

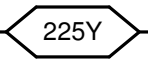
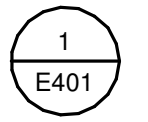
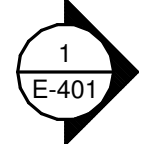
LOW VOLTAGE CONDUIT SYSTEMS

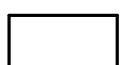
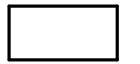
1. PROVIDE ALL CONDUIT WIREWAYS, JUNCTION BOXES, PULL BOXES, WORK BOXES, CABLE TRAY, CIRCUIT BREAKERS AND POWER WIRING FOR LOW VOLTAGE SYSTEMS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN, INCLUDING AS NECESSARY FOR THE PROPER AND COMPLETE INSTALLATION OF THE WORK. LOW VOLTAGE SYSTEMS INCLUDE, BUT ARE NOT LIMITED TO:
 - a. TELEPHONE AND DATA SYSTEMS
 - b. AUDIO / VISUAL SYSTEM
 - c. SECURITY CONDUIT SYSTEMS
2. EXAMINATION:
 - a. EXAMINE THE AREAS AND CONDITIONS UNDER WHICH THE LOW VOLTAGE SYSTEM ARE TO BE INSTALLED AND NOTIFY ENGINEER IN WRITING OF CONDITIONS DETRIMENTAL TO THE PROPER AND TIMELY COMPLETION OF WORK.
 - b. EXAMINE LOW VOLTAGE SYSTEM DOCUMENTS PROVIDED UNDER OTHER SECTION FOR CABLE TRAY SIZES, ROUTING AND LOCATION OF DEVICES.
3. COORDINATION:
 - a. PROVIDE FOR A PRE-CONSTRUCTION MEETING WITH REPRESENTATIVES OF RELATED DISCIPLINES TO REVIEW INSTALLATION OF SYSTEM. THIS MEETING IS TO HELP RELATED TRADES UNDERSTAND THE REQUIREMENTS OF THE INSTALLATION.
 - b. OBTAIN FINAL ROUGHING DIMENSIONS AND OTHER INFORMATION AS NEEDED TO PROPERLY LOCATE THE DEVICE.
 - c. KEEP FULLY INFORMED ABOUT SHAPE SIZE AND POSITION OF OPENINGS REQUIRED FOR MATERIAL AND EQUIPMENT.
 - d. PROVIDE FOR COORDINATION MEETINGS WITH THE CABLE INSTALLER TO SCHEDULE WHEN THE CONDUIT SYSTEM CAN BE UTILIZED FOR CABLE INSTALLATIONS.
4. INSTALLATIONS:
 - a. INSTALL RACEWAYS, BOXES AND CABLE TRAY WHERE INDICATED, IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS, GUIDELINES AND THE APPLICABLE REQUIREMENTS OF THE NEC, LOCAL CODES, THE NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION "STANDARD OF INSTALLATION" AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT PRODUCTS SERVE THE INTENDED FUNCTION.
 - b. REFER TO THE LATEST EDITION OF THE I.A.T.A STANDARDS FOR ADDITIONAL INSTALLATION REQUIREMENTS.
 - c. BOXES SHALL BE SET FLUSH WITH FINISHED WALL SURFACE. PROVIDE PULL/ENTER REDUCER RINGS AS REQUIRED. USE GANGED BOXES FOR OUTLETS HAVING THREE OR MORE CONDUITS ENTERING.
