1. GENERAL

1.01 SECTION INCLUDES

.1 Nameplates and labels.

.2 Wire and cable markers.

.3 Conduit markers.

.4 Receptacle labels.

.5 Signage.

1.02 RELATED REQUIREMENTS

.1 Section 09 91 00 – Painting.

.2 Section 27 05 53 – Identification for Communications Systems.

1.03 SUBMITTALS

.1 Product Data: Provide catalogue data for nameplates, labels, and markers.

.2 Provide shop drawings of nameplates for Consultant's review prior to fabrication (scale 1:1).

.3 Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by Product testing agency specified under regulatory requirements. Include instructions for storage, handling, protection, examination, preparation, and installation of Product.

1.04 REGULATORY REQUIREMENTS

.1 Provide products listed and classified by CSA Group as suitable for the purpose specified and indicated.

2. PRODUCTS

2.01 NAMEPLATES AND LABELS

.1 Nameplates:

.1 Engraved three-layer laminated plastic, letters on contrasting background.

.2 Colours to match existing building system, where applicable. If no building system exists, use the following:

.1 347/600 volt system: White text on Blue background.

.2 120/208 volt system: Black text on White background.

.3 Fire Detection system: White text on Red background.

.4 Emergency Lighting system: Red text on White background.

.5 LV systems: White text on Green background.

.3 Confirm colours with the Consultant prior to ordering nameplates.

.2 Equipment Nameplates to indicate:

.1 Equipment/Panelboard ID.

.2 Ampacity.

.3 Voltage.

.4 Number of Phases.

.5 Number of wires in system.

.6 Interrupting Capacity.

.7 Size, number of poles, Panelboard ID, and circuit number of upstream overcurrent protection device.

.1 Location of upstream device if not in the same room.

.3 Coordination Study Labels to Section 26 05 73.16.

.4 Arc Flash Study Labels to Section 26 05 73.19.

.5 Locations:

.1 Distribution panelboards, and individual distribution panelboard branch breakers.

.2 Receptacle panelboards.

.3 Each electrical distribution and control equipment enclosure.

.4 Uninterruptible Power Supply.

.5 Mechanical Equipment.

.6 UPS receptacles.

.7 Disconnects, starters and contactors: indicate equipment being controlled and voltage.

.8 Terminal cabinets, junction boxes, and pull boxes: indicate system and voltage.

.9 Transformers: indicate capacity, primary and secondary voltages.

.6 Letter Size:

.1 Use 3 mm letters for identifying individual equipment and loads.

.2 Use 6 mm letters for identifying grouped equipment and loads.

.7 Labels:

.1 Mechanically fastened with sheet metal screws, with 5 mm white letters on black background.

.2 White letters on red background for UPS and equipment, and devices downstream of UPS.

.3 Labels: embossed plastic labels with 6 mm high letters unless specified otherwise.

.4 Wording on nameplates and labels to be reviewed by the Consultant prior to manufacturing.

.5 Allow for minimum of twenty-five (25) letters per nameplate and label.

.6 Nameplates for terminal cabinets and junction boxes to indicate system and/or voltage characteristics.

.7 Terminal cabinets and pull boxes: indicate system and voltage.

2.02 WIRING IDENTIFICATION

.1 Identify wiring with permanent indelible identifying markings, numbered, on both ends of phase conductors of feeders and branch circuit wiring.

.2 Maintain phase sequence and colour coding throughout.

.3 Colour coding: to CSA C22.1.

.4 Use colour coded wires in communication cables, matched throughout system.

2.03 WIRE MARKERS

.1 Description: tape, split sleeve, or tubing type wire markers.

.2 Locations: Each conductor at panelboard gutters, pull boxes, outlet and junction boxes and each load connection.

.3 Legend:

.1 Power and Lighting Circuits: Branch circuit or feeder number indicated on drawings.

.2 Control Circuits: Control wire number indicated on shop drawings.

2.04 CONDUIT AND BOX MARKERS

.1 Colour code conduits, boxes, and metallic sheathed cables.

.2 [Location: Provide markers for each conduit longer than 2 m.]

.3 [Code with plastic tape or paint at points where conduit or cable enters wall, ceiling, or floor, and at 15 m intervals.]

.4 Colours to match equipment nameplate background colour:

.1 347/600 volt system: Blue.

.2 120/208 volt system: Black.

.3 Fire Alarm system: Red.

.4 Emergency Lighting system: Red/White.

.5 LV Systems (EPO, Remote Monitoring, Generator Control, Communications): Green.

.6 120/208 volt Uninterruptable Power Supply (UPS): Orange

.5 Confirm colours with the Consultant prior to commencing rough-in.

2.05 JUNCTION AND PULL BOXES

.1 Clearly identify main pull or junction boxes (excluding obvious outlet boxes) by painting outside of covers.

.2 Spray painting: not permitted.

.3 Paint colours to be in accordance with following schedule:

.1 Lighting: yellow.

.2 Normal power: blue.

.3 Emergency power: orange.

.4 Fire alarm: red.

.5 Communications systems including telephone and data: green.

.6 Miscellaneous signals: brown.

.4 In addition to painting miscellaneous signal boxes, clearly identify specific system in which box is installed. Identify source panelboard for power circuits.

2.06 BRANCH BREAKER LABELS

.1 General:

.1 Legibly identify every circuit and circuit modification as to its clear, evident, and specific purpose or use. Include sufficient detail to allow each circuit to be distinguished from all others.

.2 Label spare positions that contain unused overcurrent devices or switches.

.3 Do not describe any circuit in a manner that depends on transient conditions of occupancy.

.2 Switchboards, distribution panelboards, enclosed breakers, and disconnect switches:

.1 Locate identification at each switch.

.2 Branch breaker nameplates on switchboards, distribution panelboards and switchboards, and generator load breakers to indicate:

.1 Locate identification at each switch on a switchboard.

.2 Identification of downstream equipment fed from the breaker.

.1 Location of downstream device if not in the same room.

.3 Breaker size and number of poles.

.4 Interrupting Capacity.

.5 Circuit number (where applicable).

.6 Do not describe any circuit in a manner that depends on transient conditions of occupancy.

.3 Lighting and Receptacle Panelboards:

.1 Provide a circuit directory that is located on the face or inside of the panel door.

.2 Do not describe any circuit in a manner that depends on transient conditions of occupancy.

2.07 RECEPTACLE LABELS

.1 Label all receptacles with the panelboard ID and circuit number.

.2 Use receptacle labels by electronic labeller Brother P-Touch, model PT-20/25, Dymo-Tape or approved equal.

.3 Location: On receptacle wall plate.

3. EXECUTION

3.01 EQUIPMENT NAMEPLATES FROM MANUFACTURERS

.1 Ensure manufacturer's nameplates, CSA labels and identification nameplates are visible and legible after equipment is installed.

.2 Manufacturers' nameplates and CSA labels are to be visible and legible after equipment is installed. Provide warning signs, as specified, or to meet requirements of Inspection Department, Health and Safety, and the Consultant.

.3 Label power outlets with circuit identification on visible portion of faceplate or surface mounted outlet box.

3.02 CONDUIT AND BOX IDENTIFICATION

.1 Locate labels as follows:

.1 At every end of every conduit, duct, or cable run, adjacent to item of equipment serviced.

.2 On each exposed conduit, duct or cable passing through a wall, partition, or floor (one on each side of such wall partition or floor).

.3 At intervals of 15 m (50 ft) along every exposed conduit, duct or cable run exceeding 15 m (50 ft) in length.

.4 At every access point on concealed conduit duct or cable.

.5 At each junction box.

.2 Place labels so as to be visible from 1500 mm (5 ft) above adjacent floor platform.

3.03 PREPARATION

.1 Degrease and clean surfaces to receive nameplates and labels.

3.04 APPLICATION

.1 Confirm colours prior to start of work.

.2 Install nameplate and label parallel to equipment lines.

.3 Secure nameplate to equipment front using adhesive.

.4 Secure nameplate to inside surface of door on panelboard that is recessed in finished locations.

.5 Identify conduit using field painting.

.6 Paint coloured band on each conduit longer than 2 m.

.7 Paint bands 6 m on centre.

3.05 LABELLING

.1 Colour code wiring consistently throughout the installation and generally match colour coding of internal wiring of pre-wired components.

.2 Label wiring with point name using Thomas & Betts 12 character polestar metalized labels with 3 rows of characters per label, or equal by Brady. Label to occur as a minimum at both ends and at pull boxes of the wiring run.

.3 Identify all pull boxes, junction boxes, etc. (installed as part of this project or used by this project) with the exact use of the box. Indelible felt pen marker is acceptable.

.4 Label light control items with point name using Thomas & Betts 12 character label, or equal by Brady. Label to be black lettering on clear backing.

.5 Label relays and controllers inside panels using Thomas & Betts 12 character label, or equal by Brady.

.6 Provide red, 13 mm (1/2 in) diameter, sticker on emergency light fixture frame. Include circuit number on sticker with thin permanent black mark pen.

3.06 LABELS AND SIGNS

.1 Manufacturers' nameplates and CSA labels are to be visible and legible after equipment is installed. Provide warning signs, as specified, or to meet

requirements of Inspection Department, Health and Safety, and the Consultant.

.2 Label power outlets with circuit identification on visible portion of faceplate or surface mounted outlet box.

End of Section