL ELBOW.
5. PROVIDE COPPER PLATED HANGERS AND SUPPORTS FOR COPPER PIPING.

F. ARRANGE PIPING TO RETURN OIL TO COMPRESSOR. PROVIDE TRAPS AND LOOPS IN PIPING, AND PROVIDE DOUBLE RISERS AS REQUIRED. SLOPE HORIZONTAL PIPING 0.40 PERCENT IN DIRECTION OF FLOW.

G. FLOOD PIPING SYSTEM WITH NITROGEN WHEN BRAZING.

H. FOLLOW ASHRAE STD 15 PROCEDURES FOR CHARGING AND PURGING OF SYSTEMS AND FOR DISPOSAL OF REFRIGERANT.

I. FULLY CHARGE COMPLETED SYSTEM WITH REFRIGERANT AFTER TESTING.

3.02 SCHEDULES

A. HANGER SPACING FOR COPPER TUBING.

1. 1/2 INCH, 5/8 INCH, AND 7/8 INCH OD: MAXIMUM SPAN, 5 FEET; MINIMUM ROD SIZE, 1/4 INCH

SECTION 23 3100 - HVAC DUCTS AND CASINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. METAL DUCTWORK.

B. DUCT CLEANING.

PART 2 PRODUCTS

2.01 MATERIALS

A. GALVANIZED STEEL DUCTS: HOT-DIPPED GALVANIZED STEEL SHEET, ASTM A 653/A 653M FS TYPE B, WITH G60/Z180 COATING.

B. STEEL DUCTS: ASTM A 1008/A 1008M, DESIGNATION CS, COLD-ROLLED COMMERCIAL STEEL.

C. INSULATED FLEXIBLE DUCTS:

1. TWO PLY VINYL FILM SUPPORTED BY HELICALLY WOUND SPRING STEEL WIRE; FIBERGLASS INSULATION; POLYETHYLENE VAPOR BARRIER FILM.
   A. PRESSURE RATING: 10 INCHES WG POSITIVE AND 1.0 INCHES WG NEGATIVE.
   B. MAXIMUM VELOCITY: 4000 FPM.
   C. TEMPERATURE RANGE: -10 DEGREES F TO 160 DEGREES F.
2. RUNS OF FLEXIBLE DUCT ARE NOT TO EXCEED 5 FEET IN LENGTH.

2.02 DUCTWORK FABRICATION

A. FABRICATE AND SUPPORT IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE, AND AS INDICATED. PROVIDE DUCT MATERIAL, GAGES, REINFORCING, AND SEALING FOR OPERATING PRESSURES INDICATED.

B. CONSTRUCT T'S, BENDS, AND ELBOWS WITH RADIUS OF NOT LESS THAN 1-1/2 TIMES WIDTH OF DUCT ON CENTERLINE. WHERE NOT POSSIBLE AND WHERE RECTANGULAR ELBOWS MUST BE USED, PROVIDE AIR FOIL TURNING VANES. WHERE ACOUSTICAL LINING IS INDICATED, PROVIDE TURNING VANES OF PERFORATED METAL WITH GLASS FIBER INSULATION.

C. INCREASE DUCT SIZES GRADUALLY, NOT EXCEEDING 15 DEGREES DIVERGENCE WHEREVER POSSIBLE; MAXIMUM 30 DEGREES DIVERGENCE UPSTREAM OF EQUIPMENT AND 45 DEGREES CONVERGENCE DOWNSTREAM.

SECTION 23 3100 - HVAC DUCTS AND CASINGS (CONT.)

PART 3 EXECUTION

3.01 INSTALLATION

A. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS. FOR LINED DUCTS, MAINTAIN SIZES INSIDE LINING.

B. INSTALL AND SEAL METAL AND FLEXIBLE DUCTS IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE.

C. LOCATE DUCTS WITH SUFFICIENT SPACE AROUND EQUIPMENT TO ALLOW NORMAL OPERATING AND MAINTENANCE ACTIVITIES.

D. USE CRIMP JOINTS WITH OR WITHOUT BEAD FOR JOINING ROUND DUCT SIZES 8 INCH AND SMALLER WITH CRIMP IN DIRECTION OF AIR FLOW.

E. USE DOUBLE NUTS AND LOCK WASHERS ON THREADED ROD SUPPORTS.

F. CONNECT DIFFUSERS OR LIGHT TROFFER BOOTS TO LOW PRESSURE DUCTS DIRECTLY OR WITH 5 FEET MAXIMUM LENGTH OF FLEXIBLE DUCT HELD IN PLACE WITH NYLON DRAW BAND.

G. CONNECT FLEXIBLE DUCTS TO METAL DUCTS WITH ADHESIVE.

H. DURING CONSTRUCTION PROVIDE TEMPORARY CLOSURES OF METAL OR TAPED POLYETHYLENE ON OPEN DUCTWORK TO PREVENT CONSTRUCTION DUST FROM ENTERING DUCTWORK SYSTEM.

I. PROVIDE MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND AS SHOWN IN DETAILS FOR DUCTWORK.

J. COORDINATE ALL DUCTWORK SUPPORTED FROM STRUCTURAL STEEL . MAKE ALL ATTACHMENTS TO STEEL BAR JOISTS, TRUSSES, OR JOIST GIRDERS AT PANEL POINTS. PROVIDE BEAM CLAMPS MEETING MSS STANDARDS. DO NOT WELD ATTACHMENTS TO STRUCTURAL MEMBERS. DO NOT USE C-CLAMPS FOR ATTACHMENTS. DRILLING OF STRUCTURAL STEEL FOR ATTACHMENTS IN NOT PERMITTED.

K. DO NOT SUPPORT MECHANICAL DUCTWORK FROM THE METAL DECK.

L. UNLESS OTHERWISE NOTED, DUCTWORK IS OVERHEAD, TIGHT TO THE UNDERSIDE OF THE STRUCTURE OR AS OTHERWISE REQUIRED WITH SPACE FOR INSULATION AS REQUIRED. PROVIDE OFFSETS IN DUCTS, INCLUDING TRANSITIONS AROUND OBSTRUCTIONS, AT NO ADDITIONAL COST.

3.02 CLEANING

A. CLEAN DUCT SYSTEMS WITH HIGH POWER VACUUM MACHINES. PROTECT EQUIPMENT WHICH MAY BE HARMED BY EXCESSIVE DIRT WITH FILTERS, OR BYPASS DURING CLEANING. PROVIDE ADEQUATE ACCESS INTO DUCTWORK FOR CLEANING PURPOSES.

3.03 SCHEDULES

A. DUCTWORK PRESSURE CLASS:

1. ALL DUCTS: 2 INCHES.

SECTION 23 3300 - AIR DUCT ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. AIR TURNING DEVICES/EXTRACTORS.

B. DUCT ACCESS DOORS.

C. DUCT TEST HOLES.

D. FLEXIBLE DUCT CONNECTIONS.

E. VOLUME CONTROL DAMPERS.

PART 2 PRODUCTS

2.01 AIR TURNING DEVICES/EXTRACTORS

A. MANUFACTURERS:

1. KRUEGER
2. RUSKIN COMPANY
3. TITUS
4. OR APPROVED EQUAL

B. MULTI-BLADE DEVICE WITH RADIUS BLADES ATTACHED TO PIVOTING FRAME AND BRACKET, STEEL CONSTRUCTION, WITH PUSH-PULL OPERATOR STRAP.

2.02 DUCT ACCESS DOORS

A. MANUFACTURERS:

1. NAILOR INDUSTRIES INC
2. RUSKIN COMPANY
3. SEMCO INCORPORATED

B. FABRICATE IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE, AND AS INDICATED.

2.03 DUCT TEST HOLES

A. TEMPORARY TEST HOLES: CUT OR DRILL IN DUCTS AS REQUIRED. CAP WITH NEAT PATCHES, NEOPRENE PLUGS, THREADED PLUGS, OR THREADED OR TWIST-ON METAL CAPS.

2.04 FLEXIBLE DUCT CONNECTIONS

A. FABRICATE IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE, AND AS INDICATED.

B. FLEXIBLE DUCT CONNECTIONS: FABRIC CRIMPED INTO METAL EDGING STRIP.

1. FABRIC: UL LISTED FIRE-RETARDANT NEOPRENE COATED WOVEN GLASS FIBER FABRIC TO NFPA 90A, MINIMUM DENSITY 30 OZ PER SQ YD.

A. NET FABRIC WIDTH: APPROXIMATELY 6 INCHES WIDE.

2. METAL: 3 INCHES WIDE, 24 GAGE THICK GALVANIZED STEEL.

2.05 VOLUME CONTROL DAMPERS

A. MANUFACTURERS:

1. LOUVERS & DAMPERS, INC:
2. NAILOR INDUSTRIES INC
3. RUSKIN COMPANY

B. FABRICATE IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE, AND AS INDICATED.

C. SINGLE BLADE DAMPERS: FABRICATE FOR DUCT SIZES UP TO 6 X 30 INCH.

D. MULTI-BLADE DAMPER: FABRICATE OF OPPOSED BLADE PATTERN WITH MAXIMUM BLADE SIZES 8 X 72 INCH. ASSEMBLE CENTER AND EDGE CRIMPED BLADES IN PRIME COATED OR GALVANIZED CHANNEL FRAME WITH SUITABLE HARDWARE.

E. END BEARINGS: EXCEPT IN ROUND DUCTS 12 INCHES AND SMALLER, PROVIDE END BEARINGS. ON MULTIPLE BLADE DAMPERS, PROVIDE OIL-IMPREGNATED NYLON OR SINTERED BRONZE BEARINGS.

F. QUADRANTS:

1. PROVIDE LOCKING, INDICATING QUADRANT REGULATORS ON SINGLE AND MULTI-BLADE DAMPERS.
2. ON INSULATED DUCTS MOUNT QUADRANT REGULATORS ON STAND-OFF MOUNTING BRACKETS, BASES, OR ADAPTERS.

PART 3 EXECUTION

3.01 INSTALLATION

A. INSTALL ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, NFPA 90A, AND FOLLOW SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE. REFER TO SECTION 23 3100 FOR DUCT CONSTRUCTION AND PRESSURE CLASS.

B. PROVIDE DUCT ACCESS DOORS FOR INSPECTION AND CLEANING BEFORE AND AFTER FILTERS, COILS, FANS, AUTOMATIC DAMPERS, AT FIRE DAMPERS, COMBINATION FIRE AND SMOKE DAMPERS, AND ELSEWHERE AS INDICATED. PROVIDE MINIMUM 8 X 8 INCH SIZE FOR HAND ACCESS, 18 X 18 INCH SIZE FOR SHOULDER ACCESS, AND AS INDICATED. PROVIDE 4 X 4 INCH FOR BALANCING DAMPERS ONLY. REVIEW LOCATIONS PRIOR TO FABRICATION.

C. PROVIDE DUCT TEST HOLES WHERE INDICATED AND REQUIRED FOR TESTING AND BALANCING PURPOSES.

D. AT FANS AND MOTORIZED EQUIPMENT ASSOCIATED WITH DUCTS, PROVIDE FLEXIBLE DUCT CONNECTIONS IMMEDIATELY ADJACENT TO THE EQUIPMENT.

E. GROUND DUCTS ACROSS FLEXIBLE CONNECTIONS WITH FLEXIBLE UL LISTED COPPER GROUNDING STRAPS. GROUNDING STRAPS SHALL BE MECHANICALLY SECURED TO METAL COMPONENTS ON BOTH SIDES OF THE FLEXIBLE CONNECTION TO THE EQUIPMENT AND/OR DUCT USING UL LISTED GROUNDING HARDWARE.

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Project:

2008 BRANCH MODERNIZATION PROGRAM

PID# 5056

MONUMENT SQUARE

1 MONUMENT SQUARE

PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	AC

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:

SPECIFICATIONS

Drawing No.:

G-111

EK - J:\2008 Projects\F5W86600\Cad\KeyBank_CDs\5056 Monument Square\General\5056_G-111.dwg [5056_G-111] February 24, 2009 - 6:16pm PATELSH

SECTION 23 3300 - AIR DUCT ACCESSORIES (CONT.)

F. PROVIDE BALANCING DAMPERS AT POINTS ON SUPPLY, RETURN, AND EXHAUST SYSTEMS WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS AS REQUIRED FOR AIR BALANCING. INSTALL MINIMUM 2 DUCT WIDTHS FROM DUCT TAKE-OFF.

G. PROVIDE BALANCING DAMPERS ON DUCT TAKE-OFF TO DIFFUSERS, GRILLES, AND REGISTERS, REGARDLESS OF WHETHER DAMPERS ARE SPECIFIED AS PART OF THE DIFFUSER, GRILLE, OR REGISTER ASSEMBLY.

H. PROVIDE ALL 90 DEGREE SQUARE ELBOWS WITH DOUBLE RADIUS TURNING VANES UNLESS OTHERWISE INDICATED.

SECTION 23 3600 - AIR TERMINAL UNITS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. VARIABLE VOLUME TERMINAL UNITS.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. NAILOR PRODUCT 30RW.

B. OTHER ACCEPTABLE MANUFACTURERS OFFERING EQUIVALENT PRODUCTS.

1. CARNES
2. KRUEGER

2.02 MANUFACTURED UNITS

A. CEILING MOUNTED VARIABLE AIR VOLUME SUPPLY AIR CONTROL TERMINALS FOR CONNECTION TO SINGLE DUCT, CENTRAL AIR SYSTEMS, WITH ELECTRONIC VARIABLE VOLUME CONTROLS., HOT WATER HEATING COILS.

B. IDENTIFY EACH TERMINAL UNIT WITH CLEARLY MARKED IDENTIFICATION LABEL AND AIR FLOW INDICATOR. INCLUDE UNIT NOMINAL AIR FLOW, MAXIMUM FACTORY SET AIRFLOW, MINIMUM FACTORY SET AIR FLOW, AND COIL TYPE.

2.03 SINGLE DUCT VARIABLE VOLUME UNITS

A. BASIC ASSEMBLY:

1. CASINGS: MINIMUM 22 GAGE GALVANIZED STEEL.
2. LINING: MINIMUM 1/2 INCH THICK NEOPRENE OR VINYL COATED FIBROUS GLASS INSULATION, 1.5 LB/CU FT DENSITY, MEETING NFPA 90A REQUIREMENTS AND UL 181 EROSION REQUIREMENTS. FACE LINING WITH MYLAR FILM.
3. PLENUM AIR INLETS: ROUND STUB CONNECTIONS FOR DUCT ATTACHMENT.
4. PLENUM AIR OUTLETS: S SLIP AND DRIVE CONNECTIONS.

B. BASIC UNIT:

1. CONFIGURATION: AIR VOLUME DAMPER ASSEMBLY INSIDE UNIT CASING. LOCATE CONTROL COMPONENTS INSIDE PROTECTIVE METAL SHROUD.
2. VOLUME DAMPER: CONSTRUCT OF GALVANIZED STEEL WITH PERIPHERAL GASKET AND SELF LUBRICATING BEARINGS; MAXIMUM DAMPER LEAKAGE: 2 PERCENT OF DESIGN AIR FLOW AT 1 INCHES RATED INLET STATIC PRESSURE.
3. MOUNT DAMPER OPERATOR TO POSITION DAMPER NORMALLY OPEN.

C. HOT WATER HEATING COIL:

1. CONSTRUCTION: 1/2 INCH COPPER TUBE MECHANICALLY EXPANDED INTO ALUMINUM PLATE FINS, LEAK TESTED UNDER WATER TO 200 PSIG PRESSURE, FACTORY INSTALLED.
2. CAPACITY: REFER TO SCHEDULE ON DRAWINGS.

D. THERMOSTAT: ELECTRONIC TYPE WITH APPROPRIATE MOUNTING HARDWARE.

PART 3 EXECUTION

3.01 INSTALLATION

A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. SUPPORT UNITS INDIVIDUALLY FROM STRUCTURE. DO NOT SUPPORT FROM ADJACENT DUCTWORK.

C. CONNECT TO DUCTWORK IN ACCORDANCE WITH SECTION 23 3100.

D. VERIFY THAT ELECTRIC POWER IS AVAILABLE AND OF THE CORRECT CHARACTERISTICS.

3.02 ADJUSTING

A. RESET VOLUME WITH DAMPER OPERATOR ATTACHED TO ASSEMBLY ALLOWING FLOW RANGE MODULATION FROM 100 PERCENT OF DESIGN FLOW TO 30 PERCENT FULL FLOW. SET UNITS WITH HEATING COILS FOR AUXILIARY MINIMUM SETTING AS SCHEDULED.

SECTION 23 3700 - AIR OUTLETS AND INLETS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. DIFFUSERS.

B. REGISTERS/GRILLES.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. TITUS

B. NO SUBSTITUTIONS

2.02 RECTANGULAR CEILING DIFFUSERS

A. TYPE: SQUARE, 22-GAUGE STEEL FACE PANEL THAT CAPTURES A SECONDARY 22-GAUGE PANEL. FACE PANEL REMOVABLE BY MEANS OF FOUR HANGER BRACKETS. EXPOSED SURFACE SMOOTH, FLAT AND FREE OF FASTENERS. BACKPAN SHALL BE ONE-PIECE DIE-STAMPED WITH INTEGRALLY DRAWN INLET.

B. FRAME: SURFACE MOUNT TYPE. IN PLASTER CEILINGS, PROVIDE PLASTER FRAME AND CEILING FRAME.

C. FABRICATION: STEEL WITH BAKED ENAMEL OFF-WHITE FINISH.

D. ACCESSORIES: RADIAL OPPOSED BLADE DAMPER AND MULTI-LOUVERED EQUALIZING GRID WITH DAMPER ADJUSTABLE FROM DIFFUSER FACE.

2.03 CEILING EXHAUST AND RETURN REGISTERS/GRILLES

A. TYPE: STREAMLINED BLADES, 3/4 INCH MINIMUM DEPTH, 3/4 INCH MAXIMUM SPACING, WITH BLADES SET AT 45 DEGREES, VERTICAL FACE.

B. FRAME: 1-1/4 INCH MARGIN WITH COUNTERSUNK SCREW MOUNTING.

C. FABRICATION: STEEL WITH 20 GAGE MINIMUM FRAMES AND 22 GAGE MINIMUM BLADES, STEEL AND ALUMINUM WITH 20 GAGE MINIMUM FRAME, OR ALUMINUM EXTRUSIONS, WITH FACTORY OFF-WHITE ENAMEL FINISH, COLOR TO BE SELECTED.

PART 3 EXECUTION

3.01 INSTALLATION

A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. CHECK LOCATION OF OUTLETS AND INLETS AND MAKE NECESSARY ADJUSTMENTS IN POSITION TO CONFORM WITH ARCHITECTURAL FEATURES, SYMMETRY, AND LIGHTING ARRANGEMENT.

C. INSTALL DIFFUSERS TO DUCTWORK WITH AIR TIGHT CONNECTION.

D. PROVIDE BALANCING DAMPERS ON DUCT TAKE-OFF TO DIFFUSERS, AND GRILLES AND REGISTERS, DESPITE WHETHER DAMPERS ARE SPECIFIED AS PART OF THE DIFFUSER, OR GRILLE AND REGISTER ASSEMBLY.

SECTION 23 8101 - TERMINAL HEAT TRANSFER UNITS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. BASEBOARD RADIATION.

B. FINNED TUBE RADIATION.

C. CONVECTORS.

D. CABINET UNIT HEATERS.

E. RADIANT HEATERS.

F. ELECTRIC BASEBOARD.

PART 2 PRODUCTS

2.01 BASEBOARD RADIATION

A. MANUFACTURERS:

1. SLANT/FIN CORPORATION: WWW.SLANTFIN.COM.
2. STERLING HYDRONICS/MESTEK TECHNOLOGY, INC: WWW.STERLINGHEAT.COM.

B. HEATING ELEMENTS: 3/4 INCH ID COPPER TUBING MECHANICALLY EXPANDED INTO FLANGED COLLARS OF EVENLY SPACED ALUMINUM FINS, ONE TUBE END BELLED.

C. ENCLOSURE: MINIMUM 0.030 INCH STEEL WITH 7 INCH HIGH BACK AND TOP OF ONE PIECE; FRONT PANEL, END PANEL, END CAPS, CORNERS, AND JOINER PIECES TO SNAP TOGETHER, WITH FRONT PANEL EASILY REMOVABLE. PROVIDE FULL LENGTH DAMPER.

D. FINISH: FACTORY APPLIED BAKED ENAMEL AS SELECTED.

E. ELEMENT BRACKETS: 0.0516 INCH GALVANIZED STEEL TO SUPPORT FROM PANEL AND NOISE FREE ELEMENT CRADLE.

F. CAPACITY: AS SCHEDULED, BASED ON 65 DEGREE F ENTERING AIR TEMPERATURE, 180 DEGREE F AVERAGE WATER TEMPERATURE.

2.02 FINNED TUBE RADIATION

A. MANUFACTURERS:

1. SLANT/FIN CORPORATION: WWW.SLANTFIN.COM.
2. MARLEY ENGINEERED PRODUCTS: WWW.MARLEYMEH.COM.
3. THE TRANE COMPANY: WWW.TRANE.COM.

B. HEATING ELEMENTS: 3/4 INCH ID SEAMLESS COPPER TUBING, MECHANICALLY EXPANDED INTO EVENLY SPACED ALUMINUM FINS SIZED 4 X 4 INCHES, SUITABLE FOR SOLDERED FITTINGS.

C. ELEMENT HANGERS: QUIET OPERATING, BALL BEARING CRADLE TYPE PROVIDING UNRESTRICTED LONGITUDINAL MOVEMENT, ON ENCLOSURE BRACKETS.

D. ENCLOSURES: 0.0478 INCH STEEL UP TO 18 INCHES IN HEIGHT, 0.0598 INCH STEEL OVER 18 INCHES IN HEIGHT OR ALUMINUM AS DETAILED, WITH EASILY JOINTED COMPONENTS FOR WALL TO WALL INSTALLATION.

E. FINISH: FACTORY APPLIED BAKED ENAMEL OF COLOR AS SELECTED.

F. DAMPER: WHERE NOT THERMOSTATICALLY CONTROLLED, PROVIDE KNOB-OPERATED INTERNAL DAMPER AT ENCLOSURE AIR OUTLET.

G. ACCESS DOORS: FOR OTHERWISE INACCESSIBLE VALVES, PROVIDE FACTORY-MADE PERMANENTLY HINGED ACCESS DOORS, 6 X 7 INCH MINIMUM SIZE, INTEGRAL WITH CABINET.

H. CAPACITY: AS SCHEDULED, BASED ON 65 DEGREE F ENTERING AIR TEMPERATURE, 180 DEGREE F AVERAGE WATER TEMPERATURE.

2.03 CONVECTORS

A. MANUFACTURERS:

1. SLANT/FIN CORPORATION: WWW.SLANTFIN.COM.
2. STERLING HYDRONICS/MESTEK TECHNOLOGY, INC: WWW.STERLINGHEAT.COM.
3. THE TRANE COMPANY: WWW.TRANE.COM.

B. HEATING ELEMENTS: SEAMLESS COPPER TUBING MECHANICALLY EXPANDED INTO EVENLY SPACED ALUMINUM FINS AND CAST IRON HEADERS, STEEL SIDE PLATES AND SUPPORTS, FACTORY AIR PRESSURE TESTED AT 100 PSI UNDER WATER, WITH MEANS OF ADJUSTING PITCH OF ELEMENT.

C. CABINET: 0.0598 INCH STEEL FRONT AND TOP, 0.0478 INCH STEEL BACK AND ENDS, EXPOSED CORNERS ROUNDED; EASILY SECURED REMOVABLE FRONT PANELS, ADEQUATELY BRACED AND REINFORCED FOR STIFFNESS.

D. FINISH: FACTORY APPLIED BAKED ENAMEL OF COLOR AS SELECTED.

E. DAMPER: WHERE NOT THERMOSTATICALLY CONTROLLED, PROVIDE KNOB-OPERATED INTERNAL DAMPER AT ENCLOSURE AIR OUTLET.

F. ACCESS DOORS: FOR OTHERWISE INACCESSIBLE VALVES, PROVIDE FACTORY-MADE PERMANENTLY HINGED ACCESS DOORS, 6 X 7 INCH MINIMUM SIZE. INTEGRAL WITH CABINET.

G. CAPACITY: AS SCHEDULED, BASED ON 65 DEGREE F ENTERING AIR TEMPERATURE, 180 DEGREE F AVERAGE WATER TEMPERATURE.

2.04 CABINET UNIT HEATERS

A. MANUFACTURERS:

1. SLANT/FIN CORPORATION: WWW.SLANTFIN.COM.
2. STERLING HYDRONICS/MESTEK TECHNOLOGY, INC: WWW.STERLINGHEAT.COM.
3. THE TRANE COMPANY: WWW.TRANE.COM.

B. COILS: EVENLY SPACED ALUMINUM FINS MECHANICALLY BONDED TO COPPER TUBES, DESIGNED FOR 100 PSI AND 220 DEGREES F.

C. CABINET: 0.0598 INCH STEEL WITH EXPOSED CORNERS AND EDGES ROUNDED, EASILY REMOVED PANELS, GLASS FIBER INSULATION AND INTEGRAL AIR OUTLET.

D. FINISH: FACTORY APPLIED BAKED ENAMEL OF COLOR AS SELECTED ON VISIBLE SURFACES OF ENCLOSURE OR CABINET.

E. FANS: CENTRIFUGAL FORWARD-CURVED DOUBLE-WIDTH WHEELS, STATICALLY AND DYNAMICALLY BALANCED, DIRECT DRIVEN.

F. MOTOR: TAP WOUND MULTIPLE SPEED PERMANENT SPLIT CAPACITOR WITH SLEEVE BEARINGS, RESILIENTLY MOUNTED.

G. CONTROL: MULTIPLE SPEED SWITCH, FACTORY WIRED, LOCATED IN CABINET.

H. FILTER: EASILY REMOVED 1 INCH THICK GLASS FIBER THROW-AWAY TYPE, LOCATED TO FILTER AIR BEFORE COIL.

I. CAPACITY: AS SCHEDULED, BASED ON 65 DEGREE F ENTERING AIR TEMPERATURE, 180 DEGREE F AVERAGE WATER TEMPERATURE.

2.05 HYDRONIC RADIANT HEATERS

2.06 ELECTRIC BASEBOARD

A. MANUFACTURERS:

1. MARLEY ENGINEERED PRODUCTS
2. SLANT/FIN CORPORATION
3. BRASCH

B. ASSEMBLY: UL LISTED AND LABELLED WITH TERMINAL BOX AND COVER, AND BUILT-IN CONTROLS.

C. HEATING ELEMENTS: ENCLOSED COPPER TUBE, ALUMINUM FINNED ELEMENT OF COILED NICKEL-CHROME RESISTANCE WIRE CENTERED IN TUBES AND EMBEDDED IN REFRACTORY MATERIAL.

D. ENCLOSURE: MINIMUM 0.030 INCH STEEL WITH 7 INCH HIGH BACK AND TOP OF ONE PIECE; FRONT PANEL, END PANEL, END CAPS, CORNERS, AND JOINER PIECES TO SNAP TOGETHER, AND FRONT PANEL EASILY REMOVABLE. PROVIDE FULL LENGTH DAMPER.

E. CONTROL: WALL MOUNTED ELECTRIC THERMOSTAT.

PART 3 EXECUTION

3.01 INSTALLATION

A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. INSTALL EQUIPMENT EXPOSED TO FINISHED AREAS AFTER WALLS AND CEILING ARE FINISHED AND PAINTED. DO NOT DAMAGE EQUIPMENT OR FINISHES.

C. BASEBOARD RADIATION: LOCATE ON OUTSIDE WALLS AND RUN COVER CONTINUOUSLY WALL-TO-WALL UNLESS OTHERWISE INDICATED. CENTER ELEMENTS UNDER WINDOWS. WHERE MULTIPLE WINDOWS OCCUR OVER UNITS, DIVIDE ELEMENT INTO EQUAL SEGMENTS CENTERED UNDER EACH WINDOW. INSTALL END CAPS WHERE UNITS BUTT AGAINST WALLS.

SECTION 23 8101 - TERMINAL HEAT TRANSFER UNITS (CONT.)

D. FINNED TUBE RADIATION: LOCATE ON OUTSIDE WALLS AND RUN COVER WALL-TO-WALL UNLESS OTHERWISE INDICATED. CENTER ELEMENTS UNDER WINDOWS. WHERE MULTIPLE WINDOWS OCCUR OVER UNITS, DIVIDE ELEMENT INTO EQUAL SEGMENTS CENTERED UNDER EACH WINDOW. ALIGN CABINET JOINTS WITH WINDOW MULLIONS. INSTALL WALL ANGLES WHERE UNITS BUTT AGAINST WALLS.

E. CONVECTORS: INSTALL WHERE INDICATED. COORDINATE TO ASSURE CORRECT RECESS SIZE FOR RECESSED CONVECTORS.

F. CABINET UNIT HEATERS: INSTALL AS INDICATED. COORDINATE TO ASSURE CORRECT RECESS SIZE FOR RECESSED UNITS.

G. HYDRONIC UNITS: PROVIDE WITH SHUT-OFF VALVE ON SUPPLY AND LOCKSHIELD BALANCING VALVE ON RETURN PIPING. IF NOT EASILY ACCESSIBLE, EXTEND VENT TO EXTERIOR SURFACE OF CABINET FOR EASY SERVICING. FOR CABINET UNIT HEATERS, PROVIDE FLOAT OPERATED AUTOMATIC AIR VENTS WITH STOP VALVE.

H. INSTALL ELECTRIC HEATING EQUIPMENT INCLUDING DEVICES FURNISHED BY MANUFACTURER BUT NOT FACTORY-MOUNTED. FURNISH COPY OF MANUFACTURER'S WIRING DIAGRAM SUBMITTAL.

SECTION 23 8127 - SMALL SPLIT-SYSTEM HEATING AND COOLING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. AIR COOLED CONDENSING UNITS.

B. INDOOR DUCTLESS FAN & COIL UNITS.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. SANYO

B. THE TRANE COMPANY

C. MITSUBISHI

D. OR APPROVED EQUAL

2.02 SYSTEM DESIGN

A. SPLIT-SYSTEM HEATING AND COOLING UNITS: SELF-CONTAINED, PACKAGED, MATCHED FACTORY-ENGINEERED AND ASSEMBLED, PRE-WIRED INDOOR AND OUTDOOR UNITS; UL LISTED.

1. HEATING: NONE.
2. PROVIDE REFRIGERANT LINES INTERNAL TO UNITS AND BETWEEN INDOOR AND OUTDOOR UNITS, FACTORY CLEANED, DRIED, PRESSURIZED AND SEALED, WITH INSULATED SUCTION LINE.

B. PERFORMANCE REQUIREMENTS: SEE DRAWINGS FOR ADDITIONAL REQUIREMENTS.

1. EFFICIENCY: ENERGY EFFICIENCY RATING (EER)/COEFFICIENT OF PERFORMANCE (COP) NOT LESS THAN REQUIREMENTS OF ASHRAE STD 90.1; SEASONAL EFFICIENCY TO ASHRAE STD 103 AND LOCAL ENERGY CODE.

2.03 INDOOR UNITS FOR DUCTLESS SYSTEMS (AC-1)

A. INDOOR UNITS: SELF-CONTAINED, PACKAGED, FACTORY ASSEMBLED, PRE-WIRED UNIT CONSISTING OF CABINET, SUPPLY FAN, EVAPORATOR COIL, AND CONTROLS; WIRED FOR SINGLE POWER CONNECTION WITH CONTROL TRANSFORMER.

B. EVAPORATOR COILS: COPPER TUBE ALUMINUM FIN ASSEMBLY, GALVANIZED OR POLYMER DRAIN PAN SLOPED IN ALL DIRECTIONS TO DRAIN, DRAIN CONNECTION, REFRIGERANT PIPING CONNECTIONS, RESTRICTED DISTRIBUTOR OR THERMOSTATIC EXPANSION VALVE.

1. CONSTRUCTION AND RATINGS: IN ACCORDANCE WITH ARI 210/240 AND UL LISTED.
2. MANUFACTURER: SYSTEM MANUFACTURER.

2.04 OUTDOOR UNITS (ACCU-1)

A. OUTDOOR UNITS: SELF-CONTAINED, PACKAGED, FACTORY ASSEMBLED, PRE-WIRED UNIT CONSISTING OF CABINET, WITH COMPRESSOR AND CONDENSER.

1. CABINET: STEEL WITH BAKED ENAMEL FINISH, EASILY REMOVED AND SECURED ACCESS DOORS WITH SAFETY INTERLOCK SWITCHES, GLASS FIBER INSULATION WITH REFLECTIVE LINER.
2. CONSTRUCTION AND RATINGS: IN ACCORDANCE WITH ARI 210/240 WITH TESTING IN ACCORDANCE WITH ASHRAE STD 23 AND UL LISTED.

B. COMPRESSOR: ARI 520; HERMETIC, TWO SPEED 1800 AND 3600 RPM, RESILIENTLY MOUNTED INTEGRAL WITH CONDENSER, WITH POSITIVE LUBRICATION, CRANKCASE HEATER, HIGH PRESSURE CONTROL, MOTOR OVERLOAD PROTECTION, SERVICE VALVES AND DRIER. PROVIDE TIME DELAY CONTROL TO PREVENT SHORT CYCLING AND RAPID SPEED CHANGES

C. ACCESSORIES: SOLENOID VALVES, CHARGE PLUGS, BYPASS VALVES, STOP VALVES, BALL VALVES, ACCUMULATORS, STRAINERS, THERMISTORS, FILTER DRIER, HIGH PRESSURE SWITCH (MANUAL RESET), THERMOMETER WELL (IN LIQUID LINE).

1. PROVIDE THERMOSTATIC EXPANSION VALVES.

D. OPERATING CONTROLS:

1. CONTROL BY ROOM THERMOSTAT TO MAINTAIN ROOM TEMPERATURE SETTING.
2. LOW AMBIENT KIT: PROVIDE REFRIGERANT PRESSURE SWITCH TO CYCLE CONDENSER FAN ON WHEN CONDENSER REFRIGERANT PRESSURE IS ABOVE 285 PSIG AND OFF WHEN PRESSURE DROPS BELOW 140 PSIG FOR OPERATION TO 0 DEGREES F.

E. MOUNTING PAD: PRECAST CONCRETE PARKING BUMPERS, MINIMUM 4 INCHES SQUARE; MINIMUM OF TWO LOCATED UNDER CABINET FEET.

2.05 ACCESSORY EQUIPMENT

A. ROOM THERMOSTAT: WALL-MOUNTED, ELECTRIC SOLID STATE MICROCOMPUTER BASED ROOM THERMOSTAT WITH REMOTE SENSOR TO MAINTAIN TEMPERATURE SETTING; LOW-VOLTAGE.

PART 3 EXECUTION

3.01 INSTALLATION

A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND REQUIREMENTS OF LOCAL AUTHORITIES HAVING JURISDICTION.

B. INSTALL IN ACCORDANCE WITH NFPA 90A AND NFPA 90B.

C. INSTALL REFRIGERATION SYSTEMS IN ACCORDANCE WITH ASHRAE STD 15.

D. PROVIDE REPLACEABLE CARTRIDGE FILTER-DRIERS, WITH ISOLATION VALVES AND VALVED BYPASS.

E. LOCATE EXPANSION VALVE SENSING BULB IMMEDIATELY DOWNSTREAM OF EVAPORATOR ON SUCTION LINE.

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Project:

2008 BRANCH MODERNIZATION PROGRAM

PID# 5056

MONUMENT SQUARE

1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
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Project No.: F5W86602

Scale: AS NOTED

Sheet Title:

SPECIFICATIONS

Drawing No.:

G-112

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ELECTRICAL SPECIFICATIONS

SECTION 26 0501 - MINOR ELECTRICAL DEMOLITION
PART 1 GENERAL
1.01 SECTION INCLUDES
A. ELECTRICAL DEMOLITION.
PART 2 PRODUCTS
2.01 MATERIALS AND EQUIPMENT
A. MATERIALS AND EQUIPMENT FOR PATCHING AND EXTENDING WORK: AS SPECIFIED IN INDIVIDUAL SECTIONS.
PART 3 EXECUTION
3.01 EXAMINATION
A. DEMOLITION DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION.
B. REPORT DISCREPANCIES TO KEY BANK BEFORE DISTURBING EXISTING INSTALLATION.
C. BEGINNING OF DEMOLITION MEANS INSTALLER ACCEPTS EXISTING CONDITIONS.
3.02 PREPARATION
A. EXISTING ELECTRICAL SERVICE: MAINTAIN EXISTING SYSTEM IN SERVICE. DISABLE SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. MINIMIZE OUTAGES.
3.03 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK
A. REMOVE EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.
B. REMOVE WIRING TO SOURCE OF SUPPLY.
C. REMOVE CONDUIT, INCLUDING ABANDONED CONDUIT ABOVE ACCESSIBLE CEILING FINISHES. CUT CONDUIT FLUSH FLOORS, AND PATCH SURFACES.
D. DISCONNECT AND REMOVE OUTLETS AND DEVICES.
E. DISCONNECT AND REMOVE ELECTRICAL DEVICES AND EQUIPMENT SERVING UTILIZATION EQUIPMENT THAT HAS BEEN REMOVED.
F. DISCONNECT AND REMOVE LUMINAIRES. REMOVE BRACKETS, STEMS, HANGERS, AND OTHER ACCESSORIES.
G. REPAIR ADJACENT CONSTRUCTION AND FINISHES DAMAGED DURING DEMOLITION.
3.04 CLEANING AND REPAIR
A. CLEAN AND REPAIR EXISTING MATERIALS AND EQUIPMENT WHICH REMAIN OR ARE TO BE REUSED.
B. PANELBOARDS: CLEAN EXPOSED SURFACES AND CHECK TIGHTNESS OF ELECTRICAL CONNECTIONS. PROVIDE TYPED CIRCUIT DIRECTORY SHOWING REVISED CIRCUITING ARRANGEMENT.

