

INTRUSION ALARM BATTERY CALCULATIONS (VISTA-20P)								
MODEL NUMBER	DESCRIPTION	QUANTITY	STANDBY POWER		IN ALARM		STANDBY BATTERIES (12VOLT)	CURRENT (mA)
			CURRENT PER DEVICE (mA)	TOTAL CURRENT (mA)	CURRENT PER DEVICE (mA)	TOTAL CURRENT (mA)		
VISTA-20P	INTRUSION ALARM CONTROL PANEL	1	190	190	265	265	STANDBY CURRENT	271
HW-6150	KEYPAD	1	40	40	70	70	HOURS	4
DT7360	CEILING MOUNTED MOTION DETECTOR	1	5	5	20	20	STANDBY mA	1,084
ISC25100TC	WALL MOUNTED MOTION DETECTOR	2	18	36	26	52	ALARM CURRENT	407
							HOURS	0.25
							ALARM mA	102
							TOTAL mA	1,186
							TOTAL AH	1.2
							CONTINGENCY	20%
							BATTERY TOTAL	1.4
TOTAL				271		407	BATTERY PROVIDED	7

- NOTES
1. PROVIDE ONE (1) 12 VOLT 7 AH BATTERY.
  2. MOUNT THE BATTERY WITHIN THE INTRUSION ALARM CONTROL PANEL ENCLOSURE AND PERMANENTLY MARKED WITH THE MONTH AND YEAR FROM THE MANUFACTURER.

#### INTRUSION ALARM GENERAL NOTES

1. UPON LOSS OF BUILDING POWER, THE ENTIRE SYSTEM SHALL TRANSFER TO SECONDARY POWER AND WITHOUT LOSS OF SIGNALS. THE SYSTEM SHALL OPERATE UNDER SECONDARY POWER IN NORMAL OR TROUBLE CONDITIONS FOR FOUR (4) HOURS AND HAVE SUFFICIENT POWER TO SUPPORT COMPLETE ALARM CONDITION OPERATION FOR A SUBSEQUENT FIFTEEN (15) MINUTES AT MAXIMUM CONNECTED LOAD.
2. COORDINATE INSTALLATION OF A GROUND ROD OR ACCEPTABLE BUILDING GROUND FOR PROPER GROUNDING OF THE ICP WITH THE ELECTRICAL CONTRACTOR.
3. COORDINATE INSTALLATION OF ALL WALL MOUNTED MOTION DETECTORS AND SIRENS WITH THE ARCHITECTURAL DRAWINGS AND ALL OTHER TRADES PRIOR TO INSTALLATION.
4. ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL BACKGROUND INFORMATION IS SHOWN FOR COORDINATION PURPOSES ONLY. REFER TO THE PROPER DRAWINGS FOR EXACT LOCATIONS, SIZES AND QUANTITIES OF OTHER TRADES' WORK.
5. VERIFY ALL EQUIPMENT QUANTITIES, LOCATIONS, AND REQUIREMENTS. IF DISCREPANCIES ARE FOUND, CONTRACTOR SHALL IMMEDIATELY BRING THEM TO THE ATTENTION OF THE FIRE PROTECTION ENGINEER (CPE) FOR RESOLUTION.
6. ENSURE THAT OPENING / CLOSING REPORTING METHODS ARE ENABLED FOR ALL USER CODES OF THE INTRUSION ALARM SYSTEM.
7. CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE (1) HOUR TRAINING FOR ALL FUNCTIONS OF THE INTRUSION ALARM SYSTEM TO OWNER'S REPRESENTATIVE.

#### FIRESTOP NOTES

1. ALL THROUGH-PENETRATIONS OF FIRE-RATED WALLS AND FLOORS SHALL BE FIRE-STOPPED.
2. FIRE-RATED GYPSUM BOARD WALLS CONSTRUCTED AS DESCRIBED IN THE INDIVIDUAL U300, U400, OR U400 SERIES DESIGNS IN THE U.L. FIRE RESISTANCE DIRECTORY (GENERALLY DOUBLE THICKNESS WALLBOARD) SHALL BE FIRE-STOPPED WITH U.L. SYSTEMS.
3. ALL REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOORS OR WALLS, AND ALL U.L. CLASSIFIED CONCRETE BLOCK WALLS SHALL BE FIRE-STOPPED WITH U.L. SYSTEMS.

