

GENERAL NOTES:

- REVIEW ALL CONTRACT DRAWINGS AND SURVEY EXISTING SITE CONDITIONS PRIOR TO ORDERING EQUIPMENT OR PROCEEDING WITH WORK.
2. PROVIDE COMPLETE INSTALLATION AND COMMISSIONING OF THE SYSTEM AS REQUIRED BY THE OWNER, GENERAL CONDITIONS AND THE PROJECT DOCUMENTATION OF RECORD.
3. DRAWINGS SHALL BE USED BY THE CONTRACTOR AS A REFERENCE FOR THE REQUIREMENT AND LOCATION OF THE SYSTEM COMPONENTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ACCOUNT THEMSELVES WITH THE BUILDING DESIGNER AND CONFIRM THE REQUIRED QUANTITIES OF DEVICES AND SPECIFIC OPTIONS ON LOCATION.
4. IN ORDER TO ACCOMMODATE THE CONTINUED USE OF THE FACILITIES THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT/SCHEDULE/COORDINATE WITH THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE AS NECESSARY TO COMPLETE THE PROJECT. A MAJORITY OF THE INSTALLATION WILL OCCUR DURING NORMAL HOURS DURING THE YEAR. HOWEVER, INSTALLATION MAY BE SCHEDULED DURING OFF HOURS, DEPENDING ON SCHEDULED ACTIVITIES AND WITH PRIOR PERMISSION FROM THE OWNER OR THEIR AUTHORIZED REPRESENTATIVES.
5. PROVIDE THE EXPANSION OF THE EXISTING SYSTEM IN A TANDEM SETUP TO ALLOW THE EXISTING SYSTEM HARDWARE TO MAINTAIN AN OPERATIONAL STATUS AS THE NEW HARDWARE IS ADDED TO THE SYSTEM, SWITCHOVER AND RELATED PROGRAMMING OF EXISTING MONITORING HARDWARE SHALL BE DONE IN SECTIONS TO MITIGATE ANY POSSIBLE LAPSE IN SECURITY PROTECTION.
6. PERFORM ALL WORK, PROVIDE PRODUCTS, SYSTEM INTEGRATION, COORDINATION ENGINEERING, AND DESIGN WORK REQUIRED FOR THE PROJECT IN ORDER TO ENSURE THE PROPER INSTALLATION OF THE COMPLETE AND FULLY OPERATIONAL SYSTEMS PURSUANT TO THE DOCUMENTATION OF RECORD.
7. ALL SYSTEMS PROVIDED SHALL CONSULT AND ABIDE TO THE MOST CURRENT REVISION OF ALL FEDERAL, STATE AND LOCAL CODES, STANDARDS AND SPECIFIC REQUIREMENT FOR THE STATE THAT WORK IS BEING PERFORMED. THE FINAL AUTHORITY HAVING JURISDICTION SHALL PROVIDE FINAL CLARIFICATION ON CODE REQUIREMENTS. CONFLICT OF ANY CODE REQUIREMENT WILL REQUIRE THE ADAPTATION OF THE MORE STRINGENT REQUIREMENT FOR THE APPLICATION UNLESS A VARIANCE IS AUTHORIZED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
8. DUE TO THE CONDITION THAT PARTS OF THE PROJECT ARE IN OR CROSS INTO FINISHED SPACES, INCLUDING JANITRY, TRIM, WALL COVERING, FLOOR TREATMENTS, LIGHTING, AND BUILDING MECHANICAL SYSTEMS, WORK SPECIFIED WITHIN THE DOCUMENTATION OF RECORD IS SUCH THAT AT THE COMPLETION OF WORK, ALL FINISHED SPACES SHALL BE RESTORED TO THE ORIGINAL EXISTING CONDITION PRIOR TO THE CONCLUSION OF THE PROJECT.
9. DURING THE COURSE OF PERFORMING THE WORK AS SPECIFIED WITHIN THE DOCUMENTATION OF RECORD SHOULD THE CONTRACTOR ENCOUNTER ANY DAMAGE IN FINISHED AREAS WHERE THE CONTRACTORS WORK IS TO BE PERFORMED, THE CONTRACTOR SHALL NOTIFY THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE IN WRITING OF THESE CONDITIONS. ONLY AFTER RECEIVING WRITTEN CONFIRMATION THAT THE EXISTING CONDITION HAS BEEN DOCUMENTED AND AUTHORIZATION HAS BEEN ISSUED SHALL THE CONTRACTOR PROCEED WITH WORK IN THESE AREAS.
10. PROMPTLY NOTIFY THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE FOR REVIEW A APPROVAL PRIOR TO INITIATING WORK IF ANY ADJUTING LOCATIONS NOTED ON THE CONTRACT DOCUMENTS ARE OBSTRUCTED.
11. PROVIDE ALL COMPONENTS, INTERCONNECTION CONDUIT,CABLE/WIRE APPURTENANCES, AND MATERIALS AS REQUIRED TO FORM A COMPLETE COORDINATED SYSTEM READY FOR OPERATION PURSUANT TO THE DOCUMENTATION OF RECORD.
12. PROVIDE ALL CALCULATIONS AND ANALYSIS TO SUPPORT DESIGN AND ENGINEERING FOR SYSTEM PROVIDED BASED UPON THE DOCUMENTATION OF RECORD.
