

~~~~~ **PROJECT NOTE** ~~~~~

ARCHITECT OF RECORD/ENGINEER OF RECORD IS RESPONSIBLE FOR REVIEWING THIS SPECIFICATION SECTION IN DETAIL FOR COORDINATION WITH THE PROJECT SCOPE OF WORK.

ALL "PROJECT NOTE" TEXT IS TO BE REMOVED FOLLOWING REVIEW OF THE CONTENT OF EACH NOTE BY THE ARCHITECT OF RECORD/ENGINEER OF RECORD.

EDIT THE DOCUMENT FOOTER TO INCLUDE THE PROJECT NAME AND NUMBER.

EDIT THE DOCUMENT HEADER TO INDICATE THE ARCHITECT OF RECORD PROJECT ISSUE" DATE. THE "CPS CONTROL" DATE SHOULD NOT BE EDITED.

ANY MODIFICATIONS TO THE TECHNICAL STANDARDS IN THIS SECTION - INCLUDING THE REMOVAL OR ADDITION OF MANUFACTURERS - MUST BE APPROVED BY CPS. REQUESTS FOR MODIFICATION ARE TO BE SUBMITTED TO THE DESIGN MANAGER DURING THE DESIGN PHASE FOR REVIEW AND APPROVAL.

~~~ **END OF PROJECT NOTE** ~~~

SECTION 26 05 53
IDENTIFICATION FOR ELECTRICAL SYSTEMS

~~~~~ **PROJECT NOTE** ~~~~~

TYPES OF IDENTIFICATION TO BE UTILIZED IN PROJECT SCOPE OF WORK TO REFLECT INSTALLATION METHODS AND MATERIALS WITHIN THE PROJECT.

~~~ **END OF PROJECT NOTE** ~~~

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Electrical identification requirements.

~~~~~ **PROJECT NOTE** ~~~~~

NAMEPLATES AND LABELS TO BE UTILIZED FOR ELECTRICAL EQUIPMENT.

~~~ **END OF PROJECT NOTE** ~~~

- B. Identification nameplates and labels.
- C. Identification signs.
- D. Wire and cable markers.
- E. Voltage markers.

~~~~~ **PROJECT NOTE** ~~~~~

FOR INSTALLATION OF EXTERIOR UNDERGROUND ELECTRICAL CONDUIT AND CABLE.

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~~~ **END OF PROJECT NOTE** ~~~~

- F. Underground warning tape.
- G. Floor marking tape.
- H. Warning signs and labels.

1.02 REFERENCE STANDARDS

- A. 29 CFR 1910.145 - Accident Prevention Signs and Tags; Current Edition.
- B. ASME A13.1 - Scheme for the Identification of Piping Systems; 2023.
- C. City of Chicago Electrical Code - Chicago Construction Codes, Title 14E, based on the National Electrical Code with amendments; Current Edition.
- D. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- E. NFPA 70E - Standard for Electrical Safety in the Workplace; 2024.
- F. UL 969 - Marking and Labeling Systems; Current Edition, Including All Revisions.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Verify final designations for equipment, systems, and components to be identified prior to fabrication of identification products.
- B. Sequencing:
 - 1. Do not conceal items to be identified, in locations such as above suspended ceilings, until identification products have been installed.
 - 2. Do not install identification products until final surface finishes and painting are complete.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittals procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for each product.
- C. Samples:
 - 1. For each type of label and sign to illustrate size, colors, lettering style, mounting provisions, and graphic features..
- D. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation and installation of product.

1.05 QUALITY ASSURANCE

- A. Comply with ASME A13.1.
- B. Comply with ANSI/IEEE 802.7.
- C. Comply with 29 CFR 1910.145.

1.06 FIELD CONDITIONS

- A. Do not install adhesive products when ambient temperature is lower than recommended by manufacturer.

1.07 COORDINATION

- A. Coordinate all names, abbreviations, colors, and other features with requirements in the Contract Documents, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual, and with those required by codes, standards, and 29 CFR 1910.145. Designations and labeling shall be consistent throughout the project.