SECTION 26 0519 -
LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES (600 V AND LESS)
PART 1 GENERAL
1.01 SECTION INCLUDES
A. WIRE AND CABLE FOR 600 VOLTS AND LESS.
PART 2 PRODUCTS
2.01 WIRING REQUIREMENTS
A. CONCEAL CONDUITS AND CABLES IN WALL CONSTRUCTION AND ABOVE SUSPENDED CEILINGS. EXPOSED CONDUITS AND CABLES IN FINISHED AREAS WILL NOT BE ACCEPTED. EXPOSED WIRING WILL ONLY BE ALLOWED IN SPECIFIC AREAS LISTED IN PARAGRAPH C BELOW.
B. CONCEALED DRY INTERIOR LOCATIONS: USE ONLY BUILDING WIRE IN RACEWAY, OR METAL CLAD CABLE.
C. EXPOSED DRY INTERIOR LOCATIONS (ETO RM, ATM/AHD CLOSET, AND JAN CLOSET ONLY): USE ONLY BUILDING WIRE IN RACEWAY.
D. ABOVE ACCESSIBLE CEILINGS: USE ONLY BUILDING WIRE IN RACEWAY, OR METAL CLAD CABLE.
E. WET OR DAMP INTERIOR LOCATIONS: USE ONLY BUILDING WIRE IN RACEWAY.
F. EXTERIOR LOCATIONS: USE ONLY BUILDING WIRE IN METAL RACEWAY.
2.02 BUILDING WIRE
A. DESCRIPTION: SINGLE CONDUCTOR INSULATED WIRE.
B. CONDUCTOR: COPPER.
C. INSULATION VOLTAGE RATING: 600 VOLTS.
D. INSULATION: NFPA 70, TYPE THHN/THWN.
2.03 METAL CLAD CABLE
A. DESCRIPTION: NFPA 70, TYPE MC.
B. CONDUCTOR: COPPER.
C. INSULATION VOLTAGE RATING: 600 VOLTS.
D. INSULATION TEMPERATURE RATING: 75 DEGREES C.
E. INSULATION MATERIAL: THERMOPLASTIC.
F. ARMOR MATERIAL: ALUMINUM OR STEEL
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL WIRE AND CABLE SECURELY, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 1.
B. ROUTE WIRE AND CABLE AS REQUIRED TO MEET PROJECT CONDITIONS.
C. USE WIRING METHODS INDICATED.
D. PULL ALL CONDUCTORS INTO RACEWAY AT SAME TIME.
E. SUPPORT CABLES ABOVE ACCESSIBLE CEILING, USING SPRING METAL CLIPS OR METAL OR FIRE RATED PLASTIC CABLE TIES TO SUPPORT CABLES FROM STRUCTURE OR CEILING SUSPENSION SYSTEM. DO NOT REST CABLE ON CEILING PANELS.
F. NEATLY TRAIN AND LACE WIRING INSIDE BOXES, EQUIPMENT, AND PANELBOARDS.
G. CLEAN CONDUCTOR SURFACES BEFORE INSTALLING LUGS AND CONNECTORS.
H. MAKE SPLICES, TAPS, AND TERMINATIONS TO CARRY FULL AMPACITY OF CONDUCTORS WITH NO PERCEPTIBLE TEMPERATURE RISE.
I. IDENTIFY AND COLOR CODE WIRE AND CABLE UNDER PROVISIONS OF SECTION 26 0553. IDENTIFY EACH CONDUCTOR WITH ITS CIRCUIT NUMBER OR OTHER DESIGNATION INDICATED.
3.02 FIELD QUALITY CONTROL
A. INSPECT AND TESTS LISTED IN ACCORDANCE WITH NETA ATS, SECTION 7.3.2 CABLES, LOW-VOLTAGE, 600V MAXIMUM.

SECTION 26 0526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS
PART 1 GENERAL
1.01 SECTION INCLUDES
A. GROUNDING AND BONDING COMPONENTS.
PART 2 PRODUCTS
2.01 GROUND BAR
A. MATERIAL: COPPER
1. SIZE: 1/4 INCH X 4 INCHES X 16 INCHES.
2.02 CONNECTORS AND ACCESSORIES
A. MECHANICAL CONNECTORS: BRONZE.
B. WIRE: STRANDED COPPER.
C. GROUNDING ELECTRODE CONDUCTOR: SIZE TO MEET NFPA 70 REQUIREMENTS.
PART 3 EXECUTION
3.01 INSTALLATION
A. PROVIDE BONDING TO MEET REQUIREMENTS DESCRIBED IN QUALITY ASSURANCE.
B. ISOLATE ETO GROUND BAR MINIMUN 2 INCHES FROM WALL.
C. PROVIDE ISOLATED GROUNDING CONDUCTOR FOR CIRCUITS SUPPLYING OUTLETS AND EQUIPMENT AS SHOWN.
3.02 FIELD QUALITY CONTROL
A. INSPECT AND TEST IN ACCORDANCE WITH NETA ATS.

SECTION 26 0529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS
PART 1 GENERAL
1.01 SECTION INCLUDES
A. CONDUIT AND EQUIPMENT SUPPORTS.
B. ANCHORS AND FASTENERS.

SECTION 26 0529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS (CONT.)
PART 2 PRODUCTS
2.01 MATERIALS
A. HANGERS, SUPPORTS, ANCHORS, AND FASTENERS - GENERAL: CORROSION-RESISTANT MATERIALS OF SIZE AND TYPE ADEQUATE TO CARRY THE LOADS OF EQUIPMENT AND CONDUIT, INCLUDING WEIGHT OF WIRE IN CONDUIT.
B. SUPPORTS: FABRICATED OF STRUCTURAL STEEL OR FORMED STEEL MEMBERS; GALVANIZED.
C. ANCHORS AND FASTENERS:
1. DO NOT USE POWDER-ACTUATED ANCHORS, SPRING CLIPS, OR BEAM CLAMPS.
2. STEEL STRUCTURAL ELEMENTS: USE BEAM CLAMPS, STEEL SPRING CLIPS, STEEL RAMSET FASTENERS, OR WELDED FASTENERS.
3. CONCRETE SURFACES: USE SELF-DRILLING ANCHORS OR EXPANSION ANCHORS.
4. HOLLOW MASONRY, PLASTER, AND GYPSUM BOARD PARTITIONS: USE TOGGLE BOLTS OR HOLLOW WALL FASTENERS.
5. SHEET METAL: USE SHEET METAL SCREWS.
6. WOOD ELEMENTS: USE WOOD SCREWS.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL HANGERS AND SUPPORTS AS REQUIRED TO ADEQUATELY AND SECURELY SUPPORT ELECTRICAL SYSTEM COMPONENTS, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 1.
1. DO NOT FASTEN SUPPORTS TO PIPES, DUCTS, MECHANICAL EQUIPMENT, OR CONDUIT.
2. DO NOT DRILL OR CUT STRUCTURAL MEMBERS.
B. RIGIDLY WELD SUPPORT MEMBERS OR USE HEXAGON-HEAD BOLTS TO PRESENT NEAT APPEARANCE WITH ADEQUATE STRENGTH AND RIGIDITY. USE SPRING LOCK WASHERS UNDER ALL NUTS.
C. INSTALL SURFACE-MOUNTED CABINETS AND PANELBOARDS WITH MINIMUM OF FOUR ANCHORS.
D. IN WET AND DAMP LOCATIONS USE STEEL CHANNEL SUPPORTS TO STAND CABINETS AND PANELBOARDS 1 INCH OFF WALL.
E. USE SHEET METAL CHANNEL TO BRIDGE STUDS ABOVE AND BELOW CABINETS AND PANELBOARDS RECESSED IN HOLLOW PARTITIONS.

SECTION 26 0534 - CONDUIT
PART 1 GENERAL
1.01 SECTION INCLUDES
A. CONDUIT, FITTINGS AND CONDUIT BODIES.
PART 2 PRODUCTS
2.01 CONDUIT REQUIREMENTS
A. CONDUIT SIZE: COMPLY WITH NFPA 70.
B. WET AND DAMP LOCATIONS: USE RIGID STEEL CONDUIT AND LIQUIDTIGHT FLEXIBLE METAL CONDUIT.
C. DRY LOCATIONS: USE ELECTRICAL METALLIC TUBING.
D. ETO RM., ATM/AHD CLOSET, AND JAN CLOSET: USE EXPOSED ELECTRICAL METALLIC TUBING.
2.02 METAL CONDUIT
A. RIGID STEEL CONDUIT: ANSI C80.1.
B. FITTINGS AND CONDUIT BODIES: NEMA FB 1; MATERIAL TO MATCH CONDUIT.
2.03 LIQUIDTIGHT FLEXIBLE METAL CONDUIT
A. DESCRIPTION: INTERLOCKED STEEL CONSTRUCTION WITH PVC JACKET.
B. FITTINGS: NEMA FB 1.
2.04 ELECTRICAL METALLIC TUBING (EMT)
A. DESCRIPTION: ANSI C80.3; GALVANIZED TUBING.
B. FITTINGS AND CONDUIT BODIES: NEMA FB 1; STEEL OR MALLEABLE IRON COMPRESSION TYPE.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL CONDUIT SECURELY, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 1.
B. INSTALL STEEL CONDUIT AS SPECIFIED IN NECA 101.
C. ARRANGE SUPPORTS TO PREVENT MISALIGNMENT DURING WIRING INSTALLATION.
D. SUPPORT CONDUIT USING COATED STEEL OR MALLEABLE IRON STRAPS, LAY-IN ADJUSTABLE HANGERS, CLEVIS HANGERS, AND SPLIT HANGERS.
E. FASTEN CONDUIT SUPPORTS TO BUILDING STRUCTURE AND SURFACES UNDER PROVISIONS OF SECTION 26 0529.
F. DO NOT SUPPORT CONDUIT WITH WIRE OR PERFORATED PIPE STRAPS. REMOVE WIRE USED FOR TEMPORARY SUPPORTS.
G. DO NOT ATTACH CONDUIT TO CEILING SUPPORT WIRES.
H. ROUTE EXPOSED CONDUIT PARALLEL AND PERPENDICULAR TO WALLS.
I. ROUTE CONDUIT INSTALLED ABOVE ACCESSIBLE CEILINGS PARALLEL AND PERPENDICULAR TO WALLS.
J. MAINTAIN ADEQUATE CLEARANCE BETWEEN CONDUIT AND PIPING.
K. CUT CONDUIT SQUARE USING SAW OR PIPECUTTER; DE-BURR CUT ENDS.
L. BRING CONDUIT TO SHOULDER OF FITTINGS; FASTEN SECURELY.
M. PROVIDE SUITABLE PULL STRING IN EACH EMPTY CONDUIT EXCEPT SLEEVES AND NIPPLES.
N. USE SUITABLE CAPS TO PROTECT INSTALLED CONDUIT AGAINST ENTRANCE OF DIRT AND MOISTURE.
O. GROUND AND BOND CONDUIT UNDER PROVISIONS OF SECTION 26 0526.

SECTION 26 0535 - SURFACE RACEWAYS
PART 1 GENERAL
1.01 SECTION INCLUDES
A. SURFACE METAL RACEWAYS.
PART 2 PRODUCTS
2.01 SURFACE RACEWAYS
A. SURFACE METAL RACEWAY: SHEET METAL CHANNEL WITH FITTED COVER, SUITABLE FOR USE AS SURFACE METAL RACEWAY.
1. SIZE: AS SHOWN ON DRAWINGS.
2. FINISH: GRAY ENAMEL.
3. FITTINGS, BOXES, AND EXTENSION RINGS: FURNISH MANUFACTURER'S STANDARD ACCESSORIES.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. INSTALL RACEWAYS SECURELY, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 1.
C. USE FLAT-HEAD SCREWS, CLIPS, AND STRAPS TO FASTEN RACEWAY CHANNEL TO SURFACES. MOUNT PLUMB AND LEVEL.
D. USE SUITABLE INSULATING BUSHINGS AND INSERTS AT CONNECTIONS TO OUTLETS AND CORNER FITTINGS.

SECTION 26 0536 - CABLE TRAYS FOR ELECTRICAL SYSTEMS
PART 1 GENERAL
1.01 SECTION INCLUDES
A. CABLE TRAYS AND ACCESSORIES.
1.02 SUBMITTALS
A. PRODUCT DATA: PROVIDE DATA FOR FITTINGS AND ACCESSORIES.
B. SHOP DRAWINGS: INDICATE TRAY TYPE, DIMENSIONS, SUPPORT POINTS, AND FINISHES.
PART 2 PRODUCTS
2.01 LADDER-TYPE CABLE TRAY
A. DESCRIPTION: NEMA VE 1, CLASS 12C LADDER TYPE TRAY.
B. MATERIAL: FORMED ALUMINUM, PAINTED WITH GRAY EPOXY.
C. INSIDE WIDTH: 12 INCHES.
D. INSIDE DEPTH: 4 INCHES.
E. STRAIGHT SECTION RUNG SPACING: 6 INCHES ON CENTER.

SECTION 26 0536 - CABLE TRAYS FOR ELECTRICAL SYSTEMS (CONT.)
F. PROVIDE MANUFACTURER'S STANDARD CLAMPS, HANGERS, BRACKETS, SPLICE PLATES, REDUCER PLATES, BLIND ENDS, BARRIER STRIPS, CONNECTORS, AND GROUNDING STRAPS.
2.02 WARNING SIGNS
A. ENGRAVED NAMEPLATES: 1/4 INCH BLACK LETTERS ON YELLOW LAMINATED PLASTIC NAMEPLATE, ENGRAVED WITH THE FOLLOWING WORDING: "WARNING! DO NOT USE CABLE TRAY AS WALKWAY, LADDER, OR SUPPORT. USE ONLY AS MECHANICAL SUPPORT FOR CABLES AND TUBING!"
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL METALLIC CABLE TRAY IN ACCORDANCE WITH NEMA VE 1.
B. SUPPORT TRAYS IN ACCORDANCE WITH SECTION 26 0529.
C. GROUND AND BOND CABLE TRAY UNDER PROVISIONS OF SECTION 26 0526.
1. PROVIDE CONTINUITY BETWEEN TRAY COMPONENTS.
2. USE ANTI-OXIDANT COMPOUND TO PREPARE ALUMINUM CONTACT SURFACES BEFORE ASSEMBLY.
3. PROVIDE 8 AWG BARE COPPER EQUIPMENT GROUNDING CONDUCTOR THROUGH ENTIRE LENGTH OF TRAY; BOND TO EACH COMPONENT.
4. CONNECTIONS TO TRAY MAY BE MADE USING MECHANICAL OR EXOTHERMIC CONNECTORS.
D. INSTALL WARNING SIGNS AT 6 FEET CENTERS ALONG CABLE TRAY, LOCATED TO BE VISIBLE.

SECTION 26 0537 - BOXES
PART 1 GENERAL
1.01 SECTION INCLUDES
A. WALL AND CEILING OUTLET BOXES.
B. PULL AND JUNCTION BOXES.
PART 2 PRODUCTS
2.01 OUTLET BOXES
A. SHEET METAL OUTLET BOXES: NEMA OS 1, GALVANIZED STEEL.
1. LUMINAIRE AND EQUIPMENT SUPPORTING BOXES: RATED FOR WEIGHT OF EQUIPMENT SUPPORTED; INCLUDE 1/2 INCH MALE FIXTURE STUDS WHERE REQUIRED.
2.02 PULL AND JUNCTION BOXES
A. SHEET METAL BOXES: NEMA OS 1, GALVANIZED STEEL.
PART 3 EXECUTION
3.01 EXAMINATION
A. VERIFY LOCATIONS OF FLOOR BOXES AND OUTLETS IN OFFICES AND WORK AREAS PRIOR TO ROUGH-IN.
3.02 INSTALLATION
A. INSTALL BOXES SECURELY, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 1.
B. INSTALL IN LOCATIONS AS SHOWN ON DRAWINGS, AND AS REQUIRED FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS, AND AS REQUIRED BY NFPA 70.
C. ORIENT BOXES TO ACCOMMODATE WIRING DEVICES ORIENTED AS SPECIFIED IN SECTION 26 2726.
D. MAINTAIN HEADROOM AND PRESENT NEAT MECHANICAL APPEARANCE.
E. INSTALL PULL BOXES AND JUNCTION BOXES ABOVE ACCESSIBLE CEILINGS AND IN UNFINISHED AREAS ONLY.
F. COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF OUTLETS MOUNTED ABOVE COUNTERS, BENCHES, AND BACKSPLASHES.
G. LOCATE OUTLET BOXES TO ALLOW LUMINAIRES POSITIONED AS SHOWN ON REFLECTED CEILING PLAN.
H. ALIGN ADJACENT WALL MOUNTED OUTLET BOXES FOR SWITCHES, THERMOSTATS, AND SIMILAR DEVICES.
I. SECURE FLUSH MOUNTING BOX TO INTERIOR WALL AND PARTITION STUDS. ACCURATELY POSITION TO ALLOW FOR SURFACE FINISH THICKNESS.
J. DO NOT FASTEN BOXES TO CEILING SUPPORT WIRES.
K. SUPPORT BOXES INDEPENDENTLY OF CONDUIT, EXCEPT CAST BOX THAT IS CONNECTED TO TWO RIGID METAL CONDUITS BOTH SUPPORTED WITHIN 12 INCHES OF BOX.
L. USE GANG BOX WHERE MORE THAN ONE DEVICE IS MOUNTED TOGETHER. DO NOT USE SECTIONAL BOX.

SECTION 26 0553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS
PART 1 GENERAL
1.01 SECTION INCLUDES
A. NAMEPLATES AND LABELS.
B. WIRE AND CABLE MARKERS.
PART 2 PRODUCTS
2.01 NAMEPLATES AND LABELS
A. NAMEPLATES: ENGRAVED THREE-LAYER LAMINATED PLASTIC, BLACK LETTERS ON WHITE BACKGROUND.
B. LOCATIONS:
1. EACH ELECTRICAL DISTRIBUTION AND CONTROL EQUIPMENT ENCLOSURE.
2. COMMUNICATION CABINETS.
C. LETTER SIZE:
1. USE 1/8 INCH LETTERS FOR IDENTIFYING INDIVIDUAL EQUIPMENT AND LOADS.
2.02 WIRE MARKERS
A. DESCRIPTION: CLOTH, TAPE, SPLIT SLEEVE, OR TUBING TYPE WIRE MARKERS.
B. LOCATIONS: EACH CONDUCTOR AT PANELBOARD GUTTERS, PULL BOXES, OUTLET BOXES, AND JUNCTION BOXES EACH LOAD CONNECTION.
C. LEGEND:
1. POWER AND LIGHTING CIRCUITS: BRANCH CIRCUIT OR FEEDER NUMBER INDICATED ON DRAWINGS.
2. CONTROL CIRCUITS: CONTROL WIRE NUMBER INDICATED ON SCHEMATIC AND INTERCONNECTION DIAGRAMS ON DRAWINGS.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL NAMEPLATES AND LABELS PARALLEL TO EQUIPMENT LINES.
B. SECURE NAMEPLATES TO EQUIPMENT FRONT USING SCREWS.
C. SECURE NAMEPLATES TO INSIDE SURFACE OF DOOR ON PANELBOARD THAT IS RECESSED IN FINISHED LOCATIONS.

SECTION 26 2416 - PANELBOARDS
PART 1 GENERAL
1.01 SECTION INCLUDES
A. LIGHTING AND APPLIANCE PANELBOARDS.
1.02 SUBMITTALS
A. SHOP DRAWINGS: INDICATE OUTLINE AND SUPPORT POINT DIMENSIONS, VOLTAGE, MAIN BUS AMPACITY, INTEGRATED SHORT CIRCUIT AMPERE RATING, CIRCUIT BREAKER AND FUSIBLE SWITCH ARRANGEMENT AND SIZES.
PART 2 PRODUCTS
2.01 LIGHTING AND APPLIANCE PANELBOARDS
A. DESCRIPTION: NEMA PB1, CIRCUIT BREAKER TYPE, LIGHTING AND APPLIANCE BRANCH CIRCUIT PANELBOARD.
B. PANELBOARD BUS: COPPER, RATINGS AS INDICATED. PROVIDE COPPER GROUND BUS IN EACH PANELBOARD; PROVIDE INSULATED GROUND BUS WHERE SCHEDULED.
C. MINIMUM INTEGRATED SHORT CIRCUIT RATING: AS INDICATED.
D. MOLDED CASE CIRCUIT BREAKERS: THERMAL MAGNETIC TRIP CIRCUIT BREAKERS, BOLT-ON TYPE, WITH COMMON TRIP HANDLE FOR ALL POLES; UL LISTED.
1. DO NOT USE TANDEM CIRCUIT BREAKERS.
E. ENCLOSURE: NEMA PB 1, TYPE 1.
F. CABINET FRONT: FLUSH CABINET FRONT WITH CONCEALED TRIM CLAMPS, CONCEALED HINGE, METAL DIRECTORY FRAME, AND FLUSH LOCK ALL KEYED ALIKE. FINISH IN MANUFACTURER'S STANDARD GRAY ENAMEL.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL PANELBOARDS IN ACCORDANCE WITH NEMA PB 1.1 AND NECA 1.
B. INSTALL PANELBOARDS PLUMB. INSTALL RECESSED PANELBOARDS FLUSH WITH WALL FINISHES.
C. PROVIDE TYPED CIRCUIT DIRECTORY FOR EACH BRANCH CIRCUIT PANELBOARD.
D. PROVIDE ENGRAVED PLASTIC NAMEPLATES UNDER THE PROVISIONS OF SECTION 26 0553.
E. PROVIDE SPARE CONDUITS OUT OF EACH RECESSED PANELBOARD TO AN ACCESSIBLE LOCATION ABOVE CEILING. IDENTIFY EACH AS SPARE.
1. MINIMUM SPARE CONDUITS: 3 EMPTY 1 INCH.
F. GROUND AND BOND PANELBOARD ENCLOSURE ACCORDING TO SECTION 26 0526.
3.02 FIELD QUALITY CONTROL
A. INSPECT AND TEST IN ACCORDANCE WITH NETA STD ATS, EXCEPT SECTION 4.
B. PERFORM INSPECTIONS AND TESTS LISTED IN NETA ATS, SECTION 7.6.1.1 CIRCUIT BREAKERS, AIR INSULATED-CASE/MOLDED AND SECTION 7.1 SWITCH GEAR AND SWITCHBOARD ASSEMBLIES VISUAL AND MECHANICAL INSPECTION ITMES 1 THROUGH 13 (ONLY).

SECTION 26 2726 - WIRING DEVICES
PART 1 GENERAL
1.01 SECTION INCLUDES
A. WALL SWITCHES.
B. RECEPTACLES.
C. DEVICE PLATES AND DECORATIVE BOX COVERS.
1.02 SUBMITTALS
A. PRODUCT DATA: PROVIDE MANUFACTURER'S CATALOG INFORMATION SHOWING DIMENSIONS, COLORS, AND CONFIGURATIONS.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. COOPER WIRING DEVICES
B. HUBBELL
C. LEVITON MANUFACTURING, INC
D. SUBSTITUTIONS: APPROVED EQUAL
2.02 WALL SWITCHES
A. WALL SWITCHES: HEAVY DUTY, AC ONLY GENERAL-USE SNAP SWITCH, COMPLYING WITH NEMA WD 6 AND WD 1.
1. BODY AND HANDLE: IVORY PLASTIC WITH TOGGLE HANDLE.
2. RATINGS:
a. VOLTAGE: 120-277 VOLTS, AC.
b. CURRENT: 20 AMPERES.
B. SWITCH TYPES: SINGLE POLE AND 3-WAY.
2.03 RECEPTACLES
A. RECEPTACLES: HEAVY DUTY, COMPLYING WITH NEMA WD 6 AND WD 1.
1. DEVICE BODY: IVORY PLASTIC.
B. DUPLEX CONVENIENCE RECEPTACLES.
C. GFCI RECEPTACLES: CONVENIENCE RECEPTACLE WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER TO MEET REGULATORY REQUIREMENTS.
D. ISOLATED GROUND DUPLEX RECEPTACLES: ORANGE BODY WITH GREEN TRIANGLE
E. RATING
1. VOLTAGE: 125 VLOTS AC
2. CURRENT: 20 AMPERES
3. OR AS INDICATED ON PLANS
2.04 TOGGLE DISCONNECT SWITCHES
A. EXTRA HEAVY DUTY INDUSTRIAL GRADE
1. SINGLE POLE: 30 AMPERE, 120-277V HUBBELL MODEL#: HBL3031I OR APPROVED EQUAL.
2. DOUBLE POLE: 30 AMPERE, 120-277V HUBBELL MODEL#: HBL3032I OR APPROVED EQUAL.
2.05 WALL PLATES
A. DECORATIVE COVER PLATES: IVORY, NYLON.
PART 3 EXECUTION
3.01 EXAMINATION
A. VERIFY THAT OUTLET BOXES ARE INSTALLED AT PROPER HEIGHT.
B. VERIFY THAT WALL OPENINGS ARE NEATLY CUT AND WILL BE COMPLETELY COVERED BY WALL PLATES.
C. VERIFY THAT BRANCH CIRCUIT WIRING INSTALLATION IS COMPLETED, TESTED, AND READY FOR CONNECTION TO WIRING DEVICES.
3.02 PREPARATION
A. PROVIDE EXTENSION RINGS TO BRING OUTLET BOXES FLUSH WITH FINISHED SURFACE.
B. CLEAN DEBRIS FROM OUTLET BOXES.
3.03 INSTALLATION
A. INSTALL SECURELY, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 1.
B. INSTALL DEVICES PLUMB AND LEVEL.
C. INSTALL SWITCHES WITH OFF POSITION DOWN.
D. INSTALL RECEPTACLES WITH GROUNDING POLE ON BOTTOM.
E. CONNECT WIRING DEVICE GROUNDING TERMINAL TO BRANCH CIRCUIT EQUIPMENT GROUNDING CONDUCTOR.
F. INSTALL DECORATIVE PLATES ON SWITCH, RECEPTACLE, AND BLANK OUTLETS IN FINISHED AREAS.
G. CONNECT WIRING DEVICES BY WRAPPING CONDUCTOR AROUND SCREW TERMINAL.
H. INSTALL GALVANIZED STEEL PLATES ON OUTLET BOXES AND JUNCTION BOXES IN UNFINISHED AREAS, ABOVE ACCESSIBLE CEILINGS, AND ON SURFACE MOUNTED OUTLETS.
3.04 INTERFACE WITH OTHER PRODUCTS
A. INSTALL WALL SWITCH 48 INCHES ABOVE FINISHED FLOOR.
B. INSTALL CONVENIENCE RECEPTACLE 18 INCHES ABOVE FINISHED FLOOR.
3.05 FIELD QUALITY CONTROL
A. INSPECT EACH WIRING DEVICE FOR DEFECTS.
B. OPERATE EACH WALL SWITCH WITH CIRCUIT ENERGIZED AND VERIFY PROPER OPERATION.
C. VERIFY THAT EACH RECEPTACLE DEVICE IS ENERGIZED.
D. TEST EACH RECEPTACLE DEVICE FOR PROPER POLARITY.
3.06 ADJUSTING
A. ADJUST DEVICES AND WALL PLATES TO BE FLUSH AND LEVEL.

SECTION 26 2818 - ENCLOSED SWITCHES
PART 1 GENERAL
1.01 SECTION INCLUDES
A. FUSIBLE SWITCHES.
B. NONFUSIBLE SWITCHES.
1.02 SUBMITTALS
A. PRODUCT DATA: PROVIDE SWITCH RATINGS AND ENCLOSURE DIMENSIONS.
PART 2 PRODUCTS
2.01 COMPONENTS
A. FUSIBLE SWITCH ASSEMBLIES: NEMA KS 1, TYPE HD ENCLOSED LOAD INTERRUPTER KNIFE SWITCH.
1. EXTERNALLY OPERABLE HANDLE INTERLOCKED TO PREVENT OPENING FRONT COVER WITH SWITCH IN ON POSITION.
2. HANDLE LOCKABLE IN OFF POSITION.
3. FUSE CLIPS: DESIGNED TO ACCOMMODATE NEMA FU1, CLASS R FUSES.
B. NONFUSIBLE SWITCH ASSEMBLIES: NEMA KS 1, TYPE HD ENCLOSED LOAD INTERRUPTER KNIFE SWITCH.
1. EXTERNALLY OPERABLE HANDLE INTERLOCKED TO PREVENT OPENING FRONT COVER WITH SWITCH IN ON POSITION.
2. HANDLE LOCKABLE IN OFF POSITION.
C. ENCLOSURES: NEMA KS 1.
1. INTERIOR DRY LOCATIONS: TYPE 1.
2. EXTERIOR LOCATIONS: TYPE 3R.
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. INSTALL FUSES IN FUSIBLE DISCONNECT SWITCHES.
C. APPLY ADHESIVE TAG ON INSIDE DOOR OF EACH FUSED SWITCH INDICATING NEMA FUSE CLASS AND SIZE INSTALLED.
3.02 FIELD QUALITY CONTROL
A. INSPECT AND TEST IN ACCORDANCE WITH NETA ATS SECTION 7.5.1.1 SWITCHES, AIR, LOW-VOLTAGE
A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

SECTION 26 5100 - INTERIOR LIGHTING
PART 1 GENERAL
1.01 SECTION INCLUDES
A. INTERIOR LUMINAIRES AND ACCESSORIES.
B. EMERGENCY LIGHTING UNITS.
C. EXIT SIGNS.
D. BALLASTS.
E. FLUORESCENT LAMP EMERGENCY POWER SUPPLY.
F. LAMPS.
1.02 SUBMITTALS
A. PRODUCT DATA: PROVIDE DIMENSIONS, RATINGS, AND PERFORMANCE DATA.
PART 2 PRODUCTS
2.01 LUMINAIRES
A. FURNISH PRODUCTS AS INDICATED IN SCHEDULE INCLUDED ON THE DRAWINGS.
2.02 BALLASTS AND CONTROL UNITS
A. FLUORESCENT BALLASTS: ELECTRONIC TYPE, SUITABLE FOR LAMPS SPECIFIED.
1. VOLTAGE: 120 VOLTS.
B. FLUORESCENT LAMP EMERGENCY POWER SUPPLY: EMERGENCY BATTERY POWER SUPPLY SUITABLE FOR INSTALLATION IN BALLAST COMPARTMENT OF FLUORESCENT LUMINAIRE.
1. BATTERY: SEALED LEAD CALCIUM TYPE, RATED FOR 5 YEAR LIFE.
2. INCLUDE TEST SWITCH AND AC ON INDICATOR LIGHT, INSTALLED TO BE OPERABLE AND VISIBLE FROM THE OUTSIDE OF AN ASSEMBLED LUMINAIRE.
2.03 LAMPS
A. MANUFACTURERS:
1. GE LIGHTING
2. PHILIPS LIGHTING CO OF NA.
3. OSRAM SYLVANNIA.
4. SUBSTITUTIONS: NOT PERMITTED.
B. LAMP TYPES: AS SPECIFIED FOR EACH LUMINAIRE.
C. FLUORESCENT LAMPS:
1. COLOR TEMPERATURE: 3500K
PART 3 EXECUTION
3.01 INSTALLATION
A. INSTALL FIXTURES SECURELY, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 500 (COMMERCIAL LIGHTING).
B. LOCATE RECESSED CEILING LUMINAIRES AS INDICATED ON REFLECTED CEILING PLAN.
C. INSTALL SURFACE MOUNTED LUMINAIRES AND EXIT SIGNS PLUMB AND ADJUST TO ALIGN WITH BUILDING LINES AND WITH EACH OTHER. SECURE TO PREVENT MOVEMENT.
D. EXPOSED GRID CEILINGS: SUPPORT SURFACE MOUNTED LUMINAIRES IN GRID CEILING DIRECTLY FROM BUILDING STRUCTURE.
E. INSTALL CLIPS TO SECURE RECESSED GRID SUPPORTED LUMINAIRES IN PLACE
F. INSTALL WALL MOUNTED LUMINAIRES AT HEIGHT AS SCHEDULED.
G. INSTALL ACCESSORIES FURNISHED WITH EACH LUMINAIRE.
H. CONNECT LUMINAIRES AND EXIT SIGNS TO BRANCH CIRCUIT OUTLETS PROVIDED UNDER SECTION 26 0537 USING FLEXIBLE METAL CONDUIT.
I. MAKE WIRING CONNECTIONS TO BRANCH CIRCUIT USING BUILDING WIRE WITH INSULATION SUITABLE FOR TEMPERATURE CONDITIONS WITHIN LUMINAIRE.
J. BOND PRODUCTS AND METAL ACCESSORIES TO BRANCH CIRCUIT EQUIPMENT GROUNDING CONDUCTOR.
K. INSTALL SPECIFIED LAMPS IN EACH LUMINAIRE.
3.02 FIELD QUALITY CONTROL
A. OPERATE EACH LUMINAIRE AFTER INSTALLATION AND CONNECTION. INSPECT FOR PROPER CONNECTION AND OPERATION.
3.03 ADJUSTING
A. POSITION EXIT SIGN DIRECTIONAL ARROWS AS INDICATED.
3.04 CLEANING
A. CLEAN ELECTRICAL PARTS TO REMOVE CONDUCTIVE AND DELETERIOUS MATERIALS.
B. REMOVE DIRT AND DEBRIS FROM ENCLOSURES.
C. CLEAN PHOTOMETRIC CONTROL SURFACES AS RECOMMENDED BY MANUFACTURER.
D. CLEAN FINISHES AND TOUCH UP DAMAGE.
3.05 PROTECTION
A. RELAMP LUMINAIRES THAT HAVE FAILED LAMPS AT SUBSTANTIAL COMPLETION.
3.06 SCHEDULE - SEE DRAWINGS

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Client:
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2025 ONTARIO ST, 4TH FLOOR
CLEVELAND, OHIO 44115

Project:
2008 BRANCH MODERNIZATION PROGRAM
PID# 5056
MONUMENT SQUARE
1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	-

Project No.: F5W86602
Scale: AS NOTED
Sheet Title: SPECIFICATIONS
Drawing No.: G-113

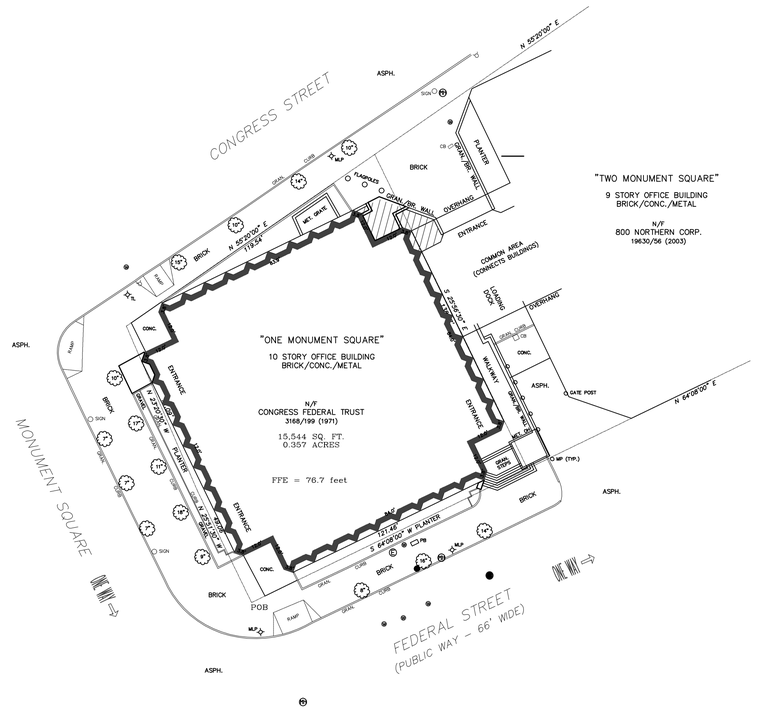
EK - J:\2008 Projects\F5W86600\Cad\KeyBank_CDs\5056 Monument Square\General\5056_G-113.dwg [5056_G-113] February 24, 2009 - 6:16pm PATELSH

GENERAL SHEET NOTES

1. THIS SHEET IS FOR REFERENCE ONLY. COORDINATE WITH LANDLORD DRAWING.

SHEET KEYNOTES

1. BUILDING SIGNAGE TO BE ADDRESSED BY BRILLIANT SIGN.



1 SITE PLAN
SCALE: 1"=30'-0"

NORTH

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KeyBank
2025 ONTARIO ST, 4TH FLOOR
CLEVELAND, OHIO 44115

Project:
2008 BRANCH MODERNIZATION PROGRAM
PID# 5056
MONUMENT SQUARE
1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	AC

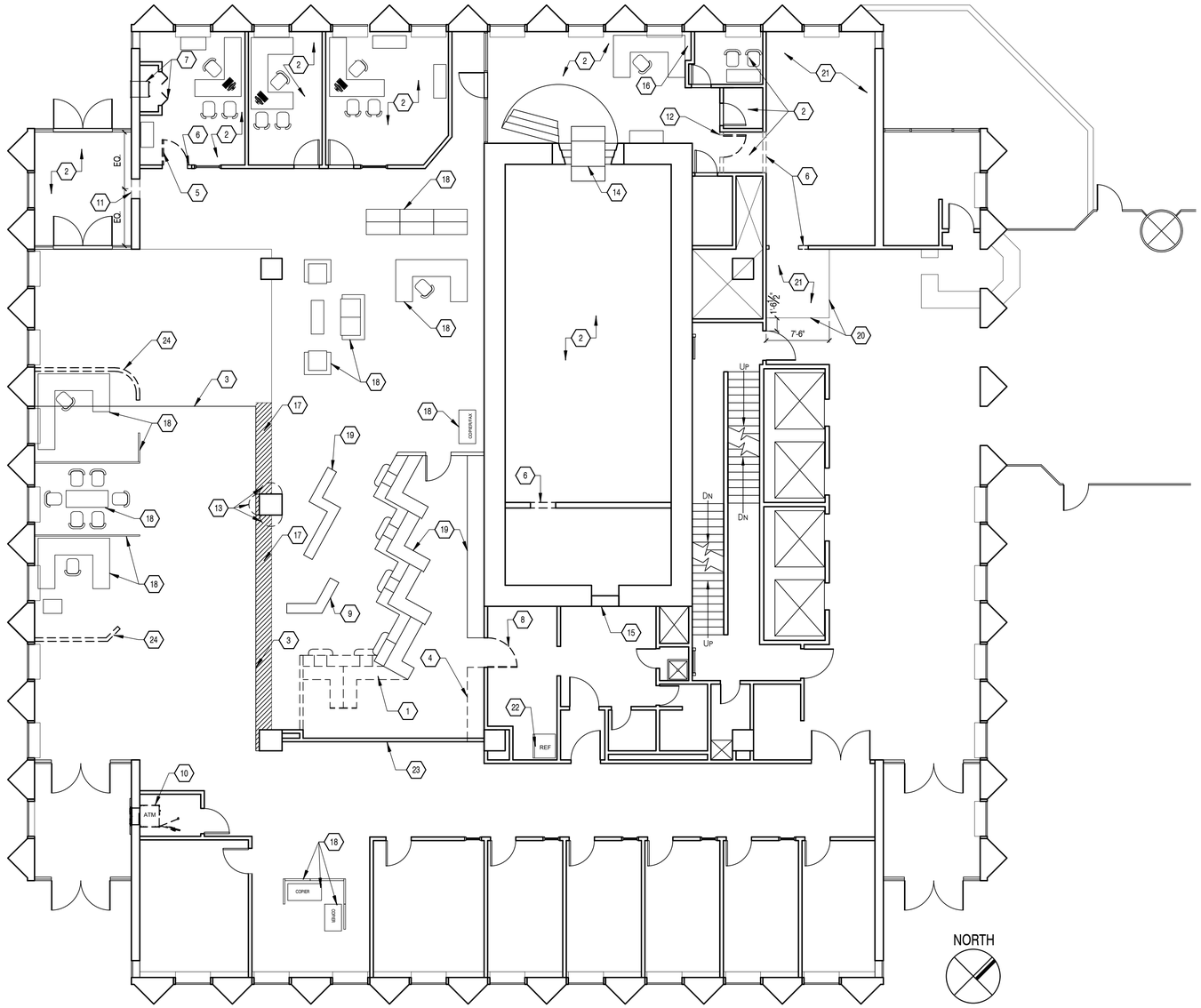
Project No.: F5W86602

Scale: AS NOTED

Sheet Title:
ARCHITECTURAL SITE PLAN

Drawing No.:
AS-100

EK - J:\2008 Projects\F5W86600\Cad\KeyBank_CDs\5056 Monument Square\Site\5056_AS-100.dwg [5056_AS-100] February 24, 2009 - 6:16pm PATELSH



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

GENERAL SHEET NOTES

1. C.C. RESPONSIBLE TO CAREFULLY REMOVE AND RELOCATE ALL EXISTING FURNITURE AS NECESSARY. COORDINATE WITH SHEET A106 AND KEYBANK REPRESENTATIVE.
2. C.C. RESPONSIBLE TO REMOVE ALL UNDER COUNTER STEEL AS REQUIRED.
3. G.C. TO CAREFULLY REMOVE EGG CRATES CEILING TILE, CEILING GRID, ALL SYSTEM FURNITURE, ALL DISPLAY ITEMS, CARPET, DOORS, 2X4 LIGHTS, COPIERS, PRINTERS, REFRIGERATOR, MICROWAVE, ANY OTHER SMALL APPLIANCES, ETC. IN CURRENT KEY BANK SPACE AND SALVAGE FOR RELOCATION AND REUSE AS NECESSARY IN NEW KEYBANK SPACE. COORDINATE WITH LANDLORD FOR REMOVING SUCH ITEMS.