#### FIREPROOFING NOTES (WHERE REQUIRED)

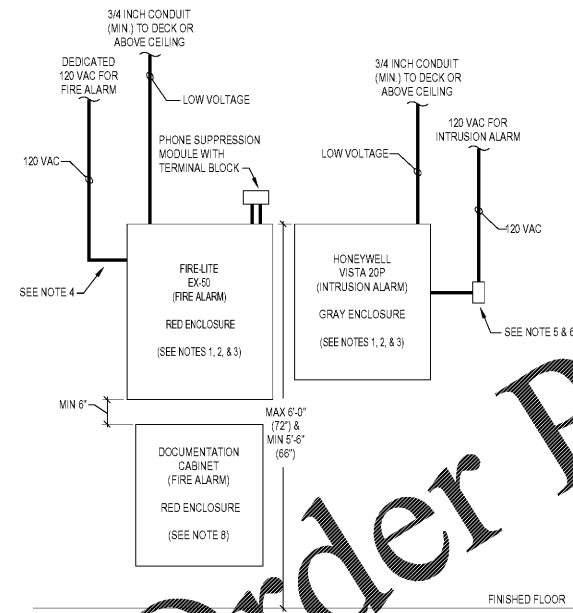
1. INSTALL ALL HANGERS, CLAMPS, CONDUIT, AND BACK BOXES FOR THE FIRE ALARM SYSTEM PRIOR TO THE APPLICATION OF FIREPROOFING ON STRUCTURAL MEMBERS.
2. INSTALL ALL HANGERS, CLAMPS, AND BACK BOXES FOR THE FIRE ALARM SYSTEM ON THE EDGE OF ANY JOIST REQUIRING FIREPROOFING. BACKBOXES SHALL BE FASTENED TO THE FLANGE OF THE JOIST UTILIZING BEAM CLAMPS AND SHALL NOT BE ATTACHED DIRECTLY TO THE JOIST.
3. ANY DAMAGE TO FIREPROOFING ON THE BUILDING STRUCTURE AS A RESULT OF THE FIRE ALARM SYSTEM INSTALLATION SHALL BE REPAIRED. A QUALIFIED FIREPROOFING CONTRACTOR SHALL REPORT TO AND REPAIR ALL DAMAGE TO FIREPROOFING SHALL BE REPORTED TO AND REPAIRED THROUGH THE OWNER'S REPRESENTATIVE. THE FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIREPROOFING REPAIRS AT AN ADDITIONAL COST TO THE OWNER.
4. VERIFY THE LOCATIONS OF FIREPROOFING PRIOR TO THE INSTALLATION OF ANY FIRE ALARM CONDUIT AND BACKBOXES.

