Taunton Municipal Airport – New Administration Building
Taunton, MA

City of Taunton
1098-06

Addendum No.04
August 9, 2019

Attention all bidders: All bidders are required to acknowledge receipt of this addendum on the filed sub-bid and general bid forms contained in the contract documents. All information included in this addendum is hereby included as part of the Contract Documents and is to be included in the bidder’s scope of work and contract price at the time of bid. Failure to acknowledge this addendum may result in rejection of your bid.

General Information
Bidder questions that have not be answered yet will be answered in forthcoming addenda.

Attachments
- TMLP Specifications

Questions and Answers
Q1 Referencing Section 337119 Electrical Underground Ducts and Manholes: a. Is Conduit with the Electrical Filed Sub-Bid? b. Is the Precast Concrete Handholes and Boxes with the Electrical Filed Sub-Bid?
   A1. Yes, refer to detail 2 on E-011 for both parts of the question.
Q2 Is Section 337121 Grounding and Bonding for Exterior Systems with the Electrical Filed Sub-Bid?
   A2. Yes, refer to detail 2 on E-011.
Q3 Drawing E-301 Note 8 describes the diesel standby generator as an add alternate. I cannot locate a specification section for alternates and there does not appear to be a line on the bid form to provide an alternate. Is this generator supposed to be an alternate?
   A3. Correct, the generator is supposed to be an alternate.
Q4 If the generator is an alternate, please provide clear scope on what should be in the base bid and what is part of the add alternate. Are the transfer switches part of the base bid or alternate? Is the conduit/wiring part of the base bid or alternate?
   A4. Only the generator shall be included in the alternate pricing. All associated infrastructure shall be part of the base scope.
Q5 Drawing E-401 shows light fixture types “A03” with integral occupancy sensors. There are also sensors located in the rooms with the “A03”. Is it intended to have the redundant sensors?
   A5. Redundant sensors are not required; however, contractor shall validate that full sensing converge of rooms is provided. Per detail 4 on Sheet E-802, the integral sensors to the fixture
shall be networked with the lighting control system, and subject to the requirements of section 26 09 26 for networked lighting controls and 26 09 93 Sequence of Operations for Lighting Control.

Q6 Drawing E-301, can a panel schedule be provided for panel DP2?
A6. Panel schedule provided as part of Addendum 3.

Q7 Drawing E-011 shows the paths of proposed conduit runs and drawing C-23 shows sections through various types of conduit groupings, but there is no indication of which conduit run applies to which detail - which conduits are concrete encased and which use bedding?
A7. All underground conduits shown on E-011 are direct buried unless noted otherwise. Service feeders are all noted as concrete encased; i.e. feeder from utility transformer to SRE, utility transformer to New Admin Building, and from utility pole to utility transformer. Contractor shall coordinate exact routing to determine quantity of conduits to be grouped together. Contractor to refer to corresponding detail on C-23 based on this quantity. For direct buried feeders, refer to detail 1/E-801.

Q8 The electrical site plan and E-301 show work associated with the SRE Building. Please provide locations for the new electrical meter, new ATS, existing panel DP1, and new panel DP2. Since new wiring is to be installed between these pieces of equipment, we need to know the distances between them.
A8. Locations for new electrical infrastructure at SRE to be provided in forthcoming Addendum.

Q9 Similar to question 8, please provide a location for the SRE Building telecom room as we are running new conduit to that location.

Q10 Plan E-011 notes for EC to run U/G AL conductor from pole to transformer, and the direction of the line does not lead to a utility pole. There is a utility pole located on the south side near PED Gate #2. Is this where we are supposed to run the conductor?
A10. The aforementioned existing pole (last before taking right onto runway) will be replaced with a new pole by TMLP. Primary conduits and conductors will run to this new pole. Pole to be coordinated between GC and TMLP.

Q11 Where can we find TMLP specifications? The TMLP T&C's on-line does not have the information.
A11. See attached.

Q12 The Instruction to Bidder lists Article 10: Alternates as ’Not Used’ and there is no space on the sub-bid form for alternates, however, there are several locations on the electrical drawings that include an alternate for a diesel generator. Specifically note #8 on drawing E-301. Please confirm that the diesel generator is to be packaged as part of the base bid for the project and there are no alternates that need to be listed as part of the electrical sub-bid.
A12. Alternate 1 is for the Generator Unit. Infrastructure to the generator is part of the base bid. See attached for related spec, drawing, and bid form changes.

