

ELECTRIC VEHICLE (EV) OUTLET

**\*\*From Springfield CMG PARK(32)**

xx. DESCRIPTION. This work shall consist of furnishing and installing an electric vehicle (EV) outlet at the location indicated in the Plans and as directed by the Engineer.

xx. GENERAL REQUIREMENTS. The Contractor shall provide a Level 1 - 120 volt (V), 20 amp (A) alternating-current (AC) plug and a dedicated circuit, for connection to user-supplied portable electric vehicle charging station.

The work includes the furnishing, installation, and connection of receptacles, weatherproof cover plates, and mounting bracket arms, including testing equipment.

The Contractor shall furnish and install the equipment as specified herein and as shown on the Plans.

It is not the intent of this specification to provide a SAE J1772 Standard, Electric Vehicle Conductive Charge Coupler.

xx. REFERENCE STANDARDS.

All receptacles and devices shall comply with NEMA, NFPA, UL, and the requirements specified in the Plans.

- (a) NEMA WD1 - Wiring Devices
- (b) UL 498 - Attachment Plugs and Receptacles
- (c) UL 943 - Ground Fault Circuit Interrupters
- (d) National Electrical Code (N.E.C.) NFPA-70
- (e) Requirements of Underwriters' Laboratories, Incorporated for all items installed for which UL Standards have been established.

xx. ACCEPTABLE MANUFACTURERS. Acceptable manufacturers for receptacles and cover plates include Pass & Seymour, Hubbell, Leviton, Midwest, and Taymac.

Products of equal quality, detail, function, and performance may be proposed for substitution to the Agency's project manager for approval.

xx. MATERIALS.

- (a) Materials and equipment shall be listed by Underwriters' Laboratories unless it can be demonstrated that no UL Standards exist for a specific item or class of equipment.

(b) Provide factory-fabricated wiring devices complying with NEMA Standards Publication WD 1, unless otherwise indicated.

(c) Receptacles.

(1) Receptacles shall have provisions for back wiring with separate metal clamp type terminals (four minimum) and wiring from four captively held binding screws.

(2) Simplex Receptacles. Extra heavy-duty, single phase, 20 ampere, 120 volts, 2-pole, 3-wire, NEMA 5-20R.

a. Weather Resistant Receptacles. Shall consist of a receptacle, mounted in box with a gasketed, weatherproof, cast metal cover plate and cap over each receptacle opening. The cap shall be permanently attached to the cover plate by a spring-hinged flap. The weatherproof integrity shall not be affected when heavy duty specification attachment plug caps are inserted. Cover plates on outlet boxes mounted flush in the wall shall be gasketed to the wall in a watertight manner.

b. Bodies shall be gray in color, unless noted otherwise.

(d) Cover Plates.

(1) Provide plates for all outlets with opening configuration suitable for devices to be covered, color to match devices.

(2) Weather-proof in-use, NEMA 3R, Die Cast Metal, Extra Heavy Duty, and weatherproof gasketed cover.

(e) Outlet Boxes.

(1) Weather-proof, NEMA 3R, Die Cast Metal, Singles gang box.

(2) Closure Plugs, Ground Screw and Mounting Hardware.

(f) Support Brackets. Provide bracket arms clamped to poles, to support owner provided equipment, sized as on Plans.

xx. CONSTRUCTION REQUIREMENTS. Coordinate with pole manufacturer to provide pole mounted simplex receptacle. Poles EPA sizes shall be coordinated with manufacturer for bracket arm.

Install receptacles at a maximum of 42 inches above finished grade or at heights shown on the Plans; heights shall be in accordance with ADA minimum and maximum requirements.

Installation shall be in accordance with the NEC and as shown as

on the Plans.

The ground terminal of each wiring device shall be bonded to the outlet box with an approved green bonding jumper, and also connected to the branch circuit equipment grounding conductor.

Coordinate the electrical work with the work of other trades to ensure that wiring device flush outlets are positioned within pole openings aligned with the surrounding finish material. Pay special attention to installation and in connection to pole.

When recommended by the manufacturer, use a torque screwdriver. Tighten unused terminal screws.

The Contractor shall install all equipment per the manufacturer's recommendations and Contract Documents.

All necessary hardware to secure the assembly in place shall be provided by the Contractor.

xx. ACCEPTANCE CHECKS AND TESTS.

(a) Perform field checks in accordance with the manufacturer's recommendations. In addition, include the following:

(1) Visual Inspection and Tests.

- a. Inspect physical and electrical condition.
- b. Vacuum-clean surface metal raceway interior. Clean metal raceway exterior.
- c. Test wiring devices for damaged conductors, high circuit resistance, poor connections, inadequate fault current path, defective devices, or similar problems using a portable receptacle tester. Correct circuit conditions, remove malfunctioning units and replace with new, and retest as specified above.
- d. Test GFCI receptacles.

xx. METHOD OF MEASUREMENT. The quantity of Special Provision (Electric Vehicle Outlet, Level 1) to be measured will be the number of each outlet installed in the complete and accepted work.

xx. BASIS FOR PAYMENT. The accepted quantity of Special Provision (Electric Vehicle Outlet, Level 1) will be paid for at the Contract unit price for each. Payment will be full compensation for furnishing and installing the materials specified, including receptacle, weatherproof outlet box, faceplate, weatherproof in-use cover, and associated pole mounting hardware and support bracket; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Circuiting and conduit to dedicated EV outlet will be paid separately under Contract item 678.23. Conduit shared with lighting wiring shall be paid as part of the lighting system installation.

Payment will be made under:

<u>Unit</u>	<u>Pay Item</u>	<u>Pay</u>
900.620	Special Provision (Electric Vehicle Outlet, Level 1)	Each