CONTRACTOR(S) GUIDELINES: 28. ALL SPLICES SHALL UTILIZE 3M 710 MODULES. ALL CABLES MUST BE EQUIPPED TO PROVIDE A CONTINUOUS BOUND OF CABLE SHIELDS THROUGH ALL SPLICES. 29. PULL ROPES SHALL BE PLACED IN ALL VACANT CONDUITS. 30. ALL WORK MUST BE COMPLETED IN A NEAT AND PROFESSIONAL MANNER. THE WORK SITE SHALL BE KEPT CLEAN AND ALL DAMAGE TO OWNER'S PROPERTY REPAIRED. 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING A FINAL CLEANUP OF TH WORK SITE PRIOR TO FINAL SYSTEM ACCEPTANCE. 32. CONTRACTOR SHALL REMOVE ALL COPPER, FIBER AND COAXIAL CABLES ABANDONED IN CONDUIT, CEILINGS AND WALLS PER CEC. CABLE SHALL INCLUDE ALL INTRABUILDING, RISER SYSTEMS AND STATION CABLES FOR ALL LOW VOLTAGE/TECHNOLOGY/STRUCTURED CABLING SYSTEMS. 33. CONTRACTOR(S) SHALL VERIFY ALL SITE CONDITIONS PRIOR TO BID. 34. IN ACCESSIBLE CEILING SPACES; . THE CONTRACTOR SHALL PROVIDE THE REQUIRED STUB UP(S) / OUT(S) AND BOXES WIT MUD-RINGS TO THE NEAREST ACCESSIBLE CEILING SPACE AND / OR NEAREST TECHNOLOGY PATHWAY INFRASTRUCTURE, REFERENCE PLANS AND SPECIFICATION FOR MORE INFORMATION. . THE DESIGNATED SCS / TECHNOLOGY CONTRACTOR(S) SHALL PROVIDE A J-HOOK PATHWAY SYSTEM AND REQUIRED SLEEVES. DO NOT USE CEILING TILE WIRE HANGERS, WATER OR FLECTRICAL PIPES OR LIGHT FIXTURES TO HANG CABLE. CABLE MUST BE A MINIMUM OF 6 INCHES ABOVE THE CEILING TILE AND MUST NOT COME WITHIN TWELVE INCHES OF A LIGHT FIXTURE. THE SCS / TECHNOLOGY CONTRACTOR WILL PROVIDE THE PATHWAY REQUIRED FOR THE STRUCTURE CABLING SYSTEMS. THE DESIGNATED LOW VOLTAGE / TECHNOLOGY CONTRACTOR(S) FOR EACH "SUB-SYSTEM WILL PROVIDE THE PATHWAY REQUIRED FOR THE SYSTEMS, OUTSIDE WHAT IS CONSIDERED THE STRUCTURED CABLING SYSTEM. 5. IN INACCESSIBLE AND HARDLID CEILING SPACES; . THE CONTRACTOR SHALL PROVIDE ALL CONDUIT PATHWAYS, BOXES ETC, FOR A COMPLETE SYSTEM FROM THE MDF ROOM, IDF ROOM(S), IDF CABINET(S), AND ALL OTHER LOW VOLTAGE / TECHNOLOGY SYSTEMS HEADEND, CABINETS, TERMINAL CABINETS, ETC. TO THE POINT OF TERMINATION AT THE STATION END LOCATION PER PLANS AND SPECIFICATION. **TECHNOLOGY ABBREVIATIONS:**

ACP	ACCESS CONTROL PROCESSOR	(N)	NEW
AFF	ABOVE FINISHED FLOOR	NC	NORMALLY CLOSED
AH.I	AUTHORITY HAVING JURISDICITON	NIC	NOT IN CONTRACT
AMP	AMPLIFIER	NO	
AOR		NTS	NOT TO SCALE
AUD			
AUTO			
AUX		OFCI	OWNER FURNISHED,
AV		0501	CONTRACTOR INSTALLED
AVc	AUDIOVISUAL CONTROLLER	OFOI	OWNER FURNISHED,
AWG	AMERICAN WIRE GUAGE		OWNER INSTALLED
BCT	BONDING CONDUCTOR FOR	OSP	OUTSIDE PLANT
	TELECOMMUNICATIONS CONDULT	PB	PULL BOX
С	CONDUIT	PIR	PASSIVE INFRARED
CATV	COMMUNITY ANTENNA TELEVISION	POE	POWER OVER ETHERNET
CFCI	CONTRACTOR FURNISHED,	PR	PAIR OF CONDUCTORS
	CONTRACTOR INSTALLED	PTZ	PAN TILT ZOOM
CFOI	CONTRACTOR FURNISHED,	PVC	POLYVINYL CHLORIDE
	OWNER INSTALLED	PWR	POWER
CL	CENTERLINE	RCP	REFLECTED CEILING PLAN
DIV	DIVISION	REX	REQUEST TO EXIT
DC	DOOR CONTACT	RFI	REQUEST FOR INFORMATION
(F)	FXISTING	RMC	RIGID METALLIC CONDUIT
FC	FLECTRICAL CONTRACTOR	SM	SINGLE MODE
FCS		STR	STRANDS (OF FIBER)
200		STP	SHIELDED TWISTED PAIR
FF	ENTRANCE FACILITY FOR	SEC	SECURITY
	TELECOMMUNICATION	TBB	
EMT	ELECTRIC METALLIC TUBING		BONDING BACKBONE
FR	EQUIPMENT ROOM	TELCO	
EYT		TGB	
		100	
		TMOD	
FACP		TNIGD	
FAIC		TVD	GROUNDING BUSBAR
FD			
FU		UUN	
GC	GENERAL CONTRACTOR	UPS	
IC	INTERCOM		SUPPLY
IDF	INTERMEDIATE DISTRIBUTION	UIP	UNSHIELDED TWISTED PAIR
	FRAME	V	VOICE
ICP	INTRUSION CONTROL PROCESSOR	VSS	VIDEO SURVEILLANCE SYSTEM
INT	INTERIOR	WB	WALL BOX
IP	INTERNET PROTOCOL	WP	WEATHERPROOF
IT	INFORMATION TECHNOLOGY		
JB	JUNCTION BOX		
MDF	MAIN DISTRIBUTION FRAME		
MIC	MICROPHONE		
MM	MULTIMODE		
MPOE	MINIMUM POINT OF ENTRY		

- UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL MAKE NO PENETRATION OF FLOORS, WALLS OR CEILING WITHOUT THE PRIOR WRITTEN APPROVA OF THE OWNERS REPRESENTATIVE. 2. WALL PENETRATIONS:
- A. THE SCS AND/OR LV CONTRACTOR SHALL PROVIDE FIRE STOPPING FOR ALL COMMUNICATIONS RATED (AND IN SOME CASES NON-RATED, THAT WILL BE DESCRIBED BELOW THIS SECTION) PATHWAYS AND SPACES. THESE FIRE STOPPING DEVICES SHALL CONFORM TO (BUT NOT LIMITED TO) UL 1479, ASTM E814, BICSI TDMM, FIRE STOPPING ANSI/TIA-568-C. STANDARD FOR INSTALLING COMMERCIAL BUILDING TELECOMMUNICATIONS CABLING, SECTION 5, CLAUSE 5.1 THROUGH 5.2.3, MANUFACTURES GUIDELINES OR OTHER PREVAILING CODE AND MUST BE AN APPROVE UL LISTED SYSTEM.
- CABLE TRAY FIRE-STOPPING SHALL UTILIZE THE MULTI GANG FIRE-STOPPING SYSTEM THAT WILL BE ABLE TO STACK THE UNITS HORIZONTALLY AND/OR VERTICALLY IF
- REQUIRED DUE TO CURRENT AND/OR FUTURE CABLING DESIGNS. . THE CONTRACTOR SHALL INSTALL PENETRATION FIRE-STOP SEAL MATERIALS IN ACCORDANCE WITH DESIGN REQUIREMENTS, AND MANUFACTURER'S INSTRUCTIONS.
- THE CONTRACTOR'S INSTALLER SHALL BE CERTIFIED, LICENSED OR OTHERWISE QUALIFIED BY THE FIRE-STOPPING MANUFACTURER AS HAVING BEEN PROVIDED THE NECESSARY TRAINING TO INSTALL MANUFACTURER'S PRODUCTS PER SPECIFIED REQUIREMENTS.
- 2. ALL THROUGH-PENETRATION SHALL BE A MANUFACTURED, UL CLASSIFIED, FIRE-STOP DEVICE / SYSTEM DESIGNED TO ALLOW CABLES TO PENETRATE FIRE-RATED WALLS WIT A BUILT-IN FIRE SEALING SYSTEM THAT AUTOMATICALLY ADJUSTS TO THE AMOUNT OF CABLES INSTALLED. THE FIRE-STOPPING DEVICE SHALL BE CAPABLE OF INSTALLATION IN NEW CONSTRUCTION OR RETROFIT IN EXISTING STRUCTURES.
- . THE CONTRACTOR MUST NOT USE CONCRETE OR OTHER NON-REMOVABLE SUBSTANCE FOR FIRE STOPPING ON CABLE TRAYS, WIREWAYS OR CONDUITS. CONTRACTORS WHO USE THIS METHOD WILL BE REQUIRED TO REPLACE ALL CABLES AFFECTED AND PROVI THE ORIGINAL SPECIFIED ACCESS TO EACH EFFECTED AREA. THIS REQUIREMENT ALSO APPLIES TO MAINTAINING FIRE RATINGS OF ALL FLOORS PENETRATED BY CONDUITS OF DEVICES DESIGNATED FOR USE BY VOICE AND DATA CABLING.
- ANY PENETRATIONS THROUGH FIRE-RATED WALLS FOR CABLE PATHWAYS / CABLES SHALL BE SEALED BY USE OF A NON-PERMANENT FIRE BLANKET OR OTHER METHOD IN COMPLIANCE. THE CONTRACTOR MUST USE FIRE STOPPING ON CABLE TRAYS, WIREWAYS AND CONDUITS EITHER VERTICAL OR HORIZONTAL. FOUR DIFFERENT METHODS OF FIRE-STOPPING HAVE BEEN IDENTIFIED FOR THE HORIZONTAL THROUGH PENETRATIONS BETWEEN WALLS, RATED, RATED WITH ACOUSTIC PROPERTIES, NON-RATED, AND NON-RATED WITH ACOUSTIC PROPERTIES.
- ELOW ARE METHODS TO ACCOMPLISH THESE DIFFERENT TYPES: SEALING OF RATED OPENINGS BETWEEN FLOORS OR THROUGH RATED WALLS, WHETHER EXISTING OR CREATED BY THE CONTRACTOR FOR PLACEMENT OF CABLE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SEALING MATERIAL AND APPLICATION SHALL BE AN APPROVED UL LISTED SYSTEM AND SHALL BE ACCOMPLISHED IN SUCH A MANNER THAT IS ACCEPTABLE TO THE LOCAL FIRE AND BUILDING AUTHORITIES HAVING JURISDICTION OVER THIS WORK. CREATION OF SUCH OPENINGS AS ARE NECESSARY FOR CABLE PASSAGE BETWEEN LOCATIONS AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY OPENINGS CREATED BY OR FOR THE CONTRACTOR AND LEFT UNUSED SHALL
- ALSO BE SEALED AS PART OF THIS WORK. RATED WALLS WITH THROUGH PENETRATIONS WITH ACOUSTIC PROPERTIES SHALL BE INSTALLED WITH FACTORY MANUFACTURED DEVICE. SUCH AS A STI "EZ PATH" OF WIREMOLD "FLAMESTOPPER" OR EQUAL. THE TYPICAL STC RATING IS TO BE EQUAL TO OR GREATER THAN THE WALL PENETRATED, (AVG IS A RATING OF 44 STC PER UB
- RATINGS). NON-RATED PATHWAY, ALTHOUGH NOT REQUIRED TO BE FIRE-STOPPED, SHALL BE A MANUFACTURED DEVICE THAT WILL ALLOW FIRE-STOPPING TO BE INSTALLED IN THE FUTURE IF REQUIRED, (I.E. WIREMOLD "FLAMESTOPPER" OR EQUAL). A NON-RATED PATHWAY WITH ACOUSTIC PROPERTIES CAN BE FOUND IN AREAS SUC AS, CONFERENCE ROOMS, HUMAN RESOURCE OFFICES, MEDICAL EXAMINATION ROOMS ETC. THESE ROOMS REQUIRE TO LIMIT THE AMOUNT OF AMBIENT NOISE THA CAN TRAVEL FROM ONE ROOM TO THE OTHER THROUGH THE CEILING GRID. IF THIS WALL IS PENETRATED, INSTALL A SYSTEM THAT WILL RE-ESTABLISH THE STC RATING

CONTRACTOR(S) GUIDELINES:

- ALL TECHNOLOGY WORK SHALL COMPLY WITH DESIGN GUIDELINES AS WELL AS APPLICABLE FEDERAL, STATE, AND LOCAL CODES. WHERE THE CONSTRUCTION DOCUMENTS INDICATE MORE RESTRICTIVE REQUIREMENTS, THE DOCUMENTS SHALL GOVERN BUT THE CONSTRUCTION DOCUMENTS SHALL NOT BE INTERPRETED AS AUTHORITY TO VIOLATE ANY CODE OR REGULATION.
- 2. IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN ITEMS INDICATED ON THE PLANS AND/OR SPECIFICATIONS OR WITH CODE REQUIREMENTS, THE NOTE, CODE OR SPECIFICATION WHICH PRESCRIBES AND ESTABLISHES THE MORE COMPLETE JOB OR THE HIGHER STANDARD SHALL PREVAIL.
- 3. OMISSIONS FROM THE DRAWINGS, SPECIFICATIONS OR THE MIS-DESCRIPTION OF DETAILS FROM WORK WHICH ARE CLEAR AND NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS, SPECIFICATIONS, OR WHICH ARE CUSTOMARILY PERFORMED, SHAL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH OMITTED OR MIS-DESCRIBE DETAILS OF THE WORK BUT THEY SHALL BE PERFORMED AS IF FULLY AND CORRECTLY SET FORTH AND DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS.
- . THE CONTRACTOR SHALL CHECK ALL DRAWINGS FURNISHED, IMMEDIATELY UPON THEI RECEIPT AND SHALL PROMPTLY NOTIFY THE OWNER OF ANY DISCREPANCIES. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BEAR THE UNDERWRITERS LABEL (UL) AND SHALL BE INSTALLED IN THE MANNER FOR WHICH THEY ARE DESIGNED
- AND APPROVED. THE CONTRACTOR SHALL NOT BORE, NOTCH OR IN ANY WAY CUT INTO ANY STRUCTUR/ MEMBER WITHOUT WRITTEN APPROVAL FROM THE ARCHITECT OR STRUCTURAL
- ENGINEER. ALL CHANGES TO STRUCTURES (BUILDING, DRILLING, CORING, ETC.) NOT SHOWN ON TH DRAWINGS SHALL BE APPROVED IN WRITING BY STRUCTURAL ENGINEER.
- 3. FOR PURPOSES OF CLEARNESS AND LEGIBILITY, THE TELECOM DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC. THE SIZE AND LOCATION OF EQUIPMENT IS SHOWN TO SCALE WHEREVER POSSIBLE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DATA INFORMATION AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATION SECTIONS WHERE SCS AND LOW VOLTAGE WORK INTERFACES WITH OTHER TRADES.
- THE CONTRACTOR SHALL MAINTAIN AS-BUILT DRAWINGS TO REFLECT ALL CHANGES MADE DURING CONSTRUCTION AND ANY DEVIATIONS FROM THE ELECTRICAL AND TECHNOLOGY DRAWINGS. THIS INCLUDES DEVIATIONS FROM OUTLET NUMBERS AND ANY ADDITION, DELETION OR RELOCATION OF OUTLETS SHOWN ON WORKING DRAWINGS, PATHWAY ADDITIONS, DELETIONS OR RELOCATIONS. THE CONTRACTOR SHALL AFTER COMPLETION OF JOB, PROVIDE THE OWNER AN ELECTRONIC AND HARD COPY OF AS-BUILT WORK.
- 0. ANY DEVIATIONS FROM PLANS OR SPECS MUST BE APPROVED IN WRITING BY THE OWNER'S REPRESENTATIVE.
- 1. ALL FOOTAGES ON DRAWINGS ARE ESTIMATED AND MUST BE VERIFIED BY CONTRACTOR PRIOR TO ORDERING MATERIAL.
- 2. ALL STATION CABLES SHALL BE NEATLY DRESSED AND SECURED EVERY FIVE FEET AT A MINIMUM 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF
- CEILING TILE INCLUDING REPLACEMENT OF BROKEN OR DAMAGED TILES. 4. ALL LOCATIONS PASSING THROUGH A FIRE OR A SMOKE BARRIER MUST BE FIRE
- STOPPED USING APPROVED (UL CLASSIFIED) FIRE STOP SYSTEM, INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS AND PROPERLY LABELED. 5. CONDUIT SHALL BE FILLED TO MAXIMUM CAPACITY (PER CODE, STANDARDS, AND
- NORMS) BEFORE UTILIZING ANOTHER VACANT CONDUIT. 6. ALL STATION OUTLETS AND TERMINALS SHALL BE PROPERLY IDENTIFIED USING THE OWNER'S STANDARD INTERNAL DISTRIBUTION NUMBERING SCHEME. ALL LABELS SHALL BE PREPRINTED OR TYPED.
- 7. EACH BACKBONE RISER AND/OR OSP CABLE SHALL BE EQUIPPED WITH A PERMANENT LABEL INDICATING CABLE TYPE, PAIR OR OPTIC COUNTS, DISTANT ENDS, AND CABLE LENGTH. BOTH ENDS OF EACH CABLE AND AT EVERY MAINTENANCE HOLE, HAND HOLE, AND PULL BOX, SHALL BE SO LABELED.
- 3. FIBER BACKBONE CABLE SHALL BE PLACED WITH 6 FOOT MAINTENANCE LOOP AT BOTH ENDS OF THE RUN. THE MAINTENANCE LOOP SHALL BE SECURED IN SUCH A MANNER T PROVIDE PROTECTION DURING SUBSEQUENT CABLE PULLS.
- 9. ALL STATION CABLES/OUTLETS SHALL BE TESTED AND DOCUMENTED USING A PAIR SCANNER SPECIFICALLY DESIGNED TO TEST THE TYPE OF CABLE INSTALLED (E.G. CATEGORY 6A). TEST RESULTS SHALL BE ONE PAGE PER AND NOTED WITH THE STATION/JACK NUMBERING SCHEME THAT IS STANDARDIZED FOR THE OWNER. 20. ALL FIBER OPTIC STATION AND RISER CABLE SHALL BE TESTED END-TO-END AND THE
- RESULTS (LOSS IN dB) NOTED ON A SEPARATE TYPED SHEET. 1. AFTER STATION CABLE IS TESTED AND DOCUMENTED, ONE PAIR FROM EACH VOICE STATION SHALL BE CROSS CONNECTED THROUGH EACH CLOSET BACK TO THE MAIN
- DISTRIBUTION FRAME. TELEPHONE NUMBER ASSIGNMENTS FOR EACH JACK MUST BE APPROVED BY THE TELECOM STAFE PRIOR TO IMPLEMENTATION A WRITTEN RECORD OF ALL CROSS CONNECT ASSIGNMENTS WILL BE PROVIDED TO THE OWNER BY THE SCS CONTRACTOR. 2. FIBER CABLES SHALL BE SPLICED TOGETHER USING A FUSION SPLICE AND PLACED IN A
- FIBER SPLICE CASE THAT IS RE-ENTERABLE, FULLY DRESSED AND ENCLOSED TO FIT THE NUMBER AND TYPE OF CABLES TERMINATED. 23. CABLE TRAY SHALL BE PLACED IN MDF AND IDF(S) AS SHOWN ON DRAWINGS AND AS
- REQUIRED TO PROPERLY SECURE CABLES AND WIRE. 24. A BACKBONE CABLE ASSIGNMENT RECORD SHEET SHALL BE PREPARED (TYPED) PRIOR TO START OF ACCEPTANCE TESTING. ALL FLOOR PLANS SHALL BE NEATLY HAND NOTED
- WITH STATION JACK NUMBER AND CABLE LENGTH. 25. ALL CABLES SHALL BE CLEARLY LABELED WITH CABLE NUMBERS, PAIR ASSIGNMENTS AND DESIGNATION.
- 26. ALL CABLE TRAYS, LADDER RACKS, CONDUITS, EQUIPMENT RACKS, PROTECTOR PANELS, AND CABLE SHEATHS SHALL BE BONDED & GROUNDED TO EQUIPMENT GROUND WITH #6 WIRE (MIN.)
- 7. ALL SPLICES SHALL BE CONTAINED WITHIN AN APPROVED SPLICE CASE DESIGNED FOR MULTIPLE CLOSURE.