Q13 Please provide a specification for water meter #2. Please confirm that the gas sub-meter is supplied by the owner as shown on P-801, detail 6.
A13. Both water meters to be provided by the Water Department.
Q14 In section 085113 pg. 4 paragraph 1.7 it references that the mock-up will NOT remain as part of the work. On 5/A-563 it shows the mock-up area as being (2) W1 windows. Are 2 windows required for the mock-up? If so, can they stay installed and become part of the final construction? Also, it shows a storefront assembly on 5/A-563, is a storefront mock-up required? There is no mention of this in the specifications.

A14. Portions, if not all, of the mock-up may remain in place if there are no objections to the work by the Owner and Architect. If there are objections to any portion of the mock-up work, it must be removed and replaced to the Owner and Architect's satisfaction. Work within the scope of the mock-up shall not be constructed on the remainder of the project until the work on the mock-up is reviewed and approved by the Owner and Architect. Two windows are required for the mock-up along with the scope indicated on Detail 5/A-563. A storefront assembly is not required as part of the mock-up.

Q15 Who is responsible for the testing of the windows/curtainwall/storefront? How many tests will be conducted on each of the windows/curtainwall/storefront?

A15. The Owner is responsible for third party testing of the windows, storefront, and curtainwall if they wish to have it performed. The scope of testing will be up to the Owner’s discretion but will not test for performance requirements in excess of what has been specified.

Q16 Drawing 9/A501 show conduit installed on top of the roof deck buried in the roof insulation. The detail states to “Refer to Electrical Drawings”. Our scope of work listed drawings does not include the electrical drawings. 1) Please confirm Massachusetts Electrical Code allows this type of conduit installation. 2) If code does allow, please tell us how many back boxes we will need to cut the roof insulation around and how much conduit across the roof deck we will have to cut the roof insulation around?

A16. The roofing field sub scope shall include the Electrical drawings under their list of "Related Requirements". Massachusetts electrical code allows this type of conduit installation. 2) Roofer to coordinate insulation cuts with number of back boxes and conduit runs based on electrical drawings.

Q17 Specification Section 01 50 00 Temporary Facilities and Controls, 1.14 A.3b requires the construction trailer to have a sound rating of 70 dB. Can the 70 dB be waived? If the rating cannot be waived, please provide a manufacturer, model number for a 70 dB trailer. Please advise.

A17. The 70dB sounds rating can be waived.

Q18 Please confirm we are correct in our understanding that work and materials described in non-electrical specification or shown on non-electrical drawings, without also being described and listed in the electrical specifications, is for coordination purposes only and shall not be part of the electrical contractor’s bid for this project.

A18. Electrical Contractors bids shall be coordinated with and in anticipation of the work and materials described in non-electrical specifications and non-electrical drawings.

Q19 Per Structural Drawing S002, noting this building is designated as a Seismic Design Category “B”, will seismic bracing be required for the fire protection scope 210001?

A19. Per the Mass State Building Code, seismic bracing is not required for Seismic Design Category B.
Q20  Addendum #2 indicated that Specification Section 07 44 50 – Fiber Cement Siding is responsible for providing the flashing above the granite base on Drawing A-531 instead of Section 07 62 00 – Sheet Metal Flashing and Trim. Which trade is responsible for providing the sill flashing shown on Detail 2 Drawing A-535 & A-562?
A20. No, Addendum #2 indicates that division 04 43 13 is responsible for providing the flashing directly above the granite base - Not 07 44 50 or 07 62 00 as identified in the question. There is no sill flashing shown on Detail 2/A-535. The sill flashing shown directly above the granite base on Detail 2/A-562 is provided by division 04 43 13.

Q21  Which trade is responsible for furnishing and installing the brake metal shown on Detail Drawings 6&7/A-532, 8/A5.33, 6/A-535, 3/A621 and 4, 5 &10/A-641?

Q22  The Glulam specifications section 06.18.00 calls for FSC certified Glulams. Is it possible to have this requirement waived?
A22. Yes, refer to Addendum 2, Q10.