#### INTRUSION ALARM INSTALLATION NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH OWNER'S DESIGN CRITERIA AND LOCAL ADOPTED CODES.
2. INTRUSION ALARM CABLING SHALL BE ACCEPTABLE TO THE INTRUSION ALARM EQUIPMENT MANUFACTURER FOR THE INTENDED PURPOSE. SHOULD MANUFACTURER OF INTRUSION ALARM EQUIPMENT REQUIRE DIFFERENT TYPE OR SIZE OF CABLE THAN HEREIN SPECIFIED, THE LARGER OR MORE STRINGENT TYPE OF CABLE SHALL BE USED.
3. ALL INTRUSION ALARM CABLING SHALL BE CM, CMR OR CMP AS REQUIRED BY THE ELECTRICAL CODE. SEE WIRING LEGEND FOR CABLE TYPES AND SIZES.
4. INTRUSION ALARM CABLING SHALL BE GRAY IN COLOR.
5. PROVIDE ALL CONDUIT, BACKBOXES, AND FITTINGS FOR THE INTRUSION ALARM SYSTEM CABLING AS REQUIRED BY ALL APPLICABLE CODES AND THE LOCAL JURISDICTION.
6. INTRUSION ALARM CABLING SHALL NOT BE PAINTED.
7. EXACT CABLE ROUTING SHALL BE COORDINATED WITH OTHER TRADES IN THE FIELD. SEE DRAWING NOTES AND DETAILS FOR ACCEPTABLE INSTALLATION METHODS.
8. T-TAPPING THE WIRING IS NOT PERMITTED. CIRCUITS SHALL WIRE IN CLASS B CONFIGURATION. PROVIDE CLASS A WIRING ONLY IF REQUIRED BY LOCAL ADOPTED CODES.
9. ALL CABLE RUNS SHALL BE NEATLY BUNDLED, WRAPPED TIGHT AND PROPERLY SECURED. ANY CABLING NOT INSTALLED IN A NEAT AND PROFESSIONAL MANNER SHALL BE PULLED OUT AND RE-RUN BY INSTALLER AT NO ADDITIONAL COST TO OWNER.
10. CONTRACTOR RUNNING CABLING MUST MARK BOTH ENDS OF CABLE, PROVIDE A WIRE LEGEND FOR ALL LOCATIONS, AND PROVIDE A CONTINUITY TEST LOG FOR EACH CABLE.
11. EXPOSED CABLING SHALL BE RUN PARALLEL AND PERPENDICULAR TO BUILDING STRUCTURE. EXPOSED CABLING SHALL NOT BE RUN IN A 'SPAN' FASHION BETWEEN BAR JOISTS OR BEAMS. CABLING SHALL BE ROUTED ALONG PIPES OF JOISTS AND BEAMS. ALL CABLES SHALL BE SECURED TO THE STRUCTURE OR CEILING BETWEEN JOISTS OR BEAMS.
12. ALL CABLING SHALL BE SUPPORTED FROM BUILDING STRUCTURE AND NOT FROM GRID, TILES, OR SUPPORT MATERIAL. EXPOSED CABLING SHALL BE SUPPORTED BY BUILDING STRUCTURE AT NO MORE THAN FIVE (5) FOOT INTERVALS.
13. ALL WIRING BELOW THE STRUCTURE SHALL BE CONCEALED IN CEILINGS OR PARTITIONS, SUBJECT TO PHYSICAL DAMAGE, LOW-POWER LIMITED OR WHERE REQUIRED BY APPLICABLE CODES SHALL BE INSTALLED IN METALLIC CONDUIT. CONDUIT FILL SHALL NOT EXCEED 40%.
14. ALL CONDUIT SHALL BE TERMINATED AT THE BAR JOIST LEVEL WITH SOME FORM OF RINGLET OR BOX CONNECTOR.
15. ALL CONDUIT LOCATED IN DRYWALL SHALL BE TERMINATED NO LESS THAN SIX (6) INCHES ABOVE THE CEILING TILE.
20. FOR DRYWALL APPLICATIONS, ALL CONDUIT AND BACKBOXES SHALL BE RECESSED INSIDE THE WALL.
21. COORDINATE DRILLING OF ANY HOLES (I.E. COLUMN PENETRATIONS) WITH THE OWNER'S REPRESENTATIVE AND ALL OTHER TRADES PRIOR TO INSTALLATION.
22. ALL INTRUSION ALARM DETECTORS AND CONTACTS SHALL BE INSTALLED IN OR ON A PROPER BACKBOX. NO MOTION DETECTORS OR CONTACTS SHALL BE INSTALLED WITHOUT A BACKBOX.
23. ALL CABLING, CONDUIT, AND BACKBOXES SHALL BE PROPERLY SUPPORTED AND SEISMICALLY BRACED, AS REQUIRED BY ALL APPLICABLE CODES AND THE LOCAL JURISDICTION.
24. CONDUIT AND CABLING SHALL ENTER INTO THE ICP ONLY AS APPROVED BY THE EQUIPMENT MANUFACTURER.