13. PROVIDE ALL PLAN CHECKS, PERMITS, AND LICENSES NECESSARY FOR THE EXECUTION OF WORK AS APPLICABLE FOR THE PROJECT, ALL FEES, CHARGES AND OTHER ASSOCIATED COSTS INCURRED BY THE FOREGOING SHALL BE BORNE BY THE CONTRACTOR.
14. PROVIDE THE REQUIRED NOTICES, COMPLIANCE WITH ALL CODES, ORDINANCES, REGULATIONS, AND OTHER LEGAL DIRECTIVE AND/OR REQUIREMENTS OF PUBLIC AUTHORITIES AS PERTAINING TO THE PROJECT.
15. PROVIDE A QUALIFIED AND COMPETENT FACTORY TRAINED AND STATE LICENSED FIELD SUPERVISOR ON-SITE TO ENSURE THE PROPER INSTALLATION OF ALL SYSTEMS SPECIFIED IN THE SPECIFICATION OF RECORD, COORDINATE CONSTRUCTION ACTIVITIES WITH OTHER CONTRACTORS, TRADES, AND OWNER OR THEIR AUTHORIZED REPRESENTATIVE.
16. INSTALLERS MUST BE FACTORY TRAINED AND STATE LICENSED.
17. PROVIDE WRITTEN REQUESTS AND OBTAIN APPROVAL PRIOR TO DISCONNECTING ANY SIGNAL LINES AND EQUIPMENT, AND CREATING EQUIPMENT DOWNTIME. SUCH WORK SHALL PROCEED ONLY AFTER RECEIVING APPROVAL FROM THE OWNER OR THEIR AUTHORIZED REPRESENTATIVES.
18. PROVIDE WIRING FROM EQUIPMENT HARDWARE MANUFACTURERS TERMINAL STRIPS TO FINAL CONNECTION POINTS OF EQUIPMENT IS WITHIN THE SCOPE OF THE PROJECT.
19. PROVIDE A FIELD SURVEY, INCLUDING TESTING AND INSPECTION OF ALL EXISTING EQUIPMENT AND SIGNAL LINES INTENDED TO BE INCORPORATED INTO THE SYSTEM AND FURNISH A REPORT TO THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE AS PART OF THE SITE SURVEY REPORT.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS AND CRITICAL INFORMATION AND THE SCOPE OF WORK PRIOR TO SUBMITTING THE CONSTRUCTION END. THE CONTRACTOR SHALL CONFIRM THAT ALL WORK OUTLINED WITHIN THE DOCUMENTATION OF RECORD CAN BE ACCOMPLISHED AS SHOWN, AND SHALL NOTIFY IN WRITING THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE OF ANY CONDITIONS ENCOUNTERED WHICH MAY AFFECT BUILDING CODE COMPLIANCE.
21. VERIFY PARTITION LOCATIONS, AND AVOIDING CONFLICTS WITH LIGHTS, DIFFUSERS, GRILLS, AND OTHER LIKE OBSTRUCTIONS. LOCATIONS OF ALL VISIBLE DEVICES AND EQUIPMENT SHALL BE COORDINATED WITH THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO INITIATION OF WORK.
22. COORDINATE A FINAL TECHNOLOGY AND SECURITY SYSTEM EQUIPMENT LAYOUT AND ROUTING OF THE CONDUIT WITH THE "COMPLETE" CONTRACT DOCUMENTS. ANY CONFLICTS DISCOVERED SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO INITIATION OF WORK.
23. OBSTRUCTIONS SHOWN ON THESE PLANS ARE DIAGRAMMATIC IN NATURE AND ARE NOT TO BE SCALED FOR DEVICE LOCATIONS. CONTRACTOR SHALL LOCATE DEVICES BASED ON APPLICABLE CODE AND KEY NOTES ON THE PLANS.
24. ATTEND ALL REQUIRED PROJECT MEETINGS, AS DEEMED NECESSARY BY THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE.
25. ALL WORK PERFORMED UNDER THIS PROJECT THAT IS NOT DIRECTLY COVERED BY A FEDERAL, STATE, OR LOCAL CODE REQUIREMENTS SHALL BE IN ACCORDANCE WITH BEST PRACTICES OF THE TRADE, MANUFACTURERS DIRECTION, AND MEET APPROVAL OF THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE.
26. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURERS DIRECTION, AND SHALL BE TESTED FOR PROPER OPERATION.
27. ALL MATERIALS, DEVICES AND EQUIPMENT SHALL BE UNUSED, OF CURRENT MANUFACTURE, AND MEET OR EXCEED THE LATEST PUBLISHED SPECIFICATIONS OF THE MANUFACTURER. DEVICES AND EQUIPMENT SHALL BE THE LATEST MODEL OF THE DEVICE UNLESS OTHERWISE INDICATED OR UNLESS SUCH MODEL FAILS TO MEET THE REQUIREMENTS OF PROJECT REQUIREMENTS.

- ANY MATERIAL, DEVICE OR EQUIPMENT DAMAGED (DENTS, MARRED FINISHES, OR OTHER DAMAGE) BEFORE OR DURING INSTALLATION AND PRIOR TO THE FINAL ACCEPTANCE OF THE COMPLETED SYSTEM BY THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE SHALL BE REPLACED UNLESS REPAIRS TO ITS ORIGINAL CONDITION CAN BE MADE AND ARE ACCEPTABLE TO THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE. REPAIR OR REPLACEMENT OF THESE ITEMS SHALL BE MADE AT NO COST TO THE OWNER.
