



Scott A. Goorland  
Senior Attorney  
Florida Power & Light Company  
700 Universe Boulevard  
Juno Beach, FL 33408-0420  
(561) 304-5633  
(561) 691-7135 (Facsimile)  
scott.goorland@fpl.com

April 1, 2016

Ms. Carlotta S. Stauffer, Commission Clerk  
Office of Commission Clerk  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, FL 32399-0850

**Re: Petition for Approval of 2016 Revisions to Florida Power & Light  
Company's Underground Residential and Commercial Differential Tariffs**

Dear Ms. Stauffer:

I enclose for electronic filing in the above docket Florida Power & Light Company's ("FPL's") Petition for Approval of 2016 Revisions to FPL's Underground Residential and Commercial Differential Tariffs. If you have any questions regarding this filing, please do not hesitate to contact me at (561) 304-5633. Thank you for your assistance.

Respectfully submitted,

*/s/ Scott A. Goorland*

Scott A. Goorland  
Senior Attorney

Enclosures

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

In re: Petition for Approval of Underground Residential	)	Docket No.
and Commercial Differential Tariff Revisions	)	
<hr style="width: 50%; margin-left: 0;"/>		Filed: April 1, 2016

**PETITION FOR APPROVAL OF 2016 REVISIONS TO  
FLORIDA POWER & LIGHT COMPANY’S UNDERGROUND  
RESIDENTIAL AND COMMERCIAL DIFFERENTIAL TARIFFS**

Florida Power & Light Company (“FPL”), by and through its undersigned counsel, and pursuant to Rules 25-6.033 and 25-6.078(3), Florida Administrative Code (“F.A.C.”), hereby requests approval of FPL’s revisions to its Underground Residential Differential (“URD”) tariff sheets, as set forth below. In addition, FPL requests approval of FPL’s revisions to its Underground Commercial/Industrial Differential (“UCD”) tariff sheets as set forth below. In support of this Petition, FPL states as follows:

(1) All pleadings, correspondence, staff recommendations, orders, or other documents filed, served or issued in this docket should be served on the following individuals on behalf of FPL:

John T. Butler  
Assistant General Counsel - Regulatory  
Scott A. Goorland  
Senior Attorney  
Florida Power & Light Company  
700 Universe Boulevard  
Juno Beach, Florida 33408-0420  
Telephone: (561) 304-5639  
Facsimile: (561) 691-7135 (facsimile)  
john.butler@fpl.com  
scott.goorland@fpl.com

Kenneth Hoffman  
Vice President of Regulatory Affairs  
Florida Power & Light Company  
215 South Monroe Street, Suite 810  
Tallahassee, Florida 32301  
Telephone: (850) 521-3919  
Facsimile: (850) 521-3939  
kenneth.hoffman@fpl.com

(2) Rule 25-6.078(3), F.A.C., requires each utility to file with the Commission, on or before October 15 of each year, Division of Economic Regulation Form PSC/ECR 13-E, Schedule 1. If the cost differential for underground service as calculated in Schedule 1 varies from the Commission-approved differential by plus or minus 10% or more, the utility must file a written policy and supporting data and analyses as prescribed in Sections (1), (4), and (5) of Rule 25-6.078 on or before April 1 of the following year. Additionally, Rule 25-6.078(3), F.A.C., requires each utility to file a written policy and supporting data and analyses at least once every 3 years regardless of whether the 10% threshold is met.

(3) On April 1, 2014, FPL filed its triennial revised URD tariff sheets with its Petition for Approval of Underground Residential and Commercial Differential Tariff Revisions, Docket No. 140066-EI, together with supporting data, analyses and cost justification. Because the 10% threshold was not met or exceeded in the following year, FPL was not required by the Rule to file revised URD tariff sheets with the written policy and supporting data and analyses on April 1, 2015.

(4) On October 15, 2015, FPL filed Form PSC/ECR 13-E, Schedule 1 with the Division of Economic Regulation. This filing showed that the cost differential under the tariffs approved in Order No. PSC-11-0473-TRF-EI for underground service as calculated in Schedule 1 varied from the Commission-approved differential by plus or minus 10% or more. As a result, FPL is filing its written policy and supporting data and analyses as prescribed in Sections (1), (4) and (5) of Rule 6.078 on April 1, 2016.

(5) Although not required by the Commission, FPL is also following its customary practice of filing revised UCD tariffs and supporting data, analyses and cost justification to accompany revisions to its URD tariffs.

(6) Calculation of an applicant's contribution for underground service is based on an assumption that four years of expected incremental base energy and demand (if applicable) revenue would fully offset the cost of overhead facilities for the Applicant's development. However, in instances where that revenue does not offset the cost of overhead facilities, a shortfall in FPL's recovery of the estimated overhead costs may occur. Accordingly, in addition to the revisions to the charges in the URD and UCD Tariff sheets, FPL is revising the Tariff sheets to address such instances by requiring an applicant to pay for the difference between the expected four-year revenues and the estimated overhead costs, in addition to the Applicant's contribution for underground service.

### **FPL's URD Tariffs**

(7) FPL's revised URD tariffs are contained in Appendix URD 1 to this Petition. Appendix URD 1 includes the following revised Tariff sheets amending the charges found in Section 6 of FPL's Tariff Book, General Rules and Regulations for Electric Service, in final and legislative formats:

6.080	6.115
6.095	6.120
6.100	6.125
6.110	6.130



(8) The revisions to the charges found in the above-specified URD tariff sheets are shown in Appendix URD 1, in final and legislative formats. Appendix URD 2 sets forth FPL's narrative support for the changes to its rules and regulations and standard forms in FPL's Tariff Book as described above. Appendices URD 3 and 4 detail and support FPL's changes in its Estimated Average Cost Differential, which support the changes in FPL's tariffs identified above.

(9) The information set forth in Appendices URD 1, 2, 3 and 4, filed herewith and incorporated herein by reference, provide the information required under Rule 25-6.078, F.A.C., and the necessary support for the relief requested in this Petition.

#### **FPL's UCD Tariffs**

(10) FPL's revised UCD tariffs are contained in Appendix UCD 1 to this Petition. Appendix UCD 1 includes the following revised UCD tariff sheets, in final and legislative formats, amending the charges found in Section 6 of FPL's Tariff Book, General Rules and Regulations for Electric Service:

6.520

6.530

6.540

Appendix UCD 2 sets forth FPL's revisions (additions/deletions) and the reasons for the changes to FPL's UCD tariff sheets. The data and analyses supporting the changes in the UCD tariffs are set forth in Appendices UCD 3 and 4.

(11) Unlike the URD tariffs, FPL's UCD tariffs are not governed by Rule 25-6.078, F.A.C., or any other rule which specifies that the UCD tariffs must reflect the

impact of the Storm Hardening rule or the operational cost differential (including storm costs). Nonetheless, FPL has incorporated the cost effects of hardening its overhead system into the calculation of its UCD charges. FPL has concluded, however, that it is not only not required but it is not feasible to apply to the UCD tariffs the operational cost differential that FPL developed for the URD tariffs. The UCD tariff charges are generally tailored to specific equipment and materials that are utilized to provide underground service to a single or limited number of commercial buildings in distinct and widely varying circumstances, unlike the URD tariff which is designed to apply to an entire residential subdivision. FPL's cost accounting systems and processes are not specific enough to discern operational cost differential for these granular, "one off" types of construction activities. Because of these implementation obstacles and because there is no Commission requirement to do so, FPL has not reflected adjustments for the effects of operational costs in the calculation of its UCD tariffs.

(12) The information set forth in Appendices UCD 1, 2, 3 and 4, filed herewith and incorporated by reference, provides the information necessary to support the revisions to FPL's UCD as requested in this Petition.

(13) FPL requests the effective date for implementation of the revised URD and UCD tariffs presented with this Petition be thirty (30) days after the date of the Commission's vote approving the appended revised tariff sheets.

WHEREFORE, FPL requests the Commission to approve the revised tariff sheets filed in Appendices URD 1 and UCD 1, effective thirty (30) days after the date of the Commission vote approving said revised tariff sheets.

Respectfully submitted,

John T. Butler  
Assistant General Counsel - Regulatory  
John.Butler@fpl.com  
Scott A. Goorland  
Senior Attorney  
Scott.Goorland@fpl.com  
Florida Power & Light Company  
700 Universe Boulevard  
Juno Beach, FL 33408  
Telephone: (561) 304-5639  
Facsimile: (561) 691-7135

By: /s/ Scott A. Goorland  
Scott A. Goorland  
Fla. Bar No. 0066934

**APPENDIX 1**  
**URD**

**LEGISLATIVE TARIFF**  
**URD**

INSTALLATION OF UNDERGROUND ELECTRIC DISTRIBUTION FACILITIES  
TO SERVE RESIDENTIAL CUSTOMERS

## SECTION 10.1 DEFINITIONS

The following words and terms, when used in Section 10, shall have the meaning indicated:

APPLICANT - Any person, partnership, association, corporation, or governmental agency controlling or responsible for the development of a new subdivision or dwelling unit who applies for the underground installation of distribution facilities.

BACKBONE - The distribution system excluding feeder and that portion of the service lateral which is on the lot being served by that service lateral.

BUILDING - Any structure designed for residential occupancy, excluding a townhouse unit, which contains less than five individual dwelling units.

CABLE IN CONDUIT SYSTEM - Underground residential distribution systems where all underground primary, secondary, service and street light conductors are installed in direct buried conduit. Other facilities associated with cable in conduit, such as transformers, may be above ground.

COMMISSION - The Florida Public Service Commission.

COMPANY - The Florida Power & Light Company.

DISTRIBUTION SYSTEM - Electric service facilities consisting of primary and secondary conductors, service laterals, conduits, transformers, and necessary accessories and appurtenances for the furnishing of electric power at utilization voltage.

DWELLING UNIT - A single unit providing complete, independent living facilities for one or more persons including permanent provisions for living, sleeping, eating, cooking, and sanitation.

FEEDER MAIN - A three-phase primary installation, including switches, which serves as a source for primary laterals and loops through suitable overcurrent devices.

FINAL GRADE - The ultimate elevation of the ground, paved or unpaved, which will prevail in a subdivision or tract of land.

MOBILE HOME (TRAILER) - A vehicle or conveyance, permanently equipped to travel upon the public highways, that is used either temporarily or permanently as a residence or living quarters.

MULTIPLE-OCCUPANCY BUILDING - A structure erected and framed of component structural parts and designed to contain five or more individual dwelling units.

OVERHEAD SYSTEM - Distribution system consisting of primary, secondary and service conductors and aerial transformers supported by poles.

POINT OF DELIVERY - The point where the Company's wires or apparatus are connected to those of the Customer. See Section 10.2.11.

PRIMARY LATERAL - That part of the electric distribution system whose function is to conduct electricity at the primary level from the feeder main to the transformers. It usually consists of a single-phase conductor or insulated cable, with conduit, together with necessary accessory equipment for supporting, terminating and disconnecting from the primary mains by a fusible element.

SERVICE LATERAL - The entire length of underground service conductors and conduit between the distribution source, including any risers at a pole or other structure or from transformers, from which only one point of service will result, and the first point of connection to the Service Entrance Conductors in a terminal or meter box outside the building wall.

SERVICE ENTRANCE CONDUCTORS - The Customer's conductors from point of connection at the service drop or service lateral to the service equipment.

(Continued on Sheet No. 6.085)



(Continued from Sheet No. 6.090)

**10.2.8.1**     Credit for TUGs

If the Applicant installs the permanent electric service entrance such that FPL's service lateral can be subsequently installed and utilized to provide that building's construction service, the Applicant shall receive a credit in the amount of ~~\$54,2960.00~~ per service lateral, subject to the following requirements:

- a) TUGs must be inspected and approved by the local inspecting authority.
- b) All service laterals within the subdivision must be installed as TUGs.
- c) FPL must be able to install the service lateral, energize the service lateral, and set the meter to energize the load side of the meter can, all in a single trip. Subsequent visits other than routine maintenance or meter readings will void the credit.
- d) Thereafter, acceptance and receipt of service by the Customer shall constitute certification that the Customer has met all inspection requirements, complied with all applicable codes and rules and, subject to section 2.7 Indemnity to Company, or section 2.71 Indemnity to Company – Governmental, FPL's General Rules and Regulations, the Customer releases, holds harmless and agrees to indemnify the Company from and against loss or liability in connection with the provision of electrical services to or through such Customer-owned electrical installations.
- e) The Applicant shall be held responsible for all electric service used until the account is established in the succeeding occupant's name.

This credit applies only when FPL installs the service - it does not apply when the applicant installs the service conduits, or the service conduits and cable.

**10.2.9.**     Location of Distribution Facilities

Underground distribution facilities will be located, as determined by the Company, to maximize their accessibility for maintenance and operation. The Applicant shall provide accessible locations for meters when the design of a dwelling unit or its appurtenances limits perpetual accessibility for reading, testing, or making necessary repairs and adjustments.

**10.2.10.**     Special Conditions

The costs quoted in these rules are based on conditions which permit employment of rapid construction techniques. The Applicant shall be responsible for necessary additional hand digging expenses other than what is normally provided by the Company. The Applicant is responsible for clearing, compacting, boulder and large rock removal, stump removal, paving, and addressing other special conditions. Should paving, grass, landscaping or sprinkler systems be installed prior to the construction of the underground distribution facilities, the Applicant shall pay the added costs of trenching and backfilling and be responsible for restoration of property damaged to accommodate the installation of underground facilities.

**10.2.11.**     Point of Delivery

The point of delivery shall be determined by the Company and will normally be at or near the part of the building nearest the point at which the secondary electric supply is available to the property. When a location for a point of delivery different from that designated by the Company is requested by the Applicant, and approved by the Company, the Applicant shall pay the estimated full cost of service lateral length, including labor and materials, required in excess of that which would have been needed to reach the Company's designated point of service. The additional cost per trench foot is ~~\$6,38,7.20~~. Where an existing trench is utilized, the additional cost per trench foot is ~~\$2,63,2.78~~. Where the Applicant provides the trenching, installs Company provided conduit according to Company specifications and backfilling, the cost per additional trench foot is ~~\$1,98,2.02~~. Any re-designation requested by the Applicant shall conform to good safety and construction practices as determined by the Company. Service laterals shall be installed, where possible, in a direct line to the point of delivery.

(Continued on Sheet No. 6.096)

SECTION 10.3 UNDERGROUND DISTRIBUTION FACILITIES FOR  
RESIDENTIAL SUBDIVISIONS AND DEVELOPMENTS10.3.1. Availability

When requested by the Applicant, the Company will provide underground electric distribution facilities, other than for multiple occupancy buildings, in accordance with its standard practices in:

- a) Recognized new residential subdivision of five or more building lots.
- b) Tracts of land upon which five or more separate dwelling units are to be located.

For residential buildings containing five or more dwelling units, see SECTION 10.6 of these Rules.

10.3.2. Contribution by Applicant

- a) The Applicant shall pay the Company the average differential cost for single phase residential underground distribution service based on the number of service laterals required or the number of dwelling units, as follows:

	Applicant's Contribution
1. Where density is 6.0 or more dwelling units per acre:	
1.1 Buildings that do not exceed four units, townhouses, and mobile homes – per service lateral.	
1. Subdivisions with 300 or more total service laterals	\$ 0.00
2. Subdivisions from 100 to 299 total service laterals	\$ <del>105.71</del> 0.00
3. Subdivisions less than 100 total service laterals	\$ <del>188.71</del> 57.97
1.2 Mobile homes having Customer-owned services from meter center installed adjacent to the FPL primary trench route - per dwelling unit.	
1. Subdivisions with 300 or more total <del>service laterals</del> dwelling units	\$ 0.00
2. Subdivisions from 100 to 299 total <del>service laterals</del> dwelling units	\$ 0.00
3. Subdivisions less than 100 total <del>service laterals</del> dwelling units	\$ 0.00
2. Where density is 0.5 or greater, but less than 6.0 dwelling units per acre:	
Buildings that do not exceed four units, townhouses, and mobile homes – per service lateral	
1. Subdivisions with 200 or more total service laterals	\$ <del>165.99</del> 0.00
2. Subdivisions from 85 to 199 total service laterals	\$ <del>415.99</del> 183.35
3. Subdivisions less than 85 total service laterals	\$ <del>498.99</del> 266.35
3. Where the density is less than 0.5 dwelling units per acre, or the Distribution System is of non-standard design, individual cost estimates will be used to determine the differential cost as specified in Paragraph 10.2.5.	
<u>4. The Applicant's Contributions specified above, in 10.3.2 (1)-(3), for underground service are based on an expectation that the four years expected incremental base energy and demand (if applicable) revenue would fully offset the cost of overhead facilities for the Applicant's subdivision or development. In the event that the four years expected incremental base energy revenues are insufficient to offset the total estimated work order job costs of installing the overhead facilities, then Applicant shall pay the difference between the expected revenues and the estimated overhead costs, in addition to the Applicant's Contribution for underground service set forth above.</u>	

Additional charges specified in Paragraphs 10.2.10 and 10.2.11 may also apply.

- b) The above costs are based upon arrangements that will permit serving the local underground distribution system within the subdivision from overhead feeder mains. If feeder mains within the subdivision are deemed necessary by the Company to provide and/or maintain adequate service and are required by the Applicant or a governmental agency to be installed underground, the Applicant shall pay the Company the average differential cost between such underground feeder mains within the subdivision and equivalent overhead feeder mains, as follows:



FLORIDA POWER & LIGHT COMPANY

Thirty-~~Fifth~~Sixth Revised Sheet No. 6.100  
Cancels Thirty-~~Fourth~~Fifth Revised Sheet No. 6.100

Cost per foot of feeder trench within the subdivision  
(excluding switches)  
Cost per switch package

Applicant's  
Contribution

~~\$11,859.02~~  
~~\$25,838.56~~27,200.43

(Continued on Sheet No. 6.110)

(Continued from Sheet No. 6.100)

- c) Where primary laterals are needed to cross open areas such as golf courses, parks, other recreation areas and water retention areas, the Applicant shall pay the average differential costs for these facilities as follows:

Cost per foot of primary lateral trench within the subdivision

1) Single Phase - per foot	<del>\$1.28</del> <u>0.71</u>
2) Two Phase - per foot	<del>\$3.82</del> <u>2.72</u>
3) Three Phase - per foot	<del>\$6.14</del> <u>4.38</u>

- d) For requests for service where underground facilities to the lot line are existing and a differential charge was previously paid for these facilities, the cost to install an underground service lateral to the meter is as follows:

Density less than 6.0 dwelling units per acre:	<del>\$344.99</del> <u>348.83</u>
Density 6.0 or greater dwelling units per acre:	<del>\$257.46</del> <u>258.34</u>

### 10.3.3. Contribution Adjustments

- a) Credits will be allowed to the Applicant's contribution in Section 10.3.2. where, by mutual agreement, the Applicant provides all trenching and backfilling for the Company's distribution system, excluding feeder.

	Credit to Applicant's Contribution	
	Backbone	Service
1. Where density is 6.0 or more dwelling units per acre:		
1.1 Buildings that do not exceed four units, townhouses, and mobile homes - per service lateral.	<del>\$134.74</del> <u>149.16</u>	<del>\$141.45</del> <u>156.59</u>
1.2 Mobile homes having Customer-owned services from meter center installed adjacent to the FPL primary trench route - per dwelling unit.	<del>\$111.43</del> <u>123.35</u>	N/A
2. Where density is 0.5 or greater, but less than 6.0 dwelling units per acre:		
Buildings that do not exceed four units, townhouses, and mobile homes - per service lateral	<del>\$223.18</del> <u>247.06</u>	<del>\$198.03</del> <u>219.22</u>

- b) Credits will be allowed to the Applicant's contribution in Section 10.3.2. where, by mutual agreement, the Applicant installs all Company-provided conduit excluding feeder per FPL instructions. This credit is:

	Backbone	Service
1. Where density is 6.0 or more dwelling units per acre:		
1.1 Buildings that do not exceed four units, townhouses, and mobile homes - per service lateral.	<del>\$56.07</del> <u>62.07</u>	<del>\$43.36</del> <u>48.00</u>

(Continued on Sheet No. 6.115)

(Continued from Sheet No. 6.110)

	Credit to Applicant's Contribution	
	Backbone	Service
1.2 Mobile homes having Customer-owned services from meter center installed adjacent to the FPL primary trench route - per dwelling unit.	<del>\$45.72</del> <u>50.61</u>	N/A
2. Where density is .5 or greater, but less than 6.0 dwelling units per acre, per service lateral.	<del>\$89.86</del> <u>99.47</u>	<del>\$53.11</del> <u>58.80</u>
c) Credits will be allowed to the Applicant's contribution in Section 10.3.2. where, by mutual agreement, the Applicant provides a portion of trenching and backfilling for the Company's facilities, per foot of trench – <del>\$3.14</del> <u>3.48</u> .		
d) Credits will be allowed to the Applicant's contribution in section 10.3.2. where, by mutual agreement, the Applicant installs a portion of Company-provided PVC conduit, per FPL instructions (per foot of conduit): 2" PVC - <del>\$0.54</del> <u>0.60</u> ; larger than 2" PVC - <del>\$0.76</del> <u>0.84</u> .		
e) Credit will be allowed to the Applicant's contribution in section 10.3.2., where, by mutual agreement, the Applicant installs an FPL-provided feeder splice box, per FPL instructions, per box - <del>\$602.65</del> <u>664.74</u> .		
f) Credit will be allowed to the Applicant's contribution in section 10.3.2., where by mutual agreement, the Applicant installs an FPL-provided primary splice box, per FPL instructions, per box - <del>\$210.28</del> <u>232.78</u> .		
g) Credit will be allowed to the Applicant's contribution in section 10.3.2., where, by mutual agreement, the Applicant installs an FPL-provided secondary handhole, per FPL instructions, per handhole: 17" handhole - <del>\$19.51</del> <u>21.60</u> ; 24" or 30" handhole - <del>\$55.28</del> <u>61.19</u> .		
h) Credit will be allowed to the Applicant's contribution in section 10.3.2., where, by mutual agreement, the Applicant installs an FPL-provided concrete pad for a pad-mounted transformer or capacitor bank, per FPL instructions, per pad - <del>\$54.20</del> <u>60.00</u> .		
i) Credit will be allowed to the Applicant's contribution in Section 10.3.2., where, by mutual agreement, the Applicant installs a portion of Company-provided flexible HDPE conduit, per FPL instructions (per foot of conduit): <del>\$0.11</del> <u>0.12</u> .		
j) Credit will be allowed to the Applicant's contribution in Section 10.3.2., where, by mutual agreement, the Applicant installs an FPL-provided concrete pad and cable chamber for a pad-mounted feeder switch, per pad and cable chamber - <del>\$510.52</del> <u>565.15</u> .		

**SECTION 10.4 UNDERGROUND SERVICE LATERALS FROM  
OVERHEAD ELECTRIC DISTRIBUTION SYSTEMS****10.4.1. New Underground Service Laterals**

When requested by the Applicant, the Company will install underground service laterals from overhead systems to newly constructed residential buildings containing less than five separate dwelling units.

**10.4.2. Contribution by Applicant**

- a) The Applicant shall pay the Company the following differential cost between an overhead service and an underground service lateral, as follows:

1. For any density:

Buildings that do not exceed four units,  
townhouses, and mobile homes

- a) per service lateral (includes service riser installation)  
b) per service lateral (from existing handhole or PM TX)

Applicant's  
Contribution

~~\$652.46~~<sup>\$652.46</sup>~~83.84~~

~~\$344.99~~<sup>\$344.99</sup>~~348.83~~

2. For any density, the Company will provide a  
riser to a handhole at the base of a pole

~~\$675.53~~<sup>\$675.53</sup>~~705.46~~

Additional charges specified in Paragraphs 10.2.10 and 10.2.11 may also apply. Underground service or secondary extensions beyond the boundaries of the property being served will be subject to additional differential costs as determined by individual cost estimates.

**10.4.3. Contribution Adjustments**

- a) Credit will be allowed to the Applicant's contribution in Section 10.4.2 where, by mutual agreement, the Applicant provides trenching and backfilling for the Company's facilities. This credit is:

1. For any density:

Buildings that do not exceed four units,  
townhouses, and mobile homes  
- per foot

Credit To  
Applicant's  
Contribution

~~\$3.14~~<sup>\$3.14</sup>~~3.48~~

(Continued on Sheet No. 6.125)



(Continued from Sheet No. 6.120)

- b) Credit will be allowed to the Applicant's contribution in Section 10.4.2, where by mutual agreement, the Applicant installs Company-provided conduit, per FPL instructions, as follows:

1. For any density:

Buildings that do not exceed four units,  
townhouses, and mobile homes

- per foot:

2" PVC

~~\$0.540.60~~

Larger than 2" PVC

~~\$0.760.84~~

- c) Credit will be allowed to the Applicant's contribution in Section 10.4.2, where by mutual agreement, the Applicant requests the underground service to be installed as a TUG (subject to the conditions specified in Section 10.2.8.1), per service lateral, as follows:

1. For any density:

Buildings that do not exceed four units,  
townhouses, and mobile homes

-per service lateral:

~~\$54.20~~60.00

### SECTION 10.5 UNDERGROUND SERVICE LATERALS REPLACING EXISTING RESIDENTIAL OVERHEAD AND UNDERGROUND SERVICES

#### 10.5.1. Applicability

When requested by the Applicant, the Company will install underground service laterals from existing systems as replacements for existing overhead and underground services to existing residential buildings containing less than five individual dwelling units.

#### 10.5.2. Rearrangement of Service Entrance

The Applicant shall be responsible for any necessary rearranging of his existing electric service entrance facilities to accommodate the proposed underground service lateral in accordance with the Company's specifications.

#### 10.5.3. Trenching and Conduit Installation

The Applicant shall also provide, at no cost to the Company, a suitable trench, perform the backfilling and any landscape, pavement or other similar repairs and install Company provided conduit according to Company specifications. When requested by the Applicant and approved by the Company, the Company may supply the trench and conduit and the Applicant shall pay for this work based on a specific cost estimate. Should paving, grass, landscaping or sprinkler systems need repair or replacement during construction, the Applicant shall be responsible for restoring the paving, grass, landscaping or sprinkler systems to the original condition.

