
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.

Oakhurst Dairy – New Milk Cooler

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.

Oakhurst Dairy – New Milk Cooler

- 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.

Oakhurst Dairy – New Milk Cooler

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