TECHNOLOGY PENETRATION NOTES:	TECHNOLOGY CABLING NOTES:	TECHNOLOGY PATHWAY
NLESS SPECIFICALLY SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL MAKE NO ENETRATION OF FLOORS, WALLS OR CEILING WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNERS REPRESENTATIVE. VALL PENETRATIONS: HE SCS AND/OR LV CONTRACTOR SHALL PROVIDE FIRE STOPPING FOR ALL COMMUNICATIONS RATED (AND IN SOME CASES NON-RATED, THAT WILL BE DESCRIBED	1. THE USE OF LUBRICANTS SUCH AS CLEAR GLIDE, TO FACILITATE THE INSTALLATION OF CABLES IN CONDUITS IS ENCOURAGED FOR FRICTION REDUCTION AND TO MAINTAIN THE REQUIRED PULL TENSION. YELLOW 77 AND POLYWATER "F" IS PERMISSIBLE FOR USE AS A LUBRICANT FOR ISP TECHNOLOGY CABLING. THE USE OF OSP, LOW TEMPERATURE CABLE LUBRICANTS SHALL NOT BE ACCEPTABLE IN AN INDOOR PLENUM ENVIRONMENT. UNDER NO CIRCUMSTANCES SHALL CABLE PULLING LUBRICANT BE ALLOWED TO ACCUMULATE ON WALLS, FLOORS, BACKBOARDS, OR OTHER SURFACES OUTSIDE THE CONDUIT.	 PATHWAYS CAN BE DIVIDED UP INTO TWO SEPARATE CATEGORIES, OUTSIDE PLANT (OSP) AND INSIDE PLANT (I IDENTIFY ALL EXISTING PATHWAYS (CONDUIT, CABLE TRAY, ETC) THAT WILL BE UTILIZED ON THE PROJECT, AN PROVE ALL PATHS SUBJECT TO BE USED ON THIS PROJECT, BEFORE INSTALLATION. THE <u>CONTRACTOR</u> IS RES NON-ACCESSIBLE AND OPEN CEILING SPACE PATHWAYS AS DESCRIBED IN SECTION F, CONTRACTOR GUIDELIN 2. ALL PULL-BOXES SHALL BE SIZED AND INSTALLED PER ANSI/TIA-569-D. PULL-BOXES FOR IN/UNDER SLAB CONDU OVERHEAD CONDUIT RUNS SHALL BE LOCATED ABOVE ACCESSIBLE CEILINGS WITHIN THE ACCESSIBLE CEILING SUPPORTS. PULL-BOXES FOR ROOF MOUNTED OR EXTERIOR ABOVE GRADE APPLICATIONS SHALL BE NEMA 3R
ELOW THIS SECTION) PATHWAYS AND SPACES. THESE FIRE STOPPING DEVICES SHALL CONFORM TO (BUT NOT LIMITED TO) UL 1479, ASTM E814, BICSI TDMM, FIRE STOPPING INSI/TIA-568-C, STANDARD FOR INSTALLING COMMERCIAL BUILDING ELECOMMUNICATIONS CABLING, SECTION 5, CLAUSE 5.1 THROUGH 5.2.3, IANUFACTURES GUIDELINES OR OTHER PREVAILING CODE AND MUST BE AN APPROVED	2. ANY CABLE DAMAGED OR EXCEEDING RECOMMENDED INSTALLATION PARAMETERS DURING INSTALLATION SHALL BE REPLACED BY THE CONTRACTOR BEFORE FINAL ACCEPTANCE AT NO COST TO THE OWNER.	RATIO BASED CONDUIT SIZING REFER TO THE FILL RATIO TABLE 1A - 2B BELOW AND REFERENCE TO ANSI/TIA-5 PULLBOX SIZING PER ANSI/TIA 569-D Conduit WIDTH WIDTH VIDTH
L LISTED SYSTEM. ABLE TRAY FIRE-STOPPING SHALL UTILIZE THE MULTI GANG FIRE-STOPPING SYSTEM HAT WILL BE ABLE TO STACK THE UNITS HORIZONTALLY AND/OR VERTICALLY IF EQUIRED DUE TO CURRENT AND/OR FUTURE CABLING DESIGNS.	 EACH RUN OF CABLE BETWEEN THE TERMINATION BLOCK OR PATCH PANEL AND THE STATION CONNECTOR SHALL BE CONTINUOUS WITHOUT ANY JOINTS OR SPLICES. ALL STATION CABLE SHALL BE PLACED IN THE INTERIOR OF WALLS UNLESS OTHERWISE NOTED OR OBSTRUCTED. 	Size WIDTH LENGTH DEPTH ADDITIONAL CONDUIT 1" 4" 15" 3" 2" 2" 8" 36" 4" 5"
HE CONTRACTOR SHALL INSTALL PENETRATION FIRE-STOP SEAL MATERIALS IN CCORDANCE WITH DESIGN REQUIREMENTS, AND MANUFACTURER'S INSTRUCTIONS.	5. PROVIDE BUSHINGS, GROMMETS AND STRAIN-RELIEF FOR CABLES TERMINATING AT WALL-MOUNTED OUTLETS AND PATCH PANELS TO ENSURE DURABLE AND ROBUST CONNECTIONS. THE BUSHINGS AND GROMMETS ARE INTENDED TO PROTECT THE CABLES FROM ANY SHARP EDGES THAT PRESENT A RISK TO THE CABLES ENSURE THAT	3" 61 48" 5" 6" 4" 101 60" 8" 8"
UALIFIED BY THE FIRE-STOPPING MANUFACTURER AS HAVING BEEN PROVIDED THE ECESSARY TRAINING TO INSTALL MANUFACTURER'S PRODUCTS PER SPECIFIED EQUIREMENTS.	 ALL SHARP EDGES ARE COVERED TO PROTECT THE CABLES FROM DAMAGE. ALL CABLE BUNDLES EXITING FLOOR OR WALL PENETRATIONS AND RUNNING INTO FURNITURE OR CASEWORK SHALL BE WRAPPED IN SPIRAL WRAP OR SPLIT-LOOM TUBING TO PROTECT THE CABLING AND PROVIDE A NEAT INSTALLATION. 	FILL RATIO TABLE 1A - Conduit Conduit .13 .18 .19 .20 .21 .22 .23 .24 3/4" 16 8 7 6 6 5 5 4
EVICE / SYSTEM DESIGNED TO ALLOW CABLES TO PENETRATE FIRE-RATED WALLS WITH BUILT-IN FIRE SEALING SYSTEM THAT AUTOMATICALLY ADJUSTS TO THE AMOUNT OF ABLES INSTALLED. THE FIRE-STOPPING DEVICE SHALL BE CAPABLE OF INSTALLATION NEW CONSTRUCTION OR RETROFIT IN EXISTING STRUCTURES.	 ALL CABLE OR INNERDUCT SHALL RUN PARALLEL OR AT RIGHT ANGLES TO BUILDING WALL STRUCTURES. IN SUSPENDED CEILING AND RAISED FLOOR AREAS WHERE DUCT. CABLE TRAYS OR 	1" 26 13 12 11 9 9 8 7 1 1/4" 45 23 21 19 17 15 14 13 1 1/2" 61 32 28 25 23 21 19 18
HE CONTRACTOR MUST NOT USE CONCRETE OR OTHER NON-REMOVABLE SUBSTANCE OR FIRE STOPPING ON CABLE TRAYS, WIREWAYS OR CONDUITS. CONTRACTORS WHO ISE THIS METHOD WILL BE REQUIRED TO REPLACE ALL CABLES AFFECTED AND PROVIDE HE ORIGINAL SPECIFIED ACCESS TO EACH EFFECTED AREA. THIS REQUIREMENT ALSO PPLIES TO MAINTAINING FIRE RATINGS OF ALL FLOORS PENETRATED BY CONDUITS OR EVICES DESIGNATED FOR USE BY VOICE AND DATA CABLING.	CONDUIT ARE NOT AVAILABLE, CABLE BUNDLES SHALL BE SUPPORTED VIA "J" HOOKS ATTACHED TO THE BUILDING STRUCTURE AND FRAMEWORK AT A MAXIMUM OF FIVE (5) FOOT INTERVALS. MINIMUM 1 " WIDE J-HOOKS SHALL BE APPROPRIATELY SIZED TO ALLOW A MINIMUM OF 60% SPARE CAPACITY FOR FUTURE CABLE INSTALLATION. THE CONTRACTOR SHALL INCLUDE ALL COSTS IN BASE BID FOR ANY ADDITIONAL SUPPORTS/SEISMIC BRACING REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.	2"101524742383532292 1/2"176928274676156513"2661391241121029385783 1/2"3471811621461331211111024"444231208187170155142130
HALL BE SEALED BY USE OF A NON-PERMANENT FIRE BLANKET OR OTHER METHOD IN COMPLIANCE. THE CONTRACTOR MUST USE FIRE STOPPING ON CABLE TRAYS, VIREWAYS AND CONDUITS EITHER VERTICAL OR HORIZONTAL. FOUR DIFFERENT IETHODS OF FIRE-STOPPING HAVE BEEN IDENTIFIED FOR THE HORIZONTAL THROUGH ENETRATIONS BETWEEN WALLS, RATED, RATED WITH ACOUSTIC PROPERTIES, ION-RATED, AND NON-RATED WITH ACOUSTIC PROPERTIES.	 9. THE CONTRACTOR SHALL BUNDLE, IN BUNDLES OF 48 OR LESS, STATION OR OTHER CABLING WITH 3/4" HOOK AND LOOP "VELCRO" STRIPS TIGHT ENOUGH TO HOLD THE BUNDLE TOGETHER IN A CYLINDRICAL SHAPE, BUT NOT SO TIGHT AS TO DEFORM THE CABLE GEOMETRY. IT SHALL BE POSSIBLE TO COMPLETELY ROTATE ALL HOOK AND LOOP TIES AROUND ALL CABLE BUNDLES. PLENUM RATED HOOK AND LOOP TIES WILL BE USED IN ALL PLENUM AREAS. 10. CABLES OR LHOOKS SHALL NOT BE ATTACHED TO LIET OUT CELLING GRID SUPPORTS 	FILL RATIO TABLE 2A - Cable Tray / Wire Basket / Raceway per NEC 2022 Article 725 Tray Size (WxD) .13 .18 .19 .20 .21 .22 .23 .24 4x4 482 251 225 203 184 168 154 141
SEALING OF RATED OPENINGS BETWEEN FLOORS OR THROUGH RATED WALLS, WHETHER EXISTING OR CREATED BY THE CONTRACTOR FOR PLACEMENT OF CABLE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SEALING MATERIAL AND APPLICATION SHALL BE AN APPROVED UL LISTED SYSTEM AND SHALL BE	 OR LAID DIRECTLY ON THE CEILING GRID. 11. CABLES OR J-HOOKS SHALL NOT BE ATTACHED TO OR SUPPORTED BY FIRE SPRINKLER HEADS OR DELIVERY SYSTEMS OR ANY ENVIRONMENTAL SENSOR LOCATED IN THE 	6x4 723 377 338 305 277 252 231 212 12x4 1447 754 677 661 554 505 462 424 18x4 2170 1132 1016 917 831 758 693 636
ACCOMPLISHED IN SUCH A MANNER THAT IS ACCEPTABLE TO THE LOCAL FIRE AND BUILDING AUTHORITIES HAVING JURISDICTION OVER THIS WORK. CREATION OF SUCH OPENINGS AS ARE NECESSARY FOR CABLE PASSAGE BETWEEN LOCATIONS AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY OPENINGS CREATED BY OR FOR THE CONTRACTOR AND LEFT UNUSED SHALL ALSO BE SEALED AS PART OF THIS WORK. RATED WALLS WITH THROUGH PENETRATIONS WITH ACOUSTIC PROPERTIES SHALL DE WITH THROUGH PENETRATIONS WITH ACOUSTIC PROPERTIES SHALL	 12. WHERE ADDITIONAL CONDUIT(S)/SLEEVE(S) ARE REQUIRED, BUT NOT PROVIDED BY THE CONTRACTOR, THE SCS AND/OR LV CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE SUCH CONDUIT(S)/SLEEVE(S). CONDUIT(S) AND SLEEVE(S) SHALL BE OF SUITABLE MATERIAL, SIZED, INSTALLED, FIRE-STOPPED, AND GROUNDED AS REQUIRED BY THE CEC 2022, ANSI/TIA-569-D STANDARD AND ALL OTHER APPLICABLE CODES AND 	24x4 2894 1509 1355 1222 1109 1010 924 849 6x6 1085 566 508 458 415 379 346 318 12x6 2170 1132 1016 917 831 758 693 636 18x6 3256 1698 1524 1375 1247 1137 1040 955 24x6 4341 2264 2032 1834 1663 1516 1387 1273
BE INSTALLED WITH FACTORY MANUFACTURED DEVICE. SUCH AS A STIFEZ PATH. OR WIREMOLD "FLAMESTOPPER" OR EQUAL. THE TYPICAL STC RATING IS TO BE EQUAL TO OR GREATER THAN THE WALL PENETRATED, (AVG IS A RATING OF 44 STC PER UBC RATINGS). NON-RATED PATHWAY, ALTHOUGH NOT REQUIRED TO BE FIRE-STOPPED, SHALL BE A MANUFACTURED DEVICE THAT WILL ALLOW FIRE-STOPPING TO BE INSTALLED IN THE FUTURE IF REQUIRED, (I.E. WIREMOLD "FLAMESTOPPER" OR EQUAL).	STANDARDS. SLEEVES SHALL CONSIST OF METALLIC CONDUIT DE-BURRED AND GROMMETTED ON BOTH ENDS WITH FLANGES OR OTHER MEANS TO PREVENT THE SLEEVE FROM SLIPPING OR FALLING OUT OF THE PARTITION. SLEEVES SHALL EXTEND A MINIMUM OF 6" ON BOTH SIDES OF THE PARTITION. OUTSIDE PERIMETER OF SLEEVES SHALL BE SEALED AGAINST SOUND, AIR, WATER, HEAT, OR AS REQUIRED BY PARTITION DESIGN. INSIDE OF SLEEVE SHALL BE SEALED SIMILARLY AFTER INSTALLATION OF ALL CABLING. CABLES SHALL BE INDEPENDENTLY SUPPORTED ON EITHER SIDE OF THE	PATHWAY SEPARATION FROM SOURCE OF ELECTROMAGNETIC ENEGRY: CONDITION <2KVA 2-5 KVA >5KVA
A NON-RATED PATHWAY WITH ACOUSTIC PROPERTIES CAN BE FOUND IN AREAS SUCH AS, CONFERENCE ROOMS, HUMAN RESOURCE OFFICES, MEDICAL EXAMINATION ROOMS ETC. THESE ROOMS REQUIRE TO LIMIT THE AMOUNT OF AMBIENT NOISE THAT CAN TRAVEL FROM ONE ROOM TO THE OTHER THROUGH THE CEILING GRID. IF THIS WALL IS PENETRATED, INSTALL A SYSTEM THAT WILL RE-ESTABLISH THE STC RATING OF THE WALL, THE TYPICAL STC RATING IS AN AVERAGE OF 44 STC PER UBC RATINGS.	 SLEEVE. SLEEVES SHALL NOT BE USED AS CABLE SUPPORTS. ANY CONDUT(S) AND SLEEVE(S) ADDED BY THE SCS CONTRACTOR SHALL BE APPROVED BY THE OWNERS REPRESENTATIVE PRIOR TO ROUGH-IN. 13. IN THE EVENT CONTRACTOR IS REQUIRED TO REMOVE CEILING TILES, SUCH WORK SHALL NOT BREAK OR DISTURB GRID. REMOVAL OF THE CEILING GRID MUST BE COORDINATED WITH THE OWNERS REPRESENTATIVE. ALL INSUL ATION SHALL BE 	Unshielded Power Lines in Proximity to open 5" (In.) 12" (In.) 24" (In.) Unshielded Power Lines in Proximity to Grounded Metallic Pathways 2.5" (In.) 6" (In.) 12" (In.) Power Lines enclosed in Metal Grounded Pathways in proximity to Grounded Metallic <1" (In.)
CONTRACTOR(S) GUIDELINES:	 14. THE NUMBER OF CABLES IN EACH CONDUIT SHALL BE CONTROLLED TO ALLOW FOR FUTURE CABLE INSTALLATION AND TO STAY WITHIN THE MANUFACTURER'S MAXIMUM ALLOWARD E CARLE FULLING TENSION. 	3. FOR ALL FIRESTOPPING OF SCS AND LV SYSTEMS PATHWAY RESPONSIBILITIES REFERENCE SECTION G, PENE NOTES.
LL TECHNOLOGY WORK SHALL COMPLY WITH DESIGN GUIDELINES AS WELL AS PPLICABLE FEDERAL, STATE, AND LOCAL CODES. WHERE THE CONSTRUCTION OCUMENTS INDICATE MORE RESTRICTIVE REQUIREMENTS, THE DOCUMENTS SHALL OVERN BUT THE CONSTRUCTION DOCUMENTS SHALL NOT BE INTERPRETED AS	 ALLOWABLE CABLE POLLING TENSION. CONDUIT FILL RATIOS SHALL NOT EXCEED THE CURRENT REQUIREMENTS OF THE CEC 2022, ANSI/TIA-569-D, REFERENCE SECTION B.2, TABLES 1 AND 2 OF THIS DOCUMENT FOR ADDITIONAL REQUIREMENTS. 15. CONDUITS: ALL BACKBONE CABLING WILL RUN THROUGH DEDICATED CONDUITS. ALL NEW CONDUITS WILL BE SUPPLIED WITH A PULL STRING BY THE CONTRACTOR. 	 4. FOR ALL OTHER SCS AND/OR LV SYSTEMS PATHWAY RESPONSIBILITIES REFERENCE SECTION F, CONTRACTOR 5. OUTSIDE PLANT (OSP) PATHWAYS CAN BE BROKEN DOWN INTO THE FOLLOWING ITEMS, MAINTENANCE HOLES, a. WHILE ENTERING MAINTENANCE HOLES, HAND HOLES, PULLBOXES, FOLLOW ALL CODES AND SAFETY PRACTICE SAFE PULLING TENSIONS FOR THE CABLES TO BE INSTALLED. THIS INFORMATION CAN BE FOUND ON THE CABLE
THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN ITEMS INDICATED ON THE LANS AND/OR SPECIFICATIONS OR WITH CODE REQUIREMENTS, THE NOTE, CODE OR PECIFICATION WHICH PRESCRIBES AND ESTABLISHES THE MORE COMPLETE JOB OR HE HIGHER STANDARD SHALL PREVAIL.	 EXISTING CONDUITS SHALL BE PROVEN TO BE CLEAR BY THE SCS AND/OR LV CONTRACTOR PRIOR TO PULLING OF CABLES. SCS AND/OR LV CONTRACTOR SHALL SUPPLY PULL STRING AND PULL ROPE FOR THE INSTALLATION OF ALL CABLES IN EXISTING CONDUITS. FOR ALL CONDUITS LEFT WITH AVAILABLE CAPACITY, SCS AND/OR LV CONTRACTOR SHALL REPLACE PULL STRINGS DURING THE COURSE OF HIS WORK. 	 b. BEFORE EXITING THE MAINTENANCE HOLE, HAND HOLE, PULLBOX, NOTE ON PAPER OR DIGITAL MEANS THE EX "BUTTERFLY" PRINT TO AHJ AND OWNER'S REPRESENTATIVE. LABEL THE INSTALLED MEDIA PER SPECIFICATION c. WITH DIRECTION OF OWNER OR OWNER'S REPRESENTATIVE, CHOOSE AND PROVE ALL CONDUITS BEFORE THE TO ORDERING MATERIAL. ALL LABOR AND MATERIAL COSTS ASSOCIATED WITH DISCREPANCIES BETWEEN DRAFT
MISSIONS FROM THE DRAWINGS, SPECIFICATIONS OR THE MIS-DESCRIPTION OF ETAILS FROM WORK WHICH ARE CLEAR AND NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS, SPECIFICATIONS, OR WHICH ARE CUSTOMARILY PERFORMED, SHALL IOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH OMITTED OR MIS-DESCRIBED DETAILS OF THE WORK BUT THEY SHALL BE PERFORMED AS IF FULLY AND CORRECTLY	SCS AND/OR LV CONTRACTOR MUST SEAL ALL CONDUITS WITH AN APPROVED SEALING COMPOUND.	 COORDINATE WITH THE ELECTRICAL OR GENERAL CONTRACTOR (EC OR GC), IF CONDUITS ARE PLUGGED OR M d. TRAIL ALL BACKBONE MEDIA (I.E. COPPER, FIBER OR INNERDUCT) WITH A 3/8" YELLOW POLY-NYLON ROPE, LAB e. PROVIDE AND INSTALL ALL HARDWARE NECESSARY TO SUPPORT THE CABLING TO THE WALLS OF THE MAINTER HARDWARE IS TO BE CONSTRUCTED FOR THE AREA IT IS TO BE INSTALLED AND DESIGNED FOR THE PURPOSE
ET FORTH AND DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS. HE CONTRACTOR SHALL CHECK ALL DRAWINGS FURNISHED, IMMEDIATELY UPON THEIR ECEIPT AND SHALL PROMPTLY NOTIFY THE OWNER OF ANY DISCREPANCIES.	1. THE CONTRACTOR SHALL PROVIDE A TELECOMMUNICATION GROUNDING BUSSBAR (TGB)	 f. SCS AND/OR LV CONTRACTOR TO PROVIDE EXPANSION PLUGS IN ALL DUCTS/CONDUITS ENTERING THE BUILDIN PULL-STRING TO BE TIED OFF ON THE INSIDE.
LL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BEAR THE UNDERWRITERS ABEL (UL) AND SHALL BE INSTALLED IN THE MANNER FOR WHICH THEY ARE DESIGNED IND APPROVED.	AND TELECOMMUNICATION BONDING BACKBONE (TBB) CABLE(S) AT EACH MDF ROOM AND IDF LOCATION. TERMINATE THE TBB ON GROUND BARS LOCATED AT EACH MDF ROOM AND IDF CABINET FROM BUILDING STEAL OR MAIN ELECTRICAL GROUND, OR AS OTHERWISE INDICATED ON THE DRAWINGS.	 a. CONDUIT AND PATHWAY ROUTING SHOWN FOR THE SCS AND LV SYSTEMS ARE STRICTLY DIAGRAMMATICAL FOR
IE BORNING FOR STRUCTUREN APPROVAL FROM THE ARCHITECT OR STRUCTURAL NGINEER. LL CHANGES TO STRUCTURES (BUILDING, DRILLING, CORING, ETC.) NOT SHOWN ON THE	 THE SCS CONTRACTOR SHALL UTILIZE A TELECOMMUNICATIONS BONDING BACKBONE (TBB) AS INDICATED IN THE DRAWINGS. GROUNDING MUST BE IN ACCORDANCE WITH THE CEC 2022, ANSI/TIA-607-B AND ALL LOCAL CODES AND PRACTICES. THE SCS CONTRACTOR SHALL BE RESPONSIBLE FOR BONDING ALL METALLIC SHEATH 	 RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE BEST MEANS & METHODS FOR SCS & TECHNOLOGY RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE INSTALLATION PLAN WITH THE OWNERS REPRESE GENERAL ELECTRICAL SPECIFICATION FOR ADDITIONAL REQUIREMENTS. b. CONDUIT PATHWAYS SHALL BE SUPPLIED BY THE ELECTRICAL OR GENERAL CONTRACTOR AS PER THE DRAW.
RAWINGS SHALL BE APPROVED IN WRITING BY STRUCTURAL ENGINEER. OR PURPOSES OF CLEARNESS AND LEGIBILITY, THE TELECOM DRAWINGS ARE SSENTIALLY DIAGRAMMATIC. THE SIZE AND LOCATION OF EQUIPMENT IS SHOWN TO CALE WHEREVER POSSIBLE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DATA IFORMATION AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATION SECTIONS (HERE SCS AND LOW VOLTAGE WORK INTERFACES WITH OTHER TRADES	COMMUNICATIONS CABLES ENTERING THE BUILDING PER MANUFACTURER SPECIFICATIONS AND CEC 770-33, 800-33 AND 800-40. ALL GROUNDS SHALL CONSIST OF # 6-AWG COPPER WIRE AND SHALL BE SUPPLIED FROM AN APPROVED BUILDING GROUND AND BONDED TO THE MAIN ELECTRICAL GROUND. ALL CABLE SHEATHS AND SPLICE CASES SHALL BE GROUNDED TO A TELECOMMUNICATIONS GROUND BUS.	AND/OR GC OF THE PROJECT. c. NO CABLE IS TO BE PULLED THROUGH A CONDUIT L-BEND "LB" (CONDULETS). d. ALL EXPOSED CONDUIT AND HARDWARE SHALL BE PAINTED TO MATCH SURROUNDING SURFACES. CONTRACT
HERE GOS AND LOW VOLTAGE WORK INTERVACES WITH OTHER HOLDS. HE CONTRACTOR SHALL MAINTAIN AS-BUILT DRAWINGS TO REFLECT ALL CHANGES IADE DURING CONSTRUCTION AND ANY DEVIATIONS FROM THE ELECTRICAL AND ECHNOLOGY DRAWINGS. THIS INCLUDES DEVIATIONS FROM OUTLET NUMBERS AND NY ADDITION, DELETION OR RELOCATION OF OUTLETS SHOWN ON WORKING RAWINGS, PATHWAY ADDITIONS, DELETIONS OR RELOCATIONS. THE CONTRACTOR HALL AFTER COMPLETION OF JOB, PROVIDE THE OWNER AN ELECTRONIC AND HARD	4. THE SCS CONTRACTOR SHALL PROVIDE GROUNDING AND BONDING FROM ALL HORIZONTAL EQUIPMENT INCLUDING DISTRIBUTION AND CROSS CONNECT FRAMES, PATCH PANELS, CABLE TRAYS, EQUIPMENT RACKS, LADDER TRAYS, CONDUITS, ACTIVE TELECOMMUNICATION EQUIPMENT, SLEEVES, TEST APPARATUS. EQUIPMENT SHALL BE BONDED TO THE TBB GROUND BARS UTILIZING A #6-AWG GREEN CONDUCTOR WITH 2-HOLE LONG BARREL COMPRESSION GROUNDING LUGS.	 e. CONDUITS SHALL CONTAIN PLASTIC OR NYLON PULL TAPE RATED AT 200 LBS. WITH A MINIMUM OF 5 FEET OF E f. TERMINATE CONDUIT STUBS AND SLEEVES THAT PROTRUDE THROUGH STRUCTURAL FLOORS 2"-3" ABOVE THE g. INSTALL BUSHINGS AND BELL ENDS AS REQUIRED ON ALL CONDUITS. h. FLEX CONDUIT IS UNACCEPTABLE FOR USE AS A COMMUNICATIONS CONDUIT EXCEPT AT SEISMIC JOINTS AND.
COPY OF AS-BUILT WORK. ANY DEVIATIONS FROM PLANS OR SPECS MUST BE APPROVED IN WRITING BY THE DWNER'S REPRESENTATIVE. ALL FOOTAGES ON DRAWINGS ARE ESTIMATED AND MUST BE VERIFIED BY CONTRACTOR PRIOR TO ORDERING MATERIAL	 EACH EQUIPMENT CABINET AND RACK REQUIRES ITS OWN DEDICATED RACK GROUNDING BUSBAR (RGB) WITH A BONDING CONNECTION TO THE GROUNDING INFRASTRUCTURE. THE GROUNDING INFRASTRUCTURE CONSIST OF A TB, BY PROVIDING EVERY RACK/CABINET WITH ITS OWN DEDICATED #6 WAG (MIN.) GREEN CONDUCTORS BACK TO THE TOMB/TB. ALL GROUND CONDUCTOR ATTACHMENTS SHALL UTILIZE 2-HOLE LONG BARREL COMPRESSION LUGS. 	 ALL UNDER SLAB OR IN-SLAB CONDUITS SHALL BE INSTALLED IN A MANNER THAT PREVENTS WATER INFILTRATI GROUND WATER, RAIN WATER OR CONSTRUCTION WATER IS PREVENTED FROM ENTERING AND/OR REMOVED ELECTRICAL SPECIFICATIONS, DETAILS AND PLANS FOR ADDITIONAL CONDUIT SEALING REQUIREMENTS. PROVIDE LABELING OF EACH CONDUIT PER GENERAL ELECTRICAL SPECIFICATIONS.
ALL STATION CABLES SHALL BE NEATLY DRESSED AND SECURED EVERY FIVE FEET AT A MINIMUM.	 b. HORIZONTAL CABLES SHALL BE GROUNDED IN COMPLIANCE WITH ANSI/TIA-607-C, FP 70 (EEC) AND LOCAL REQUIREMENTS AND PRACTICES. c. IN RAISED-FLOOR ENVIRONMENTS, THE GROUND CONDUCTOR SHALL ATTACH TO THE LOWEST HOLES ON THE FRONT BALL OF EACH BACK/CABINET. 	 k. REINSTALL PULL-STRINGS IN ALL SCS AND LV ISP PATHWAYS AFTER USE TO FACILITATE FUTURE ADDITION OF I. IT IS THE SCS AND/OR LV CONTRACTOR'S RESPONSIBILITY TO REPORT ANY UNUSABLE OR INADEQUATE CONDU m. PULL BOXES ARE NOT TO BE USED IN LIEU OF A BEND. AND THE CONDUIT SHALL EXIT A PULLBOX ON THE WALL
THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF EILING TILE INCLUDING REPLACEMENT OF BROKEN OR DAMAGED TILES. ALL LOCATIONS PASSING THROUGH A FIRE OR A SMOKE BARRIER MUST BE FIRE TOPPED USING APPROVED (UL CLASSIFIED) FIRE STOP SYSTEM, INSTALLED PER THE	 d. RACK MOUNTED EQUIPMENT SHALL BE GROUNDED VIA THE CHASSIS, IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. 	 n. CONDUITS SHALL; • CONTAIN NO CONTINUOUS SECTIONS LONGER THAN 30M (98 FT.) • CONTAIN NO MORE THAN PER STANDARDS & CODE. • SPLIT CONDUITS IN PLACE OF PULLBOXES ARE UNACCEPTABLE. a. CONDUIT PEND RADIUS SHALL RE:
ANUFACTURER'S INSTRUCTIONS AND PROPERLY LABELED. CONDUIT SHALL BE FILLED TO MAXIMUM CAPACITY (PER CODE, STANDARDS, AND ORMS) BEFORE UTILIZING ANOTHER VACANT CONDUIT. ALL STATION OUTLETS AND TERMINALS SHALL BE PROPERLY IDENTIFIED USING THE WNER'S STANDARD INTERNAL DISTRIBUTION NUMBERING SCHEME. ALL LABELS SHALL	6. DONDING OF LADDER RACK SECTIONS: ATTACH BONDING STRAPS TO EACH LADDER RACK SECTION BY UTILIZING EITHER TWO (2) TRI-LOBULAR THREAD-FORMING SCREWS (NOT SELF-TAPPING OR SHEET METAL SCREWS) OR BY USING TWO (2) STANDARD BOLTS WITH TWO (2) "TYPE B" INTERNAL / EXTERNAL TOOTH LOCK WASHERS PER BOLT. IF THREAD-FORMING SCREWS ARE NOT USED, REMOVE PAINT AT EACH CONNECTION POINT AND USE AN APPROVED ANTI-OXIDANT PRIOR TO ATTACHING THE BONDING STRAP.	 A MINIMUM OF 6 TIMES THE INTERNAL CONDUIT DIAMETER FOR CONDUITS 2" IN DIAMETER OR LESS. A MINIMUM OF10 TIMES THE INTERNAL CONDUIT DIAMETER FOR CONDUITS MORE THAN 2" IN DIAMETER. POWER SEPARATION: THE CONTRACTOR SHALL NOT PLACE ANY DISTRIBUTION CABLING ALONGSIDE POWER LINES, OR SHARE TH POINT SHALL THE COMMUNICATIONS CABLES BE TIED TO POWER CABLES OR OTHER BUILDING SERVICES. S ROUTED THROUGH THESE SPACES AT RIGHT ANGLES TO FLECTRICAL DOWER CARE THS
E PREPRINTED OR TYPED. EACH BACKBONE RISER AND/OR OSP CABLE SHALL BE EQUIPPED WITH A PERMANENT ABEL INDICATING CABLE TYPE, PAIR OR OPTIC COUNTS, DISTANT ENDS, AND CABLE ENGTH. BOTH ENDS OF EACH CABLE AND AT EVERY MAINTENANCE HOLE, HAND HOLE,	TECHNOLOGY TERMINAL BACKBOARD NOTES:	 AVOID ELECTROMAGNETIC INTERFERENCE (EMI) BY MAINTAINING ADEQUATE PHYSICAL SEPARATION BETWINTO, ELECTRIC MOTORS, ELECTRIC PENCIL SHARPENERS, TRANSFORMERS, FLUORESCENT LIGHTS THAT SHARE WORK AREA SPACE WITH LINE CORDS AND TERMINALS, LARGE FAX MACHINES AND POWER CORDS TO A SHARE WORK AREA SPACE WITH LINE CORDS AND TERMINALS, LARGE FAX MACHINES AND POWER CORDS TO A SHARE WORK AREA SPACE WITH LINE CORDS AND TERMINALS, LARGE FAX MACHINES AND POWER CORDS TO A SHARE WORK AREA SPACE WITH LINE CORDS AND TERMINALS, LARGE FAX MACHINES AND POWER CORDS TO A SHARE WORK AREA SPACE WITH LINE CORDS AND TERMINALS, LARGE FAX MACHINES AND POWER CORDS TO A SHARE WORK AREA SPACE WITH LINE CORDS AND TERMINALS, LARGE FAX MACHINES AND POWER CORDS TO A SHARE WORK AREA SPACE WITH LINE CORDS AND TERMINALS, LARGE FAX MACHINES AND POWER CORDS TO A SHARE WORK AREA SPACE WITH LINE CORDS AND TERMINALS, LARGE FAX MACHINES AND POWER CORDS TO A SHARE WORK AREA SPACE WITH LINE CORDS AND TERMINALS, LARGE FAX MACHINES AND POWER CORDS TO A SHARE WORK AREA SPACE WITH LINE CORDS AND TERMINALS, LARGE FAX MACHINES AND POWER CORDS TO A SHARE WORK AREA SPACE WITH LINE CORDS AND TERMINALS, LARGE FAX MACHINES AND POWER CORDS TO A SHARE WORK AREA SPACE WITH LINE CORDS AND TERMINALS, LARGE FAX MACHINES AND POWER CORDS TO A SHARE WORK AREA SPACE WITH LINE CORDS AND TERMINALS, LARGE FAX MACHINES AND POWER CORDS TO A SHARE WORK AREA SPACE WITH LINE CORDS AND TERMINALS, LARGE FAX MACHINES AND POWER CORDS TO A SHARE WORK AREA SPACE WITH LINE CORDS AND TERMINALS, LARGE FAX MACHINES AND POWER CORDS TO A SHARE WORK AREA SPACE WITH A SHARE WORK AREA SPACE WITH LINE CORDS AND TERMINALS, LARGE FAX MACHINES AND POWER CORDS AND TERMINALS A SHARE WORK AREA SPACE WITH A SHAREA SPACE WITH A SHARE WITH A SHARE WITH A SHARE WITH A SHARE W
IND PULL BOX, SHALL BE SO LABELED. TIBER BACKBONE CABLE SHALL BE PLACED WITH 6 FOOT MAINTENANCE LOOP AT BOTH NDS OF THE RUN. THE MAINTENANCE LOOP SHALL BE SECURED IN SUCH A MANNER TO ROVIDE PROTECTION DURING SUBSEQUENT CABLE PULLS.	1. WHERE INDICATED ON DRAWINGS, CONTRACTOR TO PROVIDE NEW PLYWOOD TERMINAL BACKBOARDS. USE DOUGLAS FIR PLYWOOD, INTERIOR A/C GRADE, FINISHED ONE SIDE AND PRIME COAT PAINTED ON ALL SURFACES WITH A FINISH COAT OF FIRE RETARDANT WHITE ENAMEL. ON EACH PLYWOOD SHEET LEAVE ONE (1) FIRE MARSHAL STAMP UNPAINTED FOR INSPECTION. UNLESS OTHERWISE INDICATED, USE 8'-0" HIGH X LENGTH	
ALL STATION CABLES/OUTLETS SHALL BE TESTED AND DOCUMENTED USING A PAIR CANNER SPECIFICALLY DESIGNED TO TEST THE TYPE OF CABLE INSTALLED (E.G. CATEGORY 6A). TEST RESULTS SHALL BE ONE PAGE PER AND NOTED WITH THE TATION/JACK NUMBERING SCHEME THAT IS STANDARDIZED FOR THE OWNER.	AS SHOWN ON DRAWINGS X 3/4" THICK PLYWOOD. REFERENCE BACKBOARD ELEVATIONS FOR MORE INFORMATION.	