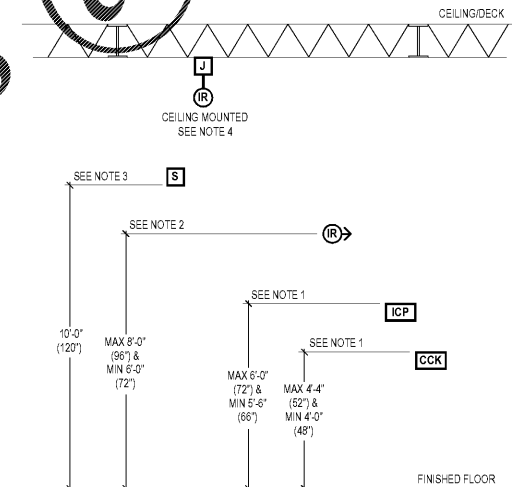
#### INTRUSION ALARM KEVED NOTES

1. PROVIDE A 1961 (16 5VAC/25VA) TRANSFORMER CONNECTED TO A DEDICATED 120VAC DUPLEX OUTLET FOR THE INTRUSION ALARM CONTROL PANEL (ICP). LABEL THE CIRCUITS "INTRUSION ALARM CIRCUIT". THE LOCATION OF THE CIRCUIT DISCONNECT SHALL BE IDENTIFIED AT THE ICP. PROVIDE THE SERVICE PHONE NUMBER STICKER ON THE SURFACE OF THE ICP. ALL CIRCUIT BREAKERS SHALL BE CLEARLY MARKED AND MECHANICALLY SECURED TO PREVENT ANY UNAUTHORIZED TAMPERING.
2. PROVIDE TWO (2) MEANS OF SIGNAL TRANSMISSION TO THE OFF-SITE MONITORING FACILITY. PROVIDE A DEDICATED PHONE LINE FOR THE PRIMARY MEANS OF TRANSMISSION. THE SECONDARY MEANS SHALL UTILIZE A VOICE OVER INTERNET PROTOCOL / SESSION INITIATION PROTOCOL (VoIP/SIP) CONNECTION TO OWNER'S NETWORK. PROVIDE THE SERVICE PHONE NUMBER STICKER ON THE SURFACE OF THE ICP AND THE ASSOCIATED PHONE NUMBER USING DIRECTLY ON THE RJ-31X BOXES. COORDINATE ALL PROGRAMMING, SIGNALS TRANSMISSION AND CONNECTIONS WITH THE OFF-SITE MONITORING COMPANY.
3. PROVIDE A COMMAND CENTER KEYPAD (CCK) ADJACENT TO THE FRONT ENTRANCE DOOR DIRECTLY BELOW THE FIRE ALARM MAIN UNIT. COORDINATE EXACT MOUNTING LOCATION OF THE CCK WITH THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
4. THE WALL MOUNTED MOTION DETECTOR SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS WHERE SHOWN ON DRAWING. COORDINATE EXACT MOUNTING LOCATION OF THE FLUSH MOUNTED MOTION DETECTOR WITH THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. APPLY MASKING OR SENSITIVITY ADJUSTMENTS AS NECESSARY TO ENSURE THAT THE MOTION COVERAGE AREA DOES NOT EXCEED THE BUILDING (REDUCING THE POSSIBILITY OF FALSE ALARMS).
5. THE CEILING MOUNTED 360 DEGREE MOTION DETECTOR SHALL BE PENDANT MOUNTED FROM THE BOTTOM OF STRUCTURE (MAXIMUM OF 18'-0" AFF) IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, WHERE SHOWN ON DRAWING. COORDINATE EXACT MOUNTING LOCATION OF THE CEILING MOUNTED 360 DEGREE MOTION DETECTOR WITH THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. APPLY MASKING OR SENSITIVITY ADJUSTMENTS AS NECESSARY TO ENSURE THAT THE MOTION COVERAGE AREA DOES NOT EXCEED THE PROTECTED SPACE (REDUCING THE POSSIBILITY OF FALSE ALARMS).
6. PROVIDE A HOLD-UP BUTTON SWITCH UNDER SERVICE DESK IN THE SERVICE BAY AREA AND SHOWROOM AREA. COORDINATE EXACT MOUNTING LOCATION OF THE HOLD-UP BUTTON SWITCH WITH THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
7. PROVIDE A PUSH BUTTON SWITCH IN SHOWROOM AREA TO ACTIVATE THE SIREN IN THE SERVICE AREA TO SUMMON FOR ASSISTANCE. COORDINATE EXACT MOUNTING LOCATION OF THE PUSH BUTTON SWITCH WITH THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
8. PROVIDE A TRANSFORMER TO ACTIVATE THE SERVICE DESK SIREN AS SHOWN ON THE FLOOR PLANS. THE TRANSFORMER SHALL BE INSTALLED AND PLUGGED INTO THE RECEPTACLE BELOW SERVICE DESK IN SERVICE BAY AREA. RECEPTACLE AT THE SERVICE DESK. THE TRANSFORMER SHALL BE SECURED TO PREVENT ANY UNAUTHORIZED TAMPERING.
9. PROVIDE A WALL MOUNTED SIREN ADJACENT TO THE SHOWROOM DOOR FROM THE SERVICE AREA. THE SIREN SHALL BE SURFACE MOUNTED. COORDINATE EXACT MOUNTING LOCATION OF THE PUSH BUTTON SWITCH WITH THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.



