CITY/COUNTY RIGHT-OF-WAY AGREEMENT FOR UNDERGROUND CONVERSIONS (WR # 4787756)

THIS AGREEMENT (the "Agreement") is made and entered into this 27 day of August, 20 9 by and between MARTIN COUNTY, a political subdivision of the State of Florida, ("Local Government"), a Florida municipal corporation or county with an address of 2401 S.E. Monterey Road, Stuart, FL 34996 and Florida Power & Light Company ("FPL"), a Florida corporation with an address of P.O. Box 14000, 700 Universe Boulevard, Juno Beach, FL 33408-0429.

WHEREAS, Local Government has requested that FPL convert certain overhead electric distribution facilities located within the following boundaries (the "Conversion"):

___ Along S.E. Bridge Rd. from S.E. Hercules Ave. to S.E. Dixie Hwy. & S.E. Lars Ave. from S.E. Anstis Pl. to S.E. Mars St. WR # 4787757 (collectively, the "Existing Overhead Facilities") to underground facilities, including transformers, switch cabinets and other appurtenant facilities some of which may be installed above ground (collectively, the "Underground Facilities", WR # 4787756) and has further requested that certain of the Underground Facilities be placed in certain of its road rights-of-way ("Local Government ROW") and/or certain road rights-of-way owned by or under the jurisdiction of other agencies ("Other ROW"). Local Government ROW and Other ROW may be referred to collectively as "ROW"; and

WHEREAS, the Local Government has agreed to pay FPL the cost of such Conversion as required by FPL's electric tariff and Section 25-6.115 of the Florida Administrative Code and has or will enter into a separate Underground Facilities Conversion Agreement with FPL; and

WHEREAS, FPL is willing, subject to the terms and conditions set forth in this Agreement, FPL's electric tariff and Section 25-6.115 of the Florida Administrative Code, to place certain of the Underground Facilities in the ROW.

NOW THEREFORE, in recognition of the foregoing premises and the covenants and agreements set forth herein, and other consideration the sufficiency of which is hereby acknowledged, intending to be legally bound hereby, the parties covenant and agree as follows:

1. The foregoing recitals are true and correct, and are hereby incorporated by reference into this Agreement.

2. Conditions Precedent to Placement of Underground Facilities in ROW

- (a) Local Government covenants, represents and warrants that:
 - (i) Local Government has full legal right and authority to enter into this Agreement;
 - (ii) Local Government has full legal right and authority to take all actions and measures necessary to fulfill Local Government's obligations under this Agreement;
 - (iii) Local Government hereby authorizes the use of the ROW by FPL for the purposes stated herein.
- (b) All applicable permits for FPL to install, construct, or maintain Underground Facilities in ROW must be issued on a timely basis by the appropriate agency, subject to the timely filing for permits by FPL.
- (c) Local Government agrees to provide, at its expense, a legal description that is acceptable to FPL of the ROW to be occupied by the Underground Facilities at a time before FPL initiates the design of the Underground Facilities. Said legal description shall be made part of this Agreement and attached as Exhibit "A".
- (d) FPL agrees to identify and document all existing FPL underground facilities within the ROW that will not be included under this Agreement. Local Government shall reimburse FPL's reasonable costs and expenses to deliver said documentation. Said documentation shall be made part of this Agreement and attached as Exhibit "B".
- (e) FPL warrants that the design of the Underground Facilities to which Local Government has agreed are in compliance with all operational and safety guidelines, codes and standards. FPL and Local Government have mutually agreed upon the location of the facilities within the ROW as per the construction drawings. Said construction drawings shall be attached as Exhibit "C" to this agreement, are part of this agreement, and may be amended to reflect changes to location of facilities as required.
- 3. Relocation and Rearrangement of FPL Facilities. If the Local Government or other agency with control over the Local Government ROW or Other ROW, for any reason whatsoever, requires that FPL relocate or rearrange, in whole or in part, any Underground Facilities (as they are to exist as a result of this Conversion, or as they may later be modified, upgraded, or otherwise altered) from or within the Local Government ROW or Other ROW, the Local Government, notwithstanding any language to the contrary in any applicable permit or franchise agreement, and prior to any such relocation by FPL, shall provide FPL with a substitute location, satisfactory to FPL, obtain any easements that may be necessary, and shall pay FPL for the costs of any such relocation, adjustment or rearrangement, now or in the future. Local Government shall reimburse FPL for all costs to locate, expose, protect or support the Underground Facilities, whether underground or above ground, in the event of future construction or excavation in close proximity to the Underground Facilities, when such services are required by Local Government or other agency with control over the Local Government

ROW or Other ROW Local Government shall use its best efforts in any design and construction of its future road improvement projects to avoid or mitigate the necessity of relocating or adjusting the Underground Facilities in Local Government ROW and, to the extent reasonably practicable, in Other ROW.

Local Government shall only be responsible for relocation costs associated with replacement facilities conforming to FPL standards in effect at the time of relocation. Any costs associated with the replacement facilities to provide increased capacity, improved reliability, future use facilities, or other such enhancements over and above the FPL standards in effect at the time of the relocation shall not be the responsibility of Local Government.

Nothing herein shall preclude Local Government from obtaining reimbursement for any and all costs requiring FPL to relocate or rearrange any of its Underground Facilities from that entity which initiated the requirement for the relocation or rearrangement of the facilities, excluding only other agencies which own or have jurisdiction over the ROW.

FPL shall be responsible for any and all costs of removal or relocation when such removal or relocation is initiated by FPL. Additionally, FPL agrees that when any portion of a street is excavated by FPL in the location, relocation or repair of any of its facilities when said location, relocation or repair is initiated by FPL, the portion of the street so excavated shall, within a reasonable time and as early as practical after such excavation, be replaced by FPL at its expense in a condition as good as it was at the time of such excavation.

Any future growth requiring new underground facilities will be addressed consistent with FPL's approved tariffs for new underground installations in place at that time. Facilities installed in the conversion area will always be underground - including any new facilities installed subsequent to the conversion. This is consistent with the intent of FPL's GAF tariff, which is to help support the conversion in large contiguous areas of all distribution facilities to underground service so that there will not be a need for restoration of overhead facilities in those areas following storms. Once a conversion area is identified by an agreement, FPL considers this designated area as underground from that point forward.

4. Abandonment or Sale of Local Government ROW. If the Local Government desires to subsequently abandon or discontinue use of the Local Government ROW, and ownership of the land is transferred to a private party, the Local Government, as a condition of and prior to any such sale, abandonment, or vacation, shall grant FPL an easement satisfactory to FPL for the Underground Facilities then existing within the ROW or require the transferee to so grant FPL an easement satisfactory to FPL at the time of transfer. If ownership of the Local Government ROW is transferred to another public entity, that public entity shall take the ROW subject to the terms and conditions of this Agreement.

- 5. **Term.** This Agreement shall remain in effect for as long as FPL or any successor or assign owns or operates the Underground Facilities placed in the ROW.
- 6. **Title and Ownership of Underground Facilities**. Title and ownership of Underground Facilities installed by FPL as a result of this Agreement shall, at all times, remain the property of FPL.
- Facilities are not, for any reason other than the sole error of FPL or its contractors, constructed within the ROW, Local Government shall grant or secure, at Local Government's sole cost and expense, new easements or ROW grants for the benefit of FPL for the placement of the Underground Facilities in these areas, and shall secure subordinations of any mortgages affecting these tracts to the interest of FPL. In the alternative, at the discretion of Local Government, Local Government shall reimburse FPL for all costs incurred to remove said facilities which were constructed outside the ROW and for reinstallation within the ROW. FPL shall be responsible at completion of construction for notifying Local Government in writing of FPL's approval and acceptance of the conversion as being constructed within the ROW. Upon acceptance there shall be no further responsibility on the Local Government for relocations referenced in this paragraph.
- 8. Agreement Subject to FPL's Electric Tariff. This Agreement is subject to FPL's electric tariff, including but not limited to the general rules and regulations for electric service and the rules of the Florida Public Service Commission.
- 9. Venue; Waiver of Jury Trial. This Agreement shall be enforceable in Martin County, Florida, and if legal action is necessary by either party with respect to the enforcement of any or all of the terms or conditions herein, exclusive venue for the enforcement of same shall lie in Martin County, Florida. By entering into this Agreement, FPL and the Local Government expressly waive any rights either party may have to a trial by jury of any civil litigation related to or arising out of this Agreement. This Agreement shall be construed in accordance with the laws of the State of Florida.
- 10. Attorney Fees. In the event it becomes necessary for either party to institute or defend legal proceedings as a result of the failure of the other party to comply with the terms, covenants, or provisions of this Agreement, each party in such litigation shall bear its own cost and expenses incurred and extended in connection therewith, including, but not limited to attorneys' fees and court costs through all trial and appellate levels.
- 11. **Assignment.** The Local Government shall not assign this Agreement without the written consent of FPL

- 12. **Recording.** This Agreement shall be adopted by the Local Government and maintained in the official records of Local Government for the duration of the term of this Agreement. This Agreement also shall be recorded in the Official Records of the County in which the Underground Facilities are located, in the place and in the manner in which deeds are typically recorded.
- 13. Conflict between Terms of Permit or Franchise Agreement. In the event of a conflict between the terms of this Agreement and any permit or franchise agreement entered into by Local Government and FPL, the terms of this Agreement shall control.
- 14. **Notice.** Any notice, instruction or other communication to be given to either party hereunder shall be in writing and shall be hand delivered, telecopied, sent by Federal Express or a comparable overnight service or by U. S. registered or certified mail, with return receipt requested and postage prepaid to each party at their respective addresses set forth below:

As to Local Government:

Terry Rauth, Martin County Public Works Director 2401 SE Monterey RD

Stuart, FL 34996

With copies to:

As to FPL:

FPL

700 Universe Blvd.
Juno Beach, FL 33408
Attn.: Law Department

IN WITNESS WHEREOF, Florida Power & Light Company and Local Government have executed this Agreement on the date first set forth above.

BOARD OF COUNTY COMMISSIONERS
MARTIN COUNTY, FLORIDA

EDWARD V. CIAMPI, CHAIRMAN

APPROVED AS TO FORM & LEGAL SUFFICIENCY:

APPROVED AS TO FORM & LEGAL SUFFICIENCY:

SARAH W. WOODS, COUNTY ATTORNEY

For FLORIDA POWER & LIGHT COMPANY:

(signatur

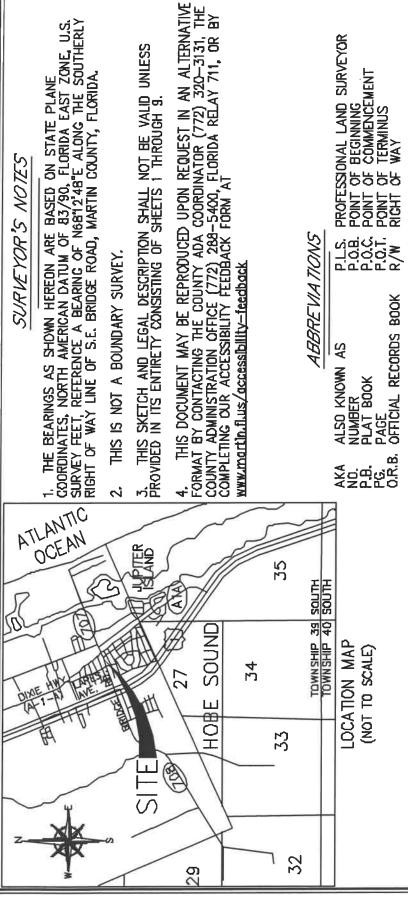
(signature)

Name: Thomas Allain (print or type)

Title: GM Central Maintenance (print or type)

Exhibit A

WR # 4787756



PROFESSIONAL LAND SURVEYOR POINT OF BEGINNING POINT OF COMMENCEMENT

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY THAT THE "SKETCH TO ACCOMPANY LEGAL-BESCRIPTION" AS SHOWN HEREON WAS PREPARED UNDER MY DIRECTION AND CHARGE ON JULY 31, 2019, AND THAT SAID "SKETCH TO ACCOMPANY LEGAL DESCRIPTION" IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. IT IS FURTHER CERTIFIED THAT THE STANDARDS OF PRACTICE FOR "SKETCH TO ACCOMPANY LEGAL DESCRIPTION" COMPLIES WITH THE STANDARDS OF PRACTICE FOR "SKETCH TO ACCOMPANY LEGAL DESCRIPTION" SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17, FEORIDA ADMINISTRATIVE CODE PURSUANT TO SECTION 472,027, FLORIDA STATUTES.

BETSY LINDSAY INC. SURVEYORS AND MAPPERS

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EJZABETH A. UNDSAÝ, P.L.S. FLORIDA REGISTRATION NO. 4724

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BRIDGE ROAD IMPROVEMENT PROJECT Martin County, Florida NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF FLORIDA LICENSED SURVEYOR AND

MPROVEMENT PROJECT

BRIDGE ROAD

BCALL MOT TO SCALE COMPAND BY 644 DRAWING BY 28 CIASTI DZ/31/2019 FIELD SIX SKETCH AND LEGAL DESCRIPTION FLORDA POWER & LIGHT EACHMENT

BETSY LINDSAY, INC.

LEGAL DESCRIPTION

PLORIDA POWER AND LIGHT EASEMENT

A 10.00 FOOT WDE STRIP OF LAND LYING WITHIN THE RIGHT OF WAY OF S.E. BRIDGE ROAD AND S.E. LARES AVENUE, BOTH BEING PUBLIC ROADS, LYING AND BEING IN MARTIN COUNTY, FLORIDA. THE CENTERLINE OF SAID STRIP OF LAND BEING MORE PARTICULARLY DESCRIBED

3Y METES AND BOUNDS AS FOLLOWS;

SAID SOUTHERLY RIGHT OF WAY LINE, 95.46 FEET; THENCE SOUTH 21'47'12" EAST, 14.40 FEET TO AN INTERSECTION WITH THE SOUTHERLY RIGHT OF WAY OF SAID S.E BRIDGE ROAD PER OFFICIAL RECORDS BOOK 1188, PAGE 1299 OF THE PUBLIC RECORDS OF MARTIN COUNTY, FLORIDA, AND THE POINT OF BEGINNING; THENCE NORTH 56'43'37" EAST, 97.41 FEET TO AN INTERSECTION WITH A LINE BEING 5.00 FEET NORTHERLY OF AND PARALLE. WITH THE SOUTHERLY RIGHT OF WAY LINE OF SAID S.E BRIDGE ROAD PER OFFICIAL RECORDS BOOK 1372, PAGE 1334 OF THE PUBLIC RECORDS OF COMMENGING AT THE NORTHWEST CORNER OF BLOCK 25 OF THE PLAT OF OLYMPIA PLAT NO. 1, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 9, PAGE 68 OF THE PUBLIC RECORDS OF MARTIN COUNTY, FLORIDA, SAID POINT LYING AND BEING ON THE SOUTHERLY RICHT OF WAY LINE OF SAID S.E BRIDGE ROAD; THENCE SOUTH 6812'48" WEST ALONG THE SOUTHWESTERLY EXTENSION OF

STREET, AND 12.67° EASTERLY OF THE NORTHEASTERLY RIGHT OF WAY LINE OF S.E. LARES STREET PER OFFICIAL RECORDS BOOK 3069, PAGE 1D31 OF THE PUBLIC RECORDS OF MARTIN COUNTY, FLORIDA; THENCE SOUTH 21.40°14" EAST ALCING SAID PARALLEL LINE, 10.67 FEET TO AN INTERSECTION WITH A LINE BEING 5.DO FEET NORTHERLY OF AND PARALLEL WITH THE SOUTHERLY RIGHT OF WAY LINE OF SAID S.E BRIDGE ROAD PER OFFICIAL RECORDS BOOK 3069, PAGE 1192 OF THE PUBLIC RECORDS OF MARTIN COUNTY, FLORIDA; THENCE NORTH EASTERLY EXTENSION, 6B6.51 FEET TO POINT 'A' AND AN INTERSECTION WITH A LINE BEING 13,50' EASTERLY OF AND PARALLEL WITH THE WESTERLY LINE OF BLOCK 24 PER SAID PLAT OF OLYMPIA PLAT NO. 1 AND THE SOUTHEASTERLY RIGHT OF WAY LINE OF S.E. LARES 6812'48" EAST ALONG SAID PARALLEL LINE AND ITS EASTERLY EXTENSION, 426.63 FEET TO AN INTERSECTION WITH A LINE BEING 5.00 FEET EASTERLY OF AND PARALLEL WITH THE WESTERLY RICHT OF WAY LINE OF S.E. SIME HICHWAY PER SAID PLAT OF CLYMPIA PLAT NO MARTIN COUNTY, FLORIDA AND SAID PLAT OF OLYMPIA PLAT NO. 1; THENCE NORTH 6812'48" EAST ALONG SAID PARALLEL LINE AND IT'S 6814'32" EAST ALONG SAID PARAILEL LINE AND IT'S EASTERLY EXTENSION, 315,73 FEET, THENCE NORTH 21'40'14" WEST, 10.67 FEET TO AN INTERSECTION WITH A LINE BEING 20.00 FEET NORTHERLY OF AND PARAILEL WITH THE SOUTHERLY RIGHT OF WAY LINE OF SAID S.E BRIDGE ROAD PER OFFICIAL RECORDS BOCK 980, PAGE 578 OF THE PUBLIC RECORDS OF MARTIN COUNTY, FLORIDA; THENCE NORTH I; THENCE SOUTH 39'00'31" EAST ALONG SAID PARALLEL LINE, 41.85 FEET TO THE POINT OF TERMINUS NO. 1.

TOGETHER WITH

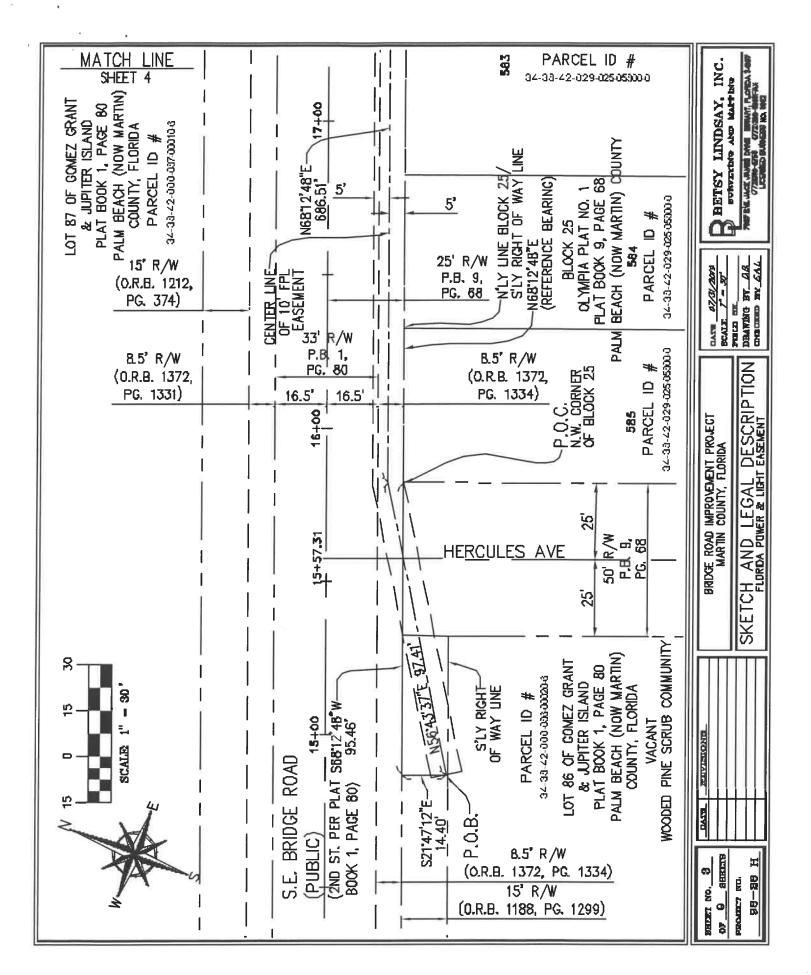
A 20.0D FOOT WDE STRIP OF LAND LYING WITHIN THE RIGHT OF WAY OF S.E. BRIDGE ROAD AND S.E. LARES AVENUE, BOTH BEING PUBLIC ROADS, LYING AND BEING IN MARTIN COUNTY, FLORIDA. THE CENTERLINE OF SAID STRIP OF LAND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

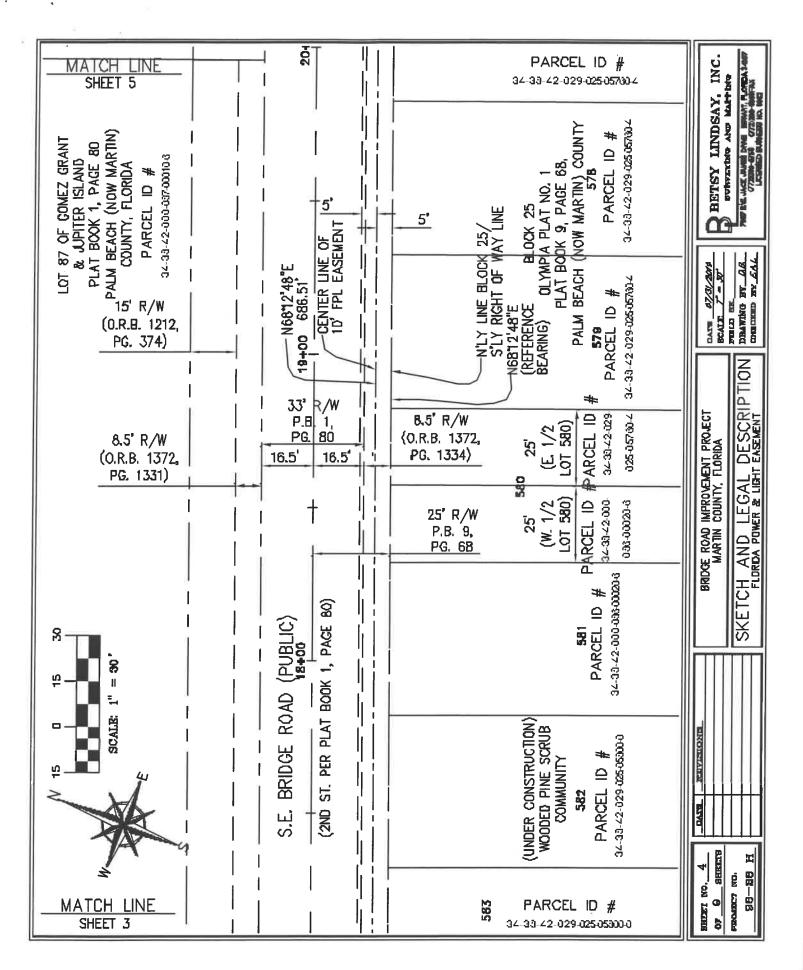
BEGINNING AT THE AFOREMENTIONED POINT "A", THENCE NORTH 21'40'14" WEST ALONG A LINE BEING 12.67" EASTERLY OF AND PARALLEL WITH NORTHEASTERLY BIGHT OF WAY LINE OF S.E. LARES STREET PER GFFICIAL RECORDS BOOK 3069, PAGE 1031 OF THE PUBLIC RECORDS OF MARTIN COUNTY, FLORIDA, 291.50 FEET TO AN INTERSECTION WITH A LINE BEING 5.00 FEET NORTHERLY OF AND PARALLEL WITH THE SOUTHERLY RIGHT OF WAY LINE OF S.E. ANSTIS PLACE PER OFFICIAL RECORDS BOCK 98, PAGE 159 OF THE PUBLIC RECORDS OF MARTIN COUNTY, FLORIDA AND THE BEGINNING OF THE CENTERLINE OF A 10.00 FOOT WIDE STRIP OF LAND LYNG WITHIN THE AFOREMENTIONED S.E. LARES AVENUE AND ALSO WITHIN THE RIGHT OF WAY OF S.E. ANSTIS PLACE PER OFFICIAL RECORDS BOOK 98, PAGE OF THE PUBLIC RECORDS OF MARTIN COUNTY, FLORIDA; THENCE NORTH 6812'48" EAST ALONG SAID PARALLEL LINE, 134.99 FEET TO POINT OF TERMINUS NO. 2.

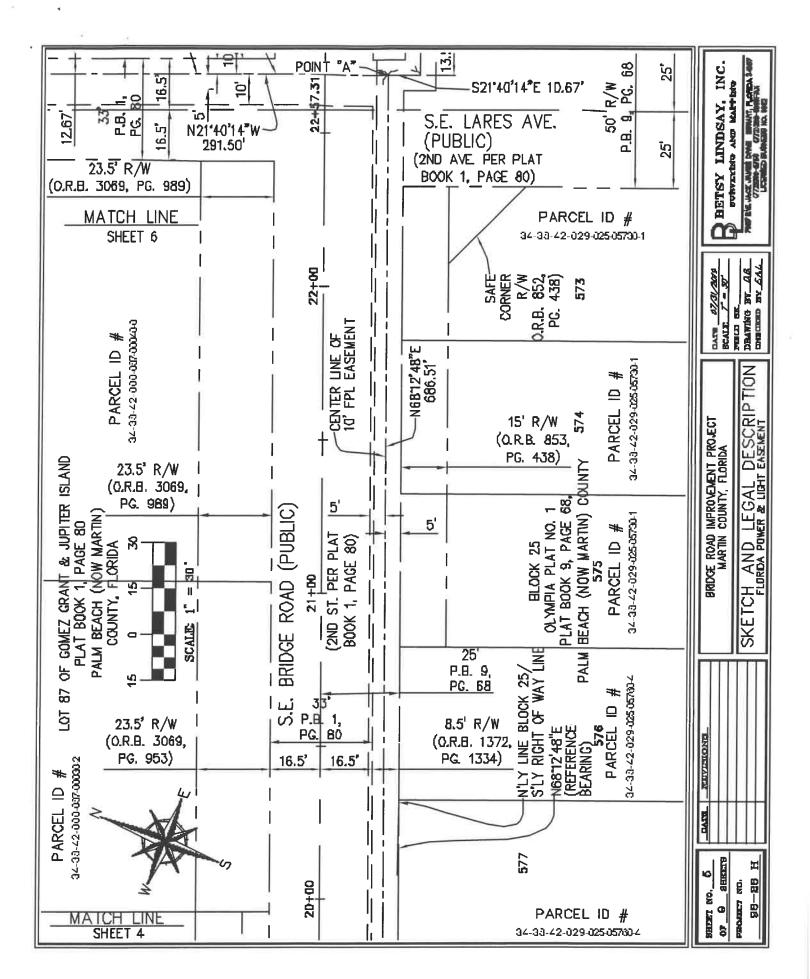
BEING SUBJECT TO ANY/ALL EASEMENTS, RESERVATIONS, DEDICATIONS OR RESTRICTIONS. CONTAINING 22,96D.6 SQUARE FEET OR 0.53 ACRES, MORE OR LESS.

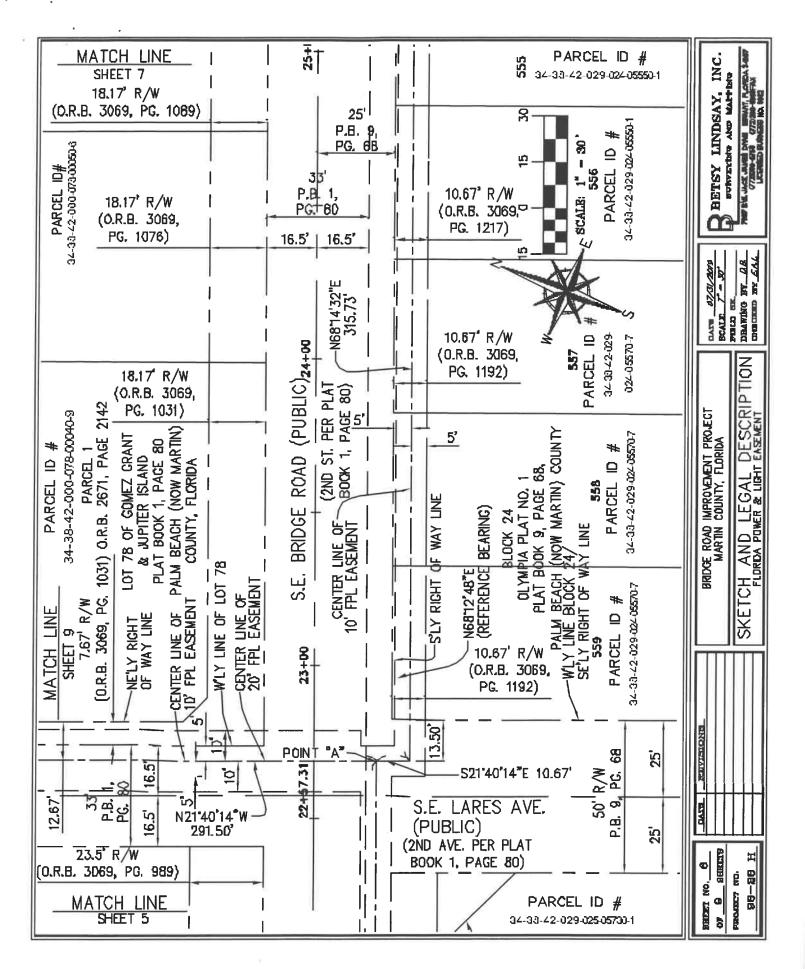
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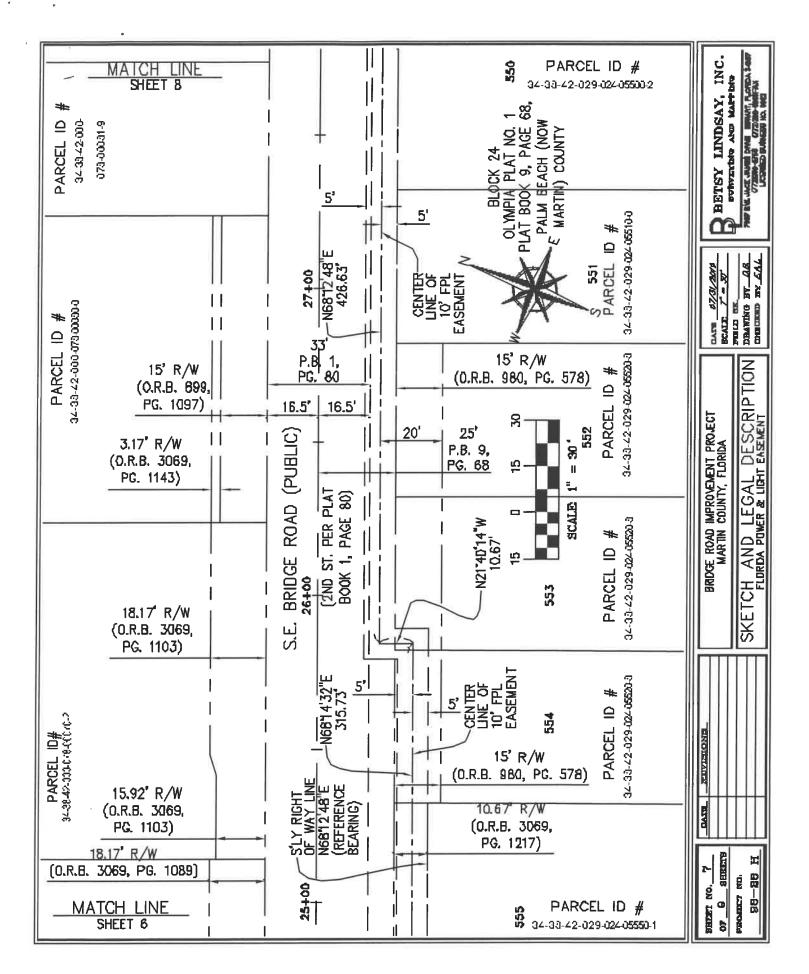
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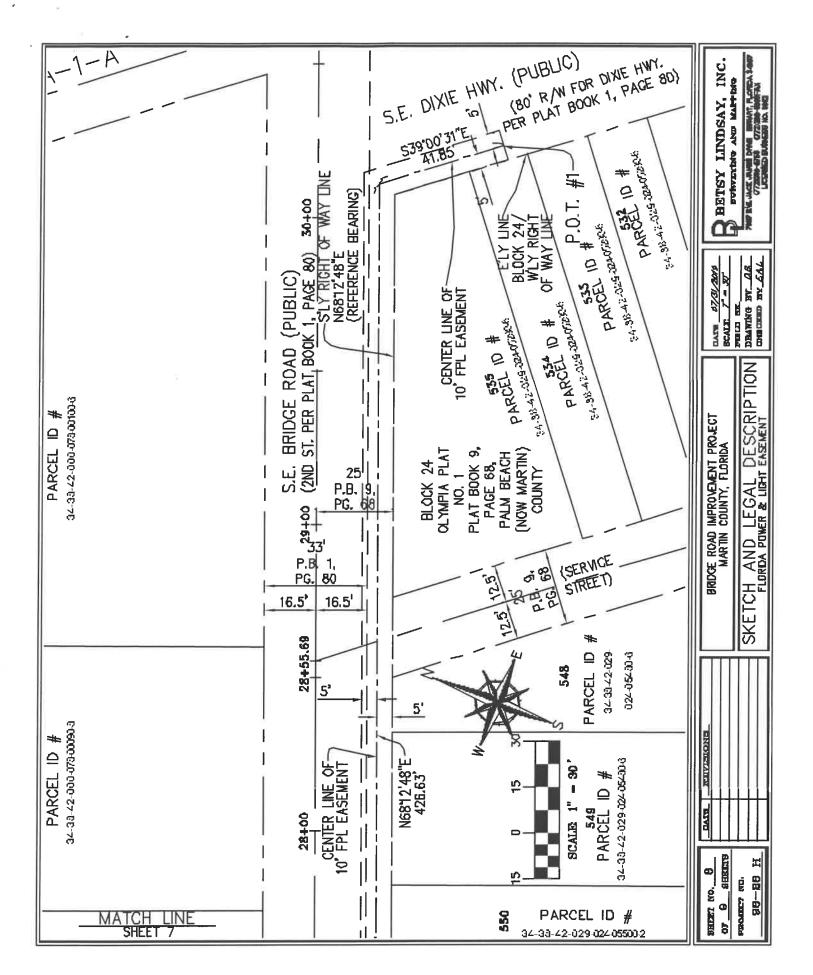












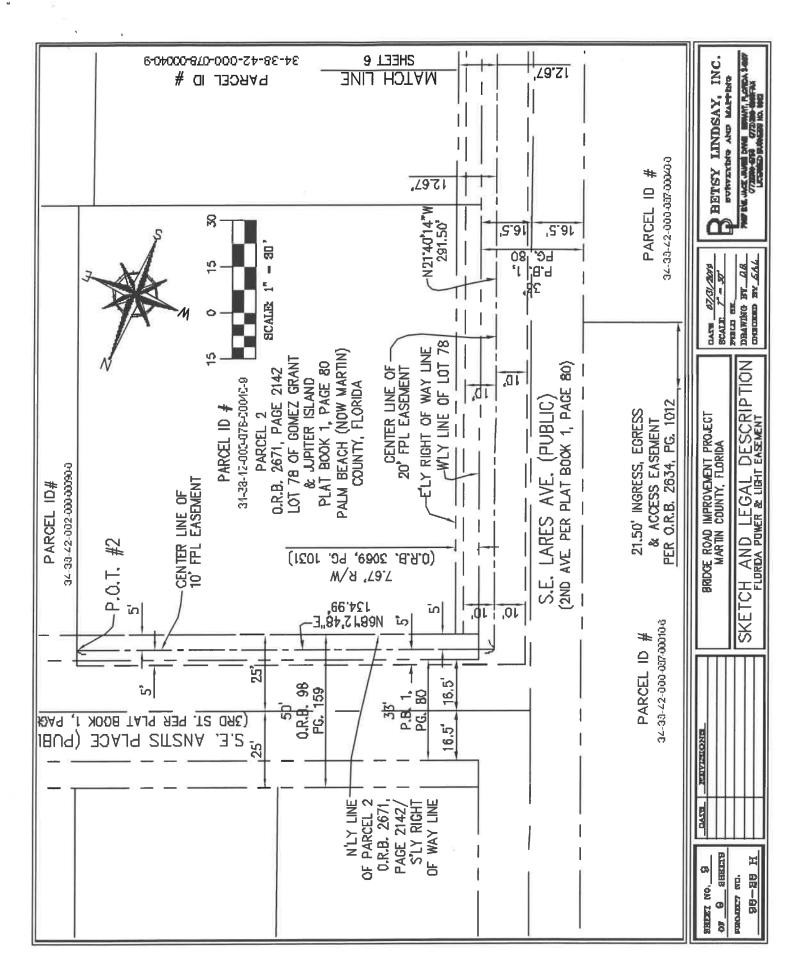


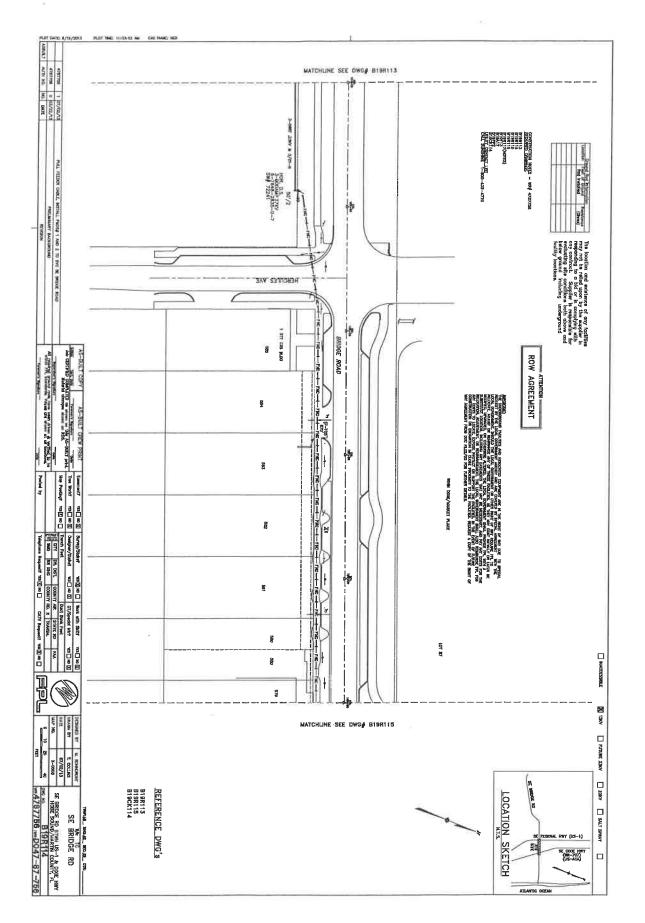
Exhibit B

WR # 4787756

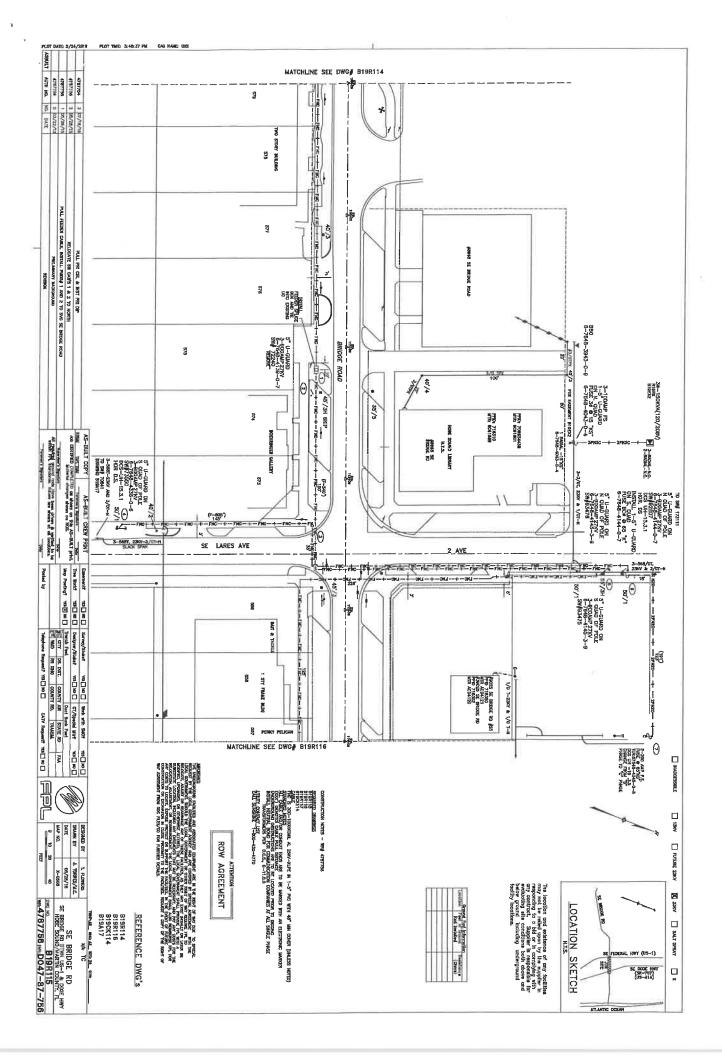
Currently, there is no existing underground equipment within the road right-of-way.

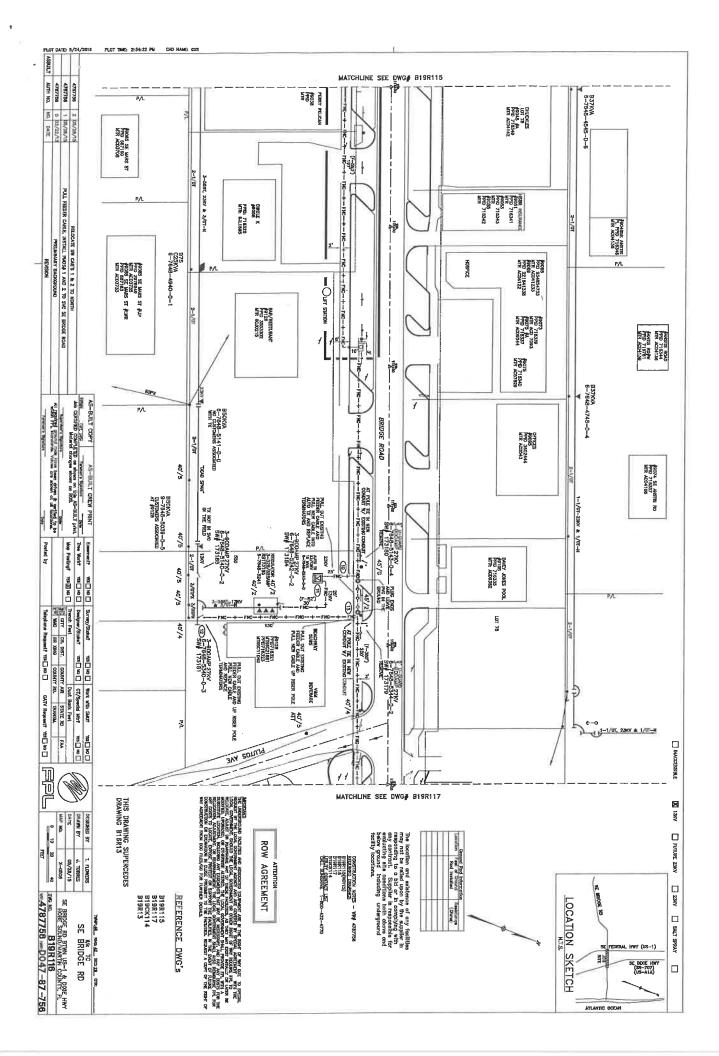
Exhibit C

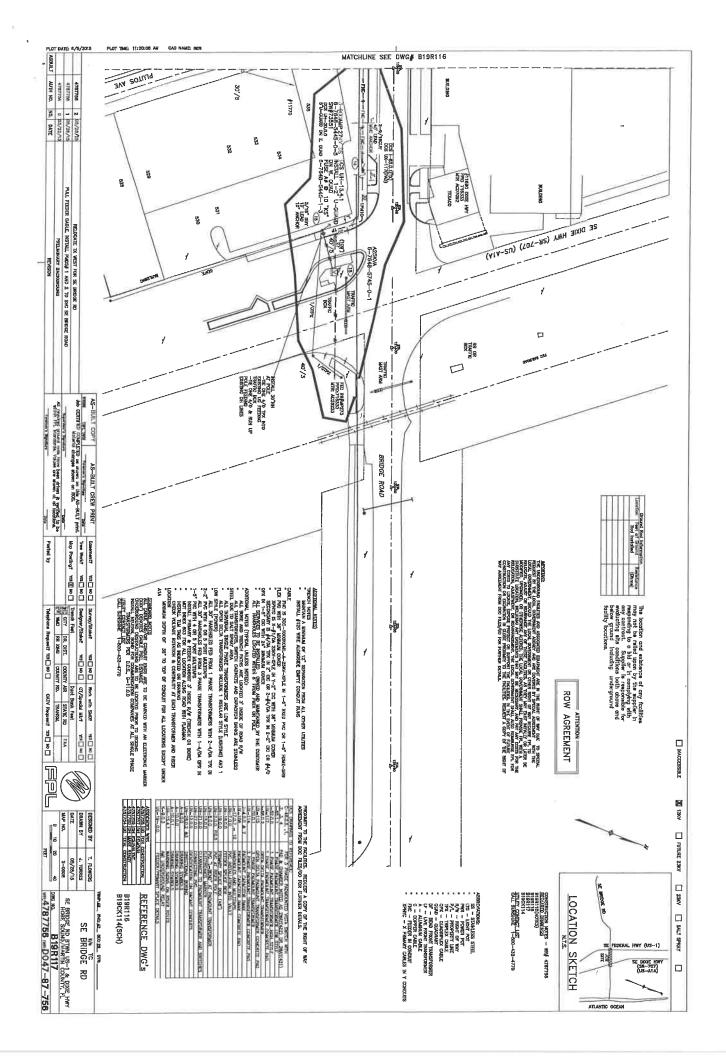
WR # 4787756

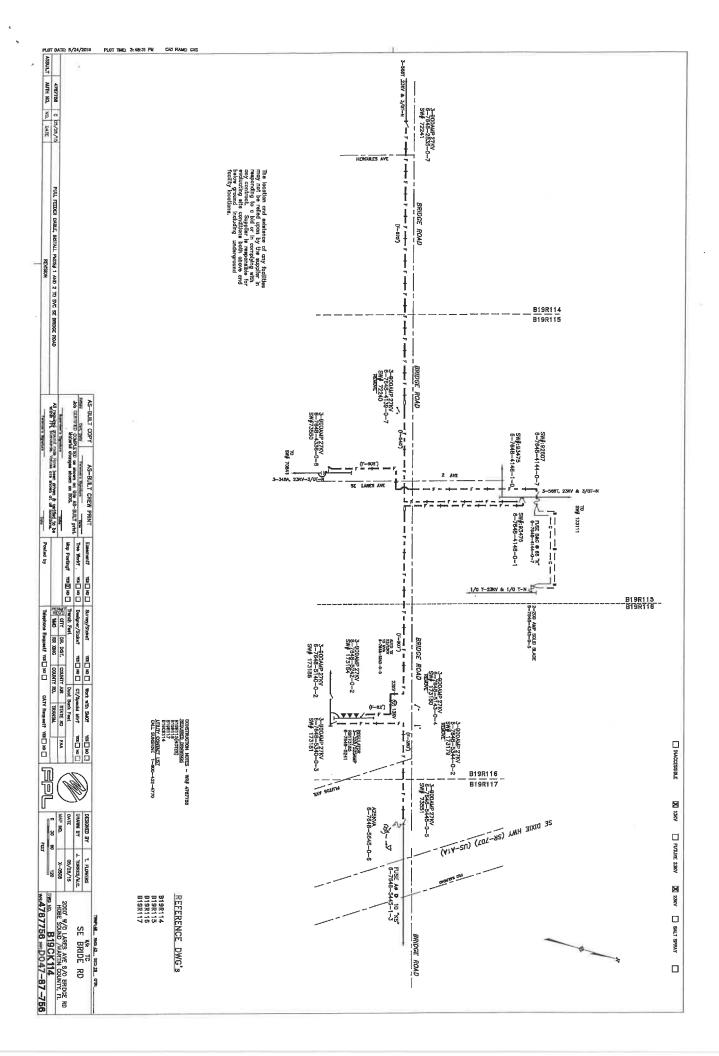


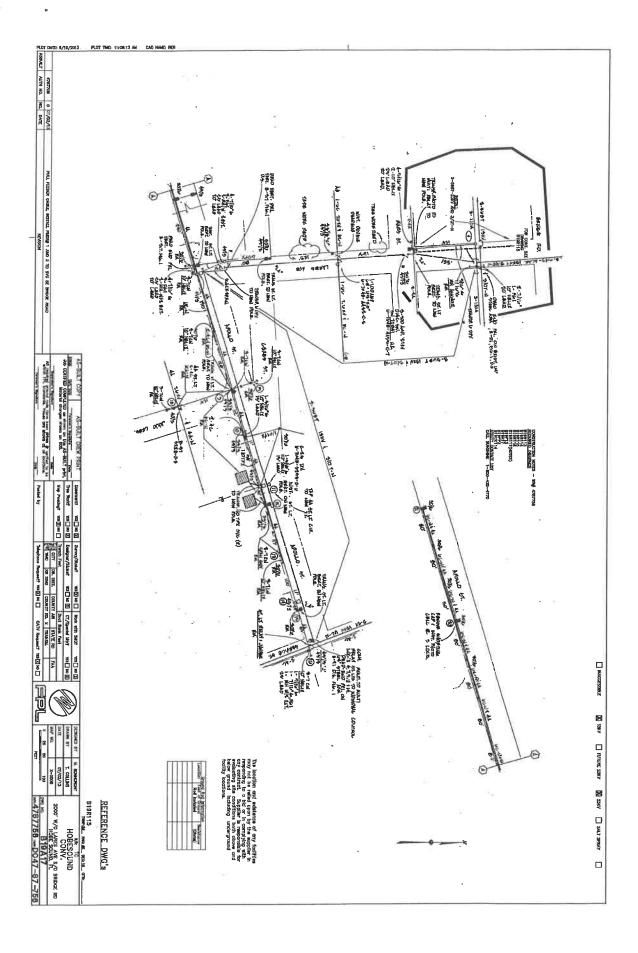
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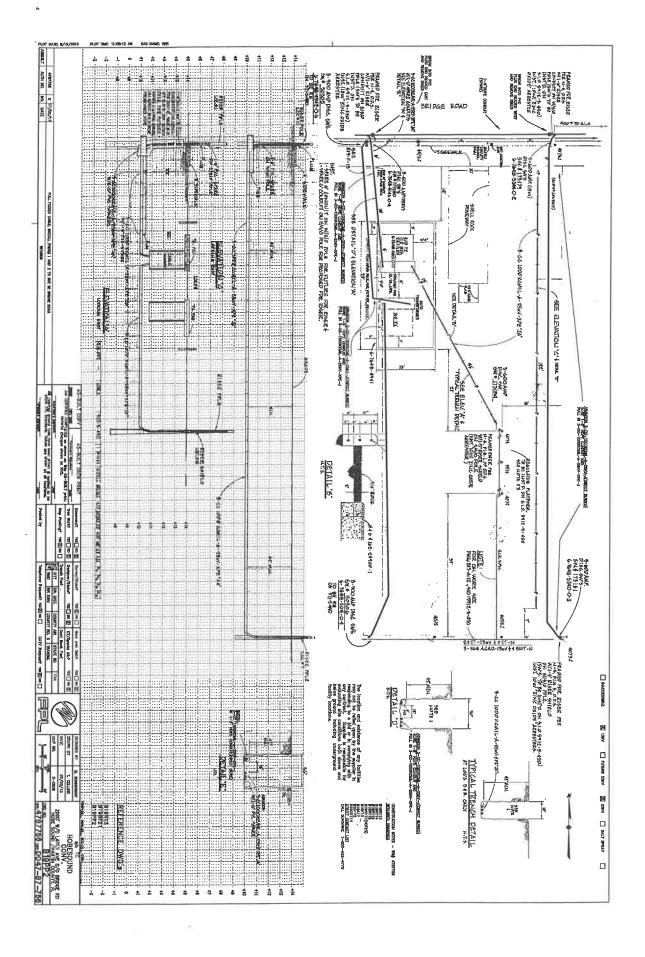


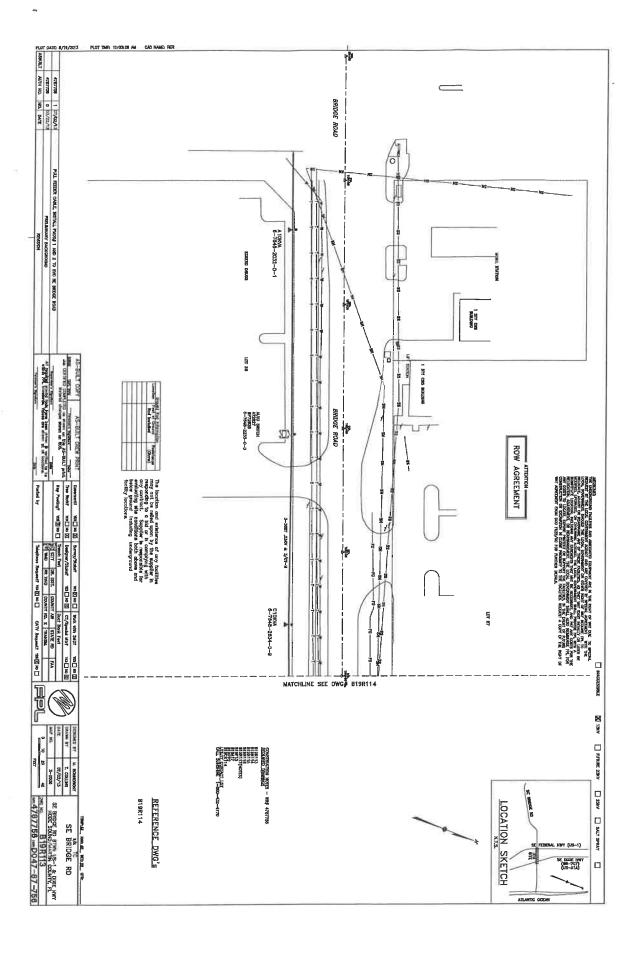












APPLICANT-INSTALLED FACILITIES AGREEMENT FOR UNDERGROUND CONVERSIONS (WR #4787756)

This Agreement, made and entered into this 27th day of August, 2017, by and between MARTIN COUNTY, a political subdivision of the State of Florida, (the "Applicant"), a Florida municipal corporation or county with an address of 2401 S.E. Monterey Road, Stuart, FL 34996 and FLORIDA POWER & LIGHT COMPANY ("FPL"), a Florida corporation organized under the laws of the State of Florida, with an address of P.O. Box 14000, 700 Universe Boulevard, Juno Beach, FL 33408-0429.

WITNESSETH:

WHEREAS, the Applicant has executed the appropriate underground facilities conversion agreement ("Conversion Agreement") with FPL to convert certain overhead electric distribution facilities (collectively the "Existing Overhead Facilities") to underground distribution facilities (collectively the "Underground Facilities"), as described in the aforementioned Conversion Agreement (hereinafter the "Conversion");

WHEREAS, the Applicant desires to perform itself, or through its Contractors, certain Work as such term is described in Exhibit A associated with the Conversion;

WHEREAS, FPL is willing, subject to all the terms and conditions set forth below in this Agreement, to allow the Applicant to perform the Work based on Applicant's assurance that such Work will be in accordance with FPL's designs, instructions, standards and specifications, and such Work will not adversely impact FPL or its electric customers;

NOW, THEREFORE, in recognition of the foregoing premises, and in consideration of the covenants and promises set forth herein below, FPL and Applicant do hereby agree as follows:

- 1. <u>Compliance with Tariff</u>. Applicant shall comply with and abide by the requirements, terms, and conditions of this Agreement, the Conversion Agreement, and FPL's electric tariff (the "Tariff").
- 2. <u>Conditions for Work to be Performed</u>. Applicant shall, at its own cost and expense, perform or cause to be performed, all Work, as described in Exhibit A, in accordance with the terms and conditions of this Agreement and the standards and specifications shown in Exhibit B. The Applicant shall provide all survey and staking to ensure that all Underground Facilities are installed as shown in the Conversion Agreement and provide As-Built prints to FPL within two (2) weeks of installation, signed and certified by a Florida registered surveyor.
- 3. <u>Commencement of Work.</u> Applicant shall perform the Work, or any portion of the Work, only upon receipt of a notice to proceed containing the approved drawings, specifications and instructions from FPL ("Notice to Proceed"). After receipt of the Notice to Proceed,

 Page 1 of 7

 (Rev. 10/23/06)

Applicant shall provide written notice of intent to commence work to FPL at least five (5) days prior to commencement of such Work. Applicant shall not perform any excavation work without first notifying Sunshine State One Call for identification and marking of existing underground utilities and complying with the excavation requirements set forth in Florida Statute Chapter 556.

- 4. Materials. All Materials are to be supplied by FPL and shall be picked up by Applicant at the following address ______ at a mutually agreed upon time, typically with 5 business days minimum notice, but no more than 15 business days notice, unless mutually agreed upon. Alternatively, FPL will, at Applicant's expense, have the material delivered to a mutually agreed upon location. Applicant assumes liability for any materials lost, stolen or damaged once these materials are picked up by, or delivered to, the Applicant.
- 5. Contractors. Applicant may enter into a contract with a contractor for the performance of the Work, or any portion thereof, provided that the contractor has been approved by FPL in writing prior to execution of such contract. Applicant shall not make any substitution of any contractor for the performance of Work unless the substitution is approved by FPL in writing. The Applicant's contractor(s) shall perform ALL work as outlined within Exhibit A & Exhibit B. No contract or purchase order between Applicant and its contractor(s) shall bind or purport to bind FPL, but each contractor entering into a contract with Applicant with respect to the Work shall name FPL as an intended third-party beneficiary and include a provision permitting its assignment to FPL upon FPL's written request, following default by Applicant or termination or expiration of this Agreement. Applicant shall provide FPL with written certification from each of its contractors performing Work that all warranties, guarantees and obligations of such contractors are equivalent or better than those granted by such contractor to FPL for similar work and shall require that each such contractor name FPL as an intended third party beneficiary of such warranties, guarantees and obligations with the same rights of enforcement as Applicant. Applicant shall assign all representations, warranties, guaranties, and obligations of all contractors at the request and direction of FPL, and without recourse to Applicant, to FPL upon default by Applicant or termination or expiration of this Agreement; provided, however, that, notwithstanding such assignment, Applicant shall be entitled to enforce each such representation, warranty, guaranty, and obligation so long as Applicant has any liability under this Agreement. Applicant hereby assigns to FPL, effective as of the termination or expiration of this Agreement, all representations, warranties, guaranties and obligations of all Contractors.
- 6. Right of Entry. FPL reserves the right, together with its agents or designees to enter the Jobsite as it may elect for the purpose of inspecting the Work, or constructing or installing such collateral work as it may desire, or testing, boring or surveying, or any other purpose.

7. Inspection and Correction of Deficiencies.

7.1. All Work shall be properly inspected and tested, if appropriate, by Applicant and FPL and its designee(s).

Page 2 of 7

- 7.2. Neither the failure to make such inspection, nor the failure to discover defective workmanship, materials, or equipment, nor approval of or payment to Applicant for such Work shall prejudice the rights of FPL thereafter to correct or reject the same.
- 7.3. Applicant shall correct any deficiencies found with the Work, including but not limited to discrepancies that are inconsistent with FPL's design, instructions, standards or specifications within two (2) business days. If Applicant does not adequately rectify the identified deficiencies in the required timeframe, FPL may, at its sole discretion, perform, or have performed by its contractor the required repairs and Applicant shall pay FPL for any costs incurred. These requirements apply whether the discovery of deficiencies occurs while Applicant is performing its Work or while FPL, or its contractor, is performing its portion of the work.
- 7.4. If any Work or part thereof is covered over contrary to the requirements of this Agreement or the written request of FPL, it must, if required by FPL, be uncovered for observation and inspection and covered again at Applicant's sole expense.
- 7.5. If any Work that FPL has not specifically requested to observe and inspect prior to being covered has been covered, FPL may request to see such Work or part thereof and it shall be uncovered by Applicant. If such Work or part thereof is found to be in accordance with this Agreement, the cost of uncovering and covering again shall be paid by FPL. If such Work or part thereof fails to meet the requirements of this Agreement, Applicant shall pay all costs of uncovering, correcting, and covering again.
- 7.6. Applicant shall pay FPL for all time spent reviewing and inspecting Applicant's Work.
- 7.7. No electric customers shall be connected to the Underground Facilities prior to all deficiencies being rectified.

8. Indemnity / Liability of Applicant.

8.1. To the extent permitted by applicable law and FPL tariff section 2.71, Applicant shall be responsible for the negligent acts and omissions in connection with this Agreement, the Conversion or in connection with the performance of the Work by the Applicant. Applicant shall be responsible for any payment disputes between Contractors and Applicant. Applicant shall ensure that Contractors shall protect, indemnify, defend, and hold harmless FPL and Applicant from and against any liabilities whatsoever resulting from or in connection with this Agreement, the Conversion or in connection with the performance of the Work by the Contractors or Contractor employees.

- 8.2. Applicant shall assume full responsibility for all damages and all restoration arising in connection with the Work.
- 9. <u>Design Work</u>. FPL shall provide all design, instruction, standards and specifications necessary to perform the Conversion.
- 10. Completion of Work and Ownership. Applicant shall complete the Work by and notify FPL when said Work is complete. Upon FPL's final written approval of the completion of the Work ("Acceptance"), Applicant acknowledges that all rights, title and interest, free and clear of all liens, in and to the Work shall vest in FPL. If requested by FPL, Applicant shall provide FPL, in a form acceptable to FPL, an affidavit of Applicant certifying payment of all indebtedness to all Contractors and a written release of liens from Applicant and each Contractor.
- 11. <u>No Liability by FPL</u>. FPL assumes no liability due to any damage, misunderstanding of installation drawings or specifications, or any actions due to Applicant or its Contractor.

12. Suspension for Cause:

- 12.1. FPL may, by Notice, temporarily suspend the Work, or any portion thereof, under this Agreement when the performance by Applicant or Contractor is unsatisfactory to obtain the results required by this Agreement.
- 12.2. The methods by which Applicant performs its Work are entirely the responsibility of Applicant. FPL's right to suspend Work is intended solely to verify that the Work being performed by Applicant and its Contractor conforms to the design, instruction, standards and specifications and shall not obligate FPL to review the efficiency, adequacy or safety of Applicant's or its Contractors methods or means of operation or construction.
- 12.3. Any additional costs incurred by Applicant resulting from such suspension shall be borne solely by Applicant.
- 12.4. If Applicant immediately corrects the unsatisfactory condition FPL shall authorize resumption of the Work. Applicant's failure to immediately effect correction of the unsatisfactory conditions shall be cause for termination of this Agreement.

13. Termination for Cause:

13.1. FPL may, upon Notice to Applicant, and without prejudice to any remedy available to FPL under law, in equity or under this Agreement, terminate the whole or any part of this Agreement for cause and take possession of the Work without termination charge, penalty or obligation in the event Applicant fails to perform a material obligation under this Agreement and fails to cure such material obligation default within a reasonable period of time, but in no event more than ten (10)

business days, after Notice from FPL specifying the nature of such default (any such termination referred to as a "Termination for Cause").

- 13.2. In the event of Termination for Cause by FPL, Applicant shall:
 - a. Unless instructed otherwise in the Notice, immediately stop all Work hereunder;
 - b. Issue no further contracts except with the prior written consent of FPL;
 - c. Assign to FPL, to the extent requested by FPL, all rights of Applicant under contracts outstanding;
 - d. Terminate, to the extent requested by FPL, outstanding contracts;
 - e. Fully cooperate and refrain from hindering or interfering in any manner with any other persons or parties currently or prospectively performing the Work; and
 - f. Take any other action toward termination, or toward preservation of the Work, that FPL may direct.
- 13.3. Upon a Termination for Cause, all obligations of FPL hereunder shall terminate effective immediately. Upon such Termination for Cause, FPL may either rework or take over the terminated Work and proceed to provide such materials, supplies, equipment and labor of both FPL and FPL contractors, as may be reasonably necessary to complete said Work. FPL may have any partially fabricated portion of the Work removed from Applicant's or contractor's facilities upon Notice to Applicant. Applicant shall be liable for any increase of FPL's costs, including rework costs, incurred by FPL as a result of FPL's termination of the contract for cause.
- 13.4. In the event of Termination for Cause, FPL shall have no liability to Applicant for costs incurred by Applicant as a result of such termination.
- 14. <u>Termination Prior to Construction</u>. Applicant may terminate this Agreement at any time prior to the start of construction. If Applicant elects to still complete the Conversion, then the Contribution-In-Aid-of-Construction (CIAC) amount provided in the Conversion Agreement shall be revised accordingly. The revised Conversion Agreement must be executed and any additional CIAC due received by FPL prior to the start of construction.
- 15. Assignment. This Agreement is not assignable.
- 16. <u>Applicant's Payments to FPL</u>. Any monies that are owed by Applicant to FPL under this Agreement shall be paid to FPL within forty-five (45) days of FPL producing an invoice.

Page 5 of 7 (Rev. 10/23/06)

17. <u>Notice</u>. As used herein, the term "Notice" shall mean any formal written correspondence providing notice of action, purpose, intent or the like given under the provisions of this Agreement. Unless otherwise provided in this Agreement, Notice shall be delivered in person, by courier or by certified mail and shall be effective when received. General correspondence is not categorized as Notice.

IN WITNESS WHEREOF, FPL and Applicant have executed this Agreement for the provision of Applicant-Installed facilities to be effective as of the date first above written.

BOARD OF COUNTY COMMISSIONERS ATTEST: MARTIN/COUNTY, FLORIDA ÉDWARD V. CIAMPI, CHAIRMAN OURTAND COMPTROLLER APPROVED AS TO FORM & LEGAL SUFFICIENCY:

For FLORIDA POWER & LIGHT COMPANY

Title: GM Central Maintenance
(print or type)

Exhibit A

WR # 4787756

Work to be Performed:

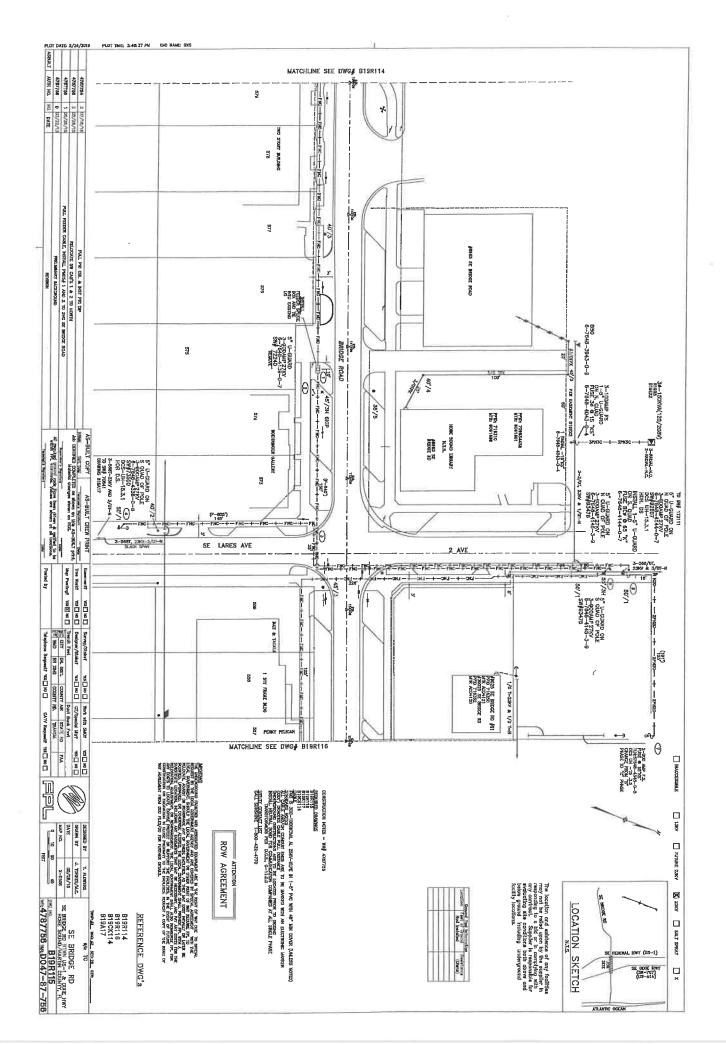
Applicant shall:

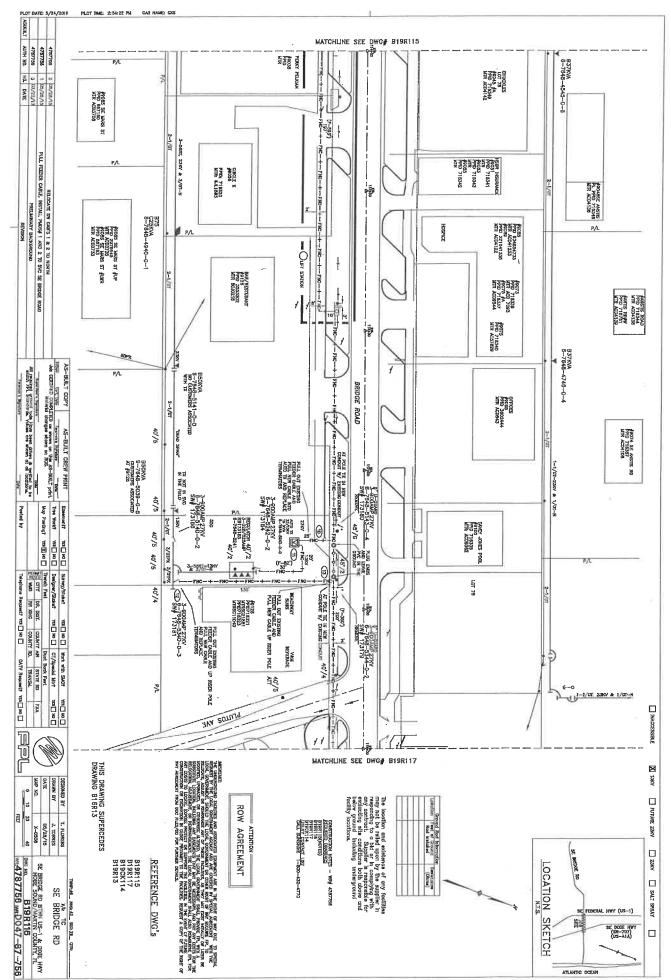
• Install all conduit and concrete products based on the attached specifications and in the locations as indicated on the attached drawings.

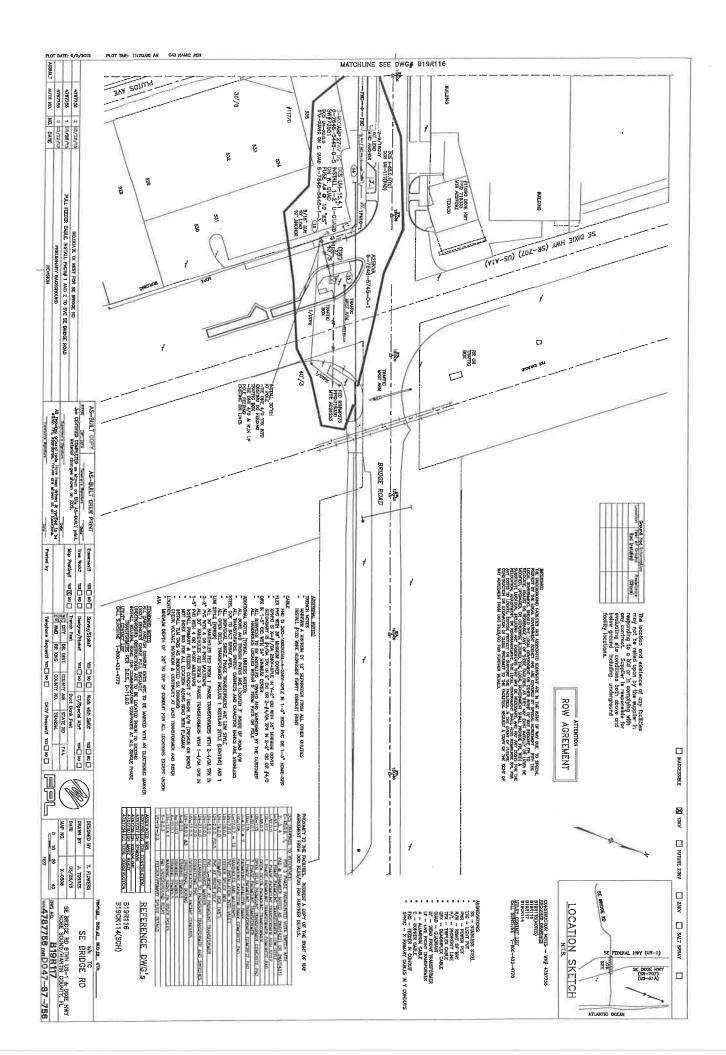
4707750 1 107/02/A MATCHUNE SEE DWG# B19R113 COMPANY NO. 1077-00

COMPANY N PULL FEEDER CHOLE, INSTALL PURSA 1 AND 2 TO SYO SE BYEDGE ROAD Rod Installed (Orms) Þ The location and editions of any facilities may not be relief upon by the experie in responding to a bid or in complying with any contract. Supplier is responsible for evoluciting after conditions which shows and below ground including underground facility locations. 1 STY CHE MAG BRIDGE ROAD ACCOUNT COOKY | ACCOUNT COOKY FAMILY | Comment mad on 20 Array/Solar value of 10 Array/Solar value of 8 ROW AGREEMENT Ē Ë MINH DOOK/MAKET PLACE ä 8 ä U7 27 - MADESSORIE ë ş X 13KY MATCHLINE SEE DWG# B19R115 NACE SURLING ☐ 23KY B19R113 B19R115 B19CK114 REFERENCE DWG'S LOCATION SKETCH SE BRIDGE RD SALT SPRAY SK, DIXUK HWY (SR-707) (US-AIA) ATLANTIC OCEAN

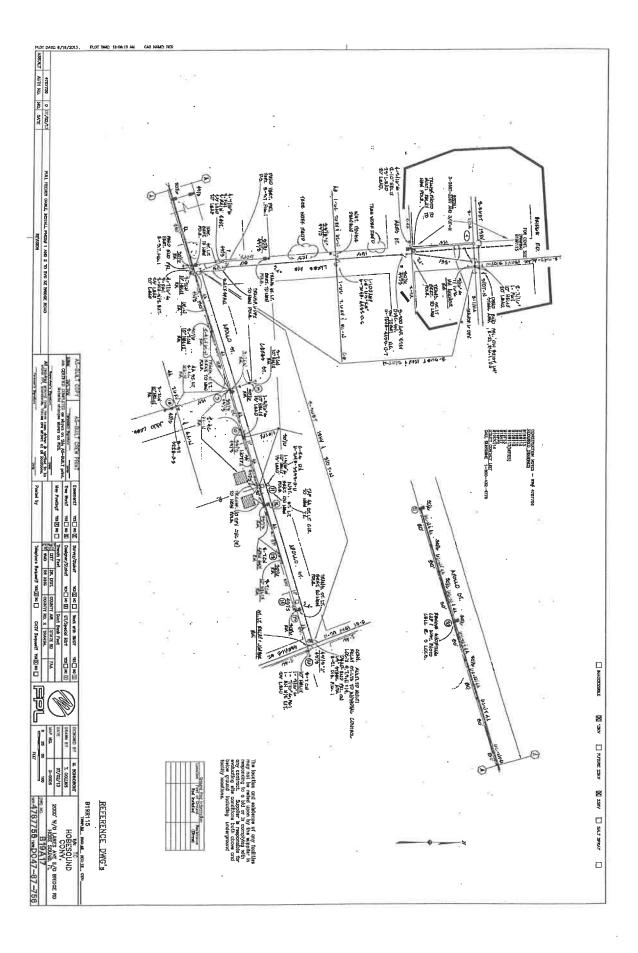
4.1

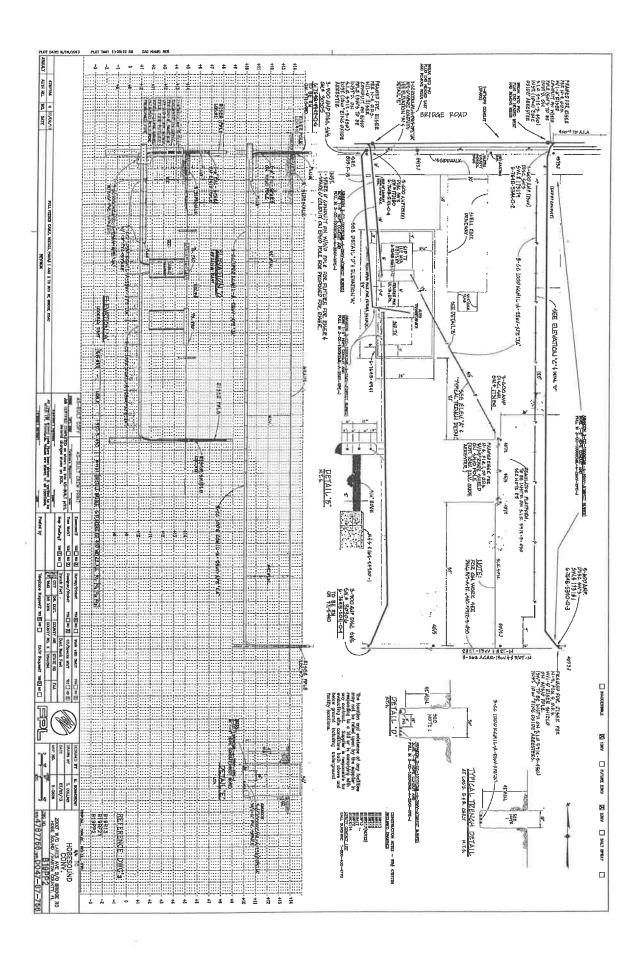






ASSULT AUTH NO. WG. DATE 3-5881 23KV & 3/01-H 3-800AMP 27KV 6-7648-2835-0-7 SW# 72241 PULL FEEDER CABLE, INSTALL PAIDS 1 AND 2 TO SVC SE BRIDGE ROAD BRIDGE ROAD B19R114 B19R115 3-800AMP 27KV 8-7848-4139-0-7 SW# 72240 REMORE 3-900AMP 27KV 8-7848-4338-0-8 SW#73550 SW#:93475 5-7648-4146-1-0 SW#:92807 6-7648-4144-0-7 TO SWJ 173111 FUSE B&C @ 85 "K" 6-7548-4144-0-7 SW#:93478 6-7648-4146-0-1 1/0 T-23KV & 1/0 T-N B19R115 2-200 AMP SOLID BLADE 8-7848-4345-0-5 (F-907) † | F 3-900AMP 27KY 8-7848-5242-0-2 Sw 175184 BRIDGE ROAD 3-800AMP 27KV 6-7648-5140-0-2 SW# 173186 CATY Request? YES 10 10 3-900AMP 27KV 8-7848-5340-0-3 SW# 173181 RB173163 6-7640-5241 F # E INVOCESSIBLE B19R116 B19R117 - WR# 4787758 3-900AWP 27KV 6-7648-5445-0-5 SW# 73551 XX IXV A25KVA 6-7548-5645-0-6 DESIGNED BY 1. FLOWERS
DRAWN BY 1. TORRES/A.C.
DATE 05/28/15
MAP NO. X-0508
0 30 00 120 ZE DIXIE HALL (28-101) (N2-11) \$ 20 TYTURE ZJKY į FUSE AN D 10 KS X 23KV 2000' W/O LARES AVE S/O BRIDGE RD HOSE SOUND ARTIN COUNTY, FL. ENG. B19CK114
WR-4787756 WR-D047-87-756 819R114 B19R115 B19R116 B19R117 REFERENCE DWG's SE BRIDE RD SWLI SABYA BRIDGE ROAD





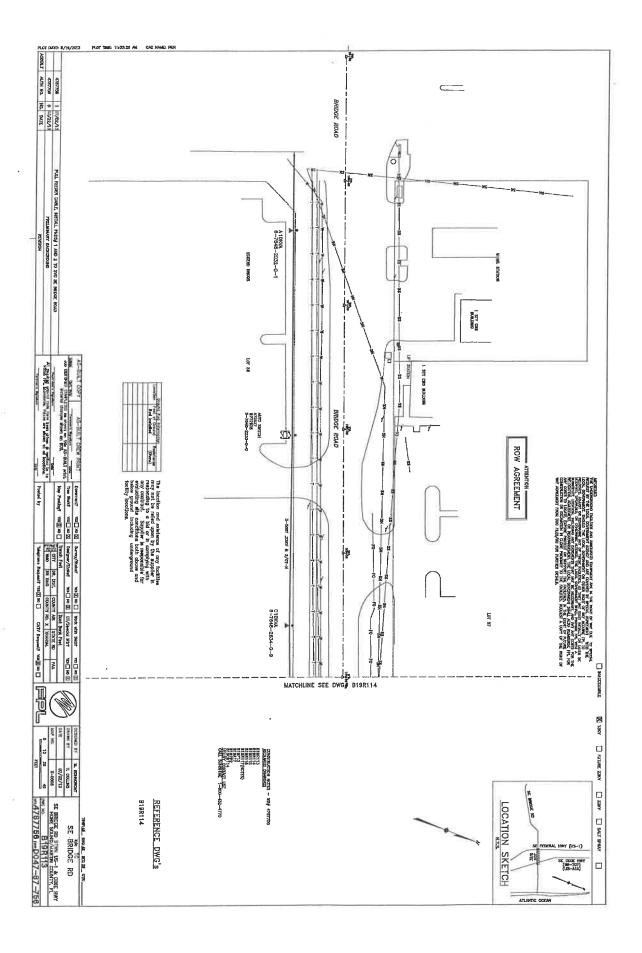


Exhibit B

WR # 4787756

Standards and Specifications

- 3.3.1 <u>Directional Bores</u> Surveyor shall provide any staking for layout, as a minimum, marking the ends and any intermediate changes in direction, in accordance with data furnished on the drawings or special instructions. Deliverables: The Surveyor will provide the company an as-built sufficient and complete enough for updating & correcting the FPL Plan & Profile drawings. This may be a combination of surveyor's field notes and boring machine crew information, but in all cases it shall meet the following minimum specifications.
 - 3.3.1.1 Show horizontal tie to known landlines, (i.e., right of way, section line, centerlines, etc.) or to baselines shown on the FPL drawings including ,corrections , additions, deletions and bore entry and exit points .
 - 3.3.1.2 Show vertical ties (elevations) to a known benchmark, referenced to a known local datum based on NGVD 1929 or NAVD 1988.
 - 3.3.1.3 Assumed elevations are not acceptable. Boring crew ties to a temporary benchmark provided by the surveyor are acceptable.
 - 3.3.1.4 Show a total end to end (or end to PI to end) distance based on an above ground measurement.
 - 3.3.1.5 Maximum distances between measurements shall be 50 feet. However, minimum requirements of permitting agencies shall in all cases govern. (i.e., The South Florida Water Management district requires a measurement every ten feet.)

SPECIFICATIONS FOR UNDERGROUND CONDUIT INSTALLATION

- Conduit, handhole, and transformer pad placement shall be in the easement provided and in accordance with the design drawings and field staking
- 2 Use only FPL supplied conduit with FPL supplied bends. (Figure 1)
- Ψ Glue all joints securely with FPL supplied glue. (Appendix A)
- FPL conduit markers must be placed at all conduit ends. (Figure 1)

All primary and secondary conduit is to have a minimum of 36 inches of cover. (Figure 1)

9 All service and street light conduit is to have 24 - 30 inches of cover at property line. All future service stub-outs at transformer locations to be installed with 90's. Where primary, secondary, or street light conduit runs turn horizontally, 36 inch radius 90

degree bends are to be used.

- 7 Cap all ends of the conduit with FPL supplied end caps. Denote termination point of each conduit run on the capped end ends are to be terminated 3 inches above final grade. (Figure 3) (Appendix B). All conduit ends are to be terminated 1-2 feet above final grade except at transformer locations where conduit
- 00 Install 1 #12 copper locate wire supplied by FPL in each trench per attached specs (Figure 4). All ends of the #12 copper locate wire must be exposed above grade, and secured with a tie wrap to a piece of stubbed up conduit for future locates. (Figure 4)
- Conduits terminated at transformer locations to be installed with templates supplied by FPL per Figure 3A, 3B, or 3C according to the type of transformer being installed. (Consult your Service Planner).
- 10. Concrete transformer slabs provided by FPL are to be installed level on compacted fill at final grade and oriented as shown on the FPL design drawing(s) (Figure 3)

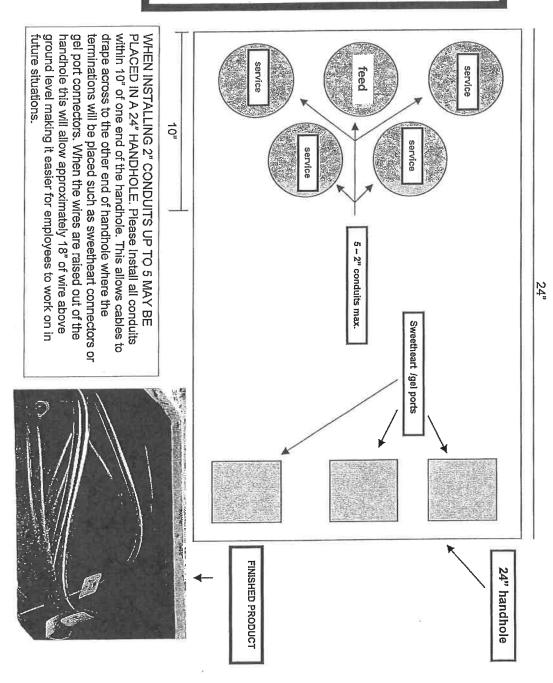
- 11. Conduits terminated at future secondary handhole locations to be installed per Figure 2. If secondary handholes are being installed at the time of conduit installation, install 45 degree bends as shown in Figure 1.
- 12. Primary splice handhole to be installed with electronic cable marker. (Figure 2A)
- 13. Install a continuous length of pull string in all conduit runs.
- 14. Backfill operations are to be done carefully with special attention given to utilizing clean fill, thereby assuring the elimination of rock and other scrap material to insure that the conduit will not be damaged or marking devices moved and proper compaction is achieved

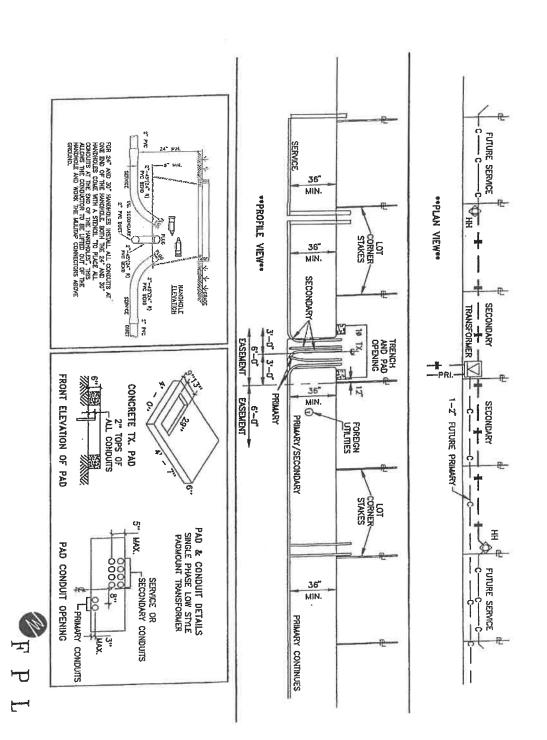
TESTING AND ACCEPTANCE GUIDELINES

Following notification of completed installation of underground conduits by a developer/contractor FPL will:

- Randomly spot check the installation depth of conduits below grade at a minimum of 2 points between each primary termination point, (transformers, splice boxes & risers) noting the measured depth on the record drawing
- N After confirming the correct routing and integrity of a conduit run, verify that the cable markers were installed and exposed conduit ends are plugged
- . ယ Confirm that a continuous length of pull string has been installed in all conduit runs and verify that all conduits runs terminate in the correct locations
- The final acceptance of the conduit installation will occur when FPL pulls the conductor and occupies the conduit.

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Note - Transformer location to be per specific design drawing, and may split lot lines in some cases.

TYPICAL SERVICE HANDHOLE INSTALLATION

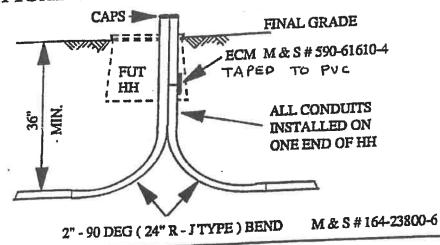
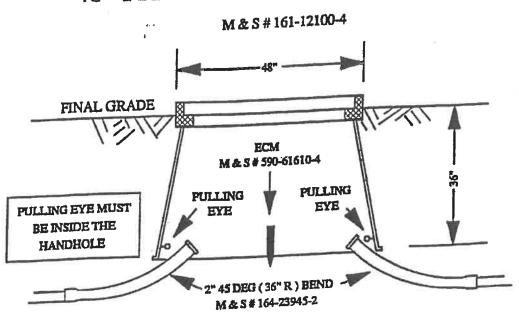


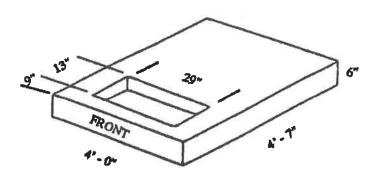
FIGURE 2A

48" PRIMARY SPLICE HANDHOLE

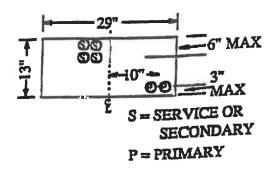


PAD & CONDUIT DETAILS

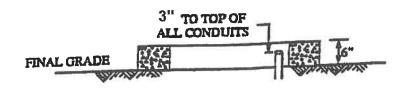
SINGLE PHASE LOW STYLE PADMOUNT TRANSFORMER



CONCRETE TRANSFORMER PAD M & S # 162-24800-4



PAD CONDUIT OPENING



FRONT ELEVATION OF PAD

FIGURE 3A

ONE LOW STYLE & ONE REGULAR STYLE TRANSFORMER

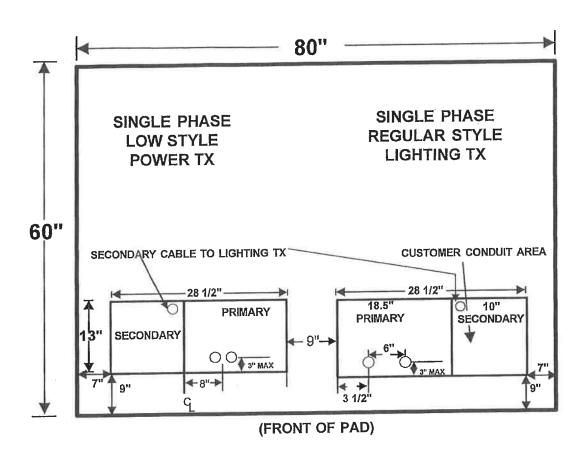


FIGURE 3B

SINGLE PHASE LOW STYLE TRANSFORMER

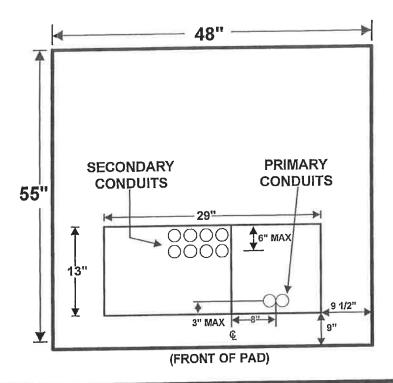
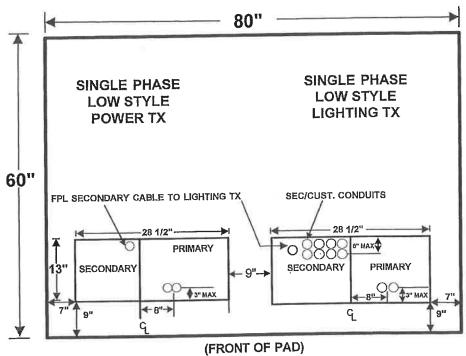


FIGURE 3C

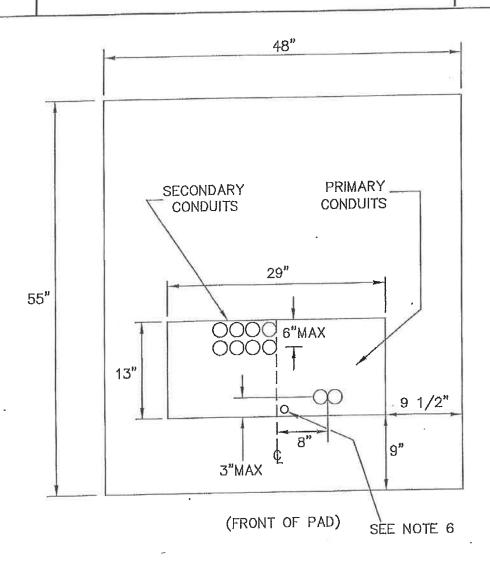
TWO LOW STYLE TRANSFORMERS



UX-117.0.1

CONDUIT LOCATIONS FOR SINGLE PHASE LOW STYLE PAD MOUNTED TRANSFORMERS

UX-117.0.1



- REFERENCE 1-65.0.1 OF THE DCS.
- 2. PAD M&S #162-248-004.
- 3. ALL CONDUITS TO EXTEND 3" MAX ABOVE GROUND LEVEL.
- ALL CONDUIT RELATED DIMENSIONS ARE TO THE CENTER OF THE DUCT UNLESS OTHERWISE INDICATED.
- 5. MAINTAIN B' CLEARANCE FROM FRONT AND 3' CLEARANCE FROM SIDES AND BACK OF TRANSFORMER PAD.
- 6. INSTALL 2" SLEEVE FOR GROUND ROD, 48" LONG.
- CABLES REQUIRING CT METERING INSIDE. THE TRANSFORMER MUST BE PLACED TOWARDS THE FRONT OPENING OF THE TX PAD AND IN FRONT OF ANY OTHER CABLES WHICH ARE NOT CT METERED INSIDE THE TRANSFORMER. THIS IS TO AVOID CABLE TRAINING ISSUES.



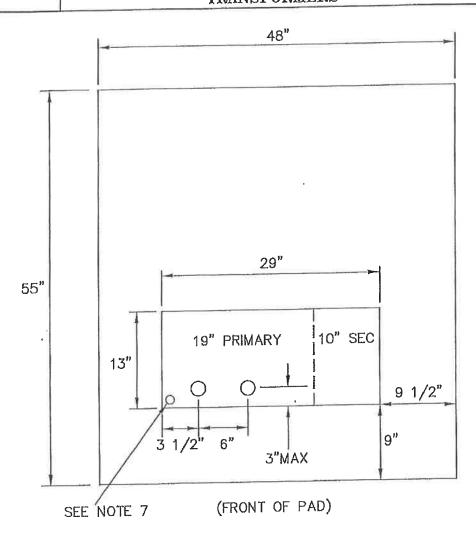
OH & UG DISTRIBUTION SYSTEM STANDARDS

	1 1					ORIGINATOR:	SMS	DRAWN BY: BILL	
,	1/28/16	UPDATE NOTES	ARR	ELS	RDH	DATE: A	PPROVED:	J,J McEVOY	NO SCALE
1	5/7/15	UPDATE DRAWING	ARR	ELS	RDH	p/11=+	SUPERVIS	OR, OH/UG PRODUCT	
No.	DATE	REVISION	ORIG.	DRAWN	APPR.		SUF	PORT SERVICES	

UX-117.0.2

CONDUIT LOCATIONS FOR SINGLE PHASE REGULAR STYLE PAD MOUNTED TRANSFORMERS

UX-117.0.2



- NOTES: 1. REFERENCE 1-62.0,0 OF THE DCS.
- 2. PAD M&S #162-248-004.
- 3. ALL CONDUITS TO EXTEND 3" MAX ABOVE GROUND LEVEL.
- 4. ALL SECONDARY/CUSTOMER CONDUITS MUST FIT WITHIN THE 10"X13" AREA INDICATED.
- 5. ALL CONDUIT RELATED DIMENSIONS ARE TO THE CENTER OF THE DUCT.
- 6. MAINTAIN B' CLEARANCE FROM FRONT AND 3' CLEARANCE FROM SIDES AND BACK OF TRANSFORMER PAD.
- 7. INSTALL 2" SLEEVE FOR GROUND ROD, 48" LONG.
- CABLES REQUIRING CT METERING INSIDE THE TRANSFORMER MUST BE PLACED TOWARDS THE FRONT OPENING OF THE TX PAD AND IN FRONT OF ANY OTHER CABLES WHICH ARE NOT CT METERED INSIDE THE TRANSFORMER. THIS IS TO AVOID CABLE TRAINING ISSUES.



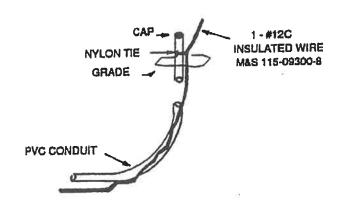
$\mathbf{H}0$	80	UG	DISTRIBUTION	SYSTEM	STANDARDS

U	1 1					ORIGINATOR:	SMS	DRAWN	BY: BILL	
,	1/28/16	UPDATE NOTES	ARR	ELS	RDH	DATE:	APPROVED:	J.J MoEVOY	NO SCALE	
1	5/7/15	UPDATE DRAWING	ARR	ELS	RDH			OR, OH/UG PRODUCT PORT SERVICES		
NO.	DATE	REVISION	ORIG.	DRAWN	APPR.	SUPPORT SERVICES				_

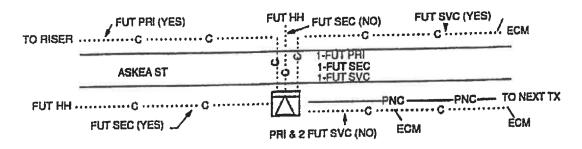
1 - #12C INSTALLATION

When installing conduit only (cable to be pulled later), a single #12 copper insulated wire is to be direct buried in every trench at the same depth as the conduits. The ends of the wire are to be terminated above ground at the conduit ends as shown. This wire will allow empty plastic conduits to be located with electronic equipment.

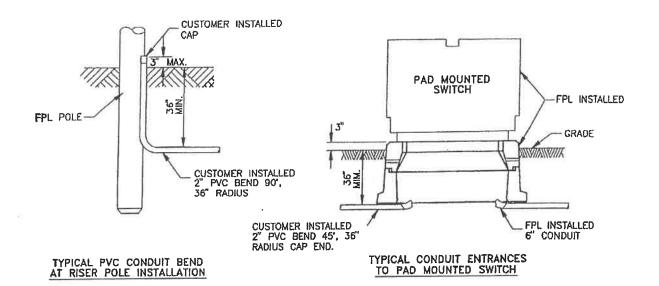
This method is not intended for cases where conduit is installed strictly for road crossings only. In these cases ECM markers should be used to mark the conduit ends.



WHERE TO INSTALL #12C WIRE



DRAWING SYMBOLS



SYMBOLS

CONDUCTORS - PRIMARY	EXISTING	PROPOSED
FPL OWNED, IN CONDUIT, WITH CONDUCTOR SIZE, METAL, RATED YOLTAGE INSULATION AND NEUTRAL INDICATED.	——PNC~——	-+PNC+-
CONDUCTORS - SECONDARY - STREET LIGHT FPL OWNED, IN CONDUIT, WITH CONDUCTOR SIZE, METAL AND INSULATION INDICATED (HM/HD TPX SHOWN).	1/0A 	
SERVICE LATERALS THREE-WIRE SECONDARY SERVICE. FPL OWNED IN CONDUIT WITH CONDUCTOR SIZE, METAL, INSULATION AND JACKET INDICATED.	3-2C RN	1/0A TPX
EMPTY CONDUIT	C	CC
PADMOUNTED TRANSFORMERS PADMOUNTED TRANSFORMER, 1¢, WITH kVA RATING (FRONT, OR TERMINAL CHAMBER, IS SMALL RECTANGLE AT RIGHT END OF SYMBOL. PRIMARY PHASE INDICATED) TRANSFORMER STYLE SHOWN AS FOLLOWS: (RS) — REGULAR SIZE — 42" + HIGH, (DF) — DEAD FRONT — 32" + HIGH, (LS) — LOW STYLE — 24" + HIGH.	▶ B 15	₽ 15
STRUCTURES	•	0
ELECTRONIC CABLE MARKER AND OR SPLICE PIT (BURIED)	•	\text{\tin}\text{\tett{\text{\tetx{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\ti}\}\text{\text{\text{\text{\text{\text{\text{\text{\tex{\tex
SERVICE HANDHOLE	•	•
		⊘ F P L

UN-27.0.0

RECOMMENDED PRACTICES FOR FIELD JOINING OF PVC CONDUIT (USING CLEAR SOLVENT PVC CONDUIT INSTALLATION CEMENT) AND

UN-27.0.0

FIELD JOINING

- EXAMINE EACH LENGTH OF CONDUIT AND ENSURE THERE ARE NO INTERIOR OR EXTERIOR IMPERFECTIONS, CRACKS, ETC. REMOVE ALL FOREIGN MATERIAL FROM INSIDE CONDUIT.
- USING A HACKSAW, (594-40600-7) FINE TOOTH WOOD SAW, OR NYLON STRING, CUT PIPE SQUARE (IF REQUIRED). REMOVE ANY BURRS AND BEVEL ANY SHARP EDGES. WIPE DRY WITH A CLEAN, DRY CLOTH. 2.
- APPLY CEMENT (M & S #522-14100-7) UNIFORMLY ON INSIDE OF BELL OR FITTING. APPLY UNIFORM COAT OF CEMENT ONTO CONDUIT END. DO NOT POUR, SPLASH, OR GLOB CEMENT ON!
- IMMEDIATELY INSERT THE CONDUIT INTO THE BELL END OF FITTING ALL THE WAY TO THE INSIDE SHOULDER. ENSURE SNUG FIT AND TURN CONDUIT 1/4 TURN TO DISTRIBUTE CEMENT EVENLY.
- HOLD JOINT FOR APPROXIMATELY ONE MINUTE TO ALLOW CEMENT TO BEGIN SETTING. WIPE OFF EXCESS CEMENT. (NOTE: MANUFACTURER RECOMMENDATIONS ARE TO ALLOW FOR A MINIMUM OF 10 MINUTES OF DRYING TIME PRIOR TO ANY BACKFILLING. WEATHER CONDITIONS MAY VARY THIS SETTING TIME.)

FIELD INSTALLATION

- LAY CONDUIT RUN INTO TRENCH. DO NOT KICK, THROW OR SLAM IT INI
- SURROUNDING TRENCH BACKFILL MUST BE FREE OF LARGE OR SHARP ROCKS, CINDERS OR OTHER DEBRIS WHICH WILL DAMAGE CONDUITS DURING BACKFILL OPERATION OR SUBSEQUENT COMPACTION.
- IN CORAL ROCK AREAS, IT IS RECOMMENDED THAT HAND BACKFILLING FOR THE FIRST 3 TO 6 INCHES BE 3. PERFORMED.
- INSTALL PLUGS OR END BELLS ON ALL VACANT DUCTS, AS REQUIRED.

REVISION

DATE

THE FINISHED CONDUIT RUN SHALL BE RODDED IN AN APPROVED MANNER (I.E. WINCH LINE, MANDREL, ETC.) TO VERIFY CONTINUITY AND CLEANLINESS. (NOTE: NO CONDUIT RUN SHALL BE ACCEPTED AS PROPERLY INSTALLED UNLESS FREE PASSAGE IS OBTAINED AND VERIFIED BY FPL SUPERVISION.)

				8 8		OH & UG DISTRIBUTIO	N SYSTEM STANDARDS	U
						ORIGINATOR: CM	DRAWN BY: BQ	l
1	7/16/01	UPDATE DRAWING (TEXT)	RAP	JES	JJM	DIRECTOR, DISTRIB	ALESKY NO SCALE UTION ENGINEERING	
	0.177	DEMOION	ORIG	DRAWN	APPR.	AND OPERATI	IONS SERVICES	1

ORIG. DRAWN APPR.

UV - 12.0.0

IDENTIFICATION OF UNDERGROUND CABLES AND VACANT CONDUITS

UV-12.0.0

GENERAL

ALL UNDERGROUND CIRCUITS SHOULD BE IDENTIFIED WHERE APPLICABLE AS FOLLOWS:

FEEDER NUMBER SWITCH NUMBER

PHASE

CONDUCTOR SIZE, METAL, TYPE INSULATION AND VOLTAGE RATE (IF NOT SAME AS OPERATING VOLTAGE)

SOURCE OR DIRECTION OF FEED

OWNERSHIP

ADDRESS OF BUILDING SERVED

TLM NUMBER

CHANGED PAGE FORMAT AND REVISED NOTES AND DIMENSIONS

REVISION

9/30/94

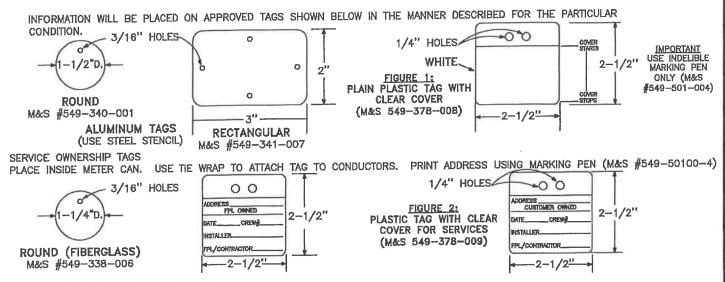
DATE

NO.

DATE OF FAILURE ON SECTION OF CABLE (DIRECT BURIED ONLY)

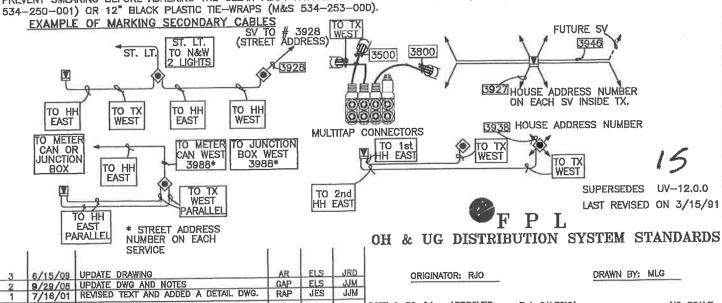
ANY UNUSUAL CONDITIONS, I.E. CABLE IN CONDUIT, PARTIALLY IN CONDUIT, DIRECT BURIED, ETC.

ALL CIRCUITS AND VACANT CONDUITS SHOULD BE APPROPRIATELY IDENTIFIED AT EACH TERMINAL OR SWITCHING POINT AND ALL INTERMEDIATE LOCATIONS SUCH AS VAULTS, MANHOLES, PAD MOUNTED TRANSFORMERS, OR HANDHOLES. WHEN THE CIRCUIT OR VACANT CONDUIT IS OWNED BY OTHER THAN FLORIDA POWER & LIGHT COMPANY, SHOW "CUST" ON APPROPRIATE TAG. IF NECESSARY INFORMATION CANNOT BE SHOWN ON ONE TAG, USE ADDITIONAL TAGS.



UNGERGROUND DUCT & MANHOLE SYSTEMS USE ALUMINUM TAGS, AFFIXED TO CABLES WITH #12C-TW ON ALL CIRCUITS IN UNDERGROUND SYSTEMS, SUCH AS SUBWAY VAULTS, MANHOLES, RISER POLES, ECT. ROUND ALUMINUM TAGS ARE FOR FEEDER NUMBER AND PHASE IDENTIFICATION, RECTANGULAR ALUMINUM TAGS ARE USED FOR ALL OTHER IDENTIFICATION PURPOSES FOR EXAMPLE, ON ISOLATED NEUTRAL CONDUCTORS OF PILC CABLES, ETC.

DIRECT BURIED AND CABLE IN CONDUIT SYSTEMS USE PLASTIC TAGS AS SHOWN IN FIGURE 2 (M&S 549-378-009) FOR CUSTOMER IDENTIFICATION AT LOCATIONS THAT WILL BE SUBJECTED TO SUNLIGHT, SUCH AS RISERS, AND ALSO IN URD APPLICATIONS FOR IDENTIFYING SERVICES, SUCH AS PADMOUNTED TRANSFORMERS AND INVESTIGATION OF THE PLASTIC TAGS AS SHOWN IN FIGURE 2 (M&S 549-378-009) FOR CUSTOMER IDENTIFYING SERVICES, SUCH AS PADMOUNTED TRANSFORMERS AND INVESTIGATION OF THE PROPERTY HANDHOLES. USE PLAIN PLASTIC TAGS AS SHOWN IN FIGURE 1 (M&S 549-378-008) IN PRIMARY TERMINATION TAGGING APPLICATIONS.
PLASTIC TAGS HAVE A CLEAR, UV RESISTANT FLAP TO REDUCE FADING AND WEATHERING. ALLOW 10 SECONDS MINIMUM DRYING TIME TO PREVENT SMEARING BEFORE ADHERING THE CLEAR FLAP. FASTEN PLASTIC TAG TO CABLE WITH 5-3/4" BLACK TIE-WRAPS (M&S



MLG

DRAWN

RJO

ORIG.

RJS

APPR.

DATE: 9-30-94 APPROVED:

ROVED: R.J. SALESKY
DIRECTOR, DISTRIBUTION ENGINEERING
AND OPERATIONS SERVICES

NO SCALE

D-15.0.1

STAKING INFORMATION (EXHIBIT "A")

D-15.0.1

NORMALLY ON A PVC OR WIRE STAFF, ARE USED IF FIELD CONDITIONS ALLOW CLEAR SIGHT OF THE FLAGS. NOT TO BE USED WHEN FACE STAKING. FLAGS SHALL BE A MINIMUM OF 4" x 5" WITH A 21" WIRE.

FLAG MARKINGS

THE APPROPRIATE PREPRINTED TYPE WAY BE USED IF FIELD CONDITIONS ALLOW. FLAGS SHALL BE PINK LETTERS ON WHITE FLAG AND PREPRINTED AS FOLLOWS:

PROPOSED FPL POLE, PROPOSED FPL ANCHOR, PROPOSED FPL TRANSFORMER PAD, PROPOSED & FPL TRENCH, PROPOSED FPL ELECTRONIC CABLE MARKER, PROPOSED FPL HAND HOLE

STAKES NORMALLY ARE 24" TO 48" ONE BY TWO'S DEPENDING ON LOCAL PRACTICES AND AVAILABILITY. 8" TWO BY TWO'S, CALLED "HUBS", ARE USED WHERE EXTRA STABILITY IS NEEDED, SUCH AS COW PASTURES, UNPAVED DRIVING AREAS, ETC. AND ARE USUALLY DRIVEN FLUSH WITH THE GROUND.

DEPENDING ON SURFACE CONDITIONS AT THE WORK LOCATION, DIFFERENT METHODS OF STAKING MAY BE USED. IN EARTH, STAKES OR HUBS WILL BE USED. NAILS, DISCS AND PAINT WILL BE USED IN PAVEMENT OF ASPHALTIC COMPOSITION, AND CONCRETE WILL BE MARKED AND PAINTED. WHERE DEFINITE POINTS OF ALIGNMENT ARE REQUIRED, SUCH AS RIGHT OF WAYS OR IN FACE STAKING, HUBS WILL HAVE NAILS DRIVEN INTO THEM, NAILS AND DISCS WILL BE USED ON ASPHALT, AND CONCRETE WILL BE DRILLED AND PAINTED TO INDICATE THOSE POINTS.

REGARDLESS OF THE LOCATION'S CONDITION, OR OF THE METHOD OF STAKING USED, CERTAIN MARKINGS MAY BE USED BY THE SURVEY CREW TO INDICATE TO THE APPROPRIATE WORKING CREW WHAT EACH STAKED LOCATION REPRESENTS. THE FOLLOWING IS A LIST OF THE MOST COMMONLY USED MARKINGS. ON THE STAKES, THESE MARKING WILL BE ON THE 2" SIDES. ON PAVED SURFACES, THESE MARKINGS WILL BE PAINTED.

- 1. "ANC" INDICATES LOCATION OF THE EYE OF THE ANCHOR ROD.
- "ANC" INDICATES LOCATION OF THE EYE OF THE ANCHOR ROD.
- 3. "FPL" INDICATES MARKINGS ON PAVEMENT (IF EXISTING) PERPENDICULAR AND IN CLOSE PROXIMITY TO THE POLE LOCATION.
- 4. POLE CENTER STAKING SYMBOLS ANY ONE OF THE FOLLOWING DETERMINES LOCATION OF THE CENTER OF THE POLE.
 - A.) "CTR. POLE" OR "POLE" MARKED ON A STAKE.
 - B.) " OR "O" WITH "POLE" IN THE CENTER, ON PAVED SURFACES OR SIDEWALK. (A NAIL & DISK WITH RIBBON MARKED "POLE" MAY ALSO BE USED.)
- 5. "@ TRENCH" OR "@ FPL TRENCH" INDICATES CENTER LINE ALONG WHICH A TRENCH IS TO BE DUG.
- 6. "TX △ " OR "CTR TX PAD" INDICATES THE LOCATION OF THE CENTER OF A TRANSFORMER PAD.
- "10' O/S @ TX PAD" & "20' O/S @ TX PAD" OFFSET REFERENCE STAKE 10' & 20' FROM THE CENTER OF TRANSFORMER PAD, ALONG ITS CENTER LINE PERPENDICULAR TO TRENCH.
- 8. "CTR HANDHOLE" LOCATION OF CENTER OF HANDHOLE.
- 9. "10' O/S Ç HANDHOLE" & "20' O/S C HANDHOLE" OFFSET REFERENCE STAKE 10' & 20' FROM THE CENTER OF THE THE HANDHOLE ALONG ITS CENTERLINE PERPENDICULAR TO TRENCH.
- 10. "CTR MARKER" LOCATION OF THE CENTER THE MARKER.
- 11. "10' 0/S @ MARKER" & "20' 0/S @ MARKER" - OFFSET REFERENCE STAKE 10' & 20' FROM CENTER OF MARKER PERPENDICULAR TO TRENCH.
- " TO GRADE AT CENTER OF PAD OR HANDHOLE. A NOTATION INDICATING NUMERICALLY HOW MUCH TO CUT OR FILL MAY BE PRESENT WHERE NECESSARY.
- 13. "HH" OFFSET REFERENCE PAINT MARK ON PAVEMENT (IF EXISTING) PERPENDICULAR AND IN CLOSE PROXIMITY TO THE HAND HOLE. CAN BE USED FOR OFFSET PURPOSES.
- 14. "MKR" OFFSET REFERENCE PAINT MARK ON PAVEMENT (IF EXISTING) PERPENDICULAR AND IN CLOSE PROXIMITY TO THE MARKER, CAN BE USED FOR OFFSET PURPOSES.

F P L OH & UG DISTRIBUTION SYSTEM STANDARDS

						ORIGINATOR: PMG DRAWN BY: RAS
1	9/04/01	UPDATED DRAWING (TITLE & TEXT)	DPM	JES	JJM	- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
0	8/09/98	CHANGE PAGE FORMAT	PMG	RAS	JJM	DATE: 8/09/96 APPROVED: J.J. MCEVOY NO SCALE SUPERVISOR, OH/UG PRODUCT
NO.	DATE	REVISION	ORIG.	DRAWN	APPR.	

D-15.0.2

STAKING INFORMATION (EXHIBIT "A")

D-15.0.2

COLOR CRAYONS, PAINTS, AND PLASTIC RIBBONS MAY BE USED FOR IDENTIFYING STAKES. THE FOLLOWING A.P.W.A. COLORS HAVE BEEN ADOPTED STATEWIDE AS STANDARD:

- WHITE
 - PROPOSED EXCAVATION
- PINK

TEMPORARY SURVEY MARKINGS

- RED

ELECTRIC POWER LINES, CABLES, CONDUIT AND LIGHTING CABLES

- YELLOW

GAS, OIL, STEAM, PETROLEUM OR GASEOUS MATERIALS

- ORANGE

COMMUNICATION, ALARM OR SIGNAL LINES, CABLES OR CONDUIT

- BLUE

PORTABLE WATER

- PURPLE

RECLAIMED WATER, IRRIGATION AND SLURRY LINES

- GREEN

SEWER AND DRAIN LINES

ALL COLOR STAKES USED BY FLORIDA POWER & LIGHT COMPANY (EXISTING FACILITIES) WILL BE RED AS DESIGNATED BY ANSI STANDARD Z53.1, ISS-NBS VIVID RED #11. THIS COLOR IS AVAILABLE AS SPRAY PAINT UNDER M&S #504-17100-5.

WHITE PER A.P.W.A. WILL BE USED TO MARK PROPOSED FPL FACILITIES. CRAYONS AND PLASTIC RIBBONS USED FOR STAKING FP&L FACILITIES SHOULD APPROXIMATE THESE COLORS.

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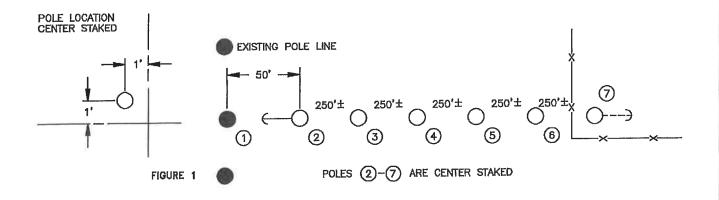
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OH & UG DISTRIBUTION SYSTEM STANDARDS

						ORIGINATOR: PMG	DRAWN BY: RAS
1	9/04/01	UPDATE DRAWING (TITLE AND TEXT)	DPM	JES	JJM	8 %	
0	8/09/96	CHANGE PAGE FORMAT	PMG	RAS	JJM	DATE: 8/09/96 APPROVED: J.J. MCEV SUPERVISOR, OH/UG	PRODUCT NO SCALE
NO.	DATE	REVISION	ORIG.	DRAWN	APPR.		

POLE AND ANCHOR STAKING

- 1. AN ANCHOR STAKE LOCATION REPRESENTS THE LOCATION OF THE EYE OF THE ANCHOR ROD.
- 2. WOOD OR CONCRETE POLES THAT ARE TO BE SET 6' IN RIGHT-OF-WAY AND WOOD POLES THAT ARE TO BE SET 1' IN PROPERTY WILL BE POLE CENTER STAKED. POLES SHOULD ALSO BE CENTER STAKED WHEN IT IS NOT NECESSARY TO HAVE AN EXTREMELY ACCURATE POLE SETTING.

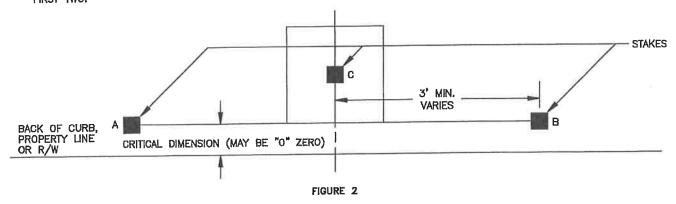


3. WHERE MORE ACCURATE POLE SETTING IS REQUIRED, SUCH AS AT THE RIGHT-OF-WAY LINE OR THREE INCHES BACK OF THE CURB, THE POLE MAY BE FACE STAKED. A STRING PULLED BETWEEN TWO ADJACENT STAKES, MARKED AS FOLLOWS, DETERMINES THE SPECIFIED FACE LOCATION. WHERE NECESSARY THESE MARKINGS MAY BE ABBREVIATED OR SPELLED OUT.

F.F. OR FIELD FACE

S.F. OR STREET FACE.

A MINIMUM OF THREE POINTS SHOULD BE MARKED. TWO OF THESE MUST DETERMINE THE LINE THAT THE SPECIFIED FACE OF THE POLE WILL BE AGAINST. THE THIRD TIES THE POLE DOWN AS TO ITS LATERAL POSITION BETWEEN THE FIRST TWO.



"A" & "B" ARE MARKED (AS IN "STAKE MARKINGS") TO INDICATE WHAT FACE OF THE POLE IS TO BE DETERMINED BY THEIR LOCATION. A NAIL WILL BE DRIVEN INTO EACH HUB, HOLES WILL BE DRILLED AND MARKED ON CONCRETE, AND NAIL AND DISCS WILL BE USED ON ASPHALT TO AID IN ALIGNMENT. "C" IS MARKED "C POLE" TO INDICATE THAT THE POLE IS TO BE LOCATED ALONG THIS AXIS, PERPENDICULAR TO LINE FROM "A" TO "B". POLE LOCATION NUMBERS ON THE STAKE MAY BE PRESENT TO AID IN IDENTIFICATION.

OH & UG DISTRIBUTION SYSTEM STANDARDS

						ORIGINATOR: PMG	DRAWN BY: RAS
1	9/04/01	UPDATE DRAWING (TITLE AND TEXT)	DPM	JES	JJM	A A	
0	8/09/96	CHANGE PAGE FORMAT	PMG	RAS	JJM	DATE: 8/09/96 APPROVED: J.J. MCEVOY SUPERVISOR, OH/UG PRO	DDUCT NO SCALE
NO.	DATE	REVISION	ORIG.	DRAWN	APPR.	SUPPORT SERVICES	

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STAKING INFORMATION

TRANSFORMER PAD. HANDHOLE & MARKER STAKING

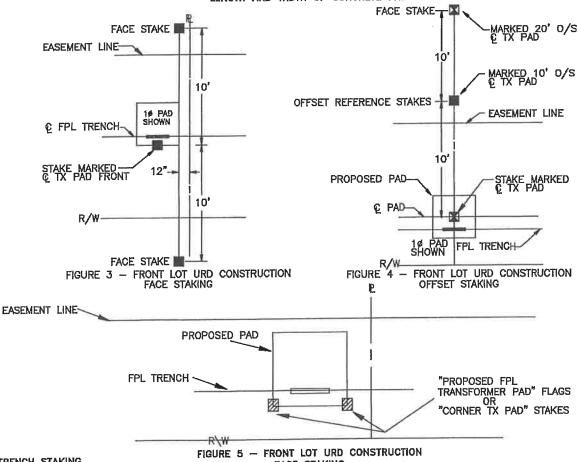
- TRANSFORMERS, PADS AND MARKERS ARE MOST OFTEN POSITIONED AT OR NEAR THE TRENCH CENTERLINE. AS A RESULT THE STAKES ARE USUALLY DUG UP DURING TRENCHING, OFFSET OR FACE STAKES ARE USEFUL TO THE CONSTRUCTION FORCES TO RE-ESTABLISH THE LOCATION OF THE FACILITIES AFTER TRENCHING. STAKE CENTER LINE OF HANDHOLE & MARKERS, THE FOLLOWING SKETCHES ARE EXAMPLES OF FACE STAKING AND OFFSET REFERENCE STAKING, FACE STAKING IS PREFERRED, PARTICULARLY FOR TRANSFORMER PADS, BUT OFFSET REFERENCE STAKES MAY BE NEEDED AT TIMES IF TREES OR OTHER OPERATIONS. OBSTRUCTIONS PREVENT THE USE OF FACE STAKES, ADDITIONAL STAKES SUCH AS CORNER STAKES MAY BE USED TO SUIT LOCAL CONDITIONS.
- 2. WHERE GRADE STAKES ARE REQUIRED, INSTALL AFTER TRENCHING AT PAD OR HANDHOLE.

TRANSFORMER PAD, HANDHOLE, MARKER & MANHOLE STAKING

1. THE FOLLOWING TABLE GIVES THE DIMENSIONS OF THE CONCRETE TRANSFORMER PADS TO AID IN ACCURATE STAKING,

PAD TYPE	W	L	APPLICATION
UX-115	6'-8"	5'-0"	3¢ LF PM W/SECT.
UX-116	6'-0"	5'-0"	3ø &2ø W/O SECT. & 3ø DF W/SECT.
UX-117	4'-0"	4'-7"	ALL 1ø
UX-119	9'-10"	10'-6"	PADMOUNTED AUTOTRANSFORMER
UN-18	10'	5'	FEEDER SPLICE BOX

LENGTH AND WIDTH OF CONCRETE PADS



TRENCH STAKING

FACE STAKING

CENTER LINE OF TRENCH STAKES SHOULD BE APPROXIMATELY 50' APART EXCEPT ON CURVES, WHERE 25' OR 30' SEPARATION SHOULD BE MAINTAINED. ON SMALL RADIUS CURVE THERE SHALL BE A MINIMUM OF 4 STAKES (PC, PT & 2 ONLINE) TO AVOID "CUTTING THE CORNER".

DIFFERENT METHODS OF STAKING, SUCH AS A STAKE PER LOT, MAY BE USED IF LOCAL CONDITIONS REQUIRE THEM.

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						ORIGINATOR: PMG	DRAWN BY: RAS		
1	9/04/01	UPDATE DRAWING (TITLE AND TEXT)	DPM	JES	MUL		1007		
0	8/09/98	CHANGE PAGE FORMAT	PMG	RAS	JJM	DATE: 8/09/96 APPROVED: J.J. MCE SUPERVISOR, OH/UG	VOY NO SCALE PRODUCT		
NO.	DATE	REVISION	ORIG.	DRAWN	APPR.				

UN-28.0.0

CABLE IN CONDUIT (CIC) INSTALLATION GUIDELINES "FOR REFERENCE ONLY"

UN-28.0.0

DIRECTIONAL BORE

THE USE OF CIC FOR DIRECTIONAL BORING APPLICATIONS SHOULD BE LIMITED TO MAINLY STRAIGHT, POINT TO POINT RUNS. MOST CONTRACTORS WILL NOT INSTALL DIRECTIONAL BORED CIC WHERE THERE ARE MANY BENDS DUE TO THE BENDING RADIUS AND TENSIONS THE CABLE WILL ENCOUNTER. THE CABLE WILL BE REMOVED FROM THE DUCT AND PULLED UNDER SUCH CONDITIONS THEREBY LOSING ANY ADVANTAGE TO DESIGNING WITH CIC. HOWEVER, CIC WILL PROVIDE VERY GOOD LABOR SAVING ADVANTAGES WHEN EMPLOYED IN STRAIGHT LENGTH BORES. THE REEL TRAILER SHOULD BE SET UP TO PAY OUT THE CIC FROM UNDER THE REEL DRUM. (SEE FIGURE 2.) FOR TERMINATING AND CUTTING OF CIC, REFER TO INSTRUCTIONS UNDER "OPEN TRENCH".

WHEN FIRST CONSIDERING THIS TYPE OF INSTALLATION, IT IS ADVISABLE TO REVIEW THE DESIGN WITH AN EXPERIENCE DESIGNER, THE CONTRACT ADMINISTRATION COORDINATOR AND THE CONTRACTOR, AS NEEDED.

OPEN TRENCH

MAINTAIN A UNIFORMLY FLAT OR GRADUALLY CHANGING TRENCH BY REMOVING VERY LARGE ROCKS. (SEE FIGURE1.) POSITION THE REEL SO THAT THE CONDUIT PAYS OUT FROM BELOW THE REEL DRUM AND AS NEAR TO THE CENTER LINE OF THE TRENCH AS POSSIBLE, AVOID REVERSE BENDING AND OVER SPINNING OF THE REEL DRUM DURING PAY OUT. (SEE FIGURE2.)

DURING INSTALLATION AVOID SWAYING AND KINKING OF THE DUCT. (SEE FIGURE 3.) DEPENDING ON THE LENGHTH OF THE RUN, DETERMINE WHEATHER TO PAY OUT THE CIC ALONG THE TRENCH LINE OR TO SIMPLY CUT THE DESIRED LENGTH AS REQUIRED. (REFER TO TABLE 1 FOR REEL LENGTH AND OTHER DATA.) SEAL THE CIC AND, IF DESIRED, INSTALL A CABLE PULLING GRIP AT THE INSTALLING END (M&S #593-728-001).

WHEN ENCOUNTERING OBSTRUCTIONS SUCH AS UTILITY LATERALS, FEED THE DUCT END BEYOND THE DESIRED ANGLE AND THEN ROLLING TO THE VERTICAL POSITION. (SEE FIGURE 4.) DO NOT EXCEED MINIMUM BENDING TO ALLOW FOR A GRADUAL BEND. (SEE FIGURE 5.)

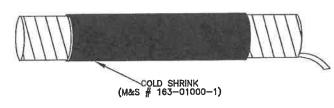
FOR TERMINATIONS INTO A PAD OR A RISER, THERE IS NO NEED TO TRANSITION TO A PVC BEND SO LONG AS THE MINIMUM BENDING RADIUS IS NOT EXCEEDED. THIS WILL BE THE CASE IN THE MAJORITY OF INSTALLATIONS, IF THERE IS A NEED TO TRANSITION TO A 2" PVC BEND, USE THE 2" PVC COUPLING (M&S #164-470-006). BONDUIT ADHESIVE KIT, (M&S #522-142-000), IS REQUIRED AND WILL HOLD PE DUCT ON THE CIC END.

USE ONLY APPROVED DUCT AND CABLE CUTTING TOOLS. (M&S #594-406-058 FOR DUCT & M&S #593-557-001 FOR CABLE). UNWINDING CIC WILL RESULT IN THE CONDUCTOR LENGTH BEING SHORTER THAN DUCT LENGTH. ALLOW ABOUT 15' OF CONDUCTOR LENGTH SHORTAGE FOR EACH 1000' OF CIC TO BE INSTALLED, OR ROUGHLY 1.5% OF CIC UNROLLED. ALLOW FOR EXTRA CIC AT THE STARTING END AS CALCULATED. DO LIKEWISE AT TERMINATING POINTS (HANDHOLES, PADS OR RISERS). CUT THE DUCT BACK, EXPOSING THE CABLE, SO AS TO LEAVE A MINIMUM OF 3" PE DUCT ABOVE RISER.

PRIOR TO INSTALLING TERMINATIONS OR SPLICES, SLIP A 2" COLD SHRINK TUBE (M&S #163-010-001) OVER EACH CABLE AND DUCT END. SEAL THE CIC BY UNWINDING THE TUBE AFTER ALL TERMINATIONS OR SPLICES ARE COMPLETE (SEE ILLUSTRATION BELOW). MECA UNITS ARE AVAILABLE IN SECTION 4925.

FOR ROAD CROSSINGS, INSTALL A 5" PVC DUCT PRIOR TO ROAD PAVING. PUSH THE CIC THROUGH AT THESE LOCATIONS. (SEE FIGURE 6 FOR BACKFILL RECOMMENDATIONS).







OH & UG DISTRIBUTION SYSTEM STANDARDS

2	4/13/16	UPDATE TITLE	ARR	ELS	RDH	ORIGINATOR: BLM DRAWN BY: RAS	-12		
1		UPDATE NOTES	ARR	ELS	BXN				
0	8-9-96	REVISED M&S # IN 8TH PARAGRAPH AND PVC DUCT SIZE IN PARAGRAPH 9.	BLM	RAS	JJM	DATE: 8/9/96 APPROVED: J.J McEVOY SUPERVISOR, OH/UG PRODUCT	NO SCALE		
NO	DATE	REVISION	ORIG.	DRAWN	APPR.	SUPPORT SERVICES			

UN-28.0.2

DIRECTIONAL BORING INSTALLATION GUIDELINES

UN-28.0.2

DESIGN CONSIDERATIONS
WHERE DIRECT BURIED CABLE IS TO BE REPLACED WITH CABLE IN DUCT, DIRECTIONAL BORING SHOULD BE THE METHOD OF CHOICE WHEN THE CABLE IS BURIED UNDER EXISTING ROADWAYS, DRIVEWAYS, PARKING LOTS, EXPENSIVELY LANDSCAPED AREAS. ADDITIONAL FACTORS THAT WILL HAVE TO BE CONSIDERED FOR EACH JOB INCLUDE CUSTOMER SATISFACTION, SOD AND ASPHALT RESTORATION COSTS, AND ACCESSIBILITY TO EQUIPMENT. SMALL BORING RIGS WILL FIT THROUGH A 3 FOOT CHAIN LINK GATE.

FOR WATER CROSSINGS WHERE CLX CABLE IS TO BE REPLACED IN ENVIRONMENTALLY SENSITIVE AREAS, CONSIDER THAT SEVERAL FPL DIRECTIONAL BORING CONTRACTORS HAVE EQUIPMENT AND EXPERIENCE FOR BORES UP TO 3,000 FEET. SPECIAL REEL LENGTHS OF FEEDER CABLE WOULD BE REQUIRED. CABLE PULL CALCULATIONS WOULD ALSO HAVE TO BE CONSIDERED. BUTT FUSING OF THE PE DUCT END TO END IS REQUIRED FOR THESE BORES, CORE SAMPLES BELOW THE WATER BOTTOM WILL BE REQUIRED. CONTACT THE ENVIRONMENTAL DEPT. DURING THE PLANNING PHASE.

WHETHER THE JOB IS FOR A WATER CROSSING OR FOR URD REPLACEMENT, AN OPEN AREA FOR EQUIPMENT SET UP WILL BE REQUIRED (I.E. APPROXIMATELY A 20 FT. X 10 FT. FOR URD TYPE RIGS, 100 FT. X 50 FT. MIN. FOR LARGER TRACK RIGS.) AN AREA FOR THE BENTONITE SLURRY AND WATER TRUCKS WILL BE NEEDED ADDITIONALLY, DISCUSS THIS WITH CONTRACTOR PLANNING AND STRATEGY DEPT. AND THE CONTRACTOR.

RAIL ROAD CROSSINGS CAN BE DONE USING JACK AND BORE AND DIRECTIONAL BORING METHODS. CONTACT THE RAIL COMPANY AS REQUIRED, PRIOR TO ENGINEERING THE JOB. NORMALLY, A MINIMUM DEPTH OF 10FT. PLUS THE BORE DIAMETER BELOW THE TRACKS WILL BE REQUIRED WHEN PE CONDUIT IS USED. FOR SHORT LENGTH BORES (NORMALLY UNDER 100 FEET) SMALLER DIRECTIONALLY GUIDED BORING EQUIPMENT IS PROVIDED BY SOME CONTRACTORS OR MAY BE AVAILABLE THROUGH YOUR LOCAL TOOL COORDINATOR. THESE SMALLER BORING TOOLS ARE COMMONLY TERMED "BULLETS" AND SOME CAN BE GUIDED. FOR LONGER LENGTH BORES, USE TABLE 1 BELOW FOR REFERENCE.

			7,000		
DUCT SIZE	SDR	CONDUIT W/M TENSILE YIELD	INIMUM = 3000PSI	CONDUIT W/ TENSILE YIEL	MINIMUM .D = 3500PSI
		SPF (LB-F)	SPL (FT)	SPF (LB-F)	SPL (FT)
2"	13.5	1386	3718	1616	4338
6"	11_	12991	3716	15156	4335
8"	9	26313	3718	30699	4338
10"	9	40877	3719	47690	4340

- * SPF = SAFE PULL FORCE
- * SPL = SAFE PULL LENGTH

ENGINEERING
MECA UNITS ARE LOCATED IN THE MECA SYMBOL CATALOG SECTION 4925 AND 4937. ACCESS PITS WILL BE REQUIRED AT TERMINATION
POINTS AND AT LOCATIONS WHERE A 90 DEGREE TURN IS REQUIRED. CUL—DE—SAC AREAS MAY REQUIRE ACCESS PITS TO COMPLETE. PLAN
AND PROFILE DRAWINGS ARE BEST, AND MAY BE REQUIRED FOR AS—BUILT PURPOSES AS NEEDED. CALL FOR BORING PER LOCATION IN THE
NOTES, FOR PE DUCT LENGTHS REFER TO TABLE 2. FOR SPECIAL CABLE REEL LENGTHS CONTACT THE RESPONSIBLE PRODUCT ENGINEER.
FOR ACCESS PIT LOCATIONS, OR WHERE CONNECTING TO A PVC BEND. USE PLASTIC COUPLINGS USING BONDUIT ADHESIVE M&S
#522—142—000. PE CONDUIT CAN NOT BE GLUED WITH PVC CEMENT. THESE COUPLINGS CAN BE INVENTORIED THROUGH MECA AS NEEDED.
(SEE TABLE 3.)

FOR ADDITIONAL INFORMATION OR SPECIAL CONDITIONS, SEE TABLE 1 AND 2, AND CONTACT THE SME (SUBJECT MATTER EXPERT)
RESPONSIBLE FOR THIS DESIGN AREA. WHEN JOINING PVC—TO—PLY OR PVC—TO—FIBERGLASS, USE A STRAIGHT PVS COUPLING ADHESIVE KIT
AND DISPENSING TOOL, FOR DETAILS SEE TABLE 3..

TABLE 2

					11-		
DUCT SIZE (INCHES)	SDR	OUTSIDE DIAMETER	INSIDE DIAMETER			WEIGHT (LBS/FT)	LUBRICANT SPONGE SPREADER M&S #
2	13.5	2.375	1.98	35	3000	.528LBS/FT	595-439-103
6	11	6.625	5.33	42	450	4.944LBS/FT	595-439-405
8	9	8.625	6.6	88	40	10.001LBS/FT	
10	9	10.75	8.218	215	40	15.534LBS/FT	
20	11.5	19.782	16.146		20		
	(INCHES) 2 6 8 10	(INCHES) 2 13.5 6 11 8 9 10 9	DUCT SIZE (INCHES) 2 13.5 2.375 6 11 6.625 8 9 8.625 10 9 10.75	DUCT SIZE (INCHES) SDR (INCHES) DIAMETER (INCHES) DIAMETER (INCHES) 2 13.5 2.375 1.98 6 11 6.625 5.33 8 9 8.625 6.6 10 9 10.75 8.218	DUCT SIZE (INCHES) SDR DIAMETER (INCHES) DIAMETER (INCHES) CINCHES) DIAMETER (INCHES) CINCHES) CINCHES CINCH	DUCT SIZE (INCHES) SDR AVERAGE OUTSIDE INSIDE INSIDE INCHES) MINIMUM BEND RADIUS * (INCHES) MINIMUM BEND RADIUS * (INCHES) REEL LENGTH (FEET) 2 13.5 2.375 1.98 35 3000 6 11 6.625 5.33 42 450 8 9 8.625 6.6 88 40 10 9 10.75 8.218 215 40	DUCT SIZE (INCHES) SDR (INCHES) AVERAGE OUTSIDE DIAMETER DIAMETER (INCHES) MINIMUM INSIDE DIAMETER DIAMETER RADIUS * (INCHES) REEL (LENGTH (LBS/FT) WEIGHT (LBS/FT) 2 13.5 2.375 1.98 35 3000 .528LBS/FT 6 11 6.625 5.33 42 450 4.944LBS/FT 8 9 8.625 6.6 88 40 10.001LBS/FT 10 9 10.75 8.218 215 40 15.534LBS/FT

TABLE 3

M&S #	COUPLING SIZE								
164-466-009	1" PVC TO 1" PVC								
164-470-006	2" PVC TO 2" PVC								
164-453-004	4" PVC TO 4" PVC								
164-448-020	4" PVC TO 2" PVC								
164-449-007	5" PVC TO 5" PVC								
164-448-001	4" PVC TO 5" PVC								
164-450-005	6" PVC TO 6" PVC								
164447004	5" PVC TO 6" PVC								
164-446-000	8" TO 6" COUPLING FOR PVC, HDPE, STEE								

* VALUES SHOWN ARE ACCORDING TO PLASTICS PIPE INSTITUTE GENERAL INDUSTRY STANDARDS, IF NEEDED, CONSULT WITH CONDUIT SME FOR ADDITIONAL INFORMATION.

BONDUIT ADHESIVE KIT M&S #522-142-000 DISPENSING TOOL - M&S #593-780-000

					D 2	
10	9/2/16	UPDATE TABLE 2	ARR	ELS	RDH	
9	7/26/16	UPDATE NOTES	ARR	ELS	RDH	
8	4/20/16	UPDATE TABLE 2	ARR	ELS	RDH	
7	2/17/16	ADDED TABLE	ARR	ELS	RDH	l
NO.	DATE	REVISION	ORIG.	DRAWN	APPR.	

		F P I	4	- •
80	UG	DISTRIBUTION	SYSTEM	STANDARDS

OH	80	UG	DISTRIB	UTION	SYSTEM	STANDARDS
	0	RIGINAT	OR: BLM		DRAWN	BY: RAS

H DATE: 8/9/96 APPROVED: J.J McEVOY NO SCALE
SUPPORT SERVICES

NO SCALE

DIRECTIONAL BORE INSTALLATION GUIDELINES

UN-28.0.3

CONSTRUCTION AND INSTALLATION

AFTER SET UP, THE DRILL FRAME IS ANCHORED TO THE GROUND AT A SHALLOW APPROACH ANGLE. USING FLEXIBLE STEEL BORING RODS, AVAILABLE IN VARYING WIDTHS AS REQUIRED, A STEERABLE BORING HEAD IS THEN USED TO ADVANCE THROUGH THE GROUND, LEVELING AND EXITING WHERE REQUIRED. THESE RODS ARE AT TIMES REFERRED TO AS A "DRILL STRING". THE HEAD CONSISTS OF A JET BIT OR DOWN HOLE MUD MOTOR.

THE DRILL HEAD HAS AN ANGLED FACE. WHEN ROTATED, IT ADVANCES FORWARD. WITHOUT ROTATION, IT WILL GLANCE AWAY FROM THE ANGLED FACE. COMBINING THESE TECHNIQUES, STEERING IS ACCOMPLISHED MOVING UP, DOWN, LEFT OR RIGHT. A RADIO TRANSMITTING DEVICE IN THE HEAD PROVIDES DEPTH, ROLL ANGLE AND PITCH DATA TO A RECEIVER ABOVE GROUND TO TELL THE OPERATOR WHERE THE DRILL HEAD NEEDS TO GO.

AFTER THE PILOT HOLE IS CREATED, A REAMER IS ATTACHED TO THE DRILL STRING FOR PULL BACK. A SWIVEL IS THEN ATTACHED TO PREVENT THE PE DUCT FROM ROTATING. THE WORK STRING IS PULLED BACK TO THE DRILLING RIG, SIMULTANEOUSLY INSTALLING THE CONDUIT IN THE EXPANDED HOLE.

FOR 6" PE DUCT INSTALLATIONS, IT IS RECOMMENDED THAT THE ENTIRE REEL LENGTH BE REMOVED AND ALLOWED TO REGAIN ITS ROUND SHAPE PRIOR TO PULL BACK. THIS TAKES ABOUT ONE HOUR IN SUNLIGHT. THIS IS NOT REQUIRED FOR SMALLER SIZES. WHERE INSTALLING 6" PE IN WATER CROSSINGS, INSTALL THE 1000 MCM AL TRXLPE 25 KV CABLE (M&S #100-298-008).

FOR PULLS, IT IS RECOMMENDED THAT A SPONGE SPREADER BE USED TO SPREAD THE LUBRICANT AHEAD OF THE CABLE WHILE USING THESE SPREADERS, CONSIDER USING ABOUT 1 GALLON OF APPROVED CABLE LUBRICANT FOR EVERY 200 FEET OF CABLE. SEE TABLE 2 FOR THE APPROVED SPREADERS AVAILABLE AS A TOOL ITEM.

AFTER COMPLETION OF THE BORE AND PULL BACK, ALL SURFACE SLURRY WILL BE REMOVED FROM THE SITE BY THE CONTRACTOR. ANY SOD REPLACEMENT REQUIRED AT ACCESS PITS WILL ALSO BE DONE BY THE CONTRACTOR. AS BUILTS WILL BE PROVIDED AS REQUIRED AS WELL. CONTACT LOCAL CONTRACT ADMINISTRATION, FOR MORE INFORMATION.

GROUNDING

FOR INSTALLATION IN DIRECTIONAL BORE DUCT BANKS, INSTALL A 2" CONDUIT IN THE DIRECTIONAL BORE WITH THE OTHER CONDUITS AND PULL THE 4/O COPPER INSULATED CABLE NEUTRAL IN THE 2" CONDUIT. THE 4/O COPPER INSULATED CABLE NEUTRAL SHALL BE CONNECTED TO THE SUBSTATION GROUND.

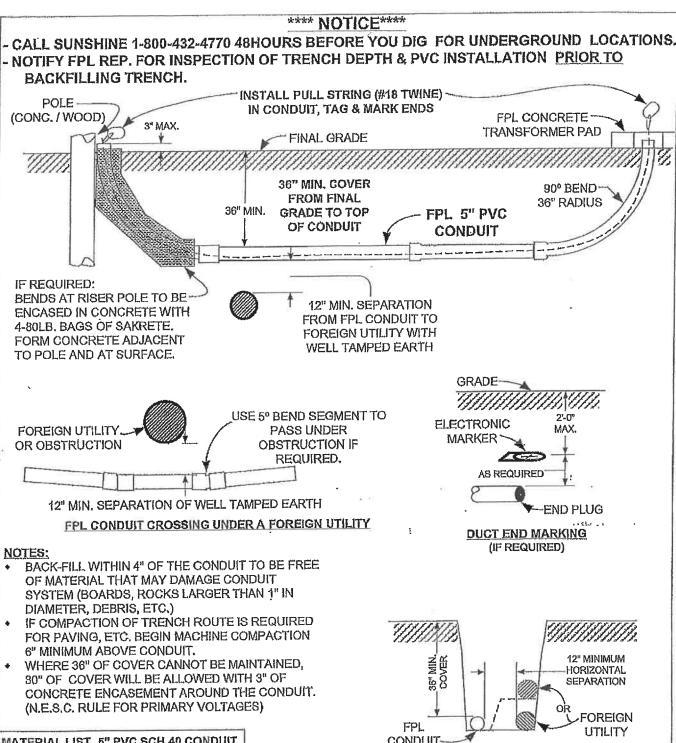
FOR ANY ADDITIONAL QUESTIONS RELATED TO CONSTRUCTION OPERATIONS, CONTACT THE RESPONSIBLE DEO OPERATIONS SPECIALIST.

⊗FPL

22

OH & UG DISTRIBUTION SYSTEM STANDARDS

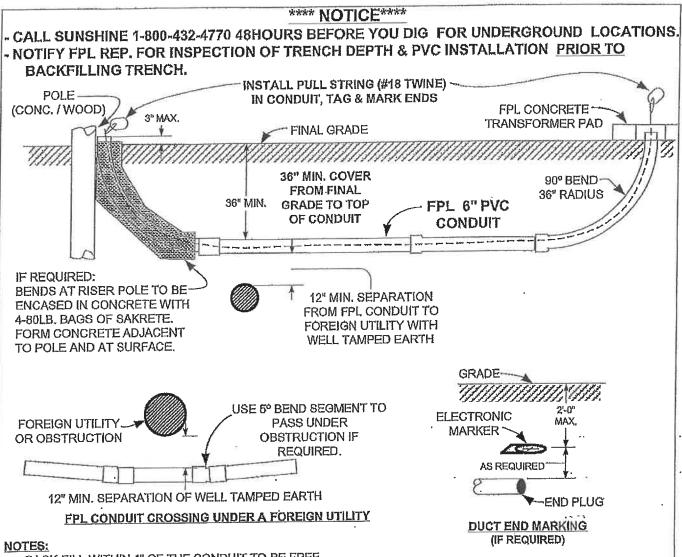
	2	12/13/17	UPDATE DRAWING (NOTES)	ARR	JES	RDH	ORIGINATOR: BLM	DRAWN BY: RAS
Г	$\overline{}$	8/27/99	UPDATE DRAWING (NOTES)	RAP	JES	JJM	DATE: 8/9/96 APPROVED: J.J McE	OY NO SCALE
Г	0	8/09/96	ORIGINAL, DRAWING	BLM	RAS	JJM	SUPERVISOR, OH/UG	
П	NO.	DATE	REVISION	ORIG.	DRAWN	APPR.	SUPPORT SERV	



MATERIAL LIST 5" PVC SCH 40 CONDUIT 20' LENGTH (BELLED END) 164-33800-1 90° BEND 36" RADIUS 164-25250-5 164-25200-9 90° BEND 48" RADIUS 45° BEND 48" RADIUS 164-61400-8 **5º BEND SEGMENT** 164-56100-1 22.5° SWEEP 12'-6" RADIUS 164-13000-1 STRAIGHT COUPLING 164-44900-7 REPAIR SLEEVE 6' LONG 164-47530-0 **END PLUG** 164-53500-1 590-61601-5 ELECTRONIC MARKER TWINE #18 1/2# ROLL 542-21800-5 CONDUIT

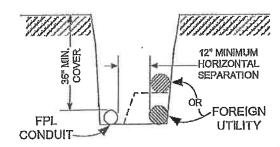
INSTALLATION OF FPL CONDUIT PARALLEL WITH - OR - IN A SHARED TRENCH WITH A FOREIGN UTILITY.

FPL SUPPLIED 5" PVC CONDUIT TYPICAL CUSTOMER INSTALLATION DETAILS (PORTIONS OF UN-6, UN-15, CONC. & PAD DETAILS)



- BACK-FILL WITHIN 4" OF THE CONDUIT TO BE FREE OF MATERIAL THAT MAY DAMAGE CONDUIT SYSTEM (BOARDS, ROCKS LARGER THAN 1" IN DIAMETER, DEBRIS, ETC.)
- IF COMPACTION OF TRENCH ROUTE IS REQUIRED FOR PAVING, ETC. BEGIN MACHINE COMPACTION 6" MINIMUM ABOVE CONDUIT.
- WHERE 36" OF COVER CANNOT BE MAINTAINED, 30" OF COVER WILL BE ALLOWED WITH 3" OF CONCRETE ENCASEMENT AROUND THE CONDUIT. (N.E.S.C. RULE FOR PRIMARY VOLTAGES)

MATERIAL LIST 6" PVC SCH	40 CONDUIT
20' LENGTH (BELLED END)	164-34000-5
90° BEND 48" RADIUS	164-25100-2
45° BEND 60" RADIUS	164-61500-4
5° BEND SEGMENT	164-56200-8
22,5° SWEEP 12'-6" RADIUS	164-13100-7
STRAIGHT COUPLING	164-45000-5
REPAIR SLEEVE 6" LONG	164-47540-7
END PLUG	164-53600-7
ELECTRONIC MARKER	590-61601-5
TWINE #18 1/2# ROLL	542-21800-5



INSTALLATION OF FPL CONDUIT
PARALLEL WITH - OR - IN A SHARED TRENCH
WITH A FOREIGN UTILITY.

24

FPL SUPPLIED 6" PVC CONDUIT

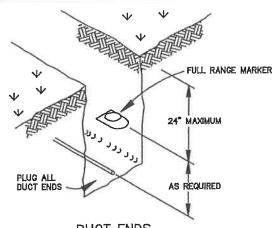
TYPICAL CUSTOMER INSTALLATION DETAILS

(PORTIONS OF UN-6, UN-15, CONC. & PAD DETAILS)

UN-15.0.0

LOCATION OF DUCT OR CABLE ENDS USING ELECTRONIC MARKER SYSTEM TYPICAL INSTALLATION

UN-15.0.0



FPL EMS MARKERS									
M&S #	DESCRIPTION								
590-61601-5	FULL RANGE, "TOILET SEAT"								
590-61610-4	PEG MARKER, EXISTING HANDHOLES								
590-61600-7	4" SPHERICAL MARKER								



4" SPHERICAL MARKER

DUCT ENDS FOR CABLE IN CONDUIT

NOTES:

- 1. THE ELECTRONIC MARKER SYSTEM (EMS) IS AN ELECTRONIC ELEMENT TUNED TO A SPECIFIC FREQUENCY FOR FPL CO.
- 2. A TYPICAL INSTALLATION IS SHOWN ABOVE. OTHERS MAY BE:
 - A. ENDS OF CONDUIT PLACED ACROSS AREAS (PAVED, LANDSCAPED, ETC.) IN ADVANCE OF CABLE INSTALLATION. CABLE WILL BE INSTALLED IN THE CONDUIT ON SUBSEQUENT JOB.
 - B. TEMPORARY END OF UNDERGROUND CABLES OR CONDUITS.
 - C. TEMPORARY END OF CUSTOMER CONDUITS THAT FPL WILL EXPOSE AND CONNECT TO.
 - D. FEEDER CABLE OR DUCT BANK TURNING POINTS NOT EASILY LOCATED FROM ABOVE GROUND REFERENCES.
 - E. FUTURE HANDHOLE LOCATIONS.
 - F. AT BOTH ENDS OF A ROAD CROSSING NOT OTHERWISE INDICATED ABOVE.

THEY ARE NOT GENERALLY USED FOR:

- A. MARKING THE ROUTE OF DUCT OR CABLE.
- B. MARKING THE ENDS OF SPARE CONDUITS PLACED ALONGSIDE OF EXISTING SECONDARY CABLE.
- 3. CARE SHOULD BE TAKEN IN REMOVAL, AS THE EMS IS A REUSABLE ITEM.
- 4. FULL RANGE MARKERS SHOULD BE SET LEVELED HORIZONTALLY ABOVE CONDUIT OR CABLE TO BE MARKED. SPHERICAL MARKERS CAN BE INSTALLED IN ANY ORIENTATION. PEG MARKERS MUST BE INSTALLED VERTICALLY.
- 5. MARKER SHOULD BE COVERED WITH 4" OF FIRM SOIL TO PREVENT MOVEMENT DURING
- NOTE SHOULD BE MADE ON WORK SKETCH THAT CABLE OR CONDUIT ENDS ARE TO BE MARKED WITH EMS.

25

DRAWN BY: RAS

SUPERSEDES UN-15.0.0 LAST REVISED ON 1-29-92

●_{FPL}

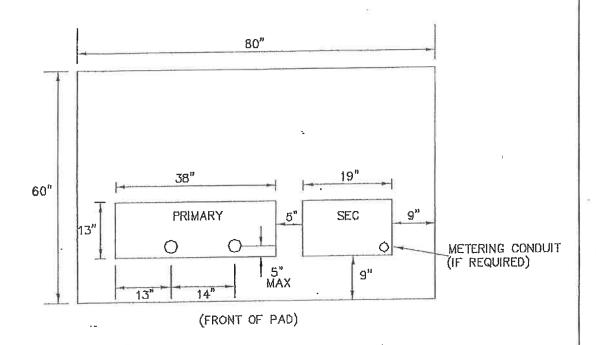
ORIGINATOR: BLM

	1 1				1 17	10					
4	8/16/05	UPDATE NOTES	RJO	ELS	JJM	ОН	80	UG	DISTRIBUTION	SYSTEM	STANDARDS
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3	11/18/03	UPDATE NOTES	RJO	ELS	JJM	
2	7/16/01	UPDATE DRAWING (NOTES)	RAP	JES	JJM	
1	8/26/99	UPDATE DRAWING (TEXT & CHART)	RAP	JES	JJM	
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NO.	DATE	REVISION	ORIG.	DRAWN	APPR.	

J.					
	DATE: 8/09/96	APPROVED:	J.J. MCEVOY	NO	SCALE
Щ	.=====://.=====:/	SUPERVI	SOR, OH/UG PRODUCT		
ш		임양	PORT SERVICES		

CONDUIT LOCATIONS FOR 3 PHASE
DEAD FRONT PAD MOUNTED TRANSFORMERS
WITH SECTIONALIZING (CABLE THRU) UP TO
OKVA USING 2-6" DUCTS FOR PRIMARY CABLES UX-114.0.1 UX-114.0.1



NOTES:

- 1) REFERENCE I-70.0.1 OF THE DCS
- 2)PAD M&S 182-24680-0
- 3)ALL CONDUITS TO EXTEND 3"MAX ABOVE GROUND LEVEL
- 4)ALL SECONDARY /CUSTOMER CONDUITS MUST FIT WITHIN THE 19"X13" AREA INDICATED. WILL HOLD 8-4" CONDUITS MAX.
- 5)ALL CONDUIT RELATED DIMENSIONS ARE TO THE CENTER OF THE DUCT
- 6)MAINTAIN 8' CLEARANCE FROM FRONT AND 3' CLEARANCE

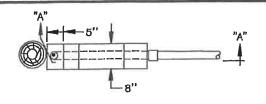
FROM SIDES AND REAR OF TRANSFORMER PAD.

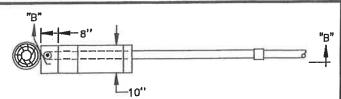
F P L OH & UG DISTRIBUTION SYSTEM STANDARDS DRAWN BY: BILL DRIGINATOR: SMS ROVEO: JJ. NGEVOY SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES APPROVEO: NO SOALE JES JJM. DATE RAP UPDATE DRAWING (NOTE 4) 05/29/02 ORIO, ORAMA APPR REVISION DATE

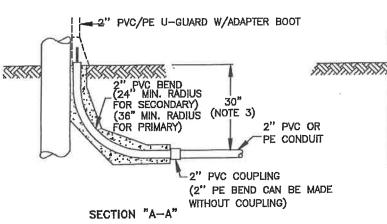
UN-6.0.0

TYPICAL INSTALLATION OF CONDUIT ELLS AT RISER POLES AND PAD MOUNTED TRANSFORMERS

UN-6.0.0







5" PVC/PE U-GUARD W/ADAPTER BOOT

3"

MAX. (NOTE 3)

48" MIN. CABLE IN CONDUIT (PVC OR PE DUCT)

SECTION "B-B"

MOUNTED

TRANSFORMER LOWSTYLE

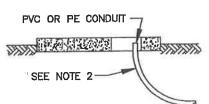
(24"± HIGH)

PVC OR PE CONDUIT

SEE NOTE 2

PAD
MOUNTED
TRANSFORMER
REGULAR
(42"± HIGH)
DEADFRONT
(35"± HIGH)

SEE NOTE 2



NOTES:

- 1. BENDS AT RISER POLE CAN BE ENCASED IN CONCRETE (3-80LB. BAGS FOR 2" RISER CONDUIT AND 4-80LB. BAGS FOR 5" RISER, SAKRETE M&S #503-10700-1). IF PULL TENSIONS WARRANT, FORM CONCRETE ADJACENT TO POLE AND AT SURFACE.
- 2. RADIUS VARIES. FOR 2" PVC CONSTRUCTION USE 24" OR 36" RADIUS, M&S #164-23800-6 OR M & S #164-23901-1. PE CONDUIT MAY BE FIELD BENT.
- 3. NESC RULES REQUIRE MIN. 30" DEPTH FOR PRIMARY VOLTAGE CABLE. WHERE CONCRETE ENCASED, LESSER DEPTHS ARE PERMITTED.

27

SUPERSEDES

ORIGINATOR: BLM

UN-6.0.0 LAST REVISED ON 6-30-93

DRAWN BY: RAS



OH & UG DISTRIBUTION SYSTEM STANDARDS

ı		00 12					ri Ì
Ì	2	7/13/01	UPDATE DRAWING (NOTES & TEXT)	RAP	JES	JJM	
I	1	8/26/99	UPDATE DRAWING (NOTES & TEXT)	RAP	JES	JJM	
١	0	8/09/96	ORIGINAL DRAWING	BLM	RAS	JJM	D,
l	NO,	DATE	REVISION	ORIG.	DRAWN	APPR.	

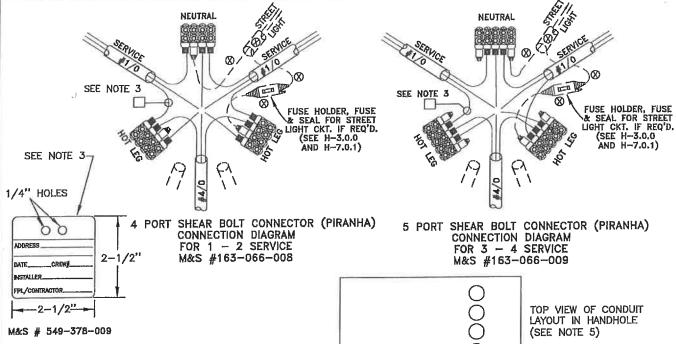
DATE: 8/09/96 APPROVED: J.J. MCEVOY NO SCALE
SUPPRISOR, OH/UG PRODUCT
SUPPORT SERVICES

UN

L-17.0.7

SHEAR BOLT SECONDARY CONNECTORS IN HANDHOLE FOR CONNECTING 2 TO 4 SERVICES

L-17.0.7



NOTES:

- 1. FOR ONE SERVICE, SEE UC-5.0.0, UC-8.0.0 AND UC-6.0.2.
- ONLY INSULATED CONDUCTORS MAY BE CONNECTED TO SHEAR BOLT CONNECTORS.
- INSTALL TAG M&S \$549-378-009 EVERYTIME A CONNECTOR IS INSTALLED OR REPLACED.
- FOR ADDITIONAL INFORMATION REFER TO L-17.0.9, L-17.0.10 AND L-17.0.11.
- 5. FOR 24" AND 30" HANDHOLES INSTALL ALL CONDUITS AT ONE END OF THE HANDHOLE. BOTH THE 24" AND 30" HANDHOLES COME WITH A SPECIAL STENCIL "TO PLACE ALL CONDUITS AT THE END OF THE HANDHOLES". THIS ALLOWS THE CONDUCTOR TO BE LIFTED OUT OF THE HANDHOLE AND WORK THE CONNECTORS ABOVE GROUND.
- 6. WHEN FIELD CONDITIONS DICTATE THE USE OF FIVE DR MORE CABLES, IT MAY BE BEST TO CONSIDER THE USE OF THE 30° HANDHOLE, AS THIS WILL ALLOW ADDITIONAL ROOM TO WORK THE CONNECTIONS.
- A 24" HEAVY DUTY HANDHOLE (M&S #162-120-500) IS ALSO AVAILABLE FOR USE IN SIDEWALKS, DRIVEWAYS AND PARKING LOTS, NOT FOR USE IN ROADWAYS OR AREAS OF DELIBERATE TRAFFIC.

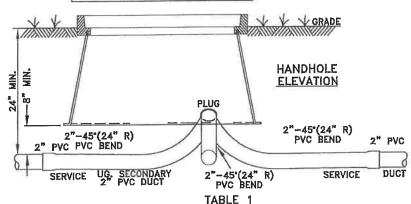
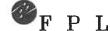


TABLE 1

CABLES	CONNECTORS	HANDHOLE		
1/0 SECONDARY, #6 DUPLEX AND 12CU FOR STREET LIGHT	163-066-008 (4 PORT)	182-304-001 (15,5"X10,5"X18" DEEP)		
1/O SECONDARY, AND 1/O SERVICES, UP TO 4 SERVICES	163-066-009 (6 PORT)	152-120-008 (24"X13"X18" DEEP)		
4/0 SECONDARY, AND 1 OR 2 SERVICES	163-066-008 (4 PORT)	152-120-008 (24"X13"X18" DEEP)		
4/0 SECONDARY, AND 3 OR 4 SERVICES	163-066-009 (5 PORT)	162-120-008 (24"X13"X18" DEEP)		
250 MCM TO 350 MCM	183-086-010 (5 PORT)	162-100-007 (30"X17"X18" DEEP)		
350 MCM TO 500 MCM (NO MORE THAN 4 SETS)	163-066-011 (5 PORT)	162-100-007 (30"X17"X18" DEEP)		
400 MCM TO 500 MCM (NO MORE THAN 4 SETS)	183-017-502 (8 PORT)	162-100-007 (30"X17"X18" DEEP)		
400 MCM TO 500 MCM (NO MORE THAN 5 SETS)	163-017-502 (6 PORT)	162-121-004 (48"X30"X36" DEEP)		
800 MCM TO 750 MCM	163-017-502 (5 PORT)	162-121-004 (48"X30"X36" DEEP)		

FOR TRAFFIC LOADING USE HANDHOLE 162—122—892 (32"X50"X36" DEEP) 162—122—893 (17"X30"X18" DEEP)

NO.	DATE	REVISION	ORIG.	DRAWN	APPR.
17	11/11/14	UPDATE TABLE	ARR	ELS	RDH
18	5/12/16	UPDATE DRAWING AND NOTES	ARR	ELS	RDH
19	9/27/16	UPDATE TABLE AND DRAWING	ARR	ELS	RDH
20	10/24/18	ADD NOTE 7	ARR	ELS	RDH
21	11/3/17	UPDATE TABLE	ARR	ELS	RDH
22	12/7/17	UPDATE TABLE	ARR	ELS	RDH



20

OH & UG DISTRIBUTION SYSTEM STANDARDS

ORIGINATOR: SMS

DRAWN BY: RAS

DATE: 8/09/96 APPROVED: J.R. "PEPE" DIAZ
RELIABILITY ENGINEERING MANAGER

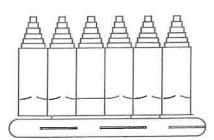
NO SCALE

L-17.0.8

INSTALLATION INSTRUCTIONS FOR UG MULTITAP CONNECTORS #400-750MCM CABLES

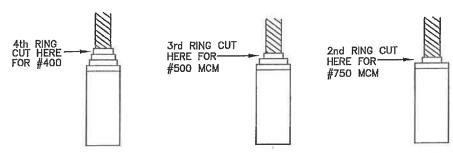
L-17.0.8

M&S #163-017-502 (6 PORT CONNECTOR)



INSTALLATION STEPS:

1. IDENTIFY THE CONDUCTOR SIZE BEING USED AND CUT ROCKET TO CORRECT RING SIZE.



- 2. WIPE CONDUCTOR JACKET CLEAN, APPLY SILICON GREASE AND SLIDE CUT ROCKET OVER CONDUCTOR.
- 3. REMOVE ANY EXCESS SILICON GREASE, STRIP 2-1/4" OF INSULATION FROM CONDUCTOR (REMOVE ANT DAMAGE CONDUCTOR, I.E., BURNED INSULATION, BROKEN STRANDS) DO NOT USE A KNIFE FOR REMOVING INSULATION, USE THE APPROVED 4 WAY STRIPPER INSTEAD.
- 4. WIRE BRUSH THE CONDUCTOR THOROUGHLY TO BREAK UP SURFACE OXIDES ADD INHIBITOR AND WIRE BRUSH AGAIN INTO STRANDS.
- 5. INSERT CONDUCTOR INTO THE CONNECTOR'S PORT LEAVING A MAXIMUM OF 1/4" BARE CONDUCTOR EXPOSED.
- 6. TIGHTEN BOTH SETS OF SCREWS ON THE CONDUCTOR TO A TORQUE VALUE OF 30FT-LBS (FOR #400-#750MCM CABLES).
- 7. SLIDE ROCKET OVER THE PORT AND ON TO THE PVC SHOULDER OF THE CONNECTORS. MAKE SURE THAT A TIGHT FIT IS ACCOMPLISHED BETWEEN THE CONNECTORS BODY AND THE ROCKET.

NOTES:

FOR ADDITIONAL INFORMATION REFER TO PAGES UC-1.0.1. AS WELL AS MANUFACTURER INSTALLATION INSTRUCTIONS PROVIDED WITH EACH CONNECTOR.

REFER TO DCS PAGE L-17.0.7 FOR ADDITIONAL INFORMATION.

- 1						
	5	4/20/15	update M&S Number	ARR	ELS	RDH
	4	11/3/11	UPDATE NOTE 3 AND 7	ARR	ELS	WM
1	3	1/20/11	UPDATE TITLE BAR, DWG & NOTES	ARR	ELS	BXN
Ī	2	5/15/09	UPDATE TITLE BAR & NOTES	ARR	ELS	JRD
i	1	9/24/08	UPDATE NOTES	ARR	ELS	JRD
1	0	7/12/07	ORIGINAL DRAWING	ARR	ELS	JRD
1	NO.	DATE	REVISION	ORIG.	DRAWN	APPR.



29

OH & UG DISTRIBUTION SYSTEM STANDARDS

ORIGINATOR: AR

DRAWN BY: ELS

DATE: 7/12/07 APPROVED: JOSE R. DIAZ
MANAGER, RELIABILITY ENGINEERING

NO SCALE

L-17.0.9

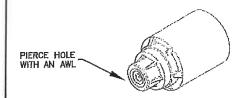
SHEAR HEAD BOLT CONNECTOR FOR CONNECTING 2 TO 4 SERVICES IN HANDHOLES

L-17.0.9

INSTALLATION INSTRUCTIONS FOR UNDERGROUND CONNECTORS M&S #163-066-008 (4 PORT) & M&S #163-066-009 (5 PORT)

LOOSEN, BUT DO NOT REMOVE THE SHEAR-HEAD BOLTS ON THE PORT/PORTS TO BE USED. STEP 2A FOR #4/0 AND #1/0 CABLES REMOVE THE SEAL CAP.

STEP 2B FOR #2,#6,#10 AND #12 CABLES LEAVE THE SEAL CAP IN PLACE AND PIERCE A SMALL HOLE IN THE END OF THE SEAL CAP USING AN AWL. MAKE SURE TO "BUNDLE UP" THE CABLES UP TO 3 TIMES FOR A PROPER CONNECTION BETWEEN THE SHEAR BOLTS, THE CABLE AND THE TEETH IN THE PORTS OF THE CONNECTORS.



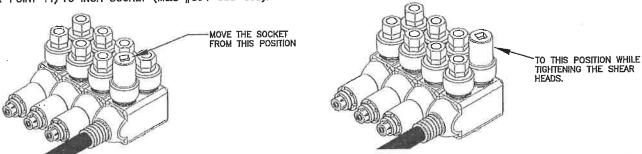
SHEAR-HEAD BOLTS SEAL CAPS

STEP 3 FOR #1/0 AND #4/0 CABLES, CUT THE END OF THE CABLES AT A SLIGHT ANGLE (NO MORE THAN 25') TO FACILITATE THE INSERTION INTO THE PORT. DO NOT STRIP THE CABLE INSULATION. 25'-

STEP 4 WIPE THE CONDUCTOR CLEAN AND APPLY SILICON GREASE TO THE CABLE TO AID IN THE INSERTION PROCESS. FOR #4/0 CABLES PRE-PUNCH THE PORTS WITH A PIECE OF #1/0 CABLE.

STEP 5 MARK CABLE JACKET WITH VINYL TAPE OR GREASE PENCIL AT A DISTANCE OF 4 1/2" FROM THE END TO MAKE SURE THAT CONDUCTOR IS FULLY INSERTED.

STEP 6 HAND TIGHTEN THE SHEAR BOLTS ON THE USED PORTS. USE A SHORT SIX-POINT 3/4 INCH SOCKET (M&S #594-955-002) ON A BATTERY OPERATED IMPACT DRIVER (MAKE SURE THE BATTERY IS FULLY CHARGED) TO AVOID ROUNDING THE SHEAR-HEADS. TIGHTEN THE BOLTS ON PORTS USED, GOING FROM THE SHEAR-HEAD CLOSEST TO THE CONDUCTOR TO THE OTHER ON THE SAME CONDUCTOR, UNTIL THE SHEAR-HEAD OPERATES. ENSURE THAT THE SOCKET FULLY ENGAGES THE SHEAR-HEAD EACH TIME. FOR SHEAR BOLTS REMOVAL USE A SHORT SIX-POINT 11/16 INCH SOCKET (M&S #594-955-003).



ENSURE ALL SHEAR HEAD BOLTS ON USED PORTS HAVE BEEN "SHEARED OFF", THAT SEAL CAPS ARE NOT MISSING ON UNUSED PORTS AS WELL AS NO LOOSE SHEAR-HEAD BOLTS.

NOTES:

- 1. M&S #163-066-064, SHEAR BOLT FOR 4 AND 5 PORT PIRANHAS WITH A #6-#4/0 CABLE SIZES.
- FOR CONNECTING #250-350MCM CABLES USE M&S #163-066-010. SEE TABLE I ON PAGE L-17.0.7.

- 1		4 = =		T I	. 1	III I
1	6	5/22/18	ADD NOTE 1	ARR	ELS	RDH
Ì	5		UPDATE STEP 2B	ARR	ELS	BXN
1	4	1/12/10	UPDATE STEP 3,4 AND 6	ARR	ELS	JRD
1	3	11/3/09	UPDATE STEP 6 & ADDED NOTE	ARR	ELS	JRD
1	2	1	ADDED M&S #594-955-002 ON STEP 6	ARR	ELS	AEL.
1	1	4/9/09	UPDATE NOTES	ARR	ELS	AEL.
1	Ó	11/11/08		ARR	ELS	AEL
1	NO.	DATE	REVISION	ORIG.	DRAWN	APPR.

OH & UG DISTRIBUTION SYSTEM STANDARDS DRAWN BY: E.SCHILLING ORIGINATOR: ARR

DATE: 10/14/08 APPROVED: ARI LIMA NO SCALE LEAD SUPERVISOR, UG PRODUCTS

L-17.0.10

SHEAR HEAD BOLT CONNECTOR FOR CONNECTING 2 TO 4 SERVICES IN HANDHOLES FOR #4/0, #250-#350MCM CABLES

L-17.0.10

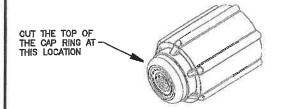
INSTALLATION INSTRUCTIONS FOR UNDERGROUND CONNECTORS

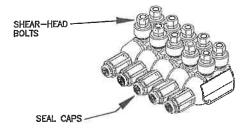
M&S #163-066-010 (5 PORT)

STEP 1 LOOSEN, BUT DO NOT REMOVE THE SHEAR-HEAD BOLTS ON THE PORT/PORTS TO BE USED.

STEP 2A FOR #4/0, #250 AND #350MCM CABLES REMOVE THE SEAL CAP.

STEP 2B FOR #1/0 CABLES LEAVE THE SEAL CAP IN PLACE AND CUT THE TOP OF THE CAP RING.



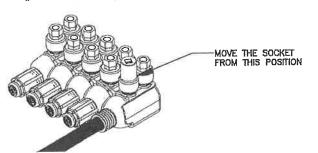


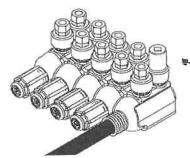
STEP 3 CUT THE END OF THE CABLES AT A SLIGHT ANGLE (NO MORE THAN 25') TO FACILITATE THE INSERTION INTO THE PORT. DO NOT STRIP THE CABLE INSULATION.

STEP 4 WIPE THE CONDUCTOR CLEAN AND APPLY SILICON GREASE TO THE CABLE TO AID IN THE INSERTION PROCESS. FOR #4/0, #250 AND #350 CABLES PRE-PUNCH THE PORTS WITH A PIECE OF #4/0 CABLE.

STEP 5 MARK CABLE JACKET WITH VINYL TAPE OR GREASE PENCIL AT A DISTANCE OF 4 1/2" FROM THE END TO MAKE SURE THAT CONDUCTOR IS FULLY INSERTED.

STEP 6 HAND TIGHTEN THE SHEAR BOLTS ON THE USED PORTS. USE A SHORT SIX-POINT 3/4 INCH SOCKET (M&S #594-955-002) ON A BATTERY OPERATED IMPACT DRIVER (MAKE SURE THE BATTERY IS FULLY CHARGED) TO AVOID ROUNDING THE SHEAR-HEADS. TIGHTEN THE BOLTS ON PORTS USED, GOING FROM THE SHEAR-HEAD CLOSEST TO THE CONDUCTOR TO THE OTHER ON THE SAME CONDUCTOR, UNTIL THE SHEAR-HEAD OPERATES. ENSURE THAT THE SOCKET FULLY ENGAGES THE SHEAR-HEAD EACH TIME. FOR SHEAR BOLTS REMOVAL USE A SHORT SIX-POINT 11/16 INCH SOCKET (M&S #594-955-003).





TO THIS POSITION WHILE TIGHTENING THE SHEAR HEADS.

STEP 7 ENSURE ALL SHEAR HEAD BOLTS ON USED PORTS HAVE BEEN "SHEARED OFF", THAT SEAL CAPS ARE NOT MISSING ON UNUSED PORTS AS WELL AS NO LOOSE SHEAR—HEAD BOLTS.

		i	1	1 1	1	31
						OH & UG DISTRIBUTION SYSTEM STANDARDS ORIGINATOR: ARR DRAWN BY: E.SCHILLING
NO.	DATE	REVISION	ORIG.	DRAWN	APPR.	DATE: 1/26/2010 APPROVED: ARI LIMA NO SCALE LEAD SUPERVISOR, UG PRODUCTS

L-17.0.11

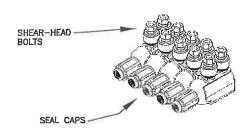
SHEAR HEAD BOLT CONNECTOR FOR CONNECTING 2 TO 4 SERVICES IN HANDHOLES FOR #350-#500MCM CABLES

L-17.0.11

INSTALLATION INSTRUCTIONS FOR UNDERGROUND CONNECTORS M&S #163-066-011 (5 PORT)

STEP 1 LOOSEN, BUT DO NOT REMOVE THE SHEAR-HEAD BOLTS ON THE PORT/PORTS TO BE USED.

STEP 2A FOR #350MCM AND #500MCM CABLES REMOVE THE SEAL CAP.

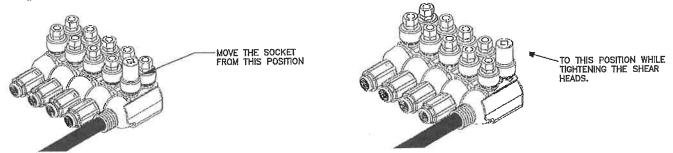


STEP 3 CUT THE END OF THE CABLES AT A SLIGHT ANGLE (NO MORE THAN 25") TO FACILITATE THE INSERTION INTO THE PORT. DO NOT STRIP THE CABLE INSULATION.

STEP 4 WIPE THE CONDUCTOR CLEAN AND APPLY SILICON GREASE TO THE CABLE TO AID IN THE INSERTION PROCESS. PRE-PUNCH THE PORTS WITH A PIECE OF #4/0 CABLE.

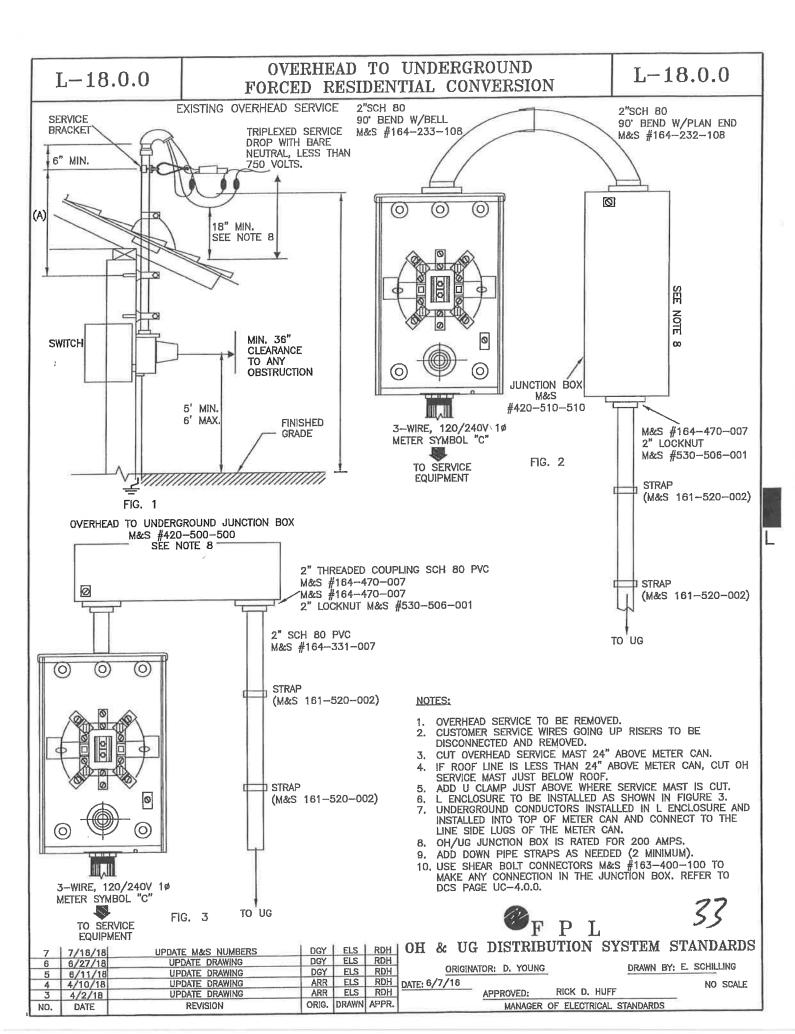
STEP 5 MARK CABLE JACKET WITH VINYL TAPE OR GREASE PENCIL AT A DISTANCE OF 4 1/2" FROM THE END TO MAKE SURE THAT CONDUCTOR IS FULLY INSERTED.

STEP 6 HAND TIGHTEN THE SHEAR BOLTS ON THE USED PORTS. USE A SHORT SIX-POINT 3/4 INCH SOCKET (M&S #594-955-002) ON A BATTERY OPERATED IMPACT DRIVER (MAKE SURE THE BATTERY IS FULLY CHARGED) TO AVOID ROUNDING THE SHEAR-HEADS. TIGHTEN THE BOLTS ON PORTS USED, GOING FROM THE SHEAR-HEAD CLOSEST TO THE CONDUCTOR TO THE OTHER ON THE SAME CONDUCTOR, UNTIL THE SHEAR-HEAD OPERATES. ENSURE THAT THE SOCKET FULLY ENGAGES THE SHEAR-HEAD EACH TIME. FOR SHEAR BOLTS REMOVAL USE A SHORT SIX-POINT 11/16 INCH SOCKET (M&S #594-955-003).



STEP 7 ENSURE ALL SHEAR HEAD BOLTS ON USED PORTS HAVE BEEN "SHEARED OFF", THAT SEAL CAPS ARE NOT MISSING ON UNUSED PORTS AS WELL AS NO LOOSE SHEAR—HEAD BOLTS.

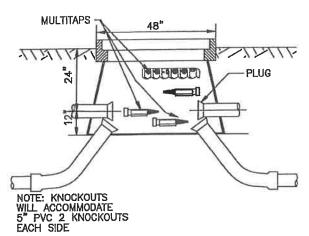
						OH & UG DISTRIBUTION SYSTEM STANDARDS ORIGINATOR: ARR DRAWN BY: E.SCHILLING
NO.	DATE	REVISION	ORIG.	DRAWN	APPR.	DATE: 4/22/14 APPROVED: RICK HUFF NO SCALE MANAGER OF ELECTRICAL STANDARDS



UN-19.0.0

MULTITAP CONNECTORS IN HANDHOLE (30"X48"X36") FOR CONNECTING 2 TO 5 SERVICES AND 1/0 PRIMARY SPLICE BOX

UN-19.0.0



NEUTRA SERVICE **SECONDARY** SERVICE FUSE HOLDER, FUSE & SEAL FOR STREET LIGHT CIRCUIT, IF LEG REQUIRED (DCS H-7.0.1) HOT

FOR EASE OF INSTALLATIONS TRAIN THE CABLES ABOVE GRADE, INSTALL THE MULTITAP CONNECTORS, THEN INSTALL INSIDE HANDHOLE

CONNECTION DIAGRAM (EXPANDED)

HANDHOLE ELEVATION

HANDHOLE USED FOR SECONDARY SERVICE

NYLON SLING (FPL) LIFTING EYE

HANDHOLE MAY BE LIFTED WITH OR WITHOUT COVER IN PLACE

LIFTING DETAIL

MIMIL NOTE: FOR SPLICE DETAILS SEE DCS UE-19.0.0 1/0 SPLICE 36' HANDHOLE ELEVATION HANDHOLE USED AS A 1/O PRIMARY SPLICE BOX

NOTES: MAXIMUM 1 SECONDARY CONDUIT WITH 2 TO 5 SERVICES.

MAXIMUM 3 SPLICES.

- PROVIDE GROUNDING FOR ANY RUN GREATER THAN 650FT, INSTALL GROUND RODS AT THE 48" HANDHOLES TO GROUND THE CABLE. IF A HANDHOLE IS BEING INSTALLED IN A RUN FOR "CONVENIENCE" (TOO MANY BENDS IN THE RUN, CUTTING INTO A LOOP TO EXTEND INTO A CUL-DE-SAC, REPAIRING A DIG IN, ECT.) THERE IS NO NEED FOR THE GROUND RODS.
- 6-PORT MULTITAP CONNECTOR M&S #163-017-502 WILL ACCOMMODATE #1/0 CABLE AND #400-#750 MCM COPPER OR ALUMINUM CABLES
- WEIGHT:
 - 2 PIECE LID = 82 LBS. EACH BODY = 190 LBS.
- 6. LIFTING:
 - COVER MAY BE LIFTED WITH THE HANDHOLE LID LIFTER

- COVER MAY BE LIFTED WITH HE HANDHOLE LID LIFTER

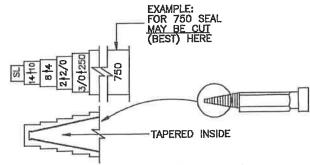
 (HOOK) TOOL M&S #593-930-021.

 7. COMPLETE HANDHOLE, INCLUDES COVER M&S #162-121-004.

 8. REPLACEMENT COVER M&S #162-121-012.

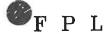
 9. HANDHOLE SHOULD NOT BE EXPOSED TO VEHICULAR TRAFFIC, SUCH AS STREETS, PARKING LOTS, OR DRIVEWAYS.

 10. FOR DRIVEWAY LOADING HANDHOLE 32"X50"X36" DEEP, USE M&S
- #162-122-892. (UX-202,0.0) APPROXIMATE WEIGHT 2,663 LBS.



MULTITAP CONNECTOR M&S 163-017-502 FLOOD SEAL

NO.	8/09/96 DATE	ADDED EMS & NOTES 9., 10, & 11 REVISION	ORIG.	DRAWN		1
			SMS	RAS	JJM	Į!
2	9/27/99	UPDATE DRAWING (NOTES)	RAP	JES	JJM	
3	7/16/01	UPDATE DRAWING (NOTES)	RAP	JES	JJM	
4	11/18/03	UPDATE NOTES	RJO	ELS	JJM	
5	8/18/05	UPDATE NOTES	RJO	ELS	JJM	
6	6/16/08	UPDATE NOTES	GAP	ELS	JJM	
7	2/4/10	UPDATE NOTE 4	ARR	ELS	JRD	
8	7/29/11	UPDATE NOTE 3	ARR	ELS	BXN	



OH & UG DISTRIBUTION SYSTEM STANDARDS UN-19.0.0 LAST REVISED ON 9-30-94 SUPERSEDES

ORIGINATOR: SMS

DRAWN BY: SMS

DATE: 9/30/94

APPROVED: J.J. MCEVOY SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES NO SCALE

UN-25.0.0

REPAIR OF OCCUPIED DIRECT BURIED CONDUIT SIZES 2, 4, 5 & 6

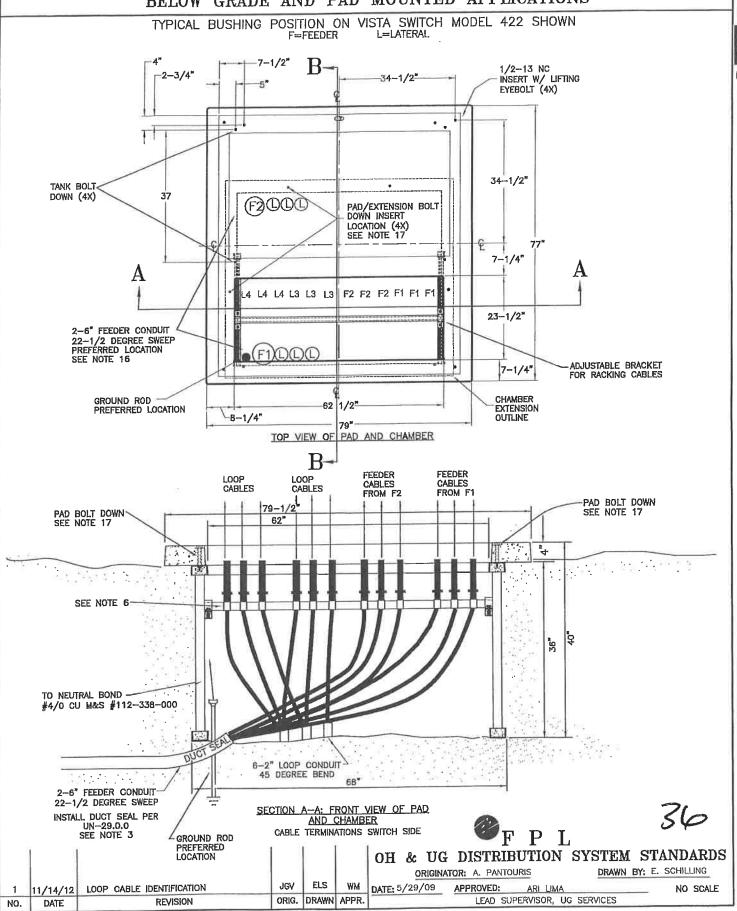
STEP 1 AFTER LOCATING DAMAGED CONDUIT......

UN-25.0.0

			Mark with the second of the se
		STEP 2	CUT DAMAGED ENDS SQUARELY USING NYLON TWINE AND DEBUR INSIDE EDGE. BEVEL ANY SHARP EDGES. WIPE ENDS WITH A CLEAN, DRY CLOTH, INSIDE AND OUT. REMOVE ANY DEBRIS FROM INSIDE DUCT.
		STEP 3	SLIDE SPLIT SLEEVE COUPLING OVER EACH CONDUIT SECTION. ENSURE ALL SECTIONS ARE CLEAN AND DRY.
		STEP 4	PLACE ONE SECTION OF SPLIT CONDUIT UNDER CABLE IN LINE WITH PIPE AND MARK THE SPOT WHERE THE SPLIT SLEEVE COUPLING SHOULD FIT.
			MARKS TO INDICATE WHERE TO PLACE END OF SPLIT SLEEVE COUPLING.
		STEP 5	PLACE TOP SECTION OF SPLIT CONDUIT OVER CABLE AND SNAP THE INTERLOCKING SECTIONS TOGETHER. APPLY PVC CEMENT AS REQUIRED.
			PVC CEMENT———————————————————————————————————
		STEP 6	SLIP SLEEVE OVER DAMAGED END AND REPAIR SECTION. WHILE CEMENT IS STILL WET, TURN CONDUIT 1/4 TURN TO DISTRIBUTE CEMENT EVENLY AND ENSURE SNUG FIT. HOLD JOINT TOGETHER APPROXIMATELY ONE MINUTE TO ALLOW CEMENT TO SET. WIPE EXCESS OFF.
			8 H H B
		STEP 7	REPEAT STEP 6 FOR THE OTHER SIDE OF THE REPAIR SECTION. TY-RAPS ARE OPTIONAL.
			8
Ü.		MATERIA	
	M&S 1		PUPLING SPLIT CONDUIT 2" X 10' LONG
	164-2820		LONG
	164-2814		4"X 10' LONG
	164-2830 164-2815		5" X 10' LONG
	164-2840		LONG
	164-2816		6" X 10' LONG
	164-2850 522-1410		A L L
	594-4060		
			ORIGINATOR: BLM DRAWN BY: RAS
			The second secon
1	7/16/01		MATERIAL LIST RAP JES JJM DATE: 8-9-96 APPROVED: J.J. MCEVOY NO SCALE SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES
Э.	DATE	R	EVISION ORIG. DRAWN APPR. SUPPORT SERVICES

TYPICAL INSTALLATION OF 25KV S&C VISTA THREE PHASE SWITCH FOR USE IN 13KV OR 23KV BELOW GRADE AND PAD MOUNTED APPLICATIONS

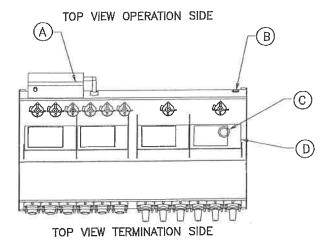
C-46.0.0



TYPICAL INSTALLATION OF 25KV S&C VISTA THREE PHASE SWITCH FOR USE IN 13KV OR 23KV BELOW GRADE AND PAD MOUNTED APPLICATIONS

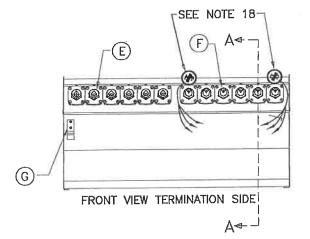
C-46.0.1



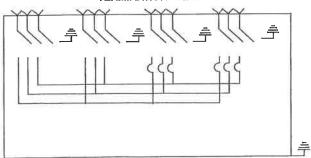


FEATURES IN THIS ASSEMBLY

- A. OVERCURRENT CONTROL
- B. GAS FILL PORT
- PRESSURE GAUGE
- WINDOW FOR VIEWING OPEN GAP AND GROUNDED POSITION OF LOAD-INTERRUPTER SWITCH OR FAULT INTERRUPTER
- 200-AMPERE BUSHING-WELLS FOR FAULT-INTERRUPTER
- 600-AMPERE BUSHINGS FOR LOAD-INTERRUPTER SWITCH
- TWO-HOLE GROUND PAD
- H. 600-AMPERE THREE-POLE LOAD-INTERRUPTER SWITCH WITH GROUND **POSITION**
- OPERATING MECHANISM
- MANUAL OPERATING HANDLE
- K. NAMEPLATE
- SUBMERSIBLE SF6-INSULATED TANK 600-AMPERE ALUMINUM BUS
- N. BASE BRACKET

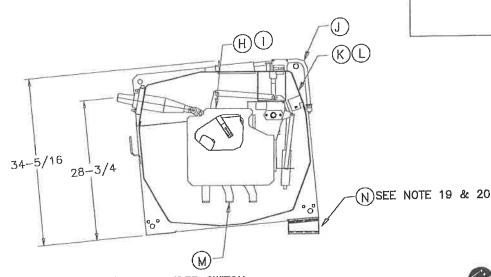






OPERATION SIDE

CONNECTION DIAGRAM



SECTION A-A: FEEDER SWITCH

OH & UG DISTRIBUTION SYSTEM STANDARDS

ORIGINATOR: A. PANTOURIS

DRAWN BY: E. SCHILLING

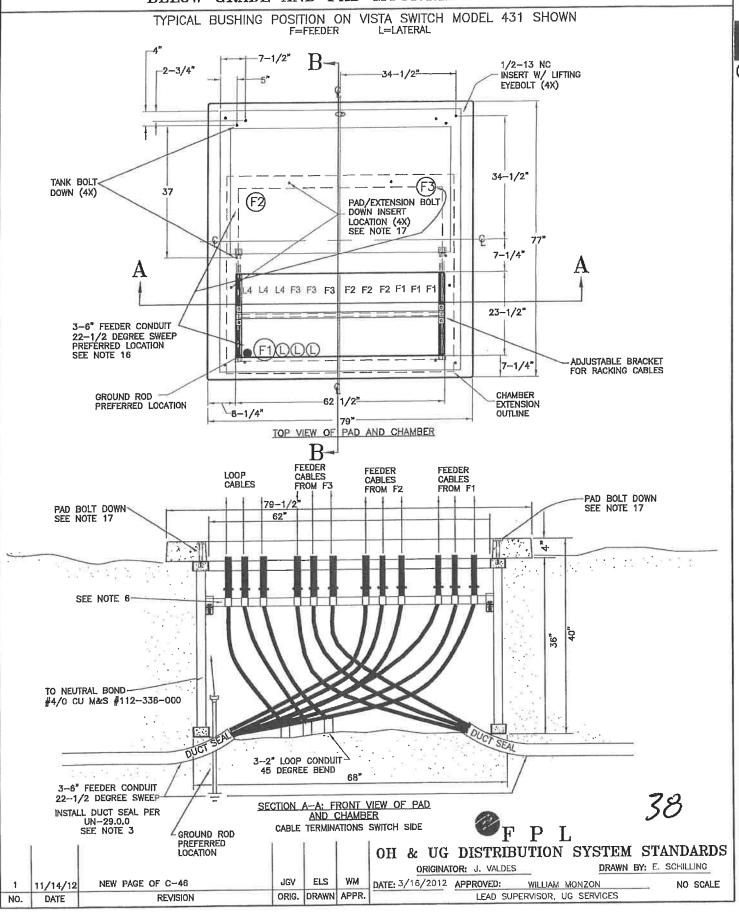
ELS JGV WM CHANGE C-46.0.2 TO C-46.0.1 11/14/12 ORIG. DRAWN APPR. REVISION

DATE: 7/27/09 APPROVED:

ARI LIMA LEAD SUPERVISOR, UG SERVICES NO SCALE

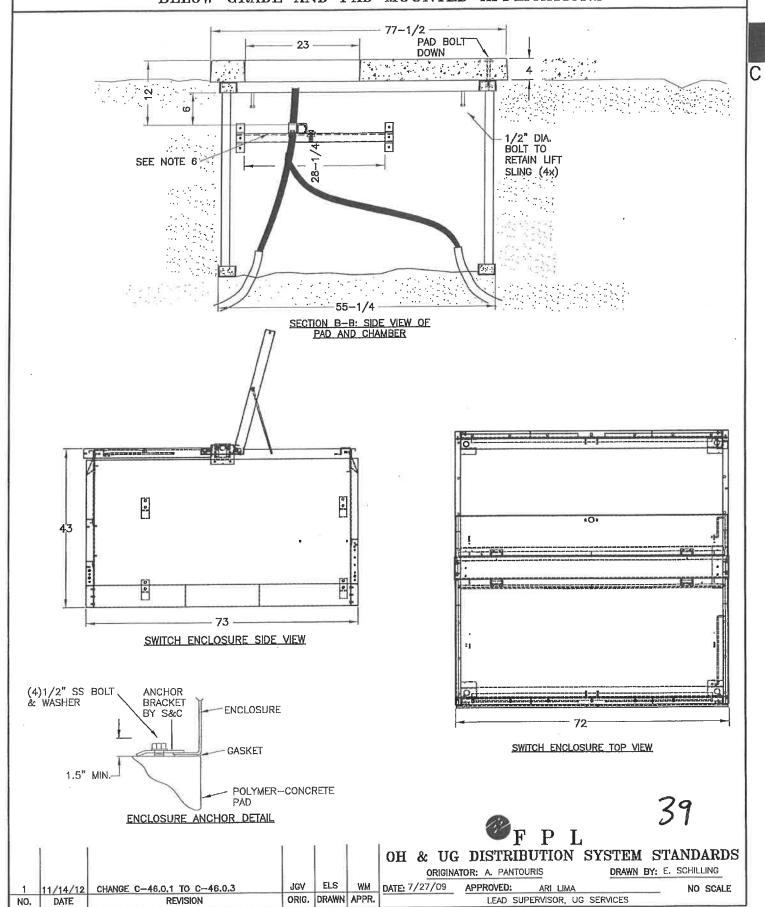
TYPICAL INSTALLATION OF 25KV S&C VISTA THREE PHASE SWITCH FOR USE IN 13KV OR 23KV BELOW GRADE AND PAD MOUNTED APPLICATIONS

C-46.0.2



TYPICAL INSTALLATION OF 25KV S&C VISTA THREE PHASE SWITCH FOR USE IN 13KV OR 23KV BELOW GRADE AND PAD MOUNTED APPLICATIONS

C-46.0.3



TYPICAL INSTALLATION OF 25KV S&C VISTA THREE PHASE SWITCH FOR USE IN 13KV OR 23KV BELOW GRADE AND PAD MOUNTED APPLICATIONS

C-46.0.4

	MATERIAL	LIST		
ITEM	DESCRIPTION	QUANTITY	M&S NUMBER	WMS CU
	VISTA 422 (4 "WAYS", 2—THREE PHASE FEEDER GANG SWITCHES AND TWO—THREE PHASE, INDIVIDUALLY PROTECTED LOAD TAPS, WITH A STAINLESS STEEL ENCLOSURE	1	279-209-050	SW-VISTA-422-PAD
1	VISTA 431 (4 "WAYS", 3—THREE PHASE FEEDER GANG SWITCHES AND ONE—THREE PHASE, INDIVIDUALLY PROTECTED LOAD TAPS, WITH A STAINLESS STEEL ENCLOSURE	•	279211050	SW-VISTA-431-PAD
2	PAD AND CHAMBER FOR PM DF VISTA SWITCH (77"X 79"X 40" DEEP)	1	162-690-790	PD-SW-W/CC-VISTA
3	600 AMP T-BODY ELBOWS (25KV)	VARIES	163-639-007	TM-PDF-600-1K
4	200 AMP BUSHINGS (25KV)	VARIES	163-864-001	SW-PD-BSH
5	200 AMP LOADBREAK ELBOWS (25KV)	VARIES	163-502-001	TM-PDF-1/0
6	PROTECTIVE CAP (15KV ONLY)	VARIES	163-022-000	
7	ELBOW SURGE ARRESTERS (25KV ONLY)	VARIES	334-015-005	
8	GROUND ROD CONNECTOR, CLAMP TYPE	1	120-036-106	DG-CLP-5/8
9	GROUND RODS, AS NEEDED	VARIES	130-614-005	DG-PKG-5/8
10	GROUND ROD COUPLINGS	VARIES	130-405-104	DG-C-5/8
11	#4 COPPER WIRE, SDB	6	112-309-000	
12	#4/0 CU CABLE, 600V	27	110-101-169	SW-PMD-GC
13	#4/0 CABLE CONNECTORS	6	120-871-005	(Qty - 1)
14	COPPER TO COPPER BOLTED CONNECTORS	22	102-800-002	
15	STANDARD LOCKS	2	546-246-011	SW-PMD-LOCK
16	CABLE MOUNTING BRACKET, STAINLESS		160-310-000	
17	BOLTS, SS, 1/2"X 1-1/2" FOR CABLE BRACKET	12	140-515-557	SWVISTA-MT-HDW
	SPRING, NUTS, SS, FOR 1/2" BOLT FOR CABLE BRACKET	,'-	161-463-000	
	LOCK WASHER, 1/2", FOR CABLE BRACKET		145-294-010	
	800 AMP FAULT INDICATOR	VARIES	163-297-009	P-CL-FCI-800
04	ROTATABLE FEEDTHRU DEVICE, 200AMP, 25KV	6	163-250-002	SW-VISTA-422-PAD
21	KUIAIABLE FEEDIAKU DEVICE, ZUUAMF, ZUKY	3	163-250-002	SW-VISTA-431-PAD

NOTES:

- 1. THE INTERRUPTERS MUST BE PRE-SET BY THE ERC PRIOR TO BEING ISSUED TO THE JOB. CALL 863-4921 OR 863-4900 TO MAKE ARRANGEMENTS.
- THE PAD MOUNTED VISTA SWITCH MAY BE INSTALLED IN AREAS SUBJECT TO FLOODING.

- SEAL THE INCOMING DUCTS PER UN-29.0.0.

 THE SWITCH AND ITS ENCLOSURE MUST BE BOLTED TO THE PAD.

 REFER TO DCS UH-41.0.1 FOR PROPER INSTALLATION OF 600 AMP T-BODY ELBOWS.

 BOTH THE FEEDER CABLES AND LOOP SIDE CABLES ARE TO BE RACKED THROUGH THE CABLE SUPPORT BRACKETS INSTALLED ON THE UNISTRUT IN THE CABLE CHAMBER. CABLES MUST NOT BE IN CONTACT WITH THE CABLE CHAMBER OR PAD TOP.
- 8. ALLOW SUFFICIENT LENGTH OF CONCENTRIC NEUTRAL TO REACH GROUNDING BARS AND PERMIT THE FREE MOVEMENT OF THE ELBOWS.

 9. MAKE CERTAIN OF CABLES LOCATIONS BEFORE DRIVING GROUND RODS.

 10. APPLY CAULKING COMPOUND TO THE SEAM BETWEEN THE ENCLOSURE AND THE PAD TOP.
- 11. DUST CAPS USED FOR COVERING BUSHINGS AND BUSHING WELLS DURING SHIPMENT MUST BE REMOVED PRIOR TO ENERGIZING THE SWITCH.
- 12. UNUSED LOAD TAPS MUST HAVE BUSHINGS AND PROTECTIVE CAPS INSTALLED.
- 13. UNUSED FEEDER POSITIONS MUST HAVE 600 AMP PROTECTIVE CAPS INSTALLED (M&S #163-645-007).

 14. AFTER THE SWITCH ENCLOSURE HAS BEEN INSTALLED, THE LIFTING BRACKETS MUST BE REMOVED AND STORED INSIDE THE ENCLOSURE FOR FUTURE USE.
- 15. ENSURE THAT THE WARNING LABEL (M&S #548-560-104) IS INSTALLED ON BOTH THE CABLE COMPARTMENT AND THE OPERATOR SIDES OF THE ENCLOSURE.
- 16. INSTALL FEEDER CONDUITS AS SHOWN IN C-46.0.0 AND C-46.0.2 ON LEFT AND/OR REAR SIDE OF CABLE CHAMBER TO ALLOW FOR

- BENDING RADIUS OF CABLE.

 17. BOLTS FOR SECURING PAD TO CHAMBER ARE INCLUDED FROM VENDOR. THERE ARE 4 BOLTING LOCATIONS AS SHOWN ON DRAWINGS.

 18. INSTALL 800 AMP 3¢ FAULT INDICATORS ON EACH SET OF FEEDER CABLES. SEE UV—14.0.0, UV—14.0.1, & UV—14.0.2.

 19. FOR PAD MOUNTED APPLICATIONS, THE BASE BRACKETS ("FEET"). "N" AS SHOWN IN C—46.0.1 ARE REQUIRED.

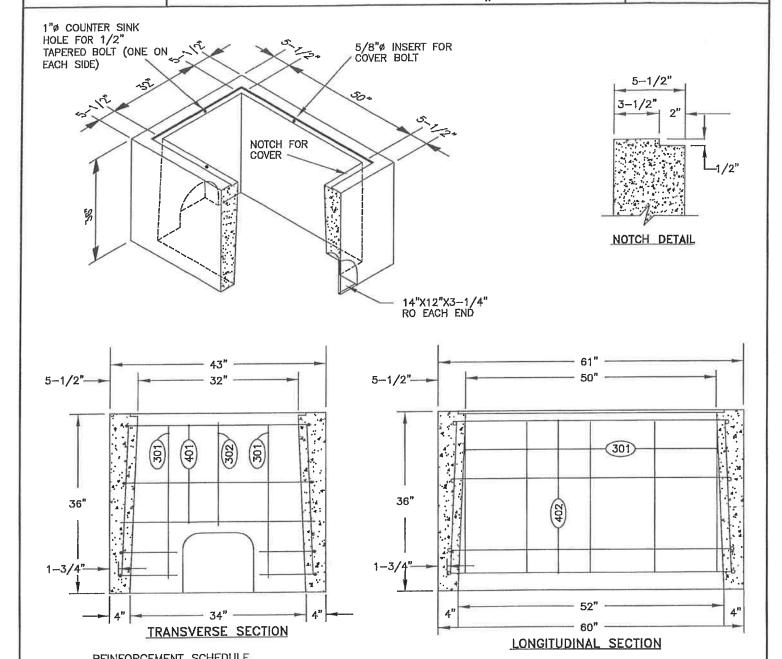
 20. THE BASE BRACKETS ARE NOT REQUIRED FOR BELOW GRADE ("UNDER—COVER") APPLICATIONS, BUT SHOULD BE KEPT WITH THE SWITCH IN THE POSSIBLE EVENT OF FUTURE RE—USE IN A PAD MOUNTED APPLICATION.
- 21. INSTALL ROTATABLE FEED-THRU DEVICE ON THE LOAD SIDE OF THE VISTA SWITCH (M&S #163-250-002)



11	$\mathbf{H}0$	80	UG	DISTRIBUTION	SYSTEM	STANDARDS
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	15 31		1			DII to Cu				
1		UPDATE NOTES 16 AND 19 ADD				ORIGINAT	TOR: A. PANTOL	JRIS	DRAWN BY: E.	SCHILLING
1 2	11/14/12	NOTE 21 AND ITEM 21	JGV	ELS	WM					
1	9/2/10	UPDATE ITEM 16	GAP	ELS	BXN	DATE: 9/1/03	APPROVED:	ARI LIMA		NO SCALE
NO	DATE	REVISION	ORIG.	DRAWN	APPR.		LEAD SUF	PERVISOR, UG S	SERVICES	

UX-202.0.0 | PRECAST HANDHOLE (32"X 50" X 36") | DRIVEWAY LOADING DESIGN M&S #162-122-892



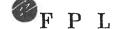
KEINE	UKCEMENI	SCHEDULE		
MARK	SIZE	LENGTH	QTY	
(301)	NO.3	2'-6"	14	
~	110.7	دو سر دی		

STRAIGHT STRAIGHT (302)NO.3 1'-5' 3'-2" **STRAIGHT** (401) NO.4 5'-0" 11" 38" (402)NO.4

WEIGHT: 2,663 POUNDS CU. FT. — 18 CU. YDS. — .66

- 1. CONCRETE COMPRESSION STRENGTH 5000 PSI.
- REINFORCEMENT ASTM A-615 (GRADE 60).
 WHEEL LOADING 16,000 LBS, H20 VEHICLE LOADING (FULL TRAFFIC LOADING).
 FOR STEEL COVER DETAILS, SEE UX-202.0.1

DETAIL



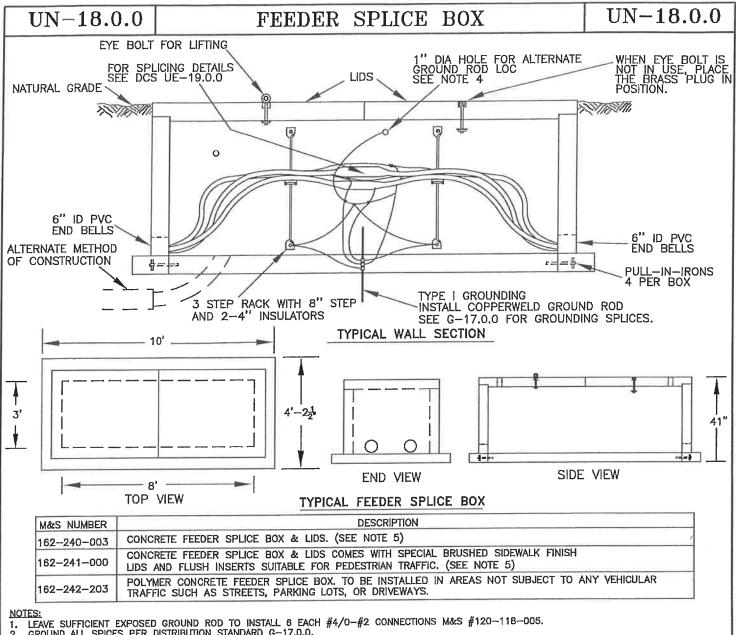
M	STANDARDS
TAY	DETTITION

UX-202.0.0

	6	10/16/18	ADD NOTE 4	ARR	ELS	RDH	ОН	80	UG	DISTRIBU	UTION	SYSTEM
	5	10/26/16	UPDATE NOTES	ARR	ELS	RDH		O.D.	OCIMAT	OR: SMS		DRAWN
- 1	4	1/17/13	UPDATE NOTES	ARR	ELS	BXN		ON	HOHAT	OK: SWS		DIONIN
- 1	3	10/21/10	UPDATE NOTES	ARR	ELS	BXN	DATE:			APPROVED:	J.J McEV	OY
	2	10/10/96	REPLACE OLD BORDER	SMS	BILL	SMS				SUPERVISO	R, OH/UG	PRODUCT
	NO.	DATE	REVISION	ORIG.	DRAWN	APPR.				SUPP	ORT SERVIC	CES

ADJOINTADE CHE	DRAWN BY: E. SCHILLING
ORIGINATOR: SMS	DICANA DI. E. SOMECINE

J.J McEVOY NO SCALE SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES



- GROUND ALL SPICES PER DISTRIBUTION STANDARD G-17.0.0.
- GROUND CABLE RACKS. EACH SPLICE BOX IS SUPPLIED WITH 2-1" DIA HOLE FOR ALTERNATE GROUND ROD LOCATION. MAKE ALL GROUNDING CONNECTIONS INSIDE THE
- BOX. RUN SUFFICIENT AMOUNT OF 4/0 TO MAKE CONNECTION TO ALT. GROUND ROD LOCATION. RESEAL 1" DIA HOLE WITH AQUASEAL.

- BOX. RUN SUFFICIENT AMOUNT OF 4/0 TO MAKE CONNECTION TO ALT. GROUND ROD LOCATION. RESEAL 1" DIA HOLE WITH AQUASEAL.

 5. REFER TO UX-233.0.1 FOR DRIVEWAY LOADING SPLICE BOXES (H20 RATED), M&S #162-240-003 AND 162-241-000. (H20 RATED = 32,000LBS).

 6. WEIGHT OF SPLICE BOX (W/O LIDS) = 6700 LBS. DIMENSIONS ARE 10' X 4'-2.5" X 41" DEEP.

 7. WEIGHT OF EACH LID = 1400 LBS. TWO LIDS REQUIRED. M&S # FOR LID ONLY 162-240-011.

 8. URD FEEDER CABLE SPLICES MUST BE BONDED TO DRIVEN GROUNDS.

 9. REFER TO UE-19.0.0 FOR SPLICE ASSEMBLY. A WATER TIGHT SEAL MUST BE MADE WHERE INSULATED.

 10. CONDUCTORS CONNECT TO SYSTEM NEUTRAL. SEE G-17.0.0.

 11. THE MAXIMUM PERMISSIBLE IMPENDENCE TO SYSTEM NEUTRAL FOR A DRIVEN GROUND IS 25 OHMS.

 12. AS SHOWN ABOVE, THE PVC MAY ENTER UNDERNEATH THE SPLICE BOX BY USING A 45 DEGREE SWEEP. SEAL CONDUIT WITH DUCT SEAL.

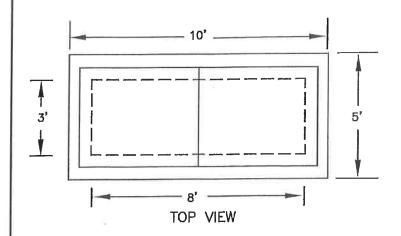
 13. IN AREAS SUBJECT TO WATER INTRUSION, INSTALL A SUFFICIENT AMOUNT OF PEAROCK 1/4"-3/4" SIZE, ROCK TO ALLOW FOR THE PERCOLATION OF THE WATER.
- 14. IF FEEDER SPLICE BOX IS TO BE INSTALLED IN A SIDEWALK, A SEPARATION WILL BE NEEDED BETWEEN THE CONCRETE AND THE LIDS. THE D.O.T. INDEX 310 SPECIFIES THE USE OF A 1/2" EXPANSION JOINT (PREFORMED JOINT FILLER) FOR THIS SEPARATION. ALSO CONSULT YOUR LOCAL MUNICIPALITY FOR ANY ADDITIONAL REQUIREMENTS.
- 15. THE MAXIMUM SEPARATION BETWEEN FEEDER SPLICE BOXES IS 950', THIS IS TO ALLOW FOR PROPER CABLE PULLING TENSIONS.
- 16. UX-233.0.1 AND UX-233.0.3 FOR MORE DETAIL.
- 17. WHEN SETTING A PAD/MANHOLE OR FEEDER SPLICE BOX, THE AREA MUST BE LEVELED WITHIN 1 INCH IN 8 FEET IN ALL DIRECTIONS, AND THOROUGHLY COMPACTED WITH A VIBRATORY PLATE COMPACTOR. THIS STEP WOULD PROVIDE A SMOOTH AND LEVEL SURFACE.

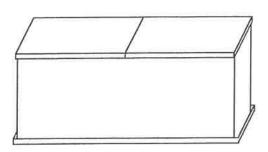
			w.		
7	8/6/18	ADD NOTE 17	ARR	ELS	RDH
6	6/12/17	UPDATE DRAWING AND NOTES	ARR	ELS	RDH
5	5/19/17	ADD NOTE 15	ARR	ELS	RDH
4	3/17/17	UPDATE NOTE 5	ARR	ELS	RDH
3	11/21/16	UPDATE DRAWING	ARR	ELS	RDH
2	6/6/08	UPDATE NOTE 14	GAP	ELS	JJM
NO.	DATE	REVISION	ORIG.	DRAWN	APPR.

			FFI	1	-
ОН	&	UG	DISTRIBUTION	SYSTEM	STANDARDS

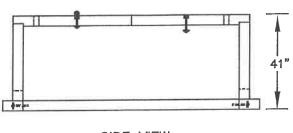
DRAWN BY: J.SHOUP ORIGINATOR: RAP J.J McEVOY DATE: 8/27/99 APPROVED: NO SCALE SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES

42

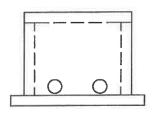




TYPICAL FEEDER SPLICE BOX



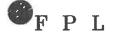
SIDE VIEW



END VIEW

NOTES:

- LEAVE SUFFICIENT EXPOSED GROUND ROD TO INSTALL 6 EACH #4/0-#2 CONNECTORS M&S #120-11800-5.
- GROUND ALL SPLICES PER DISTRIBUTION STANDARD G-17.0.0.
- GROUND CABLE RACKS.
- EACH SPLICE BOX IS SUPPLIED WITH 2-1" DIA HOLE FOR ALTERNATE GROUND ROD LOCATION. MAKE ALL GROUNDING CONNECTIONS INSIDE THE BOX. RUN SUFFICIENT AMOUNT OF 4/0 TO MAKE CONNECTION TO ALT. GROUND ROD LOCATION. RESEAL 1" DIA HOLE WITH AQUASEAL.
- 5. DISTRIBUTION SPLICE BOX AND LIDS ARE DESIGNED FOR H-20 VEHICLE LOADING. (FULL TRAFFIC LOADING)
- 6. WEIGHT OF SPLICE BOX (W/O LIDS) =6700 LBS. DIMENSIONS ARE 10' X 5' X 41" DEEP
- 7. WEIGHT OF EACH LID=1400 LBS. TWO LIDS REQUIRED. M & S # FOR LID ONLY 162-24001-1.
- 8. URD FEEDER CABLE SPLICES MUST BE BONDED TO DRIVEN GROUNDS.
- REFER TO UE-19.1.1 & UE-19.1.2 FOR SPLICE ASSEMBLY. A WATER TIGHT SEAL MUST BE MADE WHERE INSULATED
- 10. CONDUCTORS CONNECT TO SYSTEM NEUTRAL. SEE G-17.0.0
- 11. THE MAXIMUM PERMISSIBLE IMPEDENCE TO SYSTEM NEUTRAL FOR A DRIVEN GROUND IS 25 OHMS.
- 12. AS SHOWN ABOVE, THE PVC MAY ENTER UNDERNEATH THE SPLICE BOX BY USING A 45 DEGREE SWEEP. SEAL CONDUIT WITH DUCT SEAL.
- 13. IN AREAS SUBJECT TO WATER INTRUSION, INSTALL A SUFFICIENT AMOUNT OF PEAROCK 1/4"-3/4" SIZE ROCK TO ALLOW FOR THE PERCOLATION OF THE WATER.
- 14. IF FEEDER SPLICE BOX IS TO BE INSTALLED IN A SIDEWALK. A SEPERATION WILL BE NEEDED BETWEEN THE CONCRETE AND THE LIDS.
- 15. REFER TO UX-233.0.1



OH & UG DISTRIBUTION SYSTEM STANDARDS

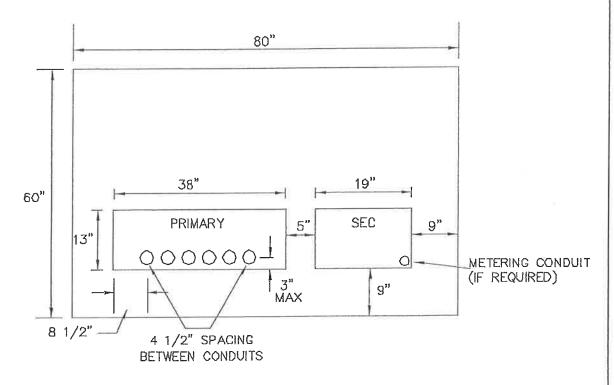
						ORIGINATOR: RAP	DRAWN BY: J. SHOUP
1	11/18/03	UPDATE NOTES	RJO	ELS	JJM	The state of the s	
0	9/09/99	ORIGINAL DRAWING	RAP	JES	JJM	DATE: 8/27/99 APPROVED: J. McEVOY SUPERVISOR, OH/UG PR	ODUCT NO SCALE
NO.	DATE	REVISION	ORIG.	DRAWN	APPR.		

UX-114.0.2

CONDUIT LOCATIONS FOR 3 PHASE
DEAD FRONT PAD MOUNTED TRANSFORMERS
WITH SECTIONALIZING (CABLE THRU) UP TO
500KVA USING 6-2" DUCTS FOR PRIMARY CABLE

UX-114.0.2

ALTERNATIVE 1



(FRONT OF PAD)

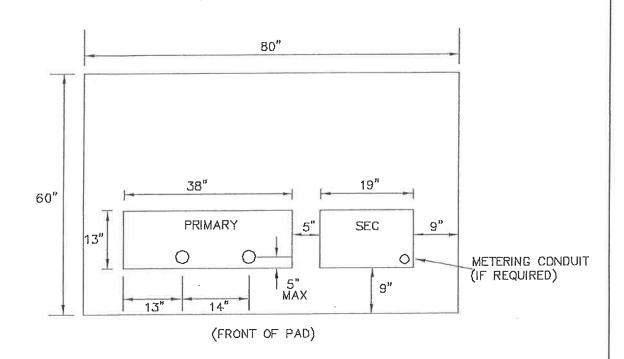
NOTES:

- 1) REFERENCE I-70.0.1 OF THE DCS
- 2)PAD M&S 162-24680-0
- 3)ALL CONDUITS TO EXTEND 3"MAX ABOVE GROUND LEVEL
- 4) ALL SECONDARY /CUSTOMER CONDUITS MUST FIT WITHIN THE 19"X13" AREA INDICATED, WILL HOLD 8-4" CONDUITS MAX.
- 5)ALL CONDUIT RELATED DIMENSIONS ARE TO THE CENTER OF THE DUCT
- 6)MAINTAIN 8' CLEARANCE FROM FRONT AND 3' CLEARANCE FROM SIDES AND BACK OF TRANSFORMER PAD.



						ORIGINATOR: SMS DRAWN BY: BILL
1	05/29/02	UPDATE DRAWING (NOTE 4)	RAP	JES	ЫЫ	DATE: APPROVEO: J.J. MCEVOY NO SCALE
NO.	DATE	REVISION	ORK.	DRAWN	APPR.	SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES

CONDUIT LOCATIONS FOR 3 PHASE
DEAD FRONT PAD MOUNTED TRANSFORMERS
WITH SECTIONALIZING (CABLE THRU) UP TO
500KVA USING 2-5" DUCTS FOR PRIMARY CABLES UX-114.0.1UX-114.0.1



NOTES:

- 1)REFERENCE I-70.0.1 OF THE DCS
- 2)PAD M&S 162-24680-0
- 3)ALL CONDUITS TO EXTEND 3"MAX ABOVE GROUND LEVEL
- 4)ALL SECONDARY /CUSTOMER CONDUITS MUST FIT WITHIN THE 19"X13" AREA INDICATED. WILL HOLD 8-4" CONDUITS MAX.
- 5) ALL CONDUIT RELATED DIMENSIONS ARE TO THE CENTER OF THE DUCT
- 6) MAINTAIN 8' CLEARANCE FROM FRONT AND 3' CLEARANCE

FROM SIDES AND REAR OF TRANSFORMER PAD.

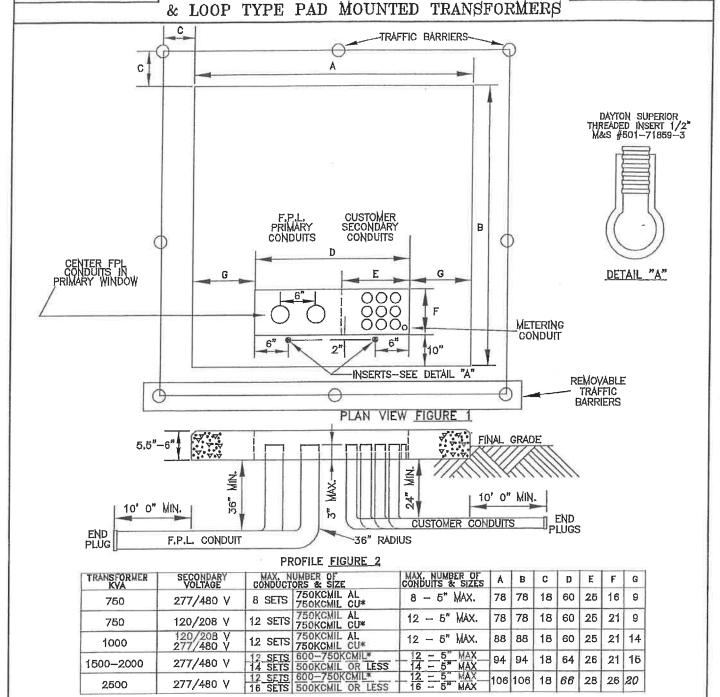
OH & UG DISTRIBUTION SYSTEM STANDARDS DRIGINATOR: SMS DRAWN BY: BILL ROVED: J.J. MCEVOY SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES DATE APPROVED: 05/29/02 UPDATE DRAWING (NOTE 4) RAP JES W NO SCIALE REVISION ORIG. DRAWN APPR. DATE

●F P L

UX-116.1.1

CONCRETE FOUNDATION CONSTRUCTION DETAILS FOR 750 TO 2,500 KVA 30 RADIAL

UX-116.1.1



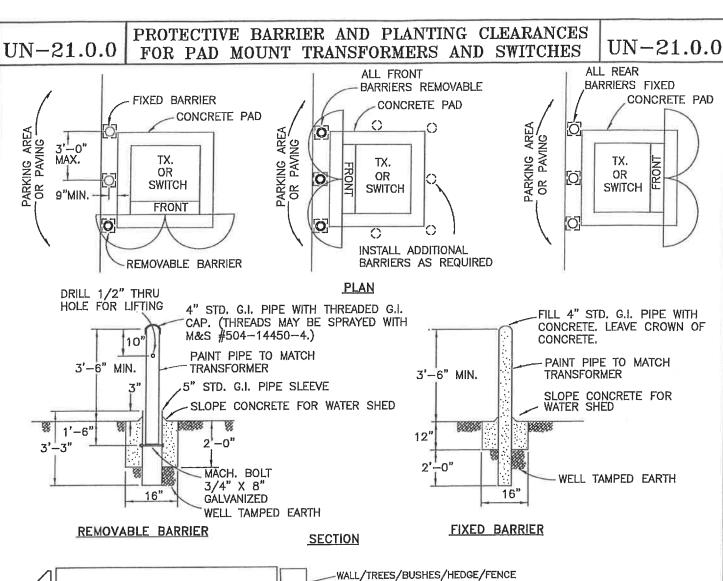
- NOTES: 1. SEE UX-116.1.2 FOR CONSTRUCTION DETAILS AND UX-116.1.3 FOR
- INSTALLATION GUIDELINES AND RESPONSIBILITIES
- (*) CABLES LARGER THAN 500 CU WILL REQUIRE MULTITAP CONNECTOR 103-80505-9.

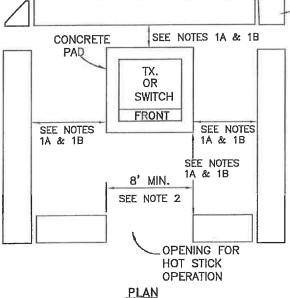
SUPERSEDES UX-116.1.1 LAST REVISED ON 01/18/01

FOR ANY NEW INSTALLATION WHICH HAS MORE THAN 8 SETS OF 750 KCMIL CU OR MORE THAN 12 SETS OF A SMALLER SIZE CONDUCTOR, IT IS RECOMMENDED TO USE THE LARGE THREE-PHASE SECONDARY CABINET, M&S# 161-40100-3, AS SHOWN IN DCS 1-75.0.0.

FPL OH & UG DISTRIBUTION SYSTEM STANDARDS

						ORIGINATOR; MV DRAWN BY; BILL
2	04/10/01	UPDATE CHART AND NOTES	RAP	JES	JJM	ORIGINATOR: NV DRAWN BY: BILL
1	10-9-96	GENERAL REVISION	W	BILL	MUL	- In the second
0	8-9-96	REVISED TABLE AND PAD DIMENSIONS	W	RAS	71W	DATE: 10-9-95 APPROVED: J.J. MCEVOY NO SCALE SUPERVISOR, OH/UG PRODUCT
No.	DATE	REMSION	ORIG.	DRAWN	APPR.	

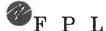




NOTES:

ORIG. DRAWN APPR.

- 1A. PADMOUNTED SWITCHES AND CAPACITOR BANKS REQUIRE 8' MIN. CLEARANCE ON ALL SIDES.
- 1B. PADMOUNTED TRANSFORMERS REQUIRE 3' MIN. CLEARANCE ON EACH SIDE AND BACK AND 8' CLEARANCE IN THE FRONT.
- 2. FRONT ACCESS CLEARANCE SHOULD BE 8' FOR ALL EQUIPMENT.
- 3. "ELECTRIC EQUIPMENT KEEP OUT" DECAL THAT SHOWS THE MINIMUM SEPARATION DISTANCES FOR BUSHES FROM TRANSFORMERS IS M&S #548-560-101.



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OH & UG DISTRIBUTION SYSTEM STANDARDS

5	3/3/17	UPDATE DRAWING (NOTES)	ARR	ELS	RDH	
4	9/13/16	UPDATE DRAWING (NOTES)	ARR	ELS	RDH	
3	9/17/13	UPDATE DRAWING (NOTES)	JJR	ELS	WM	1
2	7/16/01	UPDATE DRAWING (NOTES)	RAP	JES	JJM]
1	8/27/99	UPDATE DRAWING (NOTES)	RAP	JES	JJM	D
0	9/30/94	ORIGINAL DRAWING	CJM	PMG	RJS	15
l o	9/30/94	ORIGINAL DRAWING	COM	LWG	17073	J

REVISION

DATE

NO.

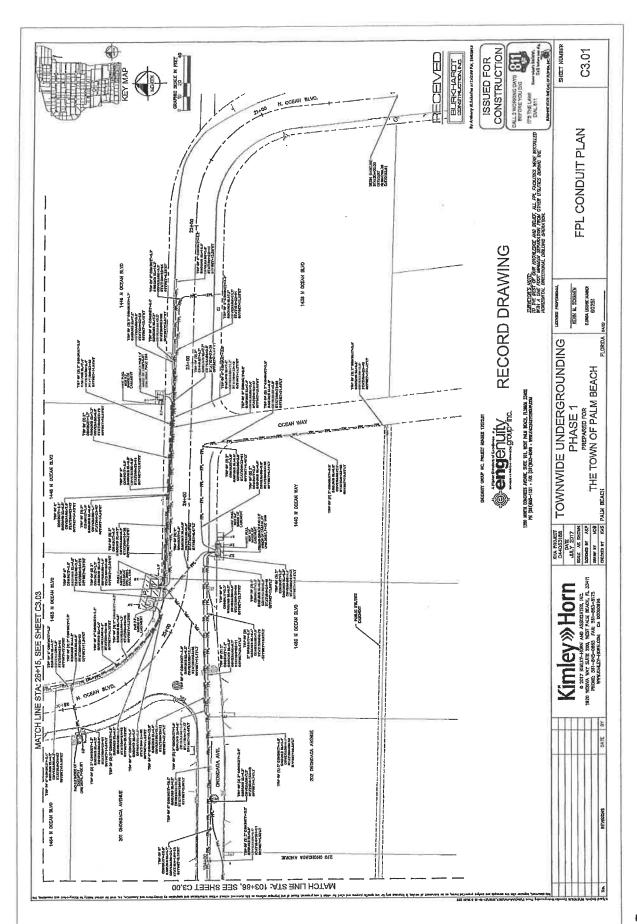
ORIGINATOR: CJM

DRAWN BY: PTH

DATE: 9/30/94

APPROVED: R.J. SALESKY
DIRECTOR, DISTRIBUTION ENGINEERING
AND OPERATIONS SERVICES

NO SCALE



UNDERGROUND FACILITIES CONVERSION AGREEMENT (NON-GAF)

This Agreement, is made and entered into this 27½ day of August, 2019, by and between MARTIN COUNTY BOARD OF COUNTY COMMISSIONERS ("Applicant"), with an address of 2401 S.E. Monterey Road, Stuart, FL 34996 and FLORIDA POWER & LIGHT COMPANY ("FPL"), a Florida corporation with an address of P.O. Box 14000, 700 Universe Boulevard, Juno Beach, FL 33408-0429.

WHEREAS, the Applicant has requested that FPL convert certain overhead electric distribution facilities located within the following boundaries (the "Conversion"):

Along Bridge Rd. – S.E. Dixie Hwy. to S.E. Hercules Ave. and S.E. Lars Ave. - from S.E. Mars St. to S.E. Anstis Pl., (collectively, the "Existing Overhead Facilities") to underground facilities, including transformers, switch cabinets and other appurtenant facilities installed above ground as set forth in Attachment A hereof (collectively, the "Underground Facilities", WR # 4787756).

NOW THEREFORE, in consideration of the foregoing premises and the covenants and agreements set forth herein, and other consideration the sufficiency of which is hereby acknowledged, the parties intending to be legally bound, hereby covenant and agree as follows:

1. Avoided Storm Restoration Cost ("ASRC") Eligibility Criteria. The Applicant represents and warrants that it meets, and is capable and willing to enforce, the applicable eligibility criteria for the Conversion (select one of the following ASRC Tiers):

() ASRC Tier 1:

- a. In order for the Conversion to incorporate a sufficient amount of overhead facilities to provide electrical continuity, the Conversion must include a minimum of approximately 3 pole line miles or approximately 200 detached dwelling units within contiguous or closely proximate geographic areas (the "Conversion Area"). The Conversion may be completed in mutually agreed upon phases, with the project size minimums applying to the aggregate project provided that any necessary subsequent phase begins within a 1 year period from completion of the prior phase and the minimums are met within, at most, 3 phases; and
- b. The Applicant must require all customers within the Conversion Area who currently have overhead service directly from the Existing Overhead Facilities to convert their service entrances to underground within 6 months of completion of the Underground Facilities installation or each phase thereof; and
- c. If the Applicant requests that facilities be placed in the ROW, the Applicant must be willing and able to execute a right of way ("ROW") agreement with FPL or secure a ROW agreement through the appropriate local government(s) with FPL; and
- d. For any affected laterals, the complete lateral must be converted, including all stages of any multi-stage lateral; and
- e. There are no state or federal funds available to the Applicant to cover any portion of the cost of the Conversion.

Special Circumstances. Conversions which do not meet the Tier 1 project size minimums described in section 1.a are eligible for the ASRC in the following special circumstances:

- i. An island or peninsula where 100% of the Existing Overhead Facilities are to be converted; or
- ii. When the aggregate size of the first 3 phases of a project would satisfy the minimum size criteria but, for mutually-agreed engineering or logistical reasons, those phases are non-contiguous; provided that (a) the next (4th) phase must be adjacent to one or more of the first 3 phases such that the combined contiguous area meets the minimum size criteria, and (b) this 4th phase begins within 1 year from completion of the 3rd phase.

(Continued on Sheet No. 9.721)

Issued by: S. E. Romig, Director, Rates and Tariffs

Effective: November 13, 2008

(Continued from Sheet No. 9.720)

- (__) ASRC Tier 2. All eligibility criteria remain the same as Tier 1 with the exception that the Conversion Area must only include between approximately 1 to 3 pole line miles or a minimum of approximately 85 detached dwelling units within contiguous or closely proximate geographic areas.
- (X) ASRC Tier 3. A Conversion Area that is less than 1 pole line mile within contiguous or closely proximate geographic areas. Additionally, Tier 1 requirements for project completion timing in paragraph 1.a., as well as, paragraphs 1.b. and 1.d. do not apply.
- 2. Contribution-in-Aid-of-Construction (CIAC). The Applicant shall pay FPL a CIAC as required by FPL's Electric Tariff and Section 25-6.115 of the Florida Administrative Code.

ii. CIAC (excluding ASRC) \$__151,148____ iii. ASRC \$__10,809____ iii. CIAC Due \$__140,339_____ (Cust. Performs some Work - C&C)

In the event the actual cost of the Conversion (excluding ASRC) exceeds the estimate, the CIAC (excluding ASRC) shall be adjusted by the lesser of (a) the difference between the actual cost of the Conversion and the estimate, or (b) 10% of the CIAC (excluding ASRC) identified above. The ASRC shall also be adjusted accordingly and the Applicant shall pay FPL the resulting difference in the amount of the CIAC Due.

- 3. Applicant-Installed Facilities. The Applicant may, upon entering into an applicant-installed facilities agreement satisfactory to FPL, construct and install all or a portion of the Underground Facilities. Such work must meet FPL's construction standards and FPL will own and maintain the completed facilities. The Applicant agrees to rectify any deficiencies, found by FPL, prior to the connection of any customers to the Underground Facilities and the removal of the Existing Overhead Facilities.
- Compliance with Tariff. The Applicant agrees to comply with and abide by the requirements, terms, and conditions of FPL's
 Electric Tariff.
- 5. Timing of Conversion. Upon compliance by the Applicant with the requirements, terms, and conditions of FPL's Electric Tariff, this Agreement and any other applicable agreements, FPL will proceed in a timely manner with the Conversion in accordance with the construction drawings and specifications set forth in Attachment A hereof.
- 6. Relocation. In the event that the Underground Facilities are part of, or are for the purposes of, relocation, then this Agreement shall be an addendum to the relocation agreement between FPL and the Applicant. In the event of any conflict between the relocation agreement and this Agreement or the Electric Tariff, this Agreement and the Electric Tariff shall control.
- Term. This Agreement shall remain in effect for as long as FPL or any successor or assign owns or operates the Underground Facilities.
- 8. ASRC Repayment. If the Applicant does not satisfy the relevant eligibility criteria, the Applicant shall repay the ASRC within 30 days of written notice from FPL of such failure. Additionally, if at any point within 30 years of completion of the Underground Facilities installation, the Applicant elects to have electric service within the Conversion Area supplied by a provider other than FPL, the Applicant shall repay FPL a pro-rata share of the ASRC. The pro-rata share (which shall reflect partial years) shall be determined as follows:

ASRC * [(30 – years since the Underground Facilities completion date) / 30]

Non-governmental Applicants, whose CIAC includes a Tier 1 or Tier 2 ASRC, shall provide, at the time of execution of this Agreement, either a surety bond or irrevocable bank letter of credit (the "Security Instrument") in a form acceptable to FPL evidencing ability to repay the ASRC. This Security Instrument shall remain in effect until such time as all customers within the Conversion Area are converted. The Applicant may provide either an amended or replacement Security Instrument in a form acceptable to FPL at any time to reflect the pro-rata adjustments to the ASRC amount. If, upon notice of cancellation or prior to expiration of the Security Instrument, a replacement Security Instrument in a form acceptable to FPL is not provided by the Applicant to FPL, FPL will require the third party issuing the Security Instrument to pay the full balance due in accordance with this Agreement in cash.

(Continued on Sheet No. 9.722)

Issued by: S. E. Romig, Director, Rates and Tariffs

Effective: November 13, 2008

(Continued from Sheet No. 9.721)

- 9. Termination Prior to the Conversion Completion. Failure by the Applicant to comply with any of the requirements, terms, or conditions of this Agreement or FPL's Electric Tariff shall result in termination of this Agreement. The Applicant may terminate this Agreement at any time prior to the start of the Conversion and the CIAC paid by the Applicant will be refunded to the Applicant; provided however, that the refund of the CIAC shall be offset by any costs incurred by FPL in performing under the Agreement up to the date of termination.
- 10. Assignment. The Applicant shall not assign this Agreement without the written consent of FPL.
- 11. Adoption and Recording. This Agreement shall be adopted by the Applicant and maintained in the official records of the Applicant for the duration of the term of this Agreement. This Agreement also shall be recorded in the Official Records of the County in which the Underground Facilities are located, in the place and in the manner in which deeds are typically recorded.
- 12. Conflict between Terms of Franchise Agreement. In the event of a conflict between the terms of this Agreement and any permit or franchise agreement entered into by Applicant and FPL, the terms of this Agreement shall control.

IN WITNESS WHEREOF, FPL and the Applicant have executed this Agreement on the date first set forth above.

ATTEST:

1/

AROLYN TIMMANN, CLERK OF THE

EDWARD V. CIAMPI, CHAIRMAN

MARTIN COUNTY, FLORIDA

BOARD OF COUNTY COMMISSIONERS

APPROVED AS TO FORM & LEGAL SUFFICIENCY:

SARAH W. WOODS, COUNTY ATTORNE

FPL

Signed

Name Tlamor

Title GM Central Maintenance

Issued by: S. E. Romig, Director, Rates and Tariffs

Effective: November 13, 2008

Overhead to Underground Conversion - Customer Cost Sheet

Project: Martin Cty. - Bridge Rd.

Date Estimate Provided to Customer: May 28, 2019

Customer Performs Some UG Work - Conduit & Concrete Products Installation

Underground	Cost
-------------	------

	New UG Installation (+)	\$123,91 1	Cost for FPL to install new underground facilities
	Equivalent OH Installation (-)	(\$107,380)	Cost to install an overhead system at current hardening standards
Ex	isting Overhead Cost		
	OH Removal Cost & Make ready (+	\$132,134	Cost for FPL to remove existing overhead facilities
	Existing OH Value (+)	\$0	Net Book Value of existing OH facilities to be removed
	Operational Costs Differential (+)	\$2,483	30-year Net present value of the est. operational OH / UG Diff. cost
	Salvage Value (-)	\$0	Credit for re-usable items
	Subtotal*	\$151,148	Total customer contribution as specified in Tariff 12.2.3
	ASRC	(\$10,809)	Tier 3
	CIAC	\$140,339	
	Engineering Deposit (-)	(\$1,800)	Engineering deposit previously collected
	Net Due FPL	\$138,539	Total customer contribution owed

Cost Breakdowns for Customer Contributions

	Total	Labor/Vehicle	Material	Direct Engineering, Supervision, and Support
New UG Facilities (+)	\$123,911	\$32,218	\$66,711	\$24,982
Credit for equivalent OH (-)	(\$107,380)	(\$50,577)	(\$41,363)	(\$15,440)
OH Removal Cost & Make ready (+_	\$132,134	\$72,090	\$41,783	\$18,261
Total	\$148,665	\$53,731	\$67,131	\$27,803
Net Book Value (+)	\$0			
Operational Costs Differential (+)	\$2,483	(0.3 miles)		
Salvage Value (-)	\$0			
Subtotal*	\$151,148	 8		
ASRC	(\$10,809)			
CIAC	\$140,339	 .5		
Engineering Deposit (-)	(\$1,800)	Engineering deposit	previously collected	
Net Due FPL	\$138,539	_		

Major Material Breakdown

	Quantity	Item
	7,446	Primary UG Cable (feet)
Install	0	UG Switch Cabinet
Ilistali	1	UG Transformer (each)
	2	Splice box for UG feeder (each)
	4,180	OH Primary Conductor (feet)
Remove	9	Poles (each)
IXemove	1	OH Transformer (each)
	456	Primary UG Cable (feet)