 - d. BACKSOME AND MAJOR RACEWAY GROUPINGS (MULTIPLE "O" OR "S" TYPE) SHALL BE SET AT LEAST 18" ABOVE AND NOT CLOSER THAN 100 FEET APART AND IN RUNS WITH MORE THAN TWO RIGHT ANGLE BENDS.
 - e. PROVIDE NYLON PULL-IN WIRE IN CONDUITS FOR USE BY CABLE INSTALLER. PULL WIRE SHALL BE LABELED AT BOTH ENDS.
 - f. PROVIDE POWER REQUIREMENTS SUCH AS DUPLEX OUTLETS AND GROUND TERMINAL CONNECTIONS, AS SHOWN ON DRAWINGS.
 - g. PROVIDE LABEL ON PULL AND JUNCTION BOXES FOR ALL SYSTEMS.
 - h. CONDUIT AND CABLE TRAY SHALL BE INSTALLED IN SUCH A MANNER THAT CONDUITS WIRING SHALL BE INSTALLED TO MAINTAIN A MINIMUM OF 6" SEPARATION FROM FLUORESCENT LIGHTING FIXTURES
 - i. CABLE TRAY:
 1. BOND ALL EMPTY CONDUITS TO THE CABLE TRAY SYSTEM WITH A #12 AWG COPPER
5. INSULATED CONDUCTOR:
 - a. PROVIDE 4" CONDUIT SLEEVES THROUGH RATED WALLS.
 - b. WHERE TELECOM DRAWINGS PROVIDES FUTURE PROVISIONS FOR TELECOMMUNICATION AT FLOOR BOXES AND POKE THRU'S ELECTRICAL CONTRACTOR SHALL PROVIDE A 1" CONDUIT WITH PULL STRING TO TEL/DATA ROOM.
 - c. PROVIDE A DOUBLE GANG OUTLET BOX AND SINGLE GANG PLASTER RING FOR TELECOMMUNICATIONS. WHEN MOUNTING THE OUTLET BOX IN A STEEL STUDDED WALL, USE A BACK BRACE.
 - d. MINIMUM SIZE BOX SHALL BE 4-11/16" SQUARE; 2-1/8" DEEP WITH SINGLE OR DOUBLE GANG PLASTER RING AS APPLICABLE.
 - e. CONDUITS FEEDING INTO THESE RINGS AND LOCATIONS MUST BE 1" AND MUST BE BONDED TO CABLE TRAY IN ADDITION TO THE BUSHING AND PULL STRING. A BONDABLE BUSHING MAY BE USED.
 - f. AUDIO/INDUCTIVE RACEWAYS INCLUDING CONDUIT, WALL BOXES, CABLE TRAY, SLEEVES, ETC. MUST BE BONDED TOGETHER TO ENSURE A PROPER GROUNDING PATH IN ACCORDANCE WITH NEC ARTICLES 250.92 AND 392.6.
5. APPLICATION:
 - a. GENERALLY RACEWAYS SHALL BE EMT AND RUN CONCEALED IN WALLS AND ABOVE CEILINGS. EMT SHALL BE USED IN CEILING AIR PLENUM AND AS SHOWN ON DRAWINGS.
 - b. RACEWAY FOR WALL BOXES SHALL BE INSTALLED IN CONDUIT TO AUDIO VISUAL ROOM OR TELECOMMUNICATIONS CLOSET.
 - c. RACEWAYS FOR FLOOR BOXES SHALL BE INSTALLED IN CONDUIT TO AUDIO VISUAL ROOM OR TELECOMMUNICATIONS CLOSET.
 - d. CONDUIT RUNS SHALL BE AS INDICATED ON DRAWINGS BUT NO SMALLER THAN 1".
 - e. PROVIDE INSULATED GROUND BUSHING AT END OF EACH CONDUIT RUN.