29. NOT USED.
30. WORK UNDER ANOTHER CONTRACT MAY BE UNDER CONSTRUCTION CONCURRENTLY WITH THE WORK UNDER THIS CONTRACT. INSTALLATION OF EQUIPMENT AND DEVICES THAT PERTAIN TO OTHER WORK IN THE CONTRACT SHALL BE CLOSELY COORDINATED WITH THE APPROPRIATE CONTRACTOR.
31. PROTECT ALL EXISTING WORK, AND THE WORK OF OTHER ASSOCIATED TRADES FROM DAMAGE. ALL EQUIPMENT PROVIDED SHALL BE KEPT INTERNALLY CLEAN AND PROTECTED AGAINST BLOWING DUST, WIND, STORMS, SUN, FLOOD, RAIN, SNOW, HEAT, MOISTURE, AND ANY OTHER DAMAGING FACTORS. ALL INSTALLATION WORK SHALL BE COVERED AND PROTECTED AGAINST ANY TYPE OF FOREIGN DAMAGE.
32. EQUIPMENT AND MATERIALS SHALL BE PROPERLY STORED, ADEQUATELY PROTECTED AND CAREFULLY HANDLED TO PREVENT DAMAGE BEFORE AND DURING INSTALLATION.
33. EQUIPMENT STORED ON THE PREMISES IS AT THE CONTRACTORS OWN RISK. THE OWNER IS NOT THE CARETAKER OF UNINSTALLED OR STAGING OF HARDWARE ON-SITE UNLESS PREVIOUSLY AUTHORIZED IN WRITING BY THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE TO ACCEPT CUSTODIANSHIP OF THE HARDWARE.
34. ANY DAMAGE INTRODUCED BY THE CONTRACTOR DURING CONSTRUCTION OR ASSEMBLY SHALL BE REPAIRED BY THE CONTRACTOR TO PROVIDE THE APPROPRIATE FINISHES, PAINTS, AND REPLACEMENT OF DAMAGED CEILING TILES, ETC. TO RESTORE THE LOCATION DECOR TO THE ORIGINAL APPEARANCE WITH THE NEW HARDWARE INSTALLED.
35. DISPOSE OF ALL SOLVENT-BASED MATERIALS, AND ANY HAZARDOUS MATERIALS IN ACCORDANCE WITH REQUIREMENTS OF THE LOCAL AUTHORITIES HAVING JURISDICTION (A.H.U.).
36. ALL DEVICES AND EQUIPMENT NOT USED IN THE FINAL SYSTEM SHALL BE REMOVED. ALL REMOVED DEVICES AND EQUIPMENT SHALL BE INVENTORIED, BOXED AND RETURNED TO THE OWNER.
37. ALL EXISTING WIRE AND CABLE THAT IS ABANDONED AS A RESULT OF THIS PROJECT SHALL BE REMOVED AND DISPOSED OF OFF-SITE BY THE CONTRACTOR.
38. NOT USED.
39. NOT USED.
40. NOT USED.
41. ALL 120VAC SYSTEM ELECTRICAL CIRCUITS SHALL CONFORM TO THE REQUIREMENTS OF NFPA 70 NATIONAL ELECTRICAL CODE (NEC) EXCEPT THAT CIRCUITS SHALL BE MINIMUM #12 AWG COPPER, 600VAC, THHN/THWN INSULATED CONDUCTORS.
42. PROVIDE ALL THE INTERCONNECTIONS BETWEEN POWERED JUNCTION BOXES AND THE SECURITY EQUIPMENT.
43. ADHERE TO ALL SYSTEM AND COMPONENT GROUNDING REQUIREMENTS AS SPECIFIED BY THE EQUIPMENT MANUFACTURERS.
44. PROVIDE A SEPARATE EQUIPMENT GROUND CONDUCTOR FOR EACH CIRCUIT. THE SYSTEM GROUNDS SHALL BE MADE OF #12 AWG GREEN JACKETED COPPER CONDUCTORS (THHN/THWN OR AN APPROVED EQUIVALENT), WHICH SHALL BE CONNECTED TO A GROUND POINT WITH AN APPROVED GROUNDING CLAMP. ALL GROUNDING CIRCUITS SHALL HAVE A TOTAL RESISTANCE NO GREATER THAN 0.12 OHMS.
45. ALL GROUND WIRE RUNS SHALL BE AS SHORT AND STRAIGHT AS POSSIBLE. AVOID SHARP TURNS NO USE A MINIMUM RADIUS OF EIGHT-INCHES(8") FOR BENDS. GROUND WIRE SHOULD BE RUN SEPARATE FROM OTHER WIRES AND BE ROUTED TOWARDS THE EARTH. IT IS NOT PERMISSIBLE TO RUN GROUND WIRES PARALLEL TO METAL WITHOUT PROPER BONDING TO THE METAL USE OF AN EIGHT (8) FOOT (24M) COPPER CLAD GROUND RODS IS RECOMMENDED. THE CONTRACTOR SHALL ENSURE POSITIVE GROUNDING THROUGHOUT THE SYSTEM TO INCLUDE ALL CONDUITS, MOUNTING BOXES, JUNCTION BOXES, PANELS, DETECTORS, ALARM DEVICES, ETC.