SHEET KEYNOTES

1. REMOVE PORTION OF TELLER STATION AREA AS SHOWN. PATCH AND FINISH ALL AFFECTED AREAS FLUSH WITH EXISTING TO REMAIN. REPAIR FOR NEW TELLER WORK AREA WALLS AS SHOWN ON SHEET A-103
2. EXISTING FLOOR FINISH AND BASE TO REMAIN. COORDINATE WITH G.C AND LANDLORD FOR NEW WORK.
3. EXTENT OF KEY BANK LEASING AREA AND LIMIT LINE FOR NEW CONSTRUCTION. G.C. TO COORDINATE WITH LANDLORD.
4. REMOVE EXISTING BUILT-IN UNITS AND PATCH AFFECTED AREAS FLUSH TO REMAIN.
5. CAREFULLY REMOVE EXISTING DOOR. SALVAGE DOOR FOR RELOCATION. PATCH & FINISH AFFECTED AREAS TO MATCH WITH EXISTING.
6. REMOVE EXISTING PARTITION FOR NEW OPENING. PROVIDE SUPPORT AT HEAD AND JAMB AS REQ'D. COORDINATE WITH SHEET A-103
7. EXISTING AHD AND CLOSET ENCLOSURE TO REMAIN.
8. REMOVE EXISTING DOOR AND FRAME. PATCH AFFECTED AREA FLUSH TO RECEIVE NEW WALL.
9. CARFULLY REMOVE EXISTING CHECK DESK AND SALVAGE FOR RELOCATION. PATCH AFFECTED FLOOR FLUSH TO MATCH ADJACENT WITH SALVAGED CARPET.
10. REMOVE EXISTING ATM AND SALVAGE FOR RELOCATION.
11. REMOVE EXISTING CABINET HEATER AT VESTIBULE. PATCH AND/OR REMOVE EXISTING WALL AND PREPARE NEW OPENING FOR ATM RELOCATION. COORDINATE SIZE OF OPENING WITH EXISTING SALVAGED ATM. PROVIDE REQ'D SUPPORT AT HEAD AND JAMB. PATCH ALL AFFECTED AREAS FLUSH WITH EXISTING TO REMAIN.
12. REMOVE EXISTING COUPON ROOM AND PATCH AFFECTED AREAS FLUSH TO REMAIN.
13. REMOVE EXISTING DECORATIVE COLUMN ENCLOSURE. PATCH AREAS FLUSH TO MATCH EXISTING.
14. EXISTING VAULT ACCESS RAMP TO REMAIN.
15. EXISTING VAULT DOOR TO REMAIN. CLOSE THE DOOR AND REFER TO DRAWING A103 FOR FURRING AT DOOR AND WALL TO SEAL THE DOOR.
16. EXISTING STANDPIPE AND FIRE EXTINGUISHER TO REMAIN.
17. EXISTING FLOOR TILE TO BE REMOVED. PEPARE AREA TO RECEIVE SALVAGED CARPET
18. CAREFULLY REMOVE SYSTEM FURNITURE (WORK STATIONS), FURNITURE, APPLIANCES, DISPLAY ITEMS, ETC., AND SALVAGE FOR RELOCATION. COORDINATE NEW LOCATION WITH SHEET A-106
19. EXISTING MILLWORK TO REMAIN. PROTECT SURFACES AS REQUIRED DURING CONSTRUCTION.
20. EXTENT OF FLOOR FINISH REMOVAL.
21. REMOVE EXISTING FLOOR FINISH AND PREPARE AREA TO RECEIVE NEW FINISH. G.C TO ANALYZE FLOOR TILE FOR MATERIAL CONTENT AND REPORT FINDINGS TO KEYBANK.
22. REMOVE EXISTING REFRIGERATOR AND SALVAGE FOR RELOCATION.
23. REMOVE GYPSUM BOARD AND BASE AT THIS WALL AT HALLWAY SIDE. PREPARE WALL TO BE EXTENDED TO UNDERSIDE OF ROOF FOR DEMISING WALL WITH SECURITY MESH.
24. REMOVE EXISTING LOW HEIGHT PARTITION AND BASE.

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FIRST FLOOR DEMOLITION PLAN

Drawing No.:

A-101

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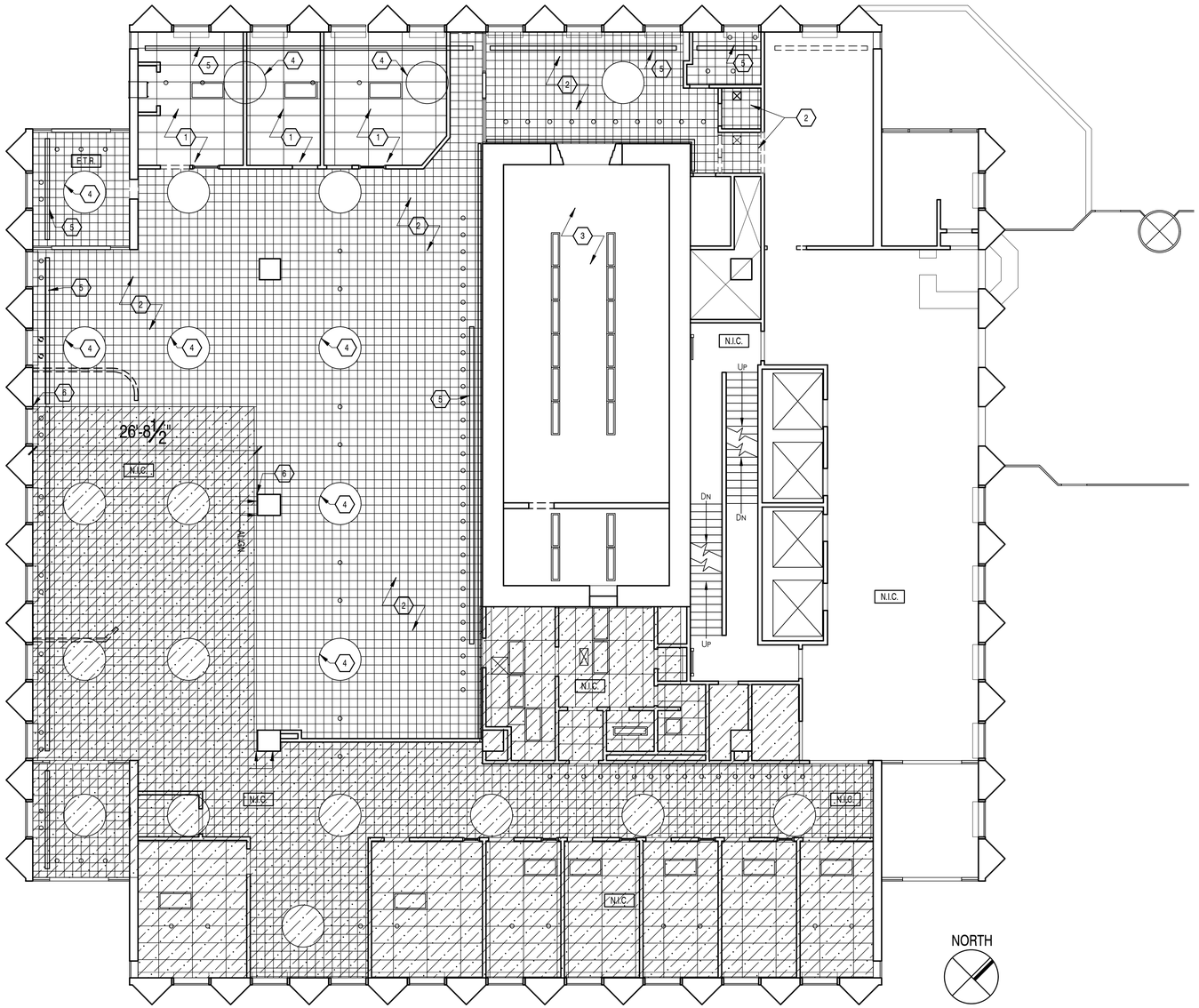

1 FIRST FLOOR REFLECTED CEILING DEMOLITION PLAN
SCALE: 1/8"=1'-0"

SHEET KEYNOTES

1. EXISTING SUSPENDED CEILING GRID, EGGCRATES TILES (@8'-0" A.F.F) AND LIGHT FIXTURES TO REMAIN.
2. EXISTING SUSPENDED CEILING GRID, 1'X1' TILES TO REMAIN. REMOVE PORTION OF CEILING FOR MECHANICAL WORK AS REQUIRED. COORDINATE WITH MECHANICAL DRAWINGS.
3. EXISTING CEILING AND LIGHTS AT VAULT TO REMAIN. REMOVE PORTION OF CEILING FOR MECHANICAL WORK AS REQUIRED. COORDINATE WITH MECHANICAL DRAWINGS.
4. EXISTING CIRCULAR LIGHT FIXTURE TO REMAIN.
5. EXISTING LINIER DIFFUSER TO REMAIN.
6. ALIGN EXTENT OF DEMOLITION OF CEILING TO THIS WALL AND/ OR COLUMN. PROVIDE TEMPORARY SUPPORT FOR REMAINDER OF CEILING. G.C. TO COORDINATE WITH LANDLORD.

LEGEND

- EXISTING 1'x1' SUSPENDED CEILING SYSTEM TO REMAIN
- EXISTING 1'x1' SUSPENDED CEILING SYSTEM TO BE REMOVED
- EXISTING 2'x4' SUSPENDED CEILING SYSTEM TO BE REMOVED
- EXISTING 2'x4' SUSPENDED CEILING SYSTEM TO REMAIN
- EXISTING 2'x4' FLUORESCENT LIGHT FIXTURE TO BE REMOVED.
- EXISTING 2'x4' FLUORESCENT LIGHT FIXTURE TO REMAIN.
- EXISTING 5'-0" CIRCULAR FLUORESCENT LIGHT FIXTURE TO REMAIN
- EXISTING 5'-0" CIRCULAR FLUORESCENT LIGHT FIXTURE TO BE REMOVED.
- EXISTING 1'x4' FLUORESCENT LIGHT FIXTURE TO BE REMOVED.
- EXISTING INCANDESCENT LIGHT FIXTURE TO BE REMOVED.
- EXISTING INCANDESCENT LIGHT FIXTURE TO REMAIN.
- EXISTING HVAC LINEAR DIFFUSSER TO REMAIN.
- EXISTING HVAC LINEAR DIFFUSSER TO BE REMOVED.
- EXISTING HVAC DIFFUSSER TO BE REMOVED.
- EXISTING HVAC DIFFUSER TO REMAIN.
- EXISTING RETURN GRILL TO REMAIN.
- E — DENOTES EXISTING ITEM TO REMAIN
- R — DENOTES EXISTING ITEM TO BE RELOCATED
- E.T.R. — EXISTING TO REMAIN
- N.I.C. — NOT IN CONTRACT
- HATCHED AREA NOT IN CONTRACT

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FIRST FLOOR REFLECTED CEILING DEMOLITION PLAN

Drawing No.:

A-102

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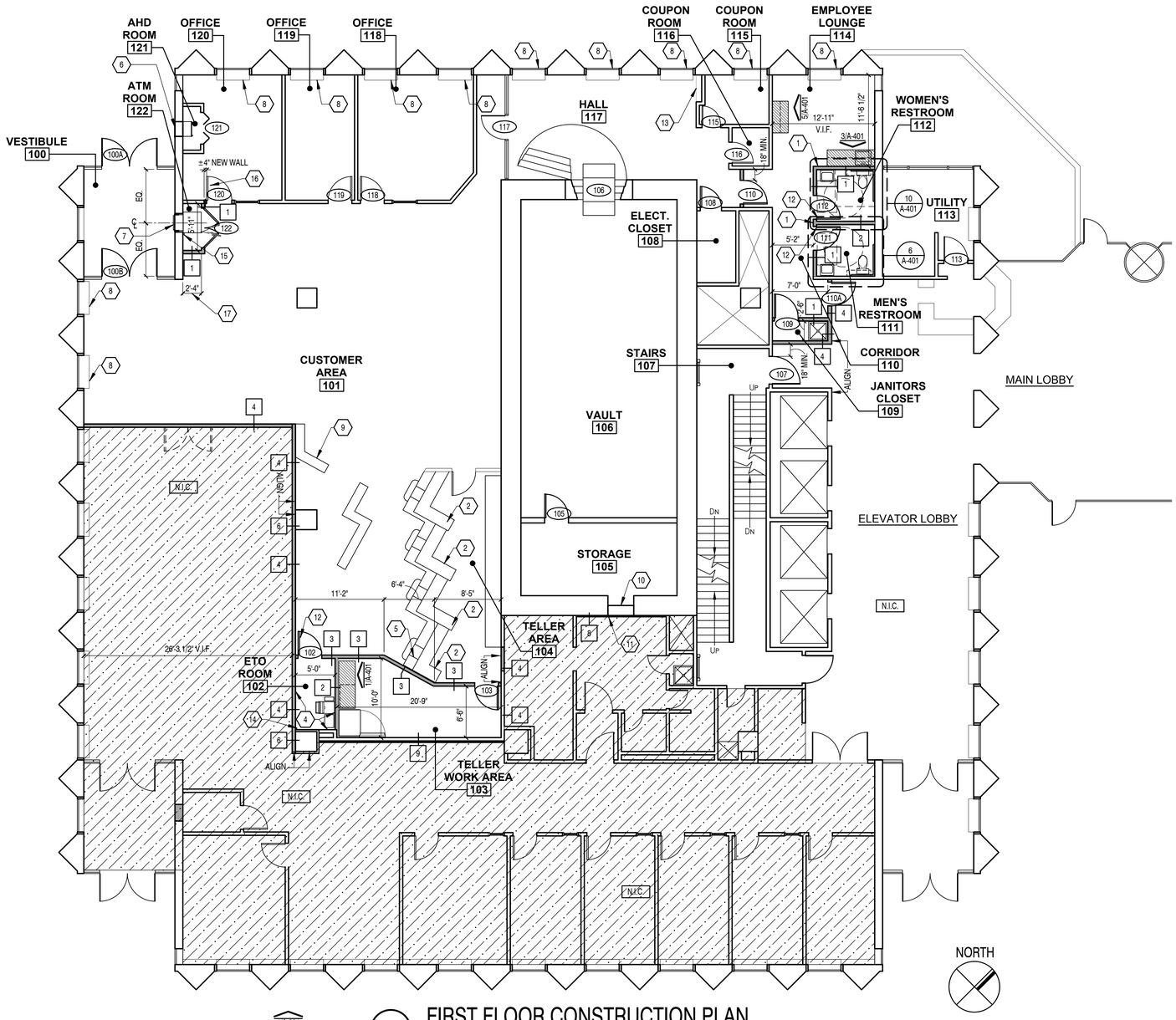

1 FIRST FLOOR CONSTRUCTION PLAN

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

4/A-201

GENERAL SHEET NOTES

1. PARTITIONS ARE DIMENSIONED FROM FINISH FACE TO FINISH FACE, UNLESS OTHERWISE NOTED. ALLOW FOR THICKNESS OF FINISHES. MAINTAIN DIMENSIONS MARKED 'CLEAR' OR 'HOLD'.
2. G.C. SHALL COORDINATE AND INSTALL BLOCKING WITHIN PARTITIONS FOR MILLWORK, TOILET ACCESSORIES, AND ALL OTHER WALL-MOUNTED UNITS. ALL WOOD BLOCKING SHALL BE FIRE-RETARDANT WOOD.
3. G.C. RESPONSIBLE TO REMOVE AND RELOCATE AND DISPOSE ALL EXISTING FURNITURE AND COUNTER STEEL AS NECESSARY.

ARCHITECTURAL SYMBOLS

- EXISTING WALL CONSTRUCTION
- NEW WALL CONSTRUCTION
- WALL TYPE REFERENCE
- NEW MILLWORK
- E.T.R. — EXISTING TO REMAIN
- N.I.C. — NOT IN CONTRACT
- NOT IN CONTRACT

SHEET KEYNOTES

1. PROVIDE NEW GYPSUM BOARD AND METAL STUD PARTITION. REFER TO PARTITION TYPE DETAILS (TYP.)
2. EXISTING TELLER STATIONS TO REMAIN.
3. INSTALL SALVAGED CARPET TO MATCH ADJACENT FINISH.
4. PROVIDE FULL HEIGHT 3/4" FIRE RETARDANT PLYWOOD PANEL BOARD ON FURRING, PAINTED TO MATCH WALL. LEAVE FIRE RETARDANT LABEL EXPOSED (NOT PAINTED) FOR INSPECTION. COORDINATE EXACT LOCATION WITH DATA & ELECTRICAL SCOPE OF WORK.
5. MODIFY EXISTING TELLER STATION PARAPET TO MATCH EXISTING. PROVIDE NEW LAMINATE FINISH TO MATCH EXISTING.
6. EXISTING AHD TO REMAIN.
7. RELOCATE EXISTING WALK-UP ATM AS SHOWN.
8. EXISTING BASE HEATER UNIT TO REMAIN AS IS.
9. RELOCATED SALVAGED CHECK DESK AS SHOWN.
10. EXISTING VAULT DOOR TO REMAIN. CLOSE THE DOOR TO BE SEALED WITH FURRING AND GYP. BD.
11. PROVIDE NEW WALL FURRING 5/8" GYPSUM BOARD ON 3 5/8" METAL STUD. PATCH AS REQUIRED AND PREPARE TO RECEIVE NEW FINISH. SEE PARTITION TYPE ON SHEET A-501
12. PROVIDE UNDERCUT AT THIS DOOR. SEE DOOR SCHEDULE ON SHEET A-601
13. EXISTING STAND PIPE AND HOSE TO REMAIN.
14. PROVIDE CONCEALED CONDUIT THROUGH CEILING AND IN DEMISING WALL FOR ETO CABLING. COORDINATE WITH ETO VENDOR.
15. PROVIDE CONDUIT FOR ETO CABLING. COORDINATE WITH ETO VENDOR. PAINT TO MATCH ADJACENT WALL.
16. RELOCATE DOOR/SIDELITE TO ACCOMMODATE ATM ROOM.
17. G.C. TO VERIFY DEPTH OF EXISTING ATM AND ADJUST DIMENSION ACCORDINGLY.

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FIRST FLOOR CONSTRUCTION PLAN

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A-103

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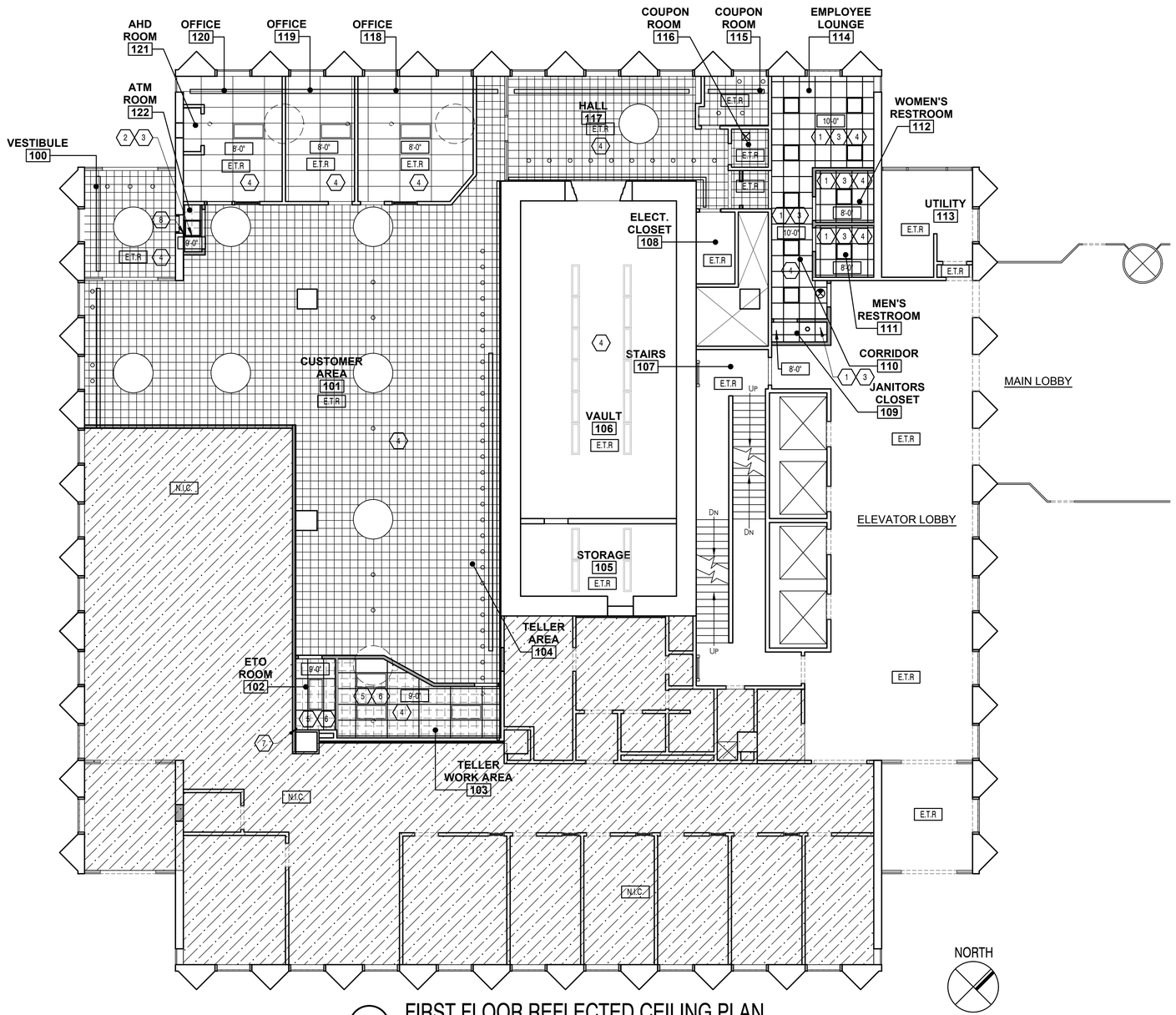

1 FIRST FLOOR REFLECTED CEILING PLAN

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

RCP GENERAL NOTES

1. ALL CEILINGS ARE TO MATCH EXISTING CEILING HEIGHT (U.O.N). REFER TO REFLECTED CEILING PLANS FOR FURTHER INFORMATION.
2. VERTICAL DIMENSIONS ARE ABOVE FINISHED SLAB (A.F.S.) ACOUSTICAL LAY-IN TILES. PATTERN RUNNING IN SAME DIRECTION, EXCEPT THOSE AREAS NOTED OTHERWISE ON REFLECTED CEILING PLANS.
3. CONTRACTOR TO COORDINATE INSTALLATION OF CEILING GRID WITH EXISTING MECHANICAL PLUMBING AND ELECTRICAL PRIOR TO INSTALLING LIGHT FIXTURES TO ENSURE PROPER CLEARANCES. CONTRACTOR TO NOTIFY ARCHITECT WHEN SUFFICIENT CLEARANCE CANNOT BE MAINTAINED.
4. START GRID PATTERN WITH FULL TILES AS SHOWN.
5. CENTER GRID PATTERN IN ROOM, TYP.
6. REPLACE EXISTING ACOUSTICAL 2'x4' TILE TO MATCH EXISTING MFR'S STYLE AND RATING AS REQUIRED BY LOCAL BUILDING CODE OFFICIAL.
7. EXISTING FIRE ALARM SOFTWARE SHALL BE REPROGRAMMED TO INCLUDE ANY NEW DEVICES AND LOCATIONS.
8. FOR LIGHT FIXTURE SCHEDULE SEE ELECTRICAL ENGINEERING DRAWINGS.
9. DIMENSIONED LIGHT FIXTURES ARE FROM FINISH FACE OF PARTITIONS TO CENTER LINE OF FIXTURE AND FROM CENTER LINE OF FIXTURE TO CENTERLINE OF FIXTURE. ALL FIXTURES SHALL BE INSTALLED IN CENTER OF CEILING TILE U.O.N.
10. ALL MULTIPLE SWITCH LOCATIONS ARE TO BE GANGED AND INSTALLED WITH A SINGLE FACE PLATE.
11. ALL V.A.V. BOXES AND ALL ITEMS REQUIRING ACCESS SHALL BE RELOCATED OUT OF GYPSUM BOARD CEILING U.O.N.
12. ANY DISCREPANCIES WITH LIGHT FIXTURES, SWITCHES, THERMOSTATS, DIFFUSERS AS TO LOCATION BETWEEN ARCHITECTURAL AND ENGINEERING DRAWINGS OR BETWEEN THE DRAWINGS AND EXISTING FIELD CONDITIONS SHALL BE CLARIFIED WITH ARCHITECT BEFORE PROCEEDING WITH INSTALLATION.
14. ALL THERMOSTATS TO BE CENTERED ABOVE LIGHT SWITCH U.O.N. AND ARE TO BE MOUNTED 8" ABOVE LIGHT SWITCH, CENTERLINE TO CENTERLINE OF DEVICES UNLESS OTHERWISE NOTED. REFER TO ENGINEERING DRAWINGS FOR REQUIRED QUANTITY.
15. ANY STRAIGHT RUN OF PARTITION WHICH IS PARTIALLY ABOVE CEILING AND PARTIALLY CEILING HEIGHT SHALL RECEIVE CEILING TO WALL TRIM MOLDING FOR THE FULL LENGTH OF PARTITION.
16. ACCESS PANELS SHALL BE INSTALLED AT ANY LOCATION REQUIRING FUTURE ACCESS, PIPING VALVES, VALVE CONTROLS ETC. WHETHER OR NOT INDICATED ON DRAWINGS. ANY ACCESS PANELS REQUIRED IN GYPSUM BOARD CEILING SHALL BE VERIFIED WITH ARCHITECT PRIOR TO INSTALLATION.
17. CONTRACTOR TO VERIFY AND COORDINATE SWITCH AND DIMMER CONTROL LOCATIONS WITH MILLWORK AND PROVIDE CUT OUT F OR FLUSH MOUNTED SWITCHES IN MILLWORK.
18. REFER TO MECHANICAL ENGINEERING DRAWINGS FOR QUANTITY AND SIZE OF AIR SUPPLY DIFFUSERS, AIR RETURN AND EXHAUST GRILLES. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT PLACEMENT. NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO INSTALLATION.
19. ALL LIGHT FIXTURES, SPRINKLER HEADS AND ANY OTHER CEILING FIXTURES SHALL BE CENTERED IN THE 2'.0 X 2'0 TILES. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION IN ELEVATOR LOBBIES TYP.
20. FINAL EXIT SIGN AND EMERGENCY LIGHT LOCATIONS ARE SUBJECT TO THE APPROVAL OF THE LOCAL AUTHORITY AND FIELD INSPECTOR.
21. ALL SWITCHES LOCATED ON PARTITIONS ADJACENT TO DOOR SWINGING AGAINST PARTITION TO BE POSITIONED CLEAR OF DOOR SWING AND VISIBLE WHEN DOOR IS FULLY OPEN.
22. ALL SWITCHES TO BE BUILDING STANDARD TOGGLE TYPE.
23. SEE LIGHTING PLAN FOR CIRCUITING OF EMERGENCY EXIT SIGN AND 24HR FIXTURE PLACEMENT.

LEGEND

- NEW 2'x2' SUSPENDED ACOUSTIC CEILING SYSTEM
- EXISTING 1'x1' SUSPENDED CEILING SYSTEM TO REMAIN
- GYPSUM CEILING / SOFFIT
- NEW 2'x2' RECESSED FLUORESCENT LIGHT FIXTURE
- EXISTING 5'-0" CIRCULAR FLUORESCENT LIGHT FIXTURE TO REMAIN
- EXISTING 1'x4' FLUORESCENT LIGHT FIXTURE TO BE REMOVED.
- MINI RECESSED DOWNLIGHT (WALL-WASHER)
- INCANDESCENT LIGHT FIXTURE
- CEILING GRID STARTING POINT
- E — DENOTES EXISTING ITEM TO REMAIN
- R — DENOTES EXISTING ITEM TO BE RELOCATED
- E.T.R. — EXISTING TO REMAIN
- N.I.C. — NOT IN CONTRACT
- HATCHED AREA NOT IN CONTRACT
- EXISTING 4'x2' SUSPENDED EGG CRATE CEILING SYSTEM
- RELOCATED 4'x2' SUSPENDED EGG CRATE CEILING SYSTEM

SHEET KEYNOTES

1. NEW SUSPENDED CEILING SYSTEM
2. NEW SUSPENDED CEILING SYSTEM AT 9'-0" HT. EXISTING CEILING AT 13'-0" TO REMAIN.
3. PROVIDE NEW LIGHT FIXTURES AS SHOWN.
4. COORDINATE WITH MECHANICAL DRAWINGS FOR NEW DIFFUSER LOCATIONS. (TYPICAL FOR ENTIRE PLAN)
5. RELOCATED EGG CRATE CEILING GRID AND PANELS AT 9'-0" HEIGHT. EXISTING CEILING AT 13'-0" TO REMAIN
6. RELOCATED EXISTING LIGHTS.
7. PROVIDE CONCEALED CONDUIT THROUGH CEILING AND IN DEMISING WALL FOR ETO CABLING. COORDINATE WITH ETO VENDOR.
8. PROVIDE CONDUIT FOR ETO CABLING. COORDINATE WITH ETO VENDOR. PAINT TO MATCH ADJACENT WALL.

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FIRST FLOOR
REFLECTED CEILING PLAN

Drawing No.:

A-104

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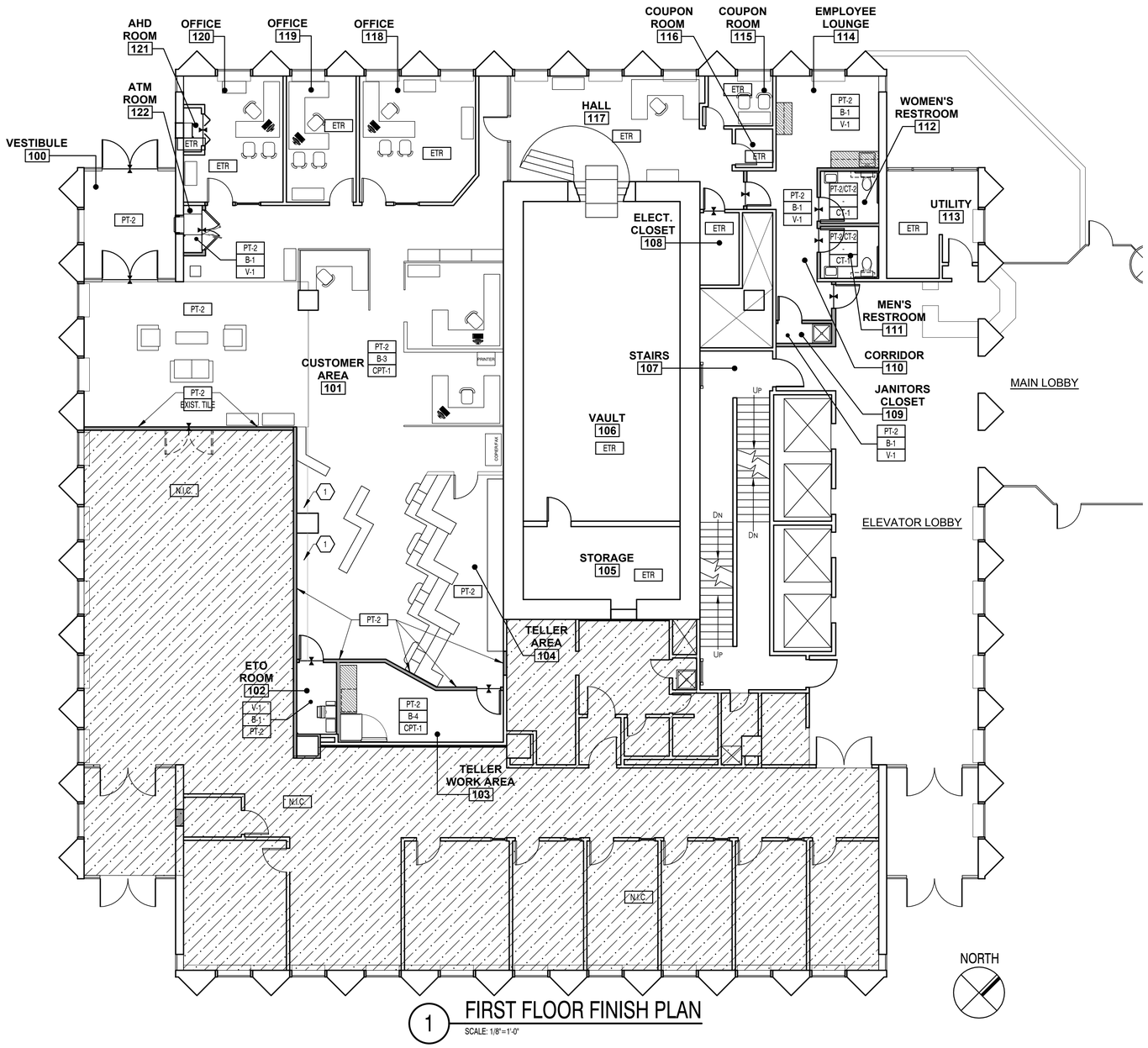
ROOM FINISH SCHEDULE

ROOM No.	ROOM NAME	FLOOR	BASE	WALLS				CEILING	REMARKS
				NORTH	EAST	SOUTH	WEST		
100	VESTIBULE	EXISTING	EXISTING	PT-2	PT-2	PT-2	PT-2	EXISTING	
101	CUSTOMER AREA	EXIST./CPT-1	B-3	PT-2	PT-2	PT-2	PT-2	EXIST.	
102	ETO ROOM	V-1	B-1	PT-2	PT-2	PT-2	PT-2	ACT-1	EXISTING CEILING TO REMAIN (PROVIDE NEW CEILING AT LOWER HEIGHT)
103	TELLER WORK AREA	CPT-1	B-4	PT-2	PT-2	PT-2	PT-2	ACT-1	EXISTING CEILING TO REMAIN (PROVIDE NEW CEILING AT LOWER HEIGHT)
104	TELLER AREA	EXISTING	EXISTING	EXISTING	PT-2	PT-2	EXISTING	PT-2	
105	STORAGE	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
106	VAULT	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
107	STAIRS	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
108	ELECTRICAL CLOSET	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
109	JANITOR CLOSET	V-1	B-1	PT-2	PT-2	PT-2	PT-2	ACT-1	
110	CORRIDOR	V-1	B-1	PT-2	PT-2	PT-2	PT-2	ACT-1	
111	MEN'S RESTROOM	CT-1	-	CT-2 / PT-2	CT-2 / PT-2	CT-2 / PT-2	CT-2 / PT-2	ACT-1	

ROOM FINISH SCHEDULE

ROOM No.	ROOM NAME	FLOOR	BASE	WALLS				CEILING	REMARKS
				NORTH	EAST	SOUTH	WEST		
112	WOMEN'S RESTROOM	CT-1	-	CT-2 / PT-2	CT-2 / PT-2	CT-2 / PT-2	CT-2 / PT-2	ACT-1	
113	UTILITY	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
114	EMPLOYEE LOUNGE	V-1	B-1	PT-2	PT-2	PT-2	PT-2	ACT-1	
115	COUPON ROOM	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
116	COUPON ROOM	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
117	HALL	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
118	OFFICE	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
119	OFFICE	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
120	OFFICE	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
121	AHD ROOM	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
122	ATM ROOM	V-1	B-1	PT-2	PT-2	PT-2	PT-2	ACT-1	EXISTING CEILING TO REMAIN (PROVIDE NEW CEILING AT LOWER HEIGHT)



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

FINISH SPECIFICATIONS

XXX-# FINISH SPECIFICATIONS

FLOORING

CPT-1 TYPE: CARPET TILE
MANUF: BENTLEY PRINCE STREET
STYLE: NEW DEMOGRAPHIC 88PSC06301
COLOR: XTI CUSTOM DYE
OTHER: PDS # 132295/030
NOTE: CONTACT - KIT QUIGLEY PH# 440-506-1227

CPT-2 TYPE: WALK-OFF MAT (VESTIBULES)
MANUF: BENTLEY PRINCE STREET
STYLE: DECO RIB WALK-OFF TILE
COLOR: CHOCOLATE
OTHER: #602372
ADHESIVE: NEXT STEP 2300

T-1 TYPE: TILE
MANUF: MANNINGTON
SIZE: 12"X24"
STYLE: CARMEL
COLOR: POCELAIN BEIGE MACR1T12
GROUT: TEC ACCUCOLOR PREMIUM SANDED; COLOR PARCHMENT #991, W/ 1/8" GROUT JOINTS

CT-1 TYPE: CERAMIC TILE
MANUF: CROSSVILLE
STYLE: CERAMIC MOSAIC TILE
SIZE: 3"X3"X14"
COLOR: A235 SAHARA DUNE
GROUT: TEC ACCUCOLOR XT; COLOR CORNSILK #906

CT-2 TYPE: CERAMIC TILE
MANUF: CROSSVILLE
STYLE: CROSS-COLORS MOSAICS GLAZED WALL TILE TO 48" AFF WITH BULL NOSE TRIM AND COVE BASE
COLOR: A235 SAHARA DUNE
SIZE: 3" X 3" X 1/4"
GROUT: TEC ACCUCOLOR XT; COLOR CORNSILK #906

V-1 TYPE: VCT FLOORING
MFR: ARMSTRONG
STYLE: IMPERIAL TEXTURE STANDARD EXCELON
COLOR: #51809 DESERT BEIGE
SIZE: 12"X12"

EPT TYPE: CLEAR EPOXY PAINT
MFR: SHERWIN WILLIAMS OR BENJAMIN MOORE
COLOR: 2 COATS CLEAR SATIN EPOXY

TRANSITION EDGE

TS-1 TYPE: ALUMINUM (CARPET TO STONE TILE STRIP)
MANUF: CERAMIC TOOL CO.
STYLE: CTC CARPET TRIM #CTC38CT
COLOR: CLEAR ANODIZED
NOTE: CONTACT AT 1-800-236-5230

TS-2 NOT USED

TS-3 TYPE: ALUMINUM & RUBBER (STONE TILE TO VINYL COMP. TILE STRIP)
MANUF: JOHNSONITE
STYLE: CTA-XX-D
COLOR: BURNT UMBER #63
NOTE: VERIFY COLOR W/ KEYBANK CONSTR. MGR

TS-4 TYPE: ALUMINUM & RUBBER (STONE TILE TO VINYL COMP. TILE STRIP)
MANUF: CERAMIC TOOL CO. & JOHNSONITE
STYLE: CTC CARPET TRIM #CTC38 (VERIFY) W/ JOHNSONITE #CTA-XX-K
COLOR: CLEAR ANODIZED & SISAL #130
NOTE: G.C. TO VERIFY ALUM TRIM EDGE MAY HAVE TO BE STRAIGHT EDGE FOR RUBBER TRANSITION TO WORK PROPERLY.