LIGHTING EQUIPMENT LEGEND	
(REFER TO LIGHTING FIXTURE SPECIFICATION FOR ADDITIONAL INFORMATION)	
	<p>LIGHT FIXTURE</p> <p>"A" INDICATES FIXTURE TYPE</p> <p>"13" INDICATES CIRCUIT NUMBER</p> <p>"a" INDICATES SWITCH CONTROL</p> <p>"EM" INDICATES EMERGENCY DESIGNATION</p>
	<p>LIGHTING FIXTURES INDICATED WITH SHADING DENOTES CIRCUITED TO NORMAL/EMERGENCY SUPPLY.</p>
	<p>ILLUMINATED "EXIT" SIGN LIGHTING FIXTURE. CEILING MOUNTED OR WALL MOUNTED PROVIDE DIRECTIONAL ARROWS AS INDICATED ON FLOOR PLANS. DOT "•" DENOTES SIDE WITH FACE.</p>

LOW VOLTAGE SYSTEM NOTES	
1.	THIS CONTRACTOR IS RESPONSIBLE FOR PROVIDING A SYSTEM OF BOXES AND PATHWAYS FOR THE TEL/DATA DEVICES SHOWN ON THE TEL/DATA DRAWINGS. REFER TO THE TEL/DATA DRAWINGS FOR DEVICE QUANTITY, PATHWAY SIZING, AND LOCATIONS. ALL CONDUITS SHALL BE PROVIDED WITH BUSHINGS ON BOTH ENDS AND A PULL STRING.
2.	THIS CONTRACTOR IS RESPONSIBLE FOR PROVIDING A SYSTEM OF BOXES AND PATHWAYS FOR THE SECURITY DEVICES AS DESCRIBED IN THE SECURITY DRAWINGS. REFER TO THE SECURITY DRAWINGS FOR DEVICE QUANTITY, PATHWAY SIZING, AND LOCATIONS. ALL CONDUITS SHALL BE PROVIDED WITH BUSHINGS ON BOTH ENDS AND A PULL STRING.
3.	THIS CONTRACTOR IS RESPONSIBLE FOR PROVIDING A SYSTEM OF BOXES AND PATHWAYS FOR THE A/V DEVICES AS DESCRIBED IN THE A/V DRAWINGS. REFER TO THE A/V DRAWINGS FOR DEVICE QUANTITY, PATHWAY SIZING, AND LOCATIONS. ALL CONDUITS SHALL BE PROVIDED WITH BUSHINGS ON BOTH ENDS AND A PULL STRING.
4.	INCLUDE FIRE STOPPING OF ALL PENETRATIONS ASSOCIATED WITH THE ABOVE SYSTEMS.

WIRING DEVICE COLORS	
1.	UNLESS NOTED OTHERWISE ON THE PLANS, WIRING DEVICES IN FRONT OF HOUSE AREAS SHALL BE BLACK WITH BLACK FACEPLATE.
2.	WIRING DEVICES IN BACK OF HOUSE AREAS SHALL BE WHITE WITH STAINLESS STEEL FACEPLATE.

		FEEDER SIZE TAG SYMBOL. REFER TO "LEGEND OF FEEDER SIZES".
		DETAIL CALL-OUT. DENOTES DETAIL "1" ON DRAWING "E-401". DETAIL DETAIL "E401" DENOTES SHEET "1" DENOTES DETAIL NUMBER
		ELEVATION CALL-OUT. DENOTES ELEVATION "1" ON DRAWING "E-401". SECTION DETAIL "E401" DENOTES SHEET "1" DENOTES ELEVATION NUMBER

EXISTING EQUIPMENT LEGEND	
	SYMBOLS OUT OF FUNCTION AND DASHED DENOTES EXISTING TO BE REMOVED.
	SYMBOLS OUT OF FUNCTION DENOTES EXISTING
XM	"XM" ADJACENT TO EQUIPMENT DENOTES EXISTING EQUIPMENT TO REMAIN.
XN	"XN" ADJACENT TO EQUIPMENT DENOTES EXISTING EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW.
XR	"XR" ADJACENT TO EQUIPMENT DENOTES EXISTING TO BE RELOCATED AS SHOWN. CUT BACK AND/OR EXTEND EXISTING BRANCH CIRCUIT WIRING AND CONDUIT AS REQUIRED SO AS TO PROVIDE A COMPLETE OPERATIONAL INSTALLATION.
XD	"XD" ADJACENT TO EQUIPMENT DENOTES EXISTING TO BE REMOVED. CUT BACK AND MAKE SAFE ALL ASSOCIATED BRANCH CIRCUIT WIRING CONDUIT BACK TO POWER SOURCE AND LABEL BREAKER IN PANELBOARD AS SPARE. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CIRCUITRY TO DEVICES UNAFFECTED BY DEMOLITION.
XL	"XL" ADJACENT TO EQUIPMENT DENOTES RELOCATED EXISTING AT NEW LOCATION
XS	"XS" ADJACENT TO EQUIPMENT DENOTES EXISTING TO BE REMOVED, STORED, CLEANED AND REINSTALLED IN EXISTING LOCATION.

LEGEND AND GENERAL NOTES