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FIRE ALARM SYSTEM NOTES:

A. THE SCOPE OF THE FIRE ALARM SYSTEM INCLUDES THE FURNISHING, INSTALLATION, CONNECTION AND TESTING OF A MICROPROCESSOR CONTROLLED, INTELLIGENT REPORTING FIRE ALARM SYSTEM. IT SHALL INCLUDE, BUT NOT BE LIMITED TO, ALARM INITIATING DEVICES, ALARM NOTIFICATION APPLIANCES, FIRE ALARM CONTROL PANEL (FACP), AUXILIARY CONTROL DEVICES, AND WIRING FOR A COMPLETE, OPERATIVE, COORDINATED SYSTEM.

B. THE FIRE ALARM SYSTEM SHALL COMPLY WITH REQUIREMENTS OF 2010 NFPA STANDARD 72 FOR PROTECTED PREMISES SIGNALING SYSTEMS AND FLORIDA FIRE PREVENTION CODE. THE SYSTEM SHALL BE ELECTRICALLY SUPERVISED AND MONITOR THE INTEGRITY OF ALL CONDUCTORS.

C. THE FACILITY SHALL HAVE A NOTIFIER FIRE ALARM SYSTEM OR APPROVED EQUAL.

D. THE FIRE ALARM SYSTEM SHALL BE MANUFACTURED BY AN ISO 9001 CERTIFIED COMPANY AND MEET THE REQUIREMENTS OF BS EN9001: ANSI/ASQC Q9001-1994. MANUFACTURE SHALL PROVIDE THREE YEARS WARRANTY ON ALL FIRE ALARM EQUIPMENTS. FIRE ALARM CONTRACTOR SHALL HAVE BEEN IN BUSINESS FOR AT LEAST 5 YEARS.

E. FACP — NOTIFIER OR APPROVED EQUAL
SMOKE DETECTOR — NOTIFIER OR APPROVED EQUAL
DUCT DETECTOR — NOTIFIER OR APPROVED EQUAL
SPEAKER STROBE — MOUNTED AT 80" AFF AND MEET ADA REQUIREMENTS FOR SPACING AND CANDELA.
STROBE — MOUNTED AT 80" AFF ADA SHALL MEET ADA REQUIREMENTS FOR SPACING AND CANDELA.
SYNC MODULE — TO BE USED FOR SYNCHRONIZATION REQUIREMENTS.
PULL STATION — NOTIFIER OR APPROVED EQUAL
PROVIDE WEATHERPROOF DEVICES WHERE INDICATED OUTSIDE.
PROVIDE REMOTE ANNUNCIATOR PANEL
PROVIDE UL FIRE LISTED PRINTER

