Specifications for Electrical Underground Residential Distribution Systems

Specification DDS-2
Revision 13, February 2010
TABLE OF CONTENTS

SECTION 1- SCOPE

SECTION 2- REFERENCES

SECTION 3- DEFINITIONS

SECTION 4- GENERAL

SECTION 5- COMPANY RESPONSIBILITY

SECTION 6- CONTRACTOR RESPONSIBILITY

SECTION 7- ACCEPTANCE

ATTACHMENTS:

DDS-2 Detail Sheets 1 – 36
ONCOR ELECTRIC DELIVERY COMPANY
SPECIFICATIONS FOR ELECTRICAL
UNDERGROUND RESIDENTIAL DISTRIBUTION SYSTEMS
SPECIFICATION NUMBER DDS-2

1. SCOPE

This document represents the minimum requirements and specifications for the installation of an electrical underground residential distribution system to be transferred to Oncor Electric Delivery Company ownership.

2. REFERENCES

This specification shall be used in conjunction with the latest revision of the following publications.

2.1 Electric Service Guidelines, Oncor Electric Delivery Company.

3. DEFINITIONS

3.1 Company: Oncor Electric Delivery Company and its designated representatives.

3.2 Contractor: Individual or firm installing an electrical underground residential distribution system.

3.3 Authority Having Jurisdiction: Generally an incorporated City or Town, but may include an agency of the County, State or Federal Government.

3.4 Point of Delivery: The point where Company's conductors are connected to the premise's conductors, typically at the meter socket.

4. GENERAL

4.1 The latest edition of all applicable building and safety codes shall be followed in the installation of the electrical underground distribution system. Included, but not limited to, are the:

4.1.1 Local City Building and Fire Codes or any other applicable codes for a particular project location.
4. **GENERAL** (continued)

4.1.2 National Electrical Safety Code

4.1.3 U. S. Occupational Safety and Health Act of 1970 (OSHA)

4.1.4 Local City Location and Coordination Policy (if applicable)

4.1.5 The American Concrete Institute (ACI)

4.1.6 The American Society for Testing and Materials (ASTM)

4.2 Upon receipt of all necessary information from the Contractor, a project sketch showing the route of the conduit line, transformer pad locations and other pertinent information will be furnished by the Company.

4.3 Prior to construction a meeting shall be held to discuss and coordinate construction and inspection.

4.4 The Company will require a signed easement at no cost or a filed plat incorporating Company easement requirements prior to the Company installing any electrical facilities.

4.5 Joint use ditch will be determined by the Company on an individual basis.

5. **COMPANY RESPONSIBILITY** - The following shall be performed by, and the responsibility of, the Company:

5.1 The Company inspector is to inspect all conduit installations prior to the placing of backfill.

5.2 The Company inspector is responsible for all field changes and coordinates changes with the local Engineering office.

5.3 The Company inspector is to inspect all transformer pad installations prior to the laying of concrete.

5.4 After approval of the installed transformer pad and conduit system by the Company inspector, and after the Contractor has signed all appropriate contracts, agreements, easements and has paid any required CIAC (contribution in aid of construction), the Company is to make final electrical connections.
6. CONTRACTOR RESPONSIBILITY - The following shall be performed by, and the responsibility of, the Contractor:

6.1 The Contractor is to provide the Company a Site Plan, a Dimension Control Plan, an Elevation Plan, a Grading Plan and load information.

6.2 The Contractor is to coordinate with the Company inspector for inspection of work prior to backfilling.

6.3 The Contractor is to provide personnel and vehicular access to the facility at all times.

6.4 The Contractor is to be held responsible for the full direction and supervision of all work being performed by his employees, agents or contractors. The Contractor shall also be responsible for the area at all times prior to acceptance, particularly in the prevention of damage to the electrical distribution system by the activities of other trades and utilities.

6.5 All testing of concrete and backfill which is deemed necessary by the Company is to be performed by an independent testing laboratory at the Contractor's expense.

6.6 The Contractor is to replace at his expense any damaged equipment or correct any work not in compliance with the requirements in these specifications, the project sketch, the DDS-2 Detail Sheets or as specified by the Company.

6.7 The Contractor is to furnish equipment and labor to lay out ditch, set grade, dig ditches, place conduit in ditch, set transformer pads and place electrical connection boxes. The line shall run in as straight alignment as practicable. All conduit and bends shall be Schedule 40 PVC or Schedule 80 PVC and shall be electrical grade. All PVC conduit and bends shall be gray in color.

6.8 The Contractor is to complete rough site grading, establish final grade at padmounted equipment locations and clear these locations of all obstructions. Any change in final grade which requires the lowering or raising of electrical conductors or associated equipment is at the expense of the Contractor.

6.9 Minimum vertical crossing clearance of electrical conduits from other utilities' conduits is twelve (12) inches.

6.10 A lateral separation of five (5) feet from electrical conduits to other utilities' conduits is required on private property.
6. CONTRACTOR RESPONSIBILITY (continued)

6.11 No foreign pipes are permitted under the transformer pad area except gas, telephone and cable T.V. that are installed at the same time as the electrical facilities. Gas is allowed only if sleeved with polyethylene or Schedule 40 PVC. Telephone and cable T.V. are allowed only if installed in conduit.

6.12 Backfilling of conduit trenches under paved areas, around conduit bends at riser poles and under transformer pad area is to be compacted to 95% of the density of the surrounding undisturbed soil as per ASTM D 698. Stabilization must be uniform to bottom of ditch. Alternative stabilization methods for backfilling around conduit bends under transformer pads consist of two (2) sacks of cement mixed with earth backfill or the pouring of concrete backfill with transformer pad. An alternative method for backfilling around conduit bends consists of concrete backfill with bend. The method used will be at the discretion of the Company.

6.13 Transformer pads are to be installed a minimum of three (3) inches above finished grade. No transformer pad shall be installed in a pit below the finished grade of the surrounding area.

6.14 Transformer pads are to have a clear area surrounding the pad installation for safety, operation and maintenance purposes. Reference DDS-2 Detail Sheets 22, 23, 24 and 25 for layout and dimensions.

6.15 Piers are required on all transformer pads unless waived by the Company inspector. The depth of piers shall extend to rock or a change in soil conditions sufficient to bear the load of pad and transformer to prevent settlement due to undercutting for conduit bend installation or washing due to drainage.

6.16 The Contractor has the option of installing manufactured transformer pads or poured in place pads. However, where the terrain will not permit the installation of a manufactured transformer pad as determined by the Company, the Contractor is to install a poured in place transformer pad. For details, see DDS-2 Detail Sheet 13.