HWAY NOTES:	PROJECT CODES AND STANDARDS:
DE PLANT (ISP). IT IS THE SCS AND/OR LV SYSTEM(S) CONTRACTOR'S RESPONSIBILITY TO OJECT, AND COORDINATE WITH THE ON-SITE ELECTRICAL OR GENERAL CONTRACTOR TO OR IS RESPONSIBLE FOR THE INSTALLATION ALL UNDERGROUND (OSP) PATHWAYS,	APPLICABLE PROJECT BUILDING CODES, EFFECTIVE AS OF DATE: JANUARY 1, 2023 2022 CALIFORNIA ADMINISTRATIVE CODE (CAC) 2022 CALIFORNIA BUILDING CODE (CBC) 2022 CALIFORNIA ELECTRICAL CODE (CEC)
A GUIDELINES OF THESE TECHNOLOGY GENERAL NOTES. LAB CONDUIT RUNS ARE NOT PERMITTED UNLESS OTHERWISE NOTED. PULL-BOXES FOR BLE CEILING SPACE AND SUPPORTED INDEPENDENTLY FROM THE STRUCTURE AND CONDUIT E NEMA 3R RATED. PULL-BOXES SHALL BE SIZED ACCORDING TO THE FOLLOWING: FOR FILL ANSI/TIA-569-D.	2022 CALIFORNIA FIRE CODE (CFC) 2022 CALIFORNIA ENERGY CODE 2022 CALIFORNIA ENERGY CODE 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE 2022 CALIFORNIA REFERENCED STANDARDS CODE 2022 NFPA 72: NATIONAL FIRE ALARM AND SIGNALING CODE, NATIONAL FIRE PROTECTION ASSOCIATION 2022 NFPA 1221: NATIONAL FIRE ALARM AND SIGNALING CODE, NATIONAL FIRE PROTECTION ASSOCIATION
ICREASE PER NAL CONDUIT	APPLICABLE INDUSTRY STANDARDS, CURRENT EDITION TIA-568: GENERIC CABLE STANDARDS TIA-568-1: COMMERCIAL CABLE STANDARDS TIA-568-2: BALANCED TWISTED PAIR CABLING AND COMPONENTS TIA-568-3: OPTICAL CABLING FEDER COMPONENTS
2" 5" 6"	TIA-508-3: OF TICAL CABLING FEEDER COMPONENTS TIATIA-568-4: BROADBAND COAX CABLING AND COMPONENTS TIA-569: TELECOMMUNICATION PATHWAYS AND SPACES TIA-570: RESIDENTIAL TELECOMMUNICATIONS TIA-598: OPTICAL FIBER CABLE COLOR CODING
8"	TIA-606: ADMINISTRATIVE LABELING STANDARDS TIA-607: TELECOMMUNICATIONS BONDING AND GROUNDING TIA-758: TELECOMMUNICATIONS OUTSIDE PLANT TIA-526-7: SINGLE-MODE FIBER STANDARDS TIA-526-14: MULTI-MODE FIBER STANDARDS
23 .24 .25 .26 .27 .28 .29 .30 .31 .32 .33 .34 .35 .37 .39 5 4 4 4 3 3 3 3 2 2 2 2 1 1 8 7 7 6 6 5 5 4 4 4 3 3 3 2 4 13 12 11 10 9 9 8 7 7 6 6 5 5	TECHNOLOGY DESIGN DIRECTORY:
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	SENIOR DESIGNER:DESIGNER-IINAME:JOSIAH ZAMORA, CTSNAME:WORK:(916) 721-2938PHONE:WOBILE:(916) 996-3942EMAIL:EMAIL:jzamora@lpengineers.com
42 130 120 111 103 95 89 83 78 73 68 64 61 54 49	CONTRACTOR SUBMITTALS:
23 .24 .25 .26 .27 .28 .29 .30 .31 .32 .33 .34 .35 .37 .39 54 141 130 120 111 103 96 90 84 79 74 70 66 59 53 124 .32 .405	 (SHOP DRAWINGS / PRODUCT SUBMITTALS / QUALIFICATIONS) 1. ORDERING AND INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL THE FOLLOWING: a. CONTRACTOR FURNISHED SHOP DRAWINGS (SEE BELOW FOR LISTED SHOP DRAWING)
3.31 212 195 180 167 155 145 135 127 119 112 105 99 89 80 62 424 391 361 335 311 290 271 254 238 224 211 199 178 160 93 636 587 542 503 467 436 407 381 358 336 317 299 267 241	 REQUIREMENTS) b. PRODUCT SUBMITTAL DOCUMENTS APPLICABLE TRADES OUTLIFICATION CERTIFICATIONS HAVE DEED ADDROVED BY THE OVERTICE
1/24 849 / 82 7 32 671 623 581 543 509 477 449 423 399 357 321 46 318 293 271 251 233 218 203 190 179 168 158 149 133 120 93 636 587 542 503 467 436 407 381 358 336 317 299 267 241	 ENGINEER AND/OR ARCHITECT AND IF (A. APPLICABLE, APPROVED BY THE DIVISION OF THE STATE ARCHITECT). 2. ANY DESIGN AND/OR INSTALLATION DISCREPANCIES/CHANGE ORDERS/REWORK (INCLUDING LABOR AND MATERIALS) INCLUDED DECORE OR AFTER CONTRACTOR FURNISHED SHARE STATE AND MATERIALS).
040 955 880 814 754 701 654 611 572 537 505 476 449 401 361 387 1273 1174 1085 1006 935 872 815 763 716 673 634 598 535 482	AND MATERIALS) INCURRED BEFORE OR AFTER CONTRACTOR FURNISHED SHOP DRAWINGS HAVE BEEN APPROVED SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR INSTALLATION SHOP DRAWINGS 3. IT SHALL BE UNDERSTOOD THAT THE DRAWINGS, DETAILS, AND ONE-LINES PROVIDED WITH THE
>5KVA	DESIGN PACKAGE ARE DIAGRAMMATIC. DATA PRESENTED ON DESIGN DRAWINGS ARE AS ACCURATE AS PRELIMINARY SURVEYS AND PLANNING CAN DETERMINE UNTIL FINAL EQUIPMENT SELECTION IS MADE. ACCURACY IS NOT GUARANTEED AND FIELD VERIFICATION, OF ALL DIMENSIONS, ROUTING, ETC., BY THE CONTRACTOR IS REQUIRED.
24" (ln.) 12" (ln.) 6" (ln.)	4. DRAWINGS ARE PROVIDED TO SHOW THE INTENT OF THE DESIGN AND SPECIFICATION AND TO ASSIST THE CONTRACTOR IN SUBMITTING A BID. CONTRACTOR IS DIRECTED TO MAKE FIELD SURVEYS AS PART OF HIS WORK PRIOR TO SUBMITTING SYSTEM LAYOUT DRAWINGS (SHOP DRAWINGS). THE CONTRACTOR SHALL MAKE ALLOWANCE IN THE PROPOSAL TO COVER WHATEVER WORK IS REQUIRED TO COMPLY WITH THE INTENT OF THE DESIGN AND PROVIDE A FULLY FUNCTIONING COMPLETE, OPERABLE, AND INTEGRATED SYSTEM.
N G, PENETRATION OF WALLS, FLOOR AND CEILINGS OF THESE TECHNOLOGY GENERAL	 5. 5.IN CASE OF DOUBT OF WORK INTENDED, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REQUEST INSTRUCTIONS FROM THE ENGINEER OR OWNER PRIOR TO BID. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A COMPLETE, OPERABLE, AND INTEGRATED FUNCTIONING SYSTEM. 6. INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED LINTIL DETAILED CONTRACTOR FURNISHED.
NTRACTOR GUIDELINES OF THESE TECHNOLOGY GENERAL NOTES. CE HOLES, HAND HOLES, PULLBOXES, AND CONDUITS.	SHOP DRAWINGS (IN AUTOCAD 2010/ OR SIMILAR PROFESSIONAL DRAWING FORMAT) AND PRODUCT SUBMITTALS HAVE BEEN APPROVED BY THE DESIGNER AND/OR ARCHITECT AND IF (A. APPLICABLE, APPROVED BY THE DIVISION OF THE STATE ARCHITECT).
Y PRACTICES OF A "CONFINED SPACE". UTILIZE NECESSARY EQUIPMENT TO MAINTAIN ALL N THE CABLE MANUFACTURER'S SPECIFICATIONS SHEETS. NS THE EXISTING AND NEW CABLE(S) LOCATION(S) AND ROUTE(S), AND PROVIDE A	7. ANY AND ALL DESIGN AND/OR INSTALLATION DISCREPANCIES, CHANGE ORDERS, (INCLUDING LABOR, MATERIALS, AND SHIPPING) INCURRED WITHOUT CONTRACTOR SHOP DRAWINGS OR AFTER CONTRACTOR SHOP DRAWINGS HAVE BEEN APPROVED SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
ECIFICATIONS. EFORE THE INSTALLATION OF THE MEDIA. MEASURE ALL PATHWAYS WITH MULE-TAPE PRIOR WEEN DRAWINGS AND VERIFIABLE SITE CONDITIONS SHALL BE BORNE BY CONTRACTOR.	 ANY WORK PERFORMED WITHOUT APPROVED CONTRACTOR FURNISHED SHOP DRAWINGS AND SUBMITTALS SHALL NOT BE ALLOWED. IF WORK PERFORMED PRIOR TO APPROVE SHOP DRAWINGS, CONTRACTOR WILL DO SO AT THEIR OWN RISK. ANY PRODUCTS THAT HAVE DEVIATED FROM THE SPECIFICATION OF DRAWINGS SHALL DE FLACCED
GGED OR MISSING PULL ROPE. ROPE, LABEL THE ROPE, AND TIE OFF EITHER END, FOR FUTURE INSTALLATIONS. HE MAINTENANCE HOLE, HAND HOLES, PULLBOX. (IF IT DOES NOT ALREADY EXIST) THIS	AS "SUBSTITUTION REQUEST".
PURPOSE INTENDED FOR ITS USE.	1. ALL STRUCTURED CABLING SYSTEM (SCS) & LOW VOLTAGE (UV) CABLING LISED
PENETRATION, MEMBRANE PENETRATION, ACCESSIBLE CEILING (I.E. "J" HOOKS), AND 2, ARTICLE 725 AND BICSI RECOMMENDED FILL FOR THE PARTICULAR RACEWAY OR CONDUIT MATICAL FOR THE PURPOSE OF THE BID TO ILLUSTRATE GENERAL METHODOLOGY. IT IS THE CHNOLOGY CONDUIT AND PATHWAY INSTALLATION. ADDITIONALLY IT IS THE S REPRESENTATIVE AND ALL TRADES PRIOR TO INSTALLATION. REFER TO PLANS AND	THROUGHOUT THIS PROJECT SHALL COMPLY WITH THE REQUIREMENTS AS OUTLINED IN THE STANDARDS, CODES AND LOCAL REGULATIONS FOR THE FOLLOWING: ANSI/TIA-568-C, ANSI/TIA-569-D, ANSI/TIA-606-B, ANSI/TIA-607-B, BICSI TDMM (CURRENT VERSION), CEC ARTICLE 90, ARTICLE 300, CEC ARTICLE 645, CEC ARTICLE 646, CEC ARTICLE 725, CEC ARTICLE 760, CEC ARTICLE 770, CEC ARTICLE 800, CEC ARTICLE 830. THE SCS & TECHNOLOGY SYSTEM(S) MUST MEET ALL LOCAL AND OTHER PREVAILING CODES.
THE DRAWINGS, OTHER CONDUITS (IF ANY) MAY NEED TO BE COORDINATED WITH THE EC	2. ALL SCS & LV CABLING SHALL BEAR UL LISTED TYPE CMP (PLENUM RATED) AND/OR CM/G (GENERAL PURPOSE) AND/OR CMR (RISER RATED). ALL FIBER OPTIC CABLING SHALL BEAR OFNP (PLENUM RATED) AND/OR OFNR (RISER RATED) AND/OR OFN/G (GENERAL PURPOSE). THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING APPROPRIATELY RATED
	 CABLE FOR THE ENVIRONMENT IN WHICH IT IS INSTALLED. 3. ALL INSTALLATION SHALL BE DONE IN CONFORMANCE WITH ANSI/TIA-568-C STANDARDS AND MANUFACTURERS INSTALLATION GUIDELINES. THE CONTRACTOR SHALL ENSURE THAT THE CABLE'S MINIMUM BEND RADIUS AND MAXIMUM BUILTING TENSIONS OF THE
BOVE THE FLOOR SURFACE.	SPECIFIED DISTRIBUTION CABLES ARE NOT EXCEEDED. THE CABLE BENDS MUST MAINTAIN THE PROPER RADIUS DURING THE PLACEMENT OF THE FACILITIES. FAILURE TO FOLLOW THE APPROPRIATE GUIDELINES WILL REQUIRE THE CONTRACTOR TO PROVIDE, IN A TIMELY FASHION, ANY ADDITIONAL MATERIAL AND LABOR NECESSARY TO PROPERLY
DINTS AND/OR IF APPROVED IN WRITING BY THE ENGINEER.	RECTIFY THE SITUATION TO THE SATISFACTION AND WRITTEN APPROVAL OF THE OWNERS REPRESENTATIVE. THIS SHALL ALSO APPLY TO ANY AND ALL DAMAGES SUSTAINED TO THE CABLES BY THE CONTRACTOR DURING THE IMPLEMENTATION.
REMOVED FROM THE CONDUITS PRIOR TO PLACEMENT OF COMMUNICATIONS CABLES. SEE NTS.	4. ALL 303 AND/OR LV INSTALLATIONS SHALL BE PERFORMED BY QUALIFIED TECHNICIANS FOR THAT SYSTEM. THE LABOR EMPLOYED BY THE CONTRACTOR SHALL BE REGULARLY EMPLOYED IN THE INSTALLATION AND REPAIR OF SCS AND/OR LV SYSTEMS AND SHALL BE ACCEPTABLE TO THE OWNERS REPRESENTATIVE TO ENGAGE IN THE INSTALLATION AND SERVICE OF THIS SYSTEM.
DITION OF CABLES. TE CONDUIT RUNS TO THE OWNER PRIOR TO PULLING ANY CABLE.	5. THE MDF AND IDF SPACES ARE DESCRIBED BELOW, AND ENCOMPASS THE AREAS THE COMMUNICATIONS CABLING EXISTS IN. THESE AREAS INCLUDE (BUT NOT LIMITED TO) THE BACKBOARDS, CABINETS, RACKS, FRAMES, LADDER RACKS, TERMINATION FIELDS, AND PATCH COPPS. (WALL AND PACK TYPES FOR COPPER AND FIELDS).
N THE WALL OPPOSITE THE WALL ENTERED. /IORE THAN (2) 90° BENDS OR (1) REVERSE BEND WITHOUT INSTALLING A PULLBOX SIZED	AND PAICH CORDS. (WALL AND RACK TYPES FOR COPPER AND FIBER). THE SCS CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THE STANDARDS, CODES AND LOCAL REGULATIONS FOR THESE SPACES, (E.G. ANSI/TIA-568-C, ANSI/TIA-569-D, ANSI/TIA-606-B, ANSI/TIA-607-B, BICSI TDMM (CURRENT VERSION), CEC ARTICLE 90, ARTICLE 300, CEC ARTICLE 645, CEC ARTICLE 646, CEC ARTICLE 725. CEC ARTICLE 770. CEC ARTICL F 800
SS. IETER.	 CEC ARTICLE 830. 6. THE WIRING OF THE SYSTEM SHALL BE EXECUTED IN ACCORDANCE WITH THE DRAWINGS AND THE EQUIPMENT MANUFACTURER'S WIRING DIAGRAMS. SHOULD ANY VARIATIONS IN THESE DECUMPTION FOR THE SYSTEM SHOLE AND THE SYSTEM SHOULD ANY VARIATIONS IN
SHARE THE SAME CONDUIT, CHANNEL OR SLEEVE WITH ELECTRICAL APPARATUS. AT NO ERVICES. STATION CABLES AND TIE CABLES INSTALLED WITHIN CEILING SPACES SHALL BE	THESE REQUIREMENTS OCCUR, THE CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE BEFORE MAKING ANY CHANGES. IT SHALL BE THE RESPONSIBILITY OF THE MANUFACTURER - AUTHORIZED INSTALLER OF THE APPROVED EQUIPMENT TO INSTALL THE EQUIPMENT AND GUARANTEE THE SYSTEM TO OPERATE AS PER PLANS AND SPECIFICATIONS
TOT DETIVIEEN TECHNOLOGY CABLING AND POSSIBLE SOURCES SUCH AS, BUT NOT LIMITED S THAT SHARE DISTRIBUTION SPACE WITH TELECOMMUNICATIONS CABLING, COPIERS THAT R CORDS THAT SUPPORTS SUCH EQUIPMENT.	 7. ALL MATERIALS SHALL BE NEW. NO USED OR RE-MANUFACTURED PARTS OR COMPONENTS SHALL BE ACCEPTED.
	 8. CABLE STORAGE: THE CONTRACTOR SHALL NOT ROLL OR STORE CABLE REELS WITHOUT AN APPROPRIATE UNDERLAY AND THE PRIOR WRITTEN APPROVAL OF OWNERS REPRESENTATIVE. 9. SPECIAL FOURMENT AND TOOLS: IN OPDER TO ENSURE THE LEAST AMOUNT OF CARLS
	UNTWISTING, IT IS REQUIRED THAT ALL CABLES SHALL BE STRIPPED USING A CABLE MANUFACTURER'S RECOGNIZED SPECIAL TOOL. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FURNISH ANY SPECIAL INSTALLATION EQUIPMENT OR TOOLS NECESSARY TO PROPERLY COMPLETE THE SYSTEM. THIS MAY INCLUDE, BUT IS NOT
	LIMITED TO, TOOLS FOR TERMINATING CABLES, TESTING AND SPLICING EQUIPMENT FOR COPPER/FIBER CABLES, COMMUNICATION DEVICES, JACK STANDS FOR CABLE REELS, OR CABLE WINCHES.
	10. UNDER NO CIRCUMSTANCE ARE "CHANNEL LOCKS" OR OTHER PLIERS NOT DESIGNED BY THE SCS MANUFACTURE TO BE USED TO TERMINATE WAO JACKS.
	TECHNOLOGY SHEET INDEX
	T0.00TECHNOLOGY CODES AND NOTEST0.01TECHNOLOGY SYMBOL LEGENDT1.00TECHNOLOGY SITE PLANT2.00TECHNOLOGY BUILDING 1 & 2 FLOOR PLAN
	T2.01 TECHNOLOGY BUILDING 3 & 4 FLOOR PLAN T2.02 TECHNOLOGY PORTABLES FLOOR PLAN T3.00 TECHNOLOGY ONE-LINES AND EQUIPMENT SCHEDULE
	14.00 1ECHNOLOGY DETAILS