46. PROVIDE SURGE SUPPRESSION, GROUNDING AND BONDING THAT WILL EFFECTIVELY PROTECT, WITHIN TESTED LIMITS, THE SYSTEMS TO WHICH APPLIED AGAINST LIGHTING TRANSIENTS, INTERNAL AND EXTERNAL SWITCHING TRANSIENTS, AND OTHER SURGE TRANSIENT THROUGHOUT THE USEFUL LIFE OF THE SYSTEM.
47. ALL A.C. POWER SUPPLY CONDUCTORS, REMOTE SIGNALING CONDUCTORS, AND COMMUNICATION (DATA) CONDUCTORS SHALL BE PROTECTED FROM LIGHTING STRIKES AND POWER SURGES IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF NFPA, NEC, ANSI, AND UL.
48. ALL CABLES AND CONDUCTORS EXTENDING BEYOND BUILDING PERIMETER, EXCEPT FIBER OPTIC CABLES, WHICH SERVE AS COMMUNICATION, CONTROL OR SIGNAL LINES SHALL BE PROTECTED AGAINST TRANSIENT VOLTAGE SURGES AND SHALL HAVE TRANSIENT VOLTAGE SURGE SUPPRESSION PROTECTION (TVSS) UL LISTED IN ACCORDANCE WITH STANDARD 487B INSTALLED AT EACH END.
49. INSTALLATION OF SURGE SUPPRESSION DEVICE (SSD) IN OR ON ELECTRICAL OR ELECTRONIC SYSTEMS SHALL IN NO WAY COMPROMISE OR VIOLATE EQUIPMENT LISTING, FUNCTION OR WARRANTY OF THE DISTRIBUTION EQUIPMENT.
50. NOT USED.
51. ALL WIRING SHALL BE PROPERLY SUPPORTED, PROTECTED FROM DAMAGE OR INSTALLED IN CONDUIT, CABLE TRAY OR RACEWAY.
52. ALL CONDUIT FILL SHALL NOT EXCEED 40 PERCENT (40%) OF INTERIOR CROSS SECTIONAL AREA WHERE THREE OR MORE CABLES ARE CONTAINED WITHIN A SINGLE CONDUIT. LOW VOLTAGE CONTROL AND SIGNAL CABLES MAY BE INSTALLED WITHOUT CONDUIT ABOVE ACCESSIBLE CEILINGS IF THE CABLE MEETS THE REQUIREMENTS FOR THE APPLICATION UNLESS SPECIFIED TO BE IN CONDUIT IN OTHER SECTIONS OF THE SPECIFICATION.
53. CABLES, RACEWAYS AND CONDUIT SHALL NOT BE SUPPORTED FROM DUCTWORK, PIPING, PLUMBING SYSTEMS, CEILING TILE AND LIGHTING FIXTURE SUSPENSION WIRES OR BUILDING STRUCTURE.
54. CABLES ROUTED ABOVE NON-ACCESSIBLE CEILING AREAS, OR IN OPEN AREAS SUBJECT TO ABUSE, SHALL BE ROUTED IN CONDUIT OR OTHER SUITABLE RACEWAY SUBJECT TO ACCEPTANCE BY THE OWNER.
55. LOCATIONS WHERE CABLES PASS THROUGH METAL STUDS, THE CONTRACTOR SHALL INSTALL A BUSHING OR GROMMET IN ALL METAL STUDS TO PREVENT DAMAGE TO THE CABLES.
56. CABLE AND/OR CONDUIT ABOVE FALSE CEILINGS SHALL BE INDEPENDENTLY SUPPORTED FROM THE T-BAR SUPPORT STRUCTURE, A MINIMUM OF 12" ABOVE THE CEILING, PER CURRENT NEC CODES.
57. MAXIMUM ALLOWABLE SPACING BETWEEN CABLE/WIRING SUPPORTS (RINGS, BALLS, ETC.) SHALL BE NO GREATER THAN FOURTY EIGHT INCHES (48").
58. ALL CABLES MUST BE FREE OF TENSION AT BOTH ENDS AS WELL AS OVER THE ENTIRE LENGTH OF THE RUN.
59. CABLE TIES AND SUPPORTS SHALL NOT PINCH, BIND, CRIMP, OR IN ANY WAY CAUSE PHYSICAL OR ELECTRICAL CHARACTERISTIC DAMAGE TO THE CABLEING. CONTRACTOR SHALL ASSURE THAT DURING AND UPON COMPLETION OF THE INSTALLATION, ALL CABLES ARE FREE OF KINKS SHARP BENDS, TWISTS, GOUGES, CUTS OR ANY OTHER PHYSICAL DAMAGE.
60. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY PLENUM CONDITIONS AS DEFINED BY NEC SECTION 300 AND WITH ARCHITECTURAL RECORD DRAWINGS.
61. ALL WIRING SHALL BE PLENUM RATED IF ANY CABLES ARE ROUTED THROUGH A PLENUM AREA CARRYING RETURN AIR FOR THE VENTILATION SYSTEM AND THE CONTRACTOR SHALL ADHERE TO ALL NATIONAL, STATE AND LOCAL CODES THAT REFER TO PLENUM AREAS.