#### 10.5.4. Contribution by Applicant

- a) The charge per service lateral replacing an existing Company-owned overhead service for any density shall be:

Applicant's  
Contribution

- |  |                                    |
|--|------------------------------------|
| 1. Where the Company provides an underground service lateral:                | \$ <del>584.45</del> <u>651.49</u> |
| 2. Where the Company provides a riser to a handhole at the base of the pole: | \$ <del>839.70</del> <u>930.13</u> |

- b) The charge per service lateral replacing an existing Company-owned underground service at Applicant's request for any density shall be:

- |   |                                    |
|---|------------------------------------|
| 1. Where the service is from an overhead system:    | \$ <del>572.77</del> <u>643.46</u> |
| 2. Where the service is from an underground system: | \$ <del>486.39</del> <u>555.22</u> |

- c) The charge per service lateral replacing an existing Customer-owned underground service from an overhead system for any density shall be:

\$~~420.29~~426.82

- d) The charge per service lateral replacing an existing Customer-owned underground service from an underground system for any density shall be:

\$~~112.84~~91.81

The above charges include conversion of the service lateral from the last FPL pole to the meter location. Removal of any other facilities such as poles, downguys, spans of secondary, etc. will be charged based on specific cost estimates for the requested additional work.

**FINAL TARIFF**  
**URD**

INSTALLATION OF UNDERGROUND ELECTRIC DISTRIBUTION FACILITIES  
TO SERVE RESIDENTIAL CUSTOMERS

## SECTION 10.1 DEFINITIONS

The following words and terms, when used in Section 10, shall have the meaning indicated:

APPLICANT - Any person, partnership, association, corporation, or governmental agency controlling or responsible for the development of a new subdivision or dwelling unit who applies for the underground installation of distribution facilities.

BACKBONE - The distribution system excluding feeder and that portion of the service lateral which is on the lot being served by that service lateral.

BUILDING - Any structure designed for residential occupancy, excluding a townhouse unit, which contains less than five individual dwelling units.

CABLE IN CONDUIT SYSTEM - Underground residential distribution systems where all underground primary, secondary, service and street light conductors are installed in direct buried conduit. Other facilities associated with cable in conduit, such as transformers, may be above ground.

COMMISSION - The Florida Public Service Commission.

COMPANY - The Florida Power & Light Company.

DISTRIBUTION SYSTEM - Electric service facilities consisting of primary and secondary conductors, service laterals, conduits, transformers, and necessary accessories and appurtenances for the furnishing of electric power at utilization voltage.

DWELLING UNIT - A single unit providing complete, independent living facilities for one or more persons including permanent provisions for living, sleeping, eating, cooking, and sanitation.

FEEDER MAIN - A three-phase primary installation, including switches, which serves as a source for primary laterals and loops through suitable overcurrent devices.

FINAL GRADE - The ultimate elevation of the ground, paved or unpaved, which will prevail in a subdivision or tract of land.

MOBILE HOME (TRAILER) - A vehicle or conveyance, permanently equipped to travel upon the public highways, that is used either temporarily or permanently as a residence or living quarters.

MULTIPLE-OCCUPANCY BUILDING - A structure erected and framed of component structural parts and designed to contain five or more individual dwelling units.

OVERHEAD SYSTEM - Distribution system consisting of primary, secondary and service conductors and aerial transformers supported by poles.

POINT OF DELIVERY - The point where the Company's wires or apparatus are connected to those of the Customer. See Section 10.2.11.

PRIMARY LATERAL - That part of the electric distribution system whose function is to conduct electricity at the primary level from the feeder main to the transformers. It usually consists of a single-phase conductor or insulated cable, with conduit, together with necessary accessory equipment for supporting, terminating and disconnecting from the primary mains by a fusible element.

SERVICE LATERAL - The entire length of underground service conductors and conduit between the distribution source, including any risers at a pole or other structure or from transformers, from which only one point of service will result, and the first point of connection to the Service Entrance Conductors in a terminal or meter box outside the building wall.

SERVICE ENTRANCE CONDUCTORS - The Customer's conductors from point of connection at the service drop or service lateral to the service equipment.

(Continued on Sheet No. 6.085)



(Continued from Sheet No. 6.090)

**10.2.8.1**     Credit for TUGs

If the Applicant installs the permanent electric service entrance such that FPL's service lateral can be subsequently installed and utilized to provide that building's construction service, the Applicant shall receive a credit in the amount of \$60.00 per service lateral, subject to the following requirements:

- a) TUGs must be inspected and approved by the local inspecting authority.
- b) All service laterals within the subdivision must be installed as TUGs.
- c) FPL must be able to install the service lateral, energize the service lateral, and set the meter to energize the load side of the meter can, all in a single trip. Subsequent visits other than routine maintenance or meter readings will void the credit.
- d) Thereafter, acceptance and receipt of service by the Customer shall constitute certification that the Customer has met all inspection requirements, complied with all applicable codes and rules and, subject to section 2.7 Indemnity to Company, or section 2.71 Indemnity to Company – Governmental, FPL's General Rules and Regulations, the Customer releases, holds harmless and agrees to indemnify the Company from and against loss or liability in connection with the provision of electrical services to or through such Customer-owned electrical installations.
- e) The Applicant shall be held responsible for all electric service used until the account is established in the succeeding occupant's name.

This credit applies only when FPL installs the service - it does not apply when the applicant installs the service conduits, or the service conduits and cable.

**10.2.9.**     Location of Distribution Facilities

Underground distribution facilities will be located, as determined by the Company, to maximize their accessibility for maintenance and operation. The Applicant shall provide accessible locations for meters when the design of a dwelling unit or its appurtenances limits perpetual accessibility for reading, testing, or making necessary repairs and adjustments.

**10.2.10.**     Special Conditions

The costs quoted in these rules are based on conditions which permit employment of rapid construction techniques. The Applicant shall be responsible for necessary additional hand digging expenses other than what is normally provided by the Company. The Applicant is responsible for clearing, compacting, boulder and large rock removal, stump removal, paving, and addressing other special conditions. Should paving, grass, landscaping or sprinkler systems be installed prior to the construction of the underground distribution facilities, the Applicant shall pay the added costs of trenching and backfilling and be responsible for restoration of property damaged to accommodate the installation of underground facilities.

**10.2.11.**     Point of Delivery

The point of delivery shall be determined by the Company and will normally be at or near the part of the building nearest the point at which the secondary electric supply is available to the property. When a location for a point of delivery different from that designated by the Company is requested by the Applicant, and approved by the Company, the Applicant shall pay the estimated full cost of service lateral length, including labor and materials, required in excess of that which would have been needed to reach the Company's designated point of service. The additional cost per trench foot is \$7.20. Where an existing trench is utilized, the additional cost per trench foot is \$2.78. Where the Applicant provides the trenching, installs Company provided conduit according to Company specifications and backfilling, the cost per additional trench foot is \$2.02. Any re-designation requested by the Applicant shall conform to good safety and construction practices as determined by the Company. Service laterals shall be installed, where possible, in a direct line to the point of delivery.

(Continued on Sheet No. 6.096)

SECTION 10.3 UNDERGROUND DISTRIBUTION FACILITIES FOR  
RESIDENTIAL SUBDIVISIONS AND DEVELOPMENTS10.3.1. Availability

When requested by the Applicant, the Company will provide underground electric distribution facilities, other than for multiple occupancy buildings, in accordance with its standard practices in:

- a) Recognized new residential subdivision of five or more building lots.
- b) Tracts of land upon which five or more separate dwelling units are to be located.

For residential buildings containing five or more dwelling units, see SECTION 10.6 of these Rules.

10.3.2. Contribution by Applicant

- a) The Applicant shall pay the Company the average differential cost for single phase residential underground distribution service based on the number of service laterals required or the number of dwelling units, as follows:

Applicant's  
Contribution

1. Where density is 6.0 or more dwelling units per acre:

## 1.1 Buildings that do not exceed four units,

townhouses, and mobile homes – per service lateral.

1. Subdivisions with 300 or more total service laterals	\$ 0.00
2. Subdivisions from 100 to 299 total service laterals	\$ 0.00
3. Subdivisions less than 100 total service laterals	\$ 57.97

## 1.2 Mobile homes having Customer-owned services from meter center installed adjacent to the FPL primary trench route - per dwelling unit.

1. Subdivisions with 300 or more total dwelling units	\$ 0.00
2. Subdivisions from 100 to 299 total dwelling units	\$ 0.00
3. Subdivisions less than 100 total dwelling units	\$ 0.00

2. Where density is 0.5 or greater, but less than 6.0 dwelling units per acre:

## Buildings that do not exceed four units,

townhouses, and mobile homes – per service lateral

1. Subdivisions with 200 or more total service laterals	\$ 0.00
2. Subdivisions from 85 to 199 total service laterals	\$ 183.35
3. Subdivisions less than 85 total service laterals	\$ 266.35

3. Where the density is less than 0.5 dwelling units per acre, or the Distribution System is of non-standard design, individual cost estimates will be used to determine the differential cost as specified in Paragraph 10.2.5.
4. The Applicant's Contributions specified above, in 10.3.2 (1)-(3), for underground service are based on an expectation that the four years expected incremental base energy and demand (if applicable) revenue would fully offset the cost of overhead facilities for the Applicant's subdivision or development. In the event that the four years expected incremental base energy revenues are insufficient to offset the total estimated work order job costs of installing the overhead facilities, then Applicant shall pay the difference between the expected revenues and the estimated overhead costs, in addition to the Applicant's Contribution for underground service set forth above.

Additional charges specified in Paragraphs 10.2.10 and 10.2.11 may also apply.

- b) The above costs are based upon arrangements that will permit serving the local underground distribution system within the subdivision from overhead feeder mains. If feeder mains within the subdivision are deemed necessary by the Company to provide and/or maintain adequate service and are required by the Applicant or a governmental agency to be installed underground, the Applicant shall pay the Company the average differential cost between such underground feeder mains within the subdivision and equivalent overhead feeder mains, as follows:

	Applicant's <u>Contribution</u>
Cost per foot of feeder trench within the subdivision (excluding switches)	\$9.02
Cost per switch package	\$27,200.43

(Continued on Sheet No. 6.110)



(Continued from Sheet No. 6.100)

- c) Where primary laterals are needed to cross open areas such as golf courses, parks, other recreation areas and water retention areas, the Applicant shall pay the average differential costs for these facilities as follows:

Cost per foot of primary lateral trench within the subdivision

1) Single Phase - per foot	\$0.71
2) Two Phase - per foot	\$2.72
3) Three Phase - per foot	\$4.38

- d) For requests for service where underground facilities to the lot line are existing and a differential charge was previously paid for these facilities, the cost to install an underground service lateral to the meter is as follows:

Density less than 6.0 dwelling units per acre:	\$348.83
Density 6.0 or greater dwelling units per acre:	\$258.34

### 10.3.3. Contribution Adjustments

- a) Credits will be allowed to the Applicant's contribution in Section 10.3.2. where, by mutual agreement, the Applicant provides all trenching and backfilling for the Company's distribution system, excluding feeder.

	Credit to Applicant's Contribution	
	Backbone	Service
1. Where density is 6.0 or more dwelling units per acre:		
1.1 Buildings that do not exceed four units, townhouses, and mobile homes - per service lateral.	\$149.16	\$156.59
1.2 Mobile homes having Customer-owned services from meter center installed adjacent to the FPL primary trench route - per dwelling unit.	\$123.35	N/A
2. Where density is 0.5 or greater, but less than 6.0 dwelling units per acre:		
Buildings that do not exceed four units, townhouses, and mobile homes - per service lateral	\$247.06	\$219.22

- b) Credits will be allowed to the Applicant's contribution in Section 10.3.2. where, by mutual agreement, the Applicant installs all Company-provided conduit excluding feeder per FPL instructions. This credit is:

	Backbone	Service
1. Where density is 6.0 or more dwelling units per acre:		
1.1 Buildings that do not exceed four units, townhouses, and mobile homes - per service lateral.	\$62.07	\$48.00

(Continued on Sheet No. 6.115)

(Continued from Sheet No. 6.110)

	Credit to Applicant's Contribution	
	Backbone	Service
1.2 Mobile homes having Customer-owned services from meter center installed adjacent to the FPL primary trench route - per dwelling unit.	\$50.61	N/A
2. Where density is .5 or greater, but less than 6.0 dwelling units per acre, per service lateral.	\$99.47	\$58.80
c) Credits will be allowed to the Applicant's contribution in Section 10.3.2. where, by mutual agreement, the Applicant provides a portion of trenching and backfilling for the Company's facilities, per foot of trench -- \$3.48.		
d) Credits will be allowed to the Applicant's contribution in section 10.3.2. where, by mutual agreement, the Applicant installs a portion of Company-provided PVC conduit, per FPL instructions (per foot of conduit): 2" PVC - \$0.60; larger than 2" PVC - \$0.84.		
e) Credit will be allowed to the Applicant's contribution in section 10.3.2., where, by mutual agreement, the Applicant installs an FPL-provided feeder splice box, per FPL instructions, per box - \$664.74.		
f) Credit will be allowed to the Applicant's contribution in section 10.3.2., where by mutual agreement, the Applicant installs an FPL-provided primary splice box, per FPL instructions, per box - \$232.78.		
g) Credit will be allowed to the Applicant's contribution in section 10.3.2., where, by mutual agreement, the Applicant installs an FPL-provided secondary handhole, per FPL instructions, per handhole: 17" handhole - \$21.60; 24" or 30" handhole - \$61.19.		
h) Credit will be allowed to the Applicant's contribution in section 10.3.2., where, by mutual agreement, the Applicant installs an FPL-provided concrete pad for a pad-mounted transformer or capacitor bank, per FPL instructions, per pad - \$60.00.		
i) Credit will be allowed to the Applicant's contribution in Section 10.3.2., where, by mutual agreement, the Applicant installs a portion of Company-provided flexible HDPE conduit, per FPL instructions (per foot of conduit): \$0.12.		
j) Credit will be allowed to the Applicant's contribution in Section 10.3.2., where, by mutual agreement, the Applicant installs an FPL-provided concrete pad and cable chamber for a pad-mounted feeder switch, per pad and cable chamber - \$565.15.		

**SECTION 10.4 UNDERGROUND SERVICE LATERALS FROM  
OVERHEAD ELECTRIC DISTRIBUTION SYSTEMS****10.4.1. New Underground Service Laterals**

When requested by the Applicant, the Company will install underground service laterals from overhead systems to newly constructed residential buildings containing less than five separate dwelling units.

**10.4.2. Contribution by Applicant**

a) The Applicant shall pay the Company the following differential cost between an overhead service and an underground service lateral, as follows:

	<u>Applicant's Contribution</u>
1. For any density:	
Buildings that do not exceed four units, townhouses, and mobile homes	
a) per service lateral (includes service riser installation)	\$683.84
b) per service lateral (from existing handhole or PM TX)	\$348.83
2. For any density, the Company will provide a riser to a handhole at the base of a pole	\$705.46

Additional charges specified in Paragraphs 10.2.10 and 10.2.11 may also apply. Underground service or secondary extensions beyond the boundaries of the property being served will be subject to additional differential costs as determined by individual cost estimates.

**10.4.3. Contribution Adjustments**

a) Credit will be allowed to the Applicant's contribution in Section 10.4.2 where, by mutual agreement, the Applicant provides trenching and backfilling for the Company's facilities. This credit is:

	<u>Credit To Applicant's Contribution</u>
1. For any density:	
Buildings that do not exceed four units, townhouses, and mobile homes	
- per foot	\$3.48

(Continued on Sheet No. 6.125)

(Continued from Sheet No. 6.120)

- b) Credit will be allowed to the Applicant's contribution in Section 10.4.2, where by mutual agreement, the Applicant installs Company-provided conduit, per FPL instructions, as follows:

1. For any density:

Buildings that do not exceed four units,  
townhouses, and mobile homes

- per foot:	2" PVC	\$0.60
	Larger than 2" PVC	\$0.84

- c) Credit will be allowed to the Applicant's contribution in Section 10.4.2, where by mutual agreement, the Applicant requests the underground service to be installed as a TUG (subject to the conditions specified in Section 10.2.8.1), per service lateral, as follows:

1. For any density:

Buildings that do not exceed four units,  
townhouses, and mobile homes

-per service lateral:	\$60.00
-----------------------	---------



**SECTION 10.5 UNDERGROUND SERVICE LATERALS REPLACING  
EXISTING RESIDENTIAL OVERHEAD AND UNDERGROUND SERVICES**

**10.5.1. Applicability**

When requested by the Applicant, the Company will install underground service laterals from existing systems as replacements for existing overhead and underground services to existing residential buildings containing less than five individual dwelling units.

**10.5.2. Rearrangement of Service Entrance**

The Applicant shall be responsible for any necessary rearranging of his existing electric service entrance facilities to accommodate the proposed underground service lateral in accordance with the Company's specifications.

**10.5.3. Trenching and Conduit Installation**

The Applicant shall also provide, at no cost to the Company, a suitable trench, perform the backfilling and any landscape, pavement or other similar repairs and install Company provided conduit according to Company specifications. When requested by the Applicant and approved by the Company, the Company may supply the trench and conduit and the Applicant shall pay for this work based on a specific cost estimate. Should paving, grass, landscaping or sprinkler systems need repair or replacement during construction, the Applicant shall be responsible for restoring the paving, grass, landscaping or sprinkler systems to the original condition.

**10.5.4. Contribution by Applicant**

- a) The charge per service lateral replacing an existing Company-owned overhead service for any density shall be:

Applicant's  
Contribution

- |  |          |
|--|----------|
| 1. Where the Company provides an underground service lateral:                | \$651.49 |
| 2. Where the Company provides a riser to a handhole at the base of the pole: | \$930.13 |

- b) The charge per service lateral replacing an existing Company-owned underground service at Applicant's request for any density shall be:

- |   |          |
|---|----------|
| 1. Where the service is from an overhead system:    | \$643.46 |
| 2. Where the service is from an underground system: | \$555.22 |

- c) The charge per service lateral replacing an existing Customer-owned underground service from an overhead system for any density shall be:

\$426.82

- d) The charge per service lateral replacing an existing Customer-owned underground service from an underground system for any density shall be:

\$91.81

The above charges include conversion of the service lateral from the last FPL pole to the meter location. Removal of any other facilities such as poles, downguys, spans of secondary, etc. will be charged based on specific cost estimates for the requested additional work.

**APPENDIX 2**  
**URD**



**APPENDIX NO. 2**  
**FPL 2016**  
**Explanation of Proposed Revisions**

This Appendix summarizes proposed revisions to the Rules and Regulations included in Section 10 (and applicable forms) of FPL's General Rules and Regulations for Electric Service. The basis for FPL's proposed tariff charges for underground installations can be found in Appendix No. 3.

- 1) Added definition for "Dwelling Unit" to sheet 6.080.
- 2) Added language to sheet 6.100 regarding required CIAC if expected revenue is insufficient to offset the total estimated costs of installing overhead facilities.
- 3) Clarified the charges in 10.3.2.a)1.1.2 on sheet 6.100 to be "per dwelling unit" instead of "per service lateral".

**APPENDIX 3**  
**URD**

## APPENDIX NO. 3

FPL - 2016

### BASIS FOR UNDERGROUND RESIDENTIAL DISTRIBUTION DIFFERENTIAL

**New Underground Subdivision with Overhead Feeder Mains.** The average differential costs for Underground Residential Distribution (URD) stated in the FPL Rules and Regulations were derived from cost estimates of underground facilities and their equivalent overhead designs. The high density subdivision used for these estimates was developed by the group of Florida Electric Utilities in response to Florida Public Service Commission Orders No. 6031 and 6031-B. The low density subdivision was also developed by the group of Florida Electric Utilities and was approved by Florida Public Service Commission Order No. PSC-96-0026-FOF-EI. They represent average conditions in Florida Subdivisions served by FPL. Densities range from 0.5 to 6.0 lots per acre for low density subdivisions. The low density subdivision contains 210 lots; the high density subdivision 176 lots. Subdivision plats are shown in Exhibits IV and XI. Differential cost estimates were made from engineering layouts of underground and overhead facilities. These included primary laterals, transformers, secondary lines and services, but not three phase feeders. These estimates employed standard Company design and estimating practices and the system-wide unit cost for labor and material which were in use at the end of 2015. Design criteria included the following:

Design Customer Demand	-	7.25 KVA, including 2 1/2 tons of air conditioning for high density model and 9.35 KVA including 3 1/2 tons of air conditioning for low density model according to DERM. (1)
Primary Voltage	-	13200/7620 Volts
Underground Design	-	Rear/Front lot construction - All C-I-C (2)
Overhead Design	-	Front lot construction, extreme wind (145 MPH)

(1) FPL Distribution Engineering Reference Manual

(2) All cables are to be installed in PVC conduit.

For the per-service lateral charges, the tariff differentials reflect the net present value of operational costs, including average historical storm restoration, as contemplated by Rule 25-6.078(4), F.A.C. FPL has addressed operational cost differential as two separate components, covering non-storm and storm costs. For storm costs, FPL's starting point was the same data on storm restoration costs that it presented to the Commission in justifying the 25% GAF Waiver for eligible governmental underground conversion projects. One of the principal assumptions in calculating the storm restoration cost savings for GAF projects was that, because they covered large, contiguous areas, there would be no need for overhead restoration crews to go into the project neighborhoods and, hence, the savings would be maximized. However, because not all URD projects will involve a large, contiguous area like that of a GAF project, FPL has developed three tiers of storm cost differentials for the URD tariff. Tier 1 is for large "GAF-equivalent" projects, which would meet the GAF size and uniformity requirements.

The storm cost differential for Tier 1 projects reflects the same savings as were used to justify the GAF Waiver, expressed on a per lot basis. Tier 2 is for smaller projects (1-3 pole line miles) but otherwise meet the GAF eligibility criteria. Tier 2 projects receive 40% of the full GAF savings. Finally, Tier 3 is for small projects that do not necessarily meet any of the GAF eligibility criteria; for them the storm cost differential is 20% of the GAF savings.

FPL does not believe that there is a significant difference in the storm cost differentials for low-density versus high-density projects, so the Tier 1, 2 and 3 reductions apply regardless of the project density.

Estimates are broken down into a uniform format adopted as a standard by the participating companies (Exhibit I-X).

Case 1. Low Density  
Where density is 0.5 or greater, but less than 6 dwelling units per acre: Buildings that do not exceed four units, townhouses, and mobile homes -- per service lateral.

Case 2. High Density  
Where density is 6.0 or more dwelling units per acre: Buildings that do not exceed four units, townhouses, and mobile homes -- per service lateral.

Case 3. Meter Pedestal  
Where density is 6.0 or more dwelling units per acre: Mobile homes having Customer-owned services from meter centers installed adjacent to the FPL primary trench route -- per dwelling unit.

<u>Low Density</u>	<u>Operational Cost / Lot</u>				<u>Cost Differential</u>
	<u>Non-Storm</u>	<u>Storm</u>	<u>Total</u>		
Pre-Operational Cost					\$141.35
Post-Operational Cost					
Tier 1 (Full GAF) - 200 or more lots	\$208	(\$416)	(\$208)	Note 2	\$0.00
Tier 2 (40% GAF) - 85 to 199 lots	\$208	(\$166)	\$42		\$183.35
Tier 3 (20% GAF) - less than 85 lots	\$208	(\$83)	\$125		\$266.35

<u>High Density</u>	<u>Operational Cost / Lot</u>				<u>Cost Differential</u>
	<u>Non-Storm</u>	<u>Storm</u>	<u>Total</u>		
Pre-Operational Cost				Note 3	\$0.00
Post-Operational Cost					
Tier 1 (Full GAF) - 300 or more lots	\$192	(\$416)	(\$224)	Note 2	\$0.00
Tier 2 (40% GAF) - 100 to 299 lots	\$192	(\$166)	\$26		\$0.00
Tier 3 (20% GAF) - less than 100 lots	\$192	(\$83)	\$109		\$57.97

<u>Meter Pedestal</u>	<u>Operational Cost / Lot</u>				<u>Cost Differential</u>
	<u>Non-Storm</u>	<u>Storm</u>	<u>Total</u>		
Pre-Operational Cost				Note 1	\$0.00
Post-Operational Cost					
Tier 1 (Full GAF) - 300 or more lots	\$192	(\$416)	(\$224)	Note 2	\$0.00
Tier 2 (40% GAF) - 100 to 299 lots	\$192	(\$166)	\$26	Note 2	\$0.00
Tier 3 (20% GAF) - less than 100 lots	\$192	(\$83)	\$109	Note 2	\$0.00

Note 1: The 'Pre-Operational Cost' differential has been set to \$0 since it is a negative amount (\$292.35).

However, the negative amount has been applied to determine the "Post-Operational Cost" differentials.

Note 2: Where the "Post-Operational" Costs are negative, the differentials have been set to \$0.

Note 3: The 'Pre-Operational Cost' differential has been set to \$0 since it is a negative amount (\$51.03).

However, the negative amount has been applied to determine the "Post-Operational Cost" differentials.

**10.4.2 UG Service Laterals from Overhead Lines.**

Service lateral costs are included

in the differential costs previously stated except in Case 3. The costs of service laterals were estimated separately to determine the differential cost between a standard overhead service and a similar length underground service from an overhead line. This differential cost was calculated by adding the differential service lateral cost to the pole-conduit terminal cost. The average pole-conduit terminal cost was found to be \$335.01 per service lateral.

