

6300000 CONDUIT  
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

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Timothy Ruelke  
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Comments: (3-8-12, Internal)

Footnote 3 under Materials should say “hot –dipped galvanized”.

Response: You are correct. This has been corrected.

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Comments: (4-3-12)

In 630-4.2 it states that “Due to conditions which may exist on the project site, the contractor may furnish conduit in variable lengths.”

In 630-4.3 it reads that “The Contractor shall furnish conduit in 20 foot sections with one coupling per section.”

In 630-4.4 it reads “The Engineer will supply conduit in sections with one coupling per section and elbows as required.”

I think the 630-4.2 (F&I) and 630-4.3 (F) should both allow for variable length as needed for the site, and for the 630-4.4 (I) is this to mean that someone else has furnished the conduit to the Department / the Engineer and we will provide that conduit to the contractor to install?

I don’t see a pay item for “Conduit Furnish” or “Conduit Install” in the list of valid pay items, therefore maybe the Furnish Section and the Install Section are not needed.

In 630-5 the item listed is “630-1- “ from looking at the list of pay items this should be “0630- 1- XX” in my opinion.

Response: Agree that specifying default section lengths and other content is overly prescriptive and unnecessary. The text has been modified accordingly. The furnish-only and install-only were blocked in 2009, due to misuse of these items; some designers would "F&I" the first conduit in a trench, and then try to "Furnish" the additional conduits (See comment from Melissa Hollis of the FDOT CO Specifications and Estimates Office). The descriptions for these operations have been removed.

Changes made.

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Comments: (4-13-12)

630-3.1 General, 9<sup>th</sup> paragraph -Add the highlighted word (the pull wire should be inside the conduit):

Install a No. 12 AWG pull wire or polypropylene cord **inside** the full length of all conduits ~~that are designated for future use~~. Ensure that a minimum of

24 inches of pull ~~wire/cord~~~~line approved by the Engineer~~ is accessible at each conduit termination.

Response: Document modified as suggested for clarification.

Change made.

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Cheryl Hudson  
414-5332

Comments: (4-20-12)

1. **630-3.1, paragraph 4:** Did you intend for those to be described as “exposed” or “unexposed” installations?

Use ~~either~~ schedule 80 PVC or fiberglass reinforced epoxy conduit for *bridge decks or other* **exposed** installations ~~on bridge decks~~.

Response: The intent is to require Schedule 80 PVC or fiberglass reinforced epoxy conduit when conduit is exposed. Document has been modified (as follows) for clarification.

Use ~~either~~ schedule 80 PVC or fiberglass reinforced epoxy conduit for *bridge decks or other* ~~exposed~~ installations ~~on bridge decks~~.

Change made.

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**Note:** Conduit on bridges and approach slabs is directed by Index 21210 and its IDS. Conduit is occasionally installed in the bridge deck, but usually it is located inside the railing as depicted in 21210. That distinction is the basis of some of the proposed changes below (**green text-highlighted in yellow**).

The conduit expansion joint requirements in Section 630-3.3, paragraph 1, conflicts with the requirements in Standard Index 21210 Conduit Details. Some expansion joints in a bridge require expansion/deflection fittings (like curved bridges) which allow for non-linear movement, and may not be made of the same material as the conduit. Structures would like to add to the specification information currently in Index 21210 (Notes 4 & 5, expansion/deflection fitting requirements).

## **2. 630-3.3, paragraph 1:**

**630-3.3 Conduit Joints:** ~~Make conduit joints using materials as specified by the manufacturer~~ **When conduit crosses an expansion joint of a structure and where shown in the plans, install an expansion or expansion/deflection fitting as specified by the manufacturer** ~~when conduit crosses an expansion joint of a structure. Use couplings and expansion joints made of the same material as the conduit. Certify that expansion/deflection fittings are rated to accommodate a minimum rotation of 30° and that both the expansion and expansion/deflection fittings are rated to accommodate the anticipated longitudinal movement (minimum 2 inches for deflection fittings and 0.7 inches for expansion/deflection fittings. Ensure that all installed joints are made using materials as specified by the manufacturer and are waterproof.~~ As an exception to the threaded coupling for intermediate metal conduit, at locations where it is not possible to screw the threaded coupling properly, the Contractor may use a waterproof slip-joint coupling approved by the Engineer. Secure the joint, and tighten threaded connections.

Response: Suggested edits have been incorporated into document.  
Changes made.