- B. Coordinate installation with coverings and painting of surfaces.
- C. Coordinate installation with location of access panels and doors.
- D. Install identifying devices before installation of acoustical ceilings and similar concealment.

PART 2 PRODUCTS

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| NAME OF SCHOOL
PROJECT NUMBER | 26 05 53 - 2 | IDENTIFICATION FOR ELECTRICAL
SYSTEMS |
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2.01 IDENTIFICATION REQUIREMENTS

A. Identification for Equipment:

1. Use identification nameplate to identify each piece of electrical distribution and control equipment and associated sections, compartments, and components.
 - a. Switchboards:
 - 1) Identify ampere rating.
 - 2) Identify voltage and phase.
 - 3) Identify power source and circuit number. Include location when not within sight of equipment.
 - 4) Use identification nameplate to identify main overcurrent protective device.
 - 5) Use identification nameplate to identify load(s) served for each branch device. Do not identify spares and spaces.
 - b. Panelboards:
 - 1) Identify ampere rating.
 - 2) Identify voltage and phase.
 - 3) Identify power source and circuit number. Include location when not within sight of equipment.
 - 4) Use typewritten circuit directory to identify load(s) served for panelboards with a door. Identify spares and spaces.
 - 5) For power panelboards without a door, use identification nameplate to identify load(s) served for each branch device. Do not identify spares and spaces.
 - c. Transformers:
 - 1) Identify kVA rating.
 - 2) Identify voltage and phase for primary and secondary.
 - 3) Identify power source and circuit number. Include location when not within sight of equipment.
 - 4) Identify load(s) served. Include location when not within sight of equipment.
 - d. Enclosed switches, circuit breakers, and motor controllers:
 - 1) Identify voltage and phase.
 - 2) Identify power source and circuit number. Include location when not within sight of equipment.
 - 3) Identify load(s) served. Include location when not within sight of equipment.
 - e. Transfer Switches:
 - 1) Identify voltage and phase.
 - 2) Identify power source and circuit number for both normal power source and standby power source. Include location when not within sight of equipment.
 - 3) Identify load(s) served. Include location when not within sight of equipment.
 - 4) Identify short circuit current rating based on the specific overcurrent protective device type and settings protecting the transfer switch.
 - f. Electricity Meters:
 - 1) Identify load(s) metered.
 - g. UPS:
 - 1) Identify kVA rating.
 - 2) Identify voltage and phase for primary and secondary.
 - 3) Identify power source and circuit number. Include location when not within sight of equipment.
 - 4) Identify load(s) served. Include location when not within sight of equipment.
 - h. Motor Control centers:
 - 1) Identify ampere rating.

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- 2) Identify power source and circuit number. Include location when not within sight of equipment.
 - 3) Identify voltage and phase.
 - 4) Use identification nameplate to identify main overcurrent protective device.
 - 5) Use identification nameplate to identify load(s) served for each starter. Do not identify spares and spaces.
2. Service Equipment:
 - a. Use identification nameplate to identify each service disconnecting means.
 - b. For buildings or structures supplied by more than one service, or any combination of branch circuits, feeders, and services, use identification nameplate or means of identification acceptable to authority having jurisdiction at each service disconnecting means to identify all other services, feeders, and branch circuits supplying that building or structure. Verify format and descriptions with authority having jurisdiction.
3. Emergency System Equipment:
 - a. Use identification nameplate or voltage marker to identify emergency system equipment in accordance with City of Chicago Electrical Code .
 - b. Use identification nameplate at each piece of service equipment to identify type and location of on-site emergency power sources.
 - c. Use identification nameplate to identify emergency operating instructions for emergency system equipment.
4. Use voltage marker to identify highest voltage present for each piece of electrical equipment.
5. Use identification nameplate to identify equipment utilizing series ratings, where permitted, in accordance with City of Chicago Electrical Code.
6. Use identification nameplate to identify switchboards and panelboards utilizing a high leg delta system in accordance with City of Chicago Electrical Code.