Service lateral differential cost.....	\$348.83
Pole-conduit cost.....	<u>\$335.01</u>
Total cost.....	\$683.84
Service lateral differential cost fed from an existing UG source.....	<u>\$348.83</u>

A URD riser to a handhole at the base of the pole had a differential cost of \$705.46

**10.5.4 Replacement of an Existing Service with an Underground Service.**

Costs were also estimated for replacing existing services with underground service laterals. These costs were based on the applicant providing the trench because of the wide variations in the cost of excavating established, landscaped areas. Additional costs are associated with removal and premature retirement of existing services. Accordingly, adjustments were made to the cost of a new service lateral by adding the costs involved with the retirement of an existing service drop and subtracting trenching costs. The costs were estimated to be:

**A. Cost per service lateral to replace Company-owned Overhead Service with:**

	Company UG Service	Riser to Handhole
UG service lateral cost.....	\$683.84	\$0.00
Riser to handhole cost.....	\$0.00	\$705.46
Less trenching credit.....	(\$219.22)	\$0.00
Less conduit installation credit.....	(\$37.80)	\$0.00
Remaining value of existing service.....	\$165.10	\$165.10
Removal cost of existing service.....	\$59.57	\$59.57
Salvage.....	<u>\$0.00</u>	<u>\$0.00</u>
Total cost.....	\$651.49	\$930.13



**B. Cost per service lateral to replace Company-owned Underground Service.**

	<u>OH Source</u>	<u>UG Source</u>
UG service lateral cost.....	\$348.83	\$348.83
Handhole for connection to existing riser X .25.....	\$88.24	\$0.00
Less trenching credit.....	(\$219.22)	(\$219.22)
Less conduit credit.....	(\$37.80)	(\$37.80)
Remaining value of existing service.....	\$429.14	\$429.14
Removal cost of existing service.....	\$34.27	\$34.27
Salvage.....	<u>\$0.00</u>	<u>\$0.00</u>
Total Cost.....	\$643.46	\$555.22

**C. Cost to replace Customer-owned Underground Service from an Overhead System.**

UG service lateral cost.....	\$348.83
Pole-conduit cost.....	\$335.01
Less trenching credit.....	(\$219.22)
Less conduit installation credit.....	<u>(\$37.80)</u>
TOTAL.....	\$426.82

**D. Cost to replace Customer-owned Underground Service from an Underground System.**

UG service lateral cost.....	\$348.83
Less trenching credit.....	(\$219.22)
Less conduit installation credit.....	<u>(\$37.80)</u>
TOTAL.....	\$91.81

**Underground Feeder/Lateral Cost.** Cost estimates were made for underground and overhead feeders and laterals necessary to serve residential communities in the model subdivisions. The average differential costs per foot were then determined. These results are shown in Exhibit XII.

Underground feeders/laterals were assumed to be installed in conduit with above grade switch cabinets. Overhead feeder costs included wood pole costs.

**APPENDIX 4**  
**URD**



**LOW DENSITY**

OVERHEAD VS. UNDERGROUND SUMMARY SHEET

Low Density 210 Lot Subdivision  
Cost per Service Lateral

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$1,215.30	\$1,442.61	\$227.31
MATERIAL	\$1,057.19	\$971.23	(\$85.96)
<b>TOTAL (1)</b>	<b>\$2,272.49</b>	<b>\$2,413.84</b>	<b>\$141.35</b>

(1) Does not include storm or operational costs

COST PER SERVICE LATERAL OVERHEAD MATERIAL AND LABOR

## Low Density 210 Lot Subdivision

ITEM	MATERIAL(1)	LABOR(4)	TOTAL
Service(2)	\$168.43	\$178.33	\$346.76
Primary	\$132.22	\$122.71	\$254.93
Secondary	\$36.89	\$112.80	\$149.69
Initial Tree Trim	-----	-----	-----
Poles	\$203.88	\$369.73	\$573.61
Transformers	\$248.69	\$174.11	\$422.80
Sub-Total	\$790.11	\$957.68	\$1,747.79
Stores Handling(3)	\$42.98	-----	\$42.98
SubTotal	\$833.09	\$957.68	\$1,790.77
Engineering(5)	\$224.10	\$257.62	\$481.72
TOTAL(6)	\$1,057.19	\$1,215.30	\$2,272.49

1 - Includes Sales Tax.

2 - Includes Meters.

3 - 5.44 % of All Material.

4 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

5 - 26.9 % of All Material and Labor.

6 - Does not include storm or operational costs.

COST PER SERVICE LATERAL UNDERGROUND MATERIAL AND LABOR

## Low Density 210 Lot Subdivision

ITEM	MATERIAL(1)	LABOR(4)	TOTAL
Service(2)	\$199.13	\$336.04	\$535.17
Primary	\$224.33	\$185.59	\$409.92
Secondary	\$100.65	\$83.95	\$184.60
Transformers	\$201.75	\$64.95	\$266.70
Prim. & Sec. Trenching	-----	\$247.06	\$247.06
Service Trenching	-----	\$219.22	\$219.22
Sub-Total	\$725.86	\$1,136.81	\$1,862.67
Stores Handling(3)	\$39.49	-----	\$39.49
SubTotal	\$765.35	\$1,136.81	\$1,902.16
Engineering(5)	\$205.88	\$305.80	\$511.68
TOTAL(6)	\$971.23	\$1,442.61	\$2,413.84

1 - Includes Sales Tax.

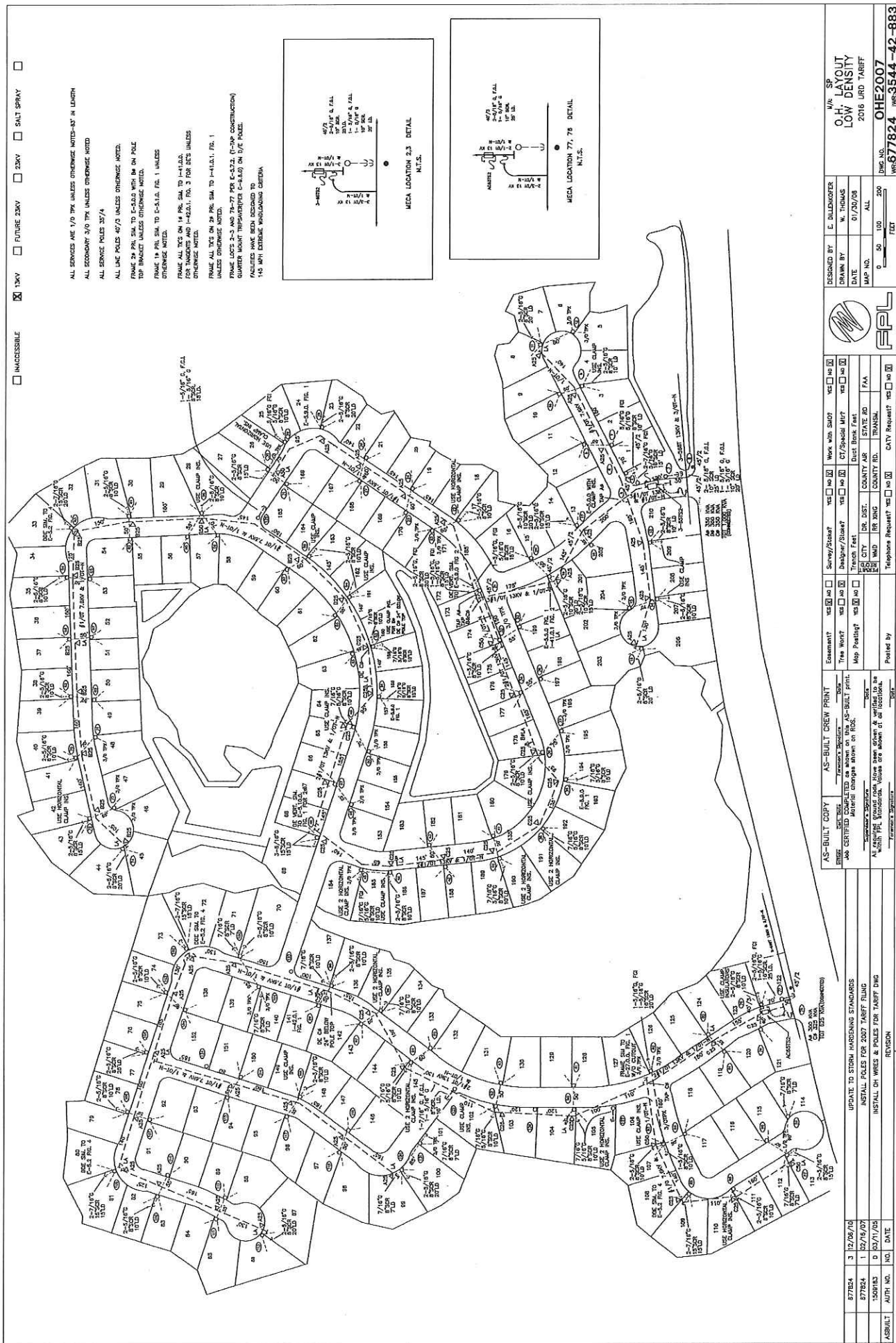
2 - Includes Meters.

3 - 5.44 % of All Material.

4 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

5 - 26.9 % of All Material and Labor.

6 - Does not include storm or operational costs.







**2016 OH LOW DENSITY LAYOUT WITH 3.5 TON A/C**

WR Number:  
677824

NUMBER OF LOTS =	2016 210
MECA STORES LDG % =	4.98%
ACTUAL STORES LDG % =	5.44%
ACTUAL EO =	26.90%

CLASSIFICATION	MATERIAL 2016	MATERIAL COST/LOT 2016	LABOR 2016	LABOR COST/LOT 2016	TOTAL LABOR & MATERIAL 2016
Service Overhead	\$14,700.33		\$30,723.00		
Meter Equip-1st Installation Expense			\$6,725.46		
Meter Cost (Material)	\$21,367.50	\$101.75			
<b>SERVICE SUBT W/O STORES LDG</b>	<b>\$35,370.48</b>	<b>\$168.43</b>	<b>\$37,448.46</b>	<b>\$178.33</b>	<b>\$346.76</b>
Cond, Primary, AL, thru 3/O	\$4,415.71		\$24,888.30		
Reclosure, 1 Phase	\$24,732.45		\$881.31		
<b>PRIMARY SUBT W/O STORES LDG</b>	<b>\$27,765.44</b>	<b>\$132.22</b>	<b>\$25,769.61</b>	<b>\$122.71</b>	<b>\$254.93</b>
Cond, Secondary, AL, thru 4/O	\$3,016.50		\$17,032.86		
Cable, Secondary, TPX, All	\$5,116.10		\$6,640.27		
Maintenance of Duct System	\$0.56		\$14.41		
<b>SEC SUBT W/O STORES LDG</b>	<b>\$7,747.34</b>	<b>\$36.89</b>	<b>\$23,687.54</b>	<b>\$112.80</b>	<b>\$149.69</b>
Poles, Wood, 35/40/45 ft	\$44,945.92		\$77,643.59		
<b>POLE SUBT W/O STORES LDG</b>	<b>\$42,813.79</b>	<b>\$203.88</b>	<b>\$77,643.59</b>	<b>\$369.73</b>	<b>\$573.61</b>
Transformer Installation Labor					
Transformer, 10-25 KVA	\$48,332.91		\$33,566.23		
Transformer, 50-75 KVA	\$6,493.24		\$2,996.99		
<b>TRANSFORMER SUBTOTAL</b>	<b>\$52,225.33</b>	<b>\$248.69</b>	<b>\$36,563.22</b>	<b>\$174.11</b>	<b>\$422.80</b>
<b>SUB-TOTAL</b>	<b>\$165,922.38</b>	<b>\$790.11</b>	<b>\$201,112.42</b>	<b>\$957.68</b>	<b>\$1,747.79</b>
MATERIAL SUBTOTAL MINUS METER MATERIAL		\$688.36			
STORES LDG. %		5.44%			
METER STORES LDG %		5.44%			
TOTAL STORES LDG \$		\$42.98			\$42.98
<b>SUBTOTAL</b>		<b>\$833.09</b>		<b>\$957.68</b>	<b>\$1,790.77</b>
<b>EO</b>		<b>\$224.10</b>		<b>\$257.62</b>	<b>\$481.72</b>
<b>TOTAL</b>		<b>\$1,057.19</b>		<b>\$1,215.30</b>	<b>\$2,272.49</b>

**2016 UG LOW DENSITY LAYOUT WITH 3.5 TON A/C**

WR Number  
1459058

NUMBER OF LOTS =	2016 210
MECA STORES LDG % =	4.98%
ACTUAL STORES LDG =	5.44%
ACTUAL EO =	26.90%

CLASSIFICATION	MATERIAL 2016	MATERIAL COST/LOT 2016	LABOR 2016	LABOR COST/LOT 2016	TOTAL LABOR & MATERIAL 2016
Service, UG, In Duct	\$21,467.18		\$109,879.51		
Meter Equip-1st Installation Expense			\$6,725.46		
Meter Cost (Material)	\$21,367.50	\$101.75			
Service Trench (Labor)			(\$46,036.56)		
<b>SERVICE SUBT W/O STORES LDG</b>	\$41,816.33	\$199.13	\$70,568.41	\$336.04	\$535.17
Duct, Buried (PVC)	\$16,636.69		\$74,826.08		
Maintenance of Overhead Lines	\$398.05		\$1,107.14		
Cable, Primary, 1/C, 2/C, All	\$32,421.67		\$14,922.99		
PRI/SEC TRENCH			(\$51,882.48)		
<b>PRIMARY SUBT W/O STORES LDG</b>	\$47,110.32	\$224.33	\$38,973.73	\$185.59	\$409.92
Cable, 600V, AL, All	\$22,189.77		\$17,629.76		
<b>SEC SUBT W/O STORES LDG</b>	\$21,137.14	\$100.65	\$17,629.76	\$83.95	\$184.60
Pad, TX	\$3,670.40		\$5,744.80		
Transformer, Padmount All	\$40,806.45		\$7,894.27		
<b>TRANSFORMER SUBTOTAL</b>	\$42,366.97	\$201.75	\$13,639.07	\$64.95	\$266.70
PRI/SEC TRENCH			\$51,882.48	\$247.06	\$247.06
SVC TRENCH			\$46,036.56	\$219.22	\$219.22
<b>SUB-TOTAL</b>	\$152,430.76	\$725.86	\$238,730.01	\$1,136.81	\$1,862.67
MATERIAL SUBTOTAL MINUS METER MATERIAL		\$624.11			
STORES LDG. %		5.44%			
METER STORES LDG %		5.44%			
TOTAL STORES LDG		\$39.49			\$39.49
<b>SUBTOTAL</b>		\$765.35		\$1,136.81	\$1,902.16
<b>EO</b>		\$205.88		\$305.80	\$511.68
<b>TOTAL</b>		\$971.23		\$1,442.61	\$2,413.84

# OPERATIONAL COSTS DIFFERENTIAL - LOW DENSITY

<u>Low Density</u>	<u>30-Year NPV (\$ per pole-line mile)</u>			<u>Cost per Lot</u>
	<u>O&amp;M</u>	<u>Capital</u>	<u>Total</u>	
Differential (Non-Storm)	\$1,586	\$16,364	\$17,950	\$208
<u>Avoided Storm Restoration</u>				
Tier 1 (Full GAF) - 200 or more lots	(\$35,842)		(\$35,842)	(\$416)
Tier 2 (40% GAF) - 85 to 199 lots	(\$14,337)		(\$14,337)	(\$166)
Tier 3 (20% GAF) - less than 85 lots	(\$7,168)		(\$7,168)	(\$83)
				<u>Cost</u>
<u>Low Density</u>				<u>Differential</u>
Pre-Operational Cost				\$141.35
Post-Operational Cost				
Tier 1 (Full GAF) - 200 or more lots	-----			\$0.00
Tier 2 (40% GAF) - 85 to 199 lots	-----			\$183.35
Tier 3 (20% GAF) - less than 85 lots	-----			\$266.35

**HIGH DENSITY**



COMPANY: FPL

DATE: 04/01/16

OVERHEAD VS. UNDERGROUND SUMMARY SHEET

High Density 176 Lot Subdivision  
Company Owned Service Laterals  
Cost per Service Lateral

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$898.66	\$993.86	\$95.20
MATERIAL	\$792.82	\$646.59	(\$146.23)
<b>TOTAL (1) (2)</b>	<b>\$1,691.48</b>	<b>\$1,640.45</b>	<b>(\$51.03)</b>

(1) Does not include storm or operational costs

(2) The differential has been set to \$0 in the URD filing since the differential is a negative amount.

COST PER SERVICE LATERAL OVERHEAD MATERIAL AND LABOR

High Density 176 Lot Subdivision  
Company Owned Service Laterals

ITEM	MATERIAL(1)	LABOR(4)	TOTAL
Service(2)	\$152.61	\$161.73	\$314.34
Primary	\$65.60	\$60.71	\$126.31
Secondary	\$70.84	\$143.08	\$213.92
Initial Tree Trim	-----	-----	-----
Poles	\$143.71	\$273.21	\$416.92
Transformers	\$159.77	\$69.43	\$229.20
Sub-Total	\$592.53	\$708.16	\$1,300.69
Stores Handling(3)	\$32.23	-----	\$32.23
SubTotal	\$624.76	\$708.16	\$1,332.92
Engineering(5)	\$168.06	\$190.50	\$358.56
TOTAL(6)	\$792.82	\$898.66	\$1,691.48

1 - Includes Sales Tax.

2 - Includes Meters.

3 - 5.44 % of All Material.

4 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

5 - 26.9 % of All Material and Labor.

6 - Does not include storm or operational costs

**EXHIBIT VI**

COST PER SERVICE LATERAL UNDERGROUND MATERIAL AND LABOR

High Density 176 Lot Subdivision  
Company Owned Service Laterals

ITEM	MATERIAL(1)	LABOR(4)	TOTAL
Service(2)	\$209.09	\$295.47	\$504.56
Primary	\$112.74	\$121.60	\$234.34
Secondary	\$34.08	\$43.33	\$77.41
Transformers	\$127.33	\$17.03	\$144.36
Prim. & Sec. Trenching	-----	\$149.16	\$149.16
Service Trenching	-----	\$156.59	\$156.59
Sub-Total	\$483.24	\$783.18	\$1,266.42
Stores Handling(3)	\$26.29	-----	\$26.29
SubTotal	\$509.53	\$783.18	\$1,292.71
Engineering(5)	\$137.06	\$210.68	\$347.74
TOTAL(6)	\$646.59	\$993.86	\$1,640.45

1 - Includes Sales Tax.

2 - Includes Meters.

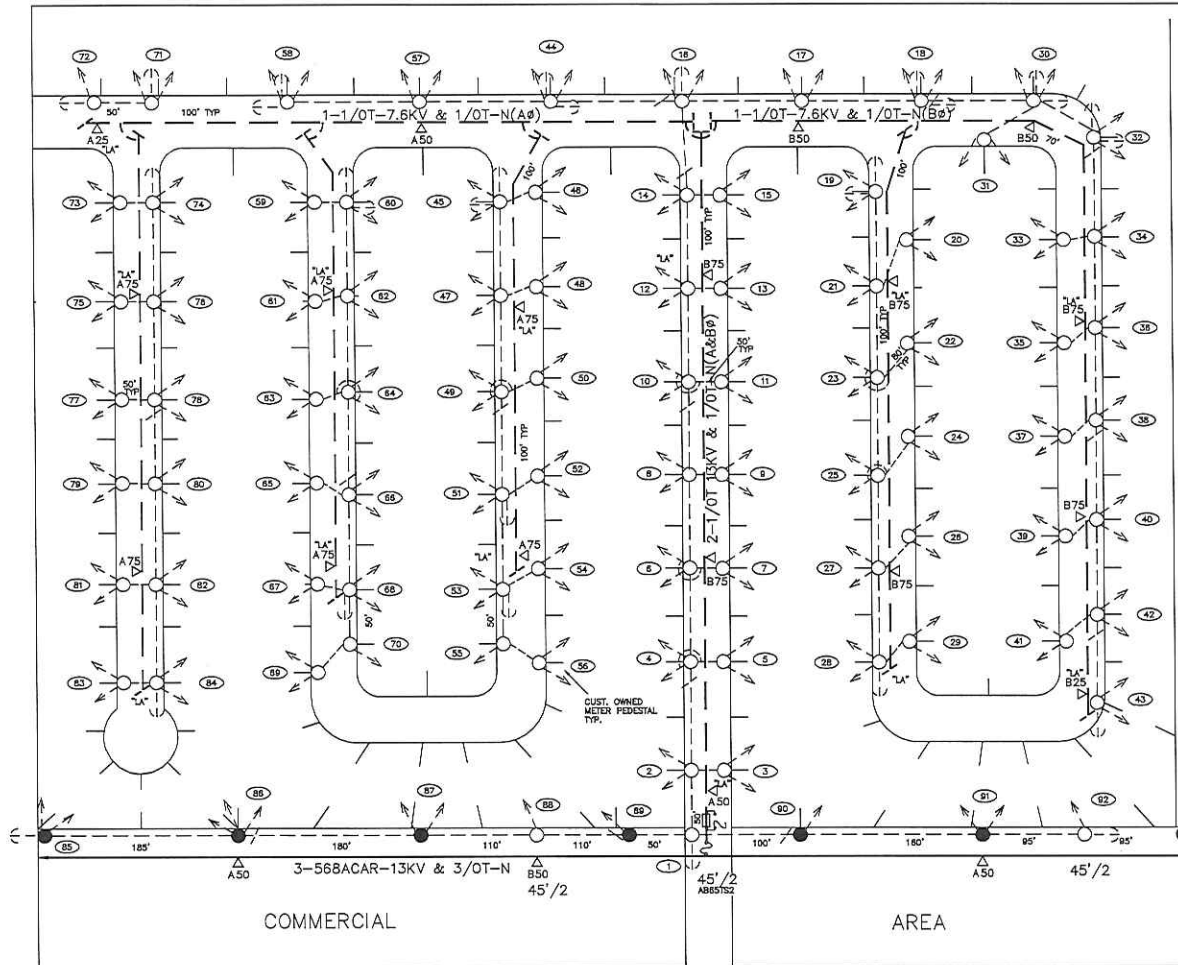
3 - 5.44 % of All Material.

4 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

5 - 26.9 % of All Material and Labor.

6 - Does not include storm or operational costs

☐ INACCESSIBLE ☒ 13KV ☐ FUTURE 23KV ☐ 23KV ☐ SALT SPRAY ☐ NULL



# NOTES

1. ALL SERVICES ARE #1/0 TPX. 45' LONG
2. ALL GUYS ARE 5/16", 8" SCR, 20' LD
3. ALL LINE POLES ARE 40'/3 UNLESS OTHERWISE NOTED.
4. ALL SVC POLE ARE 35'/4"
5. ALL SEC COND IS 3/0 TPX
6. FRAME LOC. 1 PER E-27.0.0, FIG. 2. INSTALL TRIPSAVER(PER C-9.6.0)
7. FRAME LOCS 4, 8, 10, & 14 SIMILAR TO E-5.0.0 (2#)
8. FRAME LOCS 2 & 12 SIMILAR TO I-41.0.1, FIG 2
9. FRAME LOC 6 SIMILAR TO I-41.0.1, FIG 1
10. FRAME LOC 16 WITH 2-#S D.E. VERT
11. FRAME TYP TANG TX POLES (1#) PER I-41.0.0
12. FRAME TYP D.E. TX POLES (1#) PER I-42.0.1, FIG 2A
13. FRAME LOCS 86 & 91 SIMILAR TO I-41.0.1 FIG 2
14. FRAME LOC 88 SIMILAR TO I-41.0.1, FIG 1
15. NEW FACILITIES HAVE BEEN DESIGNED TO 145 MPH EXTREME WINDLOADING CRITERIA

## LATERAL LOADING

AØ = 575 KVA








BØ = 575 KVA

TOTAL = 1150 KVA (CONNECTED)

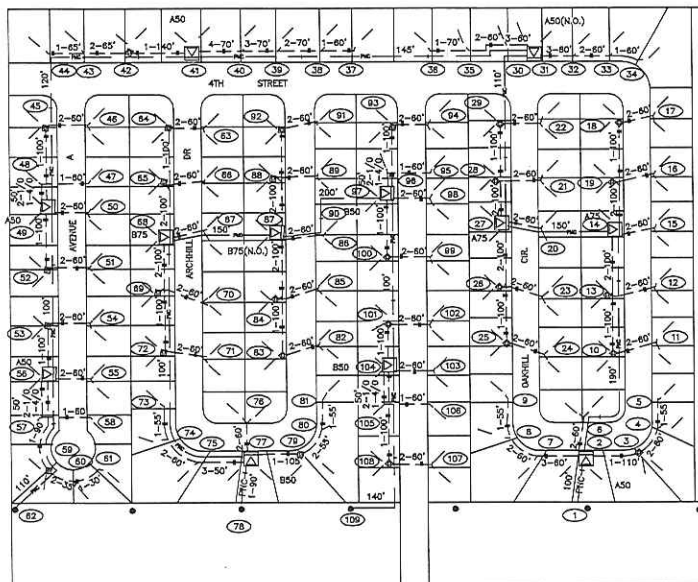
PLOT DATE: 2/20/2018

PLOT TIME: 10:23:51 AM

CAD NAME: MGR

2816889	5	01/30/08	UPDATE TO STORM HARDENING STANDARDS	AS-BUILT COPY	AS-BUILT CREW PRINT	Easement? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Survey/State? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Work with SMOT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		DESIGNED BY: E S DILLIKOFER	w/ SP HIGH DENSITY 176 LOTS - OVERHEAD 2016 URD TARIFF HARDENING REVISION <b>URDE92</b> DWG NO. <b>2816889</b> REV: <b>4766-48-883</b>	
2588243	4	02/22/07	UPDATE DWG WITH METER PEDESTALS	DATE: 01/30/08	DATE: 01/30/08	Tree Work? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Designer/State? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	CT/Special Mtr? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		DRAWN BY: A. LOPEZ		
2574183	3	02/21/07	NEW OH TARIFF DESIGN	Job CERTIFIED COMPLETED as shown on this AS-BUILT print.	Material changes shown on ROS.	Map Posting? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Trench Feet	Duct Bank Feet		DATE: 01/30/08		
1324918	2	01/23/07	CLEAN BACKGROUND	Supervisor's Signature: 	Date: 01/23/07	BY: 	QTY: <input type="text"/>	DR. DIST.:		COUNTY AIR:		MAP NO. ALL
8484-03-010	0	02/05/97	ORIGINAL DWG	All required ground rods have been driven & verified to be within 75' of conductors. Values are shown at all locations.	Foreman's Signature: 	Date: 02/05/97	BY: 	WMD: <input type="text"/>	RR XING:	COUNTY RD.:	STATE RD.:	FAA:
AS-BUILT	AUTH NO.	NO.	DATE	REVISION	Foreman's Signature: 	Date: 02/05/97	Posted by:	Telephone Request? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	CATV Request? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			

☐ INACCESSIBLE ☒ 13KV ☐ FUTURE 23KV ☐ 23KV ☐ SALT SPRAY ☐ NULL



- NOTES:  
 1. ALL SERVICE CABLES ARE 1/0 TPK (45' LONG).  
 2. ALL SECONDARY CABLES ARE 4/0 TPK, UNLESS NOTED.  
 3. ALL HANDHOLES ARE 24" WITH 6 PORT MULTI-TAPS.  
 4. ALL A/C'S ARE 2.5 TON.