**3. 630-4.2, paragraph 2: Note:** Currently, Index 21210 CONDUIT DETAILS includes the cost of furnishing and installing Conduit etc. in the cost of the Traffic Railing or Pedestrian Railing (Parapet) that the conduit is installed in. This needs to be coordinated between roadway and structures and may change suggestions to Section 630-4.2

Payment for conduit placed in the ground or ~~used on~~ *attached to* bridge ~~decks~~ will be based on the horizontal path of the installed conduit ~~as~~ measured in a straight line between the centers of pull boxes, cabinets, poles, etc. No allowance will be made for sweeps or vertical distances above *the ground or within the structure,* or below the ground ~~or the bridge deck~~.

Response: Suggested edits have been incorporated into document.  
Changes made.

**4. 630-4.4, paragraph 2: Does the Engineer supply conduit, or the Contractor?**

The ~~Engineer~~ *Contractor* will supply conduit in sections with one coupling per section and elbows as required.

Response: The furnish-only and install-only were blocked in 2009, due to misuse of these items; some designers would "F&I" the first conduit in a trench, and then try to "Furnish" the additional conduits (See comment from Melissa Hollis of the FDOT CO Specifications and Estimates Office). The descriptions for these operations have been removed.

**5. Pull boxes are not included in this Specification, but seems like a good place for them. We would like to have the following included for bridge or traffic railing installations. This would be for Indexes 21210, 17721, and 410.**

*Furnish and install NEMA 4X non-metallic, or galvanized steel pull boxes in accordance with NEC requirements. Pull boxes shall include gasketed weatherproof covers permanently labeled to indicate the utility contained within. Letters and symbols shall be a minimum of 0.5 inches tall and may be stamped or molded into the pull box covers.*

Response: An update to Section 635, Pull and Junction Boxes, is planned for the near future. This comment will be considered and language incorporated into that section to address your needs concerning boxes for bridge or traffic railing installations.  
No change made at this time.

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Missy Hollis  
414-4182

Comments: (4-26-12)

The "Furnish" only and "Install" only pay items were blocked in 2009, due to misuse of these items; some designers would "F&I" the first conduit in a trench, and then try to "Furnish" only the additional conduits. Is there a need to keep the other operations in the spec?

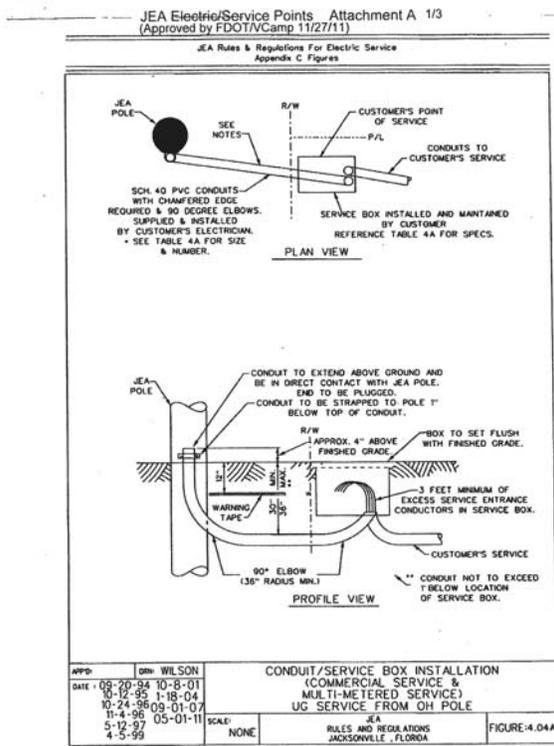
Response: We have no objection. The descriptions for these operations have been removed. Changes made.

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Comments: (5-7-12)

630-3.1 does mention complying with NEC or NESC however, the fourth paragraph still dictates SCH 80 PVC or fiberglass conduit for exposed installations (we need SCH 40).