Q23  Ref. Spec Section 093000-1.2.6: Is the tile trade contractor responsible for the furnishing and installation of the backer board behind the wall tile?
A23. Yes the tiling contractor is responsible for furnishing and installing the backer board behind tile. Refer to revised spec section 09 30 00, 2.1, A, 2 for backer board in Addendum 3, Q4.

Q24  Ref. Sections 093000-2.4A, 3.6.B2, and 3.7.A3: Under materials, acrylic modified grout is called for. But under the floor and wall tile installation methods, epoxy grout is called for. Which is it?
A24. Refer to Addendum 3, Q52.

Q25  Interior signage specs and drawings are contradictory in regards to sizes and materials. Please advise which is correct.
A25. Refer to drawings for dimensions of the exterior Cast Metal Letters and interior Window Plaque Signage. For Interior Plaque Signage materials, provide in Photopolymer; remove references to acrylic in drawings at these signs.

End of Addendum No. 04
Mr. Bob Adams  
Chairman  
Taunton Municipal Airport Commission  
4 Westcoat Drive  
East Taunton, MA 02781  

March 20, 2019  

Re: New Administration Building, Taunton Municipal Airport  

Dear Mr. Adams,  

Per your request, TMLP has included specifications regarding the proposed new 3 phase permanent service at the above-mentioned location. Typically, the responsibilities are as follows:  

**Taunton Municipal Lighting Plant** will be responsible for the following for the Permanent Service.  

1. TMLP will install new pole #12 to be primary riser.  
2. TMLP will dress primary cables w/ customer supplied Terminators on each pole.  
3. TMLP will supply necessary transformer on customer installed pad. Secondary voltage and size to be determined. Metering will be at each building or at transformer.  
4. TMLP to install approx. 1500’ of 3 phase 1/0 spacer type cable on existing poles. The installation cost of this will be $45,000.00.  
5. TMLP to move existing street lights from aluminum standards to wooden poles, and remove aluminum poles and bases.  
6. New service to SRE building may come out of same transformer.  

**The Customer** will be responsible to supply and install and maintain the following for Permanent Service:  

1. One set of 3-15 kV, 1/0 AL. underground cable from Pole to transformer pad w/ sufficient slack as needed per attached specs.  
2. (3) Each of 15 kV load break elbows, parking stands, insulated caps, as per attached spec or approved equal. Contractor is responsible for dressing primary and secondary sides of transformer.
3. Primary, secondary, and fiber optic conduit as required. Primary cable and 4-4" Sch. 40 or DB PVC conduit to be concrete encased, 3” on all sides. 2” Sch. 40 PVC Fiber Optic Conduit to bypass transformer pad and express to telephone/data room for fiber optic service. Galvanized steel long radius seeps and 10’ Galvanized pipe to be used on poles.

4. Transformer pad and grounding as per attached TMLP drawings. Pad shall be a minimum of 10' from a permanent structure and shall be accessible by TMLP equipment. Transformer pad to be pre-cast type TMLP spec. or approved equal. Protective bollards to be installed around transformer by contractor.

5. Secondary cable, properly sized, from TMLP supplied transformer to permanent service location.

If you have any questions, please contact Craig Foley (508)-824-3167 at this office.

Very truly yours,

MUNICIPAL LIGHT COMMISSION
OF THE CITY OF TAUNTON

Craig Foley
Distribution Manager

Specifications Included:

- Trench detail
- Manhole
- Manhole racks
- Frame and Cover
- Transformer Pad
- Grounding Grid
- Protective Bollards
- UG equipment
- 15 Kv Cable
- 15KV Splices
Bushing Covers: **RD-BC15KV, RD-BC25/35KV**
- Completely eliminates all drain wires
- Completely eliminates potential arc flash hazard
- 100% test indication of energized bushing without removing cover
- IP67 submersible rating
- Meets all requirements of ASTM F712
- Meets all pertinent IEEE386 requirements - Voltage withstand, sealing and mechanical make / break force.
- Designed for temporary and permanent installation applications.

**Voltage Classes:** 15kV 25/35kV

**Material:** UV Stabilized TPR Polymer

R & D Utility Products – (877) 305-6952 or email: Mail@randdup.com
Trench Detail

NO SCALE

SELECTED BACKFILL

(No stones over 3 dia.)