AM 400 KVA  
 BM 300 KVA  
 TOT 700 KVA (CONNECTED)

PLOT DATE: 2/10/2016 PLOT TIME: 4:22:54 PM CAD NAME: BIR

AS-BUILT

AS-BUILT	AUTH NO.	NO.	DATE	REVISION
	1328347	2	01/30/08	UPDATE TO STORM HARDENING STANDARDS
	1328347	1	01/04/05	UPGRADE TX'S AND ADD MECA LOCATIONS
	5487-02-010	0	02/05/97	ORIGINAL DWG

AS-BUILT COPY	AS-BUILT CREW PRINT
DATE: 01/30/08	DATE: 01/30/08
JOB CERTIFIED COMPLETED as shown on this AS-BUILT print. Material changes shown on RDS.	
Signature: [Signature]	Signature: [Signature]
All required ground rods have been driven & verified to be within 176' boundaries. Values are shown at all locations.	
Signature: [Signature]	Signature: [Signature]

Easement?	YES <input type="checkbox"/> NO <input type="checkbox"/>	Survey/Stake?	YES <input type="checkbox"/> NO <input type="checkbox"/>	Work with SMO?	YES <input type="checkbox"/> NO <input type="checkbox"/>
Tree Work?	YES <input type="checkbox"/> NO <input type="checkbox"/>	Designer/Stake?	YES <input type="checkbox"/> NO <input type="checkbox"/>	CT/Special Mkt?	YES <input type="checkbox"/> NO <input type="checkbox"/>
Map Posting?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Trench Feet	Duct Bank Feet		
		CITY	DR. DIST.	COUNTY AIR	STATE RD
		WMD	RR KING	COUNTY RD.	TRANS.
Posted by	Telephone Request? YES <input type="checkbox"/> NO <input type="checkbox"/> CATV Request? YES <input type="checkbox"/> NO <input type="checkbox"/>				



DESIGNED BY	E S KILLENKOPFER
DRAWN BY	A. LOPEZ
DATE	01/30/08
MAP NO.	ALL

W/A: SP
U.G. LAYOUT
HIGH DENSITY
2016 URD TARIFF HARDENING REVISION
176 LOT SUBDIVISION
DWG NO. <b>URDE94</b>
WR: 1328347 TWR: 1428-44-883



# 2016 OH HIGH DENSITY LAYOUT

WR Number:  
2982370

NUMBER OF LOTS = 2016  
176

MECA STORES LDG % = 4.98%

ACTUAL STORES LDG % = 5.44%

ACTUAL EO = 26.90%

CLASSIFICATION	MATERIAL 2016	MATERIAL COST/LOT 2016	LABOR 2016	LABOR COST/LOT 2016	TOTAL LABOR & MATERIAL 2016
Service Overhead	\$9,397.49		\$22,828.12		
Meter Equip-1st Installation Expense			\$5,636.58		
Meter Cost (Material)	\$17,908.00	\$101.75			
<b>SERVICE SUBT W/O STORES LDG</b>	\$26,859.70	\$152.61	\$28,464.70	\$161.73	\$314.34
Cond, Primary, AL, thru 3/O	\$1,629.59		\$10,163.63		
Reclosure, 1 Phase	\$10,490.66		\$492.30		
Maintenance of Overhead Lines	\$0.00		\$28.18		
<b>PRIMARY SUBT W/O STORES LDG</b>	\$11,545.30	\$65.60	\$10,684.11	\$60.71	\$126.31
Cond, Secondary, AL, thru 4/O	\$1,390.89		\$8,674.81		
Cable, Secondary, TPX, All	\$11,697.78		\$16,507.98		
<b>SECONDARY SUBT W/O STORES LDG</b>	\$12,467.77	\$70.84	\$25,182.79	\$143.08	\$213.92
Poles, Wood, 35/40/45 ft	\$26,552.21		\$48,085.66		
<b>POLE SUBT W/O STORES LDG</b>	\$25,292.64	\$143.71	\$48,085.66	\$273.21	\$416.92
Transformer, 10-25 KVA	\$1,586.31		\$1,163.78		
Transformer, 50-75 KVA	\$27,932.80		\$11,055.95		
<b>TRANSFORMER SUBTOTAL</b>	\$28,118.79	\$159.77	\$12,219.73	\$69.43	\$229.20
<b>SUB-TOTAL</b>	\$104,284.20	\$592.53	\$124,636.99	\$708.16	\$1,300.69
MATSUB-MTR.(M)		\$490.78			
STORES LDG. %		5.44%			
METER STORES LDG %		5.44%			
TOTAL STORES LDG		\$32.23			\$32.23
<b>SUBTOTAL</b>		\$624.76		\$708.16	\$1,332.92
<b>E0</b>		\$168.06		\$190.50	\$358.56
<b>TOTAL</b>		\$792.82		\$898.66	\$1,691.48

# 2016 UG HIGH DENSITY LAYOUT

WR Number  
1328347

NUMBER OF LOTS =	2016 176
MECA STORES LDG % =	4.98%
ACTUAL STORES LDG % =	5.44%
ACTUAL EO =	26.90%

CLASSIFICATION	MATERIAL 2016	MATERIAL COST/LOT 2016	LABOR 2016	LABOR COST/LOT 2016	TOTAL LABOR & MATERIAL 2016
Service, UG, In Duct	\$19,833.29		\$73,925.16		
Meter Equip-1st Installation Expense			\$5,636.58		
Meter Cost (Material)	\$17,908.00	\$101.75			
Service Trench (Labor)			(\$27,559.30)		
<b>SERVICE SUBT W/O STORES LDG</b>	\$36,800.45	\$209.09	\$52,002.44	\$295.47	\$504.56
Duct, Buried (PVC)	\$9,384.90		\$38,758.31		
Maintenance of Overhead Lines	\$74.80		\$10.88		
Cable, Primary, 1/C, 2/C, All	\$11,370.88		\$8,884.27		
Primary/Secondary Trench (Labor)			(\$26,252.61)		
<b>PRIMARY SUBT W/O STORES LDG</b>	\$19,842.43	\$112.74	\$21,400.85	\$121.60	\$234.34
Cable, 600V, AL, All	\$6,297.27		\$7,626.27		
<b>SECONDARY SUBT W/O STORES LDG</b>	\$5,998.54	\$34.08	\$7,626.27	\$43.33	\$77.41
Transformer Installation Labor					
Pad, TX	\$2,085.14		\$2,997.02		
Transformer, Padmount All	\$21,441.65		\$3,224.28		
<b>TRANSFORMER SUBTOTAL</b>	\$22,410.74	\$127.33	\$2,997.02	\$17.03	\$144.36
PRI/SEC TRENCH			\$26,252.61	\$149.16	\$149.16
SVC TRENCH			\$27,559.30	\$156.59	\$156.59
<b>SUB-TOTAL</b>	\$85,052.16	\$483.24	\$137,838.50	\$783.18	\$1,266.42
MATSUB-MTR.(M)		\$381.49			
STORES LDG. %		5.44%			
METER STORES LDG %		5.44%			
TOTAL STORES LDG		\$26.29			\$26.29
<b>SUBTOTAL</b>		\$509.53		\$783.18	\$1,292.71
<b>EO</b>		\$137.06		\$210.68	\$347.74
<b>TOTAL</b>		\$646.59		\$993.86	\$1,640.45

# OPERATIONAL COSTS DIFFERENTIAL - HIGH DENSITY

	30-Year NPV (\$ per pole-line mile)			Cost per Lot
	O&M	Capital	Total	
High Density				
Differential (Non-Storm)	\$1,778	\$17,450	\$19,228	\$192
<u>Avoided Storm Restoration</u>				
Tier 1 (Full GAF) - 300 or more lots	(\$41,650)		(\$41,650)	(\$416)
Tier 2 (40% GAF) - 100 to 299 lots	(\$16,660)		(\$16,660)	(\$166)
Tier 3 (20% GAF) - less than 100 lots	(\$8,330)		(\$8,330)	(\$83)
				Cost
High Density				<u>Differential</u>
Pre-Operational Cost				\$0.00
Post-Operational Cost (Note 1)				
Tier 1 (Full GAF) - 300 or more lots	-----	Note 1		\$0.00
Tier 2 (40% GAF) - 100 to 299 lots	-----			\$0.00
Tier 3 (20% GAF) - less than 100 lots	-----			\$57.97

Note 1: Where the "Post-Operational" Costs are negative, the differentials have been set to \$0.

## METER PEDESTAL

COMPANY: FPL

DATE: 04/01/16

OVERHEAD VS. UNDERGROUND SUMMARY SHEET

High Density 176 Lot Subdivision  
Customer Owned Service Laterals from Meter Centers  
Cost per Dwelling Unit

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$663.76	\$512.84	(\$150.92)
MATERIAL	\$680.41	\$538.98	(\$141.43)
<b>TOTAL (1) (2)</b>	<b>\$1,344.17</b>	<b>\$1,051.82</b>	<b>(\$292.35)</b>

(1) Does not include storm or operational costs

(2) The differential has been set to \$0 in the URD filing since the differential is a negative amount.



COST PER DWELLING UNIT OVERHEAD MATERIAL AND LABOR

High Density 176 Lot Subdivision  
FPL Service Drop and Customer Owned Service Laterals from Meter Centers

ITEM	MATERIAL(1)	LABOR(4)	TOTAL
Service(2)	\$125.19	\$95.51	\$220.70
Primary	\$64.07	\$59.97	\$124.04
Secondary	\$51.61	\$114.14	\$165.75
Initial Tree Trim	-----	-----	-----
Poles	\$108.45	\$185.90	\$294.35
Transformers	\$159.20	\$67.54	\$226.74
Sub-Total	\$508.52	\$523.06	\$1,031.58
Stores Handling(3)	\$27.66	-----	\$27.66
SubTotal	\$536.18	\$523.06	\$1,059.24
Engineering(5)	\$144.23	\$140.70	\$284.93
TOTAL(6)	\$680.41	\$663.76	\$1,344.17

1 - Includes Sales Tax.

2 - Includes Meters.

3 - 5.44 % of All Material.

4 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

5 - 26.9 % of All Material and Labor.

6 - Does not include storm or operational costs

COST PER DWELLING UNIT UNDERGROUND MATERIAL AND LABOR

High Density 176 Lot Subdivision  
Customer Owned Service Laterals from Meter Centers

ITEM	MATERIAL(1)	LABOR(4)	TOTAL
Service(2)	\$101.75	\$75.26	\$177.01
Primary	\$115.68	\$108.82	\$224.50
Secondary	\$71.27	\$82.22	\$153.49
Transformers	\$114.12	\$14.48	\$128.60
Prim. & Sec. Trenching	-----	\$123.35	\$123.35
Service Trenching	-----	-----	-----
Sub-Total	\$402.82	\$404.13	\$806.95
Stores Handling(3)	\$21.91	-----	\$21.91
SubTotal	\$424.73	\$404.13	\$828.86
Engineering(5)	\$114.25	\$108.71	\$222.96
TOTAL(6)	\$538.98	\$512.84	\$1,051.82

1 - Includes Sales Tax.

2 - Includes Meters.

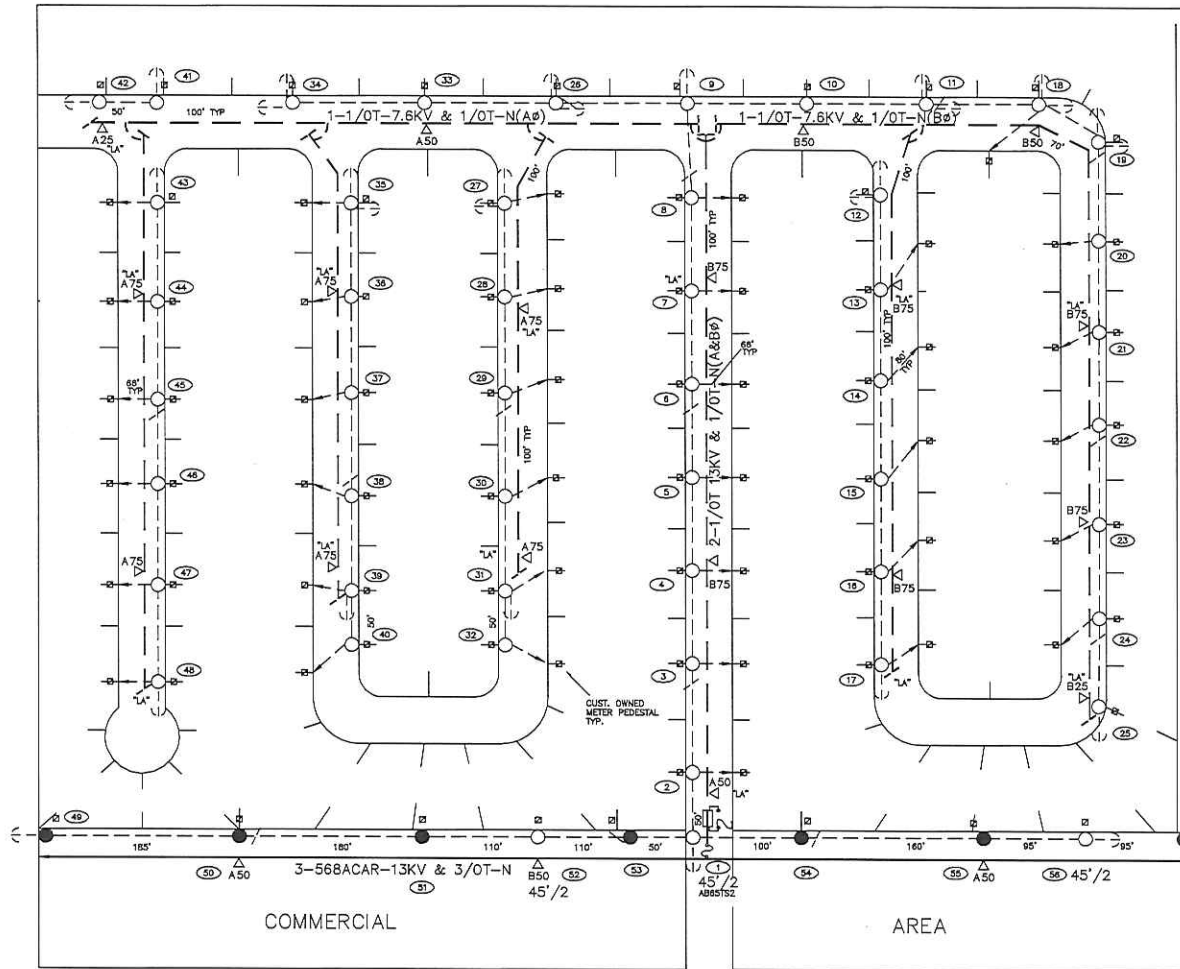
3 - 5.44 % of All Material.

4 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

5 - 26.9 % of All Material and Labor.

6 - Does not include storm or operational costs

☐ INACCESSIBLE ☒ 13KV ☐ FUTURE 23KV ☐ 23KV ☐ SALT SPRAY ☐ NULL



# NOTES

1. ALL GUYS ARE 5/16", 8" SCR, 20' LD
2. ALL SVC'S TO CUST. METER PEDESTALS ADJACENT TO LINE POLES ARE 1/0 TYP, 16' LONG. SERVICES CROSSING ROADS ARE 1/0 TYP, LENGTH VARIES.
3. ALL POLES ARE 40/3 UNLESS NOTED OTHERWISE.
4. ALL SEC. CONDS. ARE 3/0 TYP.
5. FRAME LOC 1 PER E-27.0.0, FIG 2. INSTALL TRIPSAVER (PER C-B.5.0)
6. FRAME LOCS 3, 5, 6, & 8 SIMILAR TO E-5.0.0(2g)
7. FRAME LOCS 2 & 7 SIMILAR TO I-41.0.1, FIG 2
8. FRAME LOC 4 SIMILAR TO I-41.0.1, FIG 1
9. FRAME LOC 9 WITH 24'S D.E. VERT
10. FRAME TYP TANG TX POLES (18) PER I-41.0.0
11. FRAME TYP D.E. TX POLES (18) PER I-42.0.1, FIG 2A
12. FRAME LOCS 50 & 55 SIMILAR TO I-41.0.1, FIG 2
13. FRAME LOC 52 SIMILAR TO I-41.0.1, FIG 1
14. NEW FACILITIES HAVE BEEN DESIGNED TO 145 MPH EXTREME WINDLOADING CRITERIA.

## LATERAL LOADING

A# = 575 KVA  
B# = 575 KVA  
TOTAL = 1150 KVA (CONNECTED)

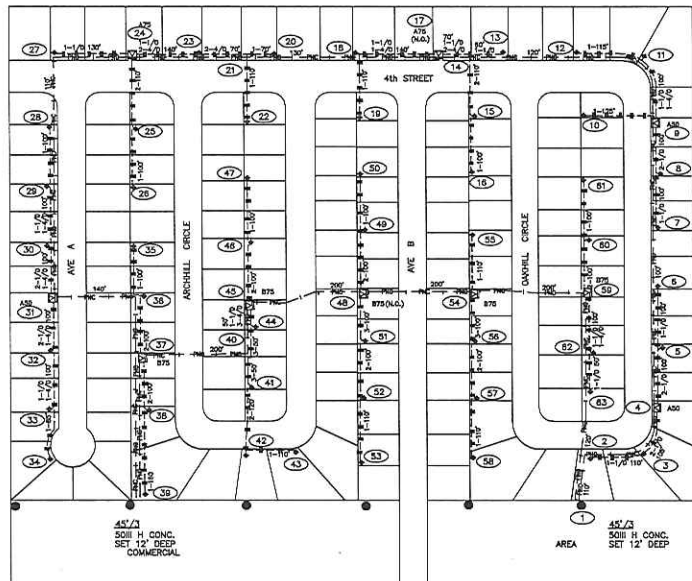
COMMERCIAL

AREA

PLOT DATE: 2/20/2016 PLOT TIME: 10:22:27 AM CAD NAME: MCR

2819070	4	01/30/08	UPDATE TO STORM HARDENING STANDARDS	AS-BUILT COPY	AS-BUILT CREW PRINT	Easement? <input type="checkbox"/> YES <input type="checkbox"/> NO	Survey/State? <input type="checkbox"/> YES <input type="checkbox"/> NO	Work with SMD? <input type="checkbox"/> YES <input type="checkbox"/> NO		DESIGNED BY	E S DILLIKOPFER	W/A: SP <b>METER PEDESTALS</b> <b>175 LOTS - OVERHEAD</b> 2015 URD TARIFF HARDENING REVISION DWG NO. <b>URDE93</b> WR-2819070-4765-48-883
2588243	3	03/08/07	UPDATE DWG WITH METER PEDESTALS	ENGE	FOR SIGNATURE	Tree Work? <input type="checkbox"/> YES <input type="checkbox"/> NO	Designer/State? <input type="checkbox"/> YES <input type="checkbox"/> NO	CT/Special Mtr? <input type="checkbox"/> YES <input type="checkbox"/> NO		DRAWN BY	A. LOPEZ	
1324918	2	01/23/07	CLEAN BACKGROUND	Job CERTIFIED COMPLETED as shown on this AS-BUILT print.	Material changes shown on ROS.	Map Posting? <input type="checkbox"/> YES <input type="checkbox"/> NO	Trench Feet	Duct Bank Feet		DATE	01/30/08	
1324918	1	01/04/05	EDIT POLE SIZE	Supervisor's Signature	None					MAP NO.	ALL	
9484-04-010	0	02/05/97	ORIGINAL DWG	As required ground rods have been driven & verified to be within 1' standards. Values are shown at all locations.	Foreman's Signature	None						
ASBUILT	AUTH NO.	NO.	DATE	REVISION			Posted by	Telephone Request? <input type="checkbox"/> YES <input type="checkbox"/> NO	CATV Request? <input type="checkbox"/> YES <input type="checkbox"/> NO			

☐ INACCESSIBLE ☒ 13KV ☐ FUTURE 23KV ☐ 23KV ☐ SALT SPRAY ☐ NULL



- NOTES:
1. ALL SECONDARY IS 4/0 UNLESS NOTED.
  2. ALL W'S ARE 24" WITH 3 POINT (25KVS) OR 5 POINT (3-4 SVCS) MULTITAPS.
  3. NEW FACILITIES HAVE BEEN DESIGNED TO 145 MPH EXTREME WINDLOADING CRITERIA

A# 300 KVA  
B# 375 KVA  
TOT 675 KVA (CONNECTED)

PLOT DATE: 2/10/2016 PLOT TIME: 6:32:15 PM CAD NAME: INC

AS-BUILT COPY				AS-BUILT CREW PRINT				Easement? YES <input type="checkbox"/> NO <input type="checkbox"/>				Survey/Stake? YES <input type="checkbox"/> NO <input type="checkbox"/>				Work with SWD? YES <input type="checkbox"/> NO <input type="checkbox"/>				DESIGNED BY E S BILLENKOFER		W/S: SP											
ENGR. JCA REG				Foreman's Signature				Tree Work? YES <input type="checkbox"/> NO <input type="checkbox"/>				Designer/Stake? YES <input type="checkbox"/> NO <input type="checkbox"/>				CT/Special Mt? YES <input type="checkbox"/> NO <input type="checkbox"/>								DRAWN BY A. LOPEZ		DATE 01/30/06							
Job CERTIFIED COMPLETED as shown on this AS-BUILT print. Material changes shown on ROS.								Map Posting? YES <input type="checkbox"/> NO <input type="checkbox"/>				Trench Feet				Duct Bank Feet				MAP NO. ALL		2016 URD TARIFF HARDENING REVISION 176 LOT SUBDIVISION											
Supervisor's Signature								All required ground rods have been driven & verified to be within 100' of conductor. Voltage are shown at all locations.				CITY				DR. DIST.								COUNTY AIR				STATE RD				FAX	
Foreman's Signature								Posted by				VMD				RR XING				COUNTY RD.				TRANS.				DWG NO. URDE95				WR: 1368886 EWR: 2435-44-883	
REVISION												Telephone Request? YES <input type="checkbox"/> NO <input type="checkbox"/>				CATV Request? YES <input type="checkbox"/> NO <input type="checkbox"/>																	

1368886	2	01/30/06	UPDATE TO STORM HARDENING STANDARDS
1368886	1	01/04/05	ADD MECA LOCATIONS
6488-03-010	0	02/25/97	ORIGINAL DWG

# 2016 OH METER PEDESTAL LAYOUT

WR Number  
2983564

NUMBER OF LOTS = 2016  
176

MECA STORES LDG % = 4.98%

ACTUAL STORES LDG % = 5.44%

ACTUAL EO = 26.90%

CLASSIFICATION	MATERIAL 2016	MATERIAL COST/LOT 2016	LABOR 2016	LABOR COST/LOT 2016	TOTAL LABOR & MATERIAL 2016
Service Overhead	\$4,331.34		\$11,173.71		
Meter Equip-1st Installation Expense			\$5,636.58		
Meter Cost (Material)	\$17,908.00	\$101.75			
<b>SERVICE SUBT W/O STORES LDG</b>	\$22,033.87	\$125.19	\$16,810.29	\$95.51	\$220.70
Cond, Primary, AL, thru 3/O	\$1,591.66		\$9,964.68		
Cond, Pri, AL, 343 - 1431	\$0.00		\$8.97		
Reclosure, 1 Phase	\$10,246.47		\$491.19		
Maintenance of Overhead Lines	\$0.00		\$89.02		
<b>PRIMARY SUBT W/O STORES LDG</b>	\$11,276.55	\$64.07	\$10,553.87	\$59.97	\$124.04
Cond, Secondary, AL, thru 4/O	\$1,358.52		\$8,506.32		
Cable, Secondary, TPX, All	\$8,177.37		\$11,582.48		
<b>SECONDARY SUBT W/O STORES LDG</b>	\$9,083.52	\$51.61	\$20,088.80	\$114.14	\$165.75
Poles, Wood, 35/40/45 ft	\$20,038.63		\$32,718.96		
<b>POLE SUBT W/O STORES LDG</b>	\$19,088.05	\$108.45	\$32,718.96	\$185.90	\$294.35
Transformer Installation Labor					
Transformer, 10-25 KVA	\$1,580.71		\$1,132.06		
Transformer, 50-75 KVA	\$27,834.26		\$10,754.59		
<b>TRANSFORMER SUBTOTAL</b>	\$28,019.59	\$159.20	\$11,886.65	\$67.54	\$226.74
<b>SUB-TOTAL</b>	\$89,501.58	\$508.52	\$92,058.57	\$523.06	\$1,031.58
MATSUB-MTR.(M)		\$406.77			
STORES LDG. %		5.44%			
METER STORES LDG %		5.44%			
TOTAL STORES LDG		\$27.66			\$27.66
<b>SUBTOTAL</b>		\$536.18		\$523.06	\$1,059.24
<b>EO</b>		\$144.23		\$140.70	\$284.93
<b>TOTAL</b>		\$680.41		\$663.76	\$1,344.17

# 2016 UG METER PEDESTAL LAYOUT

WR Number  
1368886

NUMBER OF LOTS = 2016  
176

MECA STORES LDG % = 4.98%

ACTUAL STORES LDG% = 5.44%

ACTUAL EO = 26.90%

CLASSIFICATION	MATERIAL 2016	MATERIAL COST/LOT 2016	LABOR 2016	LABOR COST/LOT 2016	TOTAL LABOR & MATERIAL 2016
Service, UG, In Duct	\$0.00		\$7,609.38		
Meter Equip-1st Installation Expense			\$5,636.58		
Meter Cost (Material)	\$17,908.00	\$101.75			
Service Trench (Labor)			\$0.00		
<b>SERVICE SUBT W/O STORES LDG</b>	\$17,908.00	\$101.75	\$13,245.96	\$75.26	\$177.01
Duct, Buried (PVC)	\$10,046.36		\$33,437.89		
Cable, Primary, 1/C, 2/C, All	\$11,151.14		\$7,306.56		
Maintenance of Overhead Lines	\$175.86		\$118.50		
Primary/Secondary Trench (Labor)			(\$21,709.79)		
<b>PRIMARY SUBT W/O STORES LDG</b>	\$20,359.46	\$115.68	\$19,153.16	\$108.82	\$224.50
Cable, 600V, AL, All	\$13,168.52		\$14,471.24		
<b>SECONDARY SUBT W/O STORES LDG</b>	\$12,543.84	\$71.27	\$14,471.24	\$82.22	\$153.49
Transformer Installation Labor					
Pad, TX	\$2,199.58		\$2,547.84		
Transformer, Padmount All	\$18,885.14		\$2,612.32		
<b>TRANSFORMER SUBTOTAL</b>	\$20,084.51	\$114.12	\$2,547.84	\$14.48	\$128.60
PRI/SEC TRENCH			\$21,709.79	\$123.35	\$123.35
SVC TRENCH			\$0.00	\$0.00	
<b>SUB-TOTAL</b>	\$70,895.81	\$402.82	\$71,127.99	\$404.13	\$806.95
MATSUB-MTR.(M)		\$301.07			
STORES LDG. %		5.44%			
METER STORES LDG %		5.44%			
<b>TOTAL STORES LDG</b>		\$21.91			\$21.91
<b>SUBTOTAL</b>		\$424.73		\$404.13	\$828.86
<b>EO</b>		\$114.25		\$108.71	\$222.96
<b>TOTAL</b>		\$538.98		\$512.84	\$1,051.82



# OPERATIONAL COSTS DIFFERENTIAL - METER PEDESTAL

<u>Meter Pedestal</u>	<u>30-Year NPV (\$ per pole-line mile)</u>			<u>Cost per Lot</u>
	<u>O&amp;M</u>	<u>Capital</u>	<u>Total</u>	
Differential (Non-Storm)	\$1,778	\$17,450	\$19,228	\$192
<u>Avoided Storm Restoration</u>				
Tier 1 (Full GAF) - 300 or more lots	(\$41,650)		(\$41,650)	(\$416)
Tier 2 (40% GAF) - 100 to 299 lots	(\$16,660)		(\$16,660)	(\$166)
Tier 3 (20% GAF) - less than 100 lots	(\$8,330)		(\$8,330)	(\$83)
				<u>Cost Differential</u>
<u>Meter Pedestal</u>				
Pre-Operational Cost	Note 1			\$0.00
Post-Operational Cost				
Tier 1 (Full GAF) - 300 or more lots	-----			\$0.00
Tier 2 (40% GAF) - 100 to 299 lots	-----			\$0.00
Tier 3 (20% GAF) - less than 100 lots	-----			\$0.00

Note 1: The "Pre-Operational Cost" differential has been set to \$0 since it is a negative amount (-292.35). However, the negative amount has been applied to determine the "Post-Operational Cost" differentials.