SYMBOL LEGEND All equipment shall be contractor furnished, contractor installed unless noted otherwise											
ROW ID	ANNOTATION SYMBOL	DESCRIPTION	BACK BOX	TRIM RING	CONDUIT	MOUNTING HEIGHT	CABLE	MANUFACTURER	MODEL	WEIGHT CAPACITY (LBS.)	SPECIAL INSTRUCTION
1	MDF	MDF EQUIPMENT RACK	N/A	N/A	N/A	N/A	N/A	EXISTING	EXISTING	N/A	N/A
2	IDF-1.#	IDF EQUIPMENT RACK	N/A	N/A	N/A	N/A	N/A	EXISTING	EXISTING	N/A	N/A
3	STC-#	SIGNAL TERMINATION CABINET	N/A	N/A	N/A	N/A	N/A	EXISTING	EXISTING	N/A	N/A
4	GB GB#	GROUND BOX W/ CONCRETE LID	N/A	N/A	N/A	N/A	N/A	EXISTING	EXISTING	N/A	N/A
5	PB PB#	PULL BOX W/ COVER	N/A	N/A	N/A	N/A	N/A	EXISTING	EXISTING	N/A	N/A
6		UNDERGROUND CONDUIT	N/A	N/A	N/A	N/A	N/A	EXISTING	EXISTING	N/A	N/A
7		SURFACE CONDUIT	N/A	N/A	N/A	N/A	N/A	EXISTING	EXISTING	N/A	N/A
8		HIGH CAPACITY CABLE TRAY / SPLINE	N/A	N/A	N/A	N/A	N/A	EXISTING	EXISTING	N/A	N/A
9	— SR—— SR—	SURFACE RACEWAY, SINGLE CHANNEL	N/A	N/A	N/A	N/A	N/A	WIREMOLD	WM2300	N/A	N/A
10	JJJJ	NON-CONTINUOUS OPEN ENDED PATHWAY, J-HOOK	N/A	N/A	N/A	N/A	N/A	EXISTING / B-LINE	BCH-32	N/A	INSTALL 12" ABOVE CEILING
11	SWITCH	NETWORK POE SWITCH	N/A	N/A	N/A	AT RACK	CAT6	SEE ONE-LINES FOR INFORMATION	SEE ONE-LINES FOR INFORMATION	N/A	N/A
12	PATCH	PATCH PANEL WITH WIRE MANAGER	N/A	N/A	N/A	AT RACK	CAT6	SEE ONE-LINES FOR INFORMATION	SEE ONE-LINES FOR INFORMATION	N/A	N/A
13	TCU	INTERCOM IP SITE CONTROLLER W/ SOFTWARE LICENSE	N/A	N/A	N/A	AT RACK	CAT6	SEE ONE-LINES FOR INFORMATION	SEE ONE-LINES FOR INFORMATION	N/A	INSTALL 12" ABOVE CEILING
14	ZONE	ZONE AUDIO AMPLIFIER, 35-WATT 25/70V	N/A	N/A	N/A	AT RACK	CAT6	SEE ONE-LINES FOR INFORMATION	SEE ONE-LINES FOR INFORMATION	N/A	INSTALL 12" ABOVE CEILING
15	AMP	AUDIO AMPLIFIER, 320-WATT 25/70V	N/A	N/A	N/A	AT RACK	CAT6	SEE ONE-LINES FOR INFORMATION	SEE ONE-LINES FOR INFORMATION	N/A	INSTALL 12" ABOVE CEILING
16	ADMIN	ADMINISTRATIVE CONTROL CONSOLE / PHONE SET	N/A	N/A	N/A	AT RECEPTION DESK	CAT6	SEE ONE-LINES FOR INFORMATION	SEE ONE-LINES FOR INFORMATION	N/A	INSTALL 12" ABOVE CEILING
17	¥	ANALOG INTERCOM SPEAKER (WP=EXTERIOR WEATHERPROOF SPEAKER)	PER MFR.	PER MFR.	SURFACE RACEWAY / 1 EA. 1"C	REPLACE EXISTING / 90" AFF	CAT6	SEE ONE-LINES FOR INFORMATION	SEE ONE-LINES FOR INFORMATION	N/A	N/A
18		IP INTERCOM SPEAKER	PER MFR.	PER MFR.	SURFACE RACEWAY / 1 EA. 1"C	REPLACE EXISTING / 90" AFF	2C #18	SEE ONE-LINES FOR INFORMATION	SEE ONE-LINES FOR INFORMATION	N/A	N/A
19		IP ANALOG CLOCK	REUSE EXISTING / SINGLE GANG	REUSE EXISTING / SINGLE GANG	SURFACE RACEWAY / 1 EA. 1"C	REPLACE EXISTING / 90" AFF	CAT6	SEE ONE-LINES FOR INFORMATION	SEE ONE-LINES FOR INFORMATION	N/A	N/A
20	12:00	IP DIGITAL CLOCK	REUSE EXISTING / SINGLE GANG	REUSE EXISTING / SINGLE GANG	SURFACE RACEWAY / 1 EA. 1"C	REPLACE EXISTING / 90" AFF	CAT6	SEE ONE-LINES FOR INFORMATION	SEE ONE-LINES FOR INFORMATION	N/A	N/A
21	Image: Second se	ANALOG INTERCOM SPEAKER AND IP ANALOG CLOCK COMBO.	REUSE EXISTING / SINGLE GANG	REUSE EXISTING / SINGLE GANG	SURFACE RACEWAY / 1 EA. 1"C	REPLACE EXISTING / 90" AFF	2C #18 (SPK) / CAT6 (CLOCK)	SEE ONE-LINES FOR INFORMATION	SEE ONE-LINES FOR INFORMATION	N/A	N/A
22	¥ ∀	IP INTERCOM SPEAKER AND IP ANALOG CLOCK COMBO.	REUSE EXISTING / SINGLE GANG	REUSE EXISTING / SINGLE GANG	SURFACE RACEWAY / 1 EA. 1"C	REPLACE EXISTING / 90" AFF	2 EA. CAT6	SEE ONE-LINES FOR INFORMATION	SEE ONE-LINES FOR INFORMATION	N/A	N/A
23	12:00	IP INTERCOM SPEAKER AND IP DIGITAL CLOCK COMBO.	REUSE EXISTING / SINGLE GANG	REUSE EXISTING / SINGLE GANG	SURFACE RACEWAY / 1 EA. 1"C	REPLACE EXISTING / 90" AFF	2 EA. CAT6	SEE ONE-LINES FOR INFORMATION	SEE ONE-LINES FOR INFORMATION	N/A	N/A