F. SEQUENCE OF OPERATION:
1. THE SYSTEM SHALL FUNCTION AS FOLLOWS, WHEN AN INITIATING DEVICE SUCH AS AN AREA OR DUCT DETECTOR, MANUAL STATION, OR WATER FLOW SWITCH, IS ACTIVATED:
A. SOUND REQUIRED AUDIBLE IN ACCORDANCE WITH NFPA 72 AND ACTIVATE DEVICES AND STROBES THROUGHOUT THE SCHOOL.
B. AUTOMATICALLY NOTIFY SBBC PPO DEPARTMENT AT 754-321-4600 VIA A DIGITAL ALARM COMMUNICATOR TRANSMITTER (DACT).
C. DISPLAY INDIVIDUAL DETECTOR OR ZONE NUMBER ON ALPHANUMERIC DISPLAY WITH USER DEFINED MESSAGE.
D. LIGHT AN INDICATING LED ON THE DEVICE INITIATING THE ALARM. SMOKE DETECTORS AND MONITOR MODULES ONLY.
E. SHUT DOWN THE HVAC SYSTEM AND OPERATE SELECTED DAMPERS.
F. CLOSE ALL MAGNETICALLY HELD FIRE DOORS.
G. THERE SHALL BE NO LIMIT, OTHER THAN MAXIMUM SYSTEM CAPACITY, AS TO THE NUMBER OF INTELLIGENT/ANALOG DEVICES THAT MAY BE IN ALARM SIMULTANEOUSLY.
2. WHEN AN ALARM HAS BEEN ACKNOWLEDGED AND SILENCED, THE AUDIBLE DEVICES SHALL SILENCE BUT THE STROBES SHALL REMAIN ON.
A. THE BLOCK ACKNOWLEDGE FEATURE OF ADDRESSABLE SYSTEM IS NOT ALLOWED AND SHALL BE DISABLED EXCEPT FOR SYSTEM START-UP AND MAINTENANCE.
3. AFTER THE ALARM HAS BEEN INVESTIGATED AND RESET, IT SHALL BE POSSIBLE TO PRESS THE RECALL BUTTON IN THE CONTROL PANEL TO EMIT A STEADY SOUND THROUGHOUT THE FACILITY AS A RECALL SIGNAL.
A. IT SHALL NOT BE POSSIBLE TO ACTIVATE THE RECALL BEFORE THE ALARM SIGNAL IS RESET.
B. THE RECALL BUTTON SHALL BE USED AS A SIGNAL TO REOCCUPY THE BUILDING AFTER A FIRE AND NOT BE FOR ANY OTHER PURPOSE.
4. KITCHEN HOOD SUPPRESSION SYSTEM AND FUEL SHUT-OFF:
A. ACTIVATION OF KITCHEN HOOD SUPPRESSION SYSTEM SHALL CAUSE A A SIGNAL TO BE TRANSMITTED INSTANTANEOUSLY TO BOTH THE FIRE ALARM SYSTEM (CONTROL/ANNUNCIATOR PANEL) AND FUEL SHUT-OFF SYSTEM TO ACCOMPLISH THE FOLLOWING:
1) THE KITCHEN HOOD EXHAUST FAN SHALL CONTINUE TO OPERATE, UNLESS REQUIRED TO BE SHUT DOWN BY THE PRE-FAB ENGINEERED HOOD SYSTEM MANUFACTURER.
2) THE FIRE ALARM SYSTEM SHALL SHUT OFF GAS AND FUEL OIL SUPPLIES WHICH SERVE STUDENT-OCCUPIED SPACES OR PASS THROUGH SUCH SPACES. THE SHUT-OFF VALVE SHALL BE LOCATED EXTERIOR TO THE BUILDING.
B. ALARM SIGNAL ORIGINATING FROM THE FIRE ALARM SYSTEM.
1) ACTIVATE GAS SOLENOID VALVES TO CLOSE AT LABS, AND STUDENT OCCUPIED SPACES, BUT NOT KITCHEN AREA.