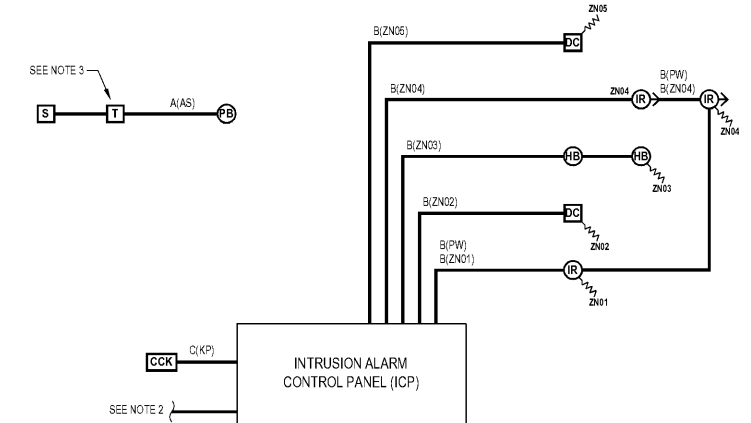
- NOTES
1. LOCATE THE FIRE ALARM CONTROL PANEL, INTRUSION ALARM CONTROL PANEL AND DOCUMENTATION IN THE CONFIGURATION SHOWN ABOVE. IF THIS LAYOUT CAN NOT BE FOLLOWED, CONTRACTOR SHALL IMMEDIATELY BRING TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE AND FIRE PROTECTION ENGINEER (CPE) FOR RESOLUTION.
  2. VERIFY THE CONTROL PANEL LAYOUT WITH THE OWNER'S REPRESENTATIVE AND ELECTRICAL CONTRACTOR PRIOR TO INSTALLATION.
  3. THE CONTROL PANELS SHALL BE LOCATED ON A BACKBOARD. THE BACKBOARD IS PROVIDED AND INSTALLED BY OTHERS.
  4. PROVIDE HARROW RED CONNECTIONS TO THE FIRE ALARM CONTROL PANEL UTILIZING THE DEDICATED 120 VAC FIRE ALARM CIRCUIT.
  5. PROVIDE A DB004 ENCLOSURE FOR THE INTRUSION ALARM DUPLEX RECEPTACLE. COORDINATE INSTALLATION OF DUPLEX RECEPTACLES WITH THE ELECTRICAL CONTRACTOR CONNECTED TO A 120 VAC CIRCUIT FOR THE INTRUSION ALARM SYSTEM. REFER TO THE DB004 TRANSFORMER ENCLOSURE INSTALLATION INSTRUCTIONS FOR FURTHER DETAIL.
  6. PROPERLY SECURE AND SCREW THE INTRUSION ALARM CONTROL PANEL TRANSFORMER INTO DUPLEX RECEPTACLES TO PREVENT UNAUTHORIZED PERSONNEL FROM UNPLUGGING.
  7. ALL CABLING INDICATED IN THIS DETAIL SHALL BE IN CONDUIT UNLESS OTHERWISE NOTED.
  8. PROVIDE A DOCUMENTATION CABINET ADJACENT TO THE FIRE ALARM CONTROL PANEL TO HOUSE ALL SYSTEM DOCUMENTS IN ACCORDANCE WITH NFPA 72. SYSTEM DOCUMENTS SHALL INCLUDE (AT A MINIMUM) RECORD DRAWINGS, EQUIPMENT DATA SHEETS, SOFTWARE AND FIRMWARE CONTROL DOCUMENTATION. THE DOCUMENTATION CABINET SHALL BE PROMINENTLY LABELED "SYSTEM RECORD DOCUMENTS", AND SHALL BE ACCESSIBLE BY AUTHORIZED PERSONNEL ONLY AND PROTECTED FROM PUBLIC ACCESS.

