

ADDENDUM NO. CC-2

BCDM Architects
1015 North 98th Street, Suite 300
Omaha, Nebraska 68114

to the
Bidding Documents

for

18 April 2013

BLOOMER ELEMENTARY SCHOOL
REMODEL
210 S. 7th Street
Council Bluffs, Iowa 51503
BCDM Project No. 3103-01

NOTE: ADDENDA MAY BE VIEWED AT WWW.ADTECHSUPPLY.COM

REMINDER: BID DATE AND TIME: APRIL 23, 2013 AT 2:00 P.M. LOCAL TIME

NOTICE TO BIDDERS: The Project Manual and Drawings for the above referenced project are hereby amended as follows:

PROJECT MANUAL

SECTION 09840 – ACOUSTICAL PANELS

- a. Page 09840-1, line 54, add “and Essi Acoustical Products Co.”
- b. Page 09840-2, line 6, add the following:
“FABRIC shall be Xorel, Meteor, manufactured by Carnegie. Fabric is 56-inches wide and shall be provided unbacked. (Distributed by Huffaker Associates, Penny Johnston 402-858-4970)

SECTION 09900 – PAINTING

- a. Page 09900-7, line 29, add the following:
“PS-12 WALL GRAPHICS in Rooms Corridor 101 and Cafeteria 123.
2-3 coats Sherwin Williams ProMar 200 Interior Latex Eg-Shel
1 coat Sherwin Williams Wood Classics Polyurethane Varnish”

SECTION 10100 – VISUAL DISPLAY BOARDS

- a. Page 10100-3, line 18, add the following to the end of the paragraph: “Provide ¼-inch thick GWB behind cork for a total thickness of ½-inch from wall.”

SECTION 10440 – SPECIALTY SIGNS

- a. Page 10440-2, line 24, add the following:
“PRINTED ACRYLIC PANELS
PRINTED ACRYLIC PANELS at Media Center feature wall shall be ¼-inch thick digital printable acrylic with high-resolution (300+ dpi) photographic images printed on one side, including a white opaque layer of ink and white opaque vinyl applied to the same side. Panels shall be mounted to ½-inch thick mdf board using double-sided tape or adhesive as recommended by manufacturer, and then attached to mdf blocks attached to the wall. See drawings. (Fabricated by LOOK Company, Steve Van Buren 402-933-4545, or equal).”

Revisions to Mechanical and Electrical specifications shall be per the attachment from Morrissey Engineering

DRAWINGS

SHEET A1-1

- a. Add Toilet Accessories General Note 5 as follows:

“5. At Restrooms 124A, 125A, 126A, 127A and 128D remove and reinstall existing mirrors, soap dispensers, paper towel dispensers and toilet paper dispensers as required for installation of new tile. At Restroom 128D remove and reinstall existing toilet partition panel as required for installation of new tile.”

SHEET A6-1

- a. At detail 1/A6-1, add elevation tags and note to Corridor 105 per attached ASD-3.
- b. At MARKERBOARD / TACKBOARD / TACK SURFACE LEGEND, at title, revise subsequent note to say “**(See Spec Sections 09720 and 10100)**”

SHEET A6-3

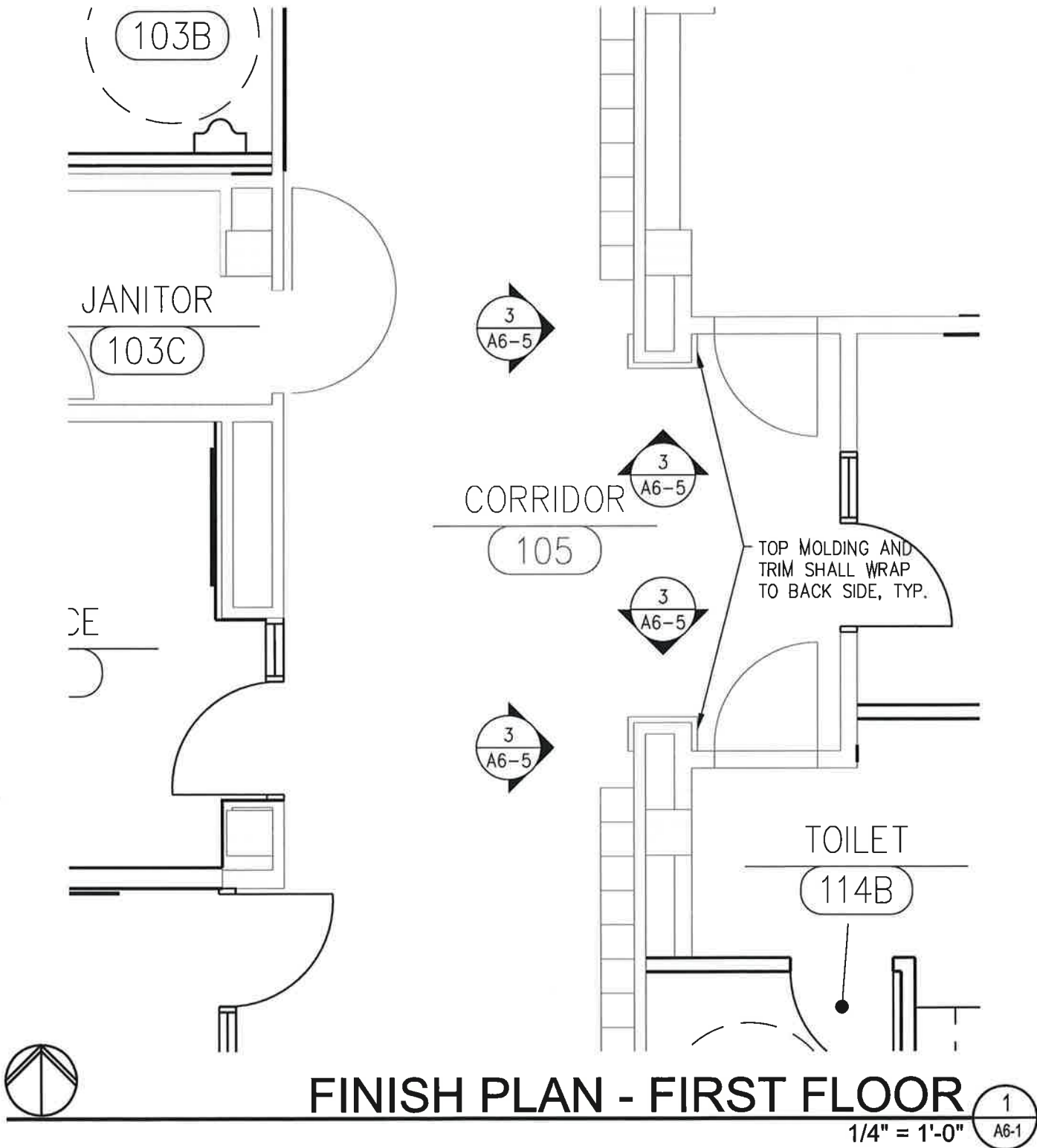
- a. At detail 3E/A6-3 change depth of hardwood trim and depth of fabric acoustic panel to **1-inch** in lieu of 2-inches.
- b. Add detail 3G/A6-3 TRIM @ EXIST. MARKERBOARD/TACKBOARD INSETS per attached ASD-5.