7. Use identification nameplate to identify disconnect location for equipment with remote disconnecting means.
8. Use identification label or handwritten text using indelible marker on inside of door at each fused switch to identify required NEMA fuse class and size.
9. Use identification label or handwritten text using indelible marker on inside of door at each motor controller to identify nameplate horsepower, full load amperes, code letter, service factor, voltage, and phase of motor(s) controlled.
10. Use identification label to identify overcurrent protective devices for branch circuits serving fire alarm circuits. Identify with text "FIRE ALARM CIRCUIT".
11. Use field-painted floor markings, floor marking tape, or warning labels to identify required equipment working clearances.
 - a. Field-Painted Floor Markings: Alternating black and white stripes, 3 inches wide, painted in accordance with Section 09 91 23 - Interior Painting and 09 91 13 - Exterior Painting.
12. Available Fault Current Documentation: Use identification label to identify the available fault current and date calculations were performed at locations requiring documentation by the City of Chicago Electrical Code, including but not limited to the following..
 - a. Service equipment.
 - b. Industrial control panels.
 - c. Motor control centers.
 - d. Elevator control panels.
 - e. Industrial machinery.

13. Arc Flash Hazard Warning Labels: Use warning labels to identify arc flash hazards for electrical equipment, such as switchboards, panelboards, industrial control panels, meter socket enclosures, and motor control centers that are likely to require examination, adjustment, servicing, or maintenance while energized.
 - a. Comply with NFPA 70E
 - b. Minimum Size: 3.5 by 5 inches.
 - c. Legend: Include orange header that reads "WARNING", followed by the word message "Arc Flash and Shock Hazard; Appropriate PPE Required; Do not operate controls or open covers without appropriate personal protection equipment; Failure to comply may result in injury or death; Refer to NFPA 70E for minimum PPE requirements" or approved equivalent.
 - d. Labels shall be machine printed, with no field-applied markings.
 - e. Service Equipment: Include the following information in accordance with the City of Chicago Electrical Code.
 - 1) Nominal system voltage.
 - 2) Available fault current.
 - 3) Clearing time of service overcurrent protective device(s).
 - 4) Date label applied.
 14. Within all switchboard rooms, electrical closets, and other spaces containing electrical equipment provide the following:
 - a. Vitreous enameled metal sign, red on white, reading "Electrical Equipment Room - No Storage Permitted."
 - b. Mounted in clearly visible locations within rooms.
 - 1) If wall space in room does not permit mounting, mount to door on inside of room.
 15. In all switchboard rooms:
 - a. Install up-to-date black-lined print of feeder diagram of building completed with feeder schedules.
 - 1) Print shall be installed in frame, behind glass.
 - 2) Print to include up-to-date field record information.
 - 3) Print to be on mylar.
 - 4) Print to have lettering no smaller than 1/8 inch.
- B. Identification for Conductors and Cables:
1. Color Coding for Power Conductors 600 V and Less: Comply with Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables.
 2. Use identification nameplate or identification label to identify color code for ungrounded and grounded power conductors inside door or enclosure at each piece of feeder or branch-circuit distribution equipment when premises has feeders or branch circuits served by more than one nominal voltage system.
 3. Use wire and cable markers to identify circuit number or other designation indicated for power, control, and instrumentation conductors and cables at the following locations:
 - a. At each source and load connection.
 - b. Within boxes where there are more than three branch circuits, provide metal tags. Provide source and circuit number for each ungrounded conductor..
 - c. Within equipment enclosures when conductors and cables enter or leave the enclosure.
 - d. Provide write-on tags to conductors and list source and circuit number for conductors to be extended in the future.
 4. Use wire and cable markers to identify connected grounding electrode system components for grounding electrode conductors.