62. PLENUM RATED CABLE TIES AND CABLE SUPPORTS SHALL BE UTILIZED IN ALL PLENUM RATED SPACES.
63. ALL CABLE RUNS SHALL BE CONTINUOUS BETWEEN DEVICES WITHOUT SPLICES WHERE FEASIBLE. CONNECTIONS SHALL BE MADE USING TERMINAL BLOCKS. WIRES CONNECTED TOGETHER SHALL HAVE THE SAME COLOR INSULATION. ALL CONNECTIONS SHALL BE ACCESSIBLE FOR INSPECTIONS AND SERVICES AND SHALL BE CLEARLY IDENTIFIED ON THE CONTRACTOR'S REDLINE DRAWINGS. ALL DEVICE BACK BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE ACCESSIBLE FOR INSPECTION AND MAINTENANCE.
64. WIRING COLOR CODE SHALL BE MAINTAINED THROUGHOUT THE INSTALLATION AS REQUIRED BY THE SPECIFICATIONS OF THE OWNER.
65. TERMINAL CONNECTORS, DEVICES, CIRCUITS, CABLES, AND CABLE TERMINATION'S SHALL BE CLEARLY, LOGICALLY AND PERMANENTLY MARKED DURING INSTALLATION. ALL EQUIPMENT AND CONDUITS SHALL BE IDENTIFIED.
66. ALL WIRING AND ELECTRICAL CIRCUITS SHALL BE NUMERICALLY IDENTIFIED AT BOTH ENDS AS REQUIRED BY THE SPECIFICATIONS. EACH SYSTEM CONDUIT JUNCTION BOX, PULL BOX, OR ELECTRICAL ENCLOSURE (FROM TERMINATION TO TERMINATION) CONTAINING SYSTEM CONDUCTORS, INCLUDING INITIATING DEVICE, NOTIFICATION APPLIANCE, DATA AND NETWORK CIRCUIT, AUXILIARY FUNCTION CIRCUITS, AS POWER CONDUCTORS OR ELECTRICAL CONDUITS SHALL BE UNIQUELY AND PERMANENTLY LABELED WITH A NUMBERED TAG, LABEL OR STENCIL. LABEL SYSTEM PROPOSED BY THE CONTRACTOR SHALL BE TYPEWRITTEN AND APPROVED BY OWNER OR THEIR AUTHORIZED REPRESENTATIVE.
67. ENCLOSURE CABINET, HOUSING, CONSOLES, POWER SUPPLY ENCLOSURES, CONTROL AND TERMINAL CABINET, CONTROL UNITS, WIRING GUTTERS AND OTHER COMPONENT HOUSINGS, BOXES AND FITTINGS OR EQUIPMENT MOUNTING DEVICES SHALL BE REFERRED TO AS ENCLOSURES. SHALL BE SO FORMED AND ASSEMBLED AS TO BE STURDY AND RIGID.
68. NOT USED.
69. NOT USED.
70. ALL EQUIPMENT PROPERLY ATTACHED AND HELD FIRMLY IN PLACE BY FASTENINGS AND SUPPORTS SHALL BE ADEQUATE TO SUPPORT LOADS WITH MINIMUM SAFETY FACTOR TO THREE (3). ALL MEANS OF EQUIPMENT AND CONDUIT SUPPORT SHALL BE APPROVED.
71. ALL WIRING AND CABLEING SHALL BE NEW, FREE OF NICKS, CUTS, ABRASIONS AND ALL OTHER DEFECTS, AND PROPERLY SIZED PER SPECIFICATIONS, APPLICABLE CODES AND MANUFACTURER'S REQUIREMENTS. CABLE SHALL BE TYPE LISTED FOR THE INTENDED USE AND SHALL BE INSTALLED PER NEC.
72. THE CONTRACTOR SHALL NEATLY STRAP, DRESS AND ADEQUATELY SUPPORT ALL INTER-RACK AND PANEL CABLEING. CABLE INSTALLATIONS SHALL CONFORM TO INDUSTRIAL STANDARDS AND GOOD ENGINEERING PRACTICE. TERMINAL BLOCKS, BOARDS, STRIPS OR CONNECTIONS AND NYLON TIE WRAPS SHALL BE FURNISHED FOR ALL CABLES AT THEIR INTERFACE WITHIN RACKS, CABINETS, CONSOLES AND EQUIPMENT MODULES. ALL WIRING AND CABLEING SHALL BE RUN PERPENDICULAR OR PARALLEL TO THE FLOOR PLANE, WITH ALL BENDS MADE AT NEAT RIGHT ANGLES.
73. ALL WIRING WITHIN THE CABINET SHALL BE PERMANENTLY ATTACHED USING SPIRAL WRAP TUBING AND NYLON WIRE TIES WITH MECHANICAL (I.E. SCREWS/RIVETS) FASTENERS. THE USE OF SELF-ADHESIVE FASTENERS INSIDE THE CABINET(S) IS SPECIFICALLY PROHIBITED.
74. ALL ENCLOSURE PENETRATIONS SHALL BE FROM THE BOTTOM UNLESS THE SYSTEM DESIGN REQUIRES PENETRATIONS FROM OTHER DIRECTIONS. PENETRATIONS OF INTERIOR ENCLOSURES INVOLVING TRANSITIONS OF CONDUIT FROM INTERIOR TO EXTERIOR AND ALL PENETRATIONS ON EXTERIOR ENCLOSURES SHALL BE SEALED WITH RUBBER SILICONE SEALANT TO PRECLUDE THE ENTRY OF WATER. THE TERMINATOR SHALL BE FILLED WITH AN APPROVED SEALANT AS RECOMMENDED BY THE CABLE MANUFACTURER AND IN SUCH A MANNER THAT CABLE IS NOT DAMAGED.