SHEET A6-6

- a. At detail 3/6-6, FAP-1 and FAP-2 panels shall be 3-foot wide by 6-foot tall before the hardwood trim is added.
- b. At detail 4/A6-6, add additional notes to the acrylic panel feature per attached ASD-4.

Revisions to Mechanical and Electrical drawings shall be per the attachment from Morrissey Engineering

END OF ADDENDUM

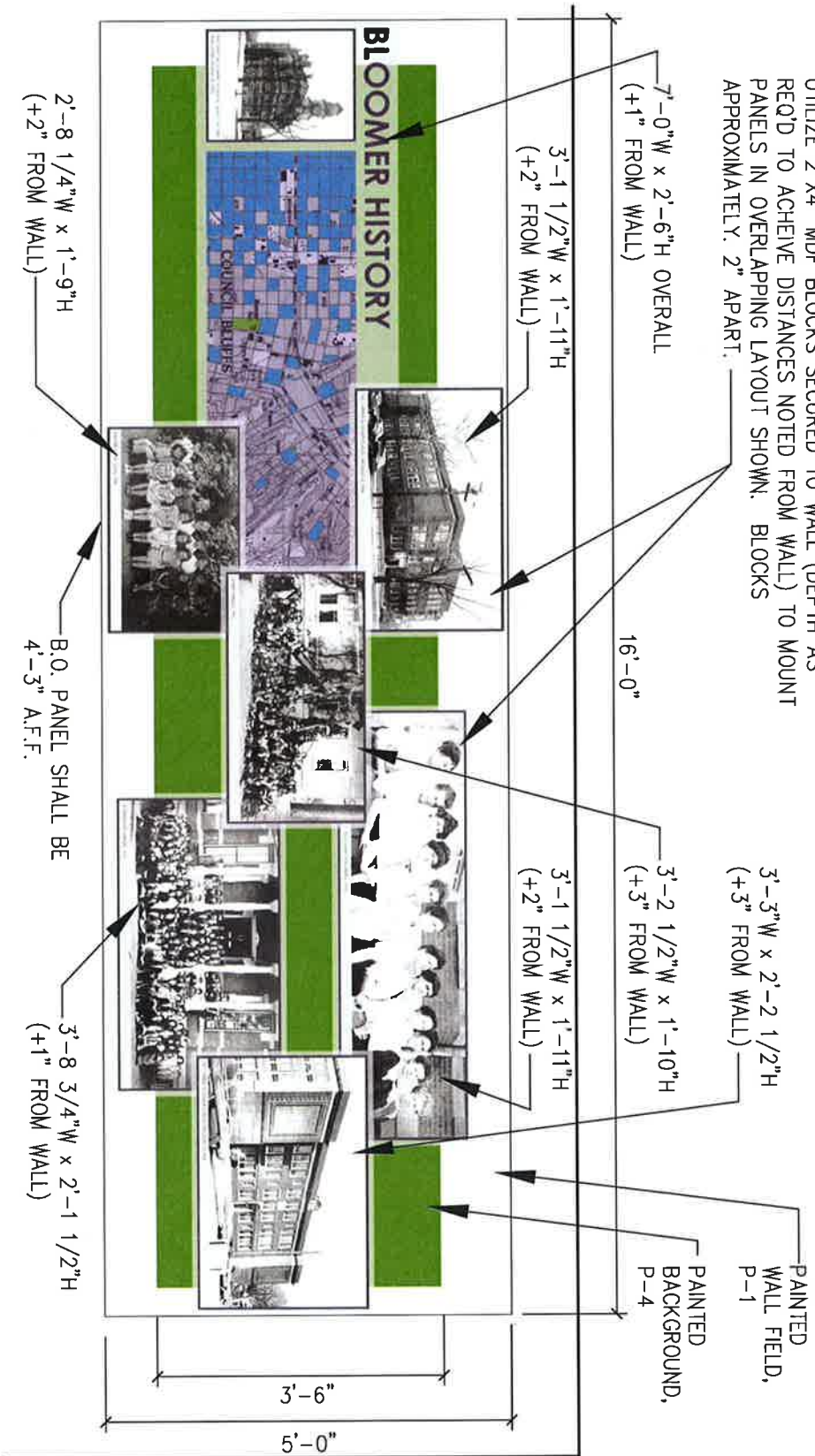


FINISH PLAN - FIRST FLOOR



BCDM PROJ. NO.:	3103-01	DRAWING REFERENCED:	1/A6-1	ATTACHMENT
DATE:	APRIL 18, 2013			ASD-3

PRINTED ACRYLIC 1/4" THICK PANELS TYP., SHALL HAVE 1/2" THICK MDF SHEET MOUNTED TO BACK SIDE OF EACH PANEL SET IN 1" FROM EDGE OF OPAQUE PRINTED PORTION. UTILIZE 2"x4" MDF BLOCKS SECURED TO WALL (DEPTH AS REQ'D TO ACHIEVE DISTANCES NOTED FROM WALL) TO MOUNT PANELS IN OVERLAPPING LAYOUT SHOWN. BLOCKS APPROXIMATELY 2" APART.

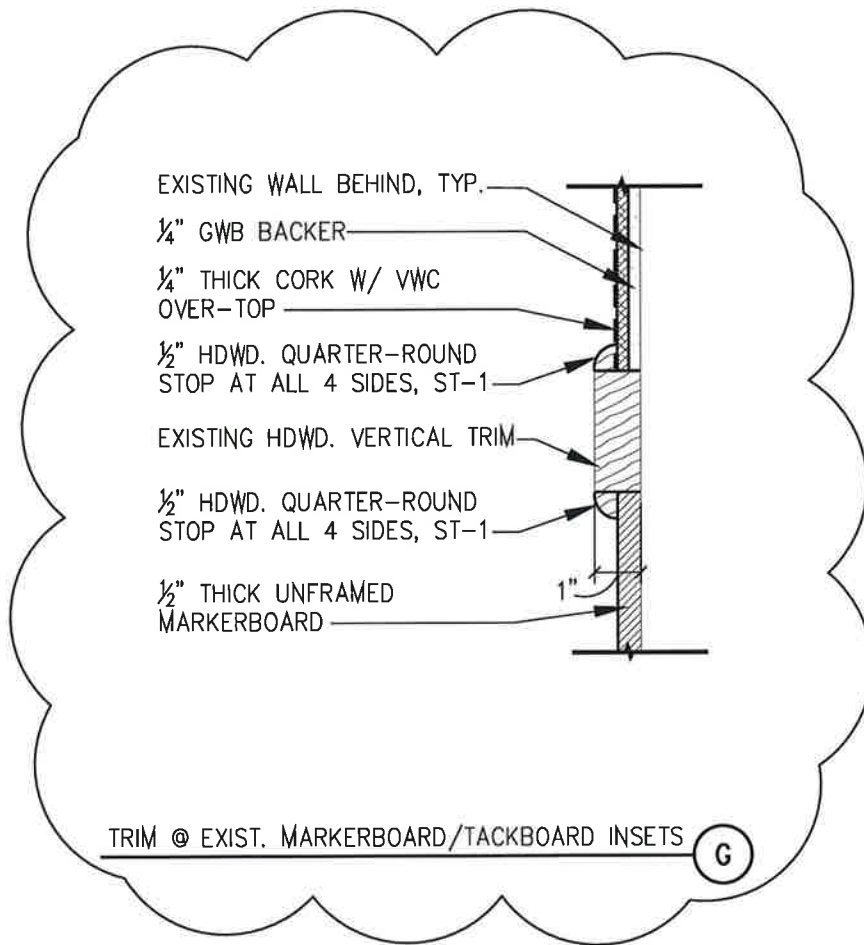


MEDIA CENTER ELEVATION - LOOKING EAST

1/2" = 1'-0"



BCDM PROJ. NO.: 3103-01	DRAWING REFERENCED: 4/A6-6	ATTACHMENT
DATE: APRIL 18, 2013		ASD-4



HARDWOOD TRIM DETAILS

3" = 1'-0"

3
A6-3



BCDM PROJ. NO.: 3103-01	DRAWING REFERENCED: 3/A6-3	ATTACHMENT
DATE: APRIL 18, 2013		ASD-5

addendum

addendum no. 2
date: 4-18-2013
bid date:
project name: Bloomer Elementary School - Remodel
project no: 12340

This addendum is hereby made a part of the contract documents to the same extent as if it were originally included therein. Contract documents shall be considered modified or revised as hereinafter described.

Mechanical:

1. General – The following manufactures have been approved for the listed items. **All items shall meet the requirements of the construction documents, specifications and are subject for review during shop drawing submittal:**