ELECTRICAL WARNING TAPE

SPARE CONDUIT

3 CONCRETE AROUND

2-4" PVC PRIMARY CONDUITS

6'

CONDUIT (104, all sides)

EXPRESSION TO TEL/E OR DATA ROOM

2 PVC FOR FIBER OPTICS TO BYPASS TRANSFORMER

12'

3'
If Required

Area within protection pipes must remain clear for opening or equipment doors and maintenance.

Non-combustible Fire rated wall or BLDG. for 3' Dimension

3" Pipe
Galvanized Steel
Painted Yellow
Concrete filled

Grade

Slope away from pipe

Concrete Backfill

Filled and capped with concrete

16" min
### CABLE ACCESSORIES

#### 200 Amp Loadbreak

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<tr>
<th>Illustration</th>
<th>Description</th>
<th>Voltage Class</th>
<th>ELASTIMOLD Part Number</th>
<th>Notes</th>
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<td>Elbow Connector</td>
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<td>Elbow Connector w/ Test Point</td>
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<td>166LR-W5X</td>
<td>N2,3,4,5</td>
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<td><img src="image3.png" alt="Jacket Seal" /></td>
<td>Jacket Seal</td>
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<td><img src="image4.png" alt="Jacket Seal" /></td>
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<td>276LRJS-W5X</td>
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<td>Repair Elbow Connector</td>
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<td>167ELR-W5X</td>
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<td><img src="image6.png" alt="Repair Elbow" /></td>
<td>Repair Elbow Connector w/ Test Point</td>
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<td>168ELR-W5X</td>
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<td><img src="image7.png" alt="Replacement Elbow" /></td>
<td>Replacement Elbow</td>
<td>15kV</td>
<td>167RLR-W5X</td>
<td>N5,11,13</td>
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<td><img src="image8.png" alt="Replacement Elbow" /></td>
<td>Replacement Elbow w/ Test Point</td>
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<td>273RLR-W5X</td>
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<td><img src="image9.png" alt="Direct Test" /></td>
<td>Direct Test Elbow Connector</td>
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<td>Direct Test Repair Elbow Connector w/ Test Point</td>
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<td><img src="image12.png" alt="Fused Elbow" /></td>
<td>Fused Elbow (Full Range Current Limiting)</td>
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<td><img src="image18.png" alt="Insulated Cap" /></td>
<td>Insulated Cap w/ Ground and Test Point</td>
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<td><img src="image19.png" alt="Grounding Plug" /></td>
<td>Grounding Plug (1/4&quot; AWG x 6&quot; Ground Lead)</td>
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<td><img src="image21.png" alt="Feed-Thru" /></td>
<td>Feed-Thru Well Vertical</td>
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<td><img src="image24.png" alt="Bushing Well Plug" /></td>
<td>Bushing Well Plug (Full Range)</td>
<td>15kV</td>
<td>276BWP</td>
<td>M276BWP</td>
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</table>

**Legend:**
- **N1:** Copper lug for use on COPPER CONDUCTOR ONLY.
- **N2:** W5X indicates that the part number includes 0.050" x 0.090" x 0.090" x 0.090" long x 0.080" wide x 0.080" high copper lug. For an all-copper lug, replace W5X with WSX in Table Xi to specify the all-copper M5XSW lug. For an all-copper lug, please specify M5XSW lug.
- **N3:** Also available as housing only. Specify: 165BLR-W, 276BLR-W, 375BLR-W.
- **N4:** Also available as elbow insert only. Specify: 165A-W, 165B-W, 276A-W, 276B-W.
- **N5:** Also available with 20ECG jacket seal included. Add "S" suffix to part number.
- **N6:** Rated for single-phase applications only.
- **N7:** Equipped with insulated cuff. Insulates crowd lugs with 3/4" Wx4A housing. Includes internal grounding feature using 201AT Assembly Tool.
- **N9:** Also available without ferrule. Specify "A" suffix - Example: 2732DRAG.
- **N10:** Repair elbow has extended length contact and elbow housing resulting in a net gain of 3-1/2" in length.
- **N11:** Replacement elbow has extended length contact and elbow housing resulting in a net gain of 3-1/2" in length.
- **N12:** Rated for 25kV thru 38kV applications.
- **N13:** Includes long bimetal contact (04604).
- **N14:** 165CA Cable Size Adapter can only be used with elbow part numbers 165LR-W/165LR B size only.
- **N15:** Fully rotateable for 360° positioning. Includes internal assembly to secure feed-thru insert to base well.
- **N16:** Includes 08080H X-bimetal contact.
- **N17:** Includes coppex x-bimetal contact. Includes copper x-bimetal contact. Also available as bushing only - specify: 165BLR-W, 276BLR-W.
- **N19:** Includes all metal jacket seal. Also available as housing only - specify: 165BLR-W, 276BLR-W.
- **N20:** Includes two internal grounding features using 201AT Assembly Tool.
- **N21:** Includes a我们现在 sealant ring.
- **N22:** Direct Test Connectors, along with a 200TC-X series meter adapter, a properly sized voltage meter and a Hotline Stick provides a means for direct conductor voltage testing.
- **N23:** With stainless steel bracket.
- **N24:** Test Point Cap (AC) 156-7