DETAIL IDENTIFICATION $\begin{pmatrix} XX-XX \\ XX-XX \end{pmatrix}$ #------ VIEW IDENTIFICATION SHEET IDETIFICATION
(-) INDICATES SAME SHEET

XX-XX XX-XX

NOTES: 1. USE EXTENSION RINGS, DEPTH AS REQUIRED, ON ALL BACK BOX LOCATIONS.

2. REFERENCE ANSI / EIA / TIA STANDARDS AS APPLICABLE.

3. ROUTE CONDUIT IN-WALL TO NEAREST TO ACCESSIBLE CEILING SPACE. CONTRACTOR SHALL NOTIFY ARCHITECT/DESIGNER IF CONDUITS ARE UNABLE TO BE INSTALLED IN-WALL PRIOR TO SURFACE MOUNTED CONDUIT INSTALLATION.

ALL TRIM RINGS AND INSIDE OF BACK BOX SHALL BE PAINTED "GREEN" FOR PRE-SHEETROCK / WALL PANEL IN-WALL INFRASTRUCTURE INSPECTION.

SHEET NOTE TAG

XX-XX XX-XX

DETAIL DIVISION GROUP* (# ONLY)/SPECIFIC IDENTIFICATION (# W/ ALPHA I.D.) SHEET IDENTIFICATION *IF DETAIL DIVISION GROUP IS CALLED OUT, ALL DETAILS APPLY. TYP.