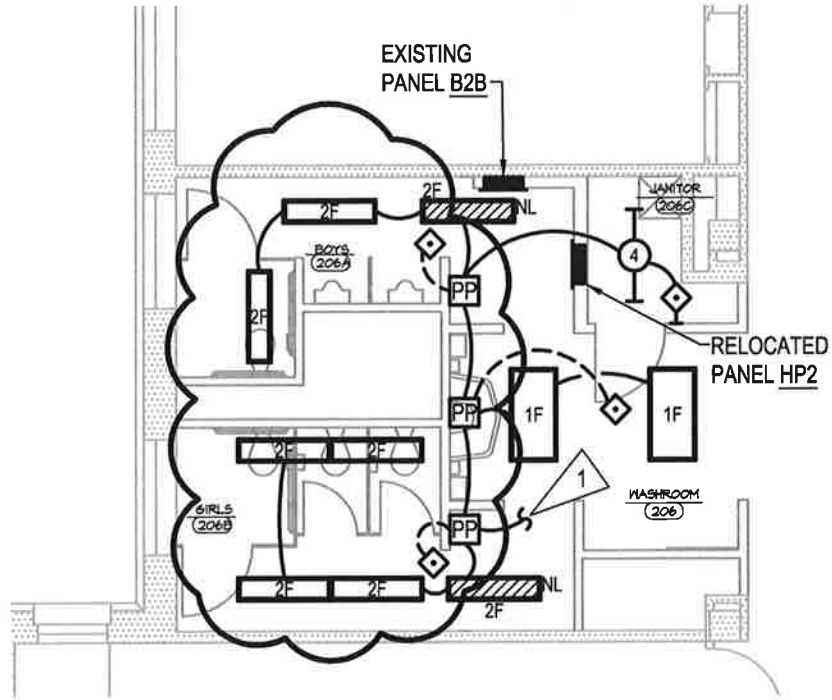
Specification Section	Manufacturer
a. 15738 Split Systems AC Units	EMI
b. 15761 Air Coils	Neptronics (electric heating coil)
c. 15815 Metal Ducts and Accessories	United Enertech (Fire Smoke Dampers)
d. 15815 Metal Ducts and Accessories	Tuttle and Bailey (diffusers and grilles)

2. Sheet M1-4 Enlarged Demolition Plans , Enlarged Plans
 - a. 2/M1-4 First Floor Kitchen Plan – Mechanical
 - i) Soiled Dish Table Item 5 – Route new 1” indirect drain pipe (copper) from quick drain on existing soiled dish table to existing floor sink. Secure piping to wall or floor with stainless steel Avery split ring support brackets, “Unistrut not allowed”.

Electrical:

1. See attached specification Section 16721 - Fire Alarm.
2. Sheet E1-2 Second Floor Plan - Lighting
 - a. Revise lighting per Sketch E1-2b
3. Sheet E1-3 Third Floor Plan - Lighting
 - a. Revise lighting per Sketch E1-2c
4. Sheet E4-1 Electrical Schedules and Details
 - a. Fixture type 3 shall be considered equal as manufactured by Axis, A Light, and Selux.

End.



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BLOOMER ELEMENTARY SCHOOL REMODEL

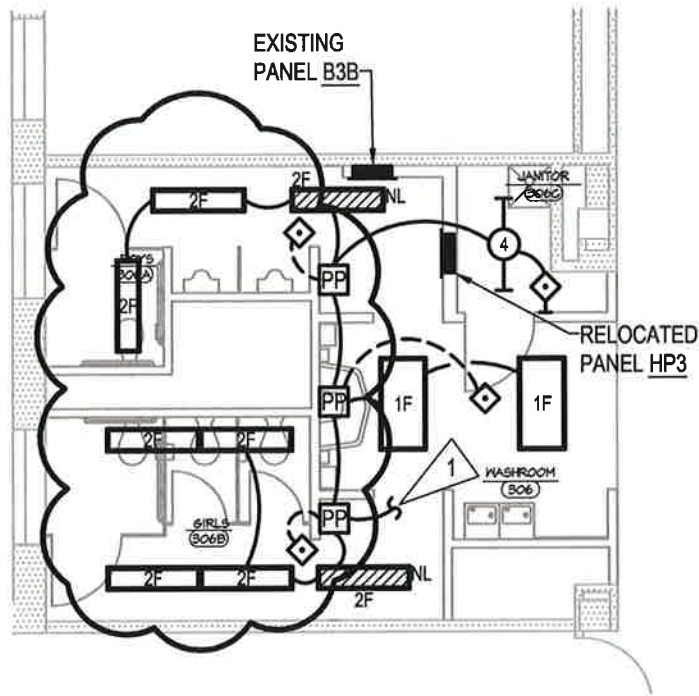
project no.: 12340

drawing referenced: E1-2

date: 04/18/2013

addendum no.: 2

sketch **E1-2b**



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BLOOMER ELEMENTARY SCHOOL REMODEL

project no.: 12340

drawing referenced: E1-3

date: 04/18/2013

addendum no.: 2

sketch

E1-3b

1 SECTION 16721

2 FIRE ALARM

3 A. GENERAL

4
5 RELATED DOCUMENTS

6
7 DRAWINGS and general provisions of the Contract, including General and Supplementary
8 Conditions and Division 1 Specification Sections, apply to this Section.

9
10 SUMMARY

11
12 THIS SECTION includes fire alarm systems with control panel, manual stations, detectors, signal
13 equipment, controls, and devices.

14
15 THIS SECTION includes fire alarm systems for the following:

- 16 Renovation[and extension] of existing fire alarm systems.
- 17 Supplementary (not required) coverage in areas indicated.
- 18 Partial coverage for areas indicated.

19
20
21 DEFINITIONS

22
23 FACP: Fire alarm control panel.

24
25 LED: Light-emitting diode.

26
27 DEFINITIONS in NFPA 72 apply to fire alarm terms used in this Section.

28
29 SYSTEM DESCRIPTION

30
31 GENERAL: Noncoded, analog-addressable system; automatic sensitivity control of certain smoke
32 detectors; and multiplexed signal transmission dedicated to fire alarm service only.

33
34 Interface with existing fire alarm system.

35
36 SUBMITTALS

37
38 PRODUCT DATA: For each type of product indicated.

39
40 SHOP DRAWINGS:

41
42 Drawings: Prepare project specific information, drawn accurately to scale. Do not base
43 Shop Drawings on reproductions of the Contract Documents or standard printed media.

44
45 Wiring Diagrams: Detail wiring and differentiate between manufacturer-installed and field-
46 installed wiring. Include diagrams for equipment and for system with all terminals and
47 interconnections identified.

48
49 OPERATING INSTRUCTIONS: For mounting at the FACP.