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**Note:** For cable shield adapters and jacket seals, see page 28.
NOTES:
1. CONCRETE MIN. STRENGTH – 5,000 PSI @ 28 DAYS.
2. STEEL REINFORCEMENT – ASTM A615, GRADE 60.
3. MINIMUM STEEL COVER – 1-1/2 INCH TYPICAL.
4. DESIGN LOADING – AASHTO HS20-44.
5. DESIGN SPECIFICATIONS – ACI 318 & AASHTO LOAD FACTOR DESIGN METHOD.
6. TERMINATORS SHALL HAVE BELL ENDS FLUSH WITH INSIDE WALL.
7. CONSTRUCTION JOINT SHALL BE SEALED WITH 1" BUTYL RUBBER OR APPROVED EQUAL.
### Physical Data

#### Copper Neutral (per ANSI/ICEA S-94-649-2000)

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<th>Number of Wires</th>
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<th>Max. Over Insulation</th>
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#### Copper Neutral (per ANSI/ICEA S-94-649-2000)

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<th>AWG or KCMIL</th>
<th>Number of Strands</th>
<th>Number of Wires</th>
<th>Size AWG</th>
<th>Conductor</th>
<th>Min. Over Insulation</th>
<th>Max. Over Insulation</th>
<th>Over Embedded Jacket</th>
<th>Conductor</th>
<th>Neutral</th>
<th>Total Without Jacket</th>
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**HQ2000 .175" TRXLG 15 KV CONCENTRIC NEUTRAL UNDERGROUND CABLE 100% INSULATION THICKNESS COMPRESSED STRANDING AND SOLID CONDUCTORS**

**ELECTRICAL DATA**

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<th>Inductive Reactance</th>
<th>AMPACITY - 20°C Ambient 100% LF, RHO-90</th>
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<td>OHMS Per 1000'</td>
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TMLP SPECIFICATIONS
URD JACKETED CABLE, 15KV

1.0 GENERAL

1.1 The jacketed cable shall meet all applicable provisions of the attached Taunton Municipal Lighting Plant URD cable specification and IPCEA Publication S-66-524 except where they conflict with the requirements of this specification, in which case this specification shall apply.

1.2 When references are made to the American Society for Testing Materials (ASTM) the requirements of the latest revision of the reference specification shall apply.

2.0 VOLTAGE RATING

2.1 The cable shall be rated for 15 KV operation.

3.0 INSULATION

3.1 The insulation shall be tree retardant cross-linked polyethylene meeting the requirements of IPCEA Publication No. S-66-524.

3.2 The average thickness of insulation shall be 175 mils. The minimum thickness at any point shall not be less than 157.5 mils.

4.0 CONDUCTOR SHIELD

4.1 The conductor shield shall be extruded and meet the requirements specified in section 2.4 of IPCEA Pub. S-61-524.

4.2 The average thickness shall not be less than 15 mils and the minimum thickness at any point shall not be less than 12 mils.
5.0 INSULATION SHIELD

5.1 A layer of semi-conducting cross-linked polyethylene meeting the requirements of paragraph 4.1.1 of IPCEA S-66-524 shall be extruded over the insulation to serve as an electrostatic shield.