**JEA Rules & Regulations For Electric Service**  
Appendix C Figures

**NOTES:**

1. JEA SHALL:
  - A. DESIGNATE JEA POLE AND SERVICE BOX LOCATION. THE SERVICE BOX SHALL BE INSTALLED ON CUSTOMER/PRIVATE PROPERTY AS CLOSE TO THE PROPERTY LINE AND R/W LINE AS PRACTICAL.
  - B. MAKE ALL CONNECTIONS TO THE CUSTOMER'S SERVICE CONDUCTORS IN THE SERVICE BOX.
  - C. MAINTAIN THE SECONDARY RISER FROM OVERHEAD CONNECTIONS TO THE CONNECTIONS IN THE SERVICE BOX.
  - D. MAINTAIN CONDUIT IS BETWEEN JEA SERVICE POLE AND SERVICE BOX.
2. THE CUSTOMER MUST SELECT A CLEAR SIDE OF THE JEA POLE FOR JEA TO INSTALL THE SECONDARY RISER. CLEAR FROM PHONE OR COMMUNICATION CABLES, OR ANY OTHER EQUIPMENT, FROM FINISHED GRADE TO OVERHEAD FACILITIES. CONTACT JEA SERVICE ENGINEER IF RISER LOCATION REQUIRED.
3. CUSTOMER SHALL:
  - A. INSTALL WARNING TAPE FROM THE SERVICE BOX TO THE JEA SERVICE POLE AS SHOWN.
4. CUSTOMER SHALL INSTALL AND MAINTAIN:
  - A. SERVICE BOX:
    1. THE SERVICE BOX SHALL BE LOCATED FROM THE JEA SERVICE POLE:
      - MINIMUM 4'
      - MAXIMUM 18', OR AS DESIGNATED BY JEA SERVICE ENGINEER
      - BE CLEAR OF OBSTRUCTION
  - B. CONDUIT (ELLS) ON THE CUSTOMER'S SIDE OF THE POINT OF SERVICE OR CONDUIT FROM SERVICE BOX TO THE CUSTOMER'S POINT OF METERING OR DISCONNECT/SWITCHGEAR.
  - C. SECONDARY CONDUCTORS FROM THE CONNECTIONS IN THE SERVICE BOX TO THE CUSTOMER'S POINT OF METERING OR DISCONNECT/SWITCHGEAR.
5. POINT OF SERVICE: SECONDARY CONNECTIONS IN THE SERVICE BOX.
6. THE PURPOSE OF THE SERVICE BOX IS TO PREVENT THE CUSTOMER'S FACILITIES FROM BEING INSTALLED ON JEA POLES, NOT TO REDUCE THE LENGTH OF CONDUCTOR INSTALLED BY THE CUSTOMER.

APPD:	WILSON	CONDUIT/SERVICE BOX INSTALLATION (COMMERCIAL SERVICE & MULTI-METERED SERVICE) UG SERVICE FROM OH POLE
DATE:	02-20-04 TO 08-01 10-19-05 10-24-05 11-4-06 5-12-07 4-5-09	SCALE: NONE
		JEA RULES AND REGULATIONS JACKSONVILLE, FLORIDA

FIGURE 4.04A

C-23 Effective May 1, 2011

**JEA Rules & Regulations For Electric Service**  
Chapter IV Secondary Metered Services - Underground (0 - 600V)

**TABLE 4A**  
**CONDUIT AND SERVICE BOX REQUIREMENTS**  
**FOR UNDERGROUND COMMERCIAL SERVICES FROM AN OVERHEAD POLE**

SERVICE SIZE	CONDUIT SIZE (From Service Box to JEA Overhead Pole)	SERVICE BOX SIZE
20A - 300A	1-3 in	17" x 30" x 18" d stock #BOX SE 001
301A - 399A	1-3 in	24" x 36" x 18" d stock #BOX SE 002
400A - 800A	400A-1-4 in 401-800A-2-4 in	30" x 48" x 24" d manhole stock #MANHO 007
801A - 1200A	801-1000A-2-4 in 1001-1200A-3-4 in	36" x 60" x 36" d manhole stock #MANHO 005

- NOTE:**
1. All conduits to be Schedule 40 PVC with chamfered edges required. Conduit size and number does not have to match customer's service conduit size, type and number.
  2. All conduit radiuses to be 36 inch minimum.
  3. JEA will allow the option of purchasing these boxes from an electrical supply house. These boxes must meet the following specifications.
  4. Service box size may vary for 3 phase applications.
  5. Contact the JEA Service Engineer for conduit and box location.

**Technical Specifications**

- Material Specifications:**
- SERVICE BOX**
1. Top: Compression molded polymer concrete with minimum thickness of two inches.
  2. Body: Reinforced Plastic Mortar (RPM) consisting of fiberglass and lathlike resin. The base will have a flange of two inches from the inside wall.
  3. Ring: The ring will be of polymer concrete and will be permanently fixed to the body during the curing process.
- MANHOLE**
1. Manhole body shall be of one piece construction with a solid cover.
  2. Manhole dimensions shall be 60" x 36" x 36".
- Load Rating:**
1. Load Rating: H-19 (Residential Traffic)
  2. Load ratings shall be in accordance with ASTM C 897-07 (STD. PRACTICE FOR MINIMUM STRUCTURAL DESIGN LOADING FOR UG PRECAST CONCRETE UTILITY STRUCTURES) Asha and Walters Underground Committee Recommended Guidelines Main 2.8 dated 6-15-07.
- Miscellaneous Requirements:**
1. Hardware: Two captive stainless steel head bolts for securing top. Bolt heads will be flush with top of cover.
  2. Identification: Each top will have the word "ELECTRICAL" permanently marked into the top.

Response: We agree that the construction and materials used up to the customer's point of service must meet NESC requirements, but can be at the discretion of the utility provider. We have no objection to JEA's current practice and believe that a change to the document is not required at this time.  
No changes made.

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