TS-5 TYPE: METAL EDGING
STYLE: SLUTTER METAL EDGING
NOTE: SLUTTER METAL EDGE FINISH STRIP TYPICAL ALL TILE TO CARPET TRANSITIONS - FLOAT ALL FLOORS TO LEVEL TRANSITIONS B/N CARPET AND CERAMIC TILE EDGES AT THESE TRANSITIONS PRIOR TO INSTALLATION

WALL BASE

B-1 TYPE: RUBBER BASE (BACK OF HOUSE)
MANUF: JOHNSONITE
COLOR: #22 PEARL
STYLE: 4" HIGH RUBBER COVE(TOE) BASE 0.125" THICK ROLL STOCK

B-2 TYPE: RUBBER BASE (WALK-OFF MAT)
MANUF: JOHNSONITE
COLOR: #167 FUDGE
STYLE: 4" HIGH RUBBER TIGHTLOCK TOELESS BASE 0.125" THICK ROLL STOCK

B-3 TYPE: WOOD BASE 1/2" x 4"
MANUF: ARBORITE
COLOR: (TBD) POPLAR - STAINED MATCH WALNUT FURNITURE SAMPLE.

B-4 TYPE: RUBBER BASE (S.W.A. & T.W.A.)
MANUF: JOHNSONITE
COLOR: #167 FUDGE
STYLE: 4" HIGH RUBBER COVE (TOE) BASE 0.125" THICK ROLL STOCK

WALL PAINT

PT-1 TYPE: INTERIOR PAINT
MANUF: SHERWIN WILLIAMS
COLOR: DEEP ROSE (RED ACCENT PAINT)
OTHER: 2004-10

PT-2 TYPE: INTERIOR PAINT
MANUF: SHERWIN WILLIAMS
COLOR: MANCHESTER TAN
OTHER: HC-81
NOTE: USE PT-2 FOR ALL SOFFITS EXCEPT - FOR ROUND SOFFITS @ HEAD TELLER

PT-3 TYPE: EXTERIOR PAINT
MANUF: SHERWIN WILLIAMS
COLOR: ONION SKIN TAN TO MATCH BEIGE BRICK STANDARD
OTHER: ICI #421

PT-4 TYPE: EXTERIOR PAINT
MANUF: SHERWIN WILLIAMS
COLOR: OLD NAVAJO TO MATCH ONE COAT STUCCO SIGN BAND STANDARD
OTHER: ICI #723

GENERAL FINISH NOTES

1. PROCEEDING WITH THE INSTALLATION OF FINISHES SHALL BE CONSTRUED THAT THE INSTALLER AND/OR FINISHER HAS INSPECTED AND ACCEPTED THE SUBSTRATE TO RECEIVE THE WORK. NO CHANGE ORDER SHALL BE ISUED TO RECTIFY CONCEALED, UNKNOWN CONDITIONS OR UNSATISFACTORY SUBSTRATE ONCE THE FINISH WORK HAS COMMENCED.
2. USE MANUFACTURER'S RECOMMENDED INSTALLATION METHODS AND MATERIALS FOR ALL FINISHES.
3. REMOVE ALL EXISTING ANCHORING DEVICES FROM WALLS IN PREPARATION FOR NEW FINISHES.
4. CONTRACTOR TO IMMEDIATELY NOTIFY KEY BANK P.M. IF A SPECIFIED FINISH BECOMES UNAVAILABLE.
5. PAINT ALL GRILLES, FIRE EXTINGUISHERS CABINETS, ETC TO MATCH SURFACE ON WHICH THEY OCCUR.
6. ALL CARPET SHALL CONFORM TO IBC CRITICAL RADIENT FLUX = .44 W/CM WITH FLAME SPREAD LESS THAN 25.
7. CLEAN ALL CARPET AND SURFACES AFTER COMPLETION OF CONSTRUCTION.
8. PROVIDE BASE THROUGHOUT PROJECT TO MATCH EXISTING UNLESS OTHERWISE NOTED.
9. STAIN ALL WOOD FRAMES AND PAINT ALL HM DOOR FRAMES UNLESS NOTED OTHERWISE.
10. ALL PAINTED WALLS TO HAVE SATIN FINISH, W/ "EASY CLEAN PAINT", UNLESS OTHERWISE NOTED. G.C TO SUBMIT THREE SAMPLES OF EACH FINISH FOR FINAL APPROVAL BY KEYBANK.
11. SEE ELEVATION & DETAILS FOR LAMINATE DESIGNATION OF MILLWORK.
12. ATTIC STOCK MATERIAL TO BE STORED WHERE DIRECTED BY KEYBANK CONSTR. MGR.
13. VERIFY ALL FINISH SELECTIONS WITH THE TENANT PRIOR TO ORDERING, TYPICAL.
14. SEE FINISH LEGEND FOR DESIGNATION SYMBOL.
15. ALL SEALANT WORK MUST MATCH ADJACENT FIELD COLOR OR MUST BE PAINTABLE. USE CLEAR SEALANT WHERE APPROPRIATE AND CONFIRM WITH KEYBANK CONSTRUCTION MANAGER.
16. REMOVE AND LEGALLY DISPOSE OF ALL EXISTING VCT FLOOR COVERING.
17. CLEAN CONCRETE SLAB & GRIND DOWN HIGH SPOTS TO A SMOOTH LEVEL SURFACE
18. FLASH PATCH LOW SPOTS IN EXISTING FLOORS TO A LEVEL SURFACE FOR NEW FINISHES
19. REFER TO G-002 FOR SYMBOL LEGEND
20. CONTRACTOR TO DETERMINE FLOOR TRANSITION TYPES TS-1 THRU TS-5 TO BE INSTALLED AT ALL FLOORING TRANSITIONS AS INDICATED IN THE FINISH SPECIFICATION ON THIS SHEET.

SHEET KEYNOTES

1. INSTALL SLAVAGED CARPET TO MATCH ADJACENT FINISH.

LEGEND

E.T.R. EXISTING TO REMAIN

N.I.C. NOT IN CONTRACT

HATCHED AREA NOT IN CONTRACT

WALLCOVERING

VWC-1 TYPE: WALLCOVERING
DIST: SURFACE MATERIALS
MANUF: SYMPHONY
COLOR: RED OXIDE
PATTERN: MARIMBA

STAIN

S-1 TYPE: STAIN (ALL WOOD BASE AND DOORS)
MANUF:
COLOR: (TBD) TO MATCH WALNUT FURN. SAMPLE

WINDOW TREATMENT

WT-1 TYPE: 1" HORIZONTAL MINI BLINDS
MANUF: BALI FINISH ALUMINUM
COLOR: 112 ALABASTER

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ALFRED CONSOLI JR.
Lic. #ARC2482

Client:

KeyBank
2025 ONTARIO ST, 4TH FLOOR
CLEVELAND, OHIO 44115

Project:

2008 BRANCH MODERNIZATION PROGRAM

PID# 5056

MONUMENT SQUARE

1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	AC

Project No.: F5W86602

Scale: AS NOTED

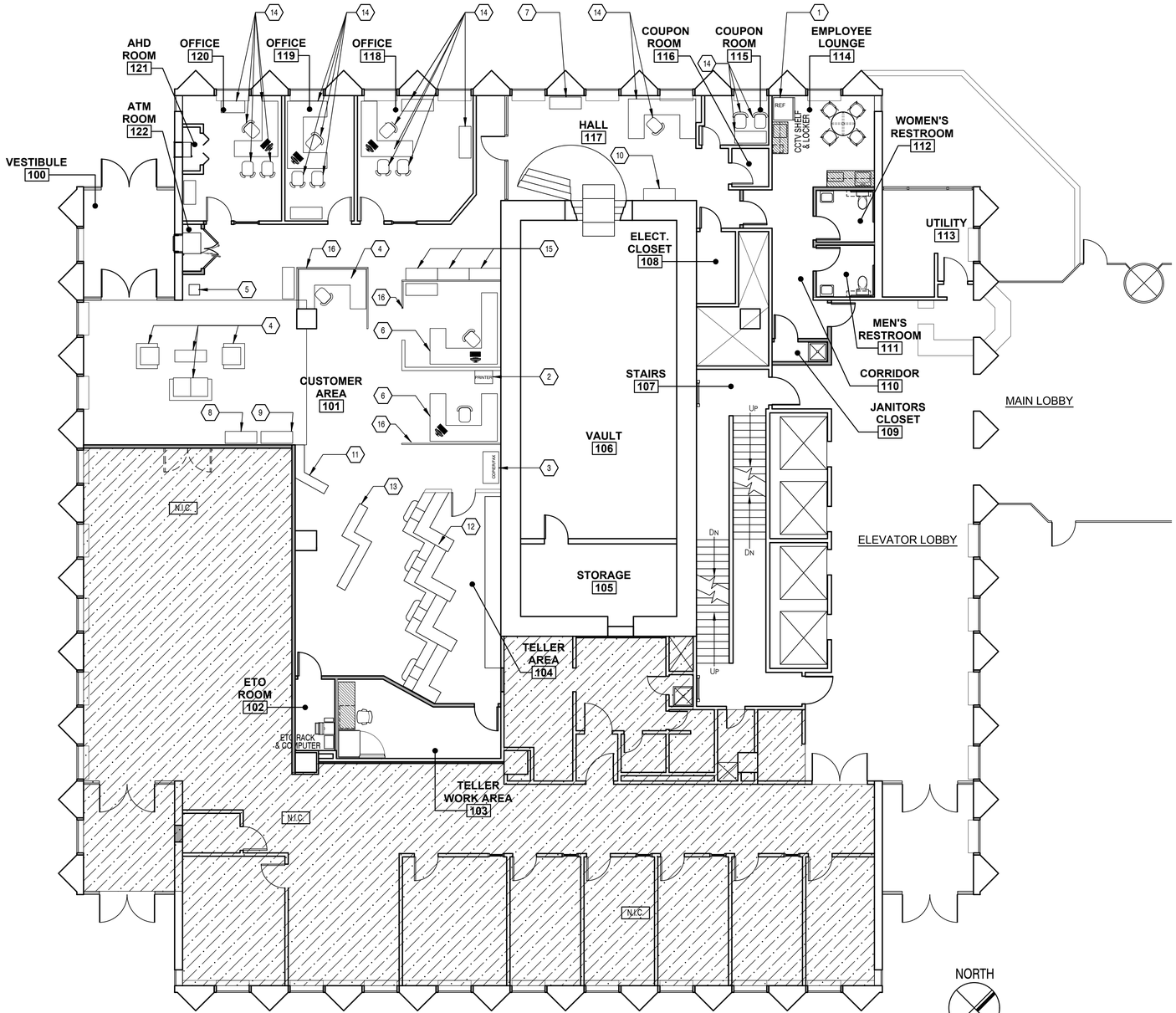
Sheet Title:

FIRST FLOOR FINISH PLAN, SCHEDULE AND SPECIFICATIONS

Drawing No.:

A-105

EX - J:\2008 Projects\F5W86600\Cad\KeyBank_CDs-5056 Monument Square\Arch\5056_A-105.dwg [5056_A-105] February 24, 2009 - 6:17pm PATELSH



1 FIRST FLOOR - FF&E COORDINATION PLAN

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

GENERAL SHEET NOTES

1. THIS DRAWING IS PROVIDED FOR COORDINATION PURPOSES ONLY. INDIVIDUAL VENDORS TO PROVIDE DRAWINGS OF THEIR PRODUCTS. ANY CONFLICTS BETWEEN VENDORS DRAWINGS AND THIS DRAWING TO BE BROUGHT TO ATTENTION OF KEYBANK REPRESENTATIVE FOR RESOLUTION.

SHEET KEYNOTES

1. RELOCATED EXISTING REFRIGERATOR.
2. RELOCATED EXISTING PRINTER.
3. EXISTING COPIER.
4. RELOCATED EXISTING FURNITURE.
5. RELOCATED EXISTING DISPLAY.
6. RELOCATED WORK STATION.
7. RELOCATED DISPLAY SHIP 1.
8. RELOCATED DISPLAY SHIP 2.
9. RELOCATED DISPALY SHIP 3.
10. EXISTING DISPLAY SHIP.
11. RELOCATED EXISTING MILLWORK.
12. EXISTING TELLER STATIONS.
13. EXISTING BUILT-IN MILLWORK.
14. EXISTING FURNITURE.
15. EXISTING FILES.
16. RELOCATE EXISTING SYSTEM FURNITURE FROM SALVAGED IF SIZE IS AVAILABLE TO MATCH EXISTING FURNITURE

LEGEND

E.T.R.	EXISTING TO REMAIN
N.I.C.	NOT IN CONTRACT
	HATCHED AREA NOT IN CONTRACT

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1 MONUMENT SQUARE
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Scale: AS NOTED

Sheet Title:

FIRST FLOOR FURNITURE, FIXTURE AND EQUIPMENT COORDINATION PLAN

Drawing No.:

A-106

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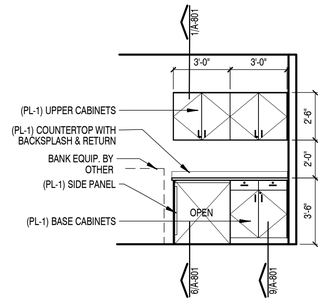


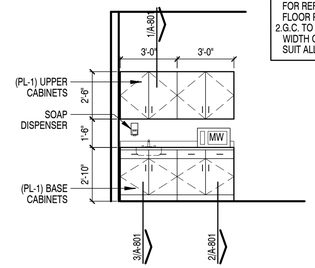
1 TELLER WORK ROOM

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

2 NOT USED

SCALE:

NOTES:
1. G.C. TO INSTALL WATER SUPPLY LINE AS REQUIRED FOR REFRIGERATOR. SEE FLOOR PLAN FOR LOCATION
2. G.C. TO COORDINATE PROPER WIDTH OF REFRIGERATOR TO SUIT ALLOWABLE SPACE

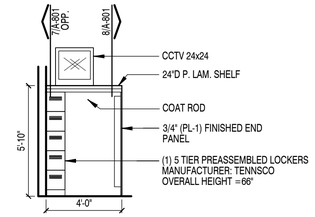


3 EMPLOYEE LOUNGE

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

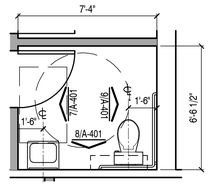
4 NOT USED

SCALE:



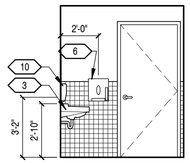
5 CCTV/ LOCKER UNIT COMBO ELEVATION

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



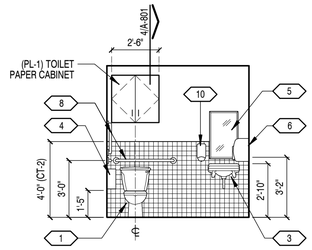
6 MEN'S RESTROOM PLAN

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



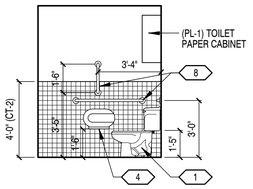
7 RESTROOM ELEVATION

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



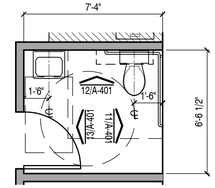
8 RESTROOM ELEVATION

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



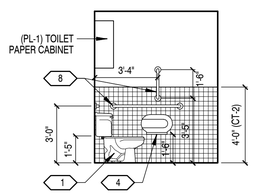
9 RESTROOM ELEVATION

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



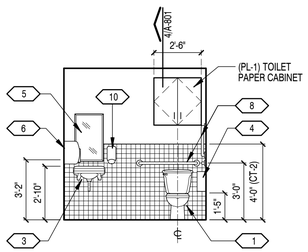
10 WOMEN'S RESTROOM PLAN

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



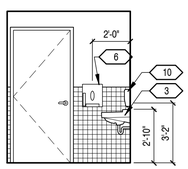
11 RESTROOM ELEVATION

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



12 RESTROOM ELEVATION

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



13 RESTROOM ELEVATION

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

TOILET ROOM FIXTURES AND ACCESSORIES SCHEDULE

ITEM No.	DESCRIPTION	MANUFACTURER	MODEL No.	COLOR/FINISH	REMARKS
1	FLOOR MOUNTED WATER CLOSET	AMERICAN STANDARD	CADET 2998.014	WHITE	-
2	WALL MOUNTED WATER CLOSET	-	-	-	-
3	WALL-HUNG LAVATORY	AMERICAN STANDARD	COMRADE 0124.024	WHITE	-
4	TOILET PAPER DISPENSER	GEORGIA PACIFIC	58250	TRANSLUCENT SMOKE	-
5	MIRROR UNIT	BOBRICK	B-290	STAINLESS STEEL	-
6	PAPER TOWEL DISPENSER	GEORGIA PACIFIC	54338	TRANSLUCENT SMOKE	-
7	SEAT COVER DISPENSER	BOBRICK	B-4221	STAINLESS STEEL	-
8	GRAB BARS	BOBRICK	B-6806	STAINLESS STEEL	GRAB BARS; 18", 36" AND 42" LONG
9	MOP AND BROOM HOLDER	-	-	-	-
10	SOAP DISPENSER	GEORGIA PACIFIC	53253	PACIFIC GARDEN	-

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PID# 5056

MONUMENT SQUARE

1 MONUMENT SQUARE
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No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	AC

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:

MILLWORK ELEVATIONS, ENLARGED TOILET PLANS AND ELEVATIONS

Drawing No.:

A-401

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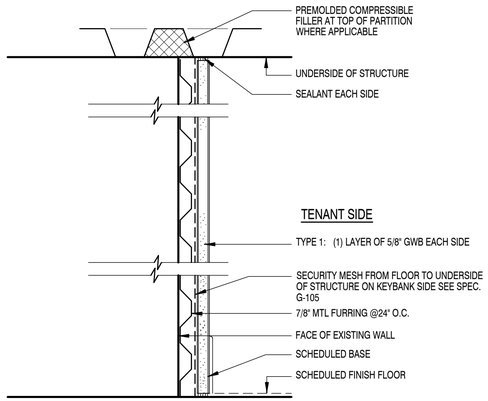
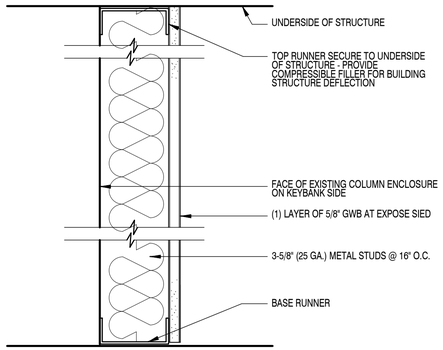


8 PARTITION TYPE 8

SCALE: N.T.S



6 PARTITION TYPE 6

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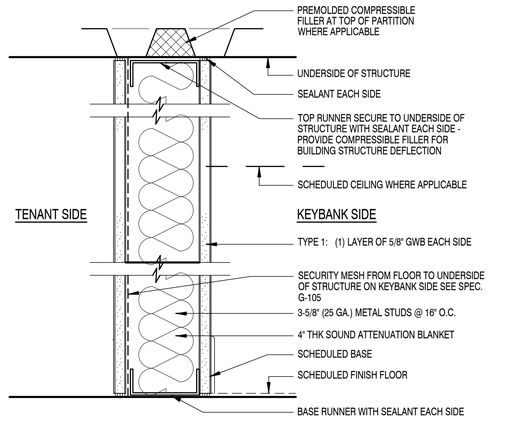
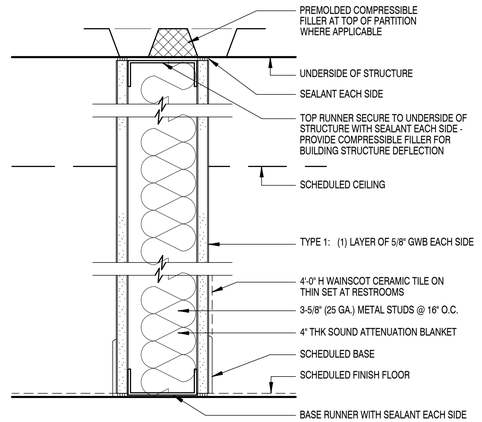


4 PARTITION TYPES 4

WALL SHALL BE MODIFIED AS REQUIRED FOR FUTURE TENANT FOR COMPLIANCE TO LOCAL AND STATE CODE REQUIREMENT

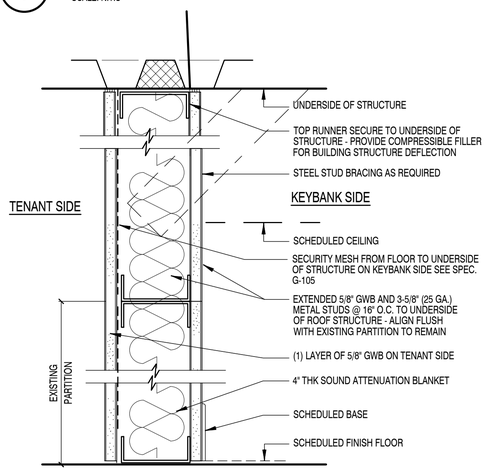
SCALE: N.T.S



1 PARTITION TYPES 1

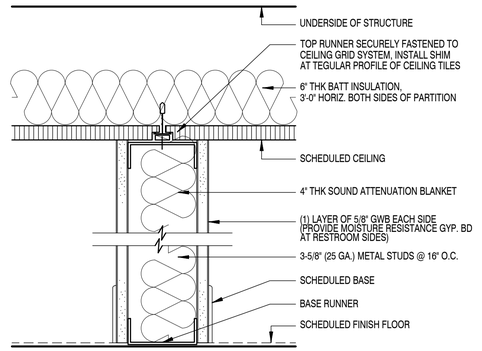
NON-RATED

SCALE: N.T.S



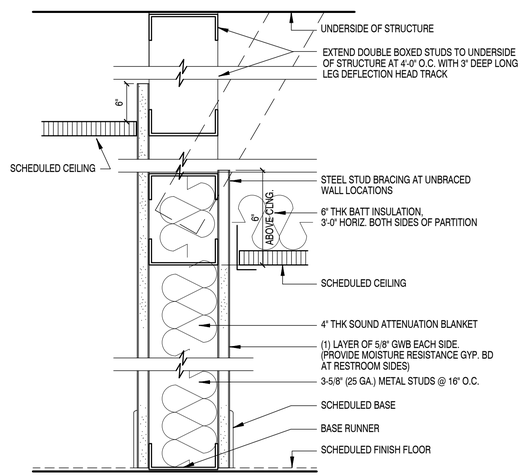
9 PARTITION TYPE 9

SCALE: N.T.S



2 PARTITION TYPE 2

SCALE: N.T.S



3 PARTITION TYPE 3

SCALE: N.T.S

7 NOT USED

SCALE: N.T.S

5 NOT USED

SCALE: N.T.S

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Designed By:	Drawn By:	Checked By:
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Project No.: F5W86602

Scale: AS NOTED

Sheet Title:

WALL TYPES

Drawing No.:

A-501

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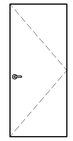
DOOR SCHEDULE

DOOR No.	ROOM NAME	DOOR TYPE	DOOR SIZE W	DOOR SIZE H	DOOR SIZE T	DOOR MATERIAL	DOOR FINISH	HW SET		FRAME TYPE	FRAME MATERIAL	FRAME FINISH	REMARKS
100A	VESTIBULE	EXISTING TO REMAIN											CLEAN ENTIRE STOREFRONT & GLASS
100B	VESTIBULE	EXISTING TO REMAIN											CLEAN ENTIRE STOREFRONT & GLASS
101	CUSTOMER AREA	ALUM. STOREFRONT ENTRANCE DOOR, COORDINATE WITH LANDLORD											N.I.C.
102	ETO ROOM	A	3'-0"	7'-0"	1 3/4"	WD	STAIN	5		A	WD	STAIN	PROVIDE UNDERCUT
103	TELLER WORK AREA	A	3'-0"	7'-0"	1 3/4"	WD	STAIN	4		A	WD	STAIN	
104	NOT USED												
105	VAULT	EXISTING TO REMAIN											
106	VAULT	EXISTING TO REMAIN											
107	STAIRS	EXISTING TO REMAIN											
108	ELEC. CLOSET	EXISTING TO REMAIN					PAINT	EXISTING TO REMAIN				PAINT	
109	JANITOR'S CLOSET	A	3'-0"	7'-0"	1 3/4"	WD	STAIN	11		A	WD	STAIN	PROVIDE UNDERCUT
110	CORRIDOR	A	3'-0"	7'-0"	1 3/4"	WD	STAIN	8		A	WD	STAIN	
110A	CORRIDOR	A	3'-0"	7'-0"	1 3/4"	HM	PAINT	12		B	HM	PAINT	
111	MEN'S ROOM	A	3'-0"	7'-0"	1 3/4"	WD	STAIN	9		A	WD	STAIN	PROVIDE UNDERCUT
112	WOMEN'S ROOM	A	3'-0"	7'-0"	1 3/4"	WD	STAIN	9		A	WD	STAIN	PROVIDE UNDERCUT
113	UTILITY	EXISTING TO REMAIN											
114	NOT USED												
115	COUPON ROOM	EXISTING TO REMAIN					STAIN	EXISTING TO REMAIN				STAIN	
116	COUPON ROOM	EXISTING TO REMAIN					STAIN	EXISTING TO REMAIN				STAIN	
117	HALL	EXISTING TO REMAIN											CLEAN ENTIRE STOREFRONT & GLASS
118	OFFICE	EXISTING TO REMAIN					STAIN	EXISTING TO REMAIN				STAIN	
119	OFFICE	EXISTING TO REMAIN					STAIN	EXISTING TO REMAIN				STAIN	
120	OFFICE	SALVAGED EXISTING TO BE REPLACED					STAIN	SALVAGED EXISTING TO BE REPLACED				STAIN	DOOR AND FRAME TO BE STAINED TO MATCH EXISTING
121	AHD ROOM	EXISTING TO REMAIN											
122	ATM ROOM	A	(2) 2'-6"	7'-0"	1 3/4"	WD	STAIN	6		A	WD	STAIN	

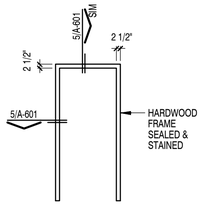
NOTES:
1. ALL ENTRY / EXIT DOORS, ETO ROOM DOOR, TELLER AREA ACCESS DOORS AND/OR TELLER WORK ROOM DOORS SHOULD HAVE ROUGHED IN CARD ACCESS SYSTEMS. COORDINATE W/ DIEBOLD.

DOOR TYPES

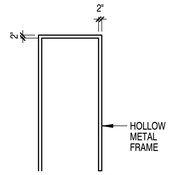


TYPE A

FRAME TYPES

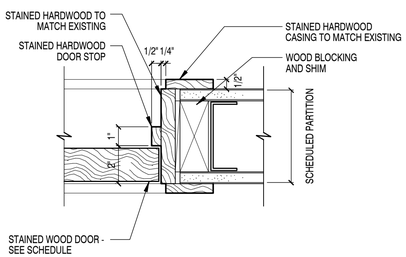


TYPE A



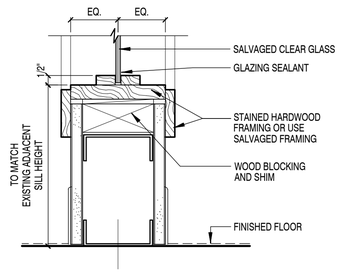
TYPE B

DETAILS



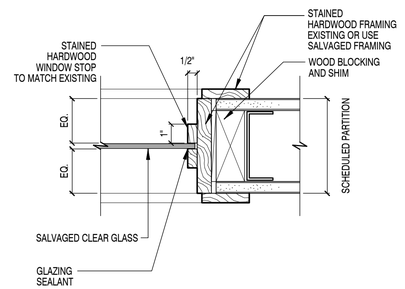
5 TYP. WOOD DOOR JAMB/HEAD
SCALE: 3"=1'-0"

WOOD DOOR AND WINDOW DETAILS

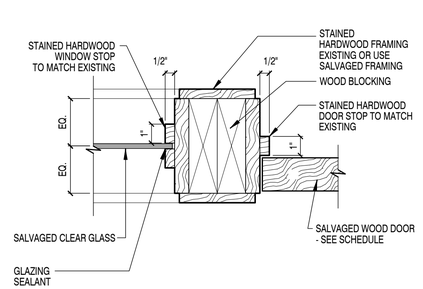


1 WOOD WINDOW SILL
SCALE: 3"=1'-0"

2 NOT USED



3 WOOD WINDOW JAMB/HEAD
SCALE: 3"=1'-0"



4 WOOD DOOR & SIDELITE
SCALE: 3"=1'-0"

HARDWARE SETS

		FIN./MFR.	CATALOG #
HW SET 1:	(SINGLE ALUMINUM/GLASS DOOR IN ALUMINUM FRAME)		
(3)EA	HINGE	630 IVE	3CB1 4.5 x 4.5 NRP
(1)EA	ELECTRIC STRIKE	5000 HES	503 FACEPLATE
(1)EA	SURFACE CLOSER	689 LCN	4111 SCNS
(1)	DEATHLATCH	628 ADA	4710
(1)	PADDLE HANDLE	628 ADA	4591
HW SET 2:	(DOUBLE ALUMINUM/GLASS DOOR IN ALUMINUM FRAME W/ MULLION)		
EACH DOOR TO HAVE:			
(3)EA	HINGE	630 IVE	3CB1 4.5 x 4.5 NRP
(1)EA	ELECTRIC STRIKE	5000 HES	503 FACEPLATE
(1)EA	SURFACE CLOSER	689 LCN	4111 SCNS
(1)	DEATHLATCH	628 ADA	4710
(1)	PADDLE HANDLE active door	628 ADA	4591
HW SET 3:	(DOUBLE ALUMINUM/GLASS DOOR IN ALUMINUM FRAME)		
EACH DOOR TO HAVE:			
(5)TL	HINGE	630 IVE	3CB1 4.5 x 4.5 NRP
(1)EA	ELECTRIC HINGE inactive door	630 IVE	3CB1 TW4 4.5 x 4.5 NRP
(1)EA	ELECTRIC STRIKE inactive door	5000 HES	503 FACEPLATE
(1)EA	SURFACE CLOSER	689 LCN	4111 SCNS
(1)	2 PT FLUSHBOLT inactive leaf	628 ADA	6201
(1)	PADDLE HANDLE active door	628 ADA	4591
HW SET 4:	(TELLER WORK, TELLER LINE)		
(3)EA	HINGE	652 IVE	3CB1 4.5 x 4.5
(1)EA	ELECTRIC STRIKE	5000 HES	501 FACEPLATE
(1)EA	STOREROOM LOCK	626 SCH	ND80RD RHO (EVEREST)
(1)EA	SURFACE CLOSER W/ HOLD OPEN	689 LCN	4011/4111 AS REQUIRED
(1)EA	WALL BUMPER	630 IVE	WS407CCV
(1)EA	DOOR SCOPE	ALUM/SILVER DE SEUNG TRADING CORP	DS2000
(3)EA	SILENCER	GRY IVE	SR64
HW SET 5:	(ETO ROOM)		
(3)EA	HINGE	652 IVE	3CB1 4.5 x 4.5
(1)EA	ELECTRIC STRIKE	5000 HES	501 FACEPLATE
(1)EA	STOREROOM LOCK	626 SCH	ND80RD RHO (EVEREST)
(1)EA	WALL BUMPER	630 IVE	WS407CCV
(3)EA	SILENCER	GRY IVE	SR64
HW SET 6:	(ATM ACCESS CLOSET)		
EACH TO HAVE:			
(3)EA	HINGE	652 IVE	3CB1 4.5 x 4.5
(1)EA	STOREROOM LOCK	626 SCH	ND80RD RHO (EVEREST)
(1)EA	OVERHEAD STOP	630 GLY	900S
(3)EA	SILENCER	GRY IVE	SR64
(1)SET	FLUSH LATCHING EXTENSION BOLT	630 IVE	FB61P
(1)SET	DUMMY TRIM (INACTIVE DOOR ONLY)	626 YAL	455 LN
HW SET 7:	(MECHANICAL ROOM, STORAGE ROOM)		
(3)EA	HINGE	652 IVE	3CB1 4.5 x 4.5
(1)EA	STOREROOM LOCK	626 SCH	ND80RD RHO (EVEREST)
(1)EA	WALL BUMPER	630 IVE	WS407CCV
(3)EA	SILENCER	GRY IVE	SR64
HW SET 8:	(SALES WORK ROOM, LOUNGE FROM PUBLIC SPACE)		
(3)EA	HINGE	652 IVE	3CB1 4.5 x 4.5
(1)EA	STOREROOM LOCK	626 SCH	ND80RD RHO (EVEREST)
(1)EA	DOOR SCOPE	ALUM/SILVER DE SEING TRADING CORP.	
(1)EA	WALL BUMPER	630 IVE	WS407CCV
(3)EA	SILENCER	GRY IVE	SR64
HW SET 9:	(RESTROOM PRIVATE, COUPON ROOM)		
(3)EA	HINGE	652 IVE	3CB1 4.5 x 4.5
(1)EA	STOREROOM LOCK	626 SCH	ND80RD RHO (EVEREST)
(1)EA	WALL BUMPER	630 IVE	WS407CCV
(3)EA	SILENCER	GRY IVE	SR64
HW SET 10:	(RESTROOM OPEN TO PUBLIC SPACE)		
(3)EA	HINGE	652 IVE	3CB1 4.5 x 4.5
(1)EA	STOREROOM LOCK	626 SCH	ND80RD RHO (EVEREST)
(1)EA	KICK PLATE	630 IVE	8400 10x2 LDW
(1)EA	OVERHEAD STOP	630 GLY	900S
(3)EA	SILENCER	GRY IVE	SR64
HW SET 11:	(OFFICE, CONFERENCE ROOM, JANITOR'S CLOSET)		
(3)EA	HINGE	652 IVE	3CB1 4.5 x 4.5
(1)EA	PASSAGE LATCH	626 SCH	ND10S RHO
(1)EA	WALL BUMPER	630 IVE	WS407CCV
(3)EA	SILENCER	GRY IVE	SR64
HW SET 12:	(EXIT DOOR NOT USED BY PUBLIC ENTRY)		
(3)EA	HINGE	652 IVE	3CB1 4.5 x 4.5
(1)EA	PANIC DEVICE - VON DUPRIN GUARD "X" W/ RIM CYLINDER 20-057, EXIT ALARM LOCK #2670 W/ US28 FINISH. CONFIRM W/ KEY BANK CONSTRUCTION MGR FOR ALL ACCESORIES REQUIRED. NOTE: OUTSIDE PULL TRIM IS NOT REQUIRED.		
(1)EA	SURFACE CLOSER	689 LCN	4111 SCNS
(1)EA	DOOR HOLDER	US26D STAN	587580
(1)EA	DOOR SCOPE	ALUM/SILVER DE SEUNG TRADING CORP	DS2000
(3)EA	SILENCER	GRY IVE	SR64

NOTES:
1. ALL INTERIOR DOORS THAT ARE SOLID WOOD CORE DOORS SHALL BE MAPLE OR BIRCH VENEER STAIN GRADE.
2. ALL LOCKABLE DOORS TO BE FREE-TURNING FROM INSIDE OF LOCKED SPACE. BOTH THE LATCHING & DEADBOLT DEVICES ON EXTERIOR DOORS SHALL RELEASE W/ A SINGLE ACTION OF THE INSIDE KNOB OR LEVER. (VERIFY FINAL HARDWARE WITH KEYBANK CM)
3. ALL EXTERIOR STEEL METAL DOOR FRAMES TO BE STEELCRAFT WELDED 2" FRAMES, PRIMED AND READY FOR PAINTING.
4. ALL EXIT DOOR HARDWARE ALLOWS DOOR TO BE OPENED IN THE DIRECTION OF EXIT WITH OUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT. (PER GOVERNING BUILDING CODES).
5. PROVIDE THRESHOLDS WITH A MAXIMUM HEIGHT OF 1/2".
6. THE MAXIMUM EXTERIOR DOOR OPENING EFFORTS SHALL BE 8.5 LBS.
7. ALL ENTRANCE DOORS SHALL BE EQUIPPED W/DEADBOLTS HAVING 1 INCH THROW W/ EMBEDMENT OF AT LEAST 3/4".
8. HINGES FOR OUTSWINGING EXTERIOR DOORS SHALL BE EQUIPPED WITH NON-REMOVABLE HINGE PINS.
9. ALL EXTERIOR DOORS SHALL HAVE SECURITY DOOR ALARM CONTACT INSTALLED ON FRAMES. SEE ELECTRICAL DRAWINGS FOR POWER AND COORD. W/ OWNER FOR FINAL APPROVAL OF HARDWARE.
10. CONTACT KEYBANK CONSTRUCTION MANAGER PRIOR TO ORDERING ANY FINAL HARDWARE STYLE TYPE AND CYLINDERS.
11. ANY ALUM. USED MUST NOT BE PLACED IN DIRECT CONTACT WITH DISSIMILAR METALS OR OTHER FINISH MATERIALS THAT ARE REACTIVE TO ALUMINUM. G.C. TO USE APPROPRIATE PAINT OR PRIMER OR SEALANTS WITH BACKER RODS TO SEPARATE THE CONTACT.
12. PROVIDE THRESHOLD, SWEEP AND GASKETING ON EXTERIOR DOORS AND DOOR-PULLS
13. SEE SIGNAGE DWGS FOR LOGO AND ADA SIGNAGE DETAILS SUPPLIED BY SIGNAGE VENDOR.
14. WIRING FOR ELECTRIC STRIKE SHALL BE INSTALLED INTO THE CEILING ABOVE. CONDUIT MUST BE PROVIDED FOR THE ELECTRIC CARD READER TO THE CEILING ABOVE.