G. GENERAL NOTES:
1. SYSTEM SHALL BE ADDRESSABLE AND POWER LIMITED DESIGN, 24VDC.
2. INITIATION CKTS WIRING: SEE SPECIFICATION SECTION FOR FIRE ALARM DETECTION SYSTEM FOR WIRING CIRCUIT REQUIREMENTS.
3. NOTIFICATION CKTS WIRING: SEE SPECIFICATION SECTION FOR FIRE ALARM DETECTION SYSTEM FOR WIRING CIRCUIT REQUIREMENTS.
4. ALL STROBES SHALL BE 75 CANDELA, UNLESS OTHERWISE NOTED.
5. NOTIFICATION SPEAKERS SHALL HAVE SOUND AT LEAST 15 dB ABOVE AVERAGE SOUND LEVEL OR 5 dB ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS MEASURED 5 FEET ABOVE FLOOR IN ALL OCCUPIED AREAS & STORAGE AREAS. THE CONTRACTOR SHALL CERTIFY THE dBA LEVEL WITH AN APPROVED dBA METER PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.
6. KITCHEN GAS SUPPLIES SHALL BE SHUT OFF BY ACTIVATION OF THE KITCHEN HOOD FIRE SUPPRESSION SYSTEM. MECHANICAL CABLE-ACTIVATED GAS SHUT OFF TYPE VALVES SHALL BE INSTALLED UNLESS A NRTL LISTED ELECTRIC SOLENOID GAS SHUT-OFF VALVE IS PROVIDED AS A COMPONENT OF A NRTL LISTED KITCHEN HOOD UTILITY DISTRIBUTION SYSTEM (UDS). SHUTOFF VALVES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTION AND RECOMMENDATIONS.
7. PROVIDE LIGHTNING PROTECTION AND TRANSIENT VOLTAGE AND SURGE SUPPRESSION FOR THE INPUT AC POWER AND ALL LOAD SIDE CIRCUITS.
8. UPON COMPLETION OF THE NEW FIRE ALARM SYSTEM, ALL COMPONENTS OF THE OLD FIRE ALARM SYSTEM IS TO BE COMPLETELY REMOVED. REMOVE ALL PANELS, ANNUNCIATOR PANELS, FIRE ALARM DEVICES, CONDUIT, AND CONDUCTORS.
9. PAINT AND PATCH TO MATCH EXISTING WHERE EXISTING CONDUIT HAS BEEN REMOVED.
10. EACH NEW FIRE ALARM SYSTEM SHALL BE INSTALLED WITH AT LEAST A 30 PERCENT OVERALL EXTRA DEVICE CAPACITY IN EACH SLC CIRCUIT LOOP.
1) EACH SYSTEM SHALL BE EXPANDABLE, OF MODULAR DESIGN, AND BE CAPABLE OF NETWORKING ADDITIONAL DEVICES ON MULTIPLE COMMUNICATIONS TRUNKS
2) SYSTEMS SHALL HAVE CAPACITY FOR THE INSTALLATION OF ADDITIONAL BOARDS/ MODULES TO PROVIDE ADDITIONAL SLC AND NAC CIRCUITS.
11. NEW FIRE ALARM SYSTEM SHALL BE PROVIDED WITH A WIRELESS COMMUNICATOR, AES-INTELLIGENT MONITORING SYSTEM IN COMPLIANCE WITH BCPS 13845 2.7(U). A COMPLETE SET OF FIRE ALARM SHOP DRAWINGS SHALL BE SUBMITTED AND APPROVED BY THIS DEPARTMENT PRIOR TO INITIATING ANY WORK IN COMPLIANCE WITH BCPS 13845 1.3.

FIRE ALARM SYMBOLS

FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
PS1	FIRE ALARM POWER SUPPLY 1
PS2	FIRE ALARM POWER SUPPLY 2
F	ADDRESSABLE MANUAL PULL STATION
SD	ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR
D	ADDRESSABLE DUCT DETECTOR
R_t	REMOTE ALARM/TEST SWITCH
HD	ADDRESSABLE HEAT DETECTOR
TS	TAMPER SWITCH
FS	FLOW SWITCH
L S	SPEAKER/STROBE DEVICE
L	STROBE LIGHT
R	RELAY
M	MONITOR MODULE