50
51 SUBMISSIONS TO AUTHORITIES HAVING JURISDICTION: Submit to authorities having
52 jurisdiction. Include copies of annotated Contract Drawings as needed to depict component
53 locations to facilitate review. Resubmit if required to make clarifications or revisions to obtain
54 approval. On receipt of comments from authorities having jurisdiction, submit them to Engineer for
55 review.

1 CERTIFICATE OF COMPLETION: Comply with NFPA 72.

2
3 QUALITY ASSURANCE

4
5 INSTALLER QUALIFICATIONS: An experienced installer who is an authorized representative of
6 the FACP manufacturer for both installation and maintenance of units required for this Project.

7
8 MANUFACTURER QUALIFICATIONS: A firm experienced in manufacturing systems similar to
9 those indicated for this Project and with a record of successful in-service performance.

10
11 SOURCE LIMITATIONS: Obtain fire alarm system components through one source from a single
12 manufacturer.

13
14 COMPLIANCE WITH LOCAL REQUIREMENTS: Comply with applicable building code, local
15 ordinances and regulations, and requirements of authorities having jurisdiction.

16
17 COMPLY WITH NFPA 72.

18
19 SEQUENCING AND SCHEDULING

20
21 EXISTING FIRE ALARM EQUIPMENT: Maintain fully operation **throughout construction period**
22 until new equipment has been tested and accepted. **As new equipment is installed, label it**
23 **"NOT IN SERVICE" until it is accepted. Remove labels from new equipment when put into**
24 **service and label existing fire alarm equipment "NOT IN SERVICE" until removed from the**
25 **building.**

26
27 **EQUIPMENT REMOVAL: After acceptance of the new fire alarm system, remove existing**
28 **disconnected fire alarm equipment.**

29
30 PACKAGE operational fire alarm and detection equipment that has been removed and deliver to
31 Owner.

32
33 REMOVE from site and legally dispose of unless designated otherwise.

34
35 EXTRA MATERIALS

36
37 FURNISH extra materials described below that match products installed and that are packaged
38 with protective covering for storage and identified with labels describing contents.

39
40 Lamps for Remote Indicating Lamp Units: Quantity equal to 10 percent of amount
41 installed, but not less than 1 unit.

42 Lamps for Strobe Units: Quantity equal to 10 percent of amount installed, but not less than
43 1 unit.

44
45 Smoke, Fire, and Flame Detectors: Quantity equal to 10 percent of amount of each type
46 installed, but not less than 1 unit of each type.

47
48 Detector Bases: Quantity equal to 2 percent of amount of each type installed, but not less
49 than 1 unit of each type.

50
51 Keys and Tools: One extra set for access to locked and tamperproofed components.

52
53 Audible and Visual Notification Appliances: One of each type installed.

54
55 Fuses: Two of each type installed in the system.

1 B. PRODUCTS

2
3 MANUFACTURERS

4
5 MANUFACTURERS: Subject to compliance with requirements, provide products by one of the
6 following:

- 7
8 Cerberus Pyrotronics.
9 Notifier; Div. of Pittway Corp.
10 Simplex Time Recorder Co.
11 Edwards Systems Technology; Unit of General Signal.
12 Fire Lite Alarms, Inc.
13 Fire Control Instruments
14

15 FUNCTIONAL DESCRIPTION OF SYSTEM

16
17 NONCODED, analog-addressable system; automatic sensitivity control of certain smoke detectors;
18 and multiplexed signal transmission dedicated to fire alarm service only.
19

20 PERFORMANCE REQUIREMENTS

21
22 COMPLY with NFPA 72.

23
24 PREMISES protection includes existing construction and education occupancy.

25
26 FIRE ALARM signal initiation shall be by one or more of the following devices:
27

- 28 Manual stations.
29 Heat detectors.
30 Smoke detectors.
31 Automatic sprinkler system water flow.
32 Fire extinguishing system operation.
33

34 FIRE ALARM signal shall initiate the following actions:
35

36 Alarm notification appliances shall operate continuously.
37

38 Identify alarm at the FACP and remote annunciators.
39

40 De-energize electromagnetic door holders.
41

42 Transmit an alarm signal to the remote alarm receiving station.
43

44 Release of fire and smoke doors held open by magnetic door holders if alarm was initiated
45 by a detector on either side of the door.
46

47 Recall of elevators if alarm was initiated by a detector at elevator lobby, elevator shaft, or
48 elevator machine room.
49

50 Shutdown of fans and other air-handling equipment serving zone where alarm was
51 initiated.
52

53 Closing of smoke dampers in air ducts of system serving zone where alarm was initiated by
54 opening a fire alarm relay to interrupt power to smoke dampers located in air supply ducts
55 across smoke partitions in the area of the alarm.
56

1 Switch heating, ventilating, and air-conditioning equipment controls to fire alarm mode.

2
3 Record events in the system memory.

4
5 SUPERVISORY SIGNAL initiation shall be by one or more of the following devices or actions:

6
7 Operation of a fire-protection system valve tamper.

8
9 SYSTEM TROUBLE SIGNAL INITIATION shall be by one or more of the following devices or
10 actions:

11
12 Open circuits, shorts and grounds of wiring for initiating device, signaling line, and
13 notification-appliance circuits.

14
15 Opening, tampering, or removal of alarm-initiating and supervisory signal-initiating devices.

16
17 Loss of primary power at the FACP.

18
19 Ground or a single break in FACP internal circuits.

20
21 Abnormal ac voltage at the FACP.

22
23 A break in standby battery circuitry.

24
25 Failure of battery charging.

26
27 Abnormal position of any switch at the FACP or annunciator.

28
29 SYSTEM TROUBLE AND SUPERVISORY SIGNAL ACTIONS: Ring trouble bell and annunciate
30 at the FACP and remote annunciator. Record the event on system printer.