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Project:
2008 BRANCH MODERNIZATION PROGRAM
PID# 5056
MONUMENT SQUARE
1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	AC

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:
DOOR AND HARDWARE SCHEDULE AND DETAILS

Drawing No.:
A-601

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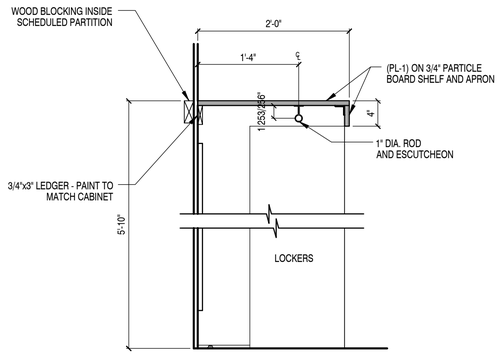
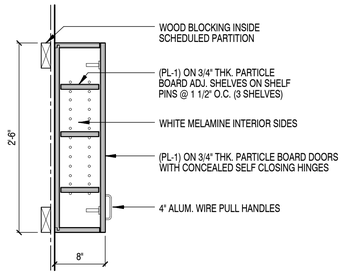


7 SECTION @ CCTV/LOCKER UNIT

SCALE: 1"=1'-0"



4 SECTION @ TOILET CABINET

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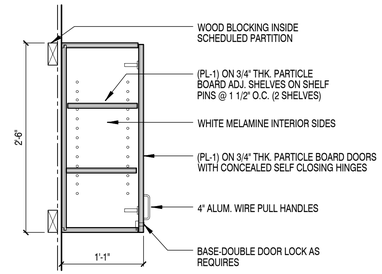
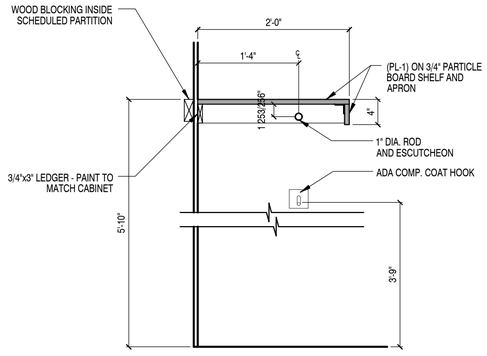


1 SECTION @ UPPER CABINET

SCALE: 1"=1'-0"

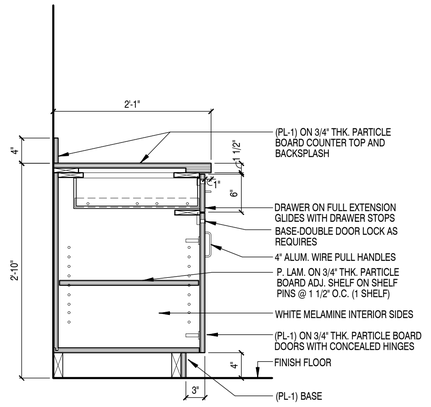


8 SECTION @ CCTV/LOCKER UNIT

SCALE: 1"=1'-0"

5 NOT USED

SCALE: N.T.S.



2 SECTION @ BASE CABINET

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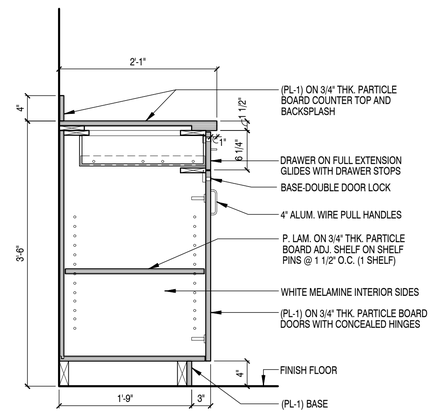
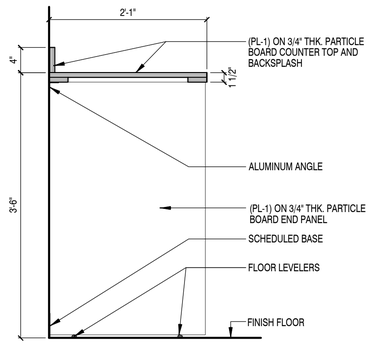


9 SECTION @ BASE CABINET

SCALE: 1"=1'-0"



6 SECTION @ WORK COUNTER

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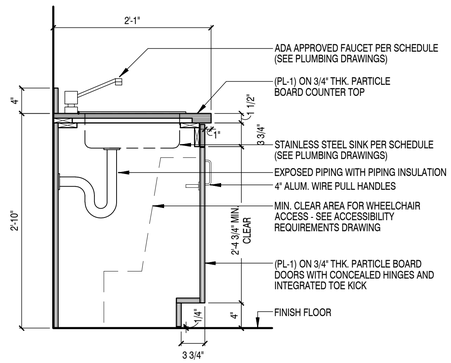

3 SECTION @ PANTRY SINK

SCALE: 1"=1'-0"

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2008 BRANCH MODERNIZATION PROGRAM
PID# 5056
MONUMENT SQUARE
1 MONUMENT SQUARE
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No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	AC

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:

MILLWORK DETAILS

Drawing No.:

A-801

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ABBREVIATIONS

ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
CO	CLEANOUT
CW	COLD WATER
DF	DRINKING FOUNTAIN
DFU	DRAINAGE FIXTURE UNITS
DN	DOWN
DOM	DOMESTIC
DW	DISH WASHER
EQ, EQUIP	EQUIPMENT
E OR (E)	EXISTING
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
HB	HOSE BIBB
HUB	HUB DRAIN
HW	HOT WATER
HWH	HOT WATER HEATER
IHWH	INSTANTANEOUS HOT WATER HEATER
INV	INVERT ELEVATION
LAV	LAVATORY
MV	MIXING VALVE
MS	MOP SINK
NTS	NOT TO SCALE
PD	PUMP DRAIN
PRESS	PRESSURE (PSI)
RD	ROOF DRAIN
RWL	RAIN WATER LEADER
SAN	SANITARY
SQ. FT., SF	SQUARE FEET
SS	SERVICE SINK
ST	STORM WATER
TP	TRAP PRIMER
TYP	TYPICAL
UR	URINAL
V	VENT PIPE
VB	VACUUM BREAKER VALVE
VTR	VENT THRU ROOF
WC	WATER CLOSET
WCO	WALL CLEANOUT
WHA	WATER HAMMER ARRESTOR
WSFU	WATER SUPPLY FIXTURE UNITS

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION
	DOMESTIC, COLD WATER
	DOMESTIC, EQUIPMENT
	DOMESTIC, HOT WATER
	DOMESTIC, HOT WATER RETURN
	SANITARY, PLUMBING FIXTURES
	SANITARY, FLOOR DRAINS
	SANITARY, PIPING
	SANITARY, BELOW SLAB/FLOOR
	SANITARY, VENT LINE
	STORM DRAIN, PIPING
	STORM DRAIN PIPING, BELOW SLAB/FLOOR
G	NATURAL GAS PIPING
	POINT OF DISCONNECTION / POINT OF CONNECTION
	UNION JOINT
	TEE - UP, BRANCH OUT OF TOP
	TEE - DOWN, BRANCH OUT OF BOTTOM
	ELBOW-UP
	ELBOW-DOWN
	CAP ON END OF PIPE
	GATE VALVE
	CHECK VALVE
	BALL VALVE
	PLUG VALVE
	COMBINATION TEMPERATURE AND PRESSURE RELIEF VALVE
	FLEX CONNECTION
OR	P-TRAP
FCO	FLOOR CLEANOUT
CO	CLEANOUT
WCO	WALL CLEANOUT
FD	FLOOR DRAIN & TRAP (TYPE AS NOTED ON PLANS)
TP	TRAP PRIMER
WHA	WATER HAMMER ARRESTOR
	SERVICE STOP
@ # " / # '	PIPE SLOPE
	DIRECTION OF FLOW
	VENT THROUGH ROOF

GENERAL PLUMBING NOTES

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR TO INSTALL COMPLETE AND OPERABLE PLUMBING SYSTEMS AS INDICATED ON THE DRAWINGS, AS REQUIRED BY CODE AND IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
2. COORDINATE CONSTRUCTION OF PLUMBING WORK WITH OTHER TRADES AND DIVISIONS, WHETHER OR NOT SPECIFICALLY SHOWN ON CONTRACT DOCUMENT DRAWINGS.
3. COMPLETE ALL LEAK TESTS AND CORRECT ALL LEAKS PRIOR TO APPLYING PLUMBING INSULATION TO EQUIPMENT AND PIPING.
4. WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, USE THE PRODUCT OF ONE MANUFACTURER.
5. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE CONTRACTOR BASED ON PROJECT SITE CONDITIONS. SUBMIT FOR THE APPROVAL OF THE OWNER'S REPRESENTATIVE BEFORE INSTALLATION. DO NOT SCALE DRAWINGS.
6. COORDINATE LOCATIONS AND SIZES OF FLOOR, WALL, AND ROOF OPENINGS WITH ALL OTHER TRADES.
7. COORDINATE EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. FIELD VERIFY AND COORDINATE PIPING DIMENSIONS BEFORE FABRICATION.
8. THE PLUMBING CONTRACTOR SHALL INSTALL ALL PLUMBING TO ADHERE TO ARCHITECTURAL CEILING HEIGHTS. PLUMBING CONTRACTOR SHALL HOLD ALL PIPING AS HIGH AS POSSIBLE TO CLEAR ALL FACILITIES EQUIPMENT.
9. PENETRATION OF DUCTWORK BY PIPES IS UNACCEPTABLE.

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MONUMENT SQUARE

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A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	-

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:

PLUMBING
GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

Drawing No.:

P-001

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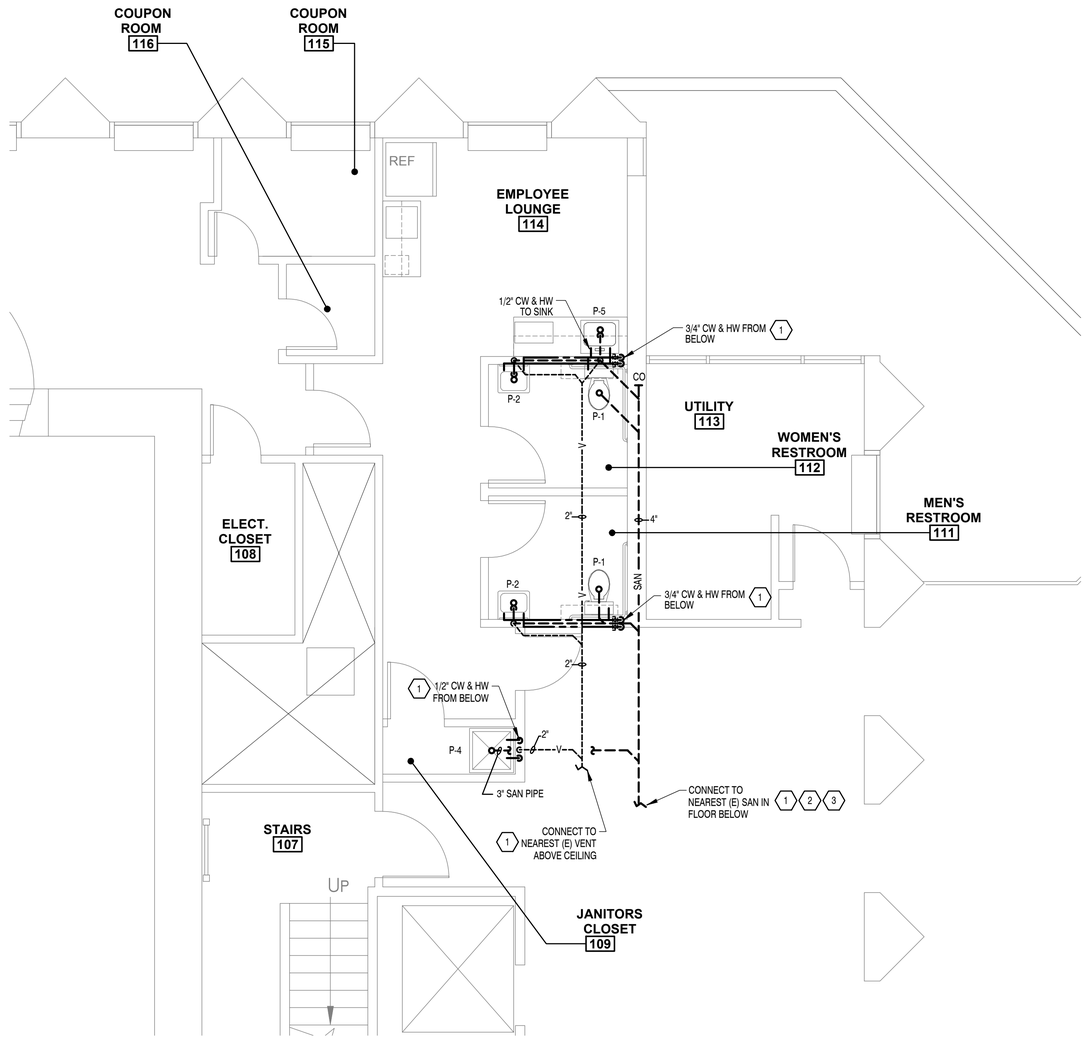

1 PARTIAL FIRST FLOOR - PLUMBING PLAN

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

GENERAL SHEET NOTES

1. REFER TO DRAWING P-001 FOR PLUMBING GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.
2. REFER TO DRAWING P-501 FOR PLUMBING SCHEDULES, DETAILS AND DIAGRAMS.
3. CONTRACTOR SHALL COORDINATE PLUMBING SYSTEM SHUTDOWNS WITH THE OWNER'S REPRESENTATIVE 7 DAYS IN ADVANCE OF SYSTEM SHUTDOWNS.
4. PIPING LAYOUTS ARE DIAGRAMATIC AND INTENDED TO SHOW GENERAL ARRANGEMENT, SIZE, AND CAPACITY. ALL OFFSETS ARE NOT NECESSARILY SHOWN. THE CONTRACTOR SHALL ARRANGE AND COORDINATE THE WORK FURNISH NECESSARY OFFSETS, VALVES, VENTS, AND FITTINGS TO AVOID CONFLICTS WITH OTHER MECHANICAL AND ELECTRICAL SERVICES AND WITH STRUCTURAL AND ARCHITECTURAL ELEMENTS.
5. THE CONTRACTOR SHALL VERIFY ALL LOCATIONS AND ELEVATIONS OF EXISTING SERVICES AND UTILITES BEFORE STARTING ANY WORK. REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE.
6. REFER TO DRAWINGS G-001 THROUGH G-111 FOR ADDITIONAL REQUIREMENTS AND SPECIFICATIONS.

DEMOLITION KEYNOTES

NOT USED

SHEET KEYNOTES

1. CONNECT NEW PIPING TO EXISTING PIPING AS REQUIRED BY FIELD CONDITIONS AND CODE. PATCH AND REPAIR CEILING AS REQUIRED.
2. PIPING SHOWN IN FLOOR BELOW.
3. G.C. TO COORDINATE WITH LANDLORD FOR SANITARY CONNECTION OUTSIDE OF KEYBANK LEASING SPACE.

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Project:

2008 BRANCH MODERNIZATION PROGRAM
PID# 5056
MONUMENT SQUARE
1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	-

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:
FIRST FLOOR PLUMBING NEW WORK PLAN

Drawing No.:
P-101

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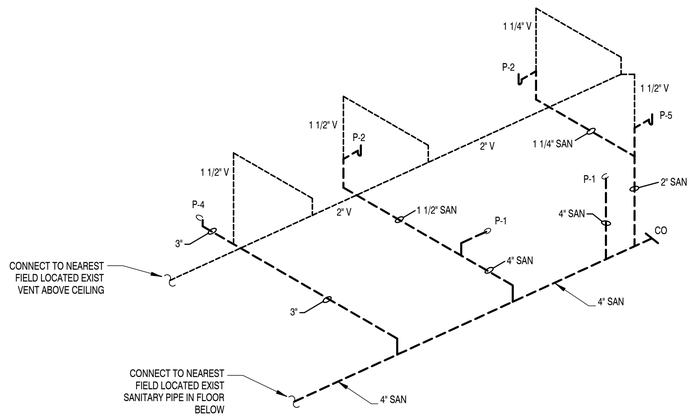
PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	MFR	MODEL	TRAP	CONNECTIONS						REMARKS
					WASTE	VENT	CW	HW	DFU	WATER DEMAND (GPM)	
P-1	WATER CLOSET	AMERICAN STANDARD	CADET 2998.014	INTEGRAL	4"	2"	1/2"	NA	4	3	ADA COMPLIANT, VITREOUS CHINA, FLOOR MOUNTED, 14" ROUGH-IN ELONGATED TOILET, CLOSE-COUPLED TANK, 1.6 GPF., AMERICAN STANDARD SEAT 5324.019 (OR APPROVED EQUAL)
P-2	BATHROOM LAVATORY	AMERICAN STANDARD	COMRADE 0124.131	1 1/4"	1 1/4"	1 1/4"	1/2"	1/2"	1	2	ADA COMPLIANT, VITREOUS CHINA, 20" x 18 1/4" WALL HUNG LAVATORY, 4" CENTERS, REAR OVERFLOW, CONCEALED ARM SUPPORTS, DELTA FAUCET 500-WF (OR APPROVED EQUAL)
P-3	NOT USED										
P-4	MOP SINK	KOHLER	K-6710	3"	3"	1 1/2"	1/2"	1/2"	2	3	28" x 28" CAST IRON SERVICE SINK, ACID RESISTANT ENAMEL FINISH, FLOOR MOUNTED, CORNER SINK WITH WIRE RIM GAURD, KOHLER FAUCET K-13625 (OR APPROVED EQUAL)
P-5	EMPLOYEE LOUNGE SINK	ELKAY	LRAD1919	1 1/2"	1 1/2"	1 1/2"	1/2"	1/2"	2	3	ADA COMPLIANT, 19 1/2" x 19" SINGLE BOWL, 18 GAUGE TYPE 304 STAINLESS STEEL, SELF RIMMING FULLY UNDERCOATED, 3 HOLE DRILLINGS W/ 4" CENTERS, DELTA FAUCET 100-WF (OR APPROVED EQUAL)

PIPE INSULATION SCHEDULE

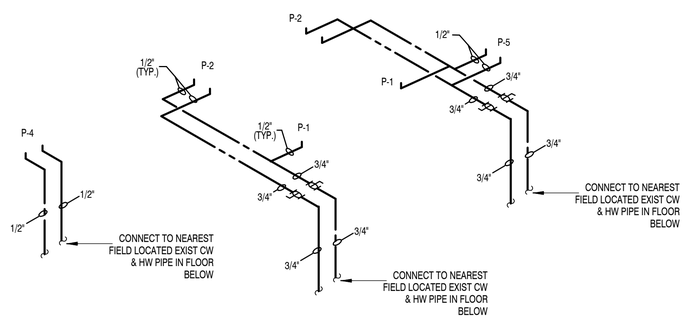
SYSTEM OR SERVICE	AVERAGE PIPE TEMP. (°F)	INSULATION TYPE	PIPE LOCATION			JACKET			INSULATION THICKNESS (IN.)	
									PIPE SIZE	
			INDOOR	OUTDOOR	BURRIED	ALL SERVICE	METAL	FABRIC	1/2" - 2"	2 1/2" - 4"
COLD WATER	60	GLASS FIBER	X	-	-	X	-	-	1	1
HOT WATER	110	GLASS FIBER	X	-	-	X	-	-	1	1



1 SANITARY & VENT RISER DIAGRAM
SCALE: N.T.S

2 NOT USED
SCALE: N.T.S

3 NOT USED
SCALE: N.T.S



7 WATER RISER DIAGRAM
SCALE: N.T.S

4 NOT USED
SCALE: N.T.S

5 NOT USED
SCALE: N.T.S

6 NOT USED
SCALE: N.T.S

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2008 BRANCH MODERNIZATION PROGRAM

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Designed By:	Drawn By:	Checked By:
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Project No.: F5W86602

Scale: AS NOTED

Sheet Title:

PLUMBING DETAILS, SCHEDULES AND RISER DIAGRAMS

Drawing No.:

P-501

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ABBREVIATIONS

A	AMPS
AC	AIR CONDITIONER
ACCU	AIR COOLED CONDENSING UNIT
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AMB	AMBIENT
BTU	BRITISH THERMAL UNIT
CFM	CUBIC FEET PER MINUTE
CP	CONDENSATE PUMP
DIA	DIAMETER
E OR (E)	EXISTING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB TEMPERATURE
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
EWB	ENTERING WET BULB TEMPERATURE
°F	DEGREE FAHRENHEIT
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
FPI	FINS PER INCH
FD	FIRE DAMPER
FT	FOOT OR FEET
GPM	GALLONS PER MINUTE
HP	HORSE POWER
HWS&R	HOT WATER SUPPLY AND RETURN
kW	KILOWATT
HZ	HERTZ
IN	INCH
LAT	LEAVING AIR TEMPERATURE
LDB	LEAVING DRY BULB TEMPERATURE
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
LRA	LOCKED ROTOR AMPS
LWB	LEAVING WET BULB TEMPERATURE
MAX	MAXIMUM
MBH	1,000 BTU'S PER HOUR
MCA	MAXIMUM CIRCUIT AMPACITY
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
N T S	NOT TO SCALE
OA	OUTSIDE AIR
PH	PHASE
RA	RETURN AIR
RL	REFRIGERANT LIQUID
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SHC	SENSIBLE HEAT CAPACITY
SQ. FT.	SQUARE FEET
T	THERMOSTAT
TA	THROW AWAY
TC	TOTAL CAPACITY
TEMP	TEMPERATURE
V	VOLT
WBT	WET BULB TEMPERATURE
WG	WATER GAUGE

MECHANICAL SYMBOLS

SYMBOL	DESCRIPTION
	ROOF VENTILATOR, EXHAUST
12x10	DUCT SIZE, FIRST FIGURE IS TOP
	DUCT TO BE REMOVED
24x12	DUCT SECTION, POSITIVE PRESSURE, FIRST FIGURE IS TOP
24x12	DUCT SECTION, NEGATIVE PRESSURE, FIRST FIGURE IS TOP
	FLEXIBLE CONNECTION
	FLEXIBLE DUCT
	FLEXIBLE DUCT TO BE REMOVED
12x6 8x8	TRANSITION
R1 R1	MITERED / ROUND ELBOW WITH DOUBLE RADIUS TURNING VANES
	POINT OF DISCONNECTION / POINT OF CONNECTION
	CEILING DIFFUSER, 4-WAY, 3-WAY, 2-WAY OR 1-WAY
	CEILING RETURN
	CEILING DIFFUSER TO BE REMOVED
824CD-1 (200)	8" ROUND NECK, 24" x 24" SQUARE CEILING DIFFUSER - TYPE 1 (BALANCED TO 200 CUBIC FEET PER MINUTE)
	VOLUME DAMPER
T	WALL MOUNTED THERMOSTAT
S	DETECTORS, FIRE AND/OR SMOKE
FD	FIRE DAMPER
AD	ACCESS DOOR
	UNION JOINT
	ELBOW-UP
	ELBOW-DOWN
	CAP ON END OF PIPE
	CHECK VALVE
	BALL VALVE
	GATE VALVE
	CONTROL VALVE
	FLEX CONNECTION
U #"	DOOR UNDERCUT
	STRAINER

GENERAL MECHANICAL NOTES

1. PRIOR TO THE START OF DEMOLITION, THE TESTING AND BALANCING CONTRACTOR (TAB) SHALL MEASURE THE AIRFLOW AT EACH EXISTING AIR INLET AND OUTLET AND RECORD THE DATA.
2. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS REQUIRED BY CODE AND IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
3. COORDINATE CONSTRUCTION OF MECHANICAL WORK WITH OTHER TRADES AND DIVISIONS, WHETHER OR NOT SPECIFICALLY SHOWN ON CONTRACT DOCUMENT DRAWINGS.
4. COMPLETE ALL LEAK TESTS AND CORRECT ALL LEAKS PRIOR TO APPLYING MECHANICAL INSULATION TO EQUIPMENT, PIPING AND DUCTS.
6. WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, USE THE PRODUCT OF ONE MANUFACTURER.
7. PROVIDE CONTROL WIRE AND CONDUIT IN COMPLIANCE WITH APPLICABLE ELECTRIC CODES AND THE SPECIFICATIONS.
8. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE CONTRACTOR BASED ON PROJECT SITE CONDITIONS. SUBMIT FOR THE APPROVAL OF THE OWNER'S REPRESENTATIVE BEFORE INSTALLATION. DO NOT SCALE DRAWINGS.
9. SUPPORT EQUIPMENT, DUCTWORK, ETC., AS DETAILED, SPECIFIED, AND AS NECESSARY TO PROVIDE VIBRATION FREE INSTALLATION.
10. COORDINATE LOCATIONS AND SIZES OF FLOOR, WALL, AND ROOF OPENINGS WITH ALL OTHER TRADES.
11. COORDINATE EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCT AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION.
12. INSULATE SUPPLY AND RETURN AIR DUCTS WITH MINIMUM 2" FSK FACED FIBERGLASS INSULATION WITH A MINIMUM DENSITY OF 3/4 PCF. SEAL ALL JOINTS WITH VAPOR BARRIER.
13. COORDINATE DIFFUSER, REGISTER AND GRILLE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS, LIGHTING, AND OTHER ITEMS AND MAKE MINOR DUCT MODIFICATIONS TO SUIT. ARRANGE DUCTWORK AND VOLUME CONTROL DEVICES TO PROVIDE ACCESS FOR ADJUSTMENT. INCLUDE IN THE SCOPE OF WORK MINOR DUCT MODIFICATIONS FOR COORDINATION WITH EXISTING CONDITIONS.
14. UNLESS OTHERWISE SHOWN, LOCATE ALL ROOM THERMOSTATS 4'-0" AFF (TO TOP OF CONTROL) ABOVE FINISHED FLOOR. NOTIFY THE OWNERS REPRESENTATIVE OF ANY ROOMS WHERE THE ABOVE LOCATION CANNOT BE MAINTAINED OR WHERE THERE IS A QUESTION ON LOCATION.
15. THE DRAWINGS ARE DIAGRAMMATIC AND ONLY INDICATE THE SYSTEM INTENT. THE CONTRACTOR SHALL PROVIDE A FULLY FUNCTIONAL SYSTEM.

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Designed By:	Drawn By:	Checked By:
MOR	MOR	-

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:

MECHANICAL
GENERAL NOTES, SYMBOLS
AND ABBREVIATIONS

Drawing No.:

M-001

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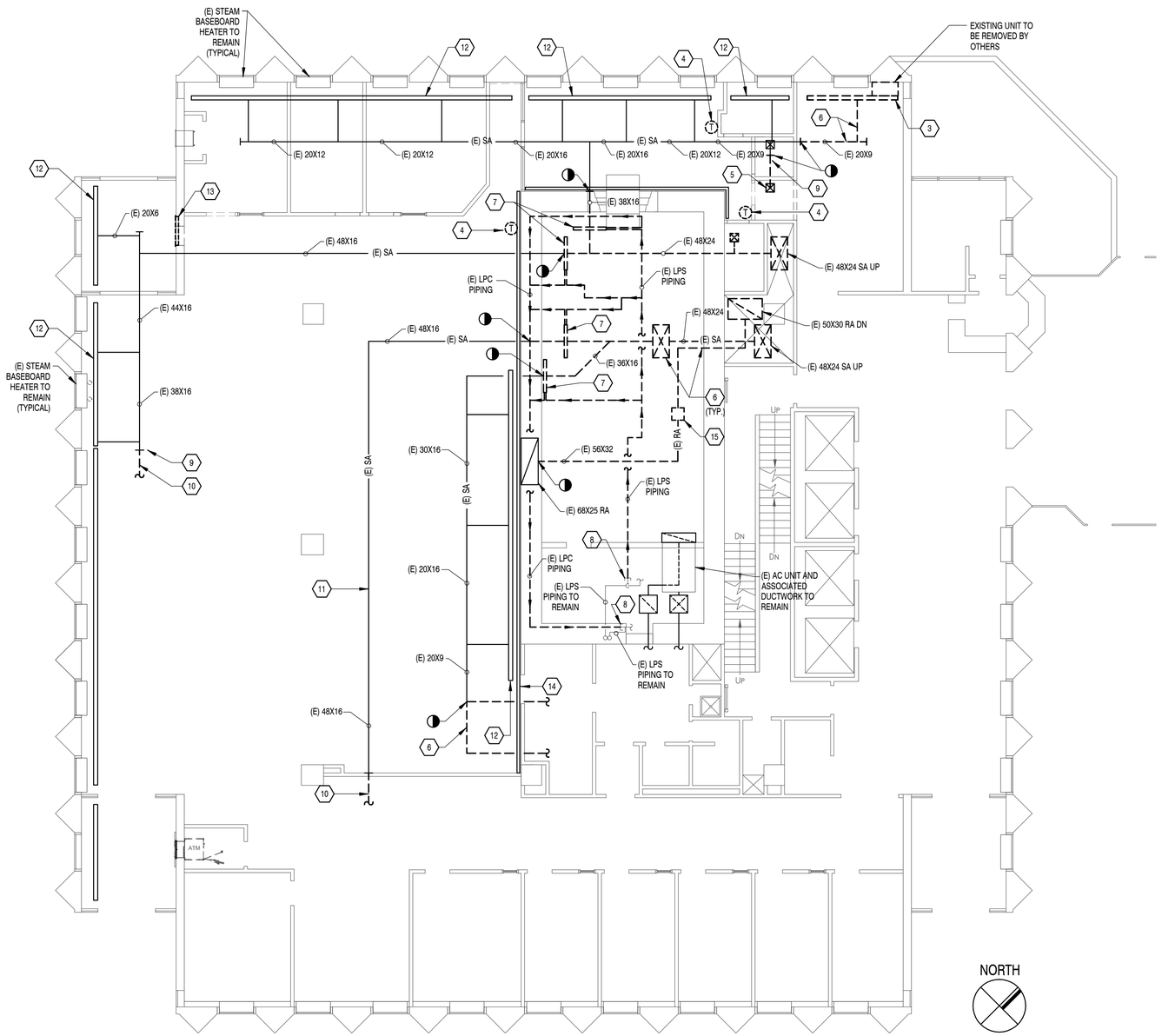

1 FIRST FLOOR - MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO DRAWING M-001 FOR MECHANICAL GENERAL NOTES, SYMBOLS & ABBREVIATIONS.
2. REFER TO DRAWINGS G-001 THROUGH G-004 AND G-100 THROUGH G-113 FOR ADDITIONAL REQUIREMENTS AND SPECIFICATIONS.
3. NOT USED.
4. THE EXISTING ETO ROOM MUST REMAIN OPERATIONAL UNTIL THE CONSTRUCTION OF THE NEW ETO ROOM IS VERIFIED TO BE OPERATIONAL.
5. REMOVE ALL EXISTING DUCTWORK, DIFFUSERS, AND GRILLES IN THE AREA OF WORK. REFER TO DRAWING M-102.

SHEET KEYNOTES

1. NOT USED.
2. NOT USED.
3. REMOVE EXISTING SUPPLY LINEAR SLOT DIFFUSER LOCATED AT CEILING.
4. EXISTING THERMOSTAT AND EXISTING CONTROL WIRING TO BE REMOVED. PATCH WALL AS NECESSARY TO MATCH ADJACENT FINISHES.
5. REMOVE EXISTING SUPPLY DIFFUSER.
6. REMOVE SUPPLY AND RETURN DUCTWORK AS INDICATED.
7. REMOVE REHEATING COIL IN DUCTWORK. REMOVE ASSOCIATED STEAM AND CONDENSATE PIPING SERVING THE REHEATING COIL.
8. CUT AND CAP EXISTING LPS & LPC PIPING AT INDICATED LOCATION.
9. CUT AND CAP EXISTING DUCT AT THIS LOCATION.
10. DUCTWORK TO BE REMOVED BY OTHERS.
11. EXISTING DUCT TO BE DISCONNECTED AND ABANDONED IN PLACE AS INDICATED.
12. EXISTING LINEAR DIFFUSER TO REMAIN.
13. EXISTING CABINET UNIT HEATER TO BE REMOVED.
14. EXISTING LINEAR RETURN GRILLE TO REMAIN.
15. EXISTING RETURN AIR FAN TO BE REMOVED. REMOVE WIRING BACK TO POINT OF ORIGIN.