QUALITY CONTROL NOTES

1. CUTTING AND PATCHING:
A. CUT, CHANNEL, CHASE, AND DRILL FLOORS, WALLS, PARTITIONS, CEILINGS, AND OTHER SURFACES REQUIRED TO PERMIT ELECTRICAL INSTALLATIONS. PERFORM CUTTING BY SKILLED MECHANICS OF TRADES INVOLVED.
B. REPAIR AND REFINISH DISTURBED FINISH MATERIALS AND OTHER SURFACES TO MATCH ADJACENT UNDISTURBED SURFACES. INSTALL NEW FIREPROOFING WHERE EXISTING FIRESTOPPING HAS BEEN DISTURBED. REPAIR AND REFINISH MATERIALS AND OTHER SURFACES BY SKILLED MECHANICS OF TRADES INVOLVED.
2. FIELD QUALITY CONTROL:
A. INSPECT INSTALLED COMPONENTS FOR DAMAGE AND FAULTY WORK, INCLUDING THE FOLLOWING: RACEWAYS, BUILDING WIRE AND CONNECTORS, SUPPORTING DEVICES FOR ELECTRICAL COMPONENTS, ELECTRICAL IDENTIFICATION, ELECTRICAL DEMOLITION, CUTTING AND PATCHING FOR ELECTRICAL CONSTRUCTION, TOUCH-UP PAINTING.
3. REFINISHING AND TOUCH-UP PAINTING:
A. REFINISH AND TOUCH UP PAINT. PAINT MATERIALS AND APPLICATION REQUIREMENTS ARE SPECIFIED IN DIVISION 9 SECTION "PAINTING.":
1. CLEAN DAMAGED AND DISTURBED AREAS AND APPLY PRIMER, INTERMEDIATE, AND FINISH COATS TO SUIT THE DEGREE OF DAMAGE AT EACH LOCATION.
2. FOLLOW PAINT MANUFACTURER'S WRITTEN INSTRUCTIONS FOR SURFACE PREPARATION AND FOR TIMING AND APPLICATION OF SUCCESSIVE COATS.
3. REPAIR DAMAGE TO GALVANIZED FINISHES WITH ZINC-RICH PAINT RECOMMENDED BY MANUFACTURER.
4. REPAIR DAMAGE TO PVC OR PAINT FINISHES WITH MATCHING TOUCH-UP COATING RECOMMENDED BY MANUFACTURER.
4. CLEANING AND PROTECTION:
A. ON COMPLETION OF INSTALLATION, INCLUDING OUTLETS, FITTINGS, AND DEVICES, CLEAN EXPOSED SURFACES. REMOVE BURRS, DIRT, PAINT SPOTS, AND CONSTRUCTION DEBRIS.
B. PROTECT EQUIPMENT AND INSTALLATIONS AND MAINTAIN CONDITIONS TO ENSURE THAT COATINGS, FINISHES, AND CANOPIES ARE WITHOUT DAMAGE OR DETERIORATION AT TIME OF SUBSTANTIAL COMPLETION.