75. ALL WIRING WITHIN THE CABINET SHALL BE NEATLY ROUTED IN HORIZONTAL AND VERTICAL CHANNELS PARALLEL TO THE CABINETS SIDES AND THE INTERIOR TERMINAL STRIPS. WIRING SHALL NOT BE ROUTED OVER CIRCUIT BOARDS, TRANSFORMERS, AND TERMINAL STRIPS. AS GENERAL PRACTICE, RUN ALL POWER CABLES, CONTROL CABLES, AND HIGH-LEVEL CABLES ON ONE SIDE OF AN EQUIPMENT CABINET. RUN ALL OTHER CABLES ON THE OPPOSITE SIDE OF AN EQUIPMENT CABINET. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF A SIX(6) INCH DISTANCE BETWEEN ALL PARALLEL RUNS OF AC ELECTRICAL POWER AND LOW VOLTAGE CONDUIT OR LOW VOLTAGE WIRING.
76. THE CONTRACTOR SHALL PROVIDE, AS REQUIRED, ALL ACCESSORIES AND CONDUIT MATERIALS FOR UNDERGROUND, INTERCONNECTION AND PULL JUNCTION BOXES, TO INCLUDE PASSAGE WITHIN THE INTERIOR OF THE BUILDINGS, TO PROVIDE A COMPLETE CONDUIT SYSTEM.
77. NO CONDUIT SHALL BE LESS THAN 2" IN DIAMETER UNLESS DESIGNATED BY THESE SPECIFICATIONS AND/OR PLANS. A FULL STRING SHALL BE INCLUDED IN EACH INDIVIDUAL CONDUIT RUN.
78. COORDINATE WITH THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE TO ENSURE THAT THE CONDUIT PATHS WITHIN THE FACILITIES, DEDICATED FOR THE SYSTEM ARE INTERCONNECTED TO THE BUILDINGS.
79. PROVIDE TESTING AND VERIFY THAT ALL SYSTEM CABLEING AND FIELD WIRING IS FREE OF SHORTS, GROUNDS, OPENS, HIGH RESISTANCE AND OTHER FAULTS PRIOR TO TERMINATION TO DEVICES AND EQUIPMENT. THE CONTRACTOR SHALL PROVIDE A DETAILED REPORT OF THE ALL TESTS TO OWNER OR THEIR AUTHORIZED REPRESENTATIVE.
80. ALL PROVIDED JUNCTION BOXES INSTALLED OUTDOORS, OR IN AREAS OF UNCONDITIONED AIR SHALL BE OF THE GASKET, WEATHERPROOF TYPE.
81. ALL CONDUITS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70, THE NATIONAL ELECTRICAL CODE (NEC), AMERICAN DISABILITY ACT (ADA) AND ANY OTHER PREVAILING OR LOCAL CODE.
82. ALL CONDUIT SHALL BE DESIGNED TO ENSURE THAT ALL LOW VOLTAGE WIRE AND CONDUIT MAINTAIN THE REQUIRED MINIMUM OF SIX-INCH (6") DISTANCE SEPARATION FROM ANY OPEN CONDUCTORS OF POWER OR CLASS 1 CIRCUIT, AND SHALL NOT BE PLACED IN ANY CONDUIT, JUNCTION BOX OR RACEWAY CONTAINING THESE CONDUCTORS, AS PER NFPA 70 AND NATIONAL ELECTRICAL CODE (NEC). THE ELECTRICAL CONTRACTOR SHALL AVOID CONDUIT RUNS PARALLEL TO ALL AC ELECTRICAL POWER. ANY LOW VOLTAGE CONDUIT OR LOW VOLTAGE WIRING THAT CROSSES OVER AC ELECTRICAL POWER SHALL BE AT A 90 - DEGREE ANGLE.
83. ALL CONDUITS, RACEWAYS, AND OTHER ASSOCIATED ITEMS RELATED TO THE SYSTEM INSTALLED, SHALL NOT CONSTRUCT ANY PORTION OF A WINDOW, DOORWAY, STAIRWELL, OR PASSAGEWAY AND SHALL NOT INTERFERE WITH THE OPERATION OF ANY EXISTING MECHANICAL OR ELECTRICAL EQUIPMENT.
84. ALL BACK BOXES PROVIDED FOR RECESSED CEILING INSTALLATION SHALL INCLUDE ADEQUATE ACCESS TO THE BOX. ACCESS SHALL BE RATED FOR USE IN STUPLIN AND SHALL MEET OR EXCEED ALL APPLICABLE NATIONAL AND LOCAL ELECTRICAL CODES.
85. ALL JUNCTION BOXES DEFINED BY THE RECORD SPECIFICATION MAY BE CONCEALED BUT MUST REMAIN ACCESSIBLE FOR SERVICE AND TESTING. SECURITY JUNCTIONS BOXES MAY BE RECESSED INTO WALL OR CEILING.