1 TYPICAL CONTROL PANEL LAYOUT  
BA2 NOT TO SCALE



- NOTES
1. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION OF THE INTRUSION ALARM CONTROL PANEL AND COMMAND CENTER KEYPAD WITH THE OWNER'S REPRESENTATIVE ELECTRICAL CONTRACTOR, AND AHP PRIOR TO INSTALLATION.
  2. COORDINATE EXACT MOUNTING HEIGHT (WHERE POSSIBLE INSTALL AT 7'-6" ABOVE FINISHED FLOOR) AND LOCATION OF THE WALL MOUNTED INFRARED MOTION DETECTORS WITH THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. MOTION DETECTOR SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
  3. COORDINATE EXACT LOCATION OF THE WALL MOUNTED SIREN SOUNDER AND VISUAL WITH BLUE LENS WITH THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. PROVIDE AN APPROVED BACKBOX AS REQUIRED PER THE MANUFACTURER SPECIFICATIONS.
  4. COORDINATE EXACT LOCATION OF THE CEILING MOUNTED INFRARED MOTION DETECTORS WITH THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. MOTION DETECTOR SHALL BE PENDANT MOUNTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

2 TYPICAL INTRUSION ALARM MOUNTING HEIGHT DETAIL  
BA2 NOT TO SCALE



- NOTES
1. PROVIDE DEDICATED 120 VAC CIRCUITS, AND BATTERY BACKUP IN THE ICP.
  2. PROVIDE TWO (2) MEANS OF SIGNAL TRANSMISSION TO THE OFF-SITE MONITORING FACILITY. PROVIDE A DEDICATED PHONE LINE FOR THE PRIMARY MEANS OF TRANSMISSION. THE SECONDARY MEANS SHALL UTILIZE A VOIP/SIP CONNECTION TO OWNER'S NETWORK.
  3. THE TRANSFORMER SHALL BE INSTALLED AND PLUGGED INTO THE RECEPTACLE BELOW SERVICE DESK IN SERVICE BAY AREA.

3 TYPICAL INTRUSION ALARM SYSTEM RISER DIAGRAM  
BA2 NOT TO SCALE

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ISSUE BLOCK	
Δ	01/06/20 REV #1

PROPERTY NO.:	317910
6 DIGIT NO.:	799862
4 DIGIT NO.:	013K
AOR PROJECT NUMBER:	1955867
TO PERMIT DATE:	12-20-19
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INTRUSION ALARM NOTES AND CALCULATIONS

SHEET NUMBER:  
**BA2**