31
32 ELEVATOR CONTROLS: Operation of a heat detector in elevator shaft or machine room shuts
33 down elevator power by operating a shunt trip in a circuit breaker feeding the elevator.

34 35 MANUAL PULL STATIONS

36
37 DESCRIPTION: Fabricated of metal or plastic, and finished in red or brushed aluminum with
38 molded operating instructions of contrasting color.

39
40 Single-action mechanism initiates an alarm. With integral addressable module, arranged to
41 communicate manual-station status (normal, alarm, or trouble) to the FACP.

42
43 Station Reset: Key or wrench operated.

44 45 SMOKE DETECTORS

46
47 GENERAL DESCRIPTION:

48
49 UL 268 listed, operating at 24-V dc, nominal.

50
51 Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or
52 trouble) to the FACP.

53
54 Plug-in Arrangement: Detector and associated electronic components shall be mounted in
55 a plug-in module that connects to a fixed base. Provide terminals in the fixed base for
56 connection of building wiring.

1
2 Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore
3 them to normal operation.

4
5 Integral Visual-Indicating Light: LED type. Indicating status.

6
7 PHOTOELECTRIC SMOKE DETECTORS:

8
9 Detector style: Low Profile.

10
11 Sensor: LED or infrared light source with matching silicon-cell receiver.

12
13 Detector Sensitivity: Between 2.5 and 3.5 percent/foot smoke obscuration when tested
14 according to UL 268A.

15
16 DUCT SMOKE DETECTORS:

17
18 Photoelectric Smoke Detectors:

19
20 Sensor: LED or infrared light source with matching silicon-cell receiver.

21
22 Detector Sensitivity: Between 2.5 and 3.5 percent/foot smoke obscuration when
23 tested according to UL 268A.

24
25 UL 268A listed, operating at 24-V dc, nominal.

26
27 Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or
28 trouble) to the FACP.

29
30 Plug-in Arrangement: Detector and associated electronic components shall be mounted in
31 a plug-in module that connects to a fixed base. The fixed base shall be designed for
32 mounting directly to the air duct. Provide terminals in the fixed base for connection to
33 building wiring.

34
35 Self-Restoring: Detectors shall not require resetting or readjustment after actuation to
36 restore them to normal operation.

37
38 Integral Visual-Indicating Light: LED type. Indicating status.

39
40 Each sensor shall have multiple levels of detection sensitivity.

41
42 Sampling Tubes: Design and dimensions as recommended by manufacturer for the
43 specific duct size, air velocity, and installation conditions where applied.

44
45 Relay Fan Shutdown: Rated to interrupt fan motor-control circuit.

46
47 OTHER DETECTORS

48
49 HEAT DETECTOR, COMBINATION TYPE: Actuated by either a fixed temperature of 135 deg F or
50 rate of rise of temperature that exceeds 15 deg F per minute, unless otherwise indicated.

51
52 Mounting: Low profile plug-in base, interchangeable with smoke detector bases.

53
54 Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or
55 trouble) to the FACP.

56
NOTIFICATION APPLIANCES

1
2 DESCRIPTION: Equip for mounting as indicated and have screw terminals for system
3 connections.

4
5 Combination Devices: Factory-integrated audible and visible devices in a single-mounting
6 assembly.

7
8 All alarm devices shall be semi-flush mounted unless otherwise indicated.

9
10 HORNS: Electric-vibrating-polarized type, 24-V dc; with provision for housing the operating
11 mechanism behind a grille. Horns produce a sound-pressure level of 90 dB, measured 10 feet
12 from the horn.

13
14 VISIBLE ALARM DEVICES: Synchronized Xenon strobe lights listed under UL 1971 with clear or
15 nominal white polycarbonate lens. Mount lens on an aluminum faceplate. The word "FIRE" is
16 engraved in minimum 1-inch- high letters on the lens.

17
18 Rated Light Output: Per NFPA.

19 20 MAGNETIC DOOR HOLDERS

21
22 DESCRIPTION: Units are equipped for wall or floor mounting as indicated and are complete with
23 matching door plate.

24
25 Electromagnet: Requires no more than 3 W to develop 25-lbf (111-N) holding force.

26
27 Wall-Mounted Units: Flush mounted, unless otherwise indicated.

28
29 Rating: 24-VDC served from fire alarm power supply.

30
31 Relay: Furnish one relay (or detector auxiliary contacts) per door or pair of doors and
32 interrupt power to holder and operate doors **only** from alarm condition of detectors on
33 either side of door (s).

34
35 MATERIAL AND FINISH: Match door hardware.

36
37 DOOR HOLDERS which are indicated to be integral with a door closer shall be furnished by the
38 General Contractor. All wiring of door holders shall be furnished by the Electrical Contractor. Door
39 holders shall be normally energized at 24VDC from fire alarm power supply.

40 41 CENTRAL FACP

42
43 GENERAL DESCRIPTION:

44
45 Modular, power-limited design with electronic modules, UL 864 listed.

46
47 Addressable initiation devices that communicate device identity and status.

48
49 Smoke sensors shall additionally communicate sensitivity setting.

50
51 Temperature sensors shall additionally test for and communicate the sensitivity
52 range of the device.

53
54 Addressable control circuits for operation of mechanical equipment.

55
56 ALPHANUMERIC DISPLAY AND SYSTEM CONTROLS: Arranged for interface between human
operator at the FACP and addressable system components including annunciation and

1 supervision. Display alarm, supervisory, and component status messages and the programming
2 and control menu.

3
4 Annunciator and Display: Liquid-crystal type.

5
6 Keypad: Arranged to permit entry and execution of programming, display, and control
7 commands.