86. ALL JUNCTION BOXES WITH DEVICE ENCLOSURES BELOW THE CEILING AND EASILY ACCESSIBLE TO EMPLOYERS OR THE PUBLIC SHALL BE TAMPER-PROOF AND COVERED WITH SUITABLE COVER PLATE. ALL JUNCTION BOXES ABOVE CEILING LEVEL IN OCCUPIED AREAS OF THE BUILDING SHALL NOT BE CONSIDERED TO BE EASILY ACCESSIBLE. ALL LOCATIONS CONTAINING SECURITY SYSTEMS SHALL BE IDENTIFIED BY THE CONTRACTOR AND THE OWNER SHALL BE NOTIFIED.

81. ALL JUNCTION BOXES SHALL BE FLUSH MOUNTED IN PUBLIC AREAS UNLESS IT IS NOT FEASIBLE. IF THE JUNCTION BOX CAN NOT BE FLUSH MOUNTED THE CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO INITIATING WORK.
82. CEILING MOUNT, FLUSH MOUNT, RACK MOUNT AND WALL MOUNT WHEN FEASIBLE FOR ALL HARDWARE REFLECTED ON THE RECORD DRAWINGS AND DEFINED IN THE CONTRACT DOCUMENTATION.
83. ALL SYSTEM CABLING PROVIDED AS PART OF THIS SYSTEM SHALL BE INSTALLED IN DEDICATED CONDUIT RACEWAYS, WHICH ARE NOT USED FOR ANY OTHER PURPOSE, FUNCTION OR SYSTEM.
90. CONDUIT SHALL BE CONCEALED IN ALL FINISHED AREAS. EXPOSED CONDUIT IS PERMITTED IN ELECTRICAL, MECHANICAL AND UNFINISHED AREAS ONLY.
91. ANY RUN OF EXPOSED CONDUIT SHALL BE PARALLEL OR AT RIGHT ANGLE TO THE BUILDING LINES.
92. THE CONTRACTOR SHALL PROVIDE CONSTANT 120 VAC TO ALL BUILDING EQUIPMENT ROOMS.
93. ALL DEVICES GENERATING RADIO FREQUENCIES SHALL BE CERTIFIED TO COMPLY WITH THE REQUIREMENTS OF FCC PART 15 AND LABELED AS SET FORTH IN FCC PART 15.
94. CONTRACTOR SHALL TAKE ALL OTHER PRECAUTIONS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS TO PREVENT ELECTROMAGNETIC INTERFERENCE WITH DATA TRANSMISSIONS.
95. CONDUIT IS TO BE PROVIDED BETWEEN THE BUILDING LAN/ IT ROOM AND SYSTEM(S) FOR ALL WIRING AND CABLING. NON-SECURITY SYSTEM WIRING SHALL NOT SHARE SECURITY CONDUIT.
96. CONTRACTOR SHALL PROVIDE NETWORK CONNECTION POINT(S) FOR THE LOCAL AREA NETWORK (LAN)/ WIDE AREA NETWORK (WAN) VIA INDUSTRY STANDARD TCP/IP COMMUNICATION PROTOCOL FOR NETWORK CONNECTION FOR THE SYSTEM CONTROL PANEL(S) & CONTROL WORK STATION
97. NOT USED.
98. ALL DOOR HARDWARE PROVIDED SHALL MEET OR EXCEED ALL NATIONAL AND LOCAL CODES TO INCLUDE NATIONAL FIRE PROTECTION AGENCY (NFPA) 70, 72, 101, AND THE APPROVAL OF THE AUTHORITY HAVING JURISDICTION. (AHJ).
99. ALL DOOR HARDWARE SHOWN ON DESIGN DRAWING IS SHOWN AS INDICATION OF PERFORMANCE AND OPERATIONAL REQUIREMENTS FOR EACH LOCATION. THE CONTRACTOR SHALL PROVIDE ELECTRIFIED DOOR HARDWARE THAT MUST MEET OR EXCEED THE PERFORMANCE AND OPERATIONAL REQUIREMENTS.
100. CONTRACTOR AS SPECIFIED SHALL COORDINATE ALL OF THE ELECTRIFIED DOOR HARDWARE.
101. ALL ELECTRIFIED DOORS SHALL BE OPERATIONAL FROM THE INSIDE WITHOUT USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT PER NFPA 101.
102. CONTRACTOR SHALL PROVIDE DOOR POSITION SWITCHES, IF AVAILABLE FROM THE MANUFACTURE, TO MAINTAIN THE WARRANTY ON NEW DOOR FRAMES
103. CONTRACTOR SHALL PROVIDE A FULLY FUNCTIONAL ELECTRIFIED DOOR CONTROL.
104. THE CONTRACTOR SHALL PROVIDE INTERCONNECTION OF ALL INPUT TRIGGERS FOR RELEASE OF ELECTRICAL LOCKING HARDWARE AND CONTACT(S) OUTPUTS REQUIRED TO MONITOR THESE DOOR RELAY ALARM POINTS, AND TO PROVIDE FULL INTEGRATED CONTROL OF THESE ELECTRIFIED LOCATIONS.
105. ALL CAMERA CABLING SHALL BE CONCEALED AND PROTECTED IN A RIGID ENCASEMENT, CONDUIT, ARMORED FLEX, OR SIMILAR APPROVED PASSAGES. CAMERA PLACEMENTS IN THE FIELD ARE FORBIDDEN TO HAVE UNPROTECTED AND EXPOSED CONNECTORS, POWER CABLE, AND VIDEO FEEDS. INTEGRATED ARMATURE THAT PASSES THE CABLING FROM THE CAMERA TO THE WALL/ JUNCTION BOX WITHOUT EXPOSING THE CABLING AT ANY POINT SHALL BE DEEMED ACCEPTABLE.