## FEEDER COST

AVERAGE UNDERGROUND FEEDER COST

<u>Underground</u>	<u>Overhead</u>	<u>Difference</u>
\$/Ft.....\$31.57	\$/Ft.....\$22.54	\$/Ft.....\$9.02

AVERAGE UNDERGROUND LATERAL COST

<u>1 Phase Underground</u>	<u>1 Phase Overhead</u>	<u>Difference</u>
\$/Ft.....\$8.74	\$/Ft.....\$8.03	\$/Ft.....\$0.71

<u>2 Phase Underground</u>	<u>2 Phase Overhead</u>	<u>Difference</u>
\$/Ft.....\$13.03	\$/Ft.....\$10.31	\$/Ft.....\$2.72

<u>3 Phase Underground</u>	<u>3 Phase Overhead</u>	<u>Difference</u>
\$/Ft.....\$17.17	\$/Ft.....\$12.78	\$/Ft.....\$4.38

**NOTE:** Feeder estimates based on three phase requirements.  
See Exhibit XIIA for details.

**2016 URD TARIFF****FEEDER/LATERAL COST<sup>1</sup>**

Feeder Length (Ft) = .....	25,428
UG Feeder Cost = .....	\$880,557.63
26 UG Lateral Risers not required if UG Feeder is used	
Cost of each Lateral Riser = .....	\$2,996.50
26 Lateral Risers X \$2,996.50 = .....	<u>(\$77,909.00)</u>
Net UG Feeder Cost = .....	\$802,648.63
UG Feeder per foot cost = .....	\$31.57
OH Feeder Cost = .....	\$573,189.08
OH Feeder per foot cost = .....	\$22.54
Feeder Differential Cost = .....	\$9.02
Padmounted Switch cabinet weighted cost (Each) <sup>2</sup> = .....	\$27,200.43

- NOTES:**
- (1) These per foot costs include cable-in-conduit and cable pull boxes.
  - (2) Differential cost based on padmounted switch vs. overhead switch average installed cost weighted by quantity of each switch installed. This cost is identical to the padmounted switch cost in the UCD Tariff.

**2016 URD TARIFF****LATERAL COST<sup>3</sup>**

Lateral Length = 1000 Feet

1 Phase UG Lateral Cost = .....	\$8,737.67
1 Phase UG Lateral Cost Per Foot = .....	\$8.74
1 Phase Overhead Lateral Cost = .....	\$8,031.40
1 Phase Overhead Lateral Cost Per Foot = .....	\$8.03
1 Phase Lateral Differential Cost = .....	\$0.71
2 Phase UG Lateral Cost = .....	\$13,027.66
2 Phase UG Lateral Cost Per foot = .....	\$13.03
2 Phase OH Lateral Cost = .....	\$10,305.66
2 Phase OH Lateral Cost Per foot = .....	\$10.31
2 Phase Lateral Differential Cost = .....	\$2.72
3 Phase UG Lateral Cost = .....	\$17,166.84
3 Phase UG Lateral Cost Per foot = .....	\$17.17
3 Phase OH Lateral Cost = .....	\$12,782.96
3 Phase OH Lateral Cost Per foot = .....	\$12.78
3 Phase Lateral Differential Cost = .....	\$4.38

**NOTE:** (3) These costs include cable-in-conduit only (no pull boxes).

## **CONDUIT CREDITS**



## 2016 URD TARIFF

**URD BASIS ADDENDUM TO APPENDIX NO. 3**

### 10.3.3

## Conduit Installation Credits

## 1. Low Density

Pri/Sec = ..... 174.09 MH X \$119.99 /MH =..... \$20,889.06  
 \$ 99.47 /Lot

Svc =..... 102.9 MH X \$119.99 /MH =..... \$12,346.97  
 \$ 58.80 /Lot

## 2. High Density

Pri/Sec = ..... 91.04 MH X \$119.99 /MH = ..... \$10,923.89  
 \$ 62.07 /Lot

Svc = ..... 70.4 MH X \$119.99 /MH = ..... \$8,447.30  
176 Lots  
 \$ 48.00 /Lot

### 3. Meter Pedestals

Pri/Sec = ..... 74.24 MH X \$119.99 /MH =..... \$8,908.06  
 176 Lots  
 \$ 50.61 /Lot

**BACK-UP CALCULATIONS  
FOR CHANGES TO COSTS IN SEC. 10.2.11, 10.3.3, 10.4.3, 10.5.4**

**10.5.4****Replace Existing Service**

2" PVC                      0.005 MH X     \$119.99 /MH X     63 Ft.=.....     \$37.80 /Lot

**10.4.3****UG Service from OH Lines**

2" PVC                      0.005 MH X     \$119.99 /MH =.....     \$0.60 /Ft.

LARGER THAN 2" PVC     0.007 MH X     \$119.99 /MH =.....     \$0.84 /Ft.

**10.3.3.d.****Credit for Installation of Conduit**

2" PVC                      0.005 MH X     \$119.99 /MH =.....     \$0.60 /Ft.

LARGER THAN 2" PVC     0.007 MH X     \$119.99 /MH =.....     \$0.84 /Ft.

**10.2.11****Extensions of Service Beyond Point of Delivery**

CABLE MATERIAL     \$0.83 /Ft. X     1.0544 Stores Loading = .....     \$0.88 /Ft.

\$0.88 /Ft. X     1.269 EO = .....     \$1.12 /Ft.

CABLE PULL             \$119.99 /MH X     0.003 MH =.....     \$ 0.36 /Ft.

\$ 0.36 /Ft. X     1.269 EO = .....     \$0.46 /Ft.

CONDUIT MATERIAL     \$0.33 /Ft. X     1.0544 Stores Loading = .....     \$0.35 /Ft.

\$0.35 /Ft. X     1.269 EO = .....     \$0.44 /Ft.

CONDUIT LABOR         \$119.99 /MH X     0.005 MH =.....     \$0.60 /Ft.

\$0.60 /Ft. X     1.269 EO = .....     \$0.76 /Ft.

TRENCH                 \$119.99 /MH X     0.029 MH =.....     \$3.48 /Ft.

\$3.48 /Ft. X     1.269 EO = .....     \$4.42 /Ft.

TOTAL.....     \$7.20 /Ft.

**When Customer Provides Trench and Conduit Installation**

\$1.12     +     \$0.46     +     \$0.44 =.....     \$2.02 /Ft.  
Cable Material +     Pull Labor     +     Conduit Material

## **TRENCH CREDITS**

## 2016 URD TARIFF

## TRENCH CREDITS

## 10.3.3

## 1. Low Density

Pri/Sec = ..... 432.39 MH X \$119.99 /MH =..... \$51,882.48  
210 Lots  
 \$247.06 /Lot

Svc =..... 0.029 MH X \$119.99 /MH X 63 Ft. =..... \$219.22 /Lot

## 2. High Density

Pri/Sec = ..... 218.79 MH X \$119.99 /MH =..... \$26,252.61  
176 Lots  
 \$149.16 /Lot

Svc =..... 0.029 MH X \$119.99 /MH X 45 Ft. =..... \$156.59 /Lot

## 3. Meter Pedestals

Pri/Sec = ..... 180.93 MH X \$119.99 /MH =..... \$21,709.79  
176 Lots  
 \$123.35 /Lot

Credit is only applied up to the amount of any contribution that is due

Feeder/Lateral Trench Credit =.....	\$119.99	/MH X	0.029	MH =	\$3.48	/Ft.
Feeder Splice Box Installation Credit =.....	\$119.99	/MH X	5.54	MH =	\$664.74	/Box
Primary Splice Box Installation Credit =.....	\$119.99	/MH X	1.94	MH =	\$232.78	/Box
Secondary Handhole Installation Credit						
For 17" Handhole = .....	\$119.99	/MH X	0.18	MH =	\$21.60	/HH
For 24" or 30" Handhole = .....	\$119.99	/MH X	0.51	MH =	\$61.19	/HH
Concrete Pad for Pad Mounted Transformer or Capacitor Bank Credit =.....						
	\$119.99	/MH X	0.5	MH =	\$60.00	/Pad
Flexible HDPE Conduit Installation Credit = .....	\$119.99	/MH X	0.001	MH =	\$0.12	/Ft.
Concrete Pad and Cable Chamber for Feeder Switch Pad =.....						
	\$119.99	/MH X	4.71	MH =	\$565.15	/Pad

### Trench Credit for New UG Service Laterals

10.4.3  $\$119.99 / \text{MH} \times 0.029 \text{ MH} = \$3.48 / \text{Ft.}$

### Trench Credit for Replacement of OH Service with UG Service

10.5.4. 0.029 MH X \$119.99 /MH X 63 Ft. = \$219.22 /Svc

Shown on Page 3 of Basis



**RISER TO HANDHOLE COST  
AND SERVICE LATERAL DIFFERENTIAL**

**2016 URD TARIFF**  
**RISER TO HANDHOLE COST**

## Overhead

<u>Material</u>	<u>Labor</u>	<u>Total</u>
\$88.57	\$188.98	\$277.55

## Underground

<u>Material</u>	<u>Labor</u>	
\$379.78	\$603.23	<u>\$983.01</u>

**DIFFERENTIAL =** ..... \$705.46

**SERVICE LATERAL DIFFERENTIAL - LOW DENSITY**

	<u>Underground</u>	<u>Overhead</u>
Material	\$118.17	\$84.78
Labor	\$418.70	\$179.03
Stores loading	\$6.43	\$4.61
EO	<u>\$146.15</u>	<u>\$72.20</u>
Total	\$689.45	\$340.62

UNDERGROUND	\$689.45
OVERHEAD	<u>(\$340.62)</u>
DIFFERENTIAL =	\$348.83

**2016 URD TARIFF****SERVICE LATERAL DIFFERENTIAL - HIGH DENSITY**

	<u>Underground</u>	<u>Overhead</u>
Material	\$96.14	\$70.97
Labor	\$338.78	\$161.74
Stores loading	\$5.23	\$3.86
EO	<u>\$118.40</u>	<u>\$63.64</u>
Total	\$558.55	\$300.21

UNDERGROUND	\$558.55
OVERHEAD	<u>(\$300.21)</u>
DIFFERENTIAL =	\$258.34

## **APPENDIX 1**

### **UCD**

**LEGISLATIVE TARIFF**  
**UCD**

(Continued from Sheet No. 6.510)

## 13.2.12 Contribution by Applicant

The Applicant shall pay the Company the average differential cost between installing overhead and underground distribution facilities based on the following:

- a) Primary lateral, riser (if from overhead termination point), pad mounted transformer and trench with cable-in-conduit not to exceed 150 feet in radials and 300 feet in loops.

	<u>Applicant's Contribution</u>	
	<u>From Overhead Termination Point</u>	<u>From Existing Underground Termination Point</u>
1) Single phase radial	\$ <u>892.080.00</u>	\$ <u>000.000.00</u>
2) Two phase radial	\$ <u>1,042.110.00</u>	\$ <u>000.000.00</u>
3) Three phase radial (150 KVA)	\$ <u>000.000.00</u>	\$ <u>000.000.00</u>
4) Three phase radial (300 KVA)	\$ <u>000.000.00</u>	\$ <u>000.000.00</u>
5) Single phase loop	\$ <u>982.560.00</u>	\$ <u>000.000.00</u>
6) Two phase loop	\$ <u>2,312.620.00</u>	\$ <u>738.060.00</u>
7) Three phase loop (150 KVA)	\$ <u>879.370.00</u>	\$ <u>000.000.00</u>
8) Three phase loop (300 KVA)	\$ <u>000.000.00</u>	\$ <u>000.000.00</u>

- b) Secondary riser and lateral, excluding handhole or junction box, with connection to Applicant's service cables no greater than 20 feet from Company riser pole.

1) Small single phase	\$ <u>527.88552.55</u>
2) Large single phase	\$ <u>942.731,025.92</u>
3) Small three phase	\$ <u>676.93801.92</u>
4) Large three phase	\$ <u>1,421.981,530.59</u>

- c) FPL service cable installed in customer provided and customer installed 2" PVC (for main line switch size limited to 60 amps for 120V, 2 wire service, or 125 amps for 120/240v, 3 wire service) where customer's meter can is at least 5 feet and no more than 100 feet from the FPL pole.

	<u>120v 60 amp 2 wire service</u>	<u>120/240v 125 amp 3 wire service</u>
1) Installed on a wood pole - accessible locations	\$ <u>759.19474.23</u>	\$ <u>810.90434.80</u>
2) Installed on a wood pole - inaccessible locations	\$ <u>871.64545.29</u>	\$ <u>923.93493.51</u>
3) Installed on a concrete pole - accessible locations	\$ <u>769.31526.63</u>	\$ <u>831.74487.19</u>

- d) Handholes and Padmounted Secondary Junction Box, excluding connections.

1) Handhole	
a. Small - per handhole	\$ <u>210.42203.40</u>
b. Intermediate - per handhole	\$ <u>247.85241.53</u>
c. Large - per handhole	\$ <u>859.22817.30</u>
2) Pad Mounted secondary Junction Box – per box	\$ <u>2,891.822,567.29</u>

- 3) Pad Mounted secondary Junction Cabinet, used when electrical loads exceed the capacity of the secondary junction box (above) or when the number of the service conductors exceed the capacity of the pad mounted transformer.  
Only This charge is only applicable if the majority of the customer's service conductor diameter is less than 500 MCM.

Per cabinet (includes connecting up to 12 sets of conductor)	\$ <u>11,082.9110,992.18</u>
Tapping service conductors (if more than 12 sets) – per set	\$ <u>72.0479.20</u>

(Continued on Sheet No. 6.530)



(Continued from Sheet No. 6.520)

- e) Primary splice box including splices and cable pulling set-up.

1) Single Phase - per box	\$ <del>1,387.93</del> 1,349.64
2) Two Phase - per box	\$ <del>1,895.85</del> 1,859.16
3) Three Phase - per box	\$ <del>1,937.99</del> 2,070.15

- f) Additional installation charge for underground primary laterals including trench and cable-in-conduit which exceed the limits set in 13.2.12 a).

1) Single Phase - per foot	\$ <del>1.280.71</del>
2) Two Phase - per foot	\$ <del>3.822.72</del>
3) Three Phase - per foot	\$ <del>3.062.48</del>

- g) Additional installation charge for underground primary laterals including trench and cable-in-conduit extended beyond the Company designated point of delivery to a remote point of delivery.

1) Single Phase - per foot	\$ <del>8.468.74</del>
2) Two Phase - per foot	\$ <del>42.8713.03</del>
3) Three Phase - per foot	\$ <del>44.1915.26</del>

- h) The above costs are based upon arrangements that will permit serving the local underground distribution system within the commercial/industrial development from overhead feeder mains. If feeder mains within the commercial/industrial development are deemed necessary by the company to provide and/or maintain adequate service and are required by the Applicant or a governmental agency to be installed underground, the Applicant shall pay the company the average differential cost between such underground feeder mains within the commercial/industrial development and equivalent overhead feeder mains, as follows:

	Applicant's Contribution
Cost per foot of feeder trench within the commercial/industrial development (excluding switches)	\$ <del>41.859.02</del>
Cost per switch package	\$ <del>25,838.56</del> 27,200.43

- i)
- The Applicant's Contributions specified above for underground service are based on an expectation that the four years expected incremental base energy and demand (if applicable) revenue would fully offset the cost of overhead facilities for the Applicant's commercial/industrial development. In the event that the four years expected incremental base energy revenues are insufficient to offset the total estimated work order job costs of installing the overhead facilities, then Applicant shall pay the difference between the expected revenues and the estimated overhead costs, in addition to the Applicant's contribution for underground service set forth above.

- j) The Company will provide one standby/assistance appointment at no additional charge to the Applicant adding new or additional load to assist with installation of the Applicant's conductors and conduit(s) into a padmounted transformer, pedestal or vault (not to exceed four hours in duration) during normal hours of operation. Additional appointments will be provided upon request, at the Applicant's expense.

(Continued on Sheet 6.540)

(Continued from Sheet No. 6.530)

## 13.2.13 Contribution Adjustments

- a) Credits will be allowed to the Applicant's contribution in Section 13.2.12. where, by mutual agreement, the Applicant provides trenching and backfilling for the Company's facilities.

Credit to the  
Applicant's  
Contribution

- 1) Credit per foot of primary trench \$ ~~3,143.48~~  
2) Credit per foot of secondary trench \$ ~~2,492.76~~

- b) Credits will be allowed to the Applicant's contribution in section 13.2.12. where, by mutual agreement, the Applicant installs Company-provided conduit per Company instructions.

- 1) Credit per foot of 2" conduit \$ ~~0,540.60~~  
2) Credit per foot of larger than 2" conduit \$ ~~0,760.84~~

- c) Credit will be allowed to the Applicant's contribution in Section 13.2.12. where, by mutual agreement, the Applicant installs a Company-provided handhole per Company instructions,

- 1) Credit per large handhole/primary splice box \$ ~~240,282.78~~  
2) Credit per small handhole \$ ~~55,286.19~~

- d) Credit will be allowed to the Applicant's contribution in Section 13.2.12. where, by mutual agreement, the Applicant installs a Company-provided concrete pad for a pad-mounted transformer or pad-mounted capacitor bank per Company instructions,

Credit per pad \$ ~~54,2060.00~~

- e) Credit will be allowed to the Applicant's contribution in Section 13.2.12. where, by mutual agreement, the Applicant installs Company-provided concrete pad for a pad-mounted feeder switch chamber per Company instructions,

Credit per pad \$ ~~540,52565.15~~

- f) Credit will be allowed to the Applicant's contribution in Section 13.2.12. where, by mutual agreement, the Applicant installs Company-provided concrete pad for a feeder splice box per Company instructions,

Credit per splice box \$ ~~602,65664.74~~

**FINAL TARIFF**  
**UCD**

(Continued from Sheet No. 6.510)

## 13.2.12 Contribution by Applicant

The Applicant shall pay the Company the average differential cost between installing overhead and underground distribution facilities based on the following:

- a) Primary lateral, riser (if from overhead termination point), pad mounted transformer and trench with cable-in-conduit not to exceed 150 feet in radials and 300 feet in loops.

	<u>Applicant's Contribution</u>	
	<u>From Overhead Termination Point</u>	<u>From Existing Underground Termination Point</u>
1) Single phase radial	\$ 000.00	\$ 000.00
2) Two phase radial	\$ 000.00	\$ 000.00
3) Three phase radial (150 KVA)	\$ 000.00	\$ 000.00
4) Three phase radial (300 KVA)	\$ 000.00	\$ 000.00
5) Single phase loop	\$ 000.00	\$ 000.00
6) Two phase loop	\$ 000.00	\$ 000.00
7) Three phase loop (150 KVA)	\$ 000.00	\$ 000.00
8) Three phase loop (300 KVA)	\$ 000.00	\$ 000.00

- b) Secondary riser and lateral, excluding handhole or junction box, with connection to Applicant's service cables no greater than 20 feet from Company riser pole.

1) Small single phase	\$ 552.55
2) Large single phase	\$ 1,025.92
3) Small three phase	\$ 801.92
4) Large three phase	\$ 1,530.59

- c) FPL service cable installed in customer provided and customer installed 2" PVC (for main line switch size limited to 60 amps for 120V, 2 wire service, or 125 amps for 120/240v, 3 wire service) where customer's meter can is at least 5 feet and no more than 100 feet from the FPL pole.

	<u>120v 60 amp 2 wire service</u>	<u>120/240v 125 amp 3 wire service</u>
1) Installed on a wood pole - accessible locations	\$ 474.23	\$ 434.80
2) Installed on a wood pole - inaccessible locations	\$ 545.29	\$ 493.51
3) Installed on a concrete pole - accessible locations	\$ 526.63	\$ 487.19

- d) Handholes and Padmounted Secondary Junction Box, excluding connections.

1) Handhole	
a. Small - per handhole	\$203.40
b. Intermediate - per handhole	\$241.53
c. Large - per handhole	\$817.30

2) Pad Mounted secondary Junction Box – per box	\$2,567.29
---	------------

- 3) Pad Mounted secondary Junction Cabinet, used when electrical loads exceed the capacity of the secondary junction box (above) or when the number of the service conductors exceed the capacity of the pad mounted transformer. This charge is only applicable if the majority of the customer's service conductor diameter is less than 500 MCM.

Per cabinet (includes connecting up to 12 sets of conductor)	\$10,992.18
Tapping service conductors (if more than 12 sets) – per set	\$ 79.20

(Continued on Sheet No. 6.530)



(Continued from Sheet No. 6.520)

- e) Primary splice box including splices and cable pulling set-up.
- |                           |            |
|---------------------------|------------|
| 1) Single Phase - per box | \$1,349.64 |
| 2) Two Phase - per box    | \$1,859.16 |
| 3) Three Phase - per box  | \$2,070.15 |
- f) Additional installation charge for underground primary laterals including trench and cable-in-conduit which exceed the limits set in 13.2.12 a).
- |                            |         |
|----------------------------|---------|
| 1) Single Phase - per foot | \$ 0.71 |
| 2) Two Phase - per foot    | \$ 2.72 |
| 3) Three Phase - per foot  | \$ 2.48 |
- g) Additional installation charge for underground primary laterals including trench and cable-in-conduit extended beyond the Company designated point of delivery to a remote point of delivery.
- |                            |          |
|----------------------------|----------|
| 1) Single Phase - per foot | \$ 8.74  |
| 2) Two Phase - per foot    | \$ 13.03 |
| 3) Three Phase - per foot  | \$ 15.26 |
- h) The above costs are based upon arrangements that will permit serving the local underground distribution system within the commercial/industrial development from overhead feeder mains. If feeder mains within the commercial/industrial development are deemed necessary by the company to provide and/or maintain adequate service and are required by the Applicant or a governmental agency to be installed underground, the Applicant shall pay the company the average differential cost between such underground feeder mains within the commercial/industrial development and equivalent overhead feeder mains, as follows:
- |  | Applicant's<br>Contribution |
|--|-----------------------------|
| Cost per foot of feeder trench within the commercial/industrial development (excluding switches) | \$ 9.02                     |
| Cost per switch package  | \$27,200.43                 |
- i) The Applicant's Contributions specified above for underground service are based on an expectation that the four years expected incremental base energy and demand (if applicable) revenue would fully offset the cost of overhead facilities for the Applicant's commercial/industrial development. In the event that the four years expected incremental base energy revenues are insufficient to offset the total estimated work order job costs of installing the overhead facilities, then Applicant shall pay the difference between the expected revenues and the estimated overhead costs, in addition to the Applicant's contribution for underground service set forth above.
- j) The Company will provide one standby/assistance appointment at no additional charge to the Applicant adding new or additional load to assist with installation of the Applicant's conductors and conduit(s) into a padmounted transformer, pedestal or vault (not to exceed four hours in duration) during normal hours of operation. Additional appointments will be provided upon request, at the Applicant's expense.

(Continued on Sheet 6.540)

(Continued from Sheet No. 6.530)

## 13.2.13 Contribution Adjustments

- a) Credits will be allowed to the Applicant's contribution in Section 13.2.12. where, by mutual agreement, the Applicant provides trenching and backfilling for the Company's facilities.

Credit to the  
Applicant's  
Contribution

- |  |         |
|--|---------|
| 1) Credit per foot of primary trench   | \$ 3.48 |
| 2) Credit per foot of secondary trench | \$ 2.76 |

- b) Credits will be allowed to the Applicant's contribution in section 13.2.12. where, by mutual agreement, the Applicant installs Company-provided conduit per Company instructions.

- |  |         |
|--|---------|
| 1) Credit per foot of 2" conduit             | \$ 0.60 |
| 2) Credit per foot of larger than 2" conduit | \$ 0.84 |

- c) Credit will be allowed to the Applicant's contribution in Section 13.2.12. where, by mutual agreement, the Applicant installs a Company-provided handhole per Company instructions,

- |   |           |
|---|-----------|
| 1) Credit per large handhole/primary splice box | \$ 232.78 |
| 2) Credit per small handhole                    | \$ 61.19  |

- d) Credit will be allowed to the Applicant's contribution in Section 13.2.12. where, by mutual agreement, the Applicant installs a Company-provided concrete pad for a pad-mounted transformer or pad-mounted capacitor bank per Company instructions,

Credit per pad	\$ 60.00
----------------	----------

- e) Credit will be allowed to the Applicant's contribution in Section 13.2.12. where, by mutual agreement, the Applicant installs Company-provided concrete pad for a pad-mounted feeder switch chamber per Company instructions,

Credit per pad	\$ 565.15
----------------	-----------

- f) Credit will be allowed to the Applicant's contribution in Section 13.2.12. where, by mutual agreement, the Applicant installs Company-provided concrete pad for a feeder splice box per Company instructions,

Credit per splice box	\$ 664.74
-----------------------	-----------



## **APPENDIX 2**

### **UCD**

Appendix No.2  
FPL  
2016 UCD Tariff  
Explanation of Proposed Revisions

This appendix is to summarize proposed revisions to Sections 11 and 13 of FPL's General Rules and Regulations for Electric Service. The basis for FPL's proposed tariff changes for underground commercial installations can be found in Appendix No. 3.

The following modifications have been made to these sections:

- 1) Added language to sheet 6.530 regarding required CIAC if expected revenues are insufficient to offset the total estimated costs of installing overhead facilities.
- 2) Clarified the language on sheet 6.520 related to application of the charge for the pad mounted secondary junction cabinet.

## **APPENDIX 3**

### **UCD**

# 2016 UCD Tariff Basis Design Criteria and Assumptions

## I. General

Voltage – 13.2 kV

Overhead Distribution – wood poles

Underground Distribution – Cable-in-Conduit with aluminum conductor XPE-J insulated cables in direct buried conduit with above-grade appurtenances.

## II. Overhead Design – Modified Vertical Framing

### A. Primary lateral, transformer, and service

	1 Phase	2 Phase	3 Phase (150 KVA)	3 Phase (300 KVA)
Primary Length <sup>(1)</sup>	150 feet / 300 feet	150 feet / 300 feet	150 feet / 300 feet	150 feet / 300 feet
Primary Conductors	2#1/0 AAAC	3#1/0 AAAC	4#1/0 AAAC	4#1/0 AAAC
Primary Poles	1-40/3	1-40/3	1-45/2	1-45 III H
Service Length	50 feet	50 feet	50 feet	50 feet
Service Conductors	#3/0A TPX	336A QPX	2-336A QPX	2-556A QPX
Transformer	50 KVA	50 & 50 KVA	3-50KVA	3-100 KVA
Voltage	120/240V	120/240V	120/208V	120/208V
Manhours <sup>(1)</sup>	19 / 24	29 / 36	39 / 49	42 / 48

Note <sup>(1)</sup>: 150 feet when comparing to UG Radial, 300 feet when comparing to UG Loop

### B. Secondary/Service Laterals

	Small 1 Phase	Large 1 Phase	Small 3 Phase	Large 3 Phase
Length	50 feet	50 feet	50 feet	50 feet
Conductor	#1/0A TPX	556A QPX	#1/0A QPX	556A QPX
Manhours	1	2	1	2

### C. Handholes and Pad Mounted Secondary Junction Box

No Overhead used

### D. Primary Splice Box

No Overhead Used

### **E. Additional Charge for Underground Primary Lateral Exceeding Basic Length**

Single Phase	1,000 feet 2#1/0 AAAC, 4 - 40'3 Poles
Two Phase	1,000 feet 3#1/0 AAAC, 4 - 40'3 Poles
Three Phase	1,000 feet 4#1/0 AAAC, 4 - 40'2 Poles

### **F. Additional Charge for Underground Primary Lateral to a Remote Point of Delivery**

No Overhead Used

## **III. Underground Design Criteria**

### **A.1 Primary lateral, riser, padmounted transformer and trench with Cable in Conduit**

	1 Phase	2 Phase	3 Phase	3 Phase
Trench length (radial)	150 feet	150 feet	150 feet	150 feet
Trench length (loop)	300 feet	300 feet	300 feet	300 feet
Trench cover	36 inches	36 inches	36 inches	36 inches
Conductor size	#1/0A 25kV XPE	2#1/0A 25kV XPE	3#1/0A 25kV XPE	3#1/0A 25kV XPE
Conduit Size	1-2 inch	2-2 inch	1-5 inch	1-5 inch
Riser Length	30 feet	30 feet	30 feet	30 feet
Riser Size	2 inch U-guard	5 inch U-guard	5 inch U-guard	5 inch U-guard
Transformer Size	50 KVA	50 & 50 KVA	150 KVA	300 KVA
Voltage	120/240 V	120/240 V	120/208 V	120/208 V
Manhours (radial)	19	26	26	26
Manhours (loop)	26	37	34	36

### **A.2 Primary lateral, UG source, padmounted transformer and trench with Cable in Conduit**

	1 Phase	2 Phase	3 Phase	3 Phase
Trench length (radial)	150 feet	150 feet	150 feet	150 feet
Trench length (loop)	300 feet	300 feet	300 feet	300 feet
Trench cover	36 inches	36 inches	36 inches	36 inches
Conductor size	#1/0A 25kV XPE	2#1/0A 25kV XPE	3#1/0A 25kV XPE	3#1/0A 25kV XPE
Conduit Size	1-2 inch	2-2 inch	1-5 inch	1-5 inch
Transformer Size	50 KVA	50 & 50 KVA	150 KVA	300 KVA
Voltage	120/240 V	120/240 V	120/208 V	120/208 V
Manhours (radial)	15	22	17	17
Manhours (loop)	21	30	26	26

**B. Secondary/Service lateral and riser with multiple connectors.**

	Small 1 Phase	Large 1 Phase	Small 3 Phase	Large 3 Phase
Trench length	10 feet	10 feet	10 feet	10 feet
Trench cover	24 inch	24 inch	24 inch	24 inch
Conductor Size	#4/0A TPX	3-750A	#4/0A QPX	4-750A
Conduit size	2 inch	5 inch	5 inch	5 inch
Riser length	30 feet	30 feet	30 feet	30 feet
Riser size	2 inch U-guard	5 inch U-guard	5 inch U-guard	5 inch U-guard
Manhours	3.9	5.0	4.6	6.4

**C. Handholes and Padmounted Secondary Junction Box and Cabinet**

Small handhole	- 24 inch handhole
Intermediate Handhole	- 30 inch handhole
Large Handhole	- 48 inch handhole
Secondary Junction box	- Replacement cabinet and Connectors per I - 74.1
Sec. Junction Cabinet	- Three-Phase Secondary Cabinet and Connectors (22-Port) per I - 75.0.0

**D. Primary Splice Box**

Single Phase - 48" handhole with one molded splice and one pull set-up and basket  
Two Phase - 48" handhole with two molded splices and two pull set-ups and baskets  
Three Phase - 48" handhole with three molded splices and one pull set-up and basket

**E. Additional Charge for Underground Primary Lateral Exceeding Basic Length**

Single Phase – 1,000 feet 1#1/0A 25KV XPE, 1-2 inch pvc, 36 inch trench, pull labor  
Two Phase - 1000 feet 2#1/0A 25kv XPE, 2-2 inch PVC, 36 inch trench, pull labor  
Three Phase – 1,000 feet 3#1/0A 25KV XPE, 1-5 inch pvc, 36 inch trench, pull labor

**F. Additional charge for Underground Primary Lateral to a Remote Point of Delivery**

Single Phase - 1000 feet 1#1/0A 25kv XPE, 1-2 inch PVC, 36 inch trench, pull labor  
Two Phase - 1000 feet 2#1/0A 25kv XPE, 2-2 inch PVC, 36 inch trench, pull labor  
Three Phase -1000 feet 3#1/0A 25kv XPE, 1-5 inch PVC, 36 inch trench, pull labor



## FPL

### Basis for Underground Commercial Distribution Differential

New Underground Commercial Development with Overhead Feeder Mains. The average differential costs for Underground Commercial Distribution stated in the FPL rules and Regulations were derived from cost estimates of underground commercial facilities and their equivalent overhead designs. These estimates employed the standard Company design and estimating practices and the system-costs, which were in use at the end of 2015. Design criteria include the following:

Primary Voltage	13,200/7,620 V
Phases, Secondary Voltage	Single Phase, 120/240 V Three phase, 120/240 V Three phase, 120/208 V Three phase, 277/480 V
Underground Design	All cable-in-conduit
Overhead Design	Wood Poles *, Extreme Windload (145 MPH)
	* Concrete pole used for 300 KVA OH TX Bank

## **APPENDIX 4**

### **UCD**

OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER TRANSFORMER BANK -SINGLE PHASE RADIAL PAD MOUNTED TRANSFORMERINCLUDING RISER AND 150' PRIMARY LATERAL TRENCHWITH CABLE-IN-CONDUIT2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$3,610.86	\$2,288.51	(\$1,322.35)
MATERIAL	\$7,181.87	\$4,008.12	(\$3,173.75)
<b>TOTAL</b>	<b>\$10,792.73</b>	<b>\$6,296.63</b>	<b>(\$4,496.10)</b>

**OVERHEAD MATERIAL AND LABOR COST PER TRANSFORMER BANK****SINGLE PHASE 150' PRIMARY LATERAL POLE LINE****INCLUDING TRANSFORMER AND SERVICE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$84.53	\$177.75	\$262.28
Primary	\$3,417.05	\$618.70	\$4,035.75
Secondary	\$30.81	\$305.29	\$336.10
Poles	\$551.90	\$1,136.91	\$1,688.81
Transformers	\$1,283.19	\$606.79	\$1,889.98
Sub-Total	\$5,367.48	\$2,845.44	\$8,212.92
Stores Handling(2)	\$291.99	\$0.00	\$291.99
SubTotal	\$5,659.47	\$2,845.44	\$8,504.91
Engineering(4)	\$1,522.40	\$765.42	\$2,287.82
TOTAL	\$7,181.87	\$3,610.86	\$10,792.73

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 1, IIA, single phase for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER TRANSFORMER BANK****SINGLE PHASE RADIAL PAD MOUNTED TRANSFORMER****INCLUDING RISER AND 150' PRIMARY LATERAL TRENCH****WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$690.03	\$935.84	\$1,625.87
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$2,305.50	\$345.60	\$2,651.10
Trenching	\$0.00	\$521.96	\$521.96
Sub-Total	\$2,995.53	\$1,803.40	\$4,798.93
Stores Handling(2)	\$162.96	\$0.00	\$162.96
SubTotal	\$3,158.49	\$1,803.40	\$4,961.89
Engineering(4)	\$849.63	\$485.11	\$1,334.74
TOTAL	\$4,008.12	\$2,288.51	\$6,296.63

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 2, IIIA, single phase, for design criteria and assumptions

OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER TRANSFORMER BANK -TWO PHASE RADIAL PAD MOUNTED TRANSFORMERINCLUDING RISER AND 150' PRIMARY LATERAL TRENCHWITH CABLE-IN-CONDUIT2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$5,677.46	\$4,300.48	(\$1,376.98)
MATERIAL	\$13,864.89	\$7,111.32	(\$6,753.57)
TOTAL	\$19,542.35	\$11,411.80	(\$8,130.55)

**OVERHEAD MATERIAL AND LABOR COST PER TRANSFORMER BANK****TWO PHASE 150' PRIMARY LATERAL POLE LINE****INCLUDING TRANSFORMER AND SERVICE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$191.41	\$376.31	\$567.72
Primary	\$6,736.69	\$1,261.33	\$7,998.02
Secondary	\$30.37	\$311.19	\$341.56
Poles	\$854.32	\$1,346.69	\$2,201.01
Transformers	\$2,549.35	\$1,178.44	\$3,727.79
Sub-Total	\$10,362.14	\$4,473.96	\$14,836.10
Stores Handling(2)	\$563.70	\$0.00	\$563.70
SubTotal	\$10,925.84	\$4,473.96	\$15,399.80
Engineering(4)	\$2,939.05	\$1,203.50	\$4,142.55
TOTAL	\$13,864.89	\$5,677.46	\$19,542.35

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 1, IIA, two phase, for design criteria and assumptions



**UNDERGROUND MATERIAL AND LABOR COST PER TRANSFORMER BANK****TWO PHASE RADIAL PAD MOUNTED TRANSFORMER****INCLUDING RISER AND 150' PRIMARY LATERAL TRENCH****WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$1,381.75	\$1,906.83	\$3,288.58
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$3,933.01	\$960.08	\$4,893.09
Trenching	\$0.00	\$521.96	\$521.96
Sub-Total	\$5,314.76	\$3,388.87	\$8,703.63
Stores Handling(2)	\$289.12	\$0.00	\$289.12
SubTotal	\$5,603.88	\$3,388.87	\$8,992.75
Engineering(4)	\$1,507.44	\$911.61	\$2,419.05
TOTAL	\$7,111.32	\$4,300.48	\$11,411.80

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 2, IIIA, two phase for design criteria and assumptions

**OVERHEAD VS. UNDERGROUND****SUMMARY SHEET****COST PER TRANSFORMER BANK - 300 KVA****THREE PHASE RADIAL PAD MOUNTED TRANSFORMER****INCLUDING RISER AND 150' PRIMARY LATERAL TRENCH****WITH CABLE-IN-CONDUIT****2016**

ITEM	OVERHEAD UNDERGROUND DIFFERENTIAL		
LABOR	\$9,950.00	\$4,151.98	(\$5,798.02)
MATERIAL	\$26,108.36	\$16,855.52	(\$9,252.84)
<b>TOTAL</b>	<b>\$36,058.36</b>	<b>\$21,007.50</b>	<b>(\$15,050.86)</b>

**OVERHEAD MATERIAL AND LABOR COST PER TRANSFORMER BANK****THREE PHASE 150' PRIMARY LATERAL POLE LINE****INCLUDING TRANSFORMER AND SERVICE (300 KVA)****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$598.25	\$887.12	\$1,485.37
Primary	\$10,319.68	\$2,104.01	\$12,423.69
Secondary	\$31.02	\$346.06	\$377.08
Poles	\$2,180.20	\$2,746.98	\$4,927.18
Transformers	\$6,383.33	\$1,756.65	\$8,139.98
Sub-Total	\$19,512.48	\$7,840.82	\$27,353.30
Stores Handling(2)	\$1,061.48	\$0.00	\$1,061.48
SubTotal	\$20,573.96	\$7,840.82	\$28,414.78
Engineering(4)	\$5,534.40	\$2,109.18	\$7,643.58
TOTAL	\$26,108.36	\$9,950.00	\$36,058.36

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 1, IIA, three phase (300 kva) for design criteria and assumptions

**EXHIBIT VIII**

**UNDERGROUND MATERIAL AND LABOR COST PER TRANSFORMER BANK****THREE PHASE RADIAL PAD MOUNTED TRANSFORMER 300 KVA****INCLUDING RISER AND 150' PRIMARY LATERAL TRENCH****WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$1,980.17	\$1,701.96	\$3,682.13
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$10,617.06	\$1,047.93	\$11,664.99
Trenching	\$0.00	\$521.96	\$521.96
Sub-Total	\$12,597.23	\$3,271.85	\$15,869.08
Stores Handling(2)	\$685.29	\$0.00	\$685.29
SubTotal	\$13,282.52	\$3,271.85	\$16,554.37
Engineering(4)	\$3,573.00	\$880.13	\$4,453.13
TOTAL	\$16,855.52	\$4,151.98	\$21,007.50

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 2, IIIA, three phase (300 KVA) for design criteria and assumptions

**OVERHEAD VS. UNDERGROUND****SUMMARY SHEET****COST PER TRANSFORMER BANK - 150 KVA****THREE PHASE RADIAL PAD MOUNTED TRANSFORMER****INCLUDING RISER AND 150' PRIMARY LATERAL TRENCH****WITH CABLE-IN-CONDUIT****2016**

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$8,382.32	\$4,301.94	(\$4,080.38)
MATERIAL	\$21,215.65	\$12,572.57	(\$8,643.08)
<b>TOTAL</b>	<b>\$29,597.97</b>	<b>\$16,874.51</b>	<b>(\$12,723.46)</b>

**OVERHEAD MATERIAL AND LABOR COST PER TRANSFORMER BANK****THREE PHASE 150' PRIMARY LATERAL POLE LINE****INCLUDING TRANSFORMER AND SERVICE (150 KVA)****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$584.19	\$1,012.02	\$1,596.21
Primary	\$10,356.89	\$2,064.13	\$12,421.02
Secondary	\$31.13	\$339.50	\$370.63
Poles	\$1,231.85	\$1,465.18	\$2,697.03
Transformers	\$3,651.78	\$1,724.62	\$5,376.40
Sub-Total	\$15,855.84	\$6,605.45	\$22,461.29
Stores Handling(2)	\$862.56	\$0.00	\$862.56
SubTotal	\$16,718.40	\$6,605.45	\$23,323.85
Engineering(4)	\$4,497.25	\$1,776.87	\$6,274.12
TOTAL	\$21,215.65	\$8,382.32	\$29,597.97

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

**UNDERGROUND MATERIAL AND LABOR COST PER TRANSFORMER BANK****THREE PHASE RADIAL PAD MOUNTED TRANSFORMER 150 KVA****INCLUDING RISER AND 150' PRIMARY LATERAL TRENCH****WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$2,006.63	\$1,820.13	\$3,826.76
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$7,389.67	\$1,047.93	\$8,437.60
Trenching	\$0.00	\$521.96	\$521.96
Sub-Total	\$9,396.30	\$3,390.02	\$12,786.32
Stores Handling(2)	\$511.16	\$0.00	\$511.16
SubTotal	\$9,907.46	\$3,390.02	\$13,297.48
Engineering(4)	\$2,665.11	\$911.92	\$3,577.03
TOTAL	\$12,572.57	\$4,301.94	\$16,874.51

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.



OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER TRANSFORMER BANK -SINGLE PHASE LOOP PAD MOUNTED TRANSFORMERINCLUDING RISER AND 300' PRIMARY LATERAL TRENCHWITH CABLE-IN-CONDUIT2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$4,547.66	\$4,082.83	(\$464.83)
MATERIAL	\$7,718.15	\$4,444.81	(\$3,273.34)
<b>TOTAL</b>	<b>\$12,265.81</b>	<b>\$8,527.64</b>	<b>(\$3,738.17)</b>

**OVERHEAD MATERIAL AND LABOR COST PER TRANSFORMER BANK****SINGLE PHASE 300' PRIMARY LATERAL POLE LINE****INCLUDING TRANSFORMER AND SERVICE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$84.53	\$177.75	\$262.28
Primary	\$3,503.12	\$777.03	\$4,280.15
Secondary	\$62.63	\$481.64	\$544.27
Poles	\$834.81	\$1,498.82	\$2,333.63
Transformers	\$1,283.19	\$648.42	\$1,931.61
Sub-Total	\$5,768.28	\$3,583.66	\$9,351.94
Stores Handling(2)	\$313.79	\$0.00	\$313.79
SubTotal	\$6,082.07	\$3,583.66	\$9,665.73
Engineering(4)	\$1,636.08	\$964.00	\$2,600.08
TOTAL	\$7,718.15	\$4,547.66	\$12,265.81

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

5 - See Appendix 3, page 1, IIA, Single Phase, for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER TRANSFORMER BANK****SINGLE PHASE LOOP PAD MOUNTED TRANSFORMER****INCLUDING RISER AND 300' PRIMARY LATERAL TRENCH****WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$1,113.75	\$1,411.40	\$2,525.15
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$2,208.15	\$762.05	\$2,970.20
Trenching	\$0.00	\$1,043.91	\$1,043.91
Sub-Total	\$3,321.90	\$3,217.36	\$6,539.26
Stores Handling(2)	\$180.71	\$0.00	\$180.71
SubTotal	\$3,502.61	\$3,217.36	\$6,719.97
Engineering(4)	\$942.20	\$865.47	\$1,807.67
TOTAL	\$4,444.81	\$4,082.83	\$8,527.64

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 2, IIIA, single phase (loop), for design criteria and assumptions

OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER TRANSFORMER BANK -TWO PHASE LOOP PAD MOUNTED TRANSFORMERINCLUDING RISER AND 300' PRIMARY LATERAL TRENCHWITH CABLE-IN-CONDUIT2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$6,854.02	\$6,049.06	(\$804.96)
MATERIAL	\$14,539.24	\$8,268.35	(\$6,270.89)
<b>TOTAL</b>	<b>\$21,393.26</b>	<b>\$14,317.41</b>	<b>(\$7,075.85)</b>

**OVERHEAD MATERIAL AND LABOR COST PER TRANSFORMER BANK****TWO PHASE 300' PRIMARY LATERAL POLE LINE****INCLUDING TRANSFORMER AND SERVICE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$191.41	\$376.31	\$567.72
Primary	\$7,027.25	\$1,634.43	\$8,661.68
Secondary	\$62.82	\$506.55	\$569.37
Poles	\$1,160.24	\$1,750.23	\$2,910.47
Transformers	\$2,424.40	\$1,133.60	\$3,558.00
Sub-Total	\$10,866.12	\$5,401.12	\$16,267.24
Stores Handling(2)	\$591.12	\$0.00	\$591.12
SubTotal	\$11,457.24	\$5,401.12	\$16,858.36
Engineering(4)	\$3,082.00	\$1,452.90	\$4,534.90
TOTAL	\$14,539.24	\$6,854.02	\$21,393.26

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 1, IIA, two phase, for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER TRANSFORMER BANK****TWO PHASE LOOP PAD MOUNTED TRANSFORMER****INCLUDING RISER AND 300' PRIMARY LATERAL TRENCH****WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$2,235.38	\$2,772.49	\$5,007.87
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$3,944.10	\$950.39	\$4,894.49
Trenching	\$0.00	\$1,043.91	\$1,043.91
Sub-Total	\$6,179.48	\$4,766.79	\$10,946.27
Stores Handling(2)	\$336.16	\$0.00	\$336.16
SubTotal	\$6,515.64	\$4,766.79	\$11,282.43
Engineering(4)	\$1,752.71	\$1,282.27	\$3,034.98
TOTAL	\$8,268.35	\$6,049.06	\$14,317.41

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 2, IIIA, two phase (loop)for design criteria and assumptions

OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER TRANSFORMER BANK -THREE PHASE 150 KVA LOOP PAD MOUNTED TRANSFORMERINCLUDING RISER AND 300' PRIMARY LATERAL TRENCHWITH CABLE-IN-CONDUIT2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$10,652.13	\$5,594.08	(\$5,058.05)
MATERIAL	\$22,227.55	\$15,097.79	(\$7,129.76)
TOTAL	\$32,879.68	\$20,691.87	(\$12,187.81)



**OVERHEAD MATERIAL AND LABOR COST PER TRANSFORMER BANK**

**THREE PHASE 300' PRIMARY LATERAL POLE LINE**

**INCLUDING TRANSFORMER AND SERVICE (150 KVA)**

**2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$584.19	\$1,012.02	\$1,596.21
Primary	\$10,532.72	\$2,585.25	\$13,117.97
Secondary	\$62.77	\$534.16	\$596.93
Poles	\$1,596.16	\$1,969.60	\$3,565.76
Transformers	\$3,836.26	\$2,293.08	\$6,129.34
Sub-Total	\$16,612.10	\$8,394.11	\$25,006.21
Stores Handling(2)	\$903.70	\$0.00	\$903.70
SubTotal	\$17,515.80	\$8,394.11	\$25,909.91
Engineering(4)	\$4,711.75	\$2,258.02	\$6,969.77
TOTAL	\$22,227.55	\$10,652.13	\$32,879.68

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

**UNDERGROUND MATERIAL AND LABOR COST PER TRANSFORMER BANK****THREE PHASE 150 KVA LOOP PAD MOUNTED TRANSFORMER****INCLUDING RISER AND 300' PRIMARY LATERAL TRENCH****WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$3,165.96	\$2,271.61	\$5,437.57
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$8,117.60	\$1,092.74	\$9,210.34
Trenching	\$0.00	\$1,043.91	\$1,043.91
Sub-Total	\$11,283.56	\$4,408.26	\$15,691.82
Stores Handling(2)	\$613.83	\$0.00	\$613.83
SubTotal	\$11,897.39	\$4,408.26	\$16,305.65
Engineering(4)	\$3,200.40	\$1,185.82	\$4,386.22
TOTAL	\$15,097.79	\$5,594.08	\$20,691.87

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 2, IIIA, three phase (300kva-loop) for design criteria and assumptions

OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER TRANSFORMER BANK -THREE PHASE 300 KVA LOOP PAD MOUNTED TRANSFORMERINCLUDING RISER AND 300' PRIMARY LATERAL TRENCHWITH CABLE-IN-CONDUIT2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$11,530.95	\$5,594.08	(\$5,936.87)
MATERIAL	\$26,920.74	\$17,526.45	(\$9,394.29)
TOTAL	\$38,451.69	\$23,120.53	(\$15,331.16)

**OVERHEAD MATERIAL AND LABOR COST PER TRANSFORMER BANK****THREE PHASE 300' PRIMARY LATERAL POLE LINE****INCLUDING TRANSFORMER (300 TOTAL KVA) AND SERVICE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$598.25	\$887.12	\$1,485.37
Primary	\$10,580.38	\$2,644.97	\$13,225.35
Secondary	\$63.05	\$546.50	\$609.55
Poles	\$2,635.09	\$3,251.40	\$5,886.49
Transformers	\$6,242.86	\$1,756.65	\$7,999.51
Sub-Total	\$20,119.63	\$9,086.64	\$29,206.27
Stores Handling(2)	\$1,094.51	\$0.00	\$1,094.51
SubTotal	\$21,214.14	\$9,086.64	\$30,300.78
Engineering(4)	\$5,706.60	\$2,444.31	\$8,150.91
TOTAL	\$26,920.74	\$11,530.95	\$38,451.69

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 1, IIA, 3 phase (300 KVA) for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER TRANSFORMER BANK****THREE PHASE 300 KVA LOOP PAD MOUNTED TRANSFORMER****INCLUDING RISER AND 300' PRIMARY LATERAL TRENCH****WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$3,165.96	\$2,271.61	\$5,437.57
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$9,932.70	\$1,092.74	\$11,025.44
Trenching	\$0.00	\$1,043.91	\$1,043.91
Sub-Total	\$13,098.66	\$4,408.26	\$17,506.92
Stores Handling(2)	\$712.57	\$0.00	\$712.57
SubTotal	\$13,811.23	\$4,408.26	\$18,219.49
Engineering(4)	\$3,715.22	\$1,185.82	\$4,901.04
TOTAL	\$17,526.45	\$5,594.08	\$23,120.53

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 2, IIIA, three phase (300kva-loop) for design criteria and assumptions

OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER TRANSFORMER BANK -SINGLE PHASE LOOP PAD MOUNTED TRANSFORMERFROM EXISTING UNDERGROUND TERMINATION POINTINCLUDING 300' PRIMARY LATERAL TRENCH WITH CABLE-IN-CONDUIT2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$4,547.66	\$3,100.19	(\$1,447.47)
MATERIAL	\$7,718.15	\$4,105.27	(\$3,612.88)
<b>TOTAL</b>	<b>\$12,265.81</b>	<b>\$7,205.46</b>	<b>(\$5,060.35)</b>

**OVERHEAD MATERIAL AND LABOR COST PER TRANSFORMER BANK****SINGLE PHASE 300' PRIMARY LATERAL POLE LINE****INCLUDING TRANSFORMER AND SERVICE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$84.53	\$177.75	\$262.28
Primary	\$3,503.12	\$777.03	\$4,280.15
Secondary	\$62.63	\$481.64	\$544.27
Poles	\$834.81	\$1,498.82	\$2,333.63
Transformers	\$1,283.19	\$648.42	\$1,931.61
Sub-Total	\$5,768.28	\$3,583.66	\$9,351.94
Stores Handling(2)	\$313.79	\$0.00	\$313.79
SubTotal	\$6,082.07	\$3,583.66	\$9,665.73
Engineering(4)	\$1,636.08	\$964.00	\$2,600.08
TOTAL	\$7,718.15	\$4,547.66	\$12,265.81

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

5 - See Appendix 3, page 1, IIA, Single Phase, for design criteria and assumptions



**UNDERGROUND MATERIAL AND LABOR COST PER TRANSFORMER BANK**  
**SINGLE PHASE LOOP PAD MOUNTED TRANSFORMER**  
**FROM EXISTING UNDERGROUND TERMINATION POINT**  
**INCLUDING 300' PRIMARY LATERAL AND TRENCH WITH CABLE-IN-CONDUIT**

**2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$964.96	\$846.83	\$1,811.79
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$2,103.17	\$552.28	\$2,655.45
Trenching	\$0.00	\$1,043.91	\$1,043.91
Sub-Total	\$3,068.13	\$2,443.02	\$5,511.15
Stores Handling(2)	\$166.91	\$0.00	\$166.91
SubTotal	\$3,235.04	\$2,443.02	\$5,678.06
Engineering(4)	\$870.23	\$657.17	\$1,527.40
TOTAL	\$4,105.27	\$3,100.19	\$7,205.46

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 2, IIIA, single phase (loop), for design criteria and assumptions. Riser length and riser size are not applicable.

OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER TRANSFORMER BANK -SINGLE PHASE RADIAL PAD MOUNTED TRANSFORMERFROM EXISTING UNDERGROUND TERMINATION POINTINCLUDING 150' PRIMARY LATERAL TRENCH WITH CABLE-IN-CONDUIT2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$3,610.86	\$2,247.34	(\$1,363.52)
MATERIAL	\$7,181.87	\$3,685.73	(\$3,496.14)
<b>TOTAL</b>	<b>\$10,792.73</b>	<b>\$5,933.07</b>	<b>(\$4,859.66)</b>

**OVERHEAD MATERIAL AND LABOR COST PER TRANSFORMER BANK****SINGLE PHASE 150' PRIMARY LATERAL POLE LINE****INCLUDING TRANSFORMER AND SERVICE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$84.53	\$177.75	\$262.28
Primary	\$3,417.05	\$618.70	\$4,035.75
Secondary	\$30.81	\$305.29	\$336.10
Poles	\$551.90	\$1,136.91	\$1,688.81
Transformers	\$1,283.19	\$606.79	\$1,889.98
Sub-Total	\$5,367.48	\$2,845.44	\$8,212.92
Stores Handling(2)	\$291.99	\$0.00	\$291.99
SubTotal	\$5,659.47	\$2,845.44	\$8,504.91
Engineering(4)	\$1,522.40	\$765.42	\$2,287.82
TOTAL	\$7,181.87	\$3,610.86	\$10,792.73

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 1, IIA single phase, for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER TRANSFORMER BANK****SINGLE PHASE RADIAL PAD MOUNTED TRANSFORMER****FROM EXISTING UNDERGROUND TERMINATION POINT****INCLUDING 150' PRIMARY LATERAL AND TRENCH WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$644.08	\$200.25	\$844.33
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$2,110.51	\$526.79	\$2,637.30
Trenching	\$0.00	\$1,043.91	\$1,043.91
Sub-Total	\$2,754.59	\$1,770.95	\$4,525.54
Stores Handling(2)	\$149.85	\$0.00	\$149.85
SubTotal	\$2,904.44	\$1,770.95	\$4,675.39
Engineering(4)	\$781.29	\$476.39	\$1,257.68
TOTAL	\$3,685.73	\$2,247.34	\$5,933.07

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 2, IIIA, single phase (radial), for design criteria and assumptions. Riser length and riser size are not applicable.

OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER TRANSFORMER BANK -TWO PHASE LOOP PAD MOUNTED TRANSFORMERFROM EXISTING UNDERGROUND TERMINATION POINTINCLUDING 300' PRIMARY LATERAL TRENCH WITH CABLE-IN-CONDUIT2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$6,854.02	\$4,752.02	(\$2,102.00)
MATERIAL	\$14,539.24	\$7,722.31	(\$6,816.93)
<b>TOTAL</b>	<b>\$21,393.26</b>	<b>\$12,474.33</b>	<b>(\$8,918.93)</b>

**OVERHEAD MATERIAL AND LABOR COST PER TRANSFORMER BANK****TWO PHASE 300' PRIMARY LATERAL POLE LINE****INCLUDING TRANSFORMER AND SERVICE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$191.41	\$376.31	\$567.72
Primary	\$7,027.25	\$1,634.43	\$8,661.68
Secondary	\$62.82	\$506.55	\$569.37
Poles	\$1,160.24	\$1,750.23	\$2,910.47
Transformers	\$2,424.40	\$1,133.60	\$3,558.00
Sub-Total	\$10,866.12	\$5,401.12	\$16,267.24
Stores Handling(2)	\$591.12	\$0.00	\$591.12
SubTotal	\$11,457.24	\$5,401.12	\$16,858.36
Engineering(4)	\$3,082.00	\$1,452.90	\$4,534.90
TOTAL	\$14,539.24	\$6,854.02	\$21,393.26

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 1, IIA, two phase, for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER TRANSFORMER BANK****TWO PHASE LOOP PAD MOUNTED TRANSFORMER****FROM EXISTING UNDERGROUND TERMINATION POINT****INCLUDING 300' PRIMARY LATERAL TRENCH WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$2,022.15	\$2,104.49	\$4,126.64
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$3,749.24	\$596.30	\$4,345.54
Trenching	\$0.00	\$1,043.91	\$1,043.91
Sub-Total	\$5,771.39	\$3,744.70	\$9,516.09
Stores Handling(2)	\$313.96	\$0.00	\$313.96
SubTotal	\$6,085.35	\$3,744.70	\$9,830.05
Engineering(4)	\$1,636.96	\$1,007.32	\$2,644.28
TOTAL	\$7,722.31	\$4,752.02	\$12,474.33

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: Appendix 3, page 2, IIIA, two phase (loop), for design criteria and assumptions. Riser length and riser size are not applicable.



OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER TRANSFORMER BANK -TWO PHASE RADIAL PAD MOUNTED TRANSFORMERFROM EXISTING UNDERGROUND TERMINATION POINTINCLUDING 150' PRIMARY LATERAL TRENCH WITH CABLE-IN-CONDUIT2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$5,677.46	\$3,532.79	(\$2,144.67)
MATERIAL	\$13,864.89	\$6,577.61	(\$7,287.28)
<b>TOTAL</b>	<b>\$19,542.35</b>	<b>\$10,110.40</b>	<b>(\$9,431.95)</b>

**OVERHEAD MATERIAL AND LABOR COST PER TRANSFORMER BANK****TWO PHASE 150' PRIMARY LATERAL POLE LINE****INCLUDING TRANSFORMER AND SERVICE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$191.41	\$376.31	\$567.72
Primary	\$6,736.69	\$1,261.33	\$7,998.02
Secondary	\$30.37	\$311.19	\$341.56
Poles	\$854.32	\$1,346.69	\$2,201.01
Transformers	\$2,549.35	\$1,178.44	\$3,727.79
Sub-Total	\$10,362.14	\$4,473.96	\$14,836.10
Stores Handling(2)	\$563.70	\$0.00	\$563.70
SubTotal	\$10,925.84	\$4,473.96	\$15,399.80
Engineering(4)	\$2,939.05	\$1,203.50	\$4,142.55
TOTAL	\$13,864.89	\$5,677.46	\$19,542.35

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 1, IIA, two phase, for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER TRANSFORMER BANK****TWO PHASE RADIAL PAD MOUNTED TRANSFORMER****FROM EXISTING UNDERGROUND TERMINATION POINT****INCLUDING 150' PRIMARY LATERAL TRENCH WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$1,237.44	\$1,108.46	\$2,345.90
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$3,678.44	\$631.55	\$4,309.99
Trenching	\$0.00	\$1,043.91	\$1,043.91
Sub-Total	\$4,915.88	\$2,783.92	\$7,699.80
Stores Handling(2)	\$267.42	\$0.00	\$267.42
SubTotal	\$5,183.30	\$2,783.92	\$7,967.22
Engineering(4)	\$1,394.31	\$748.87	\$2,143.18
TOTAL	\$6,577.61	\$3,532.79	\$10,110.40

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: Appendix 3, page 2, IIIA, two phase (radial), for design criteria and assumptions. Riser length and riser size are not applicable.

OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER TRANSFORMER BANK -THREE PHASE 150 KVA LOOP PAD MOUNTED TRANSFORMERFROM EXISTING UNDERGROUND TERMINATION POINTINCLUDING 300' PRIMARY LATERAL TRENCH WITH CABLE-IN-CONDUIT2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$10,652.13	\$3,916.55	(\$6,735.58)
MATERIAL	\$22,227.55	\$14,507.00	(\$7,720.55)
<b>TOTAL</b>	<b>\$32,879.68</b>	<b>\$18,423.55</b>	<b>(\$14,456.13)</b>

**OVERHEAD MATERIAL AND LABOR COST PER TRANSFORMER BANK**

**THREE PHASE 300' PRIMARY LATERAL POLE LINE**

**INCLUDING TRANSFORMER AND SERVICE (150 KVA)**

**2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$584.19	\$1,012.02	\$1,596.21
Primary	\$10,532.72	\$2,585.25	\$13,117.97
Secondary	\$62.77	\$534.16	\$596.93
Poles	\$1,596.16	\$1,969.60	\$3,565.76
Transformers	\$3,836.26	\$2,293.08	\$6,129.34
Sub-Total	\$16,612.10	\$8,394.11	\$25,006.21
Stores Handling(2)	\$903.70	\$0.00	\$903.70
SubTotal	\$17,515.80	\$8,394.11	\$25,909.91
Engineering(4)	\$4,711.75	\$2,258.02	\$6,969.77
TOTAL	\$22,227.55	\$10,652.13	\$32,879.68

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

**UNDERGROUND MATERIAL AND LABOR COST PER TRANSFORMER BANK****THREE PHASE LOOP PAD MOUNTED TRANSFORMER (150 KVA)****FROM EXISTING UNDERGROUND TERMINATION POINT****INCLUDING 300' PRIMARY LATERAL TRENCH WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$3,010.32	\$1,434.88	\$4,445.20
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$7,831.71	\$607.54	\$8,439.25
Trenching	\$0.00	\$1,043.91	\$1,043.91
Sub-Total	\$10,842.03	\$3,086.33	\$13,928.36
Stores Handling(2)	\$589.81	\$0.00	\$589.81
SubTotal	\$11,431.84	\$3,086.33	\$14,518.17
Engineering(4)	\$3,075.16	\$830.22	\$3,905.38
TOTAL	\$14,507.00	\$3,916.55	\$18,423.55

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 2, IIIA, three phase (150kva-loop) for design criteria and assumptions. Riser length and riser size are not applicable.

OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER TRANSFORMER BANK -THREE PHASE 300 KVA LOOP PAD MOUNTED TRANSFORMERFROM EXISTING UNDERGROUND TERMINATION POINTINCLUDING 300' PRIMARY LATERAL TRENCH WITH CABLE-IN-CONDUIT2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$11,530.95	\$3,916.55	(\$7,614.40)
MATERIAL	\$26,920.74	\$16,935.67	(\$9,985.07)
<b>TOTAL</b>	<b>\$38,451.69</b>	<b>\$20,852.22</b>	<b>(\$17,599.47)</b>



**OVERHEAD MATERIAL AND LABOR COST PER TRANSFORMER BANK****THREE PHASE 300' PRIMARY LATERAL POLE LINE****INCLUDING TRANSFORMER (300 TOTAL KVA) AND SERVICE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$598.25	\$887.12	\$1,485.37
Primary	\$10,580.38	\$2,644.97	\$13,225.35
Secondary	\$63.05	\$546.50	\$609.55
Poles	\$2,635.09	\$3,251.40	\$5,886.49
Transformers	\$6,242.86	\$1,756.65	\$7,999.51
Sub-Total	\$20,119.63	\$9,086.64	\$29,206.27
Stores Handling(2)	\$1,094.51	\$0.00	\$1,094.51
SubTotal	\$21,214.14	\$9,086.64	\$30,300.78
Engineering(4)	\$5,706.60	\$2,444.31	\$8,150.91
TOTAL	\$26,920.74	\$11,530.95	\$38,451.69

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 1, IIA, 3 phase (300 KVA) for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER TRANSFORMER BANK****THREE PHASE LOOP PAD MOUNTED TRANSFORMER (300 KVA)****FROM EXISTING UNDERGROUND TERMINATION POINT****INCLUDING 300' PRIMARY LATERAL TRENCH WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$3,010.32	\$1,434.88	\$4,445.20
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$9,646.81	\$607.54	\$10,254.35
Trenching	\$0.00	\$1,043.91	\$1,043.91
Sub-Total	\$12,657.13	\$3,086.33	\$15,743.46
Stores Handling(2)	\$688.55	\$0.00	\$688.55
SubTotal	\$13,345.68	\$3,086.33	\$16,432.01
Engineering(4)	\$3,589.99	\$830.22	\$4,420.21
TOTAL	\$16,935.67	\$3,916.55	\$20,852.22

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 2, IIIA, three phase (300kva-loop) for design criteria and assumptions. Riser length and riser size are not applicable.

OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER TRANSFORMER BANK -THREE PHASE 150 KVA RADIAL PAD MOUNTED TRANSFORMERFROM EXISTING UNDERGROUND TERMINATION POINTINCLUDING 150' PRIMARY LATERAL TRENCH WITH CABLE-IN-CONDUIT2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$8,382.32	\$2,698.26	(\$5,684.06)
MATERIAL	\$21,215.65	\$11,952.52	(\$9,263.13)
<b>TOTAL</b>	<b>\$29,597.97</b>	<b>\$14,650.78</b>	<b>(\$14,947.19)</b>

**OVERHEAD MATERIAL AND LABOR COST PER TRANSFORMER BANK****THREE PHASE 150' PRIMARY LATERAL POLE LINE****INCLUDING TRANSFORMER (150 TOTAL KVA) AND SERVICE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$584.19	\$1,012.02	\$1,596.21
Primary	\$10,356.89	\$2,064.13	\$12,421.02
Secondary	\$31.13	\$339.50	\$370.63
Poles	\$1,231.85	\$1,465.18	\$2,697.03
Transformers	\$3,651.78	\$1,724.62	\$5,376.40
Sub-Total	\$15,855.84	\$6,605.45	\$22,461.29
Stores Handling(2)	\$862.56	\$0.00	\$862.56
SubTotal	\$16,718.40	\$6,605.45	\$23,323.85
Engineering(4)	\$4,497.25	\$1,776.87	\$6,274.12
TOTAL	\$21,215.65	\$8,382.32	\$29,597.97

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 1, IIA, three phase (150 KVA), for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER TRANSFORMER BANK****THREE PHASE RADIAL PAD MOUNTED TRANSFORMER (150 KVA)****FROM EXISTING UNDERGROUND TERMINATION POINT****INCLUDING 150' PRIMARY LATERAL TRENCH WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$1,828.66	\$519.65	\$2,348.31
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$7,104.24	\$562.73	\$7,666.97
Trenching	\$0.00	\$1,043.91	\$1,043.91
Sub-Total	\$8,932.90	\$2,126.29	\$11,059.19
Stores Handling(2)	\$485.95	\$0.00	\$485.95
SubTotal	\$9,418.85	\$2,126.29	\$11,545.14
Engineering(4)	\$2,533.67	\$571.97	\$3,105.64
TOTAL	\$11,952.52	\$2,698.26	\$14,650.78

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 2, IIIA, three phase (150kva-radial) for design criteria and assumptions. Riser length and riser size are not applicable.

OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER TRANSFORMER BANK -THREE PHASE 300 KVA RADIAL PAD MOUNTED TRANSFORMERFROM EXISTING UNDERGROUND TERMINATION POINTINCLUDING 150' PRIMARY LATERAL TRENCH WITH CABLE-IN-CONDUIT2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$9,950.00	\$2,757.64	(\$7,192.36)
MATERIAL	\$26,108.36	\$15,397.40	(\$10,710.96)
TOTAL	\$36,058.36	\$18,155.04	(\$17,903.32)

**OVERHEAD MATERIAL AND LABOR COST PER TRANSFORMER BANK****THREE PHASE 150' PRIMARY LATERAL POLE LINE****INCLUDING TRANSFORMER (300 TOTAL KVA) AND SERVICE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$598.25	\$887.12	\$1,485.37
Primary	\$10,319.68	\$2,104.01	\$12,423.69
Secondary	\$31.02	\$346.06	\$377.08
Poles	\$2,180.20	\$2,746.98	\$4,927.18
Transformers	\$6,383.33	\$1,756.65	\$8,139.98
Sub-Total	\$19,512.48	\$7,840.82	\$27,353.30
Stores Handling(2)	\$1,061.48	\$0.00	\$1,061.48
SubTotal	\$20,573.96	\$7,840.82	\$28,414.78
Engineering(4)	\$5,534.40	\$2,109.18	\$7,643.58
TOTAL	\$26,108.36	\$9,950.00	\$36,058.36

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 1, IIA, three phase (300 KVA), for design criteria and assumptions



**UNDERGROUND MATERIAL AND LABOR COST PER TRANSFORMER BANK****THREE PHASE RADIAL PAD MOUNTED TRANSFORMER (300 KVA)****FROM EXISTING UNDERGROUND TERMINATION POINT****INCLUDING 150' PRIMARY LATERAL TRENCH WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$1,841.58	\$526.97	\$2,368.55
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$9,665.90	\$602.20	\$10,268.10
Trenching	\$0.00	\$1,043.91	\$1,043.91
Sub-Total	\$11,507.48	\$2,173.08	\$13,680.56
Stores Handling(2)	\$626.01	\$0.00	\$626.01
SubTotal	\$12,133.49	\$2,173.08	\$14,306.57
Engineering(4)	\$3,263.91	\$584.56	\$3,848.47
TOTAL	\$15,397.40	\$2,757.64	\$18,155.04

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 2, IIIA, three phase (300kva-radial) for design criteria and assumptions. Riser length and riser size are not applicable.

OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER RISER -SMALL SINGLE PHASE RISER2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$225.56	\$596.58	\$371.02
MATERIAL	\$83.60	\$265.13	\$181.53
<b>TOTAL</b>	<b>\$309.16</b>	<b>\$861.71</b>	<b>\$552.55</b>

**OVERHEAD MATERIAL AND LABOR COST PER SERVICE****SINGLE PHASE SMALL SERVICE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$62.48	\$177.75	\$240.23
Primary	\$0.00	\$0.00	\$0.00
Secondary	\$0.00	\$0.00	\$0.00
Poles	\$0.00	\$0.00	\$0.00
Transformers	\$0.00	\$0.00	\$0.00
Sub-Total	\$62.48	\$177.75	\$240.23
Stores Handling(2)	\$3.40	\$0.00	\$3.40
SubTotal	\$65.88	\$177.75	\$243.63
Engineering(4)	\$17.72	\$47.81	\$65.53
TOTAL	\$83.60	\$225.56	\$309.16

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 1, B, small single phase, for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER RISER****SMALL SINGLE PHASE RISER****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$0.00	\$0.00	\$0.00
Secondary	\$198.15	\$470.12	\$668.27
Transformers	\$0.00	\$0.00	\$0.00
Trenching	\$0.00	\$0.00	\$0.00
Sub-Total	\$198.15	\$470.12	\$668.27
Stores Handling(2)	\$10.78	\$0.00	\$10.78
SubTotal	\$208.93	\$470.12	\$679.05
Engineering(4)	\$56.20	\$126.46	\$182.66
TOTAL	\$265.13	\$596.58	\$861.71

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 3, IIIB, small single phase, for design criteria and assumptions

OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER RISER -LARGE SINGLE PHASE RISER2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$477.54	\$824.65	\$347.11
MATERIAL	\$387.35	\$1,066.16	\$678.81
<b>TOTAL</b>	<b>\$864.89</b>	<b>\$1,890.81</b>	<b>\$1,025.92</b>

**OVERHEAD MATERIAL AND LABOR COST PER SERVICE****SINGLE PHASE LARGE SERVICE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$289.49	\$376.31	\$665.80
Primary	\$0.00	\$0.00	\$0.00
Secondary	\$0.00	\$0.00	\$0.00
Poles	\$0.00	\$0.00	\$0.00
Transformers	\$0.00	\$0.00	\$0.00
Sub-Total	\$289.49	\$376.31	\$665.80
Stores Handling(2)	\$15.75	\$0.00	\$15.75
SubTotal	\$305.24	\$376.31	\$681.55
Engineering(4)	\$82.11	\$101.23	\$183.34
TOTAL	\$387.35	\$477.54	\$864.89

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 1, IIB, large single phase, for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER RISER****LARGE SINGLE PHASE RISER****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$0.00	\$0.00	\$0.00
Secondary	\$796.81	\$649.84	\$1,446.65
Transformers	\$0.00	\$0.00	\$0.00
Trenching	\$0.00	\$0.00	\$0.00
Sub-Total	\$796.81	\$649.84	\$1,446.65
Stores Handling(2)	\$43.35	\$0.00	\$43.35
SubTotal	\$840.16	\$649.84	\$1,490.00
Engineering(4)	\$226.00	\$174.81	\$400.81
TOTAL	\$1,066.16	\$824.65	\$1,890.81

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 3, IIIB, large single phase, for design criteria and assumptions



OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER RISER -SMALL THREE PHASE RISER2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$280.42	\$681.00	\$400.58
MATERIAL	\$112.03	\$513.37	\$401.34
<b>TOTAL</b>	<b>\$392.45</b>	<b>\$1,194.37</b>	<b>\$801.92</b>

**OVERHEAD MATERIAL AND LABOR COST PER SERVICE****THREE PHASE SMALL SERVICE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$83.73	\$220.98	\$304.71
Primary	\$0.00	\$0.00	\$0.00
Secondary	\$0.00	\$0.00	\$0.00
Poles	\$0.00	\$0.00	\$0.00
Transformers	\$0.00	\$0.00	\$0.00
Sub-Total	\$83.73	\$220.98	\$304.71
Stores Handling(2)	\$4.55	\$0.00	\$4.55
SubTotal	\$88.28	\$220.98	\$309.26
Engineering(4)	\$23.75	\$59.44	\$83.19
TOTAL	\$112.03	\$280.42	\$392.45

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 1, IIB, small three phase, for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER RISER****SMALL THREE PHASE RISER****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$0.00	\$0.00	\$0.00
Secondary	\$383.68	\$536.64	\$920.32
Transformers	\$0.00	\$0.00	\$0.00
Trenching	\$0.00	\$0.00	\$0.00
Sub-Total	\$383.68	\$536.64	\$920.32
Stores Handling(2)	\$20.87	\$0.00	\$20.87
SubTotal	\$404.55	\$536.64	\$941.19
Engineering(4)	\$108.82	\$144.36	\$253.18
TOTAL	\$513.37	\$681.00	\$1,194.37

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 3, IIIB, small three phase, for design criteria and assumptions

OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER RISER -LARGE THREE PHASE RISER2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$477.54	\$1,059.39	\$581.85
MATERIAL	\$387.35	\$1,336.09	\$948.74
<b>TOTAL</b>	<b>\$864.89</b>	<b>\$2,395.48</b>	<b>\$1,530.59</b>

**OVERHEAD MATERIAL AND LABOR COST PER SERVICE****THREE PHASE LARGE SERVICE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$289.49	\$376.31	\$665.80
Primary	\$0.00	\$0.00	\$0.00
Secondary	\$0.00	\$0.00	\$0.00
Poles	\$0.00	\$0.00	\$0.00
Transformers	\$0.00	\$0.00	\$0.00
Sub-Total	\$289.49	\$376.31	\$665.80
Stores Handling(2)	\$15.75	\$0.00	\$15.75
SubTotal	\$305.24	\$376.31	\$681.55
Engineering(4)	\$82.11	\$101.23	\$183.34
TOTAL	\$387.35	\$477.54	\$864.89

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 1, IIB, large three phase, for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER RISER****LARGE THREE PHASE RISER****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$0.00	\$0.00	\$0.00
Secondary	\$998.55	\$834.82	\$1,833.37
Transformers	\$0.00	\$0.00	\$0.00
Trenching	\$0.00	\$0.00	\$0.00
Sub-Total	\$998.55	\$834.82	\$1,833.37
Stores Handling(2)	\$54.32	\$0.00	\$54.32
SubTotal	\$1,052.87	\$834.82	\$1,887.69
Engineering(4)	\$283.22	\$224.57	\$507.79
TOTAL	\$1,336.09	\$1,059.39	\$2,395.48

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 3, IIIB, large three phase, for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER RISER****SMALL HANDHOLE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$0.00	\$0.00	\$0.00
Secondary	\$93.98	\$61.19	\$155.17
Transformers	\$0.00	\$0.00	\$0.00
Trenching	\$0.00	\$0.00	\$0.00
Sub-Total	\$93.98	\$61.19	\$155.17
Stores Handling(2)	\$5.11	\$0.00	\$5.11
SubTotal	\$99.09	\$61.19	\$160.28
Engineering(4)	\$26.66	\$16.46	\$43.12
TOTAL	\$125.75	\$77.65	\$203.40

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 3, IIC, small handhole, for design criteria and assumptions



**UNDERGROUND MATERIAL AND LABOR COST PER RISER****INTERMEDIATE HANDHOLE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$0.00	\$0.00	\$0.00
Secondary	\$122.48	\$61.19	\$183.67
Transformers	\$0.00	\$0.00	\$0.00
Trenching	\$0.00	\$0.00	\$0.00
Sub-Total	\$122.48	\$61.19	\$183.67
Stores Handling(2)	\$6.66	\$0.00	\$6.66
SubTotal	\$129.14	\$61.19	\$190.33
Engineering(4)	\$34.74	\$16.46	\$51.20
TOTAL	\$163.88	\$77.65	\$241.53

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 3, IIIC, intermediate handhole for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER RISER****LARGE HANDHOLE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$0.00	\$0.00	\$0.00
Secondary	\$390.05	\$232.78	\$622.83
Transformers	\$0.00	\$0.00	\$0.00
Trenching	\$0.00	\$0.00	\$0.00
Sub-Total	\$390.05	\$232.78	\$622.83
Stores Handling(2)	\$21.22	\$0.00	\$21.22
SubTotal	\$411.27	\$232.78	\$644.05
Engineering(4)	\$110.63	\$62.62	\$173.25
TOTAL	\$521.90	\$295.40	\$817.30

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 3, IIC, large handhole for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER RISER****PADMOUNTED SECONDARY JUNCTION BOX****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$0.00	\$0.00	\$0.00
Secondary	\$1,538.08	\$401.33	\$1,939.41
Transformers	\$0.00	\$0.00	\$0.00
Trenching	\$0.00	\$0.00	\$0.00
Sub-Total	\$1,538.08	\$401.33	\$1,939.41
Stores Handling(2)	\$83.67	\$0.00	\$83.67
SubTotal	\$1,621.75	\$401.33	\$2,023.08
Engineering(4)	\$436.25	\$107.96	\$544.21
TOTAL	\$2,058.00	\$509.29	\$2,567.29

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Apendix B, page 3, IIIC, secondary junction box, for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER CABINET****PADMOUNTED SECONDARY JUNCTION CABINET****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$0.00	\$0.00	\$0.00
Secondary	\$4,498.79	\$366.76	\$4,865.55
Transformers	\$0.00	\$0.00	\$0.00
Trenching	\$0.00	\$0.00	\$0.00
Sub-Total	\$4,498.79	\$366.76	\$4,865.55
Stores Handling(2)	\$244.73	\$0.00	\$244.73
SubTotal	\$4,743.52	\$366.76	\$5,110.28
Engineering(4)	\$1,276.01	\$98.66	\$1,374.67
TOTAL	\$6,019.53	\$465.42	\$6,484.95

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix B, page 3, IIIC, secondary junction cabinet, for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER CABINET**  
**PADMOUNTED SECONDARY JUNCTION CABINET**  
**SECONDARY CONDUCTORS AND SERVICE TAPS**

**2016**

ITEM	MATERIAL(1)	LABOR(2)	TOTAL
350 MCM Al Wire (per set) \$	995.40	\$0.00	\$995.40
500 MCM Cu Wire (per set) \$	1,594.20	\$0.00	\$1,594.20
750 MCM Al Wire (per set) \$	1,084.00	\$0.00	\$1,084.00
750 MCM Cu Wire (per set) \$	1,881.20	\$0.00	\$1,881.20
Pull Setup (one per cab)	\$0.00	\$ 162.93	\$162.93
Pulling Cable (per set)	\$0.00	\$ 70.11	\$70.11
Tap Wires in Transformer and Cabinet (per set)	\$0.00	\$ 158.40	\$158.40
Usage Statistics			
350 MCM Al Wire	0%		
500 MCM CU Wire	25%		
750 MCM Al Wire	50%		
750 MCM Cu Wire	25%		
Weighted Cost of Wire	\$1,410.85		
Number of Sets			
1 Set	15%		
2 Sets	30%		
3 Sets	30%		
4 Sets	25%		
Weighted Pulling Cost	\$0.00	\$348.72	
Weighted Wire Subtotal	\$3,738.75	\$419.76	
Total Cost of Secondary	<b>\$4,507.23</b>		

The first 12 sets of service conductors will be tapped, since they are included in a standard transformer installation (750 KVA or greater). Any sets greater than 12 will incur a differential cost per set: **\$79.20**

1 - Includes Sales Tax, 5.44 % Stores Loading of All Material, and 26.9% Engineering Overhead of all Material.

2 - Includes Payroll, Taxes, Insurance, P&W, & Transportation, and 26.9% Engineering Overhead of all Labor.

3 - 8 foot spacing between cabinet and transformer needs 20' of conductor per set.

4 - Usage statistics based on all new installations during 2003 & 2004.

**UNDERGROUND MATERIAL AND LABOR COST PER HANDHOLE****SINGLE PHASE PRIMARY 48" SPLICE BOX****WITH SPLICES AND PULL LABOR****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$460.39	\$578.11	\$1,038.50
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$0.00	\$0.00	\$0.00
Trenching	\$0.00	\$0.00	\$0.00
Sub-Total	\$460.39	\$578.11	\$1,038.50
Stores Handling(2)	\$25.05	\$0.00	\$25.05
SubTotal	\$485.44	\$578.11	\$1,063.55
Engineering(4)	\$130.58	\$155.51	\$286.09
TOTAL	\$616.02	\$733.62	\$1,349.64

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 3, IIID, single phase primary 48" splice box, for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER HANDHOLE****TWO PHASE PRIMARY 48" SPLICE BOX****WITH SPLICES AND PULL LABOR****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$530.76	\$905.43	\$1,436.19
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$0.00	\$0.00	\$0.00
Trenching	\$0.00	\$0.00	\$0.00
Sub-Total	\$530.76	\$905.43	\$1,436.19
Stores Handling(2)	\$28.87	\$0.00	\$28.87
SubTotal	\$559.63	\$905.43	\$1,465.06
Engineering(4)	\$150.54	\$243.56	\$394.10
TOTAL	\$710.17	\$1,148.99	\$1,859.16

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 3, IIID, two phase primary 48" splice box for design criteria and assumptions



**UNDERGROUND MATERIAL AND LABOR COST PER HANDHOLE****THREE PHASE PRIMARY 48" SPLICE BOX****WITH SPLICES AND PULL LABOR****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$746.72	\$843.99	\$1,590.71
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$0.00	\$0.00	\$0.00
Trenching	\$0.00	\$0.00	\$0.00
Sub-Total	\$746.72	\$843.99	\$1,590.71
Stores Handling(2)	\$40.62	\$0.00	\$40.62
SubTotal	\$787.34	\$843.99	\$1,631.33
Engineering(4)	\$211.79	\$227.03	\$438.82
TOTAL	\$999.13	\$1,071.02	\$2,070.15

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 3, IIID, three phase 48" primary splice box for design criteria and assumptions

**OVERHEAD VS. UNDERGROUND****SUMMARY SHEET****COST PER FOOT -****SINGLE PHASE PRIMARY LATERAL TRENCH****WITH CABLE-IN-CONDUIT****2016**

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$5,385.03	\$5,757.22	\$372.19
MATERIAL	\$2,646.37	\$2,980.46	\$334.09
<b>TOTAL</b>	<b>\$8,031.40</b>	<b>\$8,737.68</b>	<b>\$706.28</b>
<b>PER FOOT TOTAL</b>	<b>\$8.03</b>	<b>\$8.74</b>	<b>\$0.71</b>

**OVERHEAD MATERIAL AND LABOR COST PER FOOT****SINGLE PHASE PRIMARY LATERAL POLE LINE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$410.89	\$1,292.26	\$1,703.15
Secondary	\$410.89	\$1,292.26	\$1,703.15
Poles	\$1,156.03	\$1,659.00	\$2,815.03
Transformers	\$0.00	\$0.00	\$0.00
Sub-Total	\$1,977.81	\$4,243.52	\$6,221.33
Stores Handling(2)	\$107.59	\$0.00	\$107.59
SubTotal	\$2,085.40	\$4,243.52	\$6,328.92
Engineering(4)	\$560.97	\$1,141.51	\$1,702.48
TOTAL	\$2,646.37	\$5,385.03	\$8,031.40

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 2, IIE, single phase for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER FOOT****SINGLE PHASE PRIMARY LATERAL TRENCH****WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$2,227.49	\$1,057.11	\$3,284.60
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$0.00	\$0.00	\$0.00
Trenching	\$0.00	\$3,479.71	\$3,479.71
Sub-Total	\$2,227.49	\$4,536.82	\$6,764.31
Stores Handling(2)	\$121.18	\$0.00	\$121.18
SubTotal	\$2,348.67	\$4,536.82	\$6,885.49
Engineering(4)	\$631.79	\$1,220.40	\$1,852.19
TOTAL	\$2,980.46	\$5,757.22	\$8,737.68
PER FOOT TOTAL	\$2.98	\$5.76	\$8.74

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&amp;W, &amp; Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 3, IIIE, single phase for design criteria and assumptions

OVERHEAD VS. UNDERGROUNDSUMMARY SHEETCOST PER FOOT -TWO PHASE PRIMARY LATERAL TRENCHWITH CABLE-IN-CONDUIT2016

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$6,868.40	\$7,066.73	\$198.33
MATERIAL	\$3,437.25	\$5,960.92	\$2,523.67
<b>TOTAL</b>	<b>\$10,305.65</b>	<b>\$13,027.65</b>	<b>\$2,722.00</b>
<b>PER FOOT TOTAL</b>	<b>\$10.31</b>	<b>\$13.03</b>	<b>\$2.72</b>

**OVERHEAD MATERIAL AND LABOR COST PER FOOT****TWO PHASE PRIMARY LATERAL POLE LINE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$888.07	\$2,502.30	\$3,390.37
Secondary	\$444.06	\$1,251.15	\$1,695.21
Poles	\$1,236.75	\$1,659.00	\$2,895.75
Transformers	\$0.00	\$0.00	\$0.00
Sub-Total	\$2,568.88	\$5,412.45	\$7,981.33
Stores Handling(2)	\$139.75	\$0.00	\$139.75
SubTotal	\$2,708.63	\$5,412.45	\$8,121.08
Engineering(4)	\$728.62	\$1,455.95	\$2,184.57
TOTAL	\$3,437.25	\$6,868.40	\$10,305.65

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 2, IIE, two phase for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER FOOT****TWO PHASE PRIMARY LATERAL TRENCH****WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$4,454.99	\$2,089.03	\$6,544.02
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$0.00	\$0.00	\$0.00
Trenching	\$0.00	\$3,479.71	\$3,479.71
Sub-Total	\$4,454.99	\$5,568.74	\$10,023.73
Stores Handling(2)	\$242.35	\$0.00	\$242.35
SubTotal	\$4,697.34	\$5,568.74	\$10,266.08
Engineering(4)	\$1,263.58	\$1,497.99	\$2,761.57
TOTAL	\$5,960.92	\$7,066.73	\$13,027.65
PER FOOT TOTAL	\$5.96	\$7.07	\$13.03

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&amp;W, &amp; Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 3, IIIE, two phase for design criteria and assumptions



**OVERHEAD VS. UNDERGROUND****SUMMARY SHEET****COST PER FOOT -****THREE PHASE PRIMARY LATERAL TRENCH****WITH CABLE-IN-CONDUIT****2016**

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
LABOR	\$8,351.80	\$6,093.74	(\$2,258.06)
MATERIAL	\$4,425.56	\$9,165.38	\$4,739.82
<b>TOTAL</b>	<b>\$12,777.36</b>	<b>\$15,259.12</b>	<b>\$2,481.76</b>
<b>PER FOOT TOTAL</b>	<b>\$12.78</b>	<b>\$15.26</b>	<b>\$2.48</b>

**OVERHEAD MATERIAL AND LABOR COST PER FOOT****THREE PHASE PRIMARY LATERAL POLE LINE****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$1,375.37	\$3,691.80	\$5,067.17
Secondary	\$458.47	\$1,230.60	\$1,689.07
Poles	\$1,473.67	\$1,659.00	\$3,132.67
Transformers	\$0.00	\$0.00	\$0.00
Sub-Total	\$3,307.51	\$6,581.40	\$9,888.91
Stores Handling(2)	\$179.93	\$0.00	\$179.93
SubTotal	\$3,487.44	\$6,581.40	\$10,068.84
Engineering(4)	\$938.12	\$1,770.40	\$2,708.52
TOTAL	\$4,425.56	\$8,351.80	\$12,777.36

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 2, IIE, three phase for design criteria and assumptions

**UNDERGROUND MATERIAL AND LABOR COST PER FOOT****THREE PHASE PRIMARY LATERAL TRENCH****WITH CABLE-IN-CONDUIT****2016**

ITEM	MATERIAL(1)	LABOR(3)	TOTAL
Service	\$0.00	\$0.00	\$0.00
Primary	\$6,849.89	\$1,322.29	\$8,172.18
Secondary	\$0.00	\$0.00	\$0.00
Transformers	\$0.00	\$0.00	\$0.00
Trenching	\$0.00	\$3,479.71	\$3,479.71
Sub-Total	\$6,849.89	\$4,802.00	\$11,651.89
Stores Handling(2)	\$372.63	\$0.00	\$372.63
SubTotal	\$7,222.52	\$4,802.00	\$12,024.52
Engineering(4)	\$1,942.86	\$1,291.74	\$3,234.60
TOTAL	\$9,165.38	\$6,093.74	\$15,259.12
PER FOOT TOTAL	\$9.17	\$6.09	\$15.26

1 - Includes Sales Tax.

2 - 5.44 % of All Material.

3 - Includes Payroll, Taxes, Insurance, P&amp;W, &amp; Transportation.

4 - 26.9% of All Material and Labor.

Note: See Appendix 3, page 3, IIIF, three phase for design criteria and assumptions

**2016 UCD TARIFF****AVERAGE UCD UNDERGROUND FEEDER COST**

<u>Underground</u>	<u>Overhead</u>	<u>Difference</u>	
\$/Ft..... \$31.57	\$/Ft..... \$22.54	\$/Ft.....	\$9.02
Round To: \$/Ft.....			<b>\$9.02</b>

13 kV UG Switch Cabinet (9/3 cabinet w/ all hardware & cable) = .....	\$23,009.75
13 kV Salt Spray UG Switch Cabinet (9/3 cabinet w/ all hardware & cable) = ...	\$29,226.55
23 kV UG Switch Cabinet (9/3 cabinet w/ all hardware & cable) = .....	\$27,900.37
23 kV Salt Spray UG Switch Cabinet (9/3 cabinet w/ all hardware & cable) = ...	\$35,580.94
13 kV UG Switch Cabinet (6/6 cabinet w/ all hardware & cable) = .....	\$22,507.33
13 kV Salt Spray UG Switch Cabinet (6/6 cabinet w/ all hardware & cable) = ...	\$27,806.64
23 kV UG Switch Cabinet (6/6 cabinet w/ all hardware & cable) = .....	\$27,965.60
23 kV Salt Spray UG Switch Cabinet (6/6 cabinet w/ all hardware & cable) = ...	\$34,479.23

Based on data from Inventory Services on switch cabinet utilization (new construction only):

7	13 kV 9/3 cabinets	
0	13 kV SS 9/3 cabinets	
36	23 kV 9/3 cabinets	
1	23 kV SS 9/3 cabinets	
20	13 kV 6/6 cabinets	
2	13 kV SS 6/6 cabinets	
87	23 kV 6/6 cabinets	
3	23 kV SS 6/6 cabinets	
156		
Weighted Average:		\$27,200.43
\$ / Switch Cabinet		<b>\$27,200.43</b>

**NOTE:** All estimates based on three phase requirements.

See Exhibit LIX for details.

Note: See Appendix 3, page 4, for design criteria and assumptions.

## 2016 UCD TARIFF

## FEEDER COST

Feeder Length = .....	25,428
UG Feeder Cost* (excluding UG switches) = .....	\$880,558.12
26 UG Lateral Risers not required if UG Feeder is used	
Cost of each Lateral Riser = .....	\$2,996.42
26 Lateral Risers X \$2,996.42 = .....	(\$77,906.92)
Net UG Feeder Cost = .....	\$802,651.20
UG Feeder per foot cost = .....	\$31.57
OH Feeder Cost (excluding OH switches & hardware) = .....	\$573,188.78
OH Feeder per foot cost = .....	\$22.54
Feeder Differential Cost (per foot) = .....	\$9.02
13 kV UG Switch Cabinet (9/3 cabinet w/ all hardware & cable) = .....	\$28,972.98
13 kV Salt Spray UG Switch Cabinet (9/3 cabinet w/ all hardware & cable) = ...	\$35,836.10
23 kV UG Switch Cabinet (9/3 cabinet w/ all hardware & cable) = .....	\$33,699.41
23 kV Salt Spray UG Switch Cabinet (9/3 cabinet w/ all hardware & cable) = ...	\$42,266.76
13 kV UG Switch Cabinet (6/6 cabinet w/ all hardware & cable) = .....	\$28,470.56
13 kV Salt Spray UG Switch Cabinet (6/6 cabinet w/ all hardware & cable) = ...	\$34,416.19
23 kV UG Switch Cabinet (6/6 cabinet w/ all hardware & cable) = .....	\$33,764.64
23 kV Salt Spray UG Switch Cabinet (6/6 cabinet w/ all hardware & cable) = ...	\$41,165.05
13 kV OH Switch (including switch, pole, and all Hardware) = .....	\$5,963.23
13 kV OH Salt Spray Switch (including switch, pole, and all Hardware) = ...	\$6,609.55
23 kV OH Switch (including switch, pole, and all Hardware) = .....	\$5,799.04
23 kV OH Salt Spray Switch (including switch, pole, and all Hardware) = ...	\$6,685.82
13 kV UG Switch Cabinet - 9/3 Cabinet Differential = .....	\$23,009.75
13 kV Salt Spray UG Switch Cabinet - 9/3 Cabinet Differential = .....	\$29,226.55
23 kV UG Switch Cabinet - 9/3 Cabinet Differential = .....	\$27,900.37
23 kV Salt Spray UG Switch Cabinet - 9/3 Cabinet Differential = .....	\$35,580.94
13 kV UG Switch Cabinet - 6/6 Cabinet Differential = .....	\$22,507.33
13 kV Salt Spray UG Switch Cabinet - 6/6 Cabinet Differential = .....	\$27,806.64
23 kV UG Switch Cabinet - 6/6 Cabinet Differential = .....	\$27,965.60
23 kV Salt Spray UG Switch Cabinet - 6/6 Cabinet Differential = .....	\$34,479.23
Switch Cabinet Differential (Weighted Average) = .....	\$27,200.43

\* These costs include cable-in-conduit and cable pull boxes.

Note: See Appendix 3, page 4, for design criteria and assumptions



**2016 UCD TARIFF**  
**SMALL COMMERCIAL SERVICES (1)**

**WOOD POLE, ACCESSIBLE**

	120 VOLT, 2-WIRE SERVICE			120/240 VOLT, 3-WIRE SERVICE		
	OVERHEAD	UNDERGROUND	DIFFERENTIAL	OVERHEAD	UNDERGROUND	DIFFERENTIAL
MATERIAL (2)	\$22.14	\$81.63	\$59.49	\$81.95	\$163.22	\$81.27
LABOR(4)	\$128.10	\$439.08	\$310.98	\$196.56	\$453.50	\$256.94
STORES HANDLING (3)	\$1.20	\$4.44	\$3.24	\$4.46	\$8.88	\$4.42
ENGINEERING (5)	\$40.74	\$141.26	\$100.52	\$76.11	\$168.28	\$92.17
TOTAL	\$192.18	\$666.41	\$474.23	\$359.08	\$793.88	\$434.80

**WOOD POLE, INACCESSIBLE**

	120 VOLT, 2-WIRE SERVICE			120/240 VOLT, 3-WIRE SERVICE		
	OVERHEAD	UNDERGROUND	DIFFERENTIAL	OVERHEAD	UNDERGROUND	DIFFERENTIAL
MATERIAL (2)	\$22.14	\$81.63	\$59.49	\$81.95	\$163.22	\$81.27
LABOR(4)	\$151.16	\$518.13	\$366.97	\$231.93	\$535.14	\$303.21
STORES HANDLING (3)	\$1.20	\$4.44	\$3.24	\$4.46	\$8.88	\$4.42
ENGINEERING (5)	\$46.94	\$162.53	\$115.59	\$85.63	\$190.24	\$104.61
TOTAL	\$221.44	\$766.73	\$545.29	\$403.97	\$897.48	\$493.51

**CONCRETE POLE, ACCESSIBLE**

	120 VOLT, 2-WIRE SERVICE			120/240 VOLT, 3-WIRE SERVICE		
	OVERHEAD	UNDERGROUND	DIFFERENTIAL	OVERHEAD	UNDERGROUND	DIFFERENTIAL
MATERIAL (2)	\$22.14	\$82.08	\$59.94	\$81.95	\$163.67	\$81.72
LABOR(4)	\$128.10	\$479.89	\$351.79	\$196.56	\$494.31	\$297.75
STORES HANDLING (3)	\$1.20	\$4.47	\$3.27	\$4.46	\$8.90	\$4.44
ENGINEERING (5)	\$40.74	\$152.37	\$111.63	\$76.11	\$179.39	\$103.28
TOTAL	\$192.18	\$718.81	\$526.63	\$359.08	\$846.27	\$487.19

1 - Conditions for FPL providing the UG service wire to a non-residential customer's meter can include:

- A) Customer's Main Line Switch is to be less than or equal to 125 amps (120/240 Volt 3-wire service) or 60 amps (120 Volt 2-wire service) AND
- B) The meter can is at least 5 feet, but not more than 100 feet, from the pole.

2 - Includes Sales Tax.

3 - 5.44 % of All Material.

4 - Includes Payroll, Taxes, Insurance, P&W, & Transportation.

5 - 26.9% of All Material and Labor.

\* These costs include cable-in-conduit and cable pull boxes.

Note: See Appendix 3, page 4, for design criteria and assumptions

**2016 UCD TARIFF****CREDITS**

Lateral Trench Credit = .....	\$119.99	/MH X	0.029	MH =.....	\$3.48 /Ft.
Secondary/Service Trench Credit = .....	\$119.99	/MH X	0.023	MH =.....	\$2.76 /Ft.
2" Conduit Installation Credit = .....	\$119.99	/MH X	0.005	MH =.....	\$0.60 /Ft.
Larger than 2" Conduit Installation Credit = .	\$119.99	/MH X	0.007	MH =.....	\$0.84 /Ft.
Large (48") Handhole/ Primary Splice Box Installation Credit = .....	\$119.99	/MH X	1.94	MH =.....	\$232.78 /HH
Small (30" or smaller) Handhole Installation Credit = .....	\$119.99	/MH X	0.51	MH =.....	\$61.19 /HH
Concrete Pad for Pad Mounted Transformer Credit =.....	\$119.99	/MH X	0.5	MH =.....	\$60.00 /Pad
Feeder Splice Box Installation Credit = .....	\$119.99	/MH X	5.54	MH =.....	\$664.74 /Box
Padmount Switch Chamber Installation Credit = .....	\$119.99	/MH X	4.71	MH =.....	\$565.15 /Chamber