Login Name: rlozano Plot Date: June 12, 2023 - 7:16 am File Name: P:\1-Project files\2023 LP P XREFS: LPCE_SCUSD_XBorder_Bret

		SHEET GENERAL NOTES:			
1.	ALL E CON ON D	EQUIPMENT SHOWN ON CONSTRUCTION DOCUMENTS SHALL BE NEW, TRACTOR FURNISHED/CONTRACTOR INSTALLED UNLESS SPECIFIED RAWINGS AND/OR SCHEDULES.			
2.	all t a pr Cabi	FECHNOLOGY SYSTEMS MUD RINGS SHALL BE PAINTED GREEN FOR E-WALL FINISH/PANEL BOARD INSPECTION OF IN-WALL HORIZONTAL ING INFRASTRUCTURE.			
3.	all e Prim	EXPOSED CONDUITS, STRUCTURED CHANNEL, FASTENERS SHALL BE IED WHITE AND PAINTED TO MATCH SURROUNDING AREA.			
4.	WOR TERN ROO	K AREA OUTLET (WAO), AND FIELD DEVICE CABLING SHALL BE /INATED IN MODULAR PATCH PANEL(S) IN SEQUENTIAL ORDER OF M NUMBER, DROP ID.			
5.	ALL NETWORK CABLES SHALL BE MACHINE LABELED AT PATCH PANEL FACE, AND AT CATEGORY CABLE (BOTH ENDS AS SHOWN ON DETAILS/SPECIFICATIONS).				
6.	ALL SPEAKER CABLES SHALL BE MACHINE LABELED AT SPEAKER AND STC.				
7.	ALL CLOCKS SHALL BE SET TO NTP SERVER, PACIFIC DAYLIGHT TIME (PST).				
8.	ALL EXTERIOR SPEAKERS SHALL BE ADJUSTED TO NOT EXCEED 65dB AT THE SCHOOL PROPERTY LINE.				
		KEYNOTES:			
EYN ID	OTE)	DESCRIPTION			
1	>	EXISTING 4 EA. 2" CONDUITS.			
2	>	EXISTING OVERHEAD AERIAL CABLING FEED.			
3	>	EXISTING HIGH CAPACITY CABLE TRAY / SPLINE.			
(4) EXISTING MDF EQUIPMENT RACK.					

- 5 EXISTING IDF EQUIPMENT RACK.
- EXISTING SIGNAL TERMINATION CABINET (STC). 6 SEE FLOOR PLANS FOR DEMOLITION REQUIREMENTS.
- T EXISTING TELECENTER U MAIN EQUIPMENT RACK. SEE FLOOR PLANS FOR DEMOLITION REQUIREMENTS.
- 8 EXISTING TELECENTER ANALOG GATEWAY. SEE FLOOR PLANS FOR DEMOLITION REQUIREMENTS.
- 9 EXISTING TELECENTER EXTERNAL AMPLIFIER. SEE FLOOR PLANS FOR DEMOLITION REQUIREMENTS.

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0	5	10	15	20	30)		50









	SHEET GENERAL NOTES:
	ALL EQUIPMENT SHOWN ON CONSTRUCTION DOCUMENTS SHALL BE NEW, CONTRACTOR FURNISHED/CONTRACTOR INSTALLED UNLESS SPECIFIED ON DRAWINGS AND/OR SCHEDULES.
2.	ALL TECHNOLOGY SYSTEMS MUD RINGS SHALL BE PAINTED GREEN FOR A PRE-WALL FINISH/PANEL BOARD INSPECTION OF IN-WALL HORIZONTAL CABLING INFRASTRUCTURE.
8.	ALL EXPOSED CONDUITS, STRUCTURED CHANNEL, FASTENERS SHALL BE PRIMED WHITE AND PAINTED TO MATCH SURROUNDING AREA.
l.	WORK AREA OUTLET (WAO), AND FIELD DEVICE CABLING SHALL BE TERMINATED IN MODULAR PATCH PANEL(S) IN SEQUENTIAL ORDER OF ROOM NUMBER, DROP ID.
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	DEMO KEYNOTES:
KEYNOTE ID	DESCRIPTION
	DEMO EXISTING INTERCOM CAMPUS CONTROLLER AND ASSOCIATED HARDWARE. WIPE DOWN CONTROL EQUIPMENT, INVENTORY AND RETURN TO THE DISTRICT IN "AS-IS" CONDITION. DEMO ALL ASSOCIATED CONTROL HARDWARE INTERCONNECTION CABLING, INCLUDING MULTI-PAIR COPPER FEEDERS TO EXISTING SIGNAL TERMINATION CABINETS, TERMINATION BLOCKS.
2	DEMO EXISTING SIGNAL TERMINATION CABINET AND TERMINAL BLOCKS. DEMO ALL CABLING FROM EXISTING TERMINAL BLOCKS TO FIELD SPEAKER LOCATIONS.
3	DEMO EXISTING SPEAKER DRIVER, EXISTING BACK BOX AND BAFFLE SHALL BE RE USED, TYP., U.N.O.
4	DEMO EXISTING CLOCK, WIPE DOWN, INVENTORY AND RETURN TO THE DISTRICT IN "AS-IS" CONDITION.
5	ALL DEMO EQUIPMENT AND MATERIALS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR UNLESS NOTED OTHERWISE. USE OF SCHOOL WASTE DISPOSAL CONTAINERS SHALL NOT BE PERMITTED.

	KEYNOTES:
KEYNOTE ID	DESCRIPTION
	NEW TELECENTER U IP SYSTEM SITE CONTROLLER.
2	NEW EXTERIOR SPEAKER ZONE AMPLIFIER.
3	NEW EXTERIOR SPEAKER AMPLIFIER W/ TELECENTER IP MODULE.
4	INSTALL NEW INTERCOM SPEAKER / CLOCK COMBO IN CLASSROOM. ROUTE NEW IP SPEAKER (1 EA. CAT6) / CLOCK (1 EA. CAT6) CABLES TO THE NEAREST IDF.
5	INSTALL NEW EXTERIOR INTERCOM SPEAKER. REUSE EXISTING BACK BOX, BAFFLE. ROUTE NEW SPEAKER (1 EA. 2C #18) CABLE TO THE NEAREST TELECENTER U AMPLIFIER.
6	INSTALL NEW INTERIOR INTERCOM SPEAKER. REUSE EXISTING BACK BOX, BAFFLE. ROUTE NEW SPEAKER (1 EA. CAT6) CABLE TO THE NEAREST IDF.
7	INSTALL NEW IP ANALOG SWEEP TYPE CLOCK. ROUTE (1 EA. CAT6) CABLE TO THE NEAREST IDF.
8	INSTALL NEW IP DIGITAL DISPLAY CLOCK. ROUTE (1 EA. CAT6) CABLE TO THE NEAREST IDF.
9	INSTALL NEW SURFACE RACEWAY WITH APPROPRIATE TRANSITION AND END FITTINGS, MOUNT HIGH ON WALL-APPROXIMATE 6" FROM CEILING.
10	EXISTING HIGH CAPACITY CABLE TRAY / SPINE.
11	EXISTING BACK BOX AND UNDERGROUND CONDUIT. SEE SITE PLAN FOR ADDITIONAL INFORMATION.
12	EXISTING SIGNAL TERMINATION CABINET (STC). SEE DEMO NOTES FOR ADDITIONAL REQUIREMENTS.
13	NEW 1 EA. 1" SLEEVE THROUGH WALL. CONNECT TO NEW SURFACE MOUNTED RACEWAY AND ROUTE TO NEAREST MDF/IDF.
14	EXISTING FIBER/COPPER FEEDER HORIZONTAL CONDUITS.
15	EXISTING BREEZWAY CONDUITS, ADD 1 EA. 2" CONDUIT FOR CLOCK CABLING TO NEAREST MDF/IDF.









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MECH. RM. M001

YARD STOP

S001

BOY'S T001

5

T002

BOY'S

T002

STORAGE S001

IDF - 1.02

Login Name: rlozano Plot Date: June 12, 2023 - 7:17 am File Name: P:\1-Project files\2023 LP F XREFS: LPCE_SCUSD_XBorder_Bref

	DEMO EXISTING INTERCOM CAMPUS CONTROLLER AND ASSOCIATED HARDWARE. WIPE DOWN CONTROL EQUIPMENT, INVENTORY AND RETURN TO THE DISTRICT IN "AS-IS" CONDITION. DEMO ALL ASSOCIATED CONTROL HARDWARE INTERCONNECTION CABLING, INCLUDING MULTI-PAIR COPPER FEEDERS TO EXISTING SIGNAL TERMINATION CABINETS, TERMINATION BLOCKS.
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15	EXISTING BREEZWAY CONDUITS, ADD 1 EA. 2" CONDUIT FOR CLOCK CABLING TO NEAREST MDF/IDF.

MA.	JOR EQUIPMENT L PMENT SHALL BE CONTRACTOR FURNISHED, CC	IST	ESS NOTED OTHERWISE					
ROW ID	DESCRIPTION	MANUFACTURER	MODEL	RACK UNIT (RU)	DEPTH	POWER	WEIGHT (CAPACITY)	COMMENTS
	IP SYSTEM SITE CONTROLLER	RAULAND	TCC2000	EDIT	DEPTH	120VAC	N/A	N/A
2	SITE CONTROLLER SOFTWARE LICENSE	RAULAND	TCU3000SW	N/A	N/A	N/A	N/A	CONFIGURE AT ADMIN PC WORKSTATION
3	SIP STREAM SOFTWARE LICENSE	RAULAND	TCU3100SW	N/A	N/A	N/A	N/A	CONFIGURE AT ADMIN PC WORKSTATION
4	GRAPHICAL MAP SOFTWARE LICENSE	RAULAND	TCU3300SW	N/A	N/A	N/A	N/A	CONFIGURE AT ADMIN PC WORKSTATION
5	ADMINISTRATIVE CONSOLE, PHONE HANDSET	RAULAND	TCC2045	N/A	N/A	N/A	N/A	N/A
6	IP SPEAKER + ROOM CONTROL MODULE	RAULAND	TCC2011A	N/A	N/A	POE	N/A	N/A
7	AUDIO LINE INPUT MODULE	RAULAND	TCC2055	N/A	N/A	120VAC	N/A	N/A
8	AUDIO ZONE MODULE	RAULAND	TCC2022	N/A	N/A	120VAC	N/A	N/A
9	ZONE AUDIO AMPLIFIER, 35-WATT, 25V	RAULAND	TCC3022	N/A	N/A	120VAC	N/A	N/A
10	POWER SUPPLY FOR ZONE AMPLIFIER	RAULAND	TCC3022PS	N/A	N/A	120VAC	N/A	N/A
(11)	AUDIO AMPLIFIER, 2X160-WATT, 25V	POWERSOFT	MEZZO-322-A	N/A	N/A	120VAC	N/A	N/A
(12)	INTERCOM SPEAKER, LAY-IN (INTERIOR)	RAULAND	IP MODULE: TCC2011A SPEAKER: BAFKIT2X2L8RJ	N/A	N/A	N/A	N/A	N/A
(13)	INTERCOM SPEAKER, HARD LID (INTERIOR)	RAULAND	IP MODULE: TCC2011A SPEAKER: ACC1480 (USO880 W/ RJ45) BACK BOX: ACC1112 BAFFLE: ACC1003	N/A	N/A	N/A	N/A	N/A
14)	INTERCOM SPEAKER AND CLOCK COMBO, DIGITAL MESSAGE BOARD	RAULAND	IP MODULE: TCC2011A SPEAKER: ACC1480 (USO880 W/ RJ45) BACK BOX: ACC3011SBB BAFFLE: ACC13011S MESSAGE: TCC3011S	N/A	N/A	N/A	N/A	N/A
(15)	INTERCOM SPEAKER AND CLOCK COMBO, 12"-DIA., ANALOG SWEEP	RAULAND / LOWELL / SAPLING	IP MODULE: TCC2011A SPEAKER: ACC1480 (USO880 W/ RJ45) BACK BOX: PC712 BAFFLE: AP-700 CLOCK: SAP-1BS-12R-O	N/A	N/A	N/A	N/A	N/A
(16)	INTERCOM SPEAKER, (EXTERIOR)	RAULAND / LOWELL	SPEAKER: 8C10MRB-T72 BACK BOX: ACC1113 BAFFLE: ACC1012	N/A	N/A	N/A	N/A	N/A
(17)	CLOCK IP, ANALOG SWEEP	SAPLING	12": SAP-1BS-12R-0 16": SAP-1BS-16R-0	N/A	N/A	N/A	N/A	N/A
(18)	DIGITAL CLOCK AND MESSAGE BOARD, SMALL	RAULAND	TCC3011S	N/A	N/A	N/A	N/A	N/A
(19)	DIGITAL CLOCK AND MESSAGE BOARD, LARGE	RAULAND	TCC3011L	N/A	N/A	N/A	N/A	N/A
20	PROTECTIVE CLOCK CAGE	NATIONAL TIME	AS REQ'D	N/A	N/A	N/A	N/A	N/A
21)	UNIVERSAL RACK MOUNTING KIT	RAULAND	TCC2099	N/A	N/A	N/A	N/A	N/A
(22)	CABLES AND CONNECTORS AS REQ'D FOR COMPLETE SYSTEM OPERATION	AS REQ'D	AS REQ'D	N/A	N/A	N/A	N/A	N/A
23	48-PORT NETWORK SWITCH, POE	ARUBA	6200M/R8Q68A	N/A	N/A	N/A	N/A	SEE SPECS. FOR ADDITIONAL INFORMATION
24	48-PORT MODULAR PATCH PANEL	OTRONICS	KSU48	N/A	N/A	N/A	N/A	SEE SPECS. FOR ADDITIONAL INFORMATION

FIBER OPTIC TO ADDITIONAL - IDF LOCATIONS,

FER U - INTERCOM AND CLOCK SYSTEM ONE-LINE	SCALE:	1	

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Login Name: rlozano Plot Date: June 12, 2023 - 7:17 am File Name: P:\1-Project files\2023 LP XREFS: LPCE_SCUSD_XBorder_Br

