1. APPLICATION

A. 600 volt insulated single, triplexed and quadraplex conductors are installed in conduits underground and exposed outside on riser poles in EWEB’s secondary voltage distribution system.

2. REFERENCE STANDARDS

A. The cable furnished shall meet the latest editions, revisions, and amendments of the following standards unless otherwise stated in this specification:

1) ANSI/NEMA WC 70/ICEA S-95-658 Power Cables Rated 2, 000 Volts or Less for the Distribution of Electrical Energy
2) UL 854 Standard for Service Entrance Cables
3) The Aluminum Association Code Words for Underground Distribution Cables
4) NEMA WC 26 Binational Wire and Cable Packaging Standard
5) Applicable ASTM Standards

3. PRODUCTS

A. General

1) Cable shall be suitable for use in wet or dry locations, in underground or exposed conduits, direct buried, or outdoor above ground exposed to sunlight.

2) Cable shall be rated for 90°C conductor temperature for continuous operation, 130°C for emergency overload conditions, and 250°C for short-circuit
conditions. Emergency overloads are those overload conditions that are in existence for less than 100 hours per year.

3) Cable shall be labeled as: Type USE-2 per UL 854.

B. Conductor Material

1) Copper: Phase and neutral conductors shall be Class B copper concentric-stranded non-compact, annealed, and soft drawn conforming to ASTM B-8.

2) Aluminum: Phase and neutral conductors shall be 1350 grade aluminum, Class B, concentric-stranded, non-compact, and half hard conforming to ASTM B-231.

C. Insulation

1) The insulation shall be crosslinked polyethylene, of thickness shown in Table I for phase and neutral conductors.

<table>
<thead>
<tr>
<th>SIZE</th>
<th>INSULATION THICKNESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWG OR KCmil</td>
<td>MILS</td>
</tr>
<tr>
<td>8 TO 2</td>
<td>60</td>
</tr>
<tr>
<td>1 TO 4/0</td>
<td>80</td>
</tr>
<tr>
<td>225 TO 500</td>
<td>95</td>
</tr>
<tr>
<td>525 TO 1000</td>
<td>110</td>
</tr>
</tbody>
</table>

D. Phase and Neutral Conductor sizes.

1) Triplex and quadruplex cables shall consist of phase conductors of equal size and a neutral of reduced size wound together and held by their own rigidity. The size of the phase conductors and neutral are shown in Table II.
TABLE II
CONDUCTOR/NEUTRAL SIZES

<table>
<thead>
<tr>
<th>PHASE CONDUCTORS</th>
<th>NEUTRAL CONDUCTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWG OR KCMIL</td>
<td>AWG OR KCMIL</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>1/0</td>
<td>2</td>
</tr>
<tr>
<td>2/0</td>
<td>1</td>
</tr>
<tr>
<td>3/0</td>
<td>1/0</td>
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<td>2/0</td>
</tr>
<tr>
<td>250</td>
<td>3/0</td>
</tr>
<tr>
<td>350</td>
<td>4/0</td>
</tr>
<tr>
<td>500</td>
<td>350</td>
</tr>
<tr>
<td>750</td>
<td>500</td>
</tr>
</tbody>
</table>

E. Cable Identification

1) All Cables: The outer surface of the insulation on all conductors shall be durably marked throughout its length with the manufacturer's identification, type of insulation (i.e., XLP, not manufacturer's trade name), size of conductor and neutral, whether aluminum or copper rated voltage, and UL Type USE-2.

2) Neutral Conductors: The outer surface of the insulation on neutral conductors of triplex and quadraplex cables shall be black with three yellow stripes permanently bonded to the jacket approximately 120° apart.

4. TESTS

A. All tests shall be in accordance with the latest edition of the referenced standards.

5. WARRANTY

A. Provide a warranty period of eighteen (18) months, minimum after the date of acceptance.

B. Vendor shall warrant the goods/equipment be free from defects in material or workmanship, and shall repair or replace any unit that fails during normal use, including all parts and labor at no cost to EWEB.
6. PACKAGING AND DELIVERY

   A. Quadruplex cable shall be on reels not more than 72” diameter and outside width of 45”.

   B. All other cables shall be on reels not more than 72” diameter and outside width of 40”.

   C. Cable reels shall be shipped with axis horizontal.

   D. All phase and neutral conductors shall have a waterproof cap and seal on each end.

   E. Provide protective covering for cable reels per the latest revision of NEMA WC 26.

7. SUBMITTALS

   A. Submit the information required in Exhibit A

8. EWEB STORES INFORMATION

   A. This specification shall be used to purchase the material with the following stock codes:

      436 - 0000959 through 436 -0000970
EXHIBIT A
SPECIFIC INFORMATION REQUIRED WITH BID
UNDERGROUND SECONDARY CONDUCTORS
600 VOLT
(Submit Separate Sheets for each Item)

Manufacturer's Name: ________________________________
Code Name (for aluminum conductors): __________________
Distributor's Name: __________________

1. SINGLE CONDUCTOR
   a. Conductor Size ________________________________
   b. Conductor Material (CU or AL) ____________________
   c. Number and size of strands ________________________
   d. Insulation thickness ___________________ mils
   e. Diameter over insulation ___________________ mils

2. TRIPLEX OR QUADRAPLEX CABLES
   Phase Neutral
   a. Conductor Size ________ ________
   b. Conductor Material (CU or AL) ________ ________
   c. Number and size of strands ________ ________ mils
   d. Insulation thickness ________ ________ mils
   e. Diameter of complete cable __________________ mils

EXCEPTION(S) TO EWEB SPECIFICATION:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________