6.17 Concrete forms are to be tight and aligned so when forms are removed the finished surface shall require little, if any, corrective measures. Concrete work is to have an acceptable finish free of honeycombs, sharp or irregular surfaces.

6.18 Contractor is to pull a mandrel through each conduit to check and clear blockage and leave an approved pull tape in each conduit. Pull tape shall be furnished by the party providing conduit and shall be installed by Contractor. Mandrel shall be furnished by Contractor. Conduit shall be plugged at both ends. Reference DDS-2 Detail Sheet 8 for approved pull tapes.

6.19 The Contractor is to secure inspection and approval of premise’s facilities by the Authority Having Jurisdiction prior to the connection of electrical facilities.
6. **CONTRACTOR RESPONSIBILITY** (continued)

   6.20  The Contractor is to make all connections on the load side of the point of delivery.

7. **ACCEPTANCE**

   7.1  The Company inspector shall meet with the Contractor to review the project prior to acceptance. Electrical facilities will be installed as approved by the Company inspector only after acceptance of the project.
DIRECTION OF
OVERHEAD
CONDUCTORS

ALTERNATE POSITION

TOP VIEW

WIRE 10' OF CONDUIT IN
PLACE WHEN REQUIRED

EXTEND BEND WITH 10' OF SCH 80 PVC
CONDUIT FOR ALIGNMENT OF BEND

INSTALL NIPPLE WHEN REQUIRED TO EXTEND
BEND MIN. 6' ABOVE FINISHED GRADE

FINISHED GRADE

RISER POLE BY
COMPANY

NOTE 4

30" MIN.

PLAN VIEW

NOTES

1. CONTACT COMPANY REPRESENTATIVE FOR (1) ROUTING OF CONDUIT LINE, (2) SIZE OF CONDUIT, AND
   (3) INSTALLATIONS REQUIRING MORE THAN ONE RISER ON POLE.
2. LIMIT RACEMAY TO THREE 90° BENDS. IF MORE THAN THREE 90° BENDS ARE REQUIRED,
   CONTACT COMPANY REPRESENTATIVE.
3. DISTANCE BETWEEN 90° BENDS SHALL BE FIVE FEET MINIMUM.
4. REFERENCE DETAIL SHEET 10 FOR BEND RADIUS FOR ALL HORIZONTAL AND VERTICAL CONDUIT BENDS.
TRENCH REQUIREMENTS

1 PRIMARY CONDUIT

1 PRIMARY CONDUIT AND 1 SECONDARY CONDUIT VERTICALLY ARRANGED

NOTES:
1. CONSULT COMPANY REPRESENTATIVE FOR CONDUIT SIZE.
2. SEE DETAIL SHEETS 8 AND 9 FOR NOTES AND INSTRUCTIONS.
3. SEPARATION DIMENSIONS APPLY TO COMPANY CONDUITS OR CABLES ONLY. MAINTAIN 12" SEPARATION BETWEEN COMPANY CONDUITS OR CABLES AND FOREIGN CONDUITS OR CABLES.
1. Consult company representative for conduit size.
2. Reference sheets 8 and 9 for notes and instructions.
3. Separation dimensions apply to company conduits or cables only. Maintain 12" separation between company conduits or cable and foreign conduits or cable.
NOTES:

1. 12" MIN. WITH MORE THAN ONE ELECTRICAL SUPPLY CONDUIT.
   4" MIN. WITH ONE ELECTRICAL SUPPLY CONDUIT (IN SOLID ROCK PIPE DIAMETER DETERMINES MIN. WIDTH).

2. AMPACITIES ARE REDUCED FOR MULTIPLE CIRCUITS IN A TRENCH.

3. SEE SHEETS 8 AND 9 FOR NOTES AND INSTRUCTIONS.

4. THE GAS LINE IN A JOINT TRENCH SHALL BE POLYETHYLENE.

5. WHEN A GAS LINE CROSSES UNDER AN ENCLOSURE SUCH AS A PEDESTAL, PADMOUNT TRANSFORMER OR SPUGS/PULL BOX, IT WILL BE SLEEVED IN A SECTION OF POLYETHYLENE OR SCHEDULE 40 PVC.
   THE SLEEVE WILL EXTEND A MINIMUM OF THREE FEET BEYOND THE EDGE OF THE ENCLOSURE ON EACH SIDE.
   MAINTAIN A 12" SEPARATION BETWEEN GAS LINE AND ELECTRICAL SUPPLY CONDUITS.

6. BACKFILL MATERIAL AND COMPACTION SHALL MEET OR EXCEED EACH UTILITY’S SPECIFICATIONS.
NOTES:
1. Minimum 24" depth to top of both gas pipe and communication facilities. Telco shall not be placed above the gas pipe.
2. Minimum 12" vertical separation between surface of gas, communication facilities, and electrical conduits.
3. Minimum 12" horizontal separation between surface of communication facilities and gas pipe.
4. Minimum 36" depth plus pipe outside diameter to top of electrical conduits.
5. Trench must be wide enough to ensure 12" separation at all points between the gas main and communication facilities.
6. The gas pipe shall only be placed against undisturbed soil that is free of stones and where there are no hard particles larger than one-half inch.
7. Backfill material and compaction shall meet or exceed each utility's specifications.
NOTES:

1. 12" MIN. WITH MORE THAN ONE ELECTRICAL SUPPLY CONDUIT. 4" MIN. WITH ONE ELECTRICAL SUPPLY CONDUIT (IN SOLID ROCK PIPE DIAMETER DETERMINES MIN. WIDTH).
2. AMPLITUDES ARE REDUCED FOR MULTIPLE CIRCUITS IN A TRENCH.
3. SEE SHEETS 8 AND 8 FOR NOTES AND INSTRUCTIONS.
4. THE GAS LINE IN A JOINT TRENCH SHALL BE POLYETHYLENE.
5. WHEN A GAS LINE CROSSES UNDER AN ENCLOSURE SUCH AS A PEDESTAL, PADMOUNT TRANSFORMER OR SPLICE/PUFF BOX, IT WILL BE SLEEVED IN A SECTION OF POLYETHYLENE OR SCHEDULE 40 PVC. THE SLEEVE WILL EXTEND A MINIMUM OF THREE FEET BEYOND THE EDGE OF THE ENCLOSURE ON EACH SIDE. MAINTAIN A 12' SPARATION BETWEEN GAS LINE AND ELECTRICAL SUPPLY CONDUIT(S).
6. BACKFILL MATERIAL AND COMPACTION SHALL MEET OR EXCEED EACH UTILITY'S SPECIFICATIONS.
NOTES:

1. 12" MIN. WITH MORE THAN ONE ELECTRICAL SUPPLY CONDUIT.
2. 4" MIN. WITH ONE ELECTRICAL SUPPLY CONDUIT (IN SOLID ROCK PIPE DIAMETER DETERMINES MIN. WIDTH).
3. AMPLITUDES ARE REDUCED FOR MULTIPLE CIRCUITS IN A TRENCH.
4. SEE SHEETS 8 AND 9 FOR NOTES AND INSTRUCTIONS.
5. BACKFILL MATERIAL AND COMPACTION SHALL MEET OR EXCEED EACH UTILITY'S SPECIFICATIONS.

