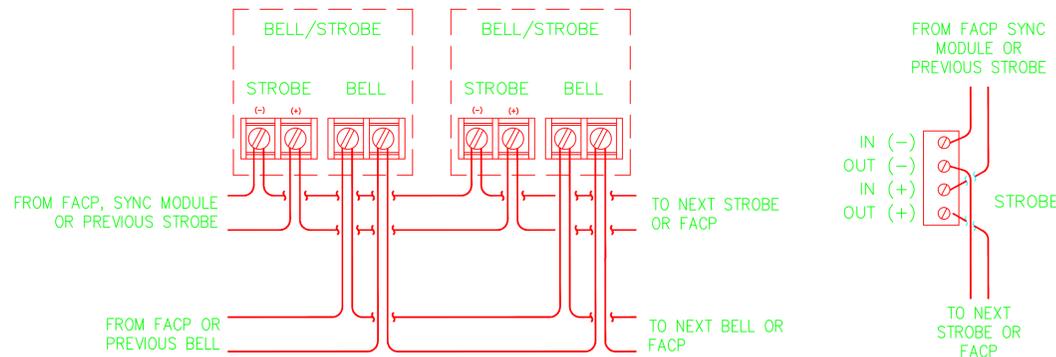


GENERAL NOTES:

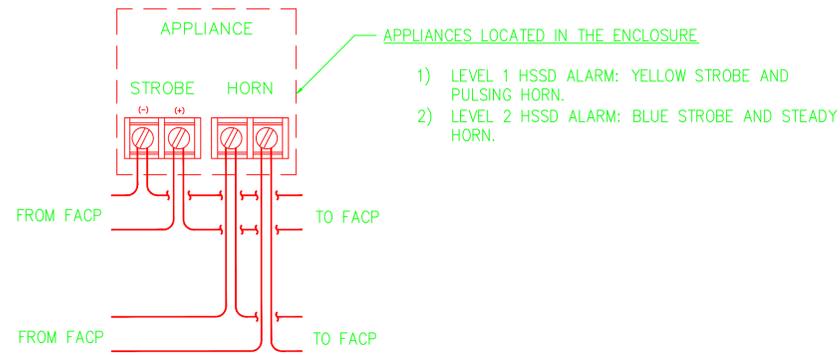
IN GENERAL, WORK SHALL INCLUDE, BUT NOT BE LIMITED TO:

- 1) THE DETAILED DESIGN, FABRICATION, PROCUREMENT, AND INSTALLATION OF THE FIRE PROTECTION SYSTEMS ADDITIONS AND MODIFICATIONS AS INDICATED ON THE CONTRACT DRAWINGS. THE FIRE PROTECTION SYSTEM CONSISTS OF A PREACTION FIRE SPRINKLER SYSTEM PROTECTING THE HVEM ENCLOSURE. THIS SYSTEM IS ACTUATED BY THE LEVEL 3 HSSD ALARM AND SPOT TYPE DETECTOR ALARM (LOCATED IN THE ENCLOSURE) AND LOSS OF AIR PRESSURE IN THE PREACTION SYSTEM PIPING (E.G. DOUBLE INTERLOCK SYSTEM). HSSD DETECTION AND WET-PIPE FIRE SPRINKLERS ALSO PROVIDE PROTECTION OF THE GENERAL AREA.
- 2) INSTALLATION OF NEW CONDUIT, RACEWAY SYSTEM MODIFICATIONS AND RACEWAYS FOR THE FIRE ALARM SYSTEM MODIFICATIONS.
- 3) ALL PENETRATIONS THROUGH WALLS, FLOORS AND CEILINGS NECESSARY FOR THE INSTALLATION OF THE FIRE PROTECTION SYSTEMS INCLUDING THE INSTALLATION OF APPROVED FIRESTOP ASSEMBLIES NECESSARY TO MAINTAIN THE DESIGNED FIRE RESISTANCE RATING OF THE WALL, CEILING, OR FLOOR ASSEMBLY.
- 4) DELETIONS, MODIFICATIONS, AND ADDITIONS TO THE EXISTING FIRE ALARM SYSTEM AS INDICATED.
- 5) SYSTEMS AND DEVICE TESTING.
- 6) THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND IMPLEMENTING ALL SAFETY PROGRAMS AND PROCEDURES FOR THIS PROJECT AND SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY AND HEALTH REGULATIONS.
- 7) THE CONTRACT DRAWINGS ARE DIAGRAMMATIC ONLY. SUBCONTRACTOR SHALL DETERMINE THE ACTUAL MEASUREMENTS AND MAKE ANY AND ALL SUCH LENGTH AND OFFSET ADJUSTMENTS AND FIRE ALARM CONTROL UNIT PROGRAMMING AS MAY BE NECESSARY TO COMPLETE THE INSTALLATION AT NO CHANGE IN THE CONTRACT PRICE. THE DRAWINGS ARE NOT INTENDED TO RELIEVE THE SUBCONTRACTOR OF ANY RESPONSIBILITY FOR AVOIDING CONFLICTS OR OBSTRUCTIONS, OR FOR INSTALLING THE FIRE ALARM DEVICES AND EQUIPMENT AS REQUIRED TO PROVIDE COMPLETE PROTECTION OF THE DESIGNATED AREAS IN ACCORDANCE WITH THE REQUIREMENTS OF THE REFERENCED STANDARDS AND THE SPECIFICATIONS. WRITTEN APPROVAL SHALL BE OBTAINED FROM THE OWNER'S REPRESENTATIVE PRIOR TO MAKING ANY MAJOR DEVIATIONS FROM THE ARRANGEMENT AND LAYOUT SHOWN ON THE DRAWINGS.
- 8) ALL EQUIPMENT SHALL BE NEW, AND APPROVED AND/OR LISTED BY UNDERWRITERS' LABORATORIES OR FACTORY MUTUAL.
- 9) SYSTEM, EQUIPMENT, INSTALLATION, AND MATERIALS AND METHODS USED SHALL COMPLY WITH THE FOLLOWING:
 - A) THE REQUIREMENTS OF THE LAWRENCE BERKELEY NATIONAL LABORATORY.
 - B) NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 72 NATIONAL FIRE ALARM CODE, 1999 EDITION.
 - C) CALIFORNIA BUILDING AND FIRE CODES, 2001 EDITIONS.
 - D) MANUFACTURER'S RECOMMENDATIONS AND GUIDELINES.
- 10) THE SUBCONTRACTOR SHALL HAVE THE HSSD MANUFACTURER (OR REPRESENTATIVE) DEVELOP AND SUBMIT CALCULATIONS, TRANSPORT TIMES, ETC. FOR APPROVAL PRIOR TO STARTING ANY INSTALLATION.



TYPICAL NOTIFICATION APPLIANCE WIRING DETAIL

NOT TO SCALE



TYPICAL ENCLOSURE APPLIANCE WIRING DETAIL

NOT TO SCALE

LEGEND

- [FACP] EXISTING FIRE ALARM CONTROL PANEL
- (S) EXISTING SMOKE DETECTOR
- (N) NEW SMOKE DETECTOR
- [HSSD] NEW HSSD DETECTOR
- [PWR] NEW POWER SUPPLY
- [DISP] NEW HSSD ALARM DISPLAY
- [WF] PRESSURE OPER WATERFLOW SWITCH
- [VS] VALVE POSITION SUPERVISORY SWITCH
- [PS] SPRINKLER LOW AIR SUPERVISION
- [A] EPO ABORT (ENCLOSURE)
- [L1] HSSD LEVEL 1 ALARM (ENCLOSURE)
- [L2] HSSD LEVEL 2 ALARM (ENCLOSURE)
- (B) NEW BELL/STROBE
- [S] NEW STROBE
- [B] EXISTING BELL
- (J) RACEWAY JUNCTION BOX
- - - EXISTING FIRE ALARM CONDUIT
- C - NEW 3/4 INCH FIRE ALARM CONDUIT
- (O) HSSD SAMPLE ORIFACE
- H - HSSD SAMPLE PIPE