FIRE ALARM GENERAL NOTES

1. ALL FIRE ALARM DEVICES ARE NEW UNLESS OTHERWISE NOTED.
2. THE BATTERY BACK UP FOR ALARM AND SUPERVISORY FUNCTIONS SHALL BE ADEQUATE TO PROVIDE POWER AS REQUIRED BY CODE.
3. THE FIRE ALARM CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO SUBMITTAL TO THE BUILDING DEPARTMENT SIGNED AND SEALED SHOP DRAWINGS AND CALCULATIONS BY A LICENSED FLORIDA PROFESSIONAL ENGINEER FOR FIRE ALARM SYSTEM.
4. CONTRACTOR SHALL NOTIFY [illegible] THE OWNER OR OWNERS REPRESENTATIVE [illegible] OF ANY EXISTING ALARM, SUPERVISORY OR TROUBLE CONDITION IN THE ALARM PANEL PRIOR TO COMMENCING WORK ON THE ALARM SYSTEM. ALARM PANEL SHALL BE CLEARED OF ALL TROUBLES BEFORE COMMENCING WORK
5. [illegible]ING AND INSTALLATION SHALL PROVIDE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND REQUIREMENTS OF BCPS 13845. ALL WIRING, CONDUIT, BOXES, ETC., REQUIRED FOR THE ERECTION OF A COMPLETE SYSTEM AS DESCRIBED HEREIN AND AS SHOWN ON DRAWINGS.
6. WIRES: COLOR-CODED AND TAGGED AT ALL JUNCTION POINTS AND TEST FREE FROM OPENS, GROUNDS OR SHORTS BETWEEN CONDUCTORS.
7. PROVIDE RIGID GALVANIZED STEEL HEAVY WALL FOR ALL CONDUITS EXPOSED TO THE WEATHER OR BURIED.
8. PULL GROUND CONDUCTOR TO THE NEW CONTROL PANEL.
9. WIRING: MINIMUM #14 THHN/THWN IN COLOR CODED METAL RACEWAYS AND TAGGED WITH MARKERS INDICATING CIRCUIT DESIGNATION AND FUNCTION. PROVIDE WIRE LISTED FOR DIRECT BURIAL FOR THE SIGNALING LINE CIRCUITS (SLC) ON ALL UNDERGROUND CONDUIT RUNS.
10. ALL WIRES: STRANDED ONLY.
11. POST WIRING COLOR CODE AND I.D. IN ALL TERMINAL CABINETS.
12. USE TERMINAL STRIPS AT TERMINAL CABINETS AND WIRE NUTS IN FIRE ALARM JUNCTION BOXES.
13. EQUIPMENT GROUND REQUIRED THROUGH ENTIRE SYSTEM.
14. IF MANUFACTURER'S RECOMMENDATION IS SHIELDED CABLE, THE SHIELD SHALL NOT BE GROUNDED AT ANY POINT OTHER THAN AT THE MAIN FIRE ALARM PANEL. 1
15. UPON ACTIVATION OF THE FIRE ALARM SYSTEM, OPERATE SELECTED DAMPERS AND SHUT DOWN THE HVAC SYSTEM AND EXHAUST FANS. EXHAUST FANS STARTERS SHALL BE WIRED TO ENSURE THAT THE FANS DO NOT RUN IN THE HAND OR OVERRIDE POSITION DURING THE FIRE ALARM ACTIVATION PERIOD.
16. PROVIDE ENGRAVED LABEL AT ALL FIRE ALARM CONTROL PANELS INDICATING SOURCE LOCATION, PANEL, AND CIRCUIT NUMBER, ETC. COMPLY WITH NEC 760.41(B), BCPS 16231 1.1C. EMERGENCY STANDBY SYSTEM TO FEED FIRE ALARM, SMOKE DAMPERS, EVAC FANS & FIRE PUMP, BCPS 16060 3.2(B) PROVIDE #8 FROM FACP TO GROUNDING BUSS, BCPS 13845 2.7(G) SURGE PROTECTION SHALL BE INSTALLED ON ALL CIRCUITS ENTERING OR LEAVING A BUILDING.
17. AHU'S, FCU'S, AND EXHAUST FANS MUST BE INTERFACED WITH EMS & FIRE ALARM. ALL NEW AND EXISTING FANS SHALL SHUT DOWN UPON ACTIVATION OF THE FIRE ALARM SYSTEM. COMPLY WITH BCPS 13845 2.2(A), NFPA 90A.
18. ALL NEW AND EXISTING PENETRATIONS THROUGH FIRE RATED WALLS MUST BE PATCHED WITH A FIRE RATED PRODUCT TO MAINTAIN THE CURRENT RATING.

COORDINATION NOTES:

1. PROVIDE LIGHTNING PROTECTION AND TRANSIENT VOLTAGE AND SURGE SUPPRESSION FOR THE INPUT AC POWER AND ALL LOAD SIDE CIRCUITS.
2. DURING THE DEMOLITION PHASE ALL DEVICES MUST REMAIN OPERATIONAL. CONTRACTOR IS TO EXERCISE DUE CARE TO PROTECT ALL EXISTING DEVICES UNTIL THE COMPLETION OF THE NEW WORK. 1
3. THE EXISTING FIRE ALARM SYSTEM AND NEW FIRE ALARM SYSTEM MUST RUN PARALLEL UNTIL FINAL INSPECTION AND CERTIFICATION OF THE FIRE ALARM SYSTEM.
4. ~~IF DURING THE CONSTRUCTION PHASE THE FIRE ALARM SYSTEM BECOMES NON~~ OPERATIONAL A FIRE WATCH MUST BE IMPLEMENTED UNTIL THE FIRE ALARM PANEL IS ONCE AGAIN OPERATIONAL.
5. DEMOLITION PHASE WILL BEGIN AFTER CERTIFICATION OF THE NEW FIRE ALARM PANEL. AT THAT POINT THE EXISTING FIRE ALARM SYSTEM AND DEVICES ARE TO BE REMOVED. REFER TO SPECS FOR COMPLETE REQUIREMENTS REGARDING CUTTING AND PATCHING OF EXISTING WALLS.
6. NEW WIRING BETWEEN BUILDINGS SHALL BE UNDERGROUND, REFER TO CONDUIT RUN DETAIL ON SHEET E-001. ANY OVERHEAD CONDUIT ROUTING ON THE BUILDING EXTERIOR SHALL BE SUBMITTED TO THE OWNER AND ENGINEER FOR REVIEW AN APPROVAL.