8
9 CIRCUIITS:

10
11 Signaling Line Circuits: NFPA 72, Class B, Style 4.

12
13 System Layout: Install no more than 50 addressable devices on each signaling line
14 circuit.

15
16 Furnish system with a minimum of 25% spare device capacity.

17
18 Notification-Appliance Circuits: NFPA 72, Class B.

19
20 Actuation of alarm notification appliances, annunciation, elevator recall, and actuation of
21 suppression systems shall occur within 10 seconds after the activation of an initiating
22 device.

23
24 SMOKE-ALARM VERIFICATION:

25
26 Initiate audible and visible indication of an "alarm verification" signal at the FACP.

27
28 Activate a listed and approved "alarm verification" sequence at the FACP and the detector.

29
30 Record events by the system printer.

31
32 Sound general alarm if the alarm is verified.

33
34 Cancel FACP indication and system reset if the alarm is not verified.

35
36 ELEVATOR CONTROLS: Heat detector operation shuts down elevator power by operating a
37 shunt trip in a circuit breaker feeding the elevator.

38
39 A field-mounted relay actuated by the fire detector or the FACP closes the shunt trip circuit
40 and operates building notification appliances and annunciator.

41
42 POWER SUPPLY FOR SUPERVISION EQUIPMENT: Supply for audible and visual equipment for
43 supervision of the ac power shall be from a dedicated dc power supply, and power for the dc
44 component shall be from the ac supply.

45
46 ALARM SILENCING, TROUBLE, AND SUPERVISORY ALARM RESET: Manual reset at the
47 FACP and remote annunciator, after initiating devices are restored to normal.

48
49 Silencing-switch operation halts alarm operation of notification appliances and activates an
50 "alarm silence" light. Display of identity of the alarm zone or device is retained.

51
52 Subsequent alarm signals from other devices or zones reactivate notification appliances
53 until silencing switch is operated again.

54
55 When alarm-initiating devices return to normal and system reset switch is operated,
56 notification appliances operate again until alarm silence switch is reset.

1 WALK TEST: A test mode to allow one person to test alarm and supervisory features of initiating
2 devices. Enabling of this mode shall require the entry of a password. The FACP and annunciators
3 shall display a test indication while the test is underway. If testing ceases while in walk-test mode,
4 after a preset delay, the system shall automatically return to normal.
5

6 TRANSMISSION TO REMOTE ALARM RECEIVING STATION: Automatically transmit alarm,
7 trouble, and supervisory signals to a remote alarm station through a digital alarm communicator
8 transmitter and telephone lines.
9

10 REMOTE EMERGENCY POWER SUPPLY (WHERE APPLICABLE)

11
12 GENERAL: Components include recombinant lead calcium battery; charger; and an automatic
13 transfer switch.
14

15 Batteries: Sealed lead calcium.

16
17 Battery and Charger Capacity: Comply with NFPA 72.
18

19 INTEGRAL AUTOMATIC TRANSFER SWITCH: Transfers the load to the battery without loss of
20 signals or status indications when normal power fails.
21

22 ADDRESSABLE INTERFACE DEVICE

23
24 DESCRIPTION: Microelectronic monitor module listed for use in providing a system address for
25 listed alarm-initiating devices for wired applications with normally open contacts.
26

27 INTEGRAL RELAY: Capable of providing a direct signal to the elevator controller to initiate
28 elevator recall to a circuit-breaker shunt trip for power shutdown, open smoke damper control
29 circuits, open magnetic door holder circuits, etc.
30

31 DIGITAL ALARM COMMUNICATOR TRANSMITTER

32
33 LISTED AND LABELED under UL 864 and NFPA 72.
34

35 FUNCTIONAL PERFORMANCE: Unit receives an alarm, supervisory, or trouble signal from the
36 FACP panel, and automatically captures one or two telephone lines and dials a preset number for
37 a remote central station. When contact is made with the central station(s), the signal is
38 transmitted. The unit supervises up to two telephone lines. Where supervising two lines, if service
39 on either line is interrupted for longer than 45 seconds, the unit initiates a local trouble signal and
40 transmits a signal indicating loss of telephone line to the remote alarm receiving station over the
41 remaining line. When telephone service is restored, unit automatically reports that event to the
42 central station. If service is lost on both telephone lines, the local trouble signal is initiated.
43

44 SECONDARY POWER: Integral rechargeable battery and automatic charger. Battery capacity is
45 adequate to comply with NFPA 72 requirements.
46

47 SELF TEST: Conducted automatically every 24 hours with report transmitted to central station.
48

49 GUARDS FOR PHYSICAL AND FALSE ALARM PROTECTION

50
51 DESCRIPTION: Acrylic protective cover of size and shape for the manual station, smoke detector,
52 horn, strobe, horn/strobe, speaker or other device requiring protection.
53

54 UL listed for application

55 Slotted for audible notification devices.
56

1 Designed for flush mount devices at flush mount locations. Designed for surface mount
2 devices with knockout at surface mount locations.

3
4 Provide for each exposed device in gymnasiums.

5 6 C. EXECUTION

7 8 EQUIPMENT INSTALLATION

9
10 CONNECT the FACP with a disconnect switch or breaker with breaker lock.

11
12 MOUNT FACP and annunciator with top of cabinets not more than 72" above the finished floor.

13
14 MANUAL PULL STATIONS: Mount semi-flush in recessed back boxes.

15
16 WATER-FLOW DETECTORS AND VALVE SUPERVISORY SWITCHES: Connect for each
17 sprinkler valve station required to be supervised.

18
19 CEILING MOUNTED FIRE ALARM DEVICES IN ACCESSIBLE CEILINGS: Use flexible metal
20 conduit whip from EMT conduit to ceiling tile to facilitate device relocation in the future and allow
21 device to mount flush to ceiling tile.