TRENCH REQUIREMENTS
JOINT USE
ELECTRIC AND COMMUNICATION
DDS-2 DETAIL SHEET 7 OF 36
1. Trench alignment shall be as straight as conditions permit. Any deviations from planned alignment shall have prior approval by the project engineer/inspector. All trench cuts shall be in accordance with existing safety regulations in effect.

2. Trench bottom should be undisturbed, tamped, or relatively smooth earth. Where excavation is in rock, the conduit should be laid on a layer of clean backfill.

3. All backfill should be free of debris or other material that may damage the conduit system or cause settling. The material should fill the voids around the conduit to prevent hot spots & settling.

4. Backfill should be adequately compacted. Backfill not under pavement should be compacted to the density of the surrounding undisturbed soil. Backfill under pavement should be compacted to not less than 95% of the density of undisturbed soil as determined by ASTM D-698.

5. See Sheet B for instructions for joining PVC conduit.

6. Each conduit run shall be checked by pulling a mandrel through the entire length at the completion of the civil installation.

7. A pull tape shall be left in each conduit. Conduit shall be plugged at both ends.

<table>
<thead>
<tr>
<th>CONDUIT SIZE</th>
<th>MANUFACTURER</th>
<th>CATALOG NO.</th>
<th>TSN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot;, 2&quot;, 3&quot; &amp; 4&quot;</td>
<td>ARNCO</td>
<td>BL-WP26</td>
<td>321088</td>
</tr>
<tr>
<td></td>
<td>NEPTCO, INC.</td>
<td>WP2500P</td>
<td></td>
</tr>
<tr>
<td>6&quot;</td>
<td>ARNCO</td>
<td>BL-WP60</td>
<td>387616</td>
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<tr>
<td></td>
<td>NEPTCO, INC.</td>
<td>RP6000N</td>
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</tr>
</tbody>
</table>

8. Contact company representative for trench dimensions for more than 2 conduits in same ditch.

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ONCOR

INSTALLATION OF CONDUITS
NOTES AND INSTRUCTIONS

DDS-2 DETAIL SHEET 8 OF 36

02 – 10
THE CHEMICALS USED IN SOLVENT WELDING OF CONDUIT ARE INTENDED TO PENETRATE THE SURFACE OF BOTH PIPE AND FITTING, WHICH AFTER CURING RESULT IN A COMPLETE FUSION AT THE JOINT. THE OVER-USE, OR THE UNDER-USE OF CHEMICALS RESULTS IN LEAKY JOINTS OR WEAKENED PIPE.

A. CLEAN CONDUIT BY WIPING OFF ALL DUST, DIRT, AND MOISTURE FROM SURFACES TO BE CEMENTED, EITHER BY MECHANICAL OR CHEMICAL CLEANING.

1. MECHANICAL CLEANING - FINE ABRASIVE PAPER OR CLOTH (380 GRT OR FINER) OR CLEAN OIL-FREE STEEL WOOL.

2. CHEMICAL CLEANING - CLEANER RECOMMENDED BY MANUFACTURER OR EQUIVALENT (METHYL ETHYL KETONE - MEK).

B. WITH A NON-SYNTHETIC BRISTLE BRUSH, APPLY AN EVEN COATING OF CEMENT TO THE OUTSIDE OF THE PIPE AND INSIDE THE SOCKET. MAKE SURE THAT THE AMOUNT OF CEMENT APPLIED TO THE CONDUIT IS EQUAL TO THE DEPTH OF THE SOCKET. BEFORE ASSEMBLY, IF SOME EVAPORATION OF SOLVENT FROM THE SURFACES TO BE JOINED IS NOTED, REAPPLY CEMENT, THEN ASSEMBLE.

If cement being used has an appreciable change in viscosity or shows signs of jelling, it shall be discarded. In no case shall thinner be used in an attempt to restore jelled PVC cement. Thinner may only be used to change the viscosity of a medium bodied cement to that of a regular bodied cement for application on PVC pipe smaller than 2 1/2 inch diameter. A medium bodied cement shall be used on 2 1/2 to 6 inch PVC pipe.

In cold weather, use a primer to soften the joining surfaces before applying cement. Allow longer cure time. (See item E).

C. JOIN PIPE WITHIN 20 SECONDS OF APPLYING CEMENT, TURN THE PIPE 1/4 TURN TO ENSURE EVEN DISTRIBUTION OF CEMENT ON SURFACES TO BE BONDED. MAKE SURE THAT PIPE IS INSERTED TO THE FULL DEPTH OF THE SOCKET.

D. CLEAN OFF ANY BEAD OR EXCESS CEMENT THAT APPEARS AT THE OUTER SHOULDER OF THE FITTING. EXCESS CEMENT ALLOWED TO REMAIN IN CONTACT WITH THE MATERIAL IS APT TO CAUSE WEAKENING OF THE MATERIAL AND SUBSEQUENT FAILURE.

E. NEWLY ASSEMBLED JOINTS SHOULD BE HANDLED CAREFULLY UNTIL THE CEMENT HAS CURLED THE RECOMMENDED SET PERIOD. SET PERIODS ARE RELATED TO THE AMBIENT TEMPERATURE AS FOLLOWS:

<table>
<thead>
<tr>
<th>Duration</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 MIN.</td>
<td>MINIMUM AT 60°F TO 100°F</td>
</tr>
<tr>
<td>1 HR.</td>
<td>MINIMUM AT 40°F TO 80°F</td>
</tr>
<tr>
<td>2 HR.</td>
<td>MINIMUM AT 20°F TO 40°F</td>
</tr>
<tr>
<td>4 HR.</td>
<td>MINIMUM AT 0°F TO 20°F</td>
</tr>
</tbody>
</table>

INSTRUCTIONS FOR JOINING PVC CONDUIT

DDS-2 DETAIL SHEET 9 OF 36
<table>
<thead>
<tr>
<th>CONDUIT NOMINAL SIZE (IN.)</th>
<th>MINIMUM BEND RADIUS (IN.)</th>
<th>TYPE OF BEND MATERIAL FOR PULLS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>18</td>
<td>PVC</td>
</tr>
<tr>
<td>2</td>
<td>24</td>
<td>PVC</td>
</tr>
<tr>
<td>3</td>
<td>24</td>
<td>PVC</td>
</tr>
<tr>
<td>4</td>
<td>24</td>
<td>PVC</td>
</tr>
<tr>
<td>6</td>
<td>36</td>
<td>PVC</td>
</tr>
</tbody>
</table>