106. THE FINAL FIELD PLACEMENT AND FIELD OF VIEW FOR EACH CAMERA LOCATION SHALL BE DETERMINED BY ON SITE CONDITIONS. PRIOR TO THE PURCHASE OF ANY (CCTV) HARDWARE THE CONTRACTOR SHALL OBTAIN WRITTEN ACCEPTANCE OF PROPOSED PLACEMENT AND ASSOCIATED FOCAL LENGTHS FROM THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE.
107. ALL PENETRATION THROUGH FIRE RATED BUILDING STRUCTURE, WALLS AND FLOORS SHALL BE SEALED WITH AN APPROPRIATE FIRE STOP SYSTEM. THIS REQUIREMENT APPLIES TO THROUGH PENETRATION (COMPLETE PENETRATION) AND MEMBRANE PENETRATION (THROUGH ONE SIDE OF A HOLLOW FIRE RATED STRUCTURES), AND PENETRATION ITEMS I.E. RISER SLOTS AND SLEEVES, CABLES, CONDUIT, CABLE TRAY, AND RACEWAYS, ETC. SHALL BE PROPERLY FIRE STOPPED. THE CONTRACTOR SHALL ENSURE THAT ANY FIRE STOP SYSTEMS SHALL BE UL CLASSIFIED TO ASTM E8 14 (UL 1479).
108. THE CONTRACTOR SHALL ENSURE THAT ALL FIRE STOP SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE COMPLETELY INSTALLED AND AVAILABLE FOR INSPECTION BY THE LOCAL INSPECTION AUTHORITIES PRIOR TO CABLE SYSTEM ACCEPTANCE.
109. UPON SUCCESSFUL COMPLETION OF THE INSTALLATION, THE CONTRACTOR SHALL CONDUCT FULL SYSTEM TESTING TO ASSURE THAT THE SYSTEMS ARE CORRECTLY INSTALLED AND FULLY OPERATIONAL. CONFIRM IN WRITING TO THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE THAT ALL ASPECTS OF THE SYSTEM HAVE BEEN TESTED BY THE CONTRACTOR AND FOUND TO BE FULLY OPERATIONAL AND READY FOR FINAL ACCEPTANCE TESTING
110. AT THE CONCLUSION OF TESTING, PROVIDE (2) COPIES OF ALL TEST REPORT DOCUMENTATION THAT REFLECT THE TIME AND DATES OF TESTING RESULTS ADJUST, BALANCE AND TUNE ALL EQUIPMENT AS REQUIRED FOR OPTIMUM QUALITY TO MEET MANUFACTURER'S PUBLISHED PERFORMANCE SPECIFICATIONS AND OWNER'S OPERATIONAL REQUIREMENTS.

GENERAL CONDITIONS

1. THE PROJECT DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT INCLUDING GENERAL AND SUPPLEMENTAL CONDITIONS, AND THE FOLLOWING REQUIREMENTS HEREIN SHALL APPLY TO THE WORK AS SPECIFIED WITHIN THE PROJECT DOCUMENTATION.

APPLICABLE CODES:

ALL WORK SHALL BE WHERE REQUIRED, BY ANY PREVAILING CODE OR STANDARDS, THE CONTRACTOR SHALL ADHERE TO THE RULES GOVERNING THEIR PORTION OF WORK AND INSTALLATION METHODOLOGIES INCLUDING BUT NOT LIMITED TO:

- NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
- CODES OF FEDERAL REGULATIONS (CFR)
- NATIONAL ELECTRICAL CODE (NEC)
- TELECOMMUNICATION INDUSTRY ASSOCIATION (TIA)
- ELECTRONIC INDUSTRY ALLIANCE (EIA)
- INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)
- UNDERWRITERS LABORATORIES INC (UL)
- BUILDERS HARDWARE MANUFACTURER'S ASSOCIATION (BHMA)
- AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
- AMERICANS WITH DISABILITIES ACT (ADA)
- INTERNATIONAL CODE COUNCIL (ICC)
- CONSULTATIVE COMMITTEE FOR INTERNATIONAL RADIO (CCIR)
- NATIONAL TELEVISION STANDARDS COMMITTEE (NTSC)
- NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION (NEMA)
- FEDERAL COMMUNICATION COMMISSION (FCC)

THE CONTRACTOR SHALL USE AND REFER TO THE MOST CURRENT EDITIONS OF ALL PUBLICATIONS AND REFERENCES UNLESS OTHERWISE NOTED FOR THE IMPLEMENTATION OF THIS PROJECT.

CONTRACT DOCUMENTS SUBMISSION

<i>Additions:</i>	<i>Date:</i>
<i>Revisions:</i>	

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Drawing Scale:	Drawing Title: TELECOM NOTES	Project Title: BUILDING 5 RENOVATION			Date: 6-15-2012
Drawing Start Date:	Approved: Associate Director for Operations:				Project No: 460-13-111
Drawing Finish Date:	Approved: Chief, Facilities Engineer:	Building No: 5	Checked: JWW	Drawn: PCG	DRAWING NO: T-501
Drawing Approved:	Approved: Director, Medical Center:	Location: VAMHCS MEDICAL CENTER WILMINGTON, DELAWARE			Dwg. 67 of 67