TYPICAL DEVICE/APPLIANCE MOUNTING

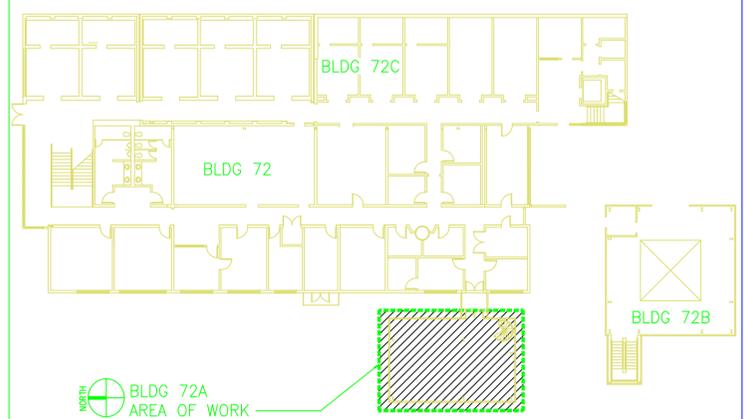
NOT TO SCALE

SEQUENCE OF OPERATIONS

| SYSTEM EVENT | RESPONSE | | | | | | | | | |
|--|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------|------------------------------|-------------------------------------|---------------------------------|-------------------------------------|---|
| | ANNUNCIATE EVENT ON HSSD DISPLAY | OPERATE LEVEL 1 ALARM (ENCLOSURE) | OPERATE LEVEL 2 ALARM (ENCLOSURE) | OPERATE PREACTION FIRE SPRINKLERS | OPERATE EPO (ENCLOSURE) | ABORT (INTERRUPT) FIRE ALARM | OPERATE EXISTING SMOKE PURGE SYSTEM | TROUBLE SIGNAL TO LBNL RECEIVER | SUPERVISORY SIGNAL TO LBNL RECEIVER | |
| ENCLOSURE HSSD LEVEL 1 ALARM | ● | ● | | | | | | | | ● |
| ENCLOSURE HSSD LEVEL 2 ALARM | ● | | ● | | | | | | | ● |
| ENCLOSURE HSSD LEVEL 3 ALARM | ● | | | ● | ● | ● | | | | ● |
| ENCLOSURE HSSD L3 ALARM, LOW PREACTION PIPING PRESSURE & SPOT DETECTOR ALARM | ● | | | ● | ● | ● | | | | ● |
| GENERAL AREA HSSD LEVEL 1 ALARM | ● | | | | | | | | | ● |
| GENERAL AREA HSSD LEVEL 2 ALARM | ● | | | | | | | | | ● |
| GENERAL AREA HSSD LEVEL 3 ALARM | ● | | | ● | ● | ● | | | | ● |
| ENCLOSURE SPOT DETECTOR | ● | | | ● | ● | ● | | | | ● |
| PREACTION SYSTEM PIPING LOW AIR PRESSURE | ● | | | ● | ● | ● | | | | ● |
| PREACTION CYLINDER LOW PRESSURE | ● | | | ● | ● | ● | | | | ● |
| PREACTION WATERFLOW | ● | | | ● | ● | ● | | | | ● |
| PREACTION VALVE SUPERVISION | ● | | | ● | ● | ● | | | | ● |
| EPO ABORT SWITCH | ● | | | | ● | ● | | | | ● |
| HSSD DETECTOR TROUBLE | ● | | | | | | | | | ● |
| HSSD POWER SUPPLY TROUBLE | ● | | | | | | | | | ● |

NOTE: THE SEQUENCE OF OPERATIONS ABOVE ADDRESSES ACTIONS AS A RESULT OF THIS PROJECT ONLY (E.G. ALL BUILDING FIRE ALARM FUNCTIONS ARE NOT SHOWN).

KEYPLAN-BLDG 72A FLOOR PLAN



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REGISTERED PROFESSIONAL ENGINEER
BRETT B. TRESIDDER
No. 1165
Exp. 9/30/06
FIRE PROTECTION
STATE OF CALIFORNIA

RECORD DRAWING
AS-BUILT
28 SEPT 2012
AS PER CONTRACTOR'S MARK-UPS

ISSUED FOR
CONSTRUCTION
07/25/06

BUILDING 72A
NCEM RENOVATION - TEAM 0.5
FIRE ALARM SYSTEMS

UNIVERSITY OF CALIFORNIA
LAWRENCE BERKELEY NATIONAL LABORATORY
FACILITIES DIVISION

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| DRAWN BY | DWH | DATE | 3/20/2006 |
| CHECKED BY | BBT | | 3/21/2006 |
| APPROVED BY | | | |
| CAD FILE PATH | 000211662 | | |
| SCALE | As Noted | | |
| DRAWING NO. | 4B72AE008 | SHEET | FAO-1 |
| PROJECT NO. | FM6100 | OF | |