22
23 CEILING-MOUNTED SMOKE DETECTORS: Not less than 4 inches from a sidewall to the near
24 edge.

25
26 SMOKE DETECTORS NEAR AIR REGISTERS: Install no closer than 60 inches.

27
28 HEAT DETECTORS IN ELEVATOR SHAFTS: Coordinate temperature rating and location with
29 sprinkler rating and location.

30
31 PROVIDE an exterior horn.

32
33 PROVIDE connection to fire sprinkler PIV valve.

34
35 PROVIDE 120 volt circuit for fire sprinkler bell.

36
37 AUDIBLE ALARM-INDICATING DEVICES: Install not less than 6 inches below the ceiling. Install
38 on flush-mounted back boxes with the device-operating mechanism concealed behind a grille.
39 Combine audible and visible alarms at the same location into a single unit.

40 41 INTERCONNECTION TO OTHER SYSTEMS

42
43 ALARM TRANSMITTING: Provide CAT 3 telephone cables in ¾" conduit as required from Digital
44 Alarm Transmitter in fire alarm control panel to telephone board.

45
46 DAMPER CONTROL: Provide all necessary wiring to smoke dampers.

47 48 WIRING INSTALLATION

49
50 WIRING WITHIN ENCLOSURES: Separate power-limited and non-power-limited conductors as
51 recommended by the manufacturer. Install conductors parallel with or at right angles to sides and
52 back of the enclosure. Bundle, lace, and train conductors to terminal points with no excess.
53 Connect conductors that are terminated, spliced, or interrupted in any enclosure associated with
54 the fire alarm system to terminal blocks. Mark each terminal according to the system's wiring
55 diagrams. Make all connections with approved crimp-on terminal spade lugs, pressure-type
56 terminal blocks, or plug connectors.

1 CABLE TAPS: Use numbered terminal strips in junction, pull and outlet boxes, cabinets, or
2 equipment enclosures where circuit connections are made.

3
4 COLOR-CODING: Color-code fire alarm conductors differently from the normal building power
5 wiring. Use one color-code for alarm circuit wiring and a different color-code for supervisory
6 circuits. Color-code audible alarm-indicating circuits differently from alarm-initiating circuits. Use
7 different colors for visible alarm-indicating devices. Paint fire alarm system junction boxes and
8 covers red.

9
10 INSTALL in conduit.

11 12 IDENTIFICATION

13
14 IDENTIFY system components, wiring, cabling, and terminals according to Division 16 Section
15 "Basic Electrical Materials and Methods."

16
17 INSTALL instructions frame in a location visible from the FACP.

18
19 PAINT power-supply breaker red and lock. Label "FIRE ALARM."

20 21 FIELD QUALITY CONTROL

22
23 MANUFACTURER'S FIELD SERVICE: Engage a factory-authorized service representative to
24 inspect field-assembled components and connections and to supervise pretesting, testing, and
25 adjustment of the system. Report results in writing.

26
27 FINAL TEST NOTICE: Provide a minimum of 10 days' notice in writing when the system is ready
28 for final acceptance testing.

29
30 MINIMUM SYSTEM TESTS: Test the system according to procedures outlined in NFPA 72.
31 Minimum required tests are as follows:

32
33 Verify the absence of unwanted voltages between circuit conductors and ground.

34
35 Test all conductors for short circuits using an insulation-testing device.

36
37 With each circuit pair, short circuit at the far end of the circuit and measure the circuit
38 resistance with an ohmmeter. Record the circuit resistance of each circuit on record
39 drawings.

40
41 Verify that the control unit is in the normal condition as detailed in the manufacturer's
42 operation and maintenance manual.

43
44 Test initiating and indicating circuits for proper signal transmission under open circuit
45 conditions. One connection each should be opened at not less than 10 percent of initiating
46 and indicating devices. Observe proper signal transmission according to class of wiring
47 used.

48
49 Test each initiating and indicating device for alarm operation and proper response at the
50 control unit. Test smoke detectors with actual products of combustion.

51
52 Test the system for all specified functions according to the approved operation and
53 maintenance manual. Systematically initiate specified functional performance items at
54 each station, including making all possible alarm and monitoring initiations and using all
55 communications options. For each item, observe related performance at all devices

1 required to be affected by the item under all system sequences. Observe indicating lights,
2 displays, signal tones.

3
4 Test Both Primary and Secondary Power: Verify by test that the secondary power system
5 is capable of operating the system for the period and in the manner specified.

6
7 RETESTING: Correct deficiencies indicated by tests and completely retest work affected by such
8 deficiencies. Verify by the system test that the total system meets Specifications and complies with
9 applicable standards.

10
11 CLEANING AND ADJUSTING

12
13 CLEANING: Remove paint splatters and other spots, dirt, and debris. Touch up scratches and
14 marred finish to match original finish. Clean unit internally using methods and materials
15 recommended by manufacturer.

16
17 DEMONSTRATION

18
19 ENGAGE a factory-authorized service representative to train Owner's maintenance personnel as
20 specified below:

21
22 Train Owner's maintenance personnel on procedures and schedules for starting and
23 stopping, troubleshooting, servicing, adjusting, and maintaining equipment and schedules.
24 Provide a minimum of **4 hours'** training.

25
26 Schedule training with Owner with at least seven days' advance notice.

27
28 ON-SITE ASSISTANCE

29
30 OCCUPANCY ADJUSTMENTS: When requested within one year of date of Substantial
31 Completion, provide on-site assistance in adjusting sound levels, controls, and sensitivities to suit
32 actual occupied conditions. Provide up to two requested visits to Project site for this purpose.

33
34 END OF SECTION