A. Stud B. Stud fiber is op C. Wall or V D. Pad dime	s - Unle Cavity glass (r tional. Design 400 Ser Dimens ensions Product EP 23 EP 23 EP 23 EP 23	ess otherwise Insulation - $\sqrt{10}$ min 0.5 pcf o i - Stud comp ries Wall and sions - The m shown in tal Max Ot Size, i 2 x 3 (51 x 76) 2 x 3 (51 x 76) 2 x 3 (51 x 76) 2 - 1/8 x 2 - 1/8 x	e specified, t Where indica or 8 kg/m3) o position is ind d Partition De hinimum dime ble and partia utlet Box n. (mm) x 2-1/4 x 57) deep x 2-1/4 x 57) deep x 2-1/4 x 57) deep 4 x 2-1/8 x 54) deep 4 x 2-1/8	he minimum s ted in the tab r mineral fiber dicated in the esign in the Fin ensions of the al insert pads Outlet Box Type - - -	tud width is 3-1/2 le below, stud cavi (min 4 pcf or 64 k table below. Wall of re Resistance Dire insert pad are sho may be utilized. Outlet Pad Size 30x Mfr (mm) - 1-7/8 x 2 (48 x 7 - 1-7/8 x 3 (48 x 7 - 1-7/8 x 3	in. (89 mm ty insulatio g/m3). Un constructic ctory. own in the <u>a, in. Ratii</u> -3/4 2 -3/4 2 -3/4 1 -3/4 2 -3/4 2 -3/4 2	n). on to consideration in shall constant of the second state of	sist of min cated as re omply with ow. Pads d Cavi Insula el No el Yes l or Yes el No	3-1/2 in. (8 equired, stur- may be cut ity Face P tion Type Stee s Plastic s Stee Stee	9 mm) th d cavity ir ual U300 to achiev to achiev late Putt Bal S Bal - ic - - -	ick nsulatio , U400 /e
SpecSe	EP 24 EP 24 EP 44 EP 44 EP 44 EP 45 EP 45 EP 45 EP 45 eal Putty allic Ou	(54×102) (54×102) 4×4 (102×102) 4×4 (112×102) 4×4 (114×127) $4 - 1/2 \times 102$ (114×356) y Pads, for u utlet Boxes in	4 x 2-1/8 x 54) deep 4 x 2-1/8 x 2-1/8 x 2-1/8 2 x 54) deep x 2-1/8 2 x 54) deep x 2-1/8 2 x 54) deep -11/16 x 2-1/ 2 x 54) deep -11/16 x 2-1/2 5 x 2-3/8 7 x 60) deep 14 x 2-1/2 5 x 64) deep se with flush	- - - 8 - 8 - - device UL Lis I assemblies.	$\begin{array}{c} - & 1-7/8 \times 3 \\ (48 \times 9) \\ - & 1-7/8 \times 3 \\ (48 \times 9) \\ - & 3-3/4 \times 3 \\ (95 \times 9) \\ - & 3-3/4 \times 3 \\ (95 \times 9) \\ - & 3-3/4 \times 3 \\ (95 \times 9) \\ - & 4-1/2 \times 4 \\ (114 \times 1) \\ - & 4-1/2 \times 4 \\ (114 \times 1) \\ - & 4-1/2 \times 1 \\ (114 \times 3) \\ (114 \times 3) \\ \end{array}$	-3/4 2 -3/4 1 -3/4 2 -3/4 2 -3/4 2 -3/4 2 -3/4 2 -3/4 1 -1/2 1 0 -1/2 1 0 -1/2 1 0 -1/2 1 0 -1/2 1 0 -1/2 1 0 -3/3/4 1 0 -3	Stee Wor Stee Stee Wor r 2 Stee Wor r 2 Stee Wor r 2 Stee Wor r 2 Stee Wor r 3 Stee Wor r 3 Stee Stee Stee Stee Stee Stee Stee Stee	el Yes od Yes el No el Yes lor Yes lor Yes lor Yes lor Yes lor Yes th steel m boutlet boxe	s Plastic s Plastic Stee s Plastic s Plastic s Plastic s Plastic s Plastic s Plastic s Plastic s es s Plastic s s es s es s es s es s es s es s es s	ic - ic - il - ic - id - id - id - ult Listee ides of th	
directed that the mm) thi the outl pads to the con is used extendii are tabu A. Stud B. Stud mm) C. Wall or V	I, the ho boxes is ck mold et box a be over nector s with Typ ng a min lated b s - Unle Cavity I thick fit Design 400 Ser	prizontal sep are not insta dable putty p against the s rlapped appi securing the pe NM cable n of 1 in. (25 below. Addition ass otherwise Insulation - I berglass (mi a - Stud comprise ries Wall and	varation betw alled back-to- ads are to be stud) and to c rox 1/2 in. (1: end of each e, a 3/16 in. (5 mm). The b onal general e specified, t Unless indica n 0.5 pcf or 8 position is ind d Partition De	een outlet bo: back. Installed to completely sea 3 mm) at the s Type MC cab 5 mm) thickne ox compositic construction 1 he minimum s ated as require 3 kg/m3) or midicated in the page 1	tion shall comply we completely cover the lagainst the stud seam. An additiona- le, electrical metal ess of putty shall be in, max device dim features shall comp stud width is 3-1/2 ed, stud cavity insu- neral fiber (min 4 p table below. Wall of re Resistance Dire	les of the vith the Na le exterior within the al 3/16 in. lic tube (E e formed a ensions, h oly as follo in. (89 mm lation is o porf or 64 k constructio ctory.	wall may surfaces stud cavi (5 mm) tr MT) or ca around th nourly rat ws: n). ptional ai (g/m3). on shall co	be less the ectrical Co of the out ity. Adjoini inckness o onduit to the e cable at ing, type o and may co omply with	an 24 in. (6 de (NFPA 7 ilet box (exc f putty to be he box. Wh its connect of stud and the nsist of mir n the individ	10 mm) (70). Min 3 sept for th of moldab formed en nonme ion to the ype of fa 3-1/2 in. ual U300	orovide 3/16 in. he side le putt around etallic l box a ceplate (89
STI	® (*	<u>Spe</u> 800)992-1180 · (90	ecified Techn 08)526-8000 · FAX (ologies Inc. 2 Reproduced c Create 908)231-8415 · E-Ma	10 Evans Way Sor courtesy of Underw d or Revise 0 ctobe	merville, N rriters Lab er 30, 201 ^{Website:www.}	IJ 08876 oratories 3 stifirestop.com	, Inc.		(h)	CLIV PAGE 1
D. Metall interce electri interce E. Nonm "Outle	ic Outle onnecte cal met onnecte etallic C t Boxes	et Boxes - Ex ed by means tallic tube (E ed, the ball o Dutlet Boxes s and Fittings	ccept as indic of electrical MT) or condu f putty is not - The box m s Classified f utlet Box	cated in the ta metallic tube uit within the c required. anufacturer is or Fire Resist	ble below, when st or conduit, a ball o butlet box. When M indicated in the ta ance" category in t Outlet	eel outlet f putty is t IC cable is ble below he Fire Ro Pad Siz	boxes ar o be insta s used an . Boxes s esistance eRating,	e used an alled to plu d/or when hall bear a Directory Stud	d the boxes ig the open the outlet t a 2 hr rating Cavity Insulation	are end of ea ooxes are under th	ech e not e Putty
- - - -	(10) (10) (11) (11) (11) (11)	11. 4 x 4 12 x 102 x 54 12 x 102 x 54 16 x 4-11/1 9 x 119 x 54 4-1/2 x 4 x 127 x 60 4 x 127 x 60	14 x 2-1/8 1) deep x 2-1/8 1) deep 6 x 2-1/8 1) deep 5 x 2-3/8 1) deep 14 x 2-1/2 1) deep	Steel Steel Steel Steel Steel	N.A. N.A. N.A. N.A. N.A.	- - - - - -	1 1 1 or 2 1 or 2 1 or 2	Steel or Wood Steel or Wood Steel or Wood Steel or Wood	- - - -	Steel Steel Steel Steel	No Yes Yes Yes Yes
		3-3/4 (95 x 102 3-3/4 (95 x 102 3-3/4 (95 x 102 3-3/4 (95 x 102 2-1/4 x 3- (57 x 95	x 4 x 3 x 76) deep x 4 x 3 x 76) deep x 4 x 3 x 76) deep x 4 x 3 x 76) deep 3/4 x 2-3/4 x 70) deep	Polyvinyl Chloride Phenolic Polycarbonate Phenolic Polyvinyl Chloride	Lamson & Sessic or Carlon Allied Moulded Prods Thomas & Betts Thomas & Betts Pass & Seymou	r -	1 or 2 1 or 2 1 or 2 1 or 2 1 or 2	Wood Wood Wood Wood	- - - -	Plastic or Steel Plastic or Steel Plastic or Steel Plastic or Steel	N.A. N.A. N.A. N.A. N.A.
kg/m3) i wall as intercon Installat installec complet mm) at Type M SpecSe or 2-1/8 with ste wood ou may be boxes a moldabl box aga overlapj connect installec	or minee directed nected on shal I to com ely sea the sea C cable al EP23 in (102 el or pla r steel s installer re not ir e putty inst the bed app or secu I to com	ral fiber (nor d, the boxes with conduit Il comply wit pletely cove Il against the m. An addition a, electrical n 3, EP24 and 2 by 102 by astic facepla studs. When d back-to-ba nterconnecte pads are to corox 1/2 in. (uring the end ppletely cove	n 4 pcf or 64 may be insta or, when int h the Nationa er the exterio a stud within t onal 3/16 in. netallic tube B or 54 mm tes in 1 hr or both protecti ack provided ed. Installatio be installed t o completely 13 mm) at th of each Typ er the back in	kg/m3) insula alled back-to-t erconnected, al Electrical C r surfaces of t the stud cavity (5 mm) thickr (EMT) or cond r Shield Box II) deep flush d : 2 hr fire rated ive materials a that the backs in shall completely seal against t e seam. An a e MC cable, e iside surface of	tion. When protect back provided that the open end of th ode (NFPA 70). Mi he outlet box (exce 7. Adjoining pieces less of putty to be duit to the box. Inserts and SpecSe evice UL Listed Mi d gypsum board wa are used with outle s of the boxes are in y with the National cover the exteriors he stud within the dditional 3/16 in. (5 delectrical metallic tu of each outlet box.	tive mater the boxes e conduit n 3/16 in. ept for the of moldat formed ard eal Putty P etallic Out all assemt t boxes or minimum Electrical surfaces o stud cavity 5 mm) thic ube (EMT)	ial is used on oppo within the (5 mm) ti side of the ole putty p ound the Pads, for ti let Boxes blies conso both sid 1/2 in. (13 Code (N of the outly v. Adjoinin kness of or condu	d on outle site sides outlet bo hick molda the outlet bo boads to be connector use with m installed tructed wi les of the 3 mm) apa FPA 70). I et box (ex ng pieces putty to be uit to the b	to boxes on l of the wall a x is filled wi able putty p ox against f overlapped securing th maximum 4 I with steel n th min 3-1/2 wall as dire- art and prov Min 3/16 in. cept for the of moldable formed are ox. An inse	both side: are not th a ball d ads are to the stud) d approx te end of by 4 by 1: bud rings 2 in. (89 r cted, the ided that (5 mm) t side of the bund the rt pad shift	s of the of putty b be and to 1/2 in. each -1/2 and nm) wi boxes the hick he outh ids to b all be
STI	®	(800)992-111	Specified Te	echnologies Ir Reproduce Cre · FAX (908)231-8415	nc. 210 Evans Way ed courtesy of Und aated or Revise@cto · E-Mail:techserv@stifiresto	Somervil erwriters I ober 30, 2	le, NJ 08 Laborator 013 e:www.stifirest	876 Ties, Inc.		¢	CLIV PAGE 2
SpecSea Boxes or gypsum individua to be pro are to be unless of putty pac used to s material moldable between installed SpecSea Listed M hr or 2 hr specified Metallic of Power SI accessor between	I Putty UL List board w I U300, vided w installe herwise Is may b eal arou is requin s requin putty p back to I EP55 etallic O fire rat in the i puttet bo nield Bo cies. Wh outlet b back	Pads, for us ted Commur vall assembli U400, or V4 vith UL Liste ed to comple e noted) inclu be installed und each co red on the e: bad outlet bo poxes on opp back, excep Power Shie Dutlet Boxes ted gypsum I individual US poxes to be pro- poxes to be pro- pox Insert is to poxes on opp	e with max 5 nications-Circ ies framed w 400 or W400 d Signal App tely cover the uding nailing on an outlet 1 induit and/or xterior surfac x protective bosite sides of to a noted. Id Box Insert or UL Listed board wall as 300, U400, of rovided with b be applied of as post	by 5 by 2 7/8 cuit Accessori ith min 3-5/8 i Series Wall a Jiance with ste e exterior surf tabs and to c box to attain ti cable fitting o ces of flush de material is use of the wall ma s, for use with Communicati semblies fran r V400 or W40 UL Listed Sig to the back su x Insert is use of the wall ma	in. (127 by 127 by es manufactured b n. (92 mm) wide w nd Partition Design aces of the outlet h ompletely seal aga he required minimu n the exterior of ea vice boxes in 1 an ed on boxes on bo' y be less than 24 in max 5 by 5 by 2 7 ons-Circuit Access ned with min 3-5/8 00 Series Wall and nal Appliance with rface of the box ar d on boxes on bott y be less than 24 in	73 mm) of y Randl Ir ood or ste noufactured box (exceptions the st um thickne ch box. A d 2 hr fire th sides of n. (610 mr steel cove nd may be n sides of n. (610 mr	deep flusi idustries sel studs fire Resis by Coop of for the ud within ess of put min 3/16 rated Wa f wall as d m) provid 7 by 127 l nufacture m) wide w Designs i er plate m slit to ac wall as d m) provid	h device L Inc for use and consti- tance Dire ber Wheele side of the the stud of ty materia b in. (4.8 m directed, th ed that the by 73 mm d by Rand vood or ste n the Fire nanufactur commoda irected, the ed that the	JL Listed Me e in 1 hr or 2 ructed as spectory. Meta ock Inc. Mo e outlet box avity. Multi I. Additiona m) thicknes tition Desig to the horizonta e outlet box	etallic Ou 2 hr fire r becified in illic outlet ldable pu against t ple mold l putty ma ss of putt ns. Wher al separat es are no d constru- Director er Whee ications-(separati es are no	tlet ated t the t boxes tty pac he stud aterial y t the tion it JL se in 1 ucted a y. lock In- circuit on
installed	back to	back, excep	ot as noted.			(2.0 III	, _F . 940				

Login Name: rlozano Plot Date: June 12, 2023 - 7:17 am File Name: P:\1-Project files\2023 LP Projects\23-2043 SCUSD_Hollywood ES Clock-Intercom\LP CAD\23-2043_SCUSD_Hollywood ES_Intercom-Clock_T5.00_Fire Rated Assembly Details.dv XREFS: LPCE_SCUSD_XBorder_Bret Harte ES_E1