5.2 The material shall be suitable for exposure to sunlight and other atmospheric environments at temperatures of -55° C through +75° C.

5.3 The shield shall be applied so as to facilitate the removal of the shield without externally applied heat (free stripping).

5.4 The thickness of the shielding shall be in accordance with 7.1.4 of IPCEA S-66-524.

6.0 CONDUCTOR

6.1 The central conductor shall be in accordance with ASTM Specification B-231 for Class B Concentric stranded aluminum conductor.

6.2 The conductor size shall be: 1/0 Al.

6.3 The conductor shall have "strand fill" and shall meet the longitudinal water penetration resistance test (ICEA T-31-610).

7.0 CONCENTRIC NEUTRAL

7.1 A concentric neutral of annealed copper wires shall be spirally wound over the shielding with uniform spacing between wires. These wires shall meet the requirements of ASTM Specification B-3.

7.2 The wires shall be bare copper.

7.3 The minimum size of the individual neutral wires shall be #14 AWG. The minimum number of such wires shall be: 16 (full neutral).

7.3.1 The minimum size of the individual neutral wires for other conductors shall be as follows:

<table>
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<th>Conductor Size</th>
<th>1/3 Neutral</th>
<th>Full Neutral</th>
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<tr>
<td>4/0</td>
<td>11 - #14</td>
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</tr>
<tr>
<td>500</td>
<td>16 - #12</td>
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7.4 The length of lay of the neutral wires shall not be more than 8 times the diameter over the concentric wires except as provided for 7.5 and 7.6 below.
7.5 The lay may be increased to not more than 10 times the diameter over the neutral wires provided one of the following conditions are met:

7.5.1 The number of wires in 7.3 is increased by at least 25%.

7.5.2 The cable design is such that equal spacing of the neutral wires will be maintained during installation.

7.6 As an alternative to the fabrication described in 7.1 through 7.5, the concentric neutral may, when so ordered by the purchaser, consist of copper annealed straps applied spirally over the insulation shielding to provide essential full coverage for mechanical protection.

7.7 These straps shall be of such dimensions to provide conductance not less than that in 7.3. The thickness of the straps shall not be less than 0.02". The lay shall be not more than seven times the diameter over the concentric straps.

8.0 JACKET

8.1 An insulating polyethylene layer meeting the requirements of 4.4.15 of IPCEA S-66-524 shall be extruded tightly over the insulation and neutral wires to serve as a protective covering. The minimum thickness shall not be less than 175 mils of TRXLP over the neutral.

8.2 The material shall be black polyethylene meeting requirements of IPCEA S-66-524, Section 4.3.2, except Class C, Category 5 and Grade J-5 shall be used.

8.3 The jacket shall be free stripping. It shall be applied so as to facilitate its removal without externally applied heat when splices, or terminators or grounding connections are made.

8.4 The jacket shall encapsulate the individual neutral wires. The jacket shall completely fill areas between neutral wires and meet requirements of 4.4.15.3 IPCEA Publication S-66-524.
9.0 TESTS

9.1 The jacket shall meet the requirements for cold bend test specified in 6.10.3 of IPCEA Publication S-66-524, except the test temperature shall be -36 deg. C.

9.2 Each length of cable shall meet the requirements of 4.4.15.5 of IPCEA Publication S-66-524.

9.3 Test reports shall be furnished to the customer.

10.0 QUALITY ASSURANCE

10.1 Each length of cable shall be tested in accordance with AEIC CS5-81 with the following exception:

10.1.1 Apparent discharge in accordance with AEIC CS5-81 except with maximum discharge of 5 picocoulombs to full test voltage of 200 volts/mil.

10.1.2 A.C. Voltage Withstand Test in accordance with AEIC CS5-81 except partial discharge to be monitored during A.C. test. If partial discharge appears, cable shall be rejected.

10.1.3 D.C. Voltage Withstand Test in accordance with AEIC CS5-81 except at 500 volts/mil for 15 minutes.

11.0 MISCELLANEOUS

11.1 The cable shall have suitable marking on the outer surface of the jacket at regular intervals to indicate the name of the manufacturer, conductor size, type of insulation, type of conductor, voltage rating, and jacketing material.

11.2 Watertight seals shall be applied to all cable ends to prevent the entrance of moisture during transit or outdoor storage.