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FIRST FLOOR MECHANICAL DEMOLITION PLAN

Drawing No.:

M-101

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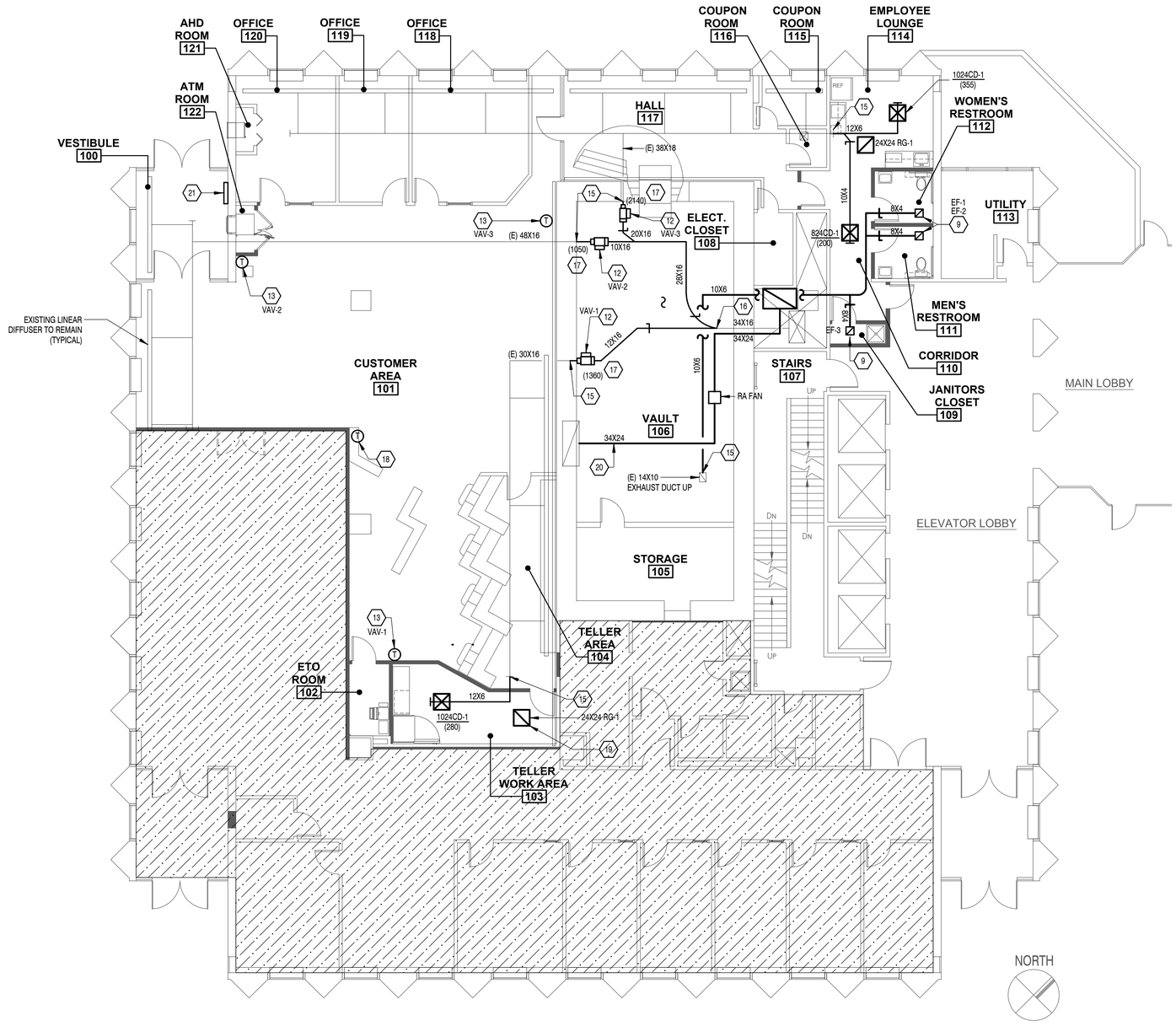
VENTILATION SCHEDULE

ROOM #	ROOM NAME	SQ. FT.	NO. OF PEOPLE	CFM O.A. PER PERSON	NO. OF W.C./URINALS	CFM O.A. PER/ S.F	TOTAL MIN CFM O.A.
100	VESTIBULE	144	-	-	-	0.05	8
101	CUSTOMER AREA	1236	9	20	-	-	180
120	OFFICE	200	1	20	-	-	20
110	CORRIDOR	145	-	-	-	0.05	8
119	OFFICE	124	1	20	-	-	20
118	OFFICE	270	1	20	-	-	20
103	TELLER WORK AREA	123	1	20	-	-	20
104	TELLER AREA	243	4	20	-	-	80

ROOM #	ROOM NAME	SQ. FT.	NO. OF PEOPLE	CFM O.A. PER PERSON	NO. OF W.C./URINALS	CFM O.A. PER/ S.F	TOTAL MIN CFM O.A.
111	MEN'S ROOM	49	-	-	1	-	75 (T)
112	WOMEN'S ROOM	49	-	-	1	-	75 (T)
117	HALL	539	-	-	-	0.05	27
109	JANITOR'S CLOSET	9	-	-	-	0.05	50 (T)
114	EMPLOYEE LOUNGE	143	4	20	-	-	80
115	COUPON ROOM	55	1	20	-	-	20
116	COUPON ROOM	37	1	20	-	-	20
						TOTAL	503

NOTES:
1. CONTRACTOR TO BALANCE EXISTING ROOFTOP UNIT TO ENSURE THAT UNIT IS SUPPLYING A MINIMUM OF 1058 CFM
2. WHERE "T" IS NOTED, VENTILATION AIR IS TRANSFERRED FROM ADJACENT SPACE.



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

GENERAL SHEET NOTES

1. REFER TO DRAWING M-001 FOR MECHANICAL GENERAL NOTES, SYMBOLS & ABBREVIATIONS.
2. REFER TO DRAWINGS G-001 THROUGH G-004 AND G-100 THROUGH G-113 FOR ADDITIONAL REQUIREMENTS AND SPECIFICATIONS.
3. REFER TO DRAWING M-501 FOR MECHANICAL DETAILS AND SCHEDULES.
4. SUBMIT MANUFACTURER'S INSTALLATION INSTRUCTIONS (INCLUDING PIPING AND ELECTRICAL WIRING DIAGRAMS) FOR EQUIPMENT SHOWN.
5. SLOPE REFRIGERANT PIPING ONE PERCENT IN THE DIRECTION OF OIL RETURN. LIQUID LINES MAY BE INSTALLED LEVEL.
6. NOT USED
7. INSTALL HORIZONTAL REFRIGERANT SUCTION LINES WITH 1/2 INCH PER 10 FEET DOWNWARD SLOPE TO THE COMPRESSOR, WITH NO LONG TRAPS OR DEAD ENDS WHICH MAY CAUSE OIL TO SEPARATE FROM THE SUCTION GAS AND RETURN TO THE COMPRESSOR IN DAMAGING SLUGS.
8. NOT USED
9. CONTRACTOR TO HIRE A CERTIFIED TESTING AND BALANCING COMPANY TO BALANCE AIR INLETS AND OUTLETS, RE-HEAT COILS, AND VERIFY CORRECT OPERATION OF SYSTEM CONTROLS. TAB TO PREPARE A CERTIFIED TESTING AND BALANCING REPORT AND SUBMIT TO THE KEY BANK REPRESENTATIVE.

SHEET KEYNOTES

1. NOT USED
2. NOT USED
3. NOT USED
4. NOT USED
5. NOT USED
6. NOT USED
7. NOT USED
8. NOT USED
9. PROVIDE NEW CEILING MOUNTED EXHAUST FAN, REFER TO SCHEDULE ON DRAWING M-501. PROVIDE NEW DUCT CONNECTION BETWEEN CEILING EXHAUST FANS AND EXISTING BUILDING EXHAUST SYSTEM. CONTRACTOR MUST VERIFY THAT NEW FANS CAN BE CONNECTED TO EXISTING EXHAUST SYSTEM. IF THE NEW FANS CAN NOT BE CONNECTED TO THE EXISTING SYSTEM, CONTRACTOR IS RESPONSIBLE TO PROVIDE AN ALTERNATE THAT IS ACCEPTABLE TO OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST.
10. NOT USED
11. NOT USED
12. PROVIDE VAV BOX. REFER TO VAV BOX SCHEDULE ON DRAWING M-501. PROVIDE DUCT TRANSITION AS REQUIRED.
13. LOCATION OF NEW THERMOSTAT FOR VAV BOX.
14. NOT USED.
15. CONNECT TO EXISTING DUCT.
16. CONNECT TO SUPPLY AIR DUCT INSTALLED BY OTHER UP FROM BASEMENT TO THIS POINT.
17. BALANCE DUCT BRANCH TO CFM INDICATED.
18. LOCATION OF THERMOSTAT FOR AIR HANDLING UNIT SERVING THE KEYBANK SPACE.
19. PROVIDE 24"X24" DUCT STUBBED UP TO ABOVE EXISTING 13'-0" CEILING.
20. RETURN AIR DUCTWORK & RETURN AIR FAN INSTALLED BY OTHERS.
21. PROVIDE SURFACE MOUNTED CONVECTOR, STERLING, MODEL FSA (6" DEEP X 32" WIDE X 24" HIGH). 7,560 BTUH BASED ON STEAM AT 215°F. COLOR TO BE BEIGE. PROVIDE ACCESS DOOR FOR ACCESS TO SHUT-OFF VALVES.

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Scale: AS NOTED

Sheet Title:
FIRST FLOOR MECHANICAL NEW WORK PLAN

Drawing No.:
M-102

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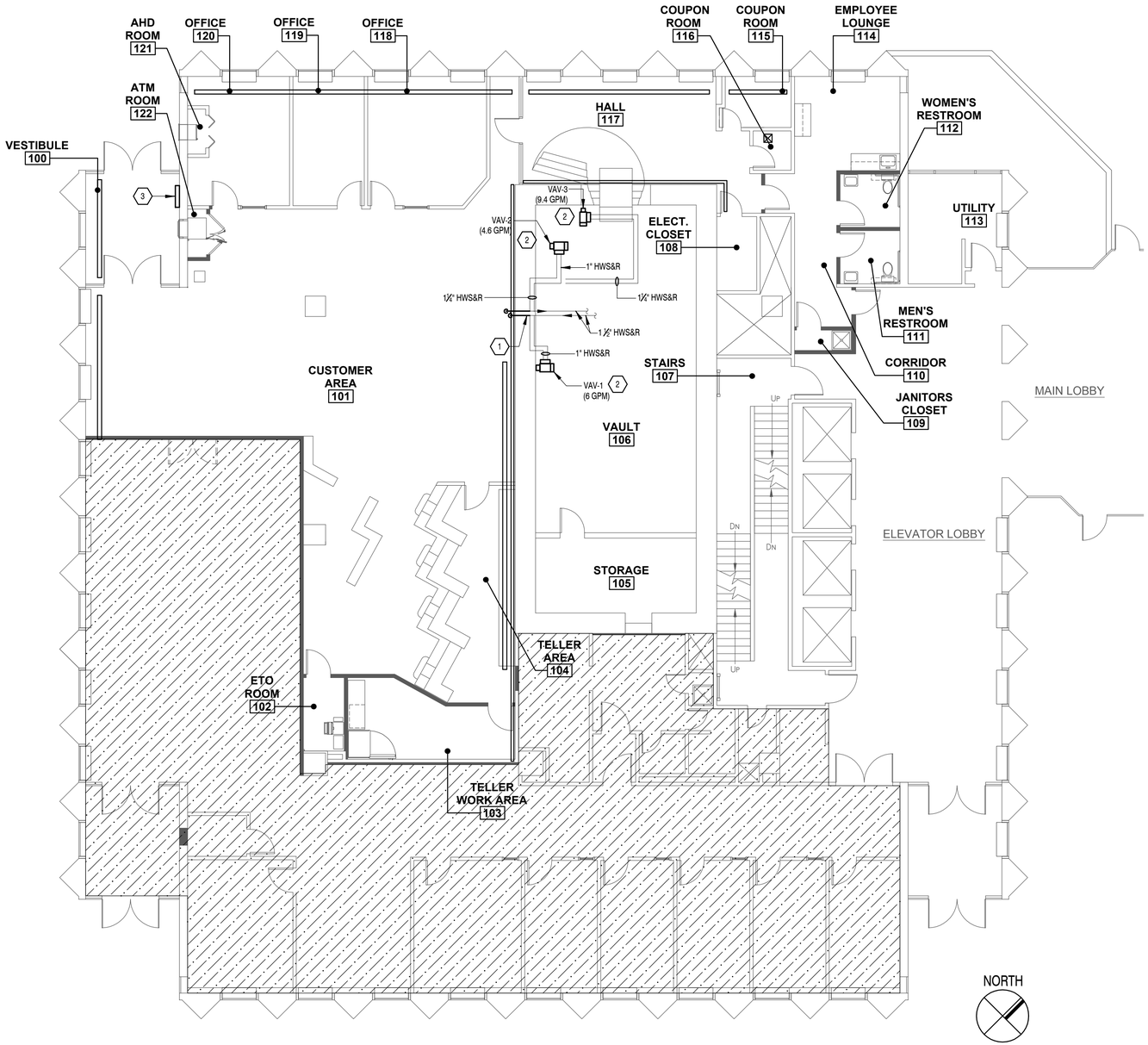

1 FIRST FLOOR - MECHANICAL HOT WATER PIPING PLAN

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

GENERAL SHEET NOTES

1. REFER TO DRAWING M-001 FOR MECHANICAL GENERAL NOTES, SYMBOLS & ABBREVIATIONS.
2. REFER TO DRAWINGS G-001 THROUGH G-004 AND G-100 THROUGH G-113 FOR ADDITIONAL REQUIREMENTS AND SPECIFICATIONS.
3. REFER TO DRAWING M-501 FOR MECHANICAL DETAILS AND SCHEDULES.
4. SUBMIT MANUFACTURER'S INSTALLATION INSTRUCTIONS (INCLUDING PIPING AND ELECTRICAL WIRING DIAGRAMS) FOR EQUIPMENT SHOWN.

SHEET KEYNOTES

1. CONNECT TO HOT WATER SUPPLY AND RETURN PIPING INSTALLED BY OTHERS TO THIS POINT.
2. LOCATION OF VAV HOT WATER RE-HEAT COIL. REFER TO DWG. M-501 FOR SCHEDULE.
3. EXTEND AND MODIFY PIPING AS REQUIRED FROM THE DEMOLISHED CABINET UNIT HEATER TO THE CONVECTOR. ALL PIPING TO BE CONCEALED IN WALL AND BEHIND UNIT.

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CLEVELAND, OHIO 44115

Project:
2008 BRANCH MODERNIZATION PROGRAM
PID# 5056
MONUMENT SQUARE
1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
MOR	MOR	-

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:
FIRST FLOOR MECHANICAL HOT WATER PIPING PLAN

Drawing No.:
M-103

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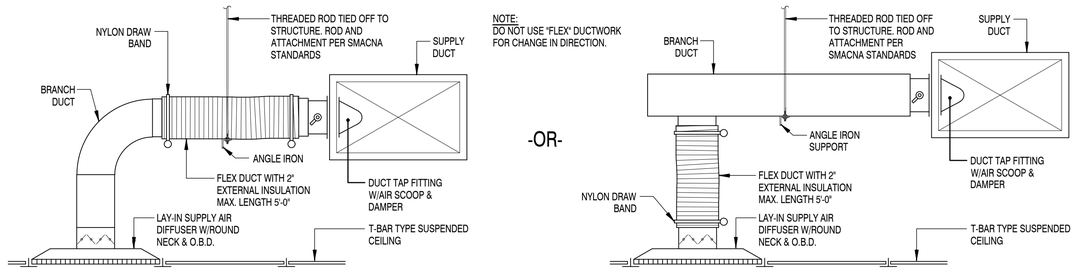
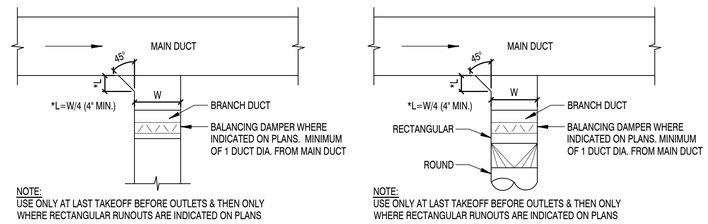


1 SUPPLY AIR DIFFUSER AND DUCTED RETURN AIR DETAILS
SCALE: N.T.S

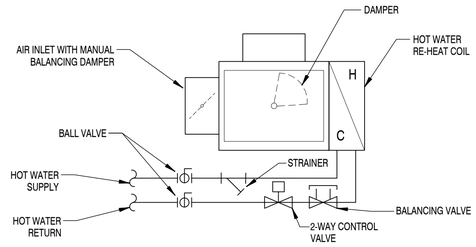


2 TYPICAL BRANCH DUCT CONNECTION
SCALE: N.T.S

3 NOT USED
SCALE: N.T.S

4 NOT USED
SCALE: N.T.S

5 NOT USED
SCALE: N.T.S



5 VAV TERMINAL UNIT DETAIL
SCALE: N.T.S

AIR DEVICE SCHEDULE

MARK	MFR	MODEL	SIZE		TYPE			CFM RANGE			MOUNTING			DUTY				REMARKS
			NECK	MODULE	DIFFUSER	REGISTER	GRILLE	MIN.	MAX.	NOISE CRITERIA	LAY-IN	SURFACE	DUCT	SUPPLY	RETURN	EXHAUST	TRANSFER	
CD-1	TITUS	OMNI	8"Ø	24"x24"	X			0	250	25	X			X				SEE NOTES 1,4
		OMNI	10"Ø	24"x24"	X			251	375	25	X			X				
		OMNI	12"Ø	24"x24"	X			376	525	25	X			X				
		OMNI	14"Ø	24"x24"	X			526	850	25	X			X				
CD-2	TITUS	OMNI	6"Ø	12"x12"	X			0	125	30	X			X				SEE NOTES 1,4
		OMNI	8"Ø	12"x12"	X			126	250	30	X			X				
RG-1	TITUS	350FL	-	24"x12"		X		0	1000	25	X				X			SEE NOTES 3,4
		350FL	-	24"x24"		X		1001	1875	25	X				X			
CR-1	TITUS	PAR	14"Ø	24"x24"			X	-	-	25	X				X			SEE NOTES 3,4

NOTES:
1. PROVIDE VOLUME CONTROL DAMPER.
2. NOT USED.
3. WHERE THERE IS A CEILING RETURN PLENUM, USE CEILING RETURN GRILLES, RG-1. WHERE THERE IS A DUCTED RETURN, USE CEILING RETURNS, CR-1.
4. NO SUBSTITUTIONS ACCEPTED.

EXHAUST FAN SCHEDULE

MARK	MFR	MODEL	CFM	E.S.P. (IN. WG.)	DRIVE	MOTOR (A)	ELECTRIC (V/HZ/PH)	REMARKS
EF-1,2	GREENHECK	SP-B110	97	0.250	DIRECT	1.14	115/60/1	SEE NOTES 1,2,3
EF-3	GREENHECK	SP-B50	40	0.250	DIRECT	0.50	115/60/1	SEE NOTES 1,2,3

NOTES:
1. PROVIDE WHITE ENAMEL FINISH.
2. PROVIDE FAN MOUNTING KIT.
3. OR APPROVED EQUAL EQUIPMENT MANUFACTURER.

MECHANICAL INSULATION SCHEDULE

SYSTEM OR SERVICE	AVERAGE PIPE/DUCT TEMP. (°F)	INSULATION TYPE	PIPE/DUCT LOCATION			JACKET			INSULATION THICKNESS (IN.) PIPE/DUCT SIZE			
			INDOOR	OUTDOOR	BURRIED	ALL SERVICE	METAL	FABRIC	1/2" - 2"	2 1/2" - 4"	5" - 8"	10"-30"
REFRIGERANT SUCTION	45	FLEXIBLE ELASTOMERIC CELLULAR	X	-	-	-	-	-	3/4	-	-	-
			-	X	-	-	-	-	3/4	-	-	-
SUPPLY/RETURN/OUTSIDE AIR DUCTS	75	GLASS FIBER	X	-	-	X	-	-	-	-	2	2
			-	-	-	-	-	-	-	-	-	-
HWS/R	170	GLASS FIBER	X	-	-	X	-	-	1"	-	-	-
			-	-	-	-	-	-	-	-	-	-

NOTES:
INSULATION THICKNESS AND R-VALUE MUST MEET THE MINIMUM REQUIREMENTS FOR THE LOCAL ENERGY CODE.

VAV TERMINAL UNIT SCHEDULE

MARK	MFR	MODEL	TYPE	UNIT SIZE	AIR FLOW (CFM)	GPM	AUXILIARY MIN. SETTING (HEATING) CFM	REMARKS
VAV-1	NAILOR	34RW	SINGLE DUCT W/ HOT WATER REHEAT	12	405-1350	6.0	675	SEE NOTES
VAV-2	NAILOR	34RW	SINGLE DUCT W/ HOT WATER REHEAT	10	315-1050	4.6	525	SEE NOTES
VAV-3	NAILOR	34RW	SINGLE DUCT W/ HOT WATER REHEAT	14	640-2140	9.4	1070	SEE NOTES

NOTES:
1. PROVIDE ANALOG ELECTRONIC CONTROL PACKAGE WITH AUTOMATIC HEATING/COOLING CHANGEOVER CONTROL INCLUDING ACTUATOR, THERMOSTAT, CHANGEOVER THERMISTOR, AND TRANSFORMER.
2. OR APPROVED EQUAL EQUIPMENT MANUFACTURER.

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Designed By: MOR | Drawn By: MOR | Checked By: -

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:
MECHANICAL DETAILS AND SCHEDULES

Drawing No.:
M-501

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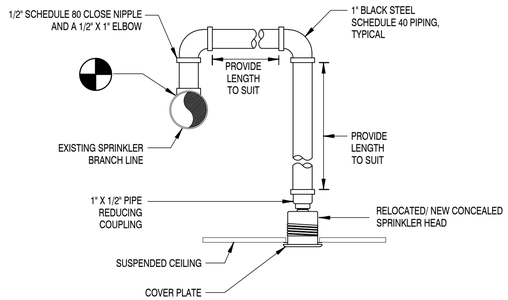

NOTES:

1. ADJUST SPRINKLER DROPS AS NECESSARY TO CLEAR OBSTRUCTIONS SUCH AS THE CEILING "T" BAR SUSPENSION SYSTEM, LIGHT FIXTURES, ETC. PROVIDE A PIPE HANGER IF THE HORIZONTAL OFFSET LENGTH EXCEEDS 24 INCHES.

1 TYPICAL RELOCATED/NEW SPRINKLER HEAD DROPS

SCALE: N.T.S

SPRINKLER HEAD SCHEDULE

MANUFACTURER	MODEL	ORIFICE	K-FACTOR	TEMPERATURE RATING	TYPE	SPRINKLER IDENTIFICATION NUMBER	SYMBOL	REMARKS
MATCH EXISTING	-	-	-	-	-	-	-	SEE NOTE 1

NOTE:
1) ALL HEADS TO BE LOCATED CENTER OF TILE. COORDINATE WITH ARCHITECTURAL CEILING PLAN

GENERAL FIRE SPRINKLER NOTES

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS REQUIRED BY CODE AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. COORDINATE CONSTRUCTION OF FIRE PROTECTION WORK WITH OTHER TRADES AND DIVISIONS, WHETHER OR NOT SPECIFICALLY SHOWN ON CONTRACT DOCUMENT DRAWINGS.
3. WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, USE THE PRODUCT OF ONE MANUFACTURER.
4. PROVIDE SUPPORT OF PIPING IN ACCORDANCE WITH NFPA 13 AND THE SPECIFICATIONS.
5. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE CONTRACTOR BASED ON PROJECT SITE CONDITIONS. SUBMIT FOR THE APPROVAL OF THE ENGINEER BEFORE INSTALLATION. DO NOT SCALE DRAWINGS.
6. DO NOT SUPPORT PIPING FROM THE METAL DECK.
7. COORDINATE LOCATIONS OF PIPING WITH ALL OTHER TRADES.
8. COORDINATE SPRINLER HEAD LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS. CENTER SPRINKLER HEADS IN CEILING TILES.
9. ALL PIPING SHALL BE ABOVE THE CEILING.
10. PRIOR TO FABRICATION OF THE WORK, PERFORM HYDRAULIC CALCULATIONS (AS REQUIRED) AND PREPARE SHOP DRAWINGS IN ACCORDANCE WITH NFPA 13. MAKE ANY ADJUSTMENTS TO THE LAYOUT OR SIZING SHOWN ON THE PLANS REQUIRED BY THE CALCULATIONS. SUBMIT CALCULATIONS, CUT SHEETS FOR ALL DEVICES, AND SHOP DRAWINGS, SIGNED AND SEALED BY A MAINE LICENSED PROFESSIONAL ENGINEER.
11. AFTER COMPLETION OF ALL SYSTEMS, IN THE PRESENCE OF A DESIGNATED LOCAL AUTHORITY PERFORM FLOW TESTS AND OBTAIN WRITTEN APPROVAL FROM THE LOCAL AUTHROITY.
12. THE AREA SHALL BE PROTECTED IN ACCORDANCE WITH NFPA 13 REQUIREMENTS FOR THE FOLLOWING:

    A. LIGHT HAZARD - WATER SUPPLY SHALL BE CAPABLE OF DELIVERING 0.10 GPM/SQ. FT. OVER 1,500 SQ FT. SPACING SHALL BE A MAXIMUM OF 225 SQ. FT. OF FLOOR AREA PER HEAD.
13. FOR SPRINKLER HEAD TYPES, REFER TO THE SCHEDULE ON THIS SHEET.
14. SPRINKLER WORK REQUIRING ANY SHUTDOWN OF BUILDING SYSTEMS REQUIRES A FIRE WATCH PROVIDED BY THE CONTRACTOR AND PROPERTY OWNER APPROVAL. NOTIFY THE OWNER'S REPRESENTATIVE A MINIMUM OF FIVE (5) BUSINESS DAYS BEFORE ANY REQUIRED SHUTDOWN.
15. PERFORM HYDRAULIC FLOW AND PRESSURE TEST ON FIRE PROTECTION SYSTEM AT POINT OF CONNECTION TO EXISTING FIRE PROTECTION PIPING. PROVIDE COMPLETE REPORT OF ALL TEST DATA TO OWNER'S REPRESENTATIVE. USE FLOW AND PRESSURE TEST DATA FOR HYDRAULIC DESIGN OF NEW FIRE PROTECTION PIPING.
16. THE USE OF EXTENDED COVERAGE SPRINKLER HEADS IS NOT PERMITTED.

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Designed By:	Drawn By:	Checked By:
-	-	

Project No.: F5W86600

Scale: AS NOTED

Sheet Title:
FIRE PROTECTION NOTES, SYMBOLS AND ABBREVIATIONS

Drawing No.:
F-001

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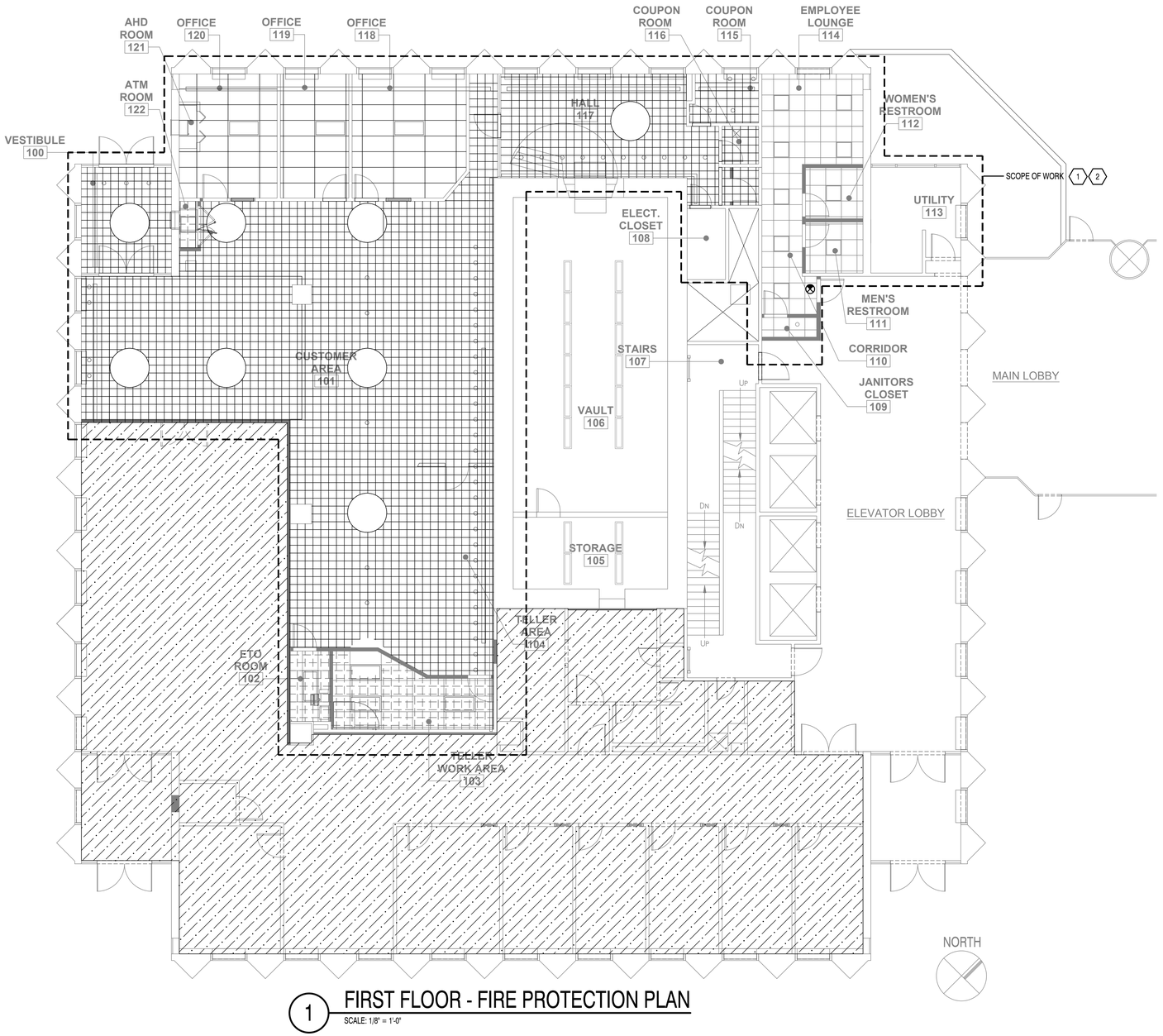

1 FIRST FLOOR - FIRE PROTECTION PLAN

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

GENERAL SHEET NOTES

1. BRACH LINES SHALL BE A MINIMUM 1" UNLESS OTHERWISE NOTED.
2. PERFORM REQUIRED FLOW TESTS IN ORDER TO PERFORM REQUIRED HYDRAULIC CALCULATIONS INCLUDING FIRE HYDRANTS FLOW TESTS AND/OR FLOW TESTS OF BRANCH LINES SERVICING THE SPACE TO DETERMINE THE AVAILABLE FLOW AND PRESSURE.
3. THE FIRE PROTECTION SPRINKLER PIPING SYSTEM IS TO BE FIELD VERIFIED WITHIN THE SCOPE OF WORK AREA. THE CONTRATOR MUST HAVE A MAINE STATE LICENSED PROFESSIONAL ENGINEER PERFORM HYDRAULIC CALCULATIONS. PROVIDE A HYDRAULICALLY DESIGNED FIRE PROTECTION SYSTEM AND SUBMIT ALL CALCULATIONS AND DESIGN DRAWINGS SIGNED AND SEALED BY THE LICENSED PROFESSIONAL TO THE OWNER'S REPRESENTATIVE FOR REVIEW BEFORE SUBMITTAL TO THE LOCAL AUTHORITY FOR PERMITS.

SHEET KEYNOTES

1. CONTRACTOR IS TO FIELD VERIFY EXISTING SPRINKLER LOCATIONS AND RELOCATE OR ADD SPRINKLER HEADS AS REQUIRED BY THE STRUCTURAL CHANGES AND ARCHITECTURAL REFLECTED CEILING PLAN.
2. SPRIKLER HEADS ARE TO BE LOCATED CENTER OF TILE. COORDINATE WITH OTHER TRADES.

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JP	JP	-

Project No.: F5W86600

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

Sheet Title: FIRST FLOOR FIRE PROTECTION PLAN

Drawing No.: F-101

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GENERAL ABBREVIATIONS

SYMBOL	DESCRIPTION
A	AMPERE
AC	ALTERNATING CURRENT
A/C	AIR CONDITIONING
AC-#	AIR CONDITIONING UNIT
ACCU	AIR CONDITIONING CONDENSING UNIT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ABV	ABOVE
AHU	AIR HANDLER UNIT
ALUM	ALUMINUM
ARCH	ARCHITECT
ATC	AUTOMATIC TEMPERATURE CONTROL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
C	CONDUIT
CAT	CATALOG
CND	CONDUIT
CKT BRKR	CIRCUIT BREAKER
CH	COUNTER HEIGHT
CP	CONDENSATE PUMP
CT	CURRENT TRANSFORMER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CL	CENTER LINE
CLG	CEILING
COL	COLUMN
CR	CONTROL RELAY
CU	COPPER
DC	DIRECT CURRENT
DISTR PNL	DISTRIBUTION PANEL
DPDT	DOUBLE POLE DOUBLE THROW
DPL	DISTR PNL, 240 VOLTS OR LESS
DPH	DISTR PNL, OVER 240 VOLTS TYP, 480 VOLTS
DPST	DOUBLE POLE SINGLE THROW
DWG	DRAWING
E.C.	ELECTRICAL CONTRACTOR
EC	EMPTY CONDUIT
EF	EXHAUST FAN
ELEC	ELECTRIC
ELEV	ELEVATOR
EMER	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
EMT	ELECTRIC METALLIC TUBING
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXIST	EXISTING
E	EXISTING
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FDMPR	FIRE DAMPER
FMC	FLEXIBLE METAL CONDUIT
FT	FEET
GC	GENERAL CONTRACTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTOR
G or GRD	GROUND
GFP	GROUND FAULT PROTECTION
HC	HUNG OR SUSPENDED CEILING
HOA	HANDS-OFF-AUTOMATIC
HT	HEIGHT
HTG	HEATING
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATION & AIR CONDITIONING
Hz	HERTZ
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
IN	INCH
J-BOX	JUNCTION BOX
k	KILO
KCMIL	THOUSAND CIRCULAR MILS
kVA	KILOVOLT AMPERES
kW	KILOWATTS

GENERAL ABBREVIATIONS

SYMBOL	DESCRIPTION
LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
LP	LIGHTING PANEL
LTG	LIGHTING
LV	LOW VOLTAGE
M	METER
MM	MILLIMETER
MCC	MOTOR CONTROL CENTER
MCB	MAIN CIRCUIT BREAKER
MD	ELECTRIC MOTORIZED DAMPER
MECH	MECHANICAL
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MTD	MOUNTED
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NEG	NEGATIVE
NIC	NOT IN CONTRACT, PROVIDE FOR INFORMATION
NO	NORMALLY OPEN
No.	NUMBER
NL	NIGHT LIGHT
NTS	NOT TO SCALE
P	POLE
PB	PULLBOX
PB	PUSHBUTTON
P/T	POWER TRANSFORMER
PH	PHASE
POS	POSITIVE
PP	POWER PANEL
PNL	PANEL
PNLBD	PANELBOARD
PWR	POWER
PVC	POLYVINYL CHLORIDE CONDUIT
R	RELAY
REF	REFERENCE
REFRIG	REFRIGERATOR
RM	ROOM
RF	RETURN FAN
RGSC	RIGID GALVANIZED STEEL
RTU	ROOF TOP UNIT
S/B	SPLICE BOX
SCHED	SCHEDULE
SD	SMOKE DAMPER
SF	SUPPLY FAN
SP	SPARE
SPKLR	SPRINKLER
SPST	SINGLE POLE SINGLE THROW
SQ	SQUARE
SW	SWITCH
SWBD	SWITCHBOARD
TS	TAMPER SWITCH
TC	TIME CLOCK
TDR	TIME DELAY RELAY
TEL	TELEPHONE
TEMP	TEMPERATURE
TL	TWIST LOCK
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UF	UNDER FLOOR
UGND	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VOLT
VA	VOLT-AMPERE
W	WATT
W/	WITH
WG	WIRE GUARD
WP	WEATHERPROOF
XFMR	TRANSFORMER

LIGHTING SYMBOLS

SYMBOL	DESCRIPTION
A2 b / LP3-1	LIGHTING FIXTURE IDENTIFICATION "A2" - CAPITAL LETTER: LIGHTING FIXTURE TYPE; SEE LIGHTING FIXTURE SCHEDULE "b" - LOWER CASE LETTER: CONTROL DESIGNATION "LP3-1" - NUMBER: BRANCH CIRCUIT DESIGNATION
	CEILING MOUNTED LENSED FLUORESCENT LIGHTING FIXTURE
	CEILING MOUNTED VOLUMETRIC LIGHTING FIXTURE
	WALL MOUNTED FLUORESCENT LIGHTING FIXTURE
	DOUBLE FACED CEILING MOUNTED EXIT LIGHT SIGN. CIRCUITED TO CONSTANTLY "ON" POWER SOURCE. ARROW DIRECTION AS SHOWN ON DRAWING.
	SINGLE FACED CEILING MOUNTED EXIT LIGHT SIGN. CIRCUITED TO CXONSTANTLY "ON" POWER SOURCE. ARROW DIRECTION AS SHOWN ON DRAWING.
	SHADED LIGHTING FIXTURES CIRCUITED TO CONSTANTLY "ON" POWER SOURCE
	SHADED ROUND LIGHT FIXTURES DENOTES FIXTURE CIRCUITED TO CONSTANTLY "ON" POWER SOURCE
TS	ASTRONOMICAL TIME SWITCH. SPECIFY POLE/CHANNEL QUANTITY AND THROW.

POWER SYMBOLS

SYMBOL	DESCRIPTION
	FLUSH MOUNTED DISTRIBUTION PANEL
SCP	SECURITY CONTROL PANEL
FACP	FIRE ALARM CONTROL PANEL
J	JUNCTION BOX, "F" DENOTES FLOOR MOUNTED, "CLG" DENOTES CEILING MOUNTED
J	WALL MOUNTED JUNCTION BOX. FLUSH ON SURFACE
#	MOTOR (#) DENOTES MOTOR HORSEPOWER
xxA	DISCONNECT SWITCH UNFUSED TYPE. SIZE AS INDICATED ON DRAWINGS "xxA" INDICATED AMPERAGE RATING.
xxAF / xxAT F	DISCONNECT SWITCH FUSED TYPE. VOLTS/PHASE AS INDICATED ON DRAWINGS "xxAF" INDICATES FRAME SIZE, "xxAT INDICATES TRIP SIZE.