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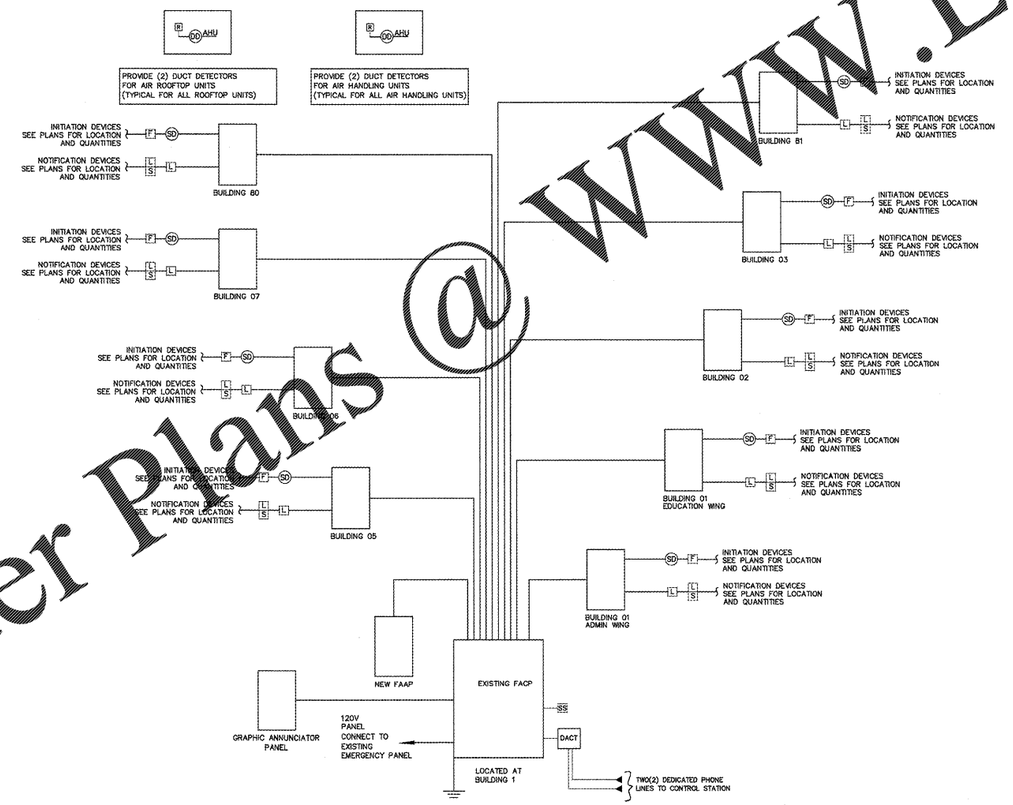

NEW FIRE ALARM RISER DIAGRAM

CRAIN ATLANTIS ENGINEERING, INC.
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REVISIONS
02/23/18 BUILDING DEPARTMENT COMMENTS

SEA CASTLE ELEMENTARY SCHOOL
9600 MIRAMAR BOULEVARD
MIRAMAR, FLORIDA 33025

THE SCHOOL BOARD OF BROWARD COUNTY

FIRE ALARM RISER DIAGRAM

JOB PHASE: 100% SUBMITTAL
SBBC PROJECT: P.001632
DATE: 12.13.16
SCALE: AS SHOW
DRAWN BY: HA
CHECKED BY: E.H.
CAAE PROJECT No. 2015.55

FL. LICENSE No. 39048
ERIC J. HAMMOND
STATE OF FLORIDA
PROFESSIONAL ENGINEER
ERIC HAMMOND
PROFESSIONAL ENGINEER
SEAL

DRAWING No.
E-400