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5. Use underground warning tape to identify direct buried cables and cables buried in raceway for the following systems:
 - a. Power
 - b. Lighting
 - c. Communications
 - d. Control wiring
 - e. Optical Fiber
 - f. Connection to City OEMC network
- C. Identification for Raceways:
 1. Comply with ASME A13.1 for size of letters for legend and minimum length of color field for each raceway.
 2. Use voltage markers to identify highest voltage present for accessible conduits at maximum intervals of 20 feet.
 3. Use voltage markers or color-coded bands to identify systems other than normal power system for accessible conduits at maximum intervals of 20 feet. This is coordinated with Section 27 05 53 - Identification for Communication Systems.
 - a. Color-Coded Bands: Use field-painting or vinyl color coding electrical tape to mark bands 3 inches wide.
 - 1) Field-Painting: Comply with Section 09 91 23 - Interior Painting and 09 91 13 - Exterior Painting.
 - 2) Vinyl Color Coding Electrical Tape: Comply with Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables.
 - b. Color Code:
 - 1) Emergency Power System: Red.
 - 2) Fire Alarm System: Red.
 - 3) Control Wiring: Green and red.
 - 4) IT Systems:
 - (a) Provide blue colored conduit (not colored band) for IT system raceway. Conduit to be in accordance with Section 26 05 33.13 - Conduit for Electrical Systems.
 - (b) Traditional Data: blue cable
 - (c) Wireless Access Point: blue cable
 - (d) IX Aiphone: blue cable
 - (e) BAS: blue cable
 - (f) Printers: blue cable
 - (g) Smartboards: blue cable
 - 5) Mechanical and Electrical Supervisory System: Green and blue.
 - 6) Security System: Blue and yellow.
 - (a) Cameras: purple cable
 - 7) Fire-Suppression Supervisory and Control System: Red and yellow.
 4. Use identification labels, handwritten text using indelible marker, or plastic marker tags to identify circuits enclosed for accessible conduits at wall penetrations, at floor penetrations, at roof penetrations, and at equipment terminations when source is not within sight.
 - a. Provide one label or marker at each end of the pathway and at any exposed pints (i.e., screw cover boxes, pull points, etc.)
 5. Exposed raceways shall be labeled at transitions into and out of inaccessible spaces.
 6. Provide alphanumeric identifiers to designate locations for origin and the end of the pathway.
 - a. Type of pathways shall be identified:

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- 1) CN-conduit
 - 2) TCN-telecommunications conduit
 - 3) RK-rack
 - 4) W-workstation
 - b. Numbered from each origin point in series starting from 1.
7. Use underground warning tape to identify underground raceways.
8. Use voltage markers to identify highest voltage present for wireways at maximum intervals of 20 feet.
- D. Identification for Boxes:
 1. Use voltage markers to identify highest voltage present.
 2. Use voltage markers or color coded boxes to identify systems other than normal power system.
 - a. Color-Coded Boxes: Field-painted in accordance with Section 09 91 23 - Interior Painting and 09 91 13 - Exterior Painting per the same color code used for raceways.
 - b. For exposed boxes in public areas, do not color code.
 3. Use identification labels or handwritten text using indelible marker to identify circuits enclosed.
 - a. For exposed boxes in public areas, use only identification labels.
- E. Identification for Devices:
 1. Wiring Device and Wallplate Finishes: Comply with Section 26 27 26 - Wiring Devices.
 2. Use identification label to identify fire alarm system devices.
 - a. For devices concealed above suspended ceilings, provide additional identification on ceiling tile below device location.
 3. Use identification label to identify load controlledfor wall-mounted control devices controlling loads that are not visible from the control location and for multiple wall-mounted control devices installed at one location.

2.02 IDENTIFICATION NAMEPLATES AND LABELS

- A. Identification Nameplates:
 1. Manufacturers:
 - a. Joe Halm Building Specialties
 - b. Mechanical Tag Systems
 - c. N&E Specialty Company
 - d. Quentin D Schwab
 - e. Seton Identification Products: www.seton.com
 2. Materials:
 - a. Indoor Clean, Dry Locations: Use plastic nameplates.
 - b. Outdoor Locations: Use plastic nameplates suitable for exterior use.
 - 1) With non-corroding screws.
 3. Plastic Nameplates: Two-layer or three-layer laminated acrylic or melamine with beveled edges; minimum thickness of 1/16 inch; engraved text.
 4. Text:
 - a. Text to be 1/2 inch high letters on 1-1/2 inch label for single line.
 - b. Text to be 1/2 inch high letters on 2 inch label for 2 line text applications.
 - c. Increase sizes of labels and letters to be viewed from floor in elevated applications.
 5. Mounting Holes for Mechanical Fasteners: Two, centered on sides for sizes up to 1 inch high; Four, located at corners for larger sizes.
- B. Identification Labels:
 1. Materials: Use self-adhesive laminated plastic labels; UV, chemical, water, heat, and abrasion resistant.

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2. Text: Use factory pre-printed or machine-printed text. Do not use handwritten text unless otherwise indicated.
 - C. Format for Equipment Identification:
 1. Minimum Size: 1.5 inches by 2.5 inches.
 2. Legend:
 - a. System designation where applicable:
 - b. Equipment designation or other approved description.
 3. Text: All capitalized unless otherwise indicated.
 4. Minimum Text Height:
 - a. System Designation: 1/2 inch.
 - b. Equipment Designation: 1/2 inch.
 5. Color:
 - a. Normal Power System: White text on black background.
 - b. Emergency Power System: White text on red background.
 - c. Fire Alarm System: White text on red background.
 - D. Format for General Information and Operating Instructions:
 1. Minimum Size: 1 inch by 2.5 inches.
 2. Legend: Include information or instructions indicated or as required for proper and safe operation and maintenance.
 3. Text: All capitalized unless otherwise indicated.
 4. Minimum Text Height: 1/4 inch.
 5. Color: Black text on white background unless otherwise indicated.
 - E. Format for Caution and Warning Messages:
 1. Minimum Size: 2 inches by 4 inches.
 2. Legend: Include information or instructions indicated or as required for proper and safe operation and maintenance.
 3. Text: All capitalized unless otherwise indicated.
 4. Minimum Text Height: 1/2 inch.
 5. Color: Black text on yellow background unless otherwise indicated.
 - F. Format for Control Device Identification:
 1. Minimum Size: 3/8 inch by 1.5 inches.
 2. Legend: Load controlled or other designation indicated.
 3. Text: All capitalized unless otherwise indicated.
 4. Minimum Text Height: 3/16 inch.
 5. Color: Black text on clear background.
 - G. Format for Fire Alarm Device Identification:
 1. Minimum Size: 3/8 inch by 1.5 inches.
 2. Legend: Designation indicated and device zone or address.
 3. Text: All capitalized unless otherwise indicated.
 4. Minimum Text Height: 3/16 inch.
 5. Color: Red text on white background.
- ## 2.03 IDENTIFICATION SIGNS
- A. Material and Thickness: Multilayer, multicolor, plastic labels for mechanical engraving, 1/8-inch thick, and having predrilled holes for attachment hardware.
 - B. Letter Color: Black.
 - C. Background Color: White.
 - D. Maximum Temperature: Able to withstand temperatures up to 160 deg F.
 - E. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.

- F. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches; 1/2 inch for viewing distances up to 72 inches; and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-fourths the size of principal lettering.
- G. Fasteners: Stainless-steel self-tapping screws.
- H. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.
- I. Label Content: Include caution and warning information, plus emergency notification instructions. Provide additional information as required by Board Representative

2.04 WIRE AND CABLE MARKERS

- A. Markers for Conductors and Cables: Use wrap-around self-adhesive vinyl cloth, wrap-around self-adhesive vinyl self-laminating, heat-shrink sleeve, plastic sleeve, plastic clip-on, vinyl split sleeve, or metal tag type markers suitable for the conductor or cable to be identified.
- B. Markers for Conductor and Cable Bundles: Use plastic marker tags or metal tags secured by nylon cable ties.
- C. Legend: Power source and circuit number or other designation indicated.
- D. Text: Use factory pre-printed or machine-printed text, all capitalized unless otherwise indicated.
- E. Text Height: Comply with ANSI A13.1.
- F. Color: Black text on orange background unless otherwise indicated.

2.05 VOLTAGE MARKERS

- A. Markers for Conduits: Use factory pre-printed self-adhesive vinyl, self-adhesive vinyl cloth, or vinyl snap-around type markers.
- B. Markers for Boxes and Equipment Enclosures: Use factory pre-printed self-adhesive vinyl or self-adhesive vinyl cloth type markers.
- C. Minimum Size:
 - 1. Markers for Equipment: 1 1/8 by 4 1/2 inches.
 - 2. Markers for Conduits: As recommended by manufacturer for conduit size to be identified.
 - 3. Markers for Pull Boxes: 1 1/8 by 4 1/2 inches.
 - 4. Markers for Junction Boxes: 1/2 by 2 1/4 inches.
- D. Legend:
 - 1. Markers for Voltage Identification: Highest voltage present.
 - 2. Markers for System Identification:
 - a. Emergency Power System: Text "EMERGENCY".
 - b. Other Systems: Type of service.
- E. Color: Black text on orange background unless otherwise indicated.

2.06 UNDERGROUND WARNING TAPE

- A. Materials: Use non-detectable type polyethylene tape suitable for direct burial, unless otherwise indicated.
- B. Non-detectable Type Tape: 6 inches wide, with minimum thickness of 4 mil.
- C. Legend: Type of service, continuously repeated over full length of tape.
 - 1. Legend shall be factory printed.
- D. Color:
 - 1. Tape for Buried Power Lines: Black text on red background.

2.07 FLOOR MARKING TAPE

- A. Floor Marking Tape for Equipment Working Clearance Identification: Self-adhesive vinyl or polyester tape with overlamine, 3 inches wide, with alternating black and white stripes.

2.08 WARNING SIGNS AND LABELS

- A. Comply with City of Chicago Electrical Code and 29 CFR 1910.145.
- B. Warning Signs:
 - 1. Materials:

- a. Indoor Dry, Clean Locations: Use factory pre-printed rigid plastic or self-adhesive vinyl signs.
 - b. Outdoor Locations: Use factory pre-printed rigid aluminum signs.
2. Rigid Signs: Provide four mounting holes at corners for mechanical fasteners.
3. Minimum Size: 7 by 10 inches unless otherwise indicated.
- C. Warning Labels:
 1. Materials: Use factory pre-printed or machine-printed self-adhesive polyester or self-adhesive vinyl labels; UV, chemical, water, heat, and abrasion resistant; produced using materials recognized to UL 969.
 - a. Do not use labels designed to be completed using handwritten text.
 2. Machine-Printed Labels: Use thermal transfer process printing machines and accessories recommended by label manufacturer.
 3. Minimum Size: 2 by 4 inches unless otherwise indicated.
- D. Shall include, but not limited to, the following legends:
 1. Multiple power source warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
 2. Workspace clearance warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES."

PART 3 EXECUTION

3.01 PREPARATION

- A. Clean surfaces to receive adhesive products according to manufacturer's instructions.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install identification products to be plainly visible for examination, adjustment, servicing, and maintenance. Unless otherwise indicated, locate products as follows:
 1. Surface-Mounted Equipment: Enclosure front.
 2. Flush-Mounted Equipment: Inside of equipment door.
 3. Free-Standing Equipment: Enclosure front; also enclosure rear for equipment with rear access.
 4. Elevated Equipment: Legible from the floor or working platform.
 5. Branch Devices: Adjacent to device.
 6. Interior Components: Legible from the point of access.
 7. Conduits: Legible from the floor.
 8. Boxes: Outside face of cover.
 9. Conductors and Cables: Legible from the point of access.
 10. Devices: Outside face of cover.
- C. Install identification products centered, level, and parallel with lines of item being identified.
- D. Secure nameplates to exterior surfaces of enclosures using stainless steel screws and to interior surfaces using self-adhesive backing or epoxy cement.
- E. Install self-adhesive labels and markers to achieve maximum adhesion, with no bubbles or wrinkles and edges properly sealed.
- F. Install underground warning tape above buried lines with one tape per trench at 3 inches below finished grade.
- G. Secure rigid signs using stainless steel screws.
- H. Mark all handwritten text, where permitted, to be neat and legible.
- I. For equipment with multiple power or control sources, apply to door or cover of equipment including, but not limited to, the following:
 1. Power transfer switches.
 2. Controls with external control power connections.

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3.03 PATHWAY IDENTIFICATION

- A. Conduit labels shall be made adhesive and a minimum of 3/4 inch wide, embossed with the designations in 5/16-inch high letters (numbers placed in 2 locations for all spaces and on all pathways at both ends) and legibly written with a permanent marker.
- B. Minimum of two (2) labels, one at each end of the pathway and any exposed points (i.e., screw cover boxes, pull points, etc.).
- C. Exposed raceways do not need to be labeled unless transitioning into or out of an inaccessible space. When necessary, raceway designation will be (RW).
- D. All pathways shall be identified with an alphanumeric identifier to designate locations for the origin and the end of the pathway.
- E. Pathways shall follow the hierarchy.
- F. Final identification shall be required at the beginning and the end of the pathway and at all accessible points along the pathway (i.e. Pull boxes)

1. Example: Conduit leaving MDF and ending at classroom concentrator 232:

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|---|--|
| ROOM PRIMARY
SIGNIFICANCE
MDF
MAIN DISTRIBUTION
FRAM | MDF-CCE232
ROOM OF SECONDARY
SIGNIFICANCE
CCE232
CLASSROOM
CONCENTRATOR
ENCLOSURE ROOM 232 |
|---|--|

2. Example: Telecommunications service entrance from the main service entrance to the MDF:

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|--|---|
| ROOM PRIMARY
SIGNIFICANCE
MDF
MAIN DISTRIBUTION
FRAME | MDF-TCN
CONDUIT
IDENTIFICATION
TCN
TELECOMMUNICATIONS
SERVICE ENTRANCE |
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3. When multiple rooms of secondary significance are combined together (Branched off) within the same common conduit, leaving the room of significance, each label will be attached to the common conduit and Identified on a spreadsheet in the enclosure pockets and the MDF binder.

- a. Example:

- 1) **MDF-SCE256**
- 2) **MDF-TCE254**

4. When multiple conduits are extended from the MDF to a common location, a distinction is to be made between the conduits.

- a. Example: Two conduits from MDF to the Telecommunications Service Entrance:

| | | |
|--|--|--|
| ROOM PRIMARY
SIGNIFICANCE
MDF
MAIN DISTRIBUTION
FRAME | MDF-TCN-CN1 (2)
CONDUIT
IDENTIFICATION
TCN
TELECOMMUNICATIONS
SERVICE ENTRANCE | CONDUIT
IDENTIFICATION
CN1
CONDUIT 1 |
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3.04 IDENTIFICATION SIGN INSTALLATION

- A. Install nameplates with corrosive-resistant mechanical fasteners, or adhesive. Apply with sufficient adhesive to ensure permanent adhesion and seal with clear lacquer.
- B. Electronic shut off valves are to be identified with signs at the activating switch or button, including:
 - 1. Gas Shut Off
 - 2. Emergency Boiler Shut Off
 - 3. Emergency Generator Shut Off

3.05 WARNING SIGN INSTALLATION

- A. Install nameplates with corrosive-resistant mechanical fasteners, or adhesive. Apply with sufficient adhesive to ensure permanent adhesion and seal with clear lacquer.
- B. Warning Signs are required for the following elements:
- C. Warning Lights are to have an accompanying sign identifying the light meaning, including:
- D. "Gas Usage in Space" for Science Labs and Prep Rooms
- E. "Do Not Enter – Photo Developing" for Photography Dark Rooms
- F. "Refrigerant Alarm" at Chiller Room

3.06 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for additional requirements.
- B. Replace self-adhesive labels and markers that exhibit bubbles, wrinkles, curling or other signs of improper adhesion.

END OF SECTION