RECEPTACLES SYMBOLS

SYMBOL	DESCRIPTION
GFCI	DUPLEX RECEPTACLE 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. "C" DENOTES CEILING MOUNTED RECEPTACLE. SUBSCRIPT DENOTES RECEPTACLE TYPE. SEE ABBREVIATIONS LIST FOR SUBSCRIPT DEFINITION.
	DOUBLE DUPLEX RECEPTACLE
	DUPLEX TWIST-LOCK TYPE RECEPTACLE. NEMA TYPE AS NOTED ON DRAWING

WIRING SYMBOLS

SYMBOL	DESCRIPTION
	CONDUIT TURNED UP
	CONDUIT TURNED DOWN
# AFF	CONDUIT TO STUB UP. NUMBER DENOTES INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED
– –G– –	GROUND
----------	UNDERGROUND
----------	EXPOSED RACEWAY
—— – ——	UNDERFLOOR
	ELECTRICAL FEED CONTINUED
	FURNITURE PARTITION FLEXIBLE POWER INFEED FROM JUNCTION BOX

SWITCH SYMBOLS

SYMBOL	DESCRIPTION
$	SINGLE POLE SWITCH
$3	THREE -WAY SWITCH
	WALL MOUNTED OCCUPANCY SENSOR WITH OVERRIDE SWITCH (INFRARED)
	CEILING MOUNTED DUAL OCCUPANCY SENSOR SWITCH (ULTRASONIC)
"a"	LOWER CASE SUBSCRIPT LETTER ADJACENT TO SWITCH AND LIGHT FIXTURE DENOTES SWITCH CONTROL BY SAME LETTER DESIGNATION
$M	MOTOR STARTER SWITCH
$TD	TOGGLE DISCONNECT SWITCH

FIRE ALARM SYMBOLS

SYMBOL	DESCRIPTION
	HORN STROBE DEVICE
S15	WALL MOUNTED STROBE DEVICE. SUBSCRIPT DENOTES INTENSITY RATING.
P	MANUAL PULL STATION

SECURITY SYSTEM SYMBOLS

SYMBOL	DESCRIPTION
SCP	SECURITY CONTROL PANEL
K	SECURITY KEYPAD

NOTE:
REFER TO G-002 FOR ADDITIONAL SYMBOLS AND ABBREVIATIONS

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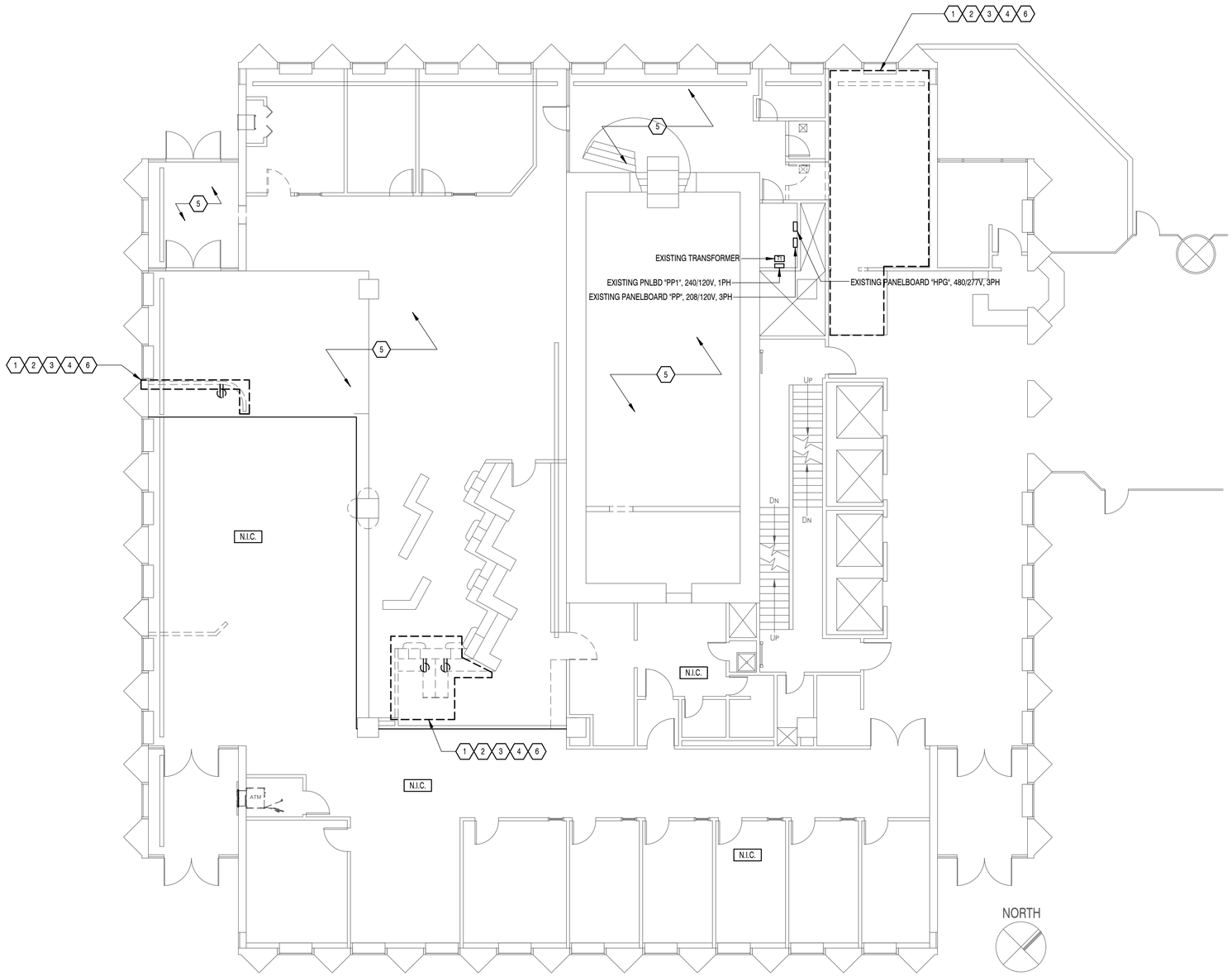
ELECTRICAL SYMBOLS AND ABBREVIATIONS

Drawing No.:

E-001

EK - J:\2008 Projects\F5W86600\Cad\KeyBank_CDs\5056 Monument Square\Elec\5056_E-001.dwg [5056_E-001] February 24, 2009 - 6:18pm PATELSH



1 FIRST FLOOR - ELECTRICAL DEMOLITION PLAN

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

SHEET KEYNOTES

1. DISCONNECT AND REMOVE EXISTING RECEPTACLES.
2. DISCONNECT AND REMOVE EXISTING TELEPHONE, DATA, AND/OR SECURITY OUTLETS.
3. DISCONNECT AND REMOVE EXISTING ELECTRICAL DEVICE AND/OR EQUIPMENT.
4. DISCONNECT AND REMOVE EXISTING BRANCH CIRCUIT WIRING AND RACEWAY SYSTEM AND/OR BRANCH CIRCUIT CABLE SYSTEM.
5. MODIFY EXISTING BRANCH CIRCUIT WIRING AND RACEWAY SYSTEM AND/OR BRANCH CIRCUIT CABLE SYSTEM AS REQUIRED TO MAINTAIN OPERATION OF EXISTING RECEPTACLE OUTLETS NOT DESIGNATED FOR REMOVAL AND POWERED FROM THE SAME BRANCH CIRCUIT SERVING RECEPTACLE OUTLETS DESIGNATED FOR REMOVAL.
6. DISCONNECT AND REMOVE EXISTING TELEPHONE, DATA, SECURITY AND/OR COMMUNICATION WIRING AND CABLE.
7. NOT USED.
8. NOT USED.

ELECTRICAL DEMOLITION NOTES

1. ALL WIRES, CABLES, BOXES, CONDUIT AND/OR RACEWAYS MADE OBSOLETE BY DEMOLITION WORK AND/OR DESIGNATED TO BE REMOVED THAT ARE INSTALLED EXPOSED, CONCEALED IN WALLS AND/OR IN CAVITY SPACE ABOVE HARD SUSPENDED CEILINGS BEING DEMOLISHED, OR IN CAVITY SPACE ABOVE LAY-IN TILE SUSPENDED CEILING ARE CONSIDERED ACCESSIBLE MUST BE COMPLETELY REMOVED BACK TO THE POINT OF ORIGIN OR SOURCE.
2. ALL WIRES AND/OR CABLES MADE OBSOLETE BY DEMOLITION WORK AND/OR DESIGNATED TO BE REMOVED THAT ARE INSTALLED IN NON-ACCESSIBLE CONDUIT OR RACEWAY MUST BE COMPLETELY REMOVED FROM THE CONDUIT AND RACEWAY BACK TO THE POINT OF ORIGIN OR SOURCE.
3. ALL WIRES AND/OR CABLES MADE OBSOLETE BY DEMOLITION WORK AND/OR DESIGNATED TO BE REMOVED THAT ARE INSTALLED WITHOUT NON-SECURED CONDUIT OR RACEWAY IN WALL CAVITIES OR CEILING CAVITIES ABOVE HARD SUSPENDED CEILINGS, NOT BEING DEMOLISHED, MUST BE COMPLETELY REMOVED FROM THE WALL OR CEILING CAVITY BACK TO THE POINT OF ORIGIN OR SOURCE OR BETWEEN ALL POINTS THAT THE WIRES AND/OR CABLES CAN BE ACCESSED.
4. REFERENCE TO WIRES AND CABLES IN ELECTRICAL DEMOLITION NOTES INDICATES "BRANCH CIRCUIT, LIGHTING, POWER, CONTROL, TELEPHONE, DATA, COMMUNICATION SECURITY, FIRE ALARM, MISC." WIRES AND CABLES.
5. VERIFY EXISTING CONDITIONS AND COORDINATE DEMOLITION WORK AND REQUIREMENTS WITH ALL PROJECT DOCUMENTS AND TRADES WORKING ON PROJECT.
6. NOTIFY KEY BANK REPRESENTATIVE OF ANY EXISTING CONDITIONS THAT CONFLICT WITH DEMOLITION WORK OF THIS PROJECT.
7. LOCATIONS AND QUANTITIES OF DEVICES SHOWN FOR DEMOLITION ARE APPROXIMATE AND ACTUAL CONDITIONS MUST BE VERIFIED AT PROJECT SITE.
8. REPAIR AND PATCH TO MATCH EXISTING SURFACE DISTURBED AND/OR DAMAGED DUE TO THE DISCONNECTION AND/OR REMOVAL OF EXISTING ELECTRICAL COMPONENTS.
9. REFERENCE TO "POINT OF ORIGIN OR SOURCE" FOR BRANCH CIRCUITS IN ELECTRICAL DEMOLITION NOTES MEANS THE EXISTING BRANCH CIRCUIT PANELBOARD CIRCUIT BREAKER OR THE FIRST BRANCH CIRCUIT OUTLET NOT DESIGNATED/REQUIRED FOR REMOVAL.
10. AS PART OF DEMOLITION WORK MODIFY AND/OR REPAIR ANY EXISTING BRANCH CIRCUIT WIRING, CABLING AND/OR RACEWAY THAT IS DISTURBED BY THE DEMOLITION WORK AND NECESSARY TO MAINTAIN BRANCH CIRCUIT CONTINUITY TO OTHER EXISTING OUTLETS OR ELECTRICAL COMPONENTS NOT DESIGNATED FOR REMOVAL.
11. WHERE EXISTING WIRES AND CABLES ARE NOT REMOVED AND DESIGNATED TO REMAIN AND LEFT AS SPARES, THE WIRE AND CABLE MUST BE PLACED WITHIN THE APPROPRIATE TYPE OF COVERED OUTLET BOX, MADE SAFE, TAGGED "SPARE" WITHIN THE OUTLET BOX AND THE OUTSIDE OF THE OUTLET BOX MARKED IDENTIFYING THE WIRES AND CABLES CONTAINED WITHIN THE BOX.
12. WHERE EXISTING WIRES AND/OR CABLES ARE DESIGNATED TO BE REMOVED AND CAN NOT BE REMOVED THE WIRES AND/OR CABLES ARE TO BE CUT FLUSH TO EXISTING SURFACES, CAPPED AND/OR SECURED AND THE LOCATIONS IDENTIFIED ON AN AS-BUILT DRAWING SET.
13. WHERE EXISTING CONDUITS AND/OR RACEWAYS ARE DESIGNATED TO BE REMOVED AND CAN NOT BE REMOVED THE CONDUITS ARE TO BE CUT FLUSH TO EXISTING SURFACES, CAPPED AND/OR SECURED AND THE LOCATIONS IDENTIFIED ON AN AS-BUILT DRAWING SET.
14. REFERENCE TO "POINTS OF ORIGIN OR SOURCE" FOR TELEPHONE, DATA, COMMUNICATION OR SECURITY CIRCUITS MEANS THE EXISTING CORRESPONDING TERMINAL STRIP, TERMINAL CABINET, PUNCH-DOWN BLOCK OR PATCH PANEL NOT DESIGNATED/REQUIRED FOR REMOVAL.
15. WHERE EXISTING WALLS OR CEILINGS ARE DEMOLISHED OR DESIGNATED FOR DEMOLITION ON THE ARCHITECTURAL DEMOLITION DRAWINGS ALL NON-DESIGNATED EXISTING ELECTRICAL OUTLETS AND/OR ELECTRICAL DEVICE AND ALL ASSOCIATED WIRES, CABLES, AND/OR RACEWAY SYSTEMS MUST ALSO BE REMOVED TO THE POINT OF ORIGIN OR SOURCE.
16. WHERE EXISTING WALLS OR CEILINGS ARE DEMOLISHED OR DESIGNATED FOR DEMOLITION ON THE ARCHITECTURAL DEMOLITION DRAWINGS ALL NON-DESIGNATED TELEPHONE, DATA, COMMUNICATIONS AND/OR RACEWAY SYSTEMS MUST ALSO BE REMOVED TO THE POINT OF ORIGIN OR SOURCE.
17. DISCONNECT ALL ELECTRICAL, TELEPHONE, DATA, COMMUNICATION AND SECURITY CONNECTIONS TO ALL COUNTERS, FURNISHINGS AND FREE-STANDING PARTITIONS THAT ARE DESIGNATED FOR REMOVAL ON THE ARCHITECTURAL DEMOLITION DRAWINGS.
18. REFER TO DRAWINGS G-001 THROUGH G-004 AND G-101 THROUGH G-114 FOR ADDITIONAL REQUIRMENTS AND SPECIFICATIONS.

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2008 BRANCH MODERNIZATION PROGRAM

PID# 5056

MONUMENT SQUARE

1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
AD	CMS	RMM

Project No.: F5W86602

Scale: AS NOTED

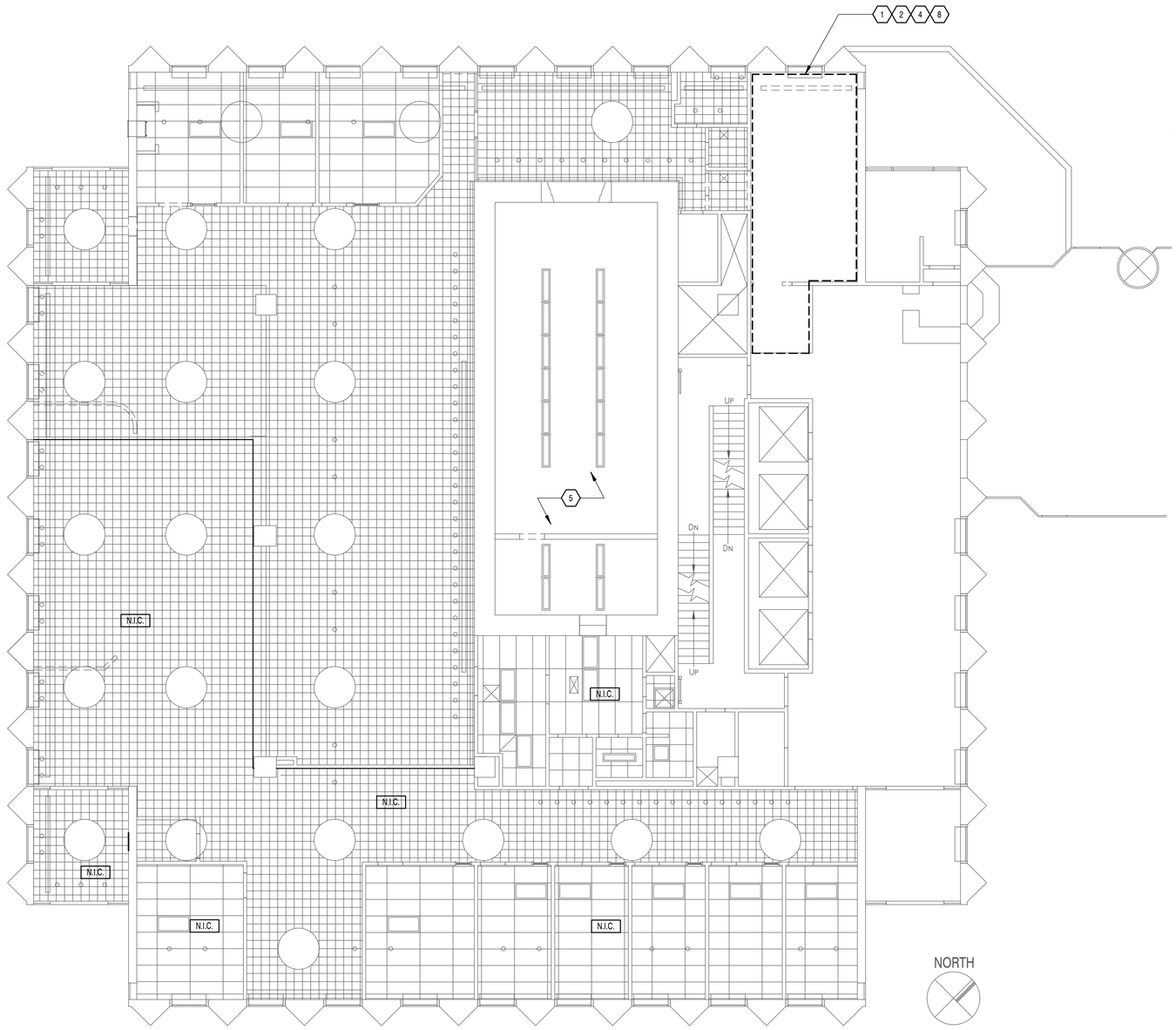
Sheet Title:

FIRST FLOOR ELECTRICAL DEMOLITION PLAN

Drawing No.:

E-101

EK - J:\2008 Projects\F5W86600\Cad\KeyBank_CDs\5056 Monument Square\Elec\5056_E-101.dwg [5056_E-101] February 24, 2009 - 6:18pm PATELSH



1 FIRST FLOOR - ELECTRICAL DEMOLITION CEILING PLAN

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

SHEET KEYNOTES

1. DISCONNECT AND REMOVE EXISTING LIGHT FIXTURE.
2. DISCONNECT AND REMOVE EXISTING LIGHT SWITCH/SWITCHES.
3. NOT USED.
4. DISCONNECT AND REMOVE EXISTING BRANCH CIRCUIT WIRING AND RACEWAY SYSTEM AND/OR BRANCH CIRCUIT CABLE SYSTEM.
5. MODIFY EXISTING BRANCH CIRCUIT WIRING AND RACEWAY SYSTEM AND/OR BRANCH CIRCUIT CABLE SYSTEM AS REQUIRED TO MAINTAIN OPERATION OF EXISTING LIGHT FIXTURES OUTLETS NOT DESIGNATED FOR REMOVAL AND POWERED FROM THE SAME BRANCH CIRCUIT SERVING LIGHT FIXTURES OUTLETS DESIGNATED FOR REMOVAL.
6. NOT USED.
7. NOT USED.
8. EXISTING LIGHT FIXTURE BRANCH CIRCUIT WIRING IS TO BE REUSED FOR NEW LIGHT FIXTURES. LABEL AND MAKE WIRING SAFE FOR RE-CONNECTION TO NEW LIGHT FIXTURES.

ELECTRICAL DEMOLITION NOTES

1. ALL WIRES, CABLES, BOXES, CONDUIT AND/OR RACEWAYS MADE OBSOLETE BY DEMOLITION WORK AND/OR DESIGNATED TO BE REMOVED THAT ARE INSTALLED EXPOSED, CONCEALED IN WALLS AND/OR IN CAVITY SPACE ABOVE HARD SUSPENDED CEILINGS BEING DEMOLISHED, OR IN CAVITY SPACE ABOVE LAY-IN TILE SUSPENDED CEILING ARE CONSIDERED ACCESSIBLE MUST BE COMPLETELY REMOVED BACK TO THE POINT OF ORIGIN OR SOURCE.
2. ALL WIRES AND/OR CABLES MADE OBSOLETE BY DEMOLITION WORK AND/OR DESIGNATED TO BE REMOVED THAT ARE INSTALLED IN NON-ACCESSIBLE CONDUIT OR RACEWAY MUST BE COMPLETELY REMOVED FROM THE CONDUIT AND RACEWAY BACK TO THE POINT OF ORIGIN OR SOURCE.
3. ALL WIRES AND/OR CABLES MADE OBSOLETE BY DEMOLITION WORK AND/OR DESIGNATED TO BE REMOVED THAT ARE INSTALLED WITHOUT NON-SECURED CONDUIT OR RACEWAY IN WALL CAVITIES OR CEILING CAVITIES ABOVE HARD SUSPENDED CEILINGS, NOT BEING DEMOLISHED, MUST BE COMPLETELY REMOVED FROM THE WALL OR CEILING CAVITY BACK TO THE POINT OF ORIGIN OR SOURCE OR BETWEEN ALL POINTS THAT THE WIRES AND/OR CABLES CAN BE ACCESSED.
4. REFERENCE TO WIRES AND CABLES IN ELECTRICAL DEMOLITION NOTES INDICATES "BRANCH CIRCUIT, LIGHTING, POWER, CONTROL, TELEPHONE, DATA, COMMUNICATION SECURITY, FIRE ALARM, MISC." WIRES AND CABLES.
5. VERIFY EXISTING CONDITIONS AND COORDINATE DEMOLITION WORK AND REQUIREMENTS WITH ALL PROJECT DOCUMENTS AND TRADES WORKING ON PROJECT.
6. NOTIFY KEY BANK REPRESENTATIVE OF ANY EXISTING CONDITIONS THAT CONFLICT WITH DEMOLITION WORK OF THIS PROJECT.
7. LOCATIONS AND QUANTITIES OF DEVICES SHOWN FOR DEMOLITION ARE APPROXIMATE AND ACTUAL CONDITIONS MUST BE VERIFIED AT PROJECT SITE.
8. REPAIR AND PATCH TO MATCH EXISTING SURFACE DISTURBED AND/OR DAMAGED DUE TO THE DISCONNECTION AND/OR REMOVAL OF EXISTING ELECTRICAL COMPONENTS.
9. REFERENCE TO "POINT OF ORIGIN OR SOURCE" FOR BRANCH CIRCUITS IN ELECTRICAL DEMOLITION NOTES MEANS THE EXISTING BRANCH CIRCUIT PANELBOARD CIRCUIT BREAKER OR THE FIRST BRANCH CIRCUIT OUTLET NOT DESIGNATED/REQUIRED FOR REMOVAL.
10. AS PART OF DEMOLITION WORK MODIFY AND/OR REPAIR ANY EXISTING BRANCH CIRCUIT WIRING, CABLING AND/OR RACEWAY THAT IS DISTURBED BY THE DEMOLITION WORK AND NECESSARY TO MAINTAIN BRANCH CIRCUIT CONTINUITY TO OTHER EXISTING OUTLETS OR ELECTRICAL COMPONENTS NOT DESIGNATED FOR REMOVAL.
11. WHERE EXISTING WIRES AND CABLES ARE NOT REMOVED AND DESIGNATED TO REMAIN AND LEFT AS SPARES, THE WIRE AND CABLE MUST BE PLACED WITHIN THE APPROPRIATE TYPE OF COVERED OUTLET BOX, MADE SAFE, TAGGED "SPARE" WITHIN THE OUTLET BOX AND THE OUTSIDE OF THE OUTLET BOX MARKED IDENTIFYING THE WIRES AND CABLES CONTAINED WITHIN THE BOX.
12. WHERE EXISTING WIRES AND/OR CABLES ARE DESIGNATED TO BE REMOVED AND CAN NOT BE REMOVED THE WIRES AND/OR CABLES ARE TO BE CUT FLUSH TO EXISTING SURFACES, CAPPED AND/OR SECURED AND THE LOCATIONS IDENTIFIED ON AN AS-BUILT DRAWING SET.
13. WHERE EXISTING CONDUITS AND/OR RACEWAYS ARE DESIGNATED TO BE REMOVED AND CAN NOT BE REMOVED THE CONDUITS ARE TO BE CUT FLUSH TO EXISTING SURFACES, CAPPED AND/OR SECURED AND THE LOCATIONS IDENTIFIED ON AN AS-BUILT DRAWING SET.
14. REFERENCE TO "POINTS OF ORIGIN OR SOURCE" FOR TELEPHONE, DATA, COMMUNICATION OR SECURITY CIRCUITS MEANS THE EXISTING CORRESPONDING TERMINAL STRIP, TERMINAL CABINET, PUNCH-DOWN BLOCK OR PATCH PANEL NOT DESIGNATED/REQUIRED FOR REMOVAL.
15. WHERE EXISTING WALLS OR CEILINGS ARE DEMOLISHED OR DESIGNATED FOR DEMOLITION ON THE ARCHITECTURAL DEMOLITION DRAWINGS ALL NON-DESIGNATED EXISTING ELECTRICAL OUTLETS AND/OR ELECTRICAL DEVICE AND ALL ASSOCIATED WIRES, CABLES, AND/OR RACEWAY SYSTEMS MUST ALSO BE REMOVED TO THE POINT OF ORIGIN OR SOURCE.
16. WHERE EXISTING WALLS OR CEILINGS ARE DEMOLISHED OR DESIGNATED FOR DEMOLITION ON THE ARCHITECTURAL DEMOLITION DRAWINGS ALL NON-DESIGNATED TELEPHONE, DATA, COMMUNICATIONS AND/OR RACEWAY SYSTEMS MUST ALSO BE REMOVED TO THE POINT OF ORIGIN OR SOURCE.
17. DISCONNECT ALL ELECTRICAL, TELEPHONE, DATA, COMMUNICATION AND SECURITY CONNECTIONS TO ALL COUNTERS, FURNISHINGS AND FREE-STANDING PARTITIONS THAT ARE DESIGNATED FOR REMOVAL ON THE ARCHITECTURAL DEMOLITION DRAWINGS.
18. REFER TO DRAWINGS G-001 THROUGH G-004 AND G-101 THROUGH G-114 FOR ADDITIONAL REQUIRMENTS AND SPECIFICATIONS.

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Project:
2008 BRANCH MODERNIZATION PROGRAM
PID# 5056
MONUMENT SQUARE
1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
AD	CMS	RMM

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:
FIRST FLOOR ELECTRICAL DEMOLITION CEILING PLAN

Drawing No.:
E-102

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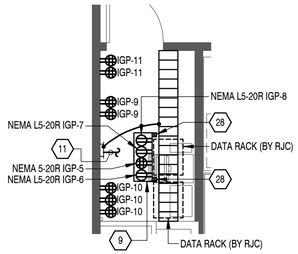
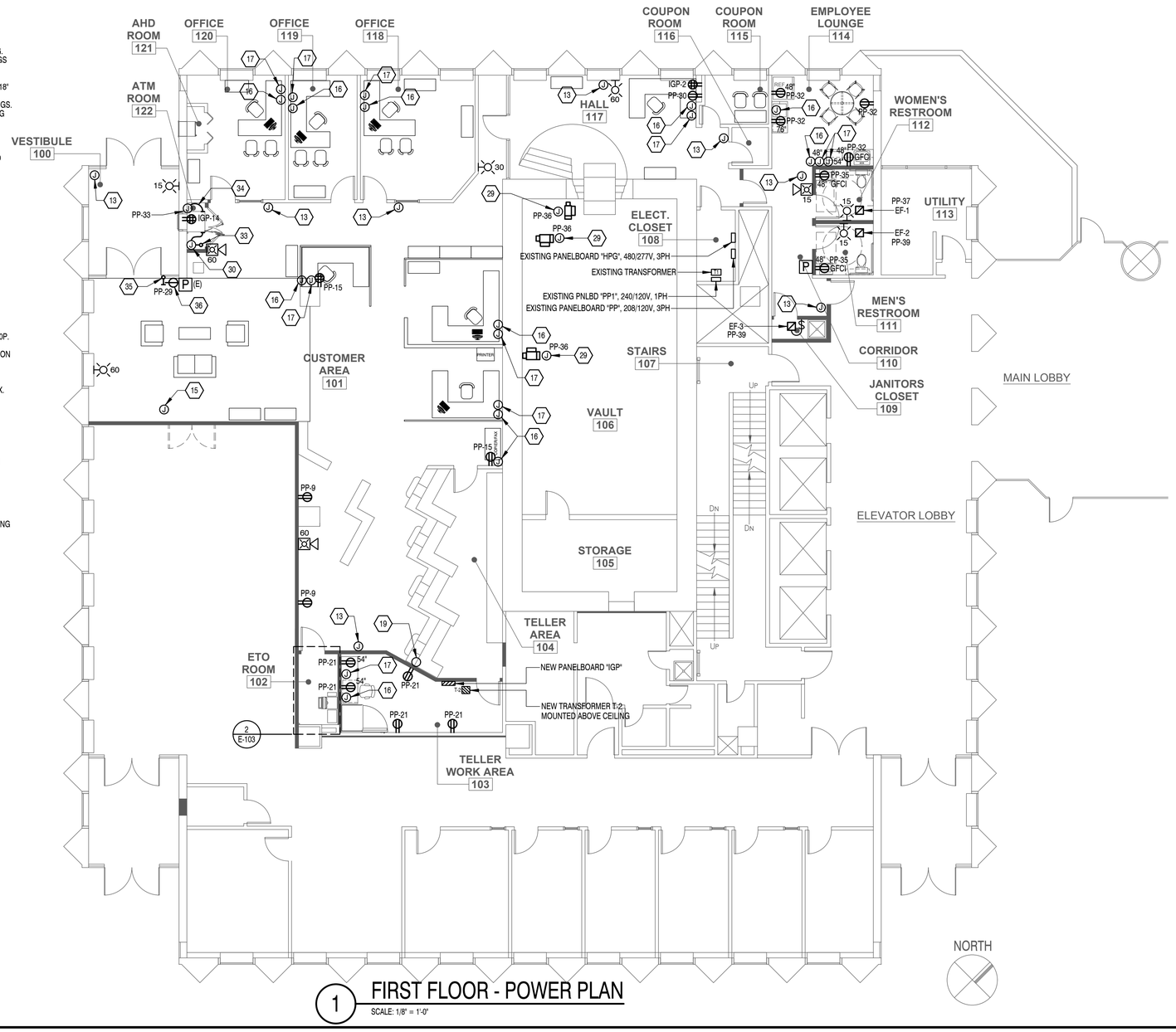
SHEET KEYNOTES

1. NOT USED.
2. NOT USED.
3. NOT USED.
4. NOT USED.
5. NOT USED.
6. NOT USED.
7. NOT USED.
8. NOT USED.
9. PROVIDE PENDANT MOUNTED SURFACE METAL RACEWAY WITH RECEPTACLES ON BOTTOM. REFER TO DRAWINGS BY RJC CONSULTING.
10. NOT USED.
11. RUN (1) #6 AWG IN EMT TO TRANSFORMER T-2 GROUND.
12. NOT USED.
13. CAMERA OUTLET BOX, FLUSH WALL MOUNTED WITH 8'-4" AFF 1" C. STUBBED OUT 6" ABOVE CEILING.
14. NOT USED.
15. CAMERA OUTLET, FLUSH CEILING MOUNTED.
16. TELE/DATA - JUNCTION BOX. FLUSH MOUNTED IN WALL WITH A 3/4" C. STUBBED OUT 6" ABOVE FINISHED CEILING. COORDINATE EXACT LOCATION & HEIGHT WITH DRAWINGS BY RJC CONSULTING.
17. SECURITY DEVICE OUTLET BOX. FLUSH WALL MOUNTED 18" AFF UON WITH 3/4" C. STUBBED OUT 6" ABOVE FINISHED CEILING. COORDINATE LOCATION WITH VENDOR DRAWINGS. REFER TO DETAIL #10 ON DRAWING E-501 FOR MOUNTING REQUIREMENTS.
18. NOT USED.
19. TELLER COUNTER TELE/DATA/SECURITY FEED. REFER TO DETAILS #6 & #10 ON DRAWING E-501.
20. NOT USED.
21. NOT USED.
22. NOT USED.
23. NOT USED.
24. NOT USED.
25. NOT USED.
26. NOT USED.
27. NOT USED.
28. PROVIDE VERTICAL PLUG STRIPS ON SIDE OF RACK, WIREMOLD MODEL NO. G-20IG512 W/ 6' SO CORD W/ L5-20P.
29. PROVIDE JUNCTION BOX ABOVE CEILING AND CONNECTION TO NEW VAV BOX.
30. PROVIDE A 4" SQUARE X 2 1/8" DEEP STEEL OUTLET BOX WITHOUT COVER 24" AFF FOR ATM ALARM JUNCTION BOX. DIEBOLD WILL PROVIDE COVER PLATE, TAMPER SWITCH, AND ALARM WIRES.
31. NOT USED.
32. NOT USED.
33. PROVIDE A VACANT 1" CONDUIT FROM ALARM JUNCTION BOX 6" ABOVE CEILING.
34. PROVIDE A VACANT 3/4" LIQUID TIGHT FLEXIBLE METAL CONDUIT FROM JUNCTION BOX UNIT.
35. PROVIDE EITHER A VACANT 3/4" EMT OR RACEWAY PATH WITH PULL CORD FROM 6" ABOVE THE SUSPENDED CEILING TO THE DOOR FRAME FOR SECURITY WIRING.
36. PROVIDE A SINGLE RECEPTACLE OUTLET ABOVE THE SUSPENDED CEILING FOR USE OF A PLUG-IN WITHOUT CORD SECURITY DC POWER SUPPLY.



2 ETO ROOM - ENLARGED POWER PLAN

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



1 FIRST FLOOR - POWER PLAN

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

GENERAL SHEET NOTES

1. REFER TO DRAWING E-501 FOR ELECTRICAL DETAILS.
2. REFER TO DRAWING E-601 FOR ELECTRICAL DIAGRAMS.
3. REFER TO DRAWING E-602 FOR ELECTRICAL SCHEDULES.
4. REFER TO DRAWINGS G-001 THROUGH G-004 AND G-101 THROUGH G-114 FOR ADDITIONAL REQUIRMENTS AND SPECIFICATIONS.
5. REFER TO DRAWINGS BY RJC CONSULTING FOR ADDITIONAL ELECTRICAL WORK, INFORMATION AND REQUIRMENTS RELATED TO TELEPHONE, DATA, COMMUNICATION AND SECURITY SYSTEMS.
6. NEW OR REUSED BRANCH CIRCUITS DERIVED FROM NEW AND EXISTING PANEL BOARDS MAY NOT MATCH CIRCUIT BREAKER POSITION DESIGNATION. USE NEXT AVAILABLE SPARE CIRCUIT BREAKER POSITION. CONTRACTOR MUST MARK ALL DRAWINGS TO INDICATE ACTUAL CIRCUIT DESIGNATION.
7. BRANCH CIRCUIT DESIGNATIONS ARE ONLY PROVIDED FOR CIRCUIT ARRANGEMENT MODIFY CIRCUIT DESIGNATIONS AS REQUIRED TO MATCH ACTUAL PANEL CONFIGURATION. NOTE ANY CHANGES ON DRAWINGS.
8. NEW AND/OR REUSED BRANCH CIRCUIT DESIGNATIONS DO NOT REFLECT ACTUAL FIELD CONDITIONS. NOTE ANY CHANGES ON DRAWINGS.
9. PROVIDE A 1/8" POLYPROPELENE PULLCORD IN ALL TELEPHONE, DATA, SECURITY, AND CAMERA CONDUITS.
10. CONTRACTOR MUST PREPARE AND SUBMT ALL ENERGY COMPLIANCE DOCUMENTATION REQUIRED TO THE AUTHORITY HAVING JURISDICTION.
11. THE DRAWINGS IDENTIFY THE MINIMUM REQUIREMENTS AND SCOPE OF WORK FOR THE PROJECT SITE RENOVATIONS. THE CONTRACTOR IS RESPONSIBLE TO VERIFY EXISTING CONDITIONS AND MODIFY AND/OR ADJUST THE REQUIRED CONSTRUCTION METHOD, INSTALLATION AND MATERIALS TO IMPLEMENT THE PROJECT REQUIRMENTS BASED ON THE PROJECT SITE EXISTING CONDITIONS, AT NO ADDITIONAL COST. THE CONTRACTOR MUST OBTAIN OWNER'S REPRESENTATIVE ACCEPTANCE BEFORE ANY MODIFICATIONS AND/OR ADJUSTMENTS ARE IMPLEMENTED, CONSTRUCTED, OR INSTALLED.
12. PROVIDE A NEW ISOLATED GROUND BAR INSIDE OF PANEL BOARD DESIGNATED TO SERVICE ISOLATED GROUND RECEPTACLES. INSTALL NEW GROUND BAR IN EXISTING PANELBOARD IF EXISTING PANELBOARD HAS CAPACITY AND GUTTER SPACE. PROVIDE A NEW 208/120V 3Ø, 4 WIRE, 100A, 24 POLE PANELBOARD WITH ISOLATED GROUND BAR IF EXISTING PANELBOARD CANNOT ACCOMODATE NEW ISOLATED GROUND BAR.
13. PROVIDE (1) #6 AWG. GROUND CONDUCTOR FROM THE EXISTING GROUNDED POINT OF THE SERVICE NEUTRAL BUS TO NEW ISOLATED GROUND BAR INSIDE OF ISOLATED GROUND PANELBOARD, PROVIDE ALL NECESSARY HARDWARE.
14. CONNECT NEW RECEPTACLES TO A SPARE CIRCUIT POSITION INSIDE OF EXISTING PANELBOARD IN BUILDING IF EXISTING PANELBOARD HAS CAPACITY. IF NO SPARE CIRCUIT POSITIONS ARE AVAILABLE,PROVIDE A NEW PANELBOARD AS REQUIRED TO ACCOMODATE NEW RECEPTACLE LOADS.

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2008 BRANCH MODERNIZATION PROGRAM

PID# 5056
MONUMENT SQUARE

1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
AD	CMS	RMM

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:

FIRST FLOOR ELECTRICAL POWER PLAN

Drawing No.:

E-103

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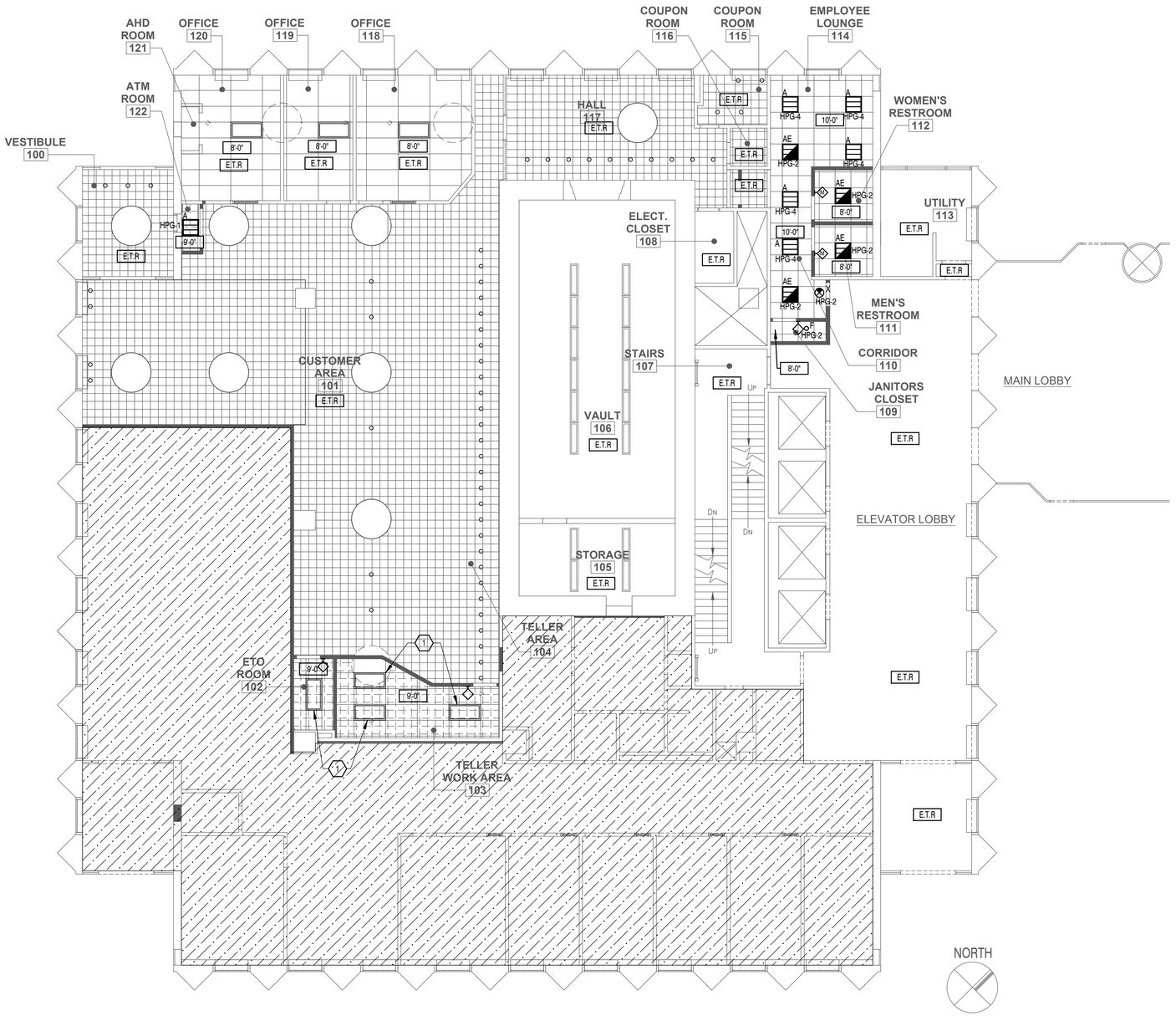

1 FIRST FLOOR - LIGHTING PLAN

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

GENERAL SHEET NOTES

1. REFER TO DRAWING E-602 FOR LIGHTING FIXTURE SCHEDULE AND LIGHT FIXTURE DETAILS.
2. REUSE EXISTING LIGHTING CIRCUITS FOR NEW LIGHT FIXTURES. CONNECT NEW LIGHT FIXTURES THROUGH NEW CONTACTOR.
3. IN ROOMS NOT DESIGNATED FOR NEW WORK REROUTE AND CONNECT EXISTING LIGHT FIXTURE BRANCH CIRCUITS THROUGH NEW LIGHTING CONTACTOR.
4. PROVIDE NEW BRANCH CIRCUIT WIRING IN METAL RACEWAY TO CONNECT NEW LIGHT FIXTURES TO EXISTING BRANCH CIRCUIT WIRING TYPICAL FOR ALL SPACES.
5. REFER TO DRAWINGS G-001 THROUGH 004 AND G-101 THROUGH G-114 FOR ADDITIONAL REQUIREMENTS AND SPECIFICATIONS.

SHEET KEYNOTES

1. RECONNECT RELOCATED LIGHT FIXTURES AND UTILIZE EXISTING SWITCHING AND CIRCUIT(S).

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A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
AD	CMS	RMM

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:

FIRST FLOOR ELECTRICAL LIGHTING PLAN

Drawing No.:

E-104

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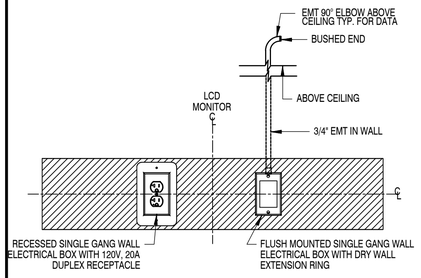
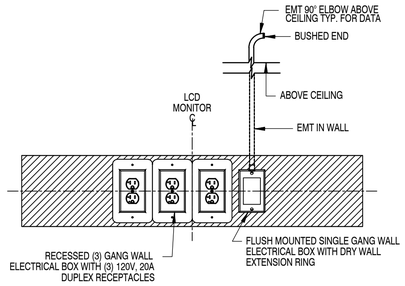


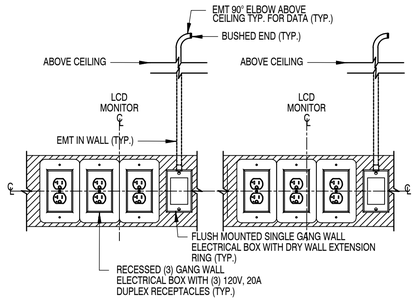
1 SINGLE LCD OR MULTIPLE SPACED SINGLE LCD VIDEO WALL OUTLET ELEVATION

SCALE: NTS



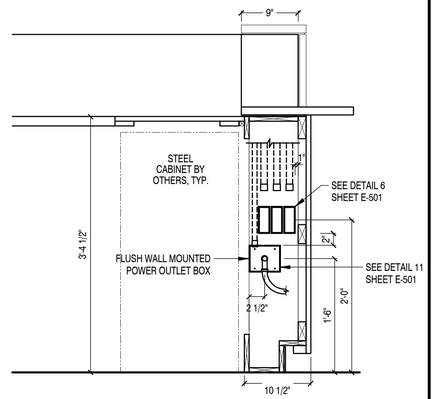
2 2x2 LCD VIDEO WALL OUTLET ELEVATION

SCALE: NTS



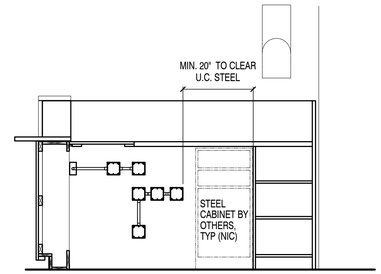
3 2x4 LCD VIDEO WALL OUTLET ELEVATION

SCALE: NTS



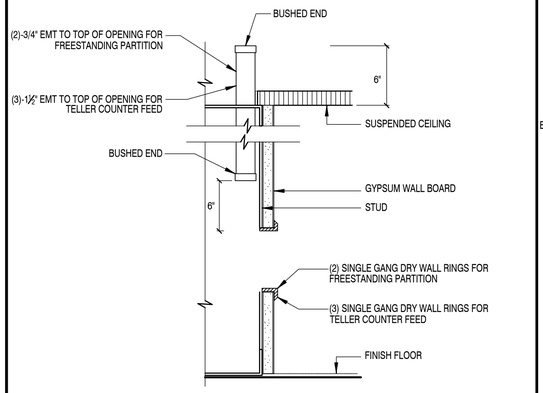
4 TELLER COUNTER WALL OUTLET BOX ELEVATION

SCALE: NTS



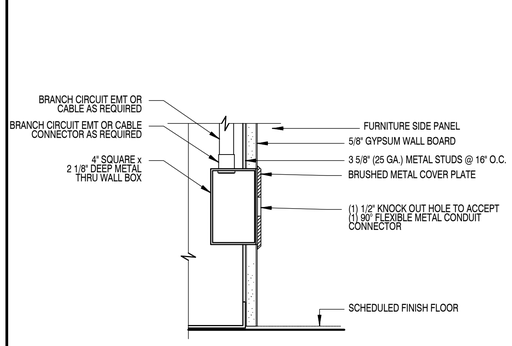
5 TYPICAL TELLER COUNTER SIDE ELEVATION

SCALE: NTS



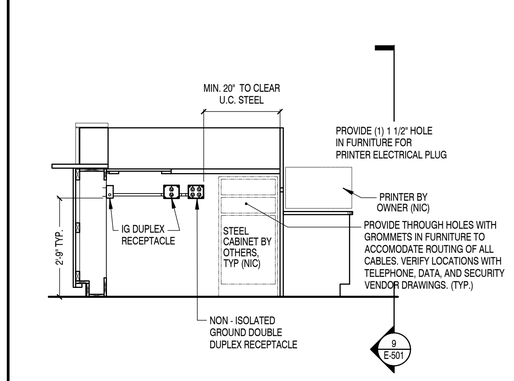
6 SECTION: FLUSH WALL BOX FOR TELEPHONE/ DATA/ SECURITY CABLES

SCALE: NTS *SEE DETAIL 10 SHEET E-501 FOR ELEVATION



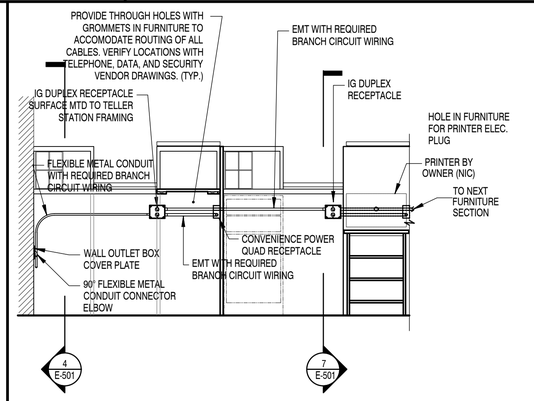
7 SECTION:FLUSH WALL BOX FOR BRANCH CIRCUIT WIRING (WITH OR WITHOUT ISOLATED GROUND

SCALE: NTS *SEE DETAIL 11 SHEET E-501 FOR ELEVATION



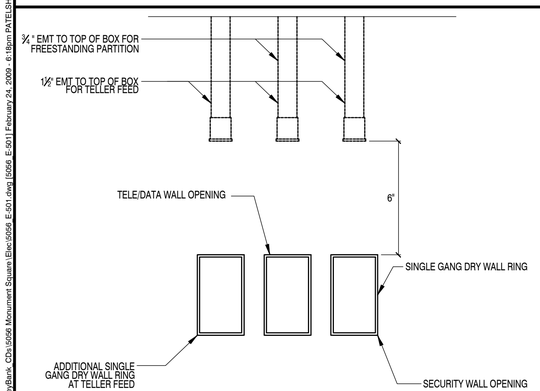
8 TYPICAL TELLER COUNTER SIDE ELEVATION W/ PRINTER STATION

SCALE: NTS



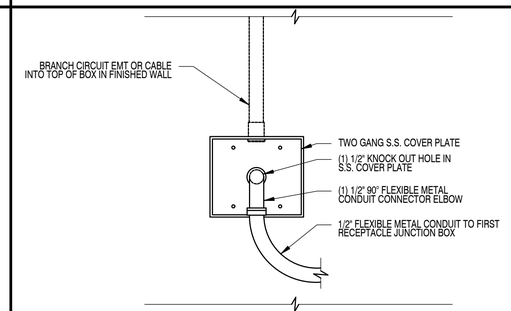
9 TYPICAL TELLER COUNTER REAR ELEVATION

SCALE: NTS



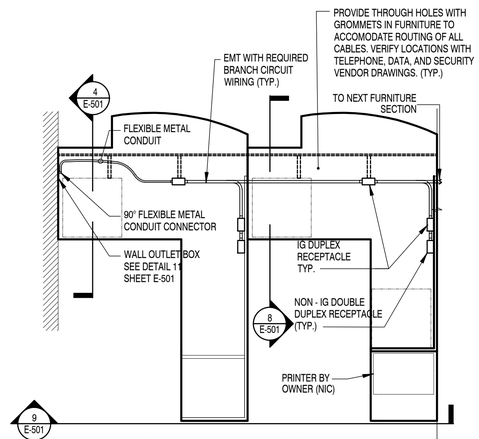
10 ELEVATION: FLUSH WALL BOX FOR TELEPHONE/DATA/SECURITY CABLES

SCALE: NTS *SEE DETAIL 6 SHEET E-501 FOR SECTION



11 ELEVATION: FLUSH WALL BOX FOR BRANCH CIRCUIT WIRING (WITH OR WITHOUT) ISOLATED GROUND TO TELLER COUNTER OR FREESTANDING PARTITION

SCALE: NTS *SEE DETAIL 7 SHEET E-501 FOR SECTION



12 TYPICAL TELLER COUNTER PLAN

SCALE: NTS

13 NOT USED

SCALE: NTS

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Engineer License No.

Client:

KeyBank
2025 ONTARIO ST, 4TH FLOOR
CLEVELAND, OHIO 44115

Project:

2008 BRANCH MODERNIZATION PROGRAM

PID# 5056

MONUMENT SQUARE

1 MONUMENT SQUARE
PORTLAND, ME, 04101

No.	Date	Issue/Revision
A	02-24-09	ISSUE FOR PERMIT

Designed By:	Drawn By:	Checked By:
AD	CMS	RMM

Project No.: F5W86602

Scale: AS NOTED

Sheet Title:

ELECTRICAL DETAILS

Drawing No.:

E-501

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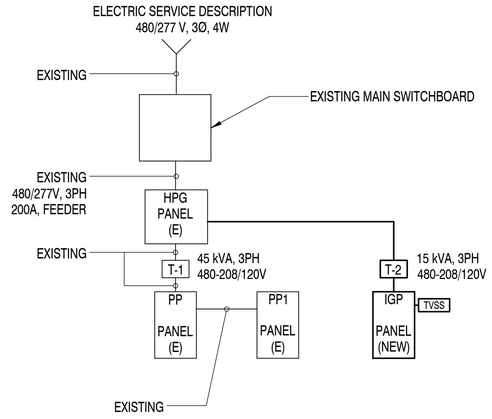
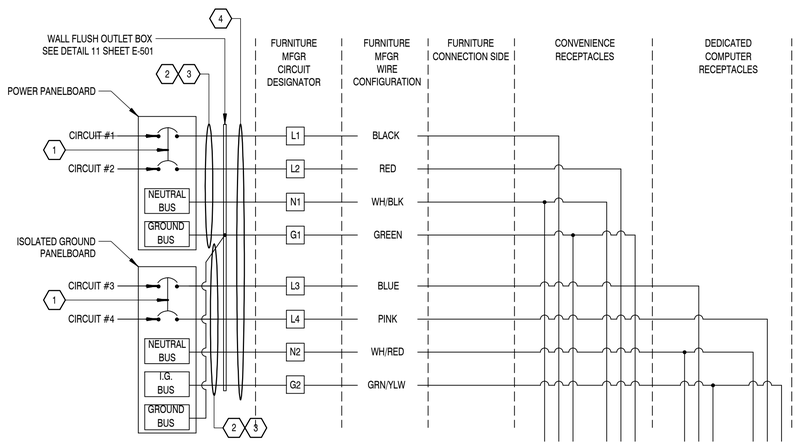


1 RISER DIAGRAM - POWER DISTRIBUTION

SCALE: NTS

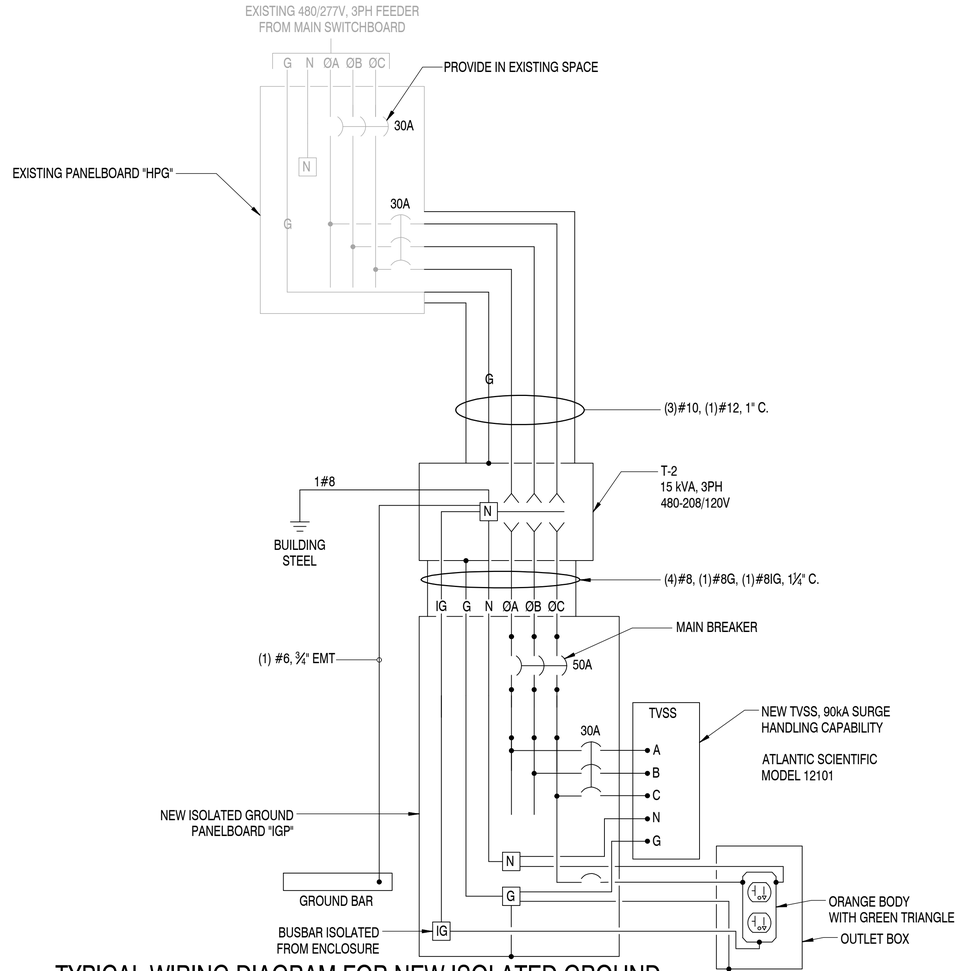


3 FREESTANDING PARTITION SERVICE WIRING

SCALE: NTS

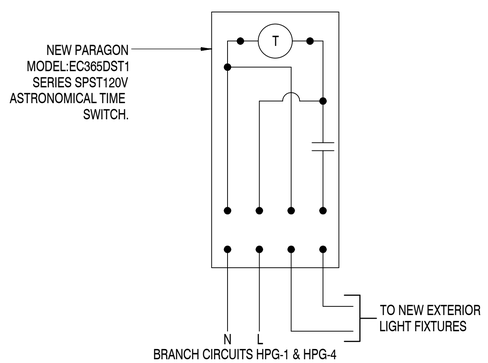
KEY NOTES

1. PROVIDE A U.L. LISTED COMMON HANDLE TIE FOR SINGLE POLE CIRCUIT BREAKER OR PROVIDE A 2-POLE CIRCUIT BREAKER WITH A COMMON TRIP HANDLE FOR ALL MULTIWIRE BRANCH CIRCUITS PER NEC 2008 ARTICLE 605.7 & 210.4(B)
2. BUNDLE AND TIE-WRAP TOGETHER MULTIWIRE CIRCUIT CONDUCTORS PER NEC 2008 ARTICLE 210.4 D.
3. IF EXISTING RACEWAYS ARE NOT ADEQUATE FOR ADDED ISOLATED GROUND CONDUCTOR, REMOVE EXISTING BRANCH CIRCUIT WIRING AND RACEWAYS AND PROVIDE NEW.
4. FURNITURE PRE-MANUFACTURED FLEXIBLE CABLE. PROVIDED BY FURNITURE MANUFACTURER.



2 TYPICAL WIRING DIAGRAM FOR NEW ISOLATED GROUND PANELBOARD AND ISOLATED GROUND RECEPTACLE

SCALE: NTS



4 TIME SWITCH WIRING DIAGRAM

SCALE: NTS

5 NOT USED

SCALE: NTS

6 NOT USED

SCALE: NTS

7 NOT USED

SCALE: NTS

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Project No.: F5W86602

Scale: AS NOTED

Sheet Title: ELECTRICAL DIAGRAMS

Drawing No.: E-601

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1 LIGHTING FIXTURE SCHEDULE

LIGHTING FIXTURE SCHEDULE

TYPE	MARK	DESCRIPTION	VOLT	LAMPS		MOUNTING		MANUFACTURER	CATALOG NUMBER	REMARKS
				NO.	TYPE	HEIGHT	TYPE			
2x2 Lay-in Fluorescent	A	2' x 2 ' VOLUMETRIC LAY-IN FLUORESCENT TROFFER. BAKED ENAMAL FINISH. ELECTRONIC BALLAST.	277AC	2	24T5HO	-	RECESSED CEILING	METALUX	2AC-224T5-UNV-LGF24T5M	
2x2 Lay-in Emergency	AE	2' x 2 ' VOLUMETRIC LAY-IN FLUORESCENT TROFFER. BAKED ENAMAL FINISH. EMERGENCY BATTERY BACKUP ELECTRONIC BALLAST.	277AC	2	24T5HO	-	RECESSED CEILING	METALUX	2AC-224T5-UNV-LGF24T5M BALLAST: BODINE LP600	
2x2 Surface Fluorescent	B	2' x 2 ' SURFACE MOUNTED FLUORESCENT FIXTURE. BAKED ENAMAL FINISH. PRISMATIC DIFFUSER LENS.	277AC	2	24T5HO	-	SURFACE CEILING	LITHONIA	2M-3-17-A12-MVOLT -GEB10	
Table / Teller	D	KEY BANK SPECIFIED DESK LAMP. ON/OFF SWITCH BUILT INTO LAMP BASE. WHITE HAND BLOWN CASE GLASS SHADE.	120AC	1	150W BT15	N/A	SURFACE DESK	ESTILUZ	M9063-37-MOD	
Exterior Awning	E	KNUCKLE MOUNTED AWNING ACCENT LIGHT. WHITE DIE-CAST A360 ALUMINUM BODY AND SWIVEL MOUNTING KNUCKLE.	120AC	1	50MR16	-	RECESSED CEILING	HYDREL	4620-M501-120NRKM WMSAWH	
Recessed Down Light	F	6" WHITE SELF FLANGED SPECULAR REFLECTOR, COMPACT FLUORESCENT DOWN LIGHT, WHITE TRIM RING AND ELECTRONIC BALLAST.	277AC	1	42TRT	-	RECESSED CEILING	CAPRI	CM6-FV26/32/42U-V65-CH24	PROVIDE LIGHT FIXTURE WITH 26" LONG "C" CHANNEL TO SUPPORT LIGHT FIXTURE FROM SUSPENDED CEILING GRID OR FRAME.
Recessed Down Light EM	FE	6" WHITE SELF FLANGED SPECULAR REFLECTOR, COMPACT FLUORESCENT DOWN LIGHT, WHITE TRIM RING AND EMERGENCY BATTERY BACKUP ELECTRONIC BALLAST.	277AC	1	42TRT	-	RECESSED CEILING	CAPRI	CM6-FV26/32/42UE-V65-CH24	PROVIDE LIGHT FIXTURE WITH 26" LONG "C" CHANNEL TO SUPPORT LIGHT FIXTURE FROM SUSPENDED CEILING GRID OR FRAME.
Recessed Wall Wash Down Light	FW	6" WHITE SELF FLANGED SPECULAR REFLECTOR, COMPACT FLUORESCENT WALL WASH DOWN LIGHT, WHITE WALL WASH TRIM RING AND ELECTRONIC BALLAST.	277AC	1	42TRT	-	RECESSED CEILING	CAPRI	CM6-FV26/32/42U-VW65-CH24	PROVIDE LIGHT FIXTURE WITH 26" LONG "C" CHANNEL TO SUPPORT LIGHT FIXTURE FROM SUSPENDED CEILING GRID OR FRAME.
Recessed Down Light	G	3" MICRO RECESSED REMODEL LOW VOLTAGE DOWNLIGHT. 20 GA. DEEP DRAWN SINGLE PIECE HOUSING WITH VERTICAL ADJUSTMENT IN FRAME. CLASS H MAGNETIC TRANSFORMER. 3A-45 (SPECIFY COLOR) TRIM RING AND BAFFLE.	120AC	1	50MR16	SOFFIT HEIGHT	RECESSED CEILING	CAPRI	3ALVR-3A-45	
Pendant Light	P	THREE HANGING PENDANT LIGHT FIXTURES WITH VARYING CABLE PENDANT LENGTHS, WITH WHITE GLASS AND POLISHED CHROME GLOBE, COMPACT FLUORESCENT LAMPS AND GLASS AND (3) PENDANT CEILING CANOPY.	120AC	3	PL18 QUAD	6'-6" AFF	PENDANT	LBL LIGHTING	PF-5490-OP-PC 18Q	CANOPY MODEL NO. CK003D-GL
Exterior Wall Light	T	8"W x 4.5"H x 12"D CAST ALUMINUM DOWNLIGHT WALL BRACKET, PLATINUM SILVER FINISH, INTERNAL ALZAK REFLECTOR, TEMPERED GLASS LENS, HPF LOW TEMPERATURE BALLAST, (1) 42W CF LAMP.	120AC	1	42TRT	-	SURFACE WALL	KIM	SW1-42PL120-PS-P	ILLUMINATION LEVEL IN THE AREA 5FT FROM WALL AND SET 8FT WIDE IS 12FC AVERAGE MAINTAINED.
Wall Task Light	W	27 - 5/8" x 2 - 3/26" ADJUSTABLE FLUORESCENT TASK LIGHT. WHITE PAINTED 0.09" THICK EXTRUDED ALUMINUM HOUSING WITH 120° LAMP HOUSING ADJUSTMENT.	120AC	1	24T5HO	5'-6"	SURFACE WALL	ALKCO	TAB124-RSW/WH /LESS SWITCH	
Exit	X	EDGE-LIT EXIT SIGN 6" HIGH LETTERS, BRUSHED ALUMINUM RECESSED HOUSING WITH INTEGRAL BATTERY BACKUP. RED ON MIRROR BACKGROUND. PROVIDE FACES AND ARROW DIRECTION AND BACKBOX WHEN ORDERING. ADDITIONAL MODEL ADDERS NEEDED FOR ORDERING DOUBLE FACE SIGN.	277AC	N/A	LED	-	RECESSED CEILING	MCPHILLBEN	TER45IVXL1RW CLG MT 1 FACE NO ARROWS TER45IVXL1RWAL CLG MT 1 FACE ARROW LEFT TER45IVXL1RWAR CLG MT 1 FACE ARROW RIGHT TER45IVXL1RW CLG MT 1 FACE NO ARROWS BBER45VXL BACKBOX	

NOTES:
KEY BANK HAS A NATIONAL PRICING AGREEMENT WITH AN ELECTRICAL DISTRIBUTOR. PURCHASE LIGHTING FIXTURES AND ACCESSORIES FROM GRAYBAR 1100 E.55TH ST, CLEVELAND, OH 44103. PHONE NUMBER: (216)-432-2500

4 EXISTING PANELBOARD PP1 SCHEDULE

EXISTING CIRCUIT BREAKER PANEL BOARD SCHEDULE

PNLBD ID: PP1 VOLTAGE: 240/120 (A) MAIN: M.L.O. FED FROM: PANEL PP
LOCATION: ELECT. CLOSET 115 PHASE: 1 kAIC RATING: 10 FEEDER WIRE SIZE: EXISTING
WIRE: 3 MOUNTING: SURFACE FEEDER ENTRY: EXISTING
BUS AMPACITY: 100 ENCLOSURE: TYPE NEMA 1

CKT.	BRKR	WIRE			BRANCH CIRCUIT		LOAD/PHASE			BRANCH CIRCUIT		WIRE			BRKR	CKT.
NO.	TRIP	COND	NEUT	GND	DESCRIPTION	LOAD	A	B	C	LOAD	DESCRIPTION	COND	NEUT	GND	TRIP	NO.
1	20/1				EXISTING RECEPT/CSR		0				EXISTING OFFICE OUTLETS				20/1	2
3	20/1				EXISTING OFFICE OUTLETS			0			EXISTING RECPT.				20/1	4
5	20/1				EXISTING CLOCK/COLUMN RECEPT				0		EXISTING RECPT.				20/1	6
7	20/1				SPACE		0				EXISTING KEY BANK SIGNS				20/1	8
9	20/1				SPACE			0			SPACE				20/1	10
11	20/1				SPACE				0		SPACE				20/1	12
13	20/1				SPACE		0				SPACE				20/1	14
15	20/1				SPACE			0			SPACE				20/1	16
17	20/1				SPACE				0		SPACE				20/1	18
19	20/1				SPACE		0				SPACE				20/1	20
21	20/1				SPACE			0			SPACE				20/1	22
23	20/1				SPACE				0		SPACE				20/1	24
					TOTAL CONNECTED "VA" LOAD:		0	0	0							

NOTES:
1. PROVIDE EQUIPMENT GROUND BUS AND ADDITIONAL ISOLATED GROUND BUS

5 NOT USED

2 ISOLATED GROUND PANEL SCHEDULE NEW

CIRCUIT BREAKER PANEL BOARD SCHEDULE

PNLBD ID: IGP (NEW) VOLTAGE: 208/120 MAIN: 50A C.B. FED FROM: TRANSFORMER T-2
LOCATION: TELLER WORK AREA 106 PHASE: 3 kAIC RATING: 10 FEEDER WIRE SIZE: (4) # 8
WIRE: 4 MOUNTING: SURFACE FEEDER ENTRY: TOP
BUS AMPACITY: 100A ENCLOSURE: TYPE NEMA 1

CKT.	BRKR	WIRE			BRANCH CIRCUIT		LOAD/PHASE			BRANCH CIRCUIT		WIRE			BRKR	CKT.
NO.	TRIP	COND	NEUT	GND	DESCRIPTION	LOAD	A	B	C	LOAD	DESCRIPTION	COND	NEUT	GND	TRIP	NO.
1	20/1				SPARE		0				SPARE				20/1	2
3	20/1				SPARE			0			SPARE				20/1	4
5	20/1	12	12	12	ETO ROOM PENDANT RECEPTACLE	500			1000	500	ETO ROOM PENDANT RECEPTACLES	12	12	12	20/1	6
7	20/1	12	12	12	ETO ROOM PENDANT RECEPTACLE	500	1000			500	ETO ROOM PENDANT RECEPTACLES	12	12	12	20/1	8
9	20/1	12	12	12	ETO ROOM RECEPTACLES	360		900		540	ETO ROOM RECEPTACLES	12	12	12	20/1	10
11	20/1	12	12	12	ETO ROOM RECEPTACLES	360			360		SPARE				20/1	12
13	20/1				SPARE		300			300	ATM RECEPTACLE	12	12	12	20/1	14
15	20/1				SPARE			0			SPARE				20/1	16
17	20/1				SPARE				0		SPARE				20/1	18
19	20/1				SPARE		0				SPARE				20/1	20
21	20/1				SPARE			0			SPARE				20/1	22
23	20/1				SPARE				0		SPARE				20/1	24
25	20/1				SPARE		100			100						26
27	20/1				SPARE			100		100	TVSS	10	10	10	30/3	28
29	20/1				SPARE				100	100						30
							1400	1000	1460							
					TOTAL CONNECTED "VA" LOAD:		3860									

NOTES:

3 EXISTING PANELBOARD HPG SCHEDULE

EXISTING CIRCUIT BREAKER PANEL BOARD SCHEDULE

PNLBD ID: HPG VOLTAGE: 480/277 (A) MAIN: 200A C.B. FED FROM: EXISTING MAIN SWITCHBOARD
LOCATION: ELECT. CLOSET 111 PHASE: 3 kAIC RATING: 14 FEEDER WIRE SIZE: EXISTING
WIRE: 4 MOUNTING: SURFACE FEEDER ENTRY: TOP
BUS AMPACITY: 225 ENCLOSURE: TYPE NEMA 1

CKT.	BRKR	WIRE			BRANCH CIRCUIT		LOAD/PHASE			BRANCH CIRCUIT		WIRE			BRKR	CKT.
NO.	TRIP	COND	NEUT	GND	DESCRIPTION	LOAD	A	B	C	LOAD	DESCRIPTION	COND	NEUT	GND	TRIP	NO.
1	20/1	12	12	12	ATM ROOM 122 LIGHT	50	300			250	EMERGENCY LIGHTS & EXIT SIGNS	12	12	12	20/1	2
3	20/1				SPARE			250		250	EMPL. LOUNGE 114 & CORRIDOR LIGHTING	12	12	12	20/1	4
5	20/1				EX. VAULT, VAULT, LOBBY, MONEY RM LIGHTS				0		SPARE				20/1	6
7	20/1				SPACE		0				SPACE				20/1	8
9	20/1				SPARE			0			SPARE				20/1	10
11	20/1				SPARE				0		SPARE				20/1	12
13	20/1				SPARE		0				SPACE				20/1	14
15	20/1				SPACE			0			SPACE				20/1	16
17	20/1				SPARE				0		SPACE				20/1	18
19	20/1				SPARE		0				SPACE				20/1	20
21	20/1				SPACE			0			SPACE				20/1	22
23	20/1				SPACE				0		SPACE				20/1	24
25		4	-			15000	20000			5000		10	-			26
27	70/3	4	-	6	TRANSFORMER T-1	15000		20000		5000	TRANSFORMER T-2	10	-	10	30/3	28
29		4	-			15000			20000	5000		10	-			30
							20300	20250	20000							
					TOTAL CONNECTED "VA" LOAD:		60550									

NOTES:
1. PROVIDE NEW CIRCUIT BREAKER IN EXISTING SPACE

(1)

7 EXISTING PANELBOARD PP SCHEDULE

EXISTING CIRCUIT BREAKER PANEL BOARD SCHEDULE

PNLBD ID: PP VOLTAGE: 208/120 (A) MAIN: 175A C.B. FED FROM: TRANSFORMER T-1
LOCATION: ELECT. CLOSET 111 PHASE: 3 kAIC RATING: 10 FEEDER WIRE SIZE: 2/0
WIRE: 4 MOUNTING: SURFACE FEEDER ENTRY: TOP
BUS AMPACITY: 225 ENCLOSURE: TYPE NEMA 1

CKT.	BRKR	WIRE			BRANCH CIRCUIT		LOAD/PHASE			BRANCH CIRCUIT		WIRE			BRKR	CKT.
NO.	TRIP	COND	NEUT	GND	DESCRIPTION	LOAD	A	B	C	LOAD	DESCRIPTION	COND	NEUT	GND	TRIP	NO.
1	20/1				EXISTING RECEPTACLE, WINDOW LIGHTS		0				EXISTING RECEPTACLE, WINDOW LIGHTS				20/1	2
3	20/1				EXISTING RECEPTACLE, WINDOW LIGHTS			0			EXISTING RECEPTACLE, WINDOW LIGHTS				20/1	4
5	20/1				EXISTING RECEPTACLE, WINDOW LIGHTS				0		EXISTING RECEPTACLE, WINDOW LIGHTS				20/1	6
7	20/1				EXISTING RECEPTACLE, WINDOW LIGHTS		0				EXISTING RECEPTACLE, WINDOW LIGHTS				20/1	8
9	20/1	12	12	12	CUSTOMER AREA RECEPTACLES	360		360			EXISTING RECEPTACLE, WINDOW LIGHTS				20/1	10
11	20/1				EXISTING RECEPTACLE, WINDOW LIGHTS				0		EXISTING RECEPTACLE, WINDOW LIGHTS				20/1	12
13	20/1				EXIST. FLOOR RECEPTACLE NEXT TO TELLERS		2500			2500						14
15	20/1	12	12	12	PARTITION RECEPTACLES	360		2660		2500	BCP041	8	8	8	50/2	16
17	20/1				EXISTING TELLER OUTLETS				0		SPACE				20/1	18
19	20/1				EXIST. ADT JANITORS CLOSET & WATER CLR		0				SPACE				20/1	20
21	20/1	12	12	12	TELLER WORK AREA 103 RECEPTACLES	900		900			SPACE				20/1	22
23	20/1				EXISTING CONGRESS STREET RECEPTACLES				0		SPACE				20/1	24
25	20/1				SPARE		0				SPARE				20/1	26
27	20/1				EXISTING LIGHTS OVER VAULT DOOR			0			SPARE				20/1	28
29	20/1	12	12	12	RECEPTACLE OUTLET SECURITY POWER	180			360	180	EAST DESK RECEPTACLE	12	12	12	20/1	30
31	20/1				EXISTING PHONE RECEP. IN CLOSET		720			720	EMPLOYEE LOUNGE 119 RECEPTACLES	12	12	12	20/1	32
33	20/1	12	12	12	JUNCTION BOX, AHD	200		200			SPARE				20/1	34
35	20/1	12	12	12	MEN'S & WOMEN'S RESTROOM RECEPTS	360			660	300	VAV BOXES	12	12	12	20/1	36
37	20/1	12	12	12	EF-1	132	132				SPARE				20/1	38
39	20/1	12	12	12	EF-2 & EF-3	190		190			SPARE				20/1	40
41	20/1				SPARE				0		SPARE				20/1	42
							3352	4510	1020							
					TOTAL CONNECTED "VA" LOAD:		8882									

NOTES:

6 MINOR ELECTRICAL WORK ELECTRIC SERVICE CALCULATIONS NOT REQUIRED

MINOR RECEPTACLE OUTLET MODIFICATIONS AND/OR REPLACMENT OF EXISTING LIGHTING WITH NEW ENERGY EFFICIENT LIGHTING:
NO SERVICE DEMAND CALCULATIONS REQUIRED DUE TO ELECTRIC SERVICE AND PANEL LOADS NOT CHANGED.

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