
Oakhurst Dairy – New Milk Cooler**SECTION 16140 - WIRING DEVICES****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes receptacles, connectors, switches, and finish plates.

1.3 DEFINITIONS

- A. GFCI: Ground-fault circuit interrupter.
 - 1. For personnel protection: 5mA.
 - 2. For equipment protection: 30 mA.
- B. TVSS: Transient voltage surge suppressor.

1.4 SUBMITTALS

- A. Product Data: For each product specified.
- B. Shop Drawings: Legends for receptacles and switch plates.
- C. Samples: For devices and device plates for color selection and evaluation of technical features.
- D. Maintenance Data: For materials and products to include in maintenance manuals specified in Division 1.

1.5 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.
- B. Comply with NEMA WD 1.
- C. Comply with NFPA 70.

1.6 COORDINATION

- A. Receptacles for Owner-Furnished Equipment: Match plug configurations.
 - 1. Cord and Plug Sets: Match equipment requirements.

1.7 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. Deliver extra materials to Owner.

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1. TVSS Receptacles: One for each eight installed, but not less than two.

2.1 MANUFACTURERS**PART 2 - PRODUCTS**

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Wiring Devices:
 - a) Bryant Electric, Inc.
 - b) Hubbell, Inc.; Wiring Devices Div.
 - c) Killark Electric Manufacturing Co.
 - d) Leviton Manufacturing Co., Inc.
2. Switch-rated Receptacles:
 - a) Meltric Corporation

2.2 RECEPTACLES

- A. Straight-Blade and Locking Receptacles: Heavy-Duty grade.
1. Minimum rating: 20 Amps.
- B. GFCI Receptacles: Feed-through type, with integral NEMA WD 6, Configuration 5-20R duplex receptacle arranged to protect connected downstream receptacles on same circuit. Design units for installation in a 2-3/4-inch-deep outlet box without an adapter.
- C. TVSS Receptacles: Duplex type, NEMA WD 6, Configuration 5-20R, with integral TVSS in line to ground, line to neutral, and neutral to ground.
1. TVSS Components: Multiple metal-oxide varistors; rated a nominal clamp level of 500 transient-suppression voltage and minimum single transient pulse energy dissipation of 140 J line to neutral, and 70 J line to ground and neutral to ground.
 2. Active TVSS Indication: Light visible in face of device to indicate device as "active" or "no longer active."
 3. Identification: Distinctive marking on face of device denotes TVSS-type unit.
- D. Industrial Heavy-Duty Receptacle: Comply with IEC 309-1.
- E. Power Outlet Receptacles: Single-type rated at amperage indicated, heavy-duty design, polarized, twist-lock, P & S Series, BROWN color with No. 302 (18/8) stainless steel single gang plate.
1. Welding Receptacle: Verify NEMA configuration with owner.
 2. Unit Heater Receptacle: Provide cord, plug and receptacle to match current and voltage rating of unit heater.
- F. Wet Location Receptacles: Standard face receptacle or power outlet receptacle in a cast weatherproof box with P & S Series receptacle cover UL "Listed" for wet locations per UL 514. Use where noted "WP" on Drawings.
1. Rainproof protection while outlet is in use: Cover shall suit the receptacle box size and number of receptacles/switches, deep cover, UV stabilized polycarbonate, UL Listed, -60° to +200° F; TayMac Corp. or equal.

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- G. Corrosion - Resistant Receptacles: 20 amp, two-pole, 3-wire, grounding duplex, nickel-plated metal parts, Leviton model 53CM yellow color with satin finish no. 302 (18/8) stainless steel wall plate or as shown on drawings.
- H. Disconnect-rated Receptacle: UL 98/508 listed as non-fused disconnect switch.
 - 1. Receptacles shall have amperage and horsepower rating.
 - 2. Receptacles shall have dead-front construction.

2.3 SWITCHES

- A. Snap Switches: Heavy-duty, quiet type.
- B. Combination Switch and Receptacle: Both devices in a single gang unit with plaster ears and removable tab connector that permit separate or common feed connection.
 - 1. Switch: 20 A, 120/277-V ac.
 - 2. Receptacle: NEMA WD 6, Configuration 5-15R.

2.4 WALL PLATES

- A. Single and combination types match corresponding wiring devices.
 - 1. Plate-Securing Screws: Metal with head color to match plate finish.
 - 2. Material for Finished Spaces: 0.04-inch-thick, Type 302, satin-finished stainless steel.

2.5 FINISHES

- A. Color: White, unless otherwise indicated or required by Code.

PART 3 - EXECUTION**3.1 INSTALLATION**

- A. Switches and receptacles shall have SCREW TERMINALS and be of voltages indicated. A mixture of manufacturers' materials not permitted. Oversize or jumbo plates are not acceptable.
- B. Install devices and assemblies plumb and secure.
- C. Install wall plates when painting is complete.
- D. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical, and grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.
- E. Protect devices and assemblies during painting.

3.2 IDENTIFICATION

- A. Comply with Division 16 Section "Basic Electrical Materials and Methods."
 - 1. Switches: Where three or more switches are ganged, and elsewhere as indicated, identify each switch with approved legend engraved on wall plate.

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2. Receptacles: Identify panelboard and circuit number from which served. Use machine-printed, pressure-sensitive, abrasion-resistant label tape on face of plate and durable wire markers or tags within outlet boxes.
3. Down-stream GFCI receptacles shall clearly be marked as being GFCI-protected, and shall be marked to identify their source as noted above.

3.3 CONNECTIONS

- A. Connect wiring device grounding terminal to branch-circuit equipment grounding conductor.
- B. Tighten electrical connectors and terminals according to manufacturers published torque-tightening values. If manufacturers torque values are not indicated, use those specified in UL 486A and UL 486B.

3.4 FIELD QUALITY CONTROL

- A. Test wiring devices for proper polarity and ground continuity. Operate each device at least six times.
- B. Check TVSS receptacle indicating lights for normal indication.
- C. Test GFCI operation with both local and remote fault simulations according to manufacturer's written instructions.
- D. Replace damaged or defective components.

3.5 CLEANING

- A. Internally clean devices, device outlet boxes, and enclosures. Replace stained or improperly painted wall plates or devices.

END OF SECTION 16140