**NOTES:**

1. SCH. 80 PVC CONDUIT SHALL BE USED FOR ALL ABOVE GROUND INSTALLATIONS (POLE AND METER RISERS). SCH. 40 MAY BE USED FOR ALL BELOW GROUND INSTALLATIONS.
### Table 1

<table>
<thead>
<tr>
<th>Bend</th>
<th>Concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Inch Bend</td>
<td>1.2 Cubic Ft.</td>
</tr>
<tr>
<td>2 Inch Bend</td>
<td>1.5 Cubic Ft.</td>
</tr>
<tr>
<td>3 Inch Bend</td>
<td>1.5 Cubic Ft.</td>
</tr>
<tr>
<td>4 Inch Bend</td>
<td>2.2 Cubic Ft.</td>
</tr>
<tr>
<td>6 Inch Bend</td>
<td>3.8 Cubic Ft.</td>
</tr>
</tbody>
</table>

**Notes:**
1. Contact company inspector to determine requirement for bend encasement.
2. Do not bond concrete to pole when encasing a pole riser bend.
1. Vertical crossing clearance from other utilities shall be 12 inches, a 60 inch lateral separation of paralleling foreign utilities (excluding gas and communication) shall be required. An exception would be to allow gas, telephone and /or CATV in the same ditch as company conduit system provided the necessary requirements for conduit separation are met or exceeded and the communication circuits are installed in conduit.

2. It is understood that only 12 inch separation is required on public rights-of-way. Personnel involved in excavation on public rights-of-way are fully aware of the hazards involved. However, excavation on private property can be done by individuals who are not likely to be fully aware of the hazards. Therefore, the 60 inch lateral separation is required to help prevent injury to personnel doing excavation on private property.
NOTES:
1. DEPTH OF BURIAL BELOW CONCRETE SHALL NOT BE LESS THAN 30 INCHES. DEPTH MAY BE INCREASED AS REQUIRED TO PROVIDE CLEARANCE FROM OTHER UTILITIES.
2. OTHER UTILITIES ARE SHOWN IN TYPICAL LOCATIONS IN STREET. CHECK LOCALLY FOR ASSIGNED SPACING OF UTILITIES.
3. BACKFILL UNDER STREET SHALL BE MACHINE TAMPERED FROM 6 INCHES ABOVE CONDUIT TO GROUND LEVEL OR IN ACCORDANCE WITH CITY REQUIREMENTS.

TYPICAL CABLE CROSSING UNDER RESIDENTIAL STREET

DDS-2 DETAIL SHEET 13 OF 36
NOTES:
1. SEE DETAIL SHEET 18 OR 17 FOR LOCATIONS OF CONDUITS AND GROUND ROD AND OTHER APPLICABLE NOTES.
2. PIERS ARE REQUIRED ON ALL PADS UNLESS WAIVED BY THE COMPANY INSPECTOR. REFERENCE DETAIL SHEET 23 FOR PIER INSTALLATION.
3. ALL STEEL TO BE A MINIMUM OF 1 1/2" FROM SURFACE OF CONCRETE.
4. ALL CHAMFERS TO BE 1 1/2" X 45 DEGREES. Rounding of edges with rounding trowel is acceptable in lieu of chamfering.
5. CONSULT COMPANY REPRESENTATIVE FOR APPROVED PREFABRICATED PADS.
6. SEE DETAIL SHEET 16 FOR GENERAL NOTES.

REINFORCING SCHEDULE

<table>
<thead>
<tr>
<th>NUMBER OF #3 BARS</th>
<th>LENGTH</th>
<th>WEIGHT (LBS)</th>
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<tbody>
<tr>
<td>4</td>
<td>53&quot;</td>
<td>7.02</td>
</tr>
<tr>
<td>2</td>
<td>58&quot;</td>
<td>2.18</td>
</tr>
<tr>
<td>2</td>
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<td>.19</td>
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<td>7.71</td>
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<tr>
<td>4</td>
<td>8&quot;</td>
<td>.76</td>
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</table>

.38 CU YARDS CONCRETE
TOTAL WEIGHT OF PAD 1,160 LBS

POURED IN PLACE PAD
FOR SINGLE PHASE TRANSFORMERS

ONCOR

DDS-2 DETAIL SHEET 14 OF 36
1. CONTACT COMPANY REPRESENTATIVE FOR:
   A. PAD SIZE
   B. NUMBER, SIZE AND LOCATION OF PRIMARY AND SECONDARY CONDUITS
   C. LOCATION OF COMPANY GROUND ROD(S) AND FOREIGN UTILITY GROUND. GROUND ROD(S) TO
      BE OBTAINED AND INSTALLED BY CONTRACTOR. REFERENCE DETAIL SHEET 16 OR 17 FOR SIZE.

2. CONSULT COMPANY REPRESENTATIVE FOR APPROVED PREFABRICATED PADS.

3. REFER TO DETAIL SHEETS 24, 25, 26 AND 27 FOR MINIMUM CLEARANCES FROM SURROUNDING
   OBJECTS.

4. REINFORCING STEEL SHALL CONFORM TO ASTM A 615 AND SHALL BE DEFORMED, INTERMEDIATE
   GRADE (GRADE 60). ALL REINFORCING STEEL SHALL BE CLEANED OF ALL COATINGS THAT
   ADVERSELY AFFECT BONDING CAPACITY. ALL REINFORCING STEEL SHALL BE ACCURATELY POSITIONED
   AND RIGIDLY HELD IN PLACE DURING POURING.

5. ALL REINFORCING STEEL SHALL HAVE A 3 INCH CLEARANCE FROM THE BOTTOM. THERE SHALL
   BE A 3 INCH CLEARANCE FROM SIDES TO STEEL RUNNING PARALLEL THEREOF. THERE SHALL BE
   A 1 1/2 INCH CLEARANCE FROM END OF STEEL TO SIDES AND WINDOW.

6. OUTER SURFACE EDGES OF PADS TO BE CHAMFERED 1 1/2" X 45 DEGREES. ROUNDOFF OF EDGES
   WITH A ROUNDOFF TROWEL IS ACCEPTABLE IN LIEU OF CHAMFERING.

7. TAMPER ALL DISTURBED SOIL UNDERNEATH PAD TO 95% COMPACTION AS PER ASTM D 698.

8. CONCRETE SHALL CONFORM TO ASTM C 150 FOR TYPE I OR TYPE III HIGH EARLY CONCRETE
   SHALL BE PROPORTIONED TO PRODUCE A COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
   CONCRETE SLUMP SHALL BE 3-4 INCHES.

9. AGGREGATES SHALL CONFORM TO ASTM C 33 AND SHALL BE CLEAN AND FREE FROM
   DELETERIOUS AMOUNTS OF ACIDS, ALKALIS, ORGANIC MATTER OR OTHER FOREIGN SUBSTANCES.
   THE MAXIMUM AGGREGATE SIZE SHALL NOT EXCEED 3/4 INCH.

10. MIXING WATER SHALL BE CLEAN AND FREE FROM OILS, ACIDS, ALKALIS, SALTS, ORGANIC
    MATERIALS OR OTHER SUBSTANCES THAT MAY BE DELETERIOUS TO CONCRETE OR STEEL.

11. NO ADMIXTURES WILL BE PERMITTED WITHOUT THE APPROVAL FROM THE COMPANY.

12. CONCRETE MAY BE MIXED ON THE JOB OR READY MIX CONCRETE MAY BE USED.

13. FOR CONCRETE MIXED ON THE JOB, A MIXER WITH A MINIMUM TWO (2) SACK CAPACITY SHALL
    BE USED. CEMENT AND AGGREGATES SHALL BE PROPORTIONED ON CALIBRATED SCALES. WATER
    FOR MIXING SHALL BE ACCURATELY MEASURED. ALL CONCRETE SHALL BE PLACED WITHIN ONE
    HOUR AFTER MIXING.

14. IF READY MIXED CONCRETE IS USED, THE DRIVER OF EACH TRUCK SHALL FURNISH A TICKET
    SHOWING THE TIME THE TRUCK WAS LOADED AT THE BATCH PLANT. ANY TRUCK WHICH HAS
    NOT DISCHARGED ITS COMPLETE LOAD ONE HOUR AND THIRTY MINUTES AFTER LOADING SHALL
    BE REJECTED UNLESS A RETARDANT, APPROVED BY THE COMPANY, HAS BEEN ADDED TO THE
    CONCRETE AT THE TIME OF BATCHING. READY MIXED CONCRETE SHALL CONFORM TO ASTM C 94.
NOTES:

1. Consult Company representative for number, size and location of conduits in pad window and whether design is Type I or Type II conduit arrangement.

2. No more than 6-2 inch, 8-3 inch or 4-4 inch conduits including spares shall be placed in the secondary side of pad window.

3. Reference detail sheet 10 for bend radius for all horizontal and vertical conduit bends.

4. Consult Company representative on where to obtain 6/8" x 8' copper clad ground rod. Ground rod to be obtained and installed by contractor. Installation depth shall be 7'-8".

5. Reference detail sheet 18 for grout detail.

6. This dimension is 6 inches for precast concrete pad and 4 inches for polymer concrete pads.

7. Reference detail sheet 18 for foreign utility equipment ground.

8. Piers are required on all pads unless waived by company inspector. Reference detail sheet 29 for pier detail.

9. The 3" flex conduit shall have a minimum of 8" of cover as it exits on the right hand side of the transformer pad.

TRANSFORMER PAD– PRECAST SINGLE PHASE DEADFRONT
TYPE I
DDS-2 DETAIL SHEET 16 OF 36
NOTES:

1. CONSULT COMPANY REPRESENTATIVE FOR NUMBER, SIZE AND LOCATION OF CONDUITS IN PAD WINDOW AND WHETHER TYPE I OR TYPE II CONDUIT ARRANGEMENT.

2. NO MORE THAN 8-2 INCH, 8-3 INCH OR 4-4 INCH CONDUITS INCLUDING SPARES SHALL BE PLACED IN THE SECONDARY SIDE OF PAD WINDOW.

3. REFERENCE DETAIL SHEET 18 FOR BEND RADIUS FOR ALL HORIZONTAL AND VERTICAL CONDUIT BENDS.

4. CONSULT COMPANY REPRESENTATIVE ON WHERE TO OBTAIN 6" X 8' COPPER CLAD GROUND ROD. GROUND ROD TO BE OBTAINED AND INSTALLED BY CONTRACTOR. INSTALLATION DEPTH SHALL BE 7'-6".

5. REFERENCE DETAIL SHEET 18 FOR GRDUT DETAIL.

6. THIS DIMENSION IS 8 INCHES FOR PRECAST CONCRETE PAD AND 4 INCHES FOR POLYMER CONCRETE PADS.

7. REFERENCE DETAIL SHEET 18 FOR FOREIGN UTILITY EQUIPMENT GROUND.

8. PIERS ARE REQUIRED ON ALL PADS UNLESS WAIVED BY COMPANY INSPECTOR, REFERENCE DETAIL SHEET 23 FOR PIER DETAIL.

9. THE CONDUITS MUST BE INSTALLED TO ENSURE THAT THE TOTAL MAXIMUM BENDING RADIUS FOR THE PRIMARY CABLE DOES NOT EXCEED 3 INCHES (ANGLE PRIMARY CONDUIT WHENEVER POSSIBLE).

10. THE 3' FLEX CONDUIT SHALL HAVE A MINIMUM OF 6' OF COVER AS IT EXITS ON THE RIGHT HAND SIDE OF THE TRANSFORMER PAD.
NOTES:
1. The grout shall be Portland based and sanded. Do not use concrete.
2. Fill in pad window with 4 inches of earth backfill and 2" of grout.
3. Ground rods shall extend a maximum of 3 inches above grouting to assure adequate driven depth and allow for adequate connecting space.
4. Ground rods shall extend a minimum of 7 - 6" into earth.
5. Gravel fill is not acceptable.
NOTES:

1. ON NEW INSTALLATIONS, INSTALL NO. 6 B.D. BARE COPPER AS SHOWN FOR FOREIGN UTILITY COMPANY BONDING.
2. THE NATIONAL ELECTRICAL SAFETY CODE RULE 384 C RECOMMENDS BONDING OF ALL ABOVE GROUND METALLIC POWER AND COMMUNICATIONS APPARATUS (PEDESTALS, TERMINALS, APPARATUS CASES, TRANSFORMER CASES, ETC.) THAT ARE SEPARATED BY A DISTANCE OF 6 FEET OR LESS.
NOTES:

1. CONSULT COMPANY REPRESENTATIVE FOR (i) APPROVED PRECAST SECONDARY SUBSURFACE BOXES, (ii) SIZE OF CONDUIT, AND (iii) ROUTING PATH OF CONDUIT INTO SECONDARY SUBSURFACE BOX.

2. FOR INSTALLATION OF CONDUIT TO IN-SERVICE SECONDARY SUBSURFACE BOXES, CONSULT COMPANY REPRESENTATIVE FOR DETAILS.

3. REFERENCE DETAIL SHEET TO FOR BEND RADIUS FOR ALL HORIZONTAL AND VERTICAL CONDUIT BENDS.
TOP VIEW

LIFTING SLOT

NON-SKID SURFACE

SIDE VIEW

42"

18"

NOTES:
1. CONSULT COMPANY REPRESENTATIVE ON WHERE TO ACQUIRE MARKER POST.
2. INSTALL MARKER POST WITHIN 3 INCHES OF ONE END OF SUBSURFACE BOX WHEN BOX IS BEING INSTALLED.
3. REMOVE MARKER POST WHEN THE LAST PERMANENT METER IS SET.

MARKER POST
FOR
SECONDARY/SERVICE BOX

DDS-2 DETAIL SHEET 21 OF 36
INSTALLATION NOTES:

1. CENTER THE CABLES / CONDUITS IN THE BOTTOM OPENING OF THE PEDESTAL.
2. BURY THE PEDESTAL TO THE GROUND LINE MARKER AND TAMPER THE SOIL AROUND THE UNIT TO SECURE IT IN THE UPRIGHT POSITION.
3. THE CONNECTOR COVER IS A REUSEABLE ITEM. IF MISSING OR DAMAGED REPLACE WITH PARTS AS SHOWN. ALL CONNECTOR COVERS MUST BE SECURED WITH TIES. IF THE TIES ARE CUT OR DAMAGED IN ANY WAY, REPLACE WITH STOCK REPLACEMENT PARTS AS SHOWN.
4. USE THE CENTER TOP MOUNTED CONNECTOR FOR THE NEUTRAL CONDUCTOR. USE THE SIDE MOUNTED CONNECTORS FOR THE "HOT" CONDUCTORS.
5. POSITION, CUT AND REMOVE CABLE INSULATION. FOR GOOD RET SCREW COMPRESSION ON THE CONDUCTORS, EXTEND BARE CONDUCTOR 1/4 INCH ABOVE THE CONNECTOR. BRUSH CONDUCTORS TO REMOVE OXIDE BEFORE INSTALLING IN CONNECTOR AND APPLY INHIBITOR.
6. LOCATE PEDESTAL TO MINIMIZE CHANCE OF PEDESTAL BEING STRUCK BY VEHICULAR TRAFFIC.
7. CONSULT COMPANY REPRESENTATIVE FOR (1) APPROVED SECONDARY PEDESTALS, (2) SIZE OF CONDUIT, AND (3) ROUTING PATH OF CONDUIT INTO SECONDARY PEDESTAL.
8. FOR INSTALLATION OF CONDUIT TO IN-SERVICE SECONDARY PEDESTALS, CONSULT COMPANY REPRESENTATIVE FOR DETAILS.
9. REFERENCE DETAIL SHEET 10 FOR BEND RADIUS FOR ALL HORIZONTAL AND VERTICAL CONDUIT BENDS.

<table>
<thead>
<tr>
<th>PART</th>
<th>TSAL</th>
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</thead>
<tbody>
<tr>
<td>8 POSITION CONNECTOR 8 - 250 CONDUCTOR</td>
<td>397481</td>
</tr>
<tr>
<td>8 POSITION CONNECTOR 8 - 600 CONDUCTOR</td>
<td>397483</td>
</tr>
<tr>
<td>CLEAR LEXAN CONNECTOR COVER</td>
<td>397482</td>
</tr>
<tr>
<td>COVER TIE</td>
<td>395161</td>
</tr>
</tbody>
</table>

TYPICAL SERVICE AREA—SINGLE PHASE SECONDARY PEDESTAL

DDS-2 DETAIL SHEET 22 OF 36

02 – 10
NOTES:

1. PIERs SHALL BE INSTALLED UNDER PAD WHEN DIET HAS BEEN DISTURBED UNDER THE LOAD BEARING AREA OF PAD. TAMp BACKFILL (95% COMPACTION) TO TOP OF PIER SUPPORTS USING DITCH SPOIL WHEN POSSIBLE.

2. CUT SUPPORT PIER FROM SECTION OF 4 IN PVC CONDUIT.

3. PLACE PIERs AS SHOWN. FILL WITH CONCRETE.

4. TOP OF PIERs SHOULD BE LEVEL AND 3 IN. BELOW FIRM GROUND LEVEL TO A DEPTH OF:
   (1) MINIMUM OF 36 IN. IN UNDISTURBED EARTH (SOIL).
   (2) BOTTOM OF DITCH.
   (3) BEGINNING OF SLUDGE BUNK.

5. AFTER PLACING PAD, FILL Voids UNDER AND AROUND PAD WITH SELECT DITCH SPOIL.

6. ALL BACKFILL UNDER AND AROUND PAD SHALL BE WELL TAMMED.
1. Clearance from building walls shall comply with the clearance table. All dimensions shown are minimum dimensions.
2. Where there are building splayed or overhangs within 26'-0" above ground, clearance shall be measured horizontally beginning from the edge of the eave or overhang.
3. Fire resistive building walls include brick and masonry structures that have a 2 hour fire rating.
4. Clearance to building doors, windows, vents and fire escapes to be measured radially.
5. Liquid flow of area surrounding transformer should be away from building. Where ground is flat or slopes toward building, a dike sufficient to contain all transformer oil for transformers 600 kva and larger shall be provided.
6. Clearances are measured from pad edge to building wall, opening, overhang or fire escape unless a containment dike is utilized. If a containment dike is utilized, clearance is measured from dike.
7. Clearances for windows and vents above transformer are measured radially from closest point on transformer.
8. Padmounted transformers shall be positioned such that hotstick use is not required on the side facing the building. If hotstick use is required on the building side, clearances shown in detail sheet 26 shall be maintained.
9. There should not be any ground obstructions, such as shrubs, cooling towers, gas meters, fencing, etc. within 26'-0" of pad or overhangs above pad facilities. Reference detail sheet 25 for screening clearances around padmounted equipment.
10. There should not be any piping or conduit under the pad (exception: mutually agreed upon communication conduits) other than those entering the transformer.
11. Transformers shall not obstruct fire lane.
12. It is the owner's responsibility to comply with any insurance regulations affecting the premises.

Notes:

<table>
<thead>
<tr>
<th>Transformer Type</th>
<th>Building Construction</th>
<th>Windows, Doors &amp; Vents</th>
<th>Fire Escapes</th>
</tr>
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<tbody>
<tr>
<td>1 Phase</td>
<td>8'-0&quot;</td>
<td>10'-0&quot;</td>
<td>10'-0&quot;</td>
</tr>
<tr>
<td>3 Phase</td>
<td>8'-0&quot;</td>
<td>10'-0&quot;</td>
<td>10'-0&quot;</td>
</tr>
</tbody>
</table>

Clearance Table
NOTES:
1. CLEARANCES TO BUILDING WALLS SHALL BE THE GREATER OF:
   CLEARANCES LISTED IN DETAIL SHEET 24 FOR OIL FILLED EQUIPMENT,
   10 FEET IF HOT STICK USE IS REQUIRED ON THIS SIDE OF EQUIPMENT, OR
   6 FEET IF HOT STICK USE IS NOT REQUIRED ON THIS SIDE OF EQUIPMENT.
2. A MINIMUM OF 5 FEET CLEARANCE IS ALLOWED IF "HOT STICK" USE IS NOT REQUIRED
3. GATE SHALL OPEN OUTWARD AND THE WIDTH SHALL BE NO LESS THAN 10 FEET.
4. WHERE GROUND IS FLAT OR SLOPES TOWARD BUILDING, A DIKE SUFFICIENT TO CONTAIN ALL OIL
   FOR TRANSFORMERS 500 KVA AND LARGER SHALL BE PROVIDED. REFERENCE DETAIL SHEET 24.
5. WHEN TRANSFORMERS ARE INSTALLED, SCREENING WALLS SHALL PROVIDE ADEQUATE VENTILATION.
TRANSFORMER CLEARANCE DETAILS

ELEVATION VIEW

DO NOT INSTALL GAS METER IN FRONT OF A TRANSFORMER

PLAN VIEW

PEDESTAL CLEARANCE DETAILS

ELEVATION VIEW

NOTES:
1. MEASUREMENTS ARE REFERENCED FROM THE INLET GAS RISER.
2. THE MEASUREMENTS WILL ENSURE:
   A. THAT A MINIMUM CLEARANCE OF 36" IS ATTAINED BETWEEN THE ENTIRE GAS METER INSTALLATION AND THE TRANSFORMER AND
   B. THAT A MINIMUM CLEARANCE OF 12" IS ATTAINED BETWEEN THE ENTIRE GAS METER INSTALLATION AND ALL OTHER ABOVEGROUND FACILITIES INCLUDING ELECTRIC AND OTHER UTILITY PEDESTALS AND HAND-HOLES.
3. THIS STANDARD APPLIES TO 600 GAS METER INSTALLATIONS AND SMALLER FOR LARGER METER INSTALLATIONS, CONTACT COMPANY REPRESENTATIVE FOR ASSISTANCE.
4. THIS DRAWING IS TYPICALLY USED WHEN THE GAS MAIN IS LOCATED IN AN ALLEY OR DEDICATED UTILITY EASEMENT.

ONCOR

ABOVEGROUND CLEARANCES FROM GAS METER INSTALLATIONS

DDS-2 DETAIL SHEET 26 OF 38
1. PADMOUNTED EQUIPMENT, PEDESTALS AND OTHER ABOVE GROUND ENCLOSURES SHOULD BE LOCATED NOT LESS THAN 4 FEET FROM FIRE HYDRANTS. WHERE CONDITIONS DO NOT PERMIT A CLEARANCE OF 4 FEET, A CLEARANCE OF NOT LESS THAN 3 FEET IS ALLOWED.

2. ALL ABOVE GROUND METALLIC POWER AND COMMUNICATION EQUIPMENT (PEDESTALS, TRANSFORMER CASES, APPARATUS CASES, ETC.) THAT ARE SEPARATED BY A DISTANCE OF 6 FEET OR LESS SHALL BE BONDED. REFERENCE DETAIL SHEET 18 FOR METHOD FOR PROVIDING FOREIGN UTILITY COMPANY EQUIPMENT GROUND.
NOTES:
1. CONSULT COMPANY REPRESENTATIVE FOR SIZE OF CONDUIT TO BE INSTALLED.
2. REFERENCE DETAIL SHEET 10 FOR BEND RADIUS FOR ALL HORIZONTAL AND VERTICAL CONDUIT BENDS.
3. LIMIT RACEWAY TO THREE 90° BENDS. IF MORE THAN THREE 90° BENDS ARE REQUIRED, CONTACT COMPANY REPRESENTATIVE.
4. DISTANCE BETWEEN 90° BENDS SHALL BE FIVE FEET MINIMUM.
5. ALTERNATE ROUTING TO ALLOW FOR SWIMMING POOLS AND OTHER OBSTRUCTIONS. REFERENCE DDS-4 DETAIL SHEET 10.
1. Concrete to be minimum 3000 psi at 28 days. (5 sacks) Maximum aggregate 3/4". Top of foundation to be troweled to a flat and level surface. Avoid excessive troweling. Concrete to set a minimum of 72 hours before pole installation.

2. Rebar hoops are tied beginning 3" below top of concrete form and are repeated at approximate 1 ft. intervals to bottom of foundation.

3. Use anchor bolt template furnished by pole manufacturer for aligning anchor bolts.

4. Concrete form of scrotuse to extend to bottom of trench or as needed.

5. Provide 24" postail for connection of ground wire to pole.

6. A minimum of 12' of bare #6 SD Cu wire to be placed in bottom of hole and covered with 2" of dirt.

7. If soil has been disturbed, extend foundation by depth of disturbed soil.
NOTES:

1. CONCRETE TO BE MINIMUM 3000 PSI AT 28 DAYS. (6 SACKS)
   MAXIMUM AGGREGATE 3/4" TOP OF FOUNDATION TO BE TROWELED TO
   A FLAT AND LEVEL SURFACE.
   AVOID EXCESSIVE TROWELING.
   CONCRETE TO SET A MINIMUM
   OF 72 HOURS BEFORE POLE
   INSTALLATION.

2. REBAR HOOPS ARE TIED BEGINNING
   3" BELOW TOP OF CONCRETE FORM
   AND ARE REPEATED AT APPROXIMATE
   12 INTERVALS TO BOTTOM OF
   FOUNDATION.

3. 1" ANCHOR BOLTS TO BE USED
   WITH 25' & 30' POLE. 1 1/4" ANCHOR
   BOLTS TO BE USED WITH 40' POLE.
   USE TEMPLATE FURNISHED BY POLE
   MANUFACTURER FOR ALIGNING ANCHOR
   BOLTS PROJECTION OF 3" ON 25'
   & 30' SQUARE AND 3 1/2" ON 40'
   SQUARE AND ROUND POLES.

4. CONCRETE FORM OP SONDORTE TO
   EXTEND TO BOTTOM OF TRENCH OR
   AS NEEDED.

5. PROVIDE MINIMUM 24" GROUND WIRE
   PISTAIL OUT OF CONCRETE FOR
   CONNECTION TO POLE.

6. A MINIMUM OF 12" OF BARE #6 5D CU
   WIRE TO BE PLACED IN BOTTOM OF
   HOLE AND COVERED WITH 2" OF DIRT

7. IF SOIL HAS BEEN DISTURBED, EXTEND
   FOUNDATION BY DEPTH OF DISTURBED
   SOIL.

8. FOR POLE FOUNDATIONS LARGER THAN
   40' NOMINAL MOUNTING HEIGHT, CONTACT
   DISTRIBUTION STANDARDS.

STREET LIGHT FOUNDATION
25', 30' & 40' SQUARE STEEL POLE
40' M.H. ROUND STEEL POLE

ONCOR

DDS-2 DETAIL SHEET 30 OF 38

02 - 10
NOTES:

1. CONCRETE TO BE MINIMUM 3000 PSI AT 28 DAYS. USE 2" DIAMETER MAXIMUM AGGREGATE 3/4". TOP OF FOUNDATION TO BE TROWLED TO A FLAT AND LEVEL SURFACE. AVOID EXCESSIVE TROWELING. CONCRETE TO SET A MINIMUM OF 72 HOURS BEFORE POLE INSTALLATION.

2. REBAR HOOPS ARE TIED BEGINNING 3" BELOW TOP OF CONCRETE FORM AND ARE REPEATED AT APPROXIMATE 1 FT. INTERVALS TO BOTTOM OF FOUNDATION.

3. USE ANCHOR BOLT TEMPLATE FURNISHED BY POLE MANUFACTURER FOR ALIGNING ANCHOR BOLTS.

4. CONCRETE FORM OF SCONCE TO EXTEND TO BOTTOM OF TRENCH OR AS NEEDED. FORMS FOR SQUARE BASE (E.G. TEXAN POLE) POLE FOUNDATION TOP SHOULD BE FABRICATED AS NEEESARY.

5. PROVIDE 24" PIGTAIL FOR CONNECTION OF GROUND WIRE TO POLE.

6. A MINIMUM OF 12" OF BARE #6 SD CU WIRE TO BE PLACED IN BOTTOM OF HOLE AND COVERED WITH 2" OF DIRT.

7. IF SOIL HAS BEEN DISTURBED, EXTEND FOUNDATION BY DEPTH OF DISTURBED SOIL.
NOTES:

1. CONCRETE TO BE MINIMUM 3000 PSI AT 28 DAYS. (6 SACK) MAXIMUM AGGREGATE 3/4". TOP OF FOUNDATION TO BE TROWELED TO A FLAT AND LEVEL SURFACE. AVOID EXCESSIVE TROWELING. CONCRETE TO SET A MINIMUM OF 72 HOURS BEFORE POLE INSTALLATION.

2. REBAR HOOPS ARE TIED BEGINNING 3" BELOW TOP OF CONCRETE FORM AND ARE REPEATED AT APPROXIMATE 1 FT. INTERVALS TO BOTTOM OF FOUNDATION.

3. ANCHOR BOLTS ARE NOT SUPPLIED WITH POLE. IF FOUNDATIONS ARE TO BE POURD ANCHOR BOLTS MUST BE ORDERED. A TEMPLATE CAN BE FURNISHED BY THE POLE MANUFACTURER FOR ALIGNING ANCHOR BOLTS.

4. CONCRETE FORM OR SONTUBE TO EXTEND TO BOTTOM OF TRENCH OR AS NEEDED.

5. PROVIDE 24" PISTAIL FOR CONNECTION OF GROUND WIRE TO POLE.

6. A MINIMUM OF 12" OF BARE #6 SD CU WIRE TO BE PLACED IN BOTTOM OF HOLE AND COVERED WITH 2" OF DIRT.

7. IF SOIL HAS BEEN DISTURBED, EXTEND FOUNDATION BY DEPTH OF DISTURBED SOIL.
NOTES:
1. TENON FOR MOUNTING POST TOP LUMINAIRE.
2. HOLE AND COVER FOR ACCESS TO ANCHOR BOLTS AND WIRING.
3. SEE 213-340 FOR ANCHOR BOLT SIZE AND FOUNDATION DETAIL.
4. ALL POLE COMES POWDER COAT PAINTED BLACK.
5. SEE 213-341 FOR ANCHOR BOLT SIZE, BOLT CIRCLE AND FOUNDATION DETAIL.
6. ANCHOR BOLTS ARE NOT PROVIDED WITH POLE.
NOTES:
1. MINIMUM HOLE DIAMETER SHOULD BE POLE DIAMETER PLUS 6 INCHES.
2. COVER POLE GROUND COIL WITH 2 INCHES OF DIRT MINIMUM.
3. CENTER POLE IN HOLE BEFORE STABILIZING.
NOTES:
1. INSTALL POLE STABILIZATION FOAM AS REQUIRED AND DETAILED ON 106-046.
2. COVER POLE GROUND COIL WITH 2" OF DIRT.
3. MINIMUM HOLE DIAMETER SHOULD BE POLE DIAMETER PLUS 8 INCHES.
4. CENTER POLE IN HOLE BEFORE STABILIZING.
5. INSTALL COLLAR ON NEW OR PREVIOUSLY INSTALLED FIBERGLASS POLES FOR PREVENTION OF ABRASION TO POLE AT GROUND LINE FROM GRASS TRIMMERS AND LAWN MOWERS.
6. COLLAR IS NOT A REPAIR ITEM AND SHALL NOT BE USED ON STRUCTURALLY DAMAGED FIBERGLASS POLES. DAMAGED POLES SHALL BE REPLACED AS NECESSARY.
7. EMBED 8 INCHES OF COLLAR IN GROUND TO SECURE COLLAR IN PLACE.

EMBEDDED BASE FIBERGLASS POLE
STABILIZED AND WITH ABRASION RESISTANT COLLAR

DDS-2 DETAIL SHEET 35 OF 36
ADD ADDITIONAL 5/8 IN. NUT TO SECURE #6 CU TO THROUGH BOLT OF BRACKET

PREFERRED

BRACKET GROUNDING

CONNECT #6 CU POLE GROUND TO CASE GROUND LUG AND TO CIRCUIT NEUTRAL

CIRCUIT NEUTRAL

ANCHOR BASE AND EMBEDDED BASE METAL POLE GROUNDING

POLE GROUNDING

GROUNDING FOR BRACKETS AND POLES

DDS-2 DETAIL SHEET 36 OF 36