

TAG No.	AREA SERVED	MFR.	MODEL No.	SUPPLY FAN					COOLING COIL (DX)				HEATING COIL (ELECTRIC)				ELECTRICAL			FILTERS	OPERATING WEIGHT LBS.	NOTES					
				CFM	ESP*	TSP*	BHP	HP	O/A CFM	EAT DB°F	LAT DB°F	SENSIBLE MBH	TOTAL MBH	ROWS	EAT DB°F	LAT DB°F	KW	STAGES	APD*				MCA	MOP	V/P/Hz		
RTU-1	CONFERENCE ROOMS	TRANE	HSD0A1	3,200	1.6	1.9	2.1	4.7	800	80.0	65.6	53.7	53.2	89.7	118.2	1	53.8	106.9	54	1	-	74	90	460/603	MERV-13	1162	1,2

- NOTES:
 1. UNIT SHALL CONSIST OF: MIXING BOX WITH FILTER, DX COOLING, ELECTRICAL RESISTANCE HEATING, AND SUPPLY FAN WITH VFD.
 2. PROVIDE SINGLE POINT POWER WITH UNIT MOUNTED DISCONNECT SWITCH.

TAG No.	AREA SERVED	MFR.	MODEL No.	SYSTEM	SUPPLY FAN			PRIMARY CFM		INLET DIA. IN		HEATING COIL (ELECTRIC)				ELECTRICAL			DISCHARGE NC LEVEL	RADIATED NC LEVEL	NOTES
					CFM	ESP*	HP	MINIMUM	MAXIMUM	EAT DB°F	LAT DB°F	KW	STAGES	MCA	MOP	V/P/Hz					
FPV-1.1	A145 CONFERENCE TRAINING	TRANE	VSEF	RTU-1	1040	0.25	1	315	1040	10	0.75	65.5	92.7	9.0	1	47.4	50	277/1/60	32	18	1-3
FPV-1.2	A144 BOARD ROOM	TRANE	VSEF	RTU-1	1040	0.25	1	375	1040	10	0.75	64.6	91.8	9.0	1	47.4	50	277/1/60	32	18	1-3
FPV-1.3	A143 BOARD ROOM	TRANE	VSEF	RTU-1	560	0.25	1	170	560	10	0.75	65.5	90.7	4.5	1	27.1	30	277/1/60	24	15	1-3
FPV-1.4	A142 EXEC. CONF	TRANE	VSEF	RTU-1	560	0.25	1	170	560	10	0.75	65.5	90.7	4.5	1	27.1	30	277/1/60	24	15	1-3
FPV-2.1	A141 SUPERINTENDENT	TRANE	VSEF	RTU-2	480	0.25	1	165	480	10	0.75	64.8	91.1	4.0	1	24.8	25	277/1/60	23	15	1-3
FPV-2.2	A132, A131, A139	TRANE	VSEF	RTU-2	520	0.25	1	165	520	10	0.75	65.2	95.5	5.0	1	29.3	30	277/1/60	24	15	1-3
FPV-2.3	A128, A129, A130	TRANE	VSEF	RTU-2	600	0.25	1	180	600	10	0.75	65.5	94.4	5.5	1	31.6	35	277/1/60	24	15	1-3
FPV-2.4	A103 INS. TECH, A104 SUPER T&L SECONDARY	TRANE	VSEF	RTU-2	400	0.25	1	165	400	10	0.75	63.8	91.4	3.5	1	22.5	25	277/1/60	22	15	1-3
FPV-2.5	A101 CONFERENCE	TRANE	VSEF	RTU-2	600	0.25	1	180	600	10	0.75	65.5	91.7	5.0	1	29.3	30	277/1/60	24	15	1-3
FPV-2.6	A100 LOBBY, A100.1 RECEPTION, A144.1 STOR.	TRANE	VSEF	RTU-2	770	0.25	1	235	770	10	0.75	65.4	92.0	6.5	1	36.1	40	277/1/60	26	15	1-3
FPV-3.1	A125, A126, A127	TRANE	VSEF	RTU-3	440	0.25	1	165	440	10	0.75	64.4	96.6	4.5	1	27.1	30	277/1/60	23	15	1-3
FPV-3.2	A124 ASSIST. BUS. AFFAIRS	TRANE	VSEF	RTU-3	350	0.25	1	165	350	10	0.75	62.9	98.9	4.0	1	24.8	25	277/1/60	22	15	1-3
FPV-3.3	A123 DIRECTOR OF BUSINESS AFFAIRS	TRANE	VSEF	RTU-3	380	0.25	1	165	380	10	0.75	63.5	96.6	4.0	1	24.8	25	277/1/60	22	15	1-3
FPV-3.4	A121 BUSINESS SUITE	TRANE	VSEF	RTU-3	800	0.25	1	240	800	10	0.75	65.5	91.1	6.5	1	36.1	40	277/1/60	27	15	1-3
FPV-3.5	A122 BUSINESS SUITE	TRANE	VSEF	RTU-3	400	0.25	1	165	400	10	0.75	63.8	91.4	3.5	1	22.5	25	277/1/60	22	15	1-3
FPV-3.6	A112 ELEM SPECIAL ED	TRANE	VSEF	RTU-3	380	0.25	1	165	380	10	0.75	63.5	96.6	4.0	1	24.8	25	277/1/60	22	15	1-3
FPV-3.7	A111 T&L SUITE	TRANE	VSEF	RTU-3	800	0.25	1	240	800	10	0.75	65.5	91.1	6.5	1	36.1	40	277/1/60	27	15	1-3
FPV-3.8	A110 ASSIST SUPER FOR ED SERVICES	TRANE	VSEF	RTU-3	440	0.25	1	165	440	10	0.75	64.4	93.0	4.0	1	24.8	25	277/1/60	23	15	1-3
FPV-3.9	A109 DIRECTOR TEACH	TRANE	VSEF	RTU-3	380	0.25	1	165	380	10	0.75	63.5	96.6	4.0	1	24.8	25	277/1/60	22	15	1-3
FPV-3.10	A108 SUPER ELEM, A108 SUPER CLINICAL SERV.	TRANE	VSEF	RTU-3	400	0.25	1	165	400	10	0.75	63.8	91.4	3.5	1	22.5	25	277/1/60	22	15	1-3
FPV-3.11	A107 SUPER OF SPEC. SERV., A108 DIR. ST. SER.	TRANE	VSEF	RTU-3	500	0.25	1	165	500	10	0.75	65.1	90.2	4.0	1	24.8	25	277/1/60	23	15	1-3

- NOTES:
 1. TRANSITION DUCTWORK AS REQUIRED TO MATCH INLET AND OUTLET DIMENSIONS FOR EACH VAV.
 2. INSTALL ALL UNITS FOLLOWING THE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION AND CLEARANCES.
 3. PROVIDE DISCONNECT SWITCH & STEP-DOWN TRANSFORMER FOR CONTROL CIRCUIT.

TAG No.	AREA SERVED	MFR.	MODEL No.	SYSTEM	CFM			INLET DIA. IN		HEATING COIL (ELECTRIC)				ELECTRICAL			DISCHARGE NC LEVEL	RADIATED NC LEVEL	NOTES	
					MIN.	HTG.	MAX.	EAT DB°F	LAT DB°F	KW	STAGES	APD*	MCA	MOP	V/P/Hz					
VAV-2.1	A139 SUPERINTENDENT LOBBY	TRANE	VCEF	RTU-2	125	125	240	5	0.75	55.0	93.1	1.5	1	0.02	6.77	15	277/1/60	22	<15	1-3
VAV-2.2	C100, A133, A134, C101, T04, T08	TRANE	VCEF	RTU-2	240	240	610	8	0.75	55.0	94.3	3.0	1	0.05	13.54	15	277/1/60	22	19	1-3
VAV-2.3	A138 KITCHEN	TRANE	VCEF	RTU-2	130	130	360	6	0.75	55.0	91.3	1.5	1	0.11	6.77	15	277/1/60	20	<15	1-3
VAV-2.4	A102 CHILD ACCOUNTING, A111.1 COPYMAIL	TRANE	VCEF	RTU-2	125	125	260	5	0.75	55.0	93.1	1.5	1	0.02	6.77	15	277/1/60	24	<15	1-3
VAV-3.1	A120 OPEN WORKSPACE, C100 CORRIDOR	TRANE	VCEF	RTU-3	315	315	1040	10	0.75	55.0	95.0	4.0	1	0.03	18.05	20	277/1/60	22	20	1-3
VAV-3.2	A113 ELEM SPECIAL ED	TRANE	VCEF	RTU-3	125	125	124	5	0.75	55.0	93.1	1.5	1	0.01	6.77	15	277/1/60	<15	<15	1-3
VAV-3.3	A111 OPEN WORKSPACE	TRANE	VCEF	RTU-3	525	525	1600	12	0.75	55.0	94.1	6.0	1	0.05	27.08	30	277/1/60	22	23	1-3
VAV-3.4	A114 CONFERENCE/BREAKOUT	TRANE	VCEF	RTU-3	125	125	300	6	0.75	55.0	93.1	1.5	1	0.08	6.77	15	277/1/60	18	<15	1-3
VAV-3.5	A115 CONFERENCE/BREAKOUT	TRANE	VCEF	RTU-3	125	125	300	6	0.75	55.0	93.1	1.5	1	0.08	6.77	15	277/1/60	18	<15	1-3
VAV-3.6	A116, A117, A118, A119	TRANE	VCEF	RTU-3	175	175	320	6	0.75	55.0	100.0	2.5	1	0.09	11.28	15	277/1/60	19	<15	1-3

- NOTES:
 1. TRANSITION DUCTWORK AS REQUIRED TO MATCH INLET AND OUTLET DIMENSIONS FOR EACH VAV.
 2. INSTALL ALL UNITS FOLLOWING THE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION AND CLEARANCES.
 3. PROVIDE DISCONNECT SWITCH & STEP-DOWN TRANSFORMER FOR CONTROL CIRCUIT.

TAG No.	AREA SERVED	MFR.	MODEL No.	INDOOR UNIT							OUTDOOR UNIT							NOTES						
				CFM	ESP*	COOLING SEN. MBH	COOLING TOT. MBH	HEATING MBH	MCA	MOP	V/P/Hz	WEIGHT LBS.	TAG No.	MODEL No.	AMBIENT °F	SEER	HSPF		COOLING MBH	HEATING MBH	MCA	MOP	V/P/Hz	WEIGHT LBS.
DSS-1	A136 IT	MITSUBISHI	PKA-A12LA	350	N/A	10.6	12.0	10.6	N/A	N/A	N/A	28	CU-1	PUZ-A12NKA7	95.0 / 5.0	21.0	13.3	12.0	10.6	11.0	28	208/1/60	93	1,2,3,4,5,6,7
DSS-2	A135 ELEC	MITSUBISHI	PLA-A24EA7	640	N/A	20.6	24.0	13.0	N/A	N/A	N/A	56	CU-2	PUZ-A24NHA7	95.0 / 5.0	24.2	11.2	24.0	13.0	19.0	26	208/1/60	153	1,2,3,4,5,6,7

- NOTES:
 1. INSTALL ALL AC & CU UNITS FOLLOWING MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION, CLEARANCES AND SERVICEABILITY.
 2. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS FOR SIZING AND MAXIMUM PIPING LENGTH. PROVIDE PROPER REFRIGERANT CHARGE AS RECOMMENDED BY MANUFACTURER IF EQUIVALENT LENGTH EXCEEDS RATINGS.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REFRIGERANT PIPING ACCESSORIES AND APPURTENANCES AS REQUIRED TO COMPLETE THE SYSTEM.
 4. PROVIDE INTEGRAL DISCONNECT SWITCH FOR DSS AND CU.
 5. PROVIDE LOW AMBIENT CONTROL.
 6. POWER CONNECTIONS SHALL BE MADE AT CONDENSING UNIT. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERCONNECTING POWER AND CONTROL WIRING BETWEEN INDOOR AND OUTDOOR COMPONENTS.
 7. PROVIDE WALL MOUNTED THERMOSTAT. PROVIDE SEPARATE SPACE TEMPERATURE SENSOR (BY BAS MANUFACTURER) FOR BAS INTEGRATION.

TAG	AREA(S) SERVED	MFR.	MODEL	SUPPLY FAN				SONES	MOTOR HP/WT	V/P/Hz	CONTROL	DAMPER	WEIGHT LBS.	NOTES
				CFM	ESP*	RPM	DRIVE							
EF-1	T10 TOILET	GREENHECK	SP-A190	150	0.35	1,400	DIRECT	1.5	46	115/1/60	ATC	BDD	17	1
EF-2	A137, T03, T02, T01, T05, T06, T07, T08	GREENHECK	G-100-A	1,000	0.5	1725	DIRECT	10.5	216	208/1/60	ATC	BDD	50	1

- NOTES:
 1. PROVIDE DISCONNECT SWITCH.

TAG	MFR.	MODEL	SIZE	PATTERN	TYPE	MOUNT	FINISH	MAX N.C.	NOTES
1	TITUS	TDV	6x6	6" DIA. NECK 4-WAY	S/A	SURFACE	BWE	25	-
2	TITUS	TDV	9x9	8" DIA. NECK 4-WAY	S/A	SURFACE	BWE	25	-
3	TITUS	TDV	12x12	10" DIA. NECK 4-WAY	S/A	SURFACE	BWE	25	-
4	TITUS	TDV	15x15	12" DIA. NECK 4-WAY	S/A	SURFACE	BWE	25	-
5	TITUS	300 RL	6X6	3/4" SPACING 2X DEFLECTION	S/A	SURFACE	BWE	25	-
6	TITUS	300 RL	8x6	3/4" SPACING 2X DEFLECTION	S/A	SURFACE	BWE	25	-
7	TITUS	ML 38	48x4	3/4" SPACING 2-SLOT, 6" DIA. NECK	S/A	SURFACE	BWE	25	-
8	TITUS	ML 38	48x4	3/4" SPACING 2-SLOT, 8" DIA. NECK	S/A	SURFACE	BWE	25	-
9	TITUS	ML 38	48x4	3/4" SPACING 2-SLOT, 10" DIA. NECK	S/A	SURFACE	BWE	25	-
10	TITUS	350 RL	6x6	3/4" SPACING 35° DEFLECTION	R/A, T/A	SURFACE	BWE	25	-
11	TITUS	350 RL	10x6	3/4" SPACING 35° DEFLECTION	R/A, T/A	SURFACE	BWE	25	-
12	TITUS	350 RL	14x6	3/4" SPACING 35° DEFLECTION	R/A, T/A	SURFACE	BWE	25	-
13	TITUS	350 RL	12x12	3/4" SPACING 35° DEFLECTION	R/A, T/A	SURFACE	BWE	25	-
14	TITUS	350 RL	18x12	3/4" SPACING 35° DEFLECTION	R/A, T/A	SURFACE	BWE	25	-
15	TITUS	350 RL	24x12	3/4" SPACING 35° DEFLECTION	R/A, T/A	SURFACE	BWE	25	-
16	TITUS	350 RL	36x16	3/4" SPACING 35° DEFLECTION	R/A, T/A	SURFACE	BWE	25	-
17	TITUS	350 RL	30x24	3/4" SPACING 35° DEFLECTION	R/A, T/A	SURFACE	BWE	25	-
18	TITUS	350 RL	54x24	3/4" SPACING 35° DEFLECTION	R/A, T/A	SURFACE	BWE	25	-
19	TITUS	350 RL	8x8	3/4" SPACING 35° DEFLECTION	R/A, T/A, E/A	SURFACE	BWE	25	-
20	TITUS	350 RL	10x10	3/4" SPACING 35° DEFLECTION	R/A, T/A, E/A	SURFACE	BWE	25	-
21	TITUS	350 RL	14x14	3/4" SPACING 35° DEFLECTION	R/A, T/A				

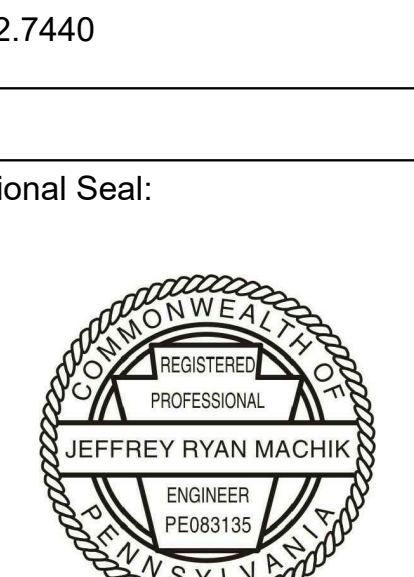


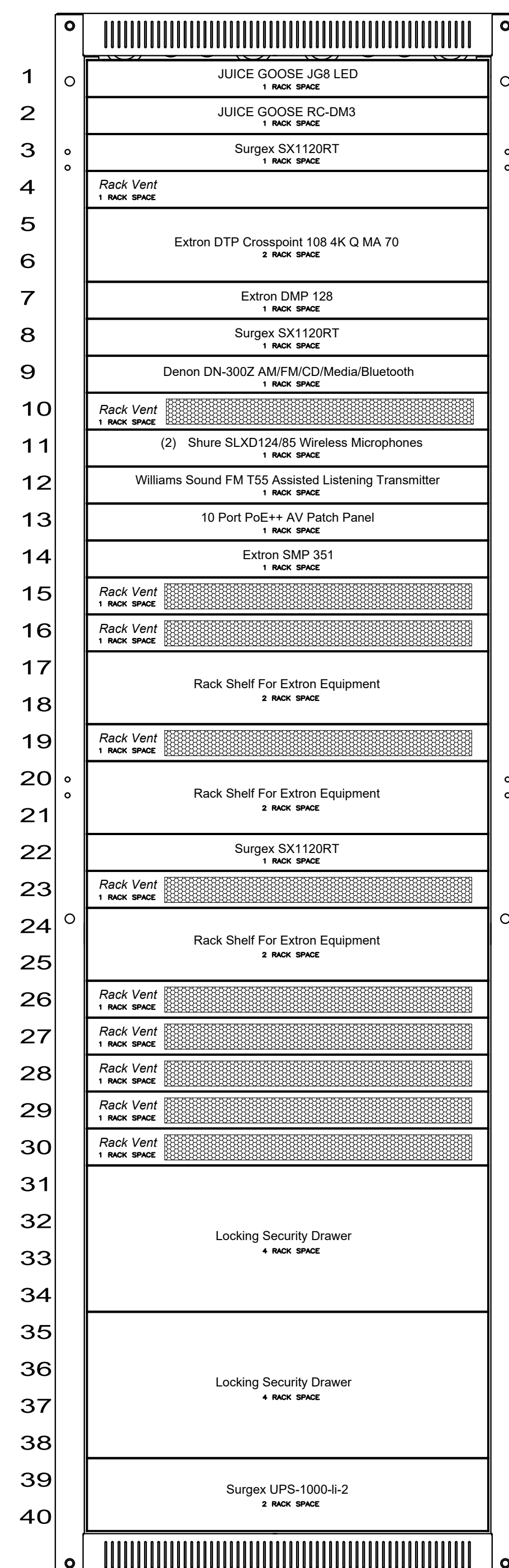
Table with 3 columns: TYPE, MANUFACTURER, MODEL, DESCRIPTION. Includes speaker schedule for Board Room A141, Board Room A142, and Conference / Training A143.

Table with 3 columns: TYPE, MANUFACTURER, MODEL, DESCRIPTION. Includes speaker schedule for Lobby A100.

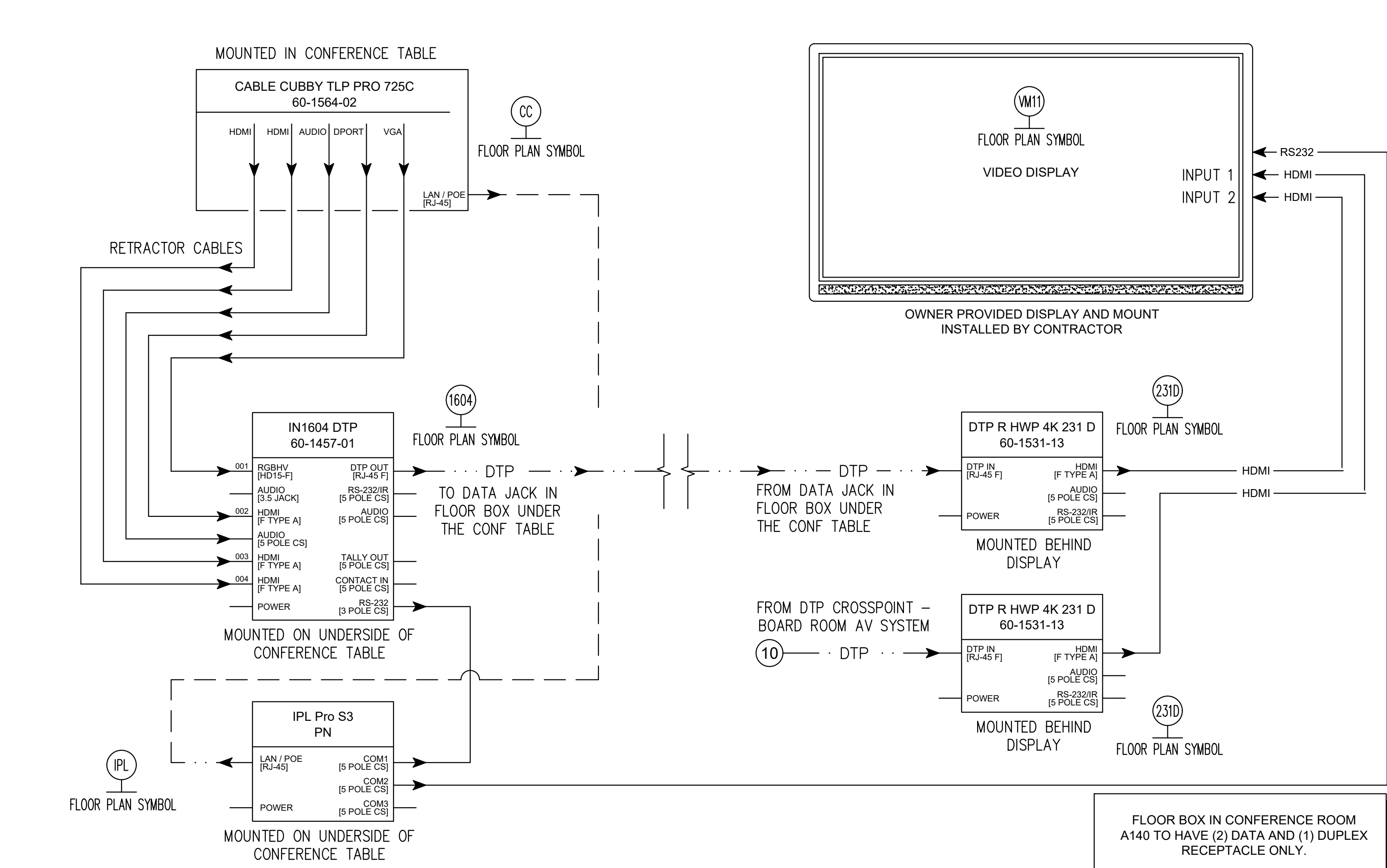
CABLE LEGEND table with columns: TYPE, DESCRIPTION. Lists various cable types like AUDIO, AXLINK, CAT5e, CAT6, etc.

MOUNTING HEIGHTS table with columns: RECEPTACLES, SWITCHES, REMOTE ANTENNA, CT RECEPTACLES. Lists mounting heights above finished floor or countertop.

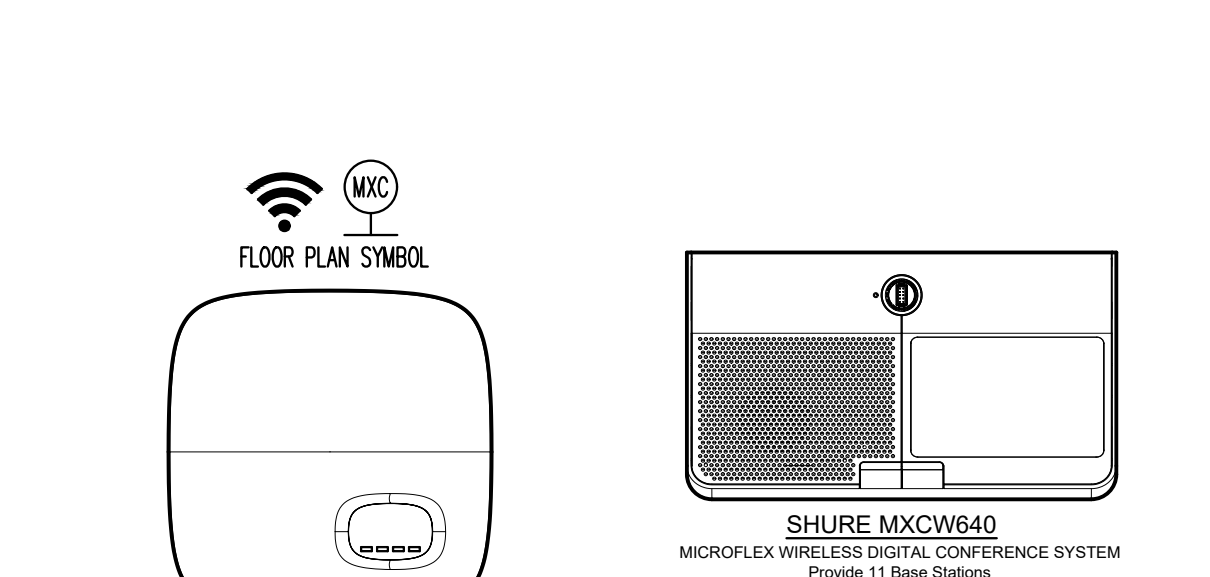
CONDUIT SCHEDULE table with columns: CONDUIT TYPE, DESCRIPTION. Lists conduit sizes and materials for AV connections.



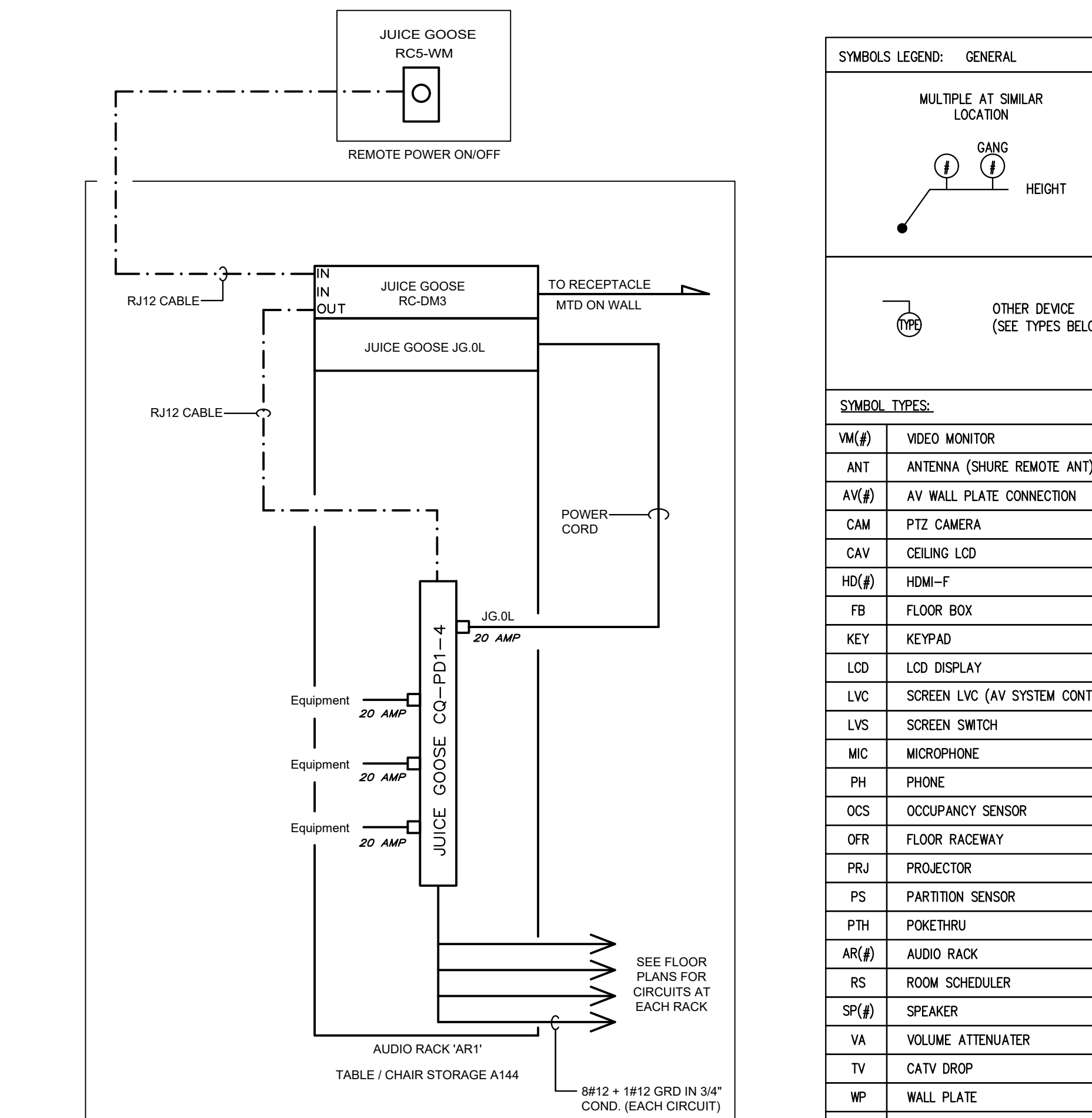
4 AUDIO RACK 'AR1' ELEVATION E403 SCALE: None



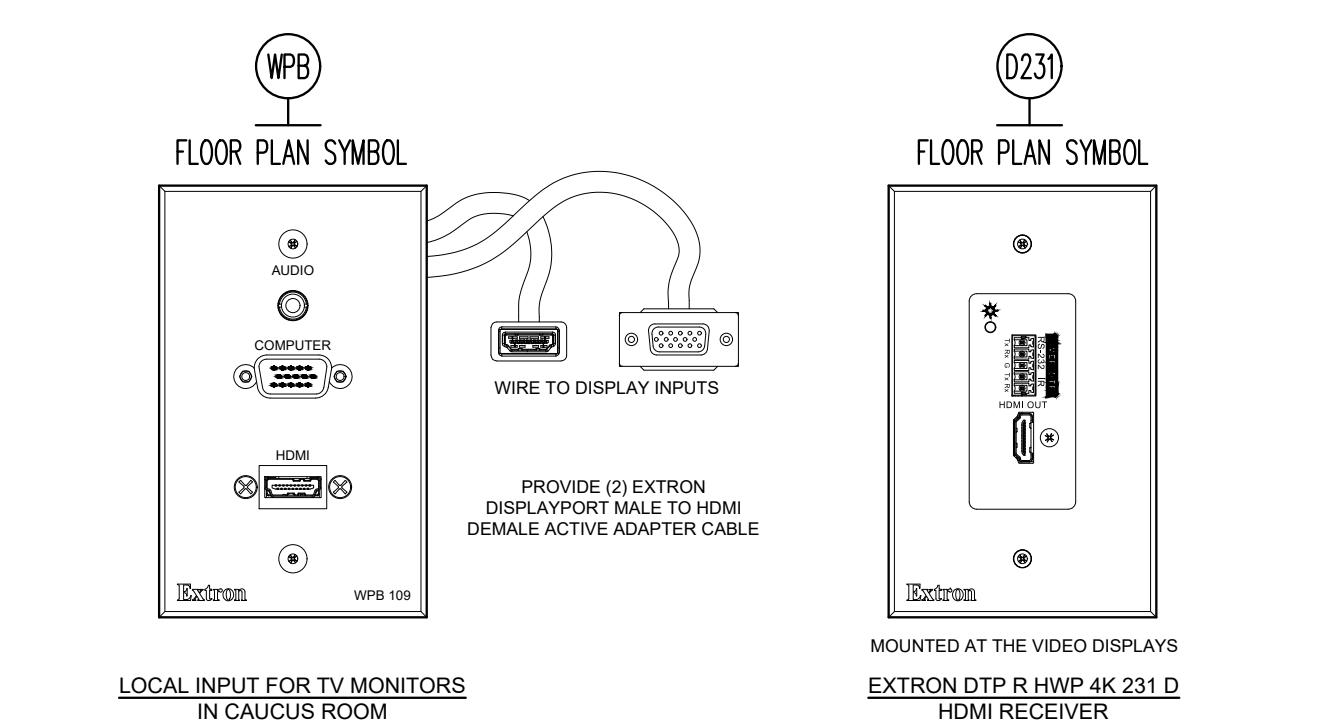
5 CONFERENCE ROOM A140 - AV SYSTEM WIRING DIAGRAM E403 SCALE: None



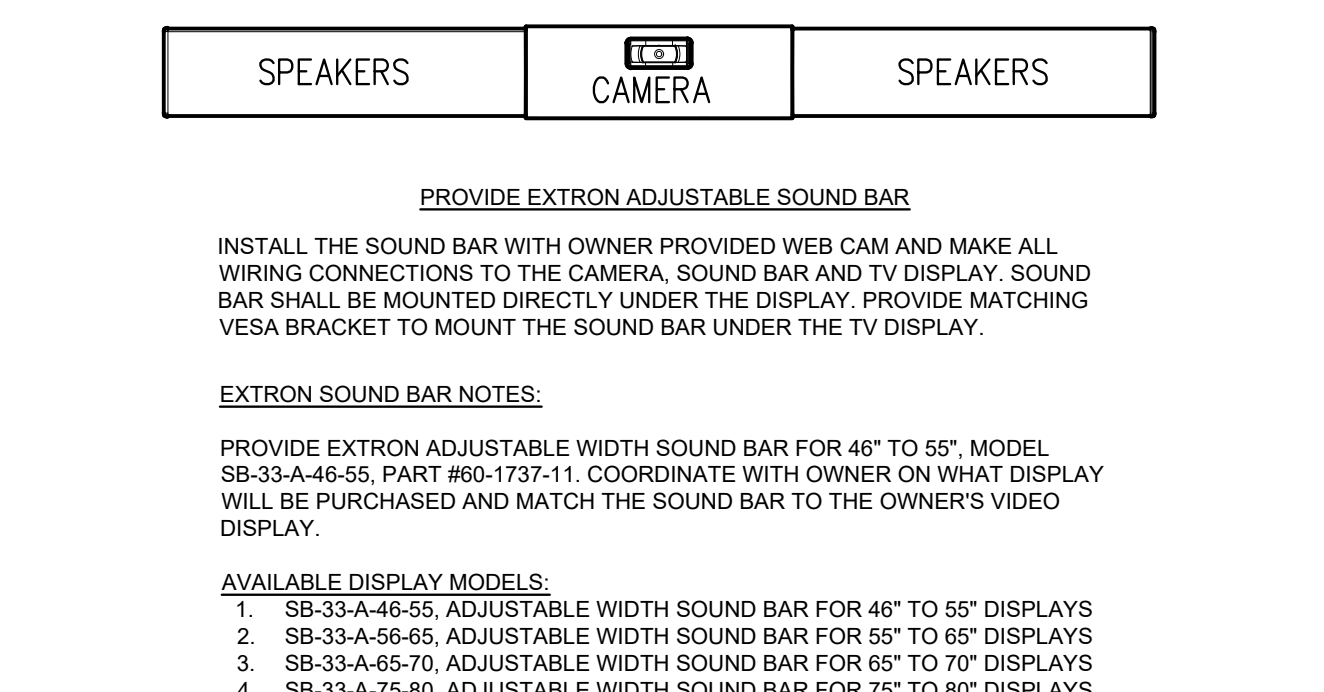
6 WIRELESS CONFERENCE SYSTEM DETAILS E403 SCALE: None



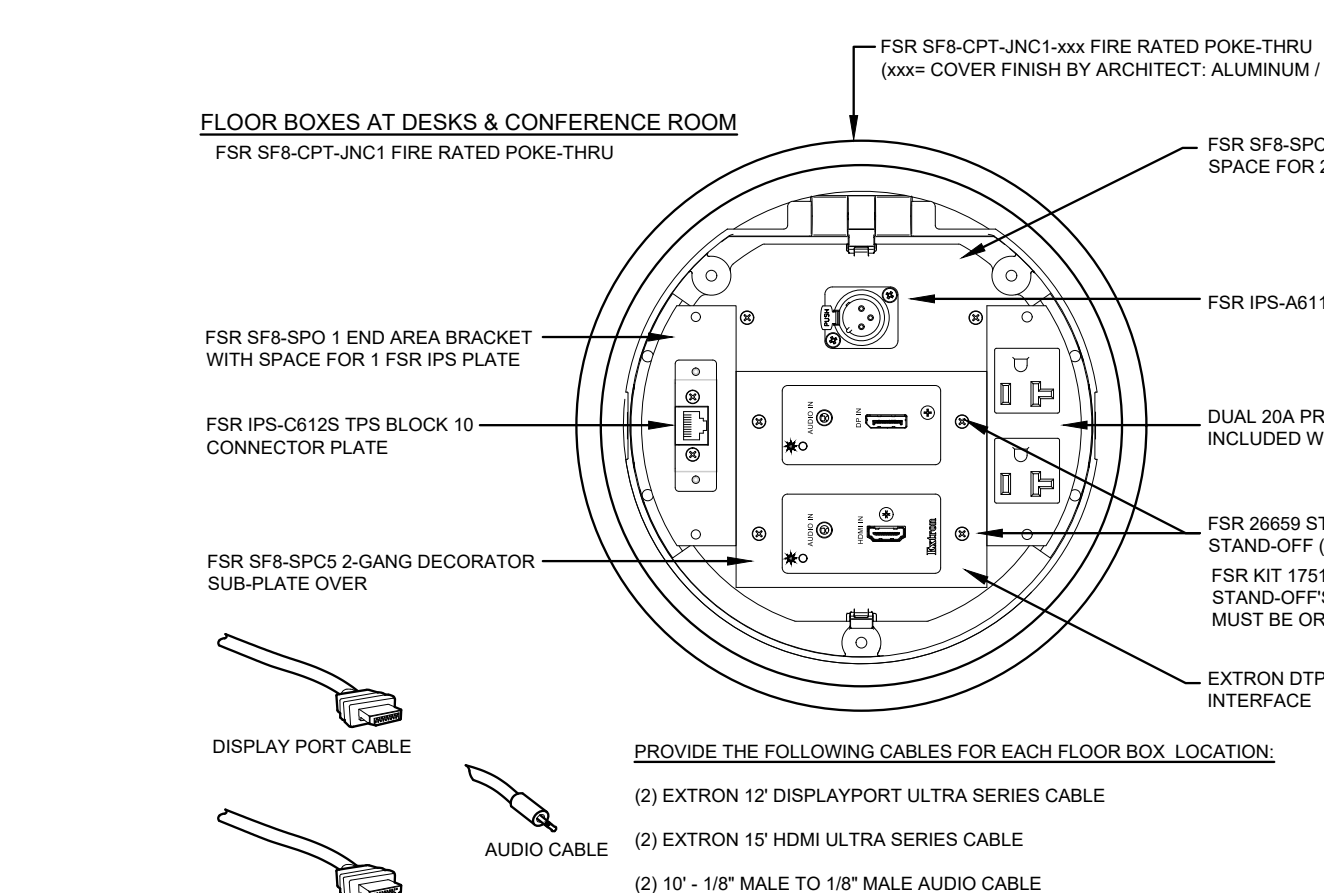
7 AV RACK POWER DETAIL E403 SCALE: None



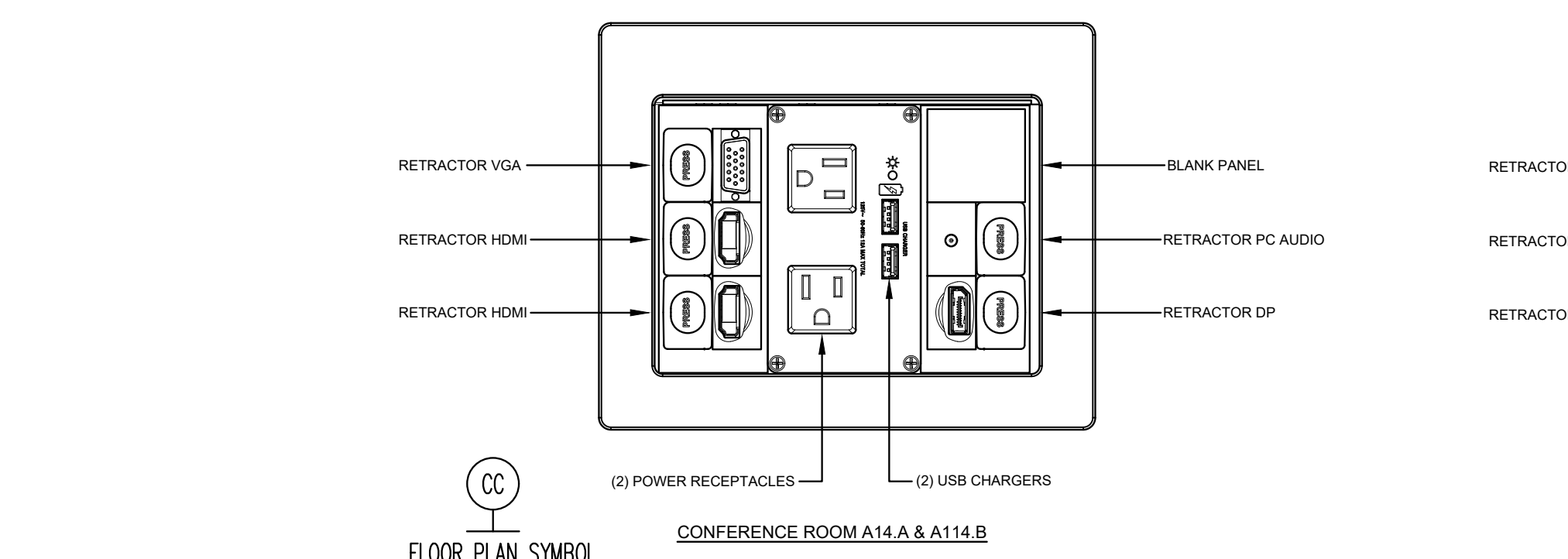
1 AV SYSTEM - DEVICE ELEVATIONS E403 SCALE: None



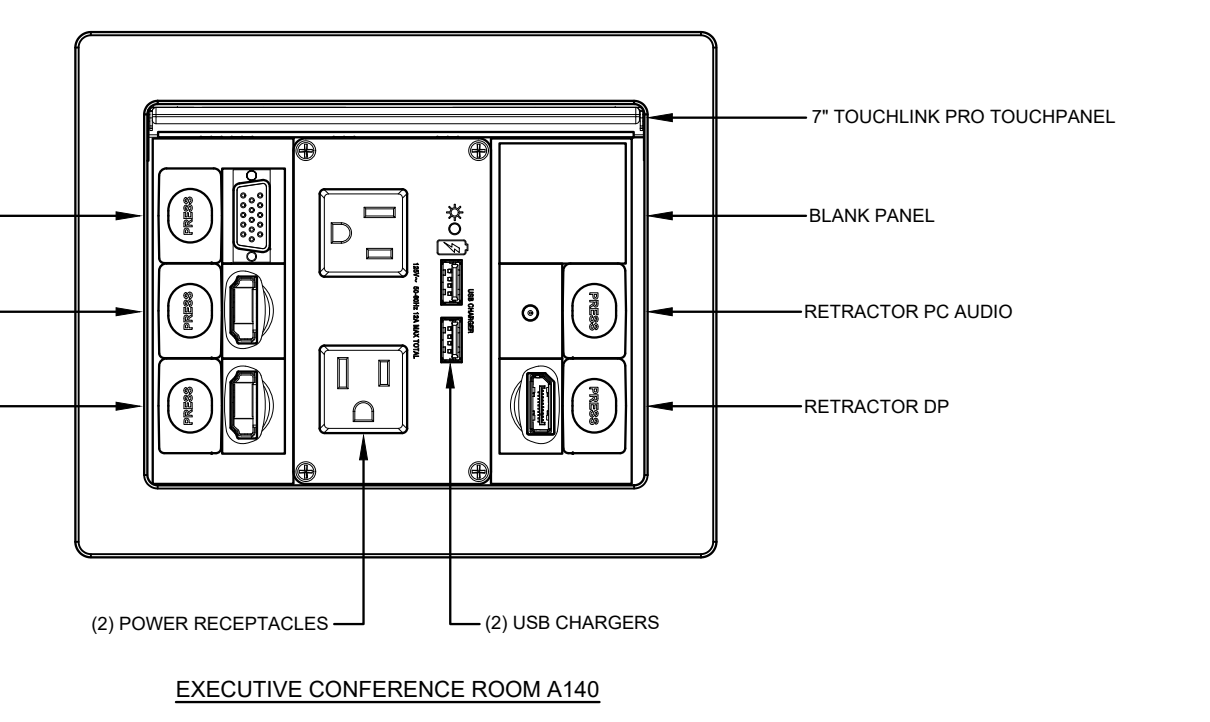
2 SOUNDBAR DETAIL E403 SCALE: None



3 AV FLOOR BOX DETAIL E403 SCALE: None



4 AV SYSTEM FUNCTIONALITY E403 SCALE: None



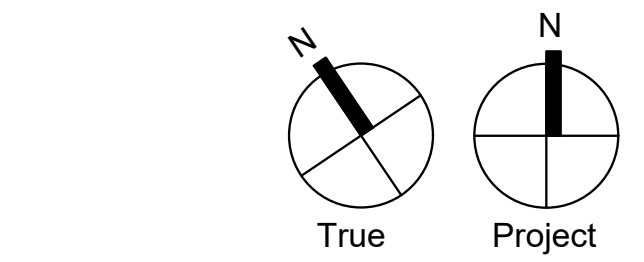
5 AV SYSTEM FUNCTIONALITY E403 SCALE: None

- SYMBOLS LEGEND: GENERAL
MULTIPLE AT SIMILAR LOCATION
HEIGHT
OTHER DEVICE (SEE TYPES BELOW)
SYMBOL TYPES:
VM(f) VIDEO MONITOR
ANT ANTENNA (SHURE REMOTE ANT)
AV(f) AV WALL PLATE CONNECTION
CAM PTZ CAMERA
CAV CEILING LCD
HD(f) HDMI-F
FB FLOOR BOX
KEY KEYPAD
LCD LCD DISPLAY
LVC SCREEN LVC (AV SYSTEM CONTROL)
LVS SCREEN SWITCH
MIC MICROPHONE
PH PHONE
OCS OCCUPANCY SENSOR
OFR FLOOR RACEWAY
PRJ PROJECTOR
PS PARTITION SENSOR
PTH POKETHRU
AR(f) AUDIO RACK
RS ROOM SCHEDULER
SP(f) SPEAKER
VA VOLUME ATTENUATOR
TV CATV DROP
WP WALL PLATE
PLS PILOT LIGHT SWITCH
BT BLUETOOTH REMOTE ANTENNA
TEC BLAMP REMOTE CONTROL
RCS REMOTE RACK POWER ON/OFF
MRC ASHLY REMOTE AUDIO CONTROL
WRI SHURE MXCWP1T ACCESS POINT

NOTE: NOT ALL TYPES MAY BE USED ON THIS PROJECT

- AV GENERAL NOTES:
1. AV DRAWINGS ARE DIAGRAMMATIC. THEY ARE INTENDED TO SHOW APPROXIMATE LOCATIONS OF EQUIPMENT AND CONDUIT. DIMENSIONS GIVEN ON THE PLANS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND SHALL BE VERIFIED IN THE FIELD. THE CONTRACTOR SHALL LAYOUT ALL EQUIPMENT ROOMS TO MAKE SURE THE EQUIPMENT, AS PURCHASED, FITS IN THE ROOM OR SPACE SHOWN AND HAS ALL CLEARANCES REQUIRED BY THE NEC. EXACT LOCATION OF ALL EQUIPMENT SHALL BE VERIFIED IN THE FIELD AND ROUTING OF CONDUITS SHALL SUIT FIELD CONDITIONS.
2. THE AV DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER. MATERIAL AND LABOR NECESSARY TO THE PROJECT SHALL BE FURNISHED AND INSTALLED EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH LABOR AND/OR MATERIALS NEITHER SHOWN NOR SPECIFIED, BUT OBVIOUSLY NECESSARY FOR THE COMPLETION AND PROPER FUNCTIONING OF THE SYSTEM. SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. THIS INCLUDES, BUT NOT LIMITED TO ALL WIRING, SUPPLEMENTAL EQUIPMENT AND PROGRAMMING OF THE SYSTEM FOR A FULLY FUNCTIONAL SYSTEM.
3. IF APPLICABLE, INSTALL EMPTY CONDUIT AS INDICATED ON THE DRAWINGS. CONDUIT SHALL BE COMPLETE WITH JETLINE OR PULL STRING, JUNCTION BOXES, TILE RINGS AND APPROPRIATE COVER PLATES.
4. SEE ELECTRICAL POWER DRAWINGS FOR POWER CIRCUIT DESIGNATIONS FOR RECEPTACLES & JUNCTION BOXES IF NOT SHOWN ON THE AV DRAWINGS.
5. SPEAKERS LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL INSTALL EACH SPEAKER CLOSE TO THE LOCATION SHOWN, BUT SHALL COORDINATE THE LOCATIONS TO AVOID LIGHTING FIXTURES OR OTHER TRADES EQUIPMENT.
6. ALL AUDIO AND VIDEO CABLES SHALL BE PLENUM RATED CABLE

- PRESET SETTINGS:
1. THE CONTRACTOR SHALL MEET WITH THE OWNER AND PROVIDE THE FOLLOWING:
a. PROGRAMMING OF ALL AV INTERFACES INCLUDING TOUCH SCREENS, WALL PLATES AND ANY OTHER INCIDENT EQUIPMENT.
b. PROVIDE THE OWNER WITH MOCK-UPS OF ALL TOUCH SCREEN DEVICES. THESE MOCK-UPS SHALL INCLUDE SCREEN CONFIGURATION, PAGE CONFIGURATION AND BUTTON FLOW / FUNCTIONALITY.
2. THE CONTRACTOR SHALL PROVIDE AS PART OF HIS BID, ANY TIME NECESSARY TO MEET WITH THE OWNER AND PROGRAMMING OF ALL INTERFACES.
3. THE CONTRACTOR SHALL PROVIDE AS PART OF HIS BID ANY ADDITIONAL MEETINGS WITH THE OWNER AND PROGRAMMING OF AV INTERFACES 90 DAYS AFTER THE INSTALLATION IS COMPLETED.



PLUMBING MISCELLANEOUS LEGEND
NOTE: NOT ALL ITEMS USED THIS PROJECT
- FLOW ARROWS
- PIPE CAP
- CLEANOUT ABOVE CEILING
- CLEANOUT TO GRADE
- EXPANSION LOOPS
- PIPE CROSS
- PIPE DROP
- PIPE RISE
- PIPE STACK
- PIPE TEE OR WYE
- VALVE IN PIPE DROP
- VENT THRU ROOF - TYPICAL
- VENT THRU ROOF - ACID
- WALL CLEANOUT - TYPICAL

PLUMBING DRAIN LEGEND
NOTE: NOT ALL ITEMS USED THIS PROJECT
- AIR GAP FITTINGS
- EMERGENCY RAIN WATER OUTLET
- FLOOR CLEANOUT
- FLOOR DRAIN - FUNNEL
- FLOOR DRAIN - INDIRECT
- FLOOR DRAIN - ROUND
- FLOOR DRAIN - SQUARE
- FLOOR SINK - FULL GRATE
- FLOOR SINK - HALF GRATE
- FLOOR SINK - NO GRATE
- FLOOR SINK - L GRATE
- ROOF DRAIN - TYPICAL
- ROOF DRAIN - EMERGENCY

PLUMBING VALVE LEGEND
NOTE: NOT ALL ITEMS USED THIS PROJECT
- ANCHOR - PIPE
- BALL VALVE - TYPICAL
- BUTTERFLY VALVE
- CHECK VALVE
- CIRCUIT BREAKER VALVE
- COMPRESSED AIR OUTLET
- GAS COOK
- GAS REGULATOR
- GATE VALVE
- GAUGE VALVE
- GLOBE VALVE
- GUIDE PIPE
- HOSE BIBB
- MANUAL BALANCING VALVE
- NON FREEZE WALL HYDRANT
- ORISKANY VALVE
- PRESSURE REDUCING VALVE
- RECIRCULATING PUMP
- REDUCE PRESSURE BACKFLOW PREVENTER
- SHOCK ABSORBER
- SOLENOID VALVE
- STRAINER
- TEMPERING VALVE
- THERMOMETER
- UNION PIPE

PLUMBING TAG LEGEND
NOTE: NOT ALL ITEMS USED THIS PROJECT
- ADA SYMBOL
- CONNECT TO EXISTING
- DEMOLITION SYMBOL
- DRAWING TAG
- INVERT ELEVATION TAG
- LIMIT OF DEMOLITION
- NOTE TAG - CIRCLE
- NOTE TAG - DEMOLITION
- NOTE TAG - HEXAGONAL
- NOTE TAG - RENOVATION
- NOTE TAG - SQUARE
- NOTE TAG - TO BE REMOVED
- PLUMBING FUTURE TAG
- TITLE REVISION TAG

PIPING SYSTEMS LEGEND
NOTE: NOT ALL ITEMS USED THIS PROJECT
(Refer to Project Specifications for Material Specifications)
WATER & GAS PIPING
140° H Domestic Hot Water (140 Deg.F)
140° R Domestic Hot Water Return (140 Deg.F)
C / CW Domestic Cold Water
CA Compressed Air
G Gas
H / HW Domestic Hot Water (110-120 deg.F)
R / HWR Domestic Hot Water Return (110-120 deg.F)
T Tempered Water (85-110 deg.F)

DRAIN & VENT PIPING
ASAN Acid Sanitary (Below Slab/Grade)
AV Acid Vent
AW Acid Waste (Above Slab/Grade)
CD Condensate Drain
ERW Emergency Rainwater
FM Forced Main/Pumped Drain
GW Grease Waste
GSAN Grease Sanitary (Below Slab/Grade)
SAN Sanitary (Below Slab/Grade)
ST Storm (Below Slab/Grade)
REP Radon Evacuation Piping
RW Rain Water (Above Slab/Grade)
V Vent
W Waste (Above Slab/Grade)

PLUMBING ABBREVIATION LEGEND
AAC Above Accessible Ceiling
AFF Above Finished Floor
AFG Above Finished Grade
AB Above
AD Area Drain
Arch Architecturals
ASAN Acid Sanitary
AV Acid Vent
AW Acid Waste
AWC Automatic Washer Connection
BF Below Floor
BFG Below Finished Grade
BFP Backflow Preventer
BV Balancing Valve
C / CW Cold Water
C.I. Cast Iron
C.O. Clean Out
CA Compressed Air
CD Condensate Drain
CFH Cubic Feet per Hour
CLG Ceiling
Conn. Connection
Coord. Coordinate
CTE Connect To Existing
CTG Clean Out To Grade
CV Clean Vent
CWW Vent
D Drain
DBF Down Below Floor
DF Drinking Fountain
DFU Drainage Fixture Units
DN Down
DWG Drawing
DWH Domestic Water Heater
E.C. Electrical Contractor
E.T.R. Existing To Remain
Ea. Each
EEW Emerg. Eyewash
ER / ERC Emerg. Rainwater Conductor
ERD Emerg. Roof Drain
ESEW Emerg. Shower / Eyewash
ES Emerg. Station
ETV Emerg. Tempering Valve
EWC Electric Water Cooler
Ext. Exterior
F.F. Finished Floor
F.P.C. Fire Protection Contractor
FAI Fresh Air Inlet
FCO Floor Cleanout
FD Floor Drain
FH Fire Hydrant
FHC Fire Hose Cabinet
Fin. Flr. Finished Floor
Flr. Floor
FM Forced Main
FP Fire Protection
FPZ Fire Protection Zone
FS Floor Sink
FSC Food Service Contractor
FVC Fire Valve Cabinet
G Gas
G.C. General Contractor
G.I. Grease Interceptor
GSAN Grease Sanitary
GV Gas Valve
GW Grease Waste
H / HW Hot Water
H.C. Heating Contractor
HB Hose Bibb
HR Hose Reel
HWH Hot Water Heater
HWR / R Hot Water Return
I.E. / Inv. Invert Elevation
IG Interruptible Gas
IWH Instantaneous Water Heater
JAN Janitor
KD Kitchen Drain
KS Kitchen Sanitary
KW Kitchen Waste
LAV Lavatory
LPG Liquid Petroleum Gas/Propane
LT Laundry Tub
MAX Maximum
MIN Minimum
MR Mop Receptor
MTD Mounted
MU Make-up Water
NFWH Non-Freeze Wall Hydrant
NG Natural Gas
NT Neutralizing Tank
OS Oil Sanitary
P.C. Plumbing Contractor
PIV Post Indicating Valve
PRV Pressure Reducing Valve
PSI Pounds per Square Inch
PT Plaster Trap
R Return Piping (Hot Water)
RCP Re-circulating Pump
RD Roof Drain
RW Rain Water
RWC Rainwater Conductor
RWS Rain Water Stack
S.F./Sq. Ft. Square Foot
SA Shock Absorber
SAN Sanitary
SAN I.E. Sanitary Invert Elevation
ST Storm
T Tempered Water
T&P Temperature and Pressure
T.B.R. To Be Removed
TV Tempering Valve
TYP. Typical
UR Urinal
V Vent
V.I.F. Verify In Field
V.T.R. Vent Through Roof
VS Vent Stack
W Waste
WF Wash Fountains
WB Wash Box (Toilet Rooms)
WC Water Closet
WCO Wall Cleanout
WSFU Water Supply Fixture Units
WSV Waste Stack Vent

PLUMBING DEMOLITION - GENERAL NOTES
1. Existing piping which is removed from service... shall be removed in its entirety...
2. Equipment and piping locations, quantity and conditions are approximate...
3. In general where existing fixtures, equipment, pipe risers and drops etc. occur at / in existing walls to be removed...
4. All existing systems shall remain functional for as long as required...
5. Coordinate all demolition and new work...
6. Remove/Reuse existing work, materials, etc. in the way of any new work...
7. Protect existing materials, equipment and finishes that are to remain...
8. Remove all items that are to remain but conflict with the installation of any new work...
9. P.C. is responsible for all plumbing demo work...
10. Existing materials scheduled to remain may be required to be temporarily removed...
11. At all locations where existing below slab drainage piping is indicated to be demolished...
12. Remove existing ceiling tiles and grids as required to obtain access...
13. Upon reactivation of existing systems following temporary shutdowns, P.C. shall verify proper functioning...

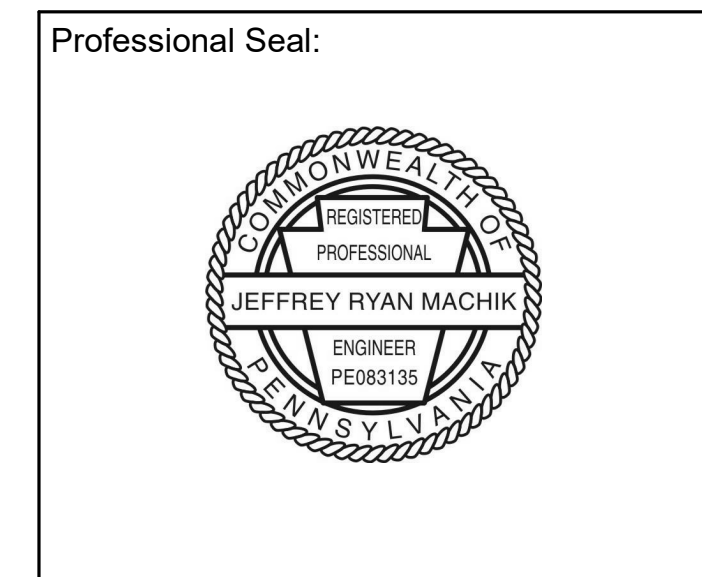
DESIGN CODE REFERENCES
PA - UCC PENNSYLVANIA UNIFORM CONSTRUCTION CODE; 2018
IBC2018 ICC - INTERNATIONAL BUILDING CODE; 2018
IFGC2018 ICC - INTERNATIONAL FUEL GAS CODE; 2018
IMC2018 ICC - INTERNATIONAL MECHANICAL CODE; 2018
IPC2018 ICC - INTERNATIONAL PLUMBING CODE; 2018
IFC2018 ICC - INTERNATIONAL FIRE CODE; 2018
IECC2018 ICC - INTERNATIONAL ENERGY CONSERVATION CODE; 2018
FGI2018 THE FACILITY GUIDELINES INSTITUTE - GUIDELINES FOR DESIGN AND CONSTRUCTION OF HOSPITALS; 2018

REFERENCED DESIGN STANDARDS
NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA 13 NATIONAL FIRE PROTECTION ASSOCIATION - STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS; 2013 EDITION OR MOST RECENT EDITION
NFPA 99 NATIONAL FIRE PROTECTION ASSOCIATION - HEALTH CARE FACILITIES CODE; 2015 EDITION OR MOST RECENT EDITION
NFPA 101 NATIONAL FIRE PROTECTION ASSOCIATION - CODE FOR SAFETY TO LIFE FROM FIRE IN BUILDINGS AND STRUCTURES; 2015 EDITION OR MOST RECENT EDITION

PLUMBING GENERAL NOTES
1. Provide all labor, material, and equipment required for the completion and operation of all systems specified within the Division 22 specification sections...
2. Provide a complete domestic water, gas and waste/vent systems to all fixtures and or equipment requiring such...
3. Provide all plumbing fixtures and appliances complete with all required supplies, stops, valves, faucets, drains, traps, tail pieces, escutcheons...
4. All plumbing fixtures, equipment, and materials shall be new and shall fit the space available...
5. All piping, apparatus, equipment, etc. shall be properly supported, braced vertically and horizontally...
6. Do not scale the plans. See architectural plans for exact location of doors, windows, fixtures, wall dimensions...
7. All valves, cleanouts, plumbing specialties, etc. shall be so located and installed to permit access for service without damage to building or finished materials...
8. In addition to cleanouts indicated on the plumbing drawings, provide cleanouts at base of all waste and rainwater stacks...
9. All exposed supply and waste piping in rest room areas shall be min. 17 ga. thick or semi-cast chrome plated brass...
10. Drainage and vent piping systems, and water distribution piping systems shall be tested with air or water...
11. Sanitize domestic water piping in accordance with IPC requirements...
12. All domestic water piping shall be hung level without pitch unless noted otherwise on plans...
13. Protect copper piping against contact with dissimilar metals...
14. Protect copper piping against contact with all masonry...
15. Install piping in areas not subject to freezing temperatures...
16. Provide shock absorbers, supplies and stops at each fixture as required by IPC...
17. Provide drain valves at all low points of domestic water piping systems...
18. Provide vacuum breakers and air vents as required by code...
19. Vent all plumbing fixture drains in accordance with all applicable codes...
20. Verify all fixture mounting heights with architectural interior elevations, schedules, etc. prior to fixture installation...
21. Seal all fire rated floor and wall penetrations with fire stopping materials as specified in the Div. 7 specifications...
22. Install ball style shutoff valves on the entire domestic water system...
23. Insulate all domestic water piping as noted in Div. 22 specifications and in accordance with minimum thickness specified in IECC Section C404 and Table C403.11.3...
24. Seal all fixtures to walls, floor, counters, etc. using a sanitary-type one-part, mildew resistant, silicone sealant...
25. Install all underground sanitary/storm piping at 2% slope unless noted otherwise...
26. Install all above ground vent piping at 1% slope (unless noted otherwise)...
27. Install all above ceiling cleanouts in locations above accessible ceiling construction...
28. Coordinate all equipment floor drain and floor sink locations with the work of all other trades...
29. Provide all floor drains with deep seal traps (unless noted otherwise) and trap seal protection...
30. Verify all "Accessible" toilet locations on Architectural plans...
31. All piping located in return air plenums shall conform to the flame spread and smoke developed limits of ASTM E84...
32. In finished spaces with exposed structure, provide and install 1" thick "fiberglass insulation with all-service jacket" in lieu of insulation specified...
33. All fixture trim, including faucets, strainers, escutcheons, stops, waste traps, visible waste piping or visible hangers shall be made of brass and shall be polished chrome plated...
34. Install all exposed horizontal and vertical piping in a neat arrangement...
35. Provide domestic water heater temperature / pressure relief valves with discharge piped full size to the nearest approved floor drain or waste receptor...
36. All rainwater and waste piping drops to below grade within the building shall start at minimum (-) 1'0" below finished floor elevation...
37. Provide thermal expansion control equipment/specialties on all segments of hot water and hot water return piping...
38. All piping penetrations through exterior wall shall be sealed weathertight...
39. Provide cold water hose bibb connection with all associated supply piping at all MR-1 mop receptor locations...
40. All piping drops to fixtures, shall be concealed within wall or chase construction, unless noted otherwise.

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215.482.7440



Owner:
GREAT VALLEY SCHOOL DISTRICT
301 LINDENWOOD DRIVE SUITE 210
MALVERN, PA 19355

Renovations to:
GVSD - DISTRICT ADMINISTRATION OFFICE
100 LINDENWOOD DRIVE MALVERN, PA 19355

ISSUED FOR:
Table with 3 columns: NO., DESCRIPTION, DATE.
DATE: 12/21/2022
SG PROJECT NUMBER: 22-025

Key Plan:

Drawing Title:
COVERSHEET - PLUMBING